SITE SAFETY AND HEALTH PLAN
APPENDIX E OF THE ACCIDENT PREVENTION PLAN

DEMOLITION/REMOVAL UNDERGROUND STORAGE TANK, PIPING, FUEL ISLAND/DISPENSER
CALIFORNIA ARMY NATIONAL GUARD ARMORY
SAN LORENZO, CA
Contract No.: W91238-08-D-0008, 0006
AIS Job No.: 30077

Prepared for:

U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, CA 95814-2922

and

California Army National Guard
Military Department
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April 2010

Approval of the Site Safety and Health Plan

California Army National Guard Armory
Demolition/Removal Underground Storage Tank, Piping,
Fuel Island/Dispenser
San Lorenzo, California

Plan Approved By:

Nancy Carraway, C.I.H.

_____

Signature/Date

Plan Reviewed and Approved By:

Project Manager
Kelly Stater

_____

Signature/Date

Site Safety and Health Officer
O. Kelly Murphy

_____

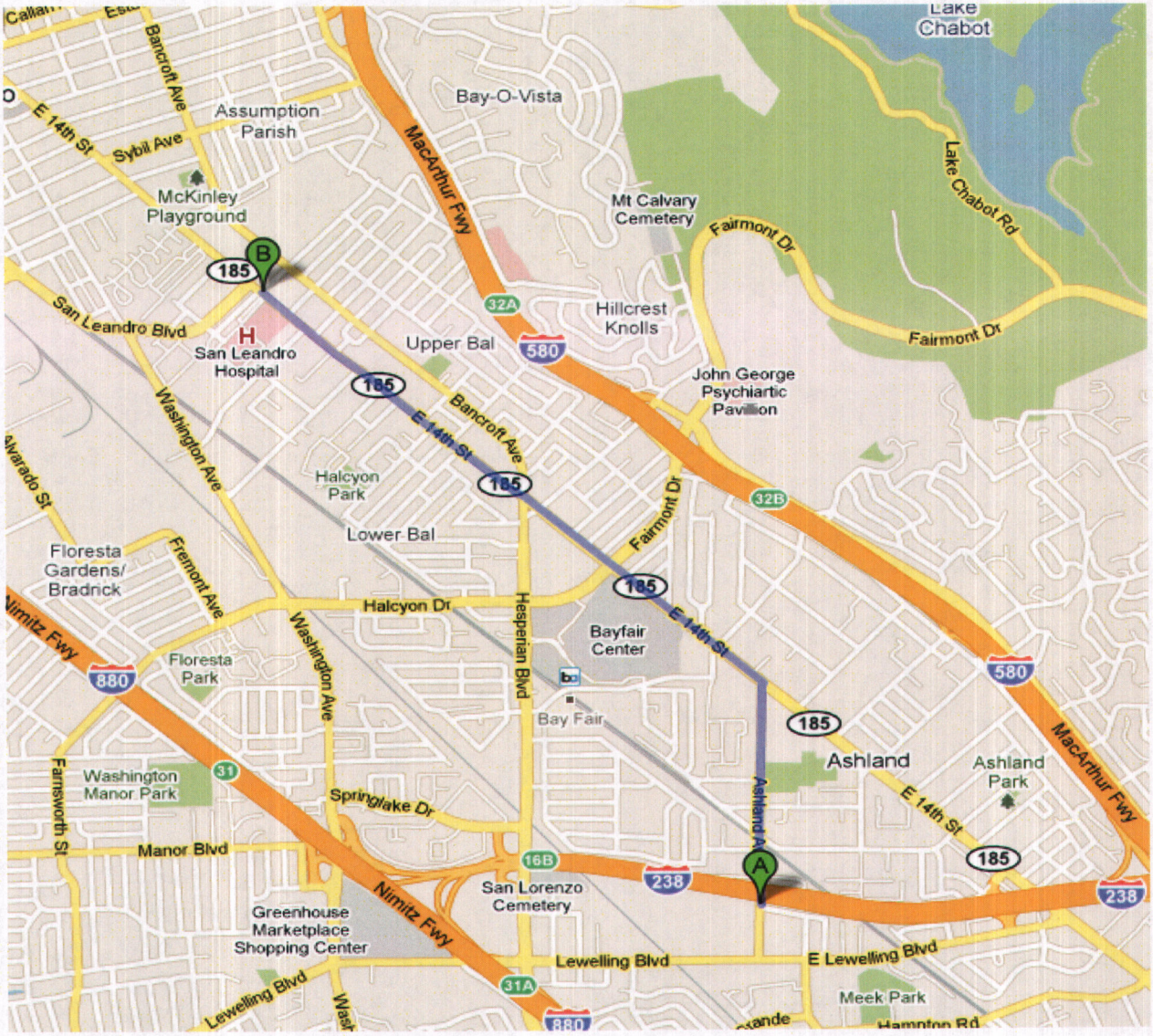
Signature/Date

EMERGENCY CONTACTS

Organization	Contact	Emergency Telephone
Police/Fire/ Ambulance	N/A	911
Hospital	San Leandro Hospital 13855 East 14th Street San Leandro, CA 94578	(510) 357-6500
AIS Site Safety and Health Officer	O. Kelly Murphy	(805) 636-6005, cell
AIS Project Manager	Kelly Stater	(805) 431-1418, cell
USACE Contracting Officer's Representative	Cathy Wise	(916) 373-1617 x321
USACE Site Point of Contact (POC)	Moe Adams	(916) 373-1617 x313
CA ARNG Site POC	SFC Tory Johnson	(510) 278-7508
CA ARNG Project Manager	LTC Fred Delucchi	(916) 854-3542
Governor's Office of Emergency Services	N/A	(800) 852-7550
Superfund / RCRA Hotline	N/A	(800) 424-9346
Poison Control Center	N/A	(800) 876-4766
National Response Center	N/A	(800) 424-8802
Center for Disease Control	N/A	(404) 488-4100
Chemtrec	N/A	(800) 424-9300

N/A=Not Applicable

Figure 1
Map and Driving Directions to the Hospital



Directions to 13855 E 14th St, San Leandro, CA 94578
2.4 mi – about 5 mins

A 16501 Ashland Ave, San Lorenzo, CA 94580

	1. Head **north** on **Ashland Ave** toward **Heritage Cir** About 1 min	go 0.6 mi total 0.6 mi
185	2. Turn **left** at **E 14th St/CA-185 N** Destination will be on the left About 4 mins	go 1.7 mi total 2.4 mi

Show: **Text only** | Map

B 13855 E 14th St, San Leandro, CA 94578

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LIST OF ACRONYMS AND ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
AHA	Activity Hazard Analysis
AIS	American Integrated Services, Inc.
ANSI	American National Standards Institute
APP	Accident Prevention Plan
BTEX	Benzene, toluene, ethylbenzene, and total xylenes
CA ARNG	California Army National Guard
Cal-OSHA	California Occupational Safety and Health Administration
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CGI	Combustible Gas Indicator
CPR	Cardiopulmonary Resuscitation
dBA	Decibels
DEET	N, N-diethyl-meta-toluamide
EM	Engineer Manual
eV	Electron volt
FMS	Field Maintenance Shop
FTL	Field Team Leader
Hazwoper	Hazardous Waste Operations and Emergency Response
IDLH	Immediately Dangerous to Life and Health
IDW	Investigation Derived Waste
MSDS	Material Safety Data Sheet
NIOSH	National Institute of Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PID	Photoionization detector
PM	Project Manager
POC	Point of Contact
PPE	Personal Protective Equipment
ppm	Parts per million
SHM	Corporate Safety and Health Manager
SOP	Standard Operating Procedures
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weighted Average
USACE	U.S. Army Corps of Engineers
VOCs	Volatile Organic Compounds

1.0 INTRODUCTION

1.1 PURPOSE

American Integrated Services, Inc. (AIS) views the implementation of a Site Safety and Health Plan (SSHP) as a critical management element, necessary to the success of the California Army National Guard (CA ARNG) Demolition and Removal Underground Storage Tank, Piping, Fuel Island and Dispenser, which is being conducted at San Lorenzo Armory, California under contract with the US Army Corps of Engineers (USACE). This SSHP is submitted as Appendix E of the Accident Prevention Plan (APP) and describes the project activities to be performed at the CA ARNG Armory (the "site").

The SSHP identifies procedures that can minimize the potential for personnel to be injured from physical safety hazards associated with project activities.

All AIS employees and subcontractors who perform field work during the project will be required to read this SSHP and acknowledge receipt and understanding of this SSHP by signing the Site Safety and Health Plan Compliance Agreement in Appendix A and submitting it to the AIS Project Manager (PM) before performing any field activities.

The SSHP will be periodically reviewed and modified throughout the duration of the project to ensure flexibility and adaptability as changes occur and new situations develop. Modifications to the SSHP must be approved by the AIS PM, the Site Safety and Health Officer (SSHO) and the Corporate Safety and Health Manager (SHM).

1.2 SCOPE OF THE SSHP

The SSHP addresses all phases of field operations at the site, including:

- Site characterization, including the history of the site,
- Responsibilities of key Site Safety and Health personnel,
- Work practices and Standard Operating Procedures (SOPs),
- Hazard identification and assessment, including potential chemical, physical, and biological hazards,
- Identification of personal protective equipment (PPE),
- Exposure monitoring and air sampling procedures,
- Heat and cold stress monitoring,
- Response procedures for accidents and emergencies,
- Emergency contacts and phone numbers,
- Medical surveillance program requirements,
- Training requirements for workers and on-site training; and
- Recordkeeping requirements.

1.3 REGULATORY AUTHORITY

Pertinent on-site activities will be conducted in accordance with applicable California Occupational Safety and Health Administration (Cal-OSHA), Federal OSHA standards, and

other relevant Federal, State and local regulations. Relevant regulations and guidance used to prepare this document include:

- Code of Federal Regulations (CFR) Title 29, Parts 1910 (Section 120) and 1926 (Section 65)
- Cal-OSHA Hazardous Waste Operations and Emergency Response Standard, 8 California Code of Regulations (CCR) § 5192
- USACE Safety and Health Requirements Manual (Engineer Manual [EM] 385-1-1), 2003

The SSHP is consistent with AIS's corporate commitment to personnel safety and health and the Corporate Safety and Health Program.

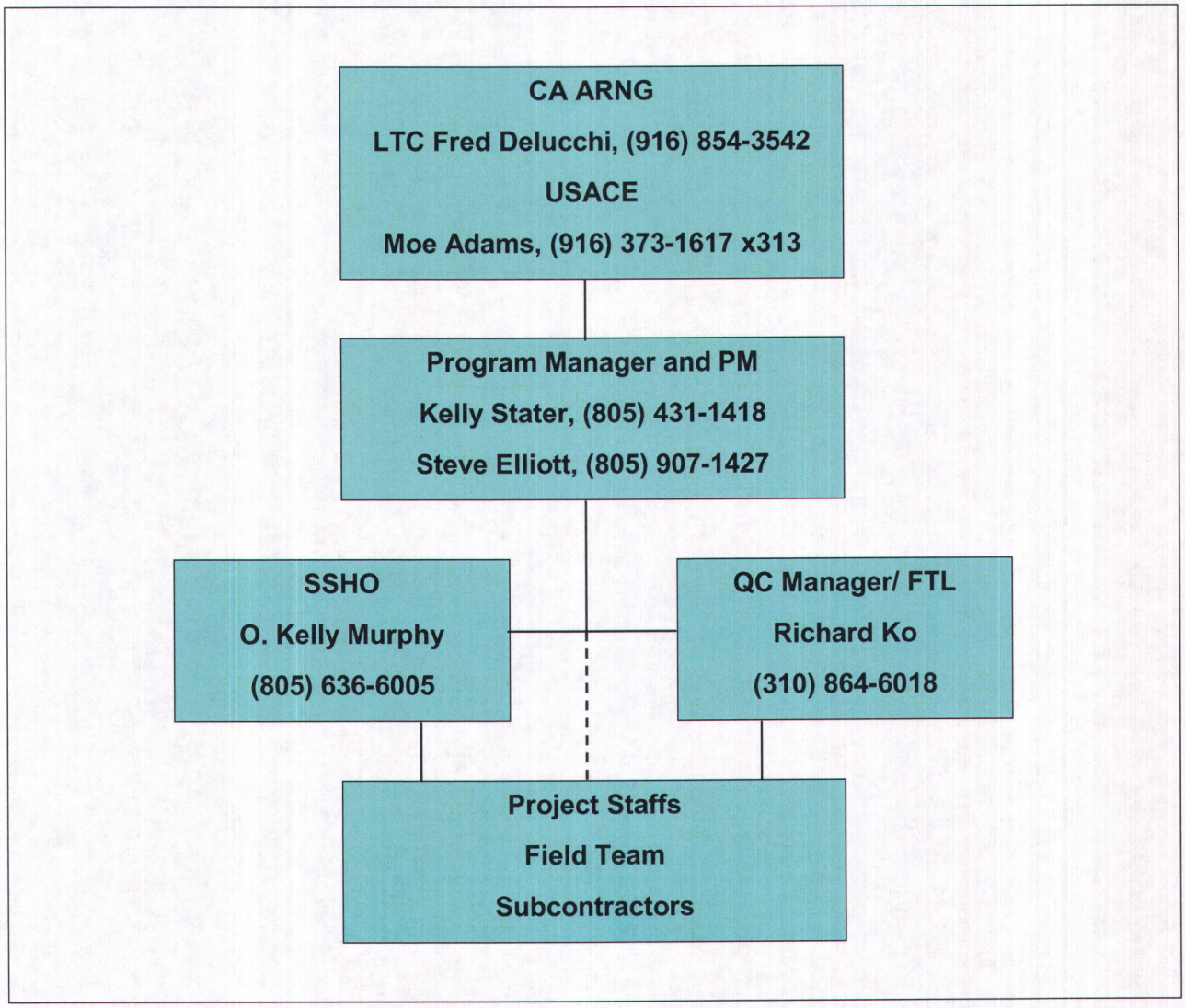
2.0 KEY PERSONNEL AND RESPONSIBILITIES

This section describes the personnel responsibilities for implementation of the SSHP. Clear lines of authority are established for enforcing compliance with the SSHP. More information is contained in Section 4 of the APP, Responsibilities and Lines of Authorities.

Designated AIS personnel are responsible for field implementation of the SSHP. This includes field supervision, enforcing safe work practices, ensuring proper use of PPE, and communicating modified safety requirements to site personnel.

To meet the AIS corporate goal of "**Zero Incidents**" and to meet its project safety and health objectives, the Project Team has developed a line of reporting and has tasked individuals with the safety and health responsibilities outlined in Table 2-1.

Table 2-1: Lines of Authority



2.1 EMPLOYEES (INCLUDING SUBCONTRACTORS)

As required:

- Obey safety and health work practices issued by law and by the Project Team.
- Read, understand, and sign the SSHP (signature forms are located in Appendix A of this SSHP).
- Wear PPE as directed by this SSHP.
- Use safety equipment as directed by this SSHP.
- Inform the SSHO of any prescription medication taken during the project.
- Report recognized unsafe conditions and actions to the SSHO.
- Report any accidents, exposures, near misses, or property damage immediately.

2.2 VISITORS

Visitors are required to:

- Follow the direction of the SSHO.
- Read, understand, and sign the SSHP (SSHP Compliance Agreement forms are located in Appendix A of this SSHP).
- Use designated PPE, as required.
- Use safety equipment as directed by this SSHP.
- Report recognized unsafe conditions and actions to the SSHO.
- Report any accidents, exposures, near misses, or property damage immediately.

Do not enter the work area unless documentation of the appropriate OSHA-required training has been obtained and submitted to the SSHO, and you have been authorized to enter the work area by the SSHO.

2.3 PERSONNEL REQUIREMENTS

All personnel performing work in the designated work areas must have received the required safety and health training. All personnel must be knowledgeable in the requirements of the project safety and health procedures.

A current cardiopulmonary resuscitation (CPR)/First-Aid certification is required for the SSHO and the Field Team Leader (FTL). Evidence of current training must be readily available (provided in Appendix C). At least two people are required to have CPR/First Aid certifications while on site, unless, a particular task requires only one person (e.g., surveying or sample location marking). If one person is acting as both the FTL and the SSHO, a second person must still be CPR/First Aid certified.

2.4 WORK STOPPAGE AUTHORITY

The SSHO, the FTL, and the PM will have the authority to make on-the-spot corrections, associated with deviations from the SSHP. If it is determined that the infraction cannot be remedied immediately, and it is of such nature that continuance of the job could result in significant violations, the SSHO, the FTL, and/or PM will have the authority to order a cessation

of the activity until the problem can be remedied. It should be noted that any employee has the authority to stop a work activity if he/she thinks that the activity is unsafe.

2.5 PRIMARY CONTACTS

The primary client contact is:

LTC Fred Delucchi
Project Manager
CA ARNG
9800 Goethe Road
Sacramento, CA 95826-9101
Phone: (916) 854-3542

The site contact is:

Ms. Moe Adams
USACE
2021 Jefferson Blvd.,
West Sacramento, CA 95691
Phone: (916) 373-1617 x313

2.6 MEDICAL CONTACTS

The nearest hospital with 24-hour emergency service is San Leandro Hospital located at 13855 East 14th Street, San Leandro, CA 94578.The telephone number of the hospital is (510) 357-6500. The hospital route map can be found as Figure 1, at the front of this document and in the APP as Figure 3.

3.0 SITE DESCRIPTION AND PROJECT DESCRIPTION

3.1 SITE DESCRIPTION

San Lorenzo Armory (Figure 1) is located at 16501 Ashland Avenue, San Lorenzo, CA 94580, Alameda County. The Site is located on a 2-acre parcel in the northeastern corner of the San Lorenzo High School, 50 E. Lewelling Blvd., San Lorenzo, California. The Site is approximately 12 miles southeast of the City of Oakland and .5 mile southwest of the city of Ashland. The Site is bounded to the north by I-238, to the south and southwest by San Lorenzo High School, to the east by Ashland Ave., and to the south by various small businesses (Figure 1). The UST is located on the west side of the Site, north of building Operations and Maintenance Service (OMS) within Alameda County (Figure 2).

Locations of Resources Available to on-Site Personnel: There will be no office trailer available on site during these short-term and intermittent work activities.

Toilet Facilities: Fixed toilet facilities are located near the work area.

Drinking Water Supply: Site workers will carry drinking water for the day; chilled bottled water will be available during drilling activities.

Telephone/Radio: Each field team leader will be provided with a cellular telephone.

AIS and its subcontractors will furnish all labor, materials, tools, supplies, equipment, plant, transportation, services and other appurtenances necessary. Emergency response equipment on site during work activities includes fire extinguishers, eye wash station and first aid kits. All PPE necessary to complete fieldwork are also kept on site.

Decontamination procedure for sampling equipment will include a triple rinse consisting of an Alconox® (or equivalent) wash, tap water rinse, and deionized water rinse.

3.2 PROJECT DESCRIPTION

3.2.1 Project Background

San Lorenzo Armory's former maintenance shop (FMS) building is no longer in operation. The exact location of the UST is based upon construction drawings and not any additional or recent survey of the property. AIS expects to find the north of the FMS building 'between' the fuel island and the vehicle inspection rack. AIS believes that the tank is under the concrete pad on which the island sits. The tank was installed in 1988 to replace a non-compliant tank which had been installed ca-1977. Construction drawings call for the tank to be installed 'not less than' 36 inches below grade. Plans required a concrete pad at the bottom on the pit and two half-inch stainless steel hold down straps to be placed around the tank holding it stationary on a six inch pea-gravel bed on the concrete pad. On all other sides of the pit there should be twelve inches of pea-gravel surrounding the tank. The fuel island structure is approximately 4 foot W x 12' long x 18" tall.

3.2.2 Description of Work and Services

Field activities include:

1. Mobilization and Site Setup/Demobilization
2. Heavy Equipment/Earth Work/Excavation
3. Soil Sample Collection

4. UST/Piping Removal
5. Off Site Waste Disposal

4.0 HAZARD IDENTIFICATION AND ANALYSIS

4.1 SUMMARY OF WORK

As stated in 3.2.2., there are five main field activities. These activities are summarized below and will be discussed in more detail in the pending work plan.

AIS will provide labor, equipment, materials, and the necessary resources to remove one 5,000 gal underground storage tank (UST) that previously contained diesel fuel. AIS will also remove the associated piping and demolish the concrete "fuel island" structure. The fuel dispenser and pump assembly found on the fuel island will be removed. All seven clarifiers, which include five in-ground and two above ground, will be cleaned and removed. The pits will be filled in with base and covered with asphalt. The wash pad, vehicle inspection rack and associated concrete and metal structures will be removed. All piping and drain lines associated with the clarifiers and the drains for the wash rack will be cut and capped.

Excavate, Remove UST and Associated Piping

Upon permit and work plan approval by the Alameda County Environmental Health, AIS will perform confirmation testing of the soil where the 5,000 gallon diesel double-walled fiberglass coated steel underground storage tank (UST) is located. Once the county has acknowledged all work to be performed, AIS will excavate the soil as required to uncover the UST. The UST and any associated piping will be removed. The concrete pad at the bottom of the pit is to be left in place. AIS will make provisions to rinse out material remaining inside the pipe for disposal prior to its removal. The tank leak detection system will be salvaged and turned over to the on-site personnel.

Removal of Fuel Dispenser and Clarifiers

The fuel dispenser will removed and the fuel island structure will be demolished. AIS will also remove all seven clarifiers (five in ground, two above ground). The wash pad, vehicle inspection rack and any other associated concrete and metal structures will be removed. All of the piping and drain lines related to the clarifiers and wash rack drains will be cut and capped.

AIS will provide transportation of the UST and other metal and concrete debris to a local recycling facility. Appropriate profiles and manifests of Client for Client signature will be completed.

Backfill of Tank Pit and Clarifier Pit

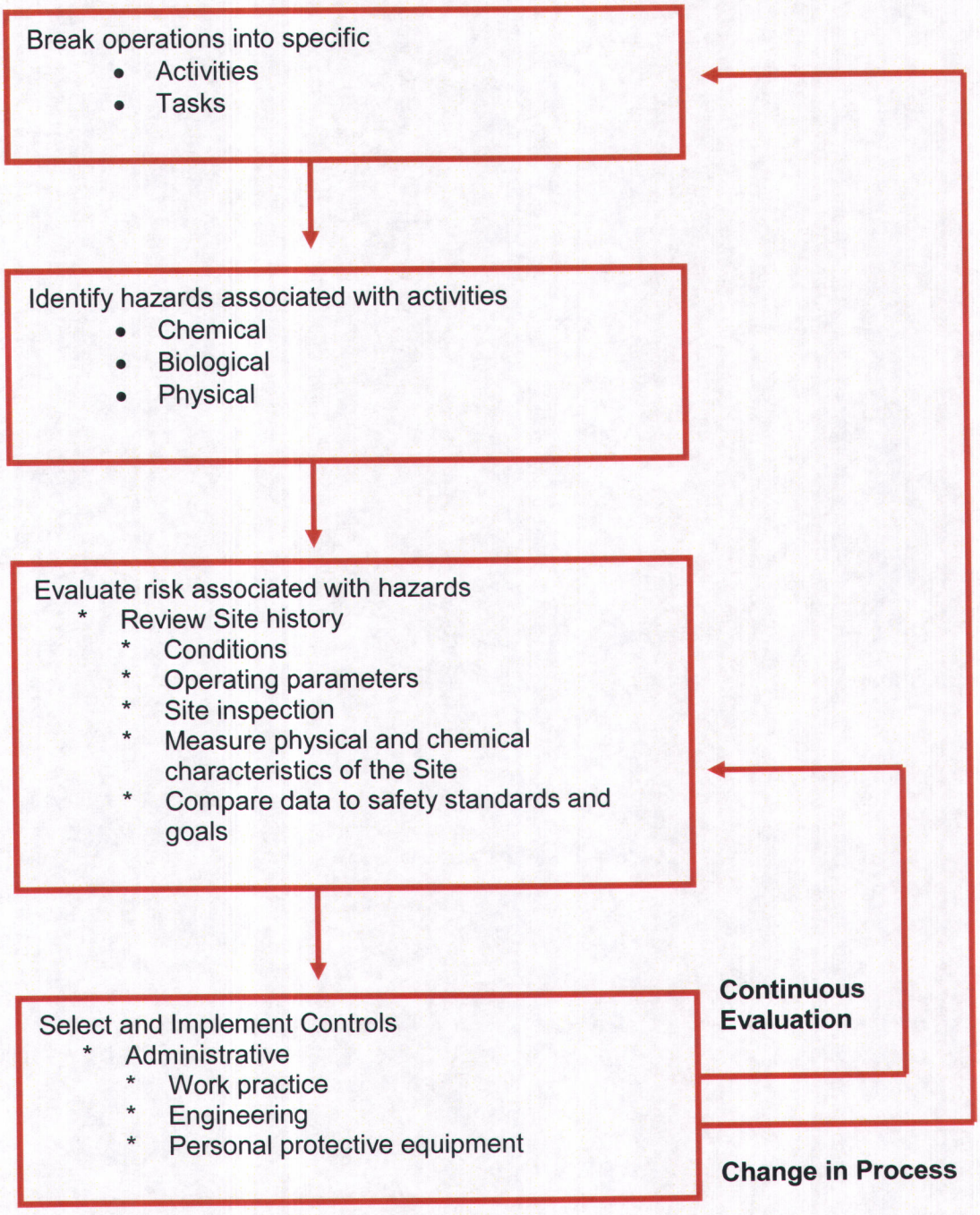
AIS will provide the appropriate fill for the tank pit and the clarifier pits as well as other areas where concrete will be demolished. The site will be filled and compacted to the correct specifications. Asphalt paving will be used with pavement section sufficient for general vehicle traffic.

4.2 HAZARD ANALYSIS AND DECISION LOGIC

The first step in the hazard analysis process is to break the operations down into specific tasks. Hazards associated with activities are then identified. Assessment or evaluation of these hazards helps to determine the risk(s) posed by tasks to on/or off-site personnel. Proper controls designed to eliminate or minimize the risks are then selected and implemented. A flow diagram of the hazard-analysis process is shown in Figure 4.1.

The activities in this section of the SSHP are general in nature. It will be the responsibility of the SSHO, working with the PM, to assess specific work tasks on a daily basis, evaluate the associated hazards, and to implement proper controls.

Figure 4.1 Hazard Analysis Flow Diagram



4.3 EVALUATION AND CONTROLS

Evaluation of health and safety hazards at the site will be an ongoing process. Health hazards that may cause occupational illness will be evaluated through monitoring of airborne concentrations, medical surveillance, assessment of the potential for skin contact, effects due to skin absorption, and through measurement of environmental physical hazards including noise, heat, and cold.

Safety hazards will be assessed based on such factors as regulatory requirements, severity, or hazard outcome, frequency of exposure, proximity to the hazard, and mitigating circumstances. These evaluations for specific tasks will be conducted during pre-job planning and site inspections.

Control methods are generally classified as administrative (e.g., training and work/rest regimens), work practice/engineering (e.g., wetting, foaming, work rules, contamination control, decontamination procedures, firefighting equipment and procedures); and PPE (e.g., respirators, chemical protective clothing, safety glasses, gloves, foot-wear and hard hats).

4.4 SUMMARY OF ACTIVITY HAZARD ANALYSIS

Table 4.1 lists each Activity Hazard Analysis (AHA) relevant for this project. AHAs are included in Appendix B of the APP.

TABLE 4.1
DIRECTORY OF AHAs INCLUDED IN THE PROJECT APP

Activity	AHA #
Mobilization and Site Setup/Demobilization	01
Heavy Equipment/Earth Work/Excavation	02
Soil Sample Collection	03
UST/Piping Removal	04
Off Site Waste Disposal	05

The levels of precautions or controls will be upgraded or downgraded as appropriate, based on site conditions, such as air-monitoring data. These changes will be initiated by the SSHO and approved by the PM and the SHM.

4.5 SITE SPECIFIC CHEMICAL HAZARDS

A summary of the major chemical contaminants expected at the site and their corresponding exposure limits and hazard summaries are provided as Table 4.2. The expected contaminants of concern include total petroleum hydrocarbons (gasoline through heavy-oil range hydrocarbons) and volatile organic compounds (VOCs) such as benzene, toluene, ethylbenzene, and total xylenes (BTEX). Work activities shall conform to "Level D" PPE or modified "Level D" PPE.

The exposure limits given in the tables were obtained from 29 CFR 1910.1000 and Title 8 CCR Section 5155; Airborne Contaminants, Appendix; Table AC-1. Immediately Dangerous to Life and Health (IDLH) values were obtained from the National Institute of Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards (June 1997) and the Threshold Limit Values (TLVs) as published by the American Conference of Governmental Industrial Hygienists (ACGIH) 2006. Blanks in the table for certain compounds indicate that there are no established

exposure limits reported for those compounds. Hazard information, workplace controls and practices, PPE, physical data, and general first-aid methods are described in the material safety data sheets (MSDS) enclosed in Appendix B.

The five exposure guideline terms used in the table are described below.

Time-Weighted Average (TWA) Permissible Exposure Limit (PEL): Eight-hour TWA, PEL. An employee's exposure to any substance in the above tables (under TWA PEL), shall not exceed the 8-hour TWA given for that substance in any 8-hour work shift of a 40-hour work week.

Ceiling Values: An employee's exposure to any substance in the above tables (under ceiling) shall, at no time, exceed the level given for that substance.

Short-Term Exposure Limits (STEL): The STEL is a concentration a person may be exposed to over a short period of time, expressed as a 15-minute average.

Immediately Dangerous to Life and Health (IDLH): IDLH is any condition that may result in damage to health, which cannot be repaired. IDLH situations include explosive and oxygen-deficient environments and the presence of Class A poisons or substances which can be absorbed through the skin.

Threshold Limit Value (TLV): TLV as published by ACGIH.

Regardless of the source, this SSHP will recognize the most stringent value when addressing exposures.

TABLE 4.2

OCCUPATIONAL HEALTH EXPOSURE AND TOXICOLOGICAL PROPERTIES FOR CONTAMINANTS OF CONCERN

Contaminant	OSHA PEL	NIOSH REL	ACGIH TLV	ACGIH/ OSHA STEL	OSHA/ NIOSH IDLH	IP (eV)	Routes of Exposure	Symptoms of Exposure
Prevalent VOCs								
BENZENE	1 ppm	0.1 ppm	0.5 ppm	2.5 ppm	500 ppm	9.24	INH, CON, ABS, ING	Irritant to eyes, nose and respiratory system; giddiness; headache; nausea; staggered gait; fatigue; anorexia; lassitude; dermatitis; bone marrow depression; CARCINOGEN.
TOLUENE	200 ppm	100 ppm	50 ppm	150 ppm (NIOSH)	500 ppm	8.82	INH, ING CON, ABS	Fatigue, weakness, confusion, euphoria, dizziness, headache, dilated pupils, lactimation, nervousness, muscle fatigue, insomnia, paresthesia and dermatitis.
ETHYLBENZENE	100 ppm	100 ppm	100 ppm	125 ppm	800 ppm	8.76	INH, ING CON	Irritant to eyes, mucus membranes, headache, dermatitis, narcosis, coma.
XYLENES	100 ppm	100 ppm	100 ppm	150 ppm	900 ppm	8.44-8.56	INH, ING, CON, ABS	Dizziness; excitement; drowsiness; incoherence; staggering gait; irritant to eyes, nose and throat; corneal vacuolization; anorexia; nausea; vomiting; abdominal pain; dermatitis.

Definitions:

-- = Not determined or not applicable
INH = Inhalation
ING = Ingestion
CON = Contact
ABS=Absorption
IP = ionization potential
ppm = parts per million
mg/m^3 = milligrams per cubic meter
eV = electron volts

4.6 Fire and Explosion Hazards

In general, the following items present potential explosion or fire hazards and will be monitored closely as they pertain to the activity. Explosion and fire may result from:

- Electrical equipment malfunction (pumps, generators, etc.)
- Gas/vapors

4.6.1 Fire Prevention

The AIS SSHO is authorized to correct any condition that may be considered a fire hazard. In an emergency, the site personnel are authorized to act directly with the SSHO in regard to fire hazards. Fuel storage for on-site equipment shall be in approved storage containers and kept in designated flammable liquid storage cabinets. Fueling of heavy equipment must be conducted by approved vendors or at designated approved fueling.

4.6.2 High Fire Hazard Areas

A hot work permit will be required to be obtained by the SSHO prior to commencement of hot work. A hot work permit is not expected for this site.

In the event of an actual emergency, such as emergency spill response work, and where the Contractor warrants that he cannot conduct the required testing, AIS may upon written agreement then conduct all tests necessary to ensure safety and regulatory compliance. The Contractor shall cosign the hot work permit form when tests are conducted by AIS personnel.

4.7 Radiation Hazards

The site has no known sources of ionizing radiation that would harm the personnel. Non-ionizing radiation sources are present in the form of ultraviolet light from the sun.

Prolonged exposure of the skin to the sun's ultraviolet rays, even on overcast days, can result in sunburn. Sunburn can become severe enough to be incapacitating, especially for fair-skinned individuals. Repeated sunburn can eventually cause premature aging of the skin and/or skin cancer. Always wear clothing to reduce the amount of exposed skin and use sunblock creams or lotions frequently when working outdoors.

4.8 Biological Hazards

4.8.1 Ticks

Ticks are vectors of many different diseases, including Rocky Mountain spotted fever, Q fever, tularemia, Colorado tick fever, and Lyme disease. They attach to their host's skin and intravenously feed on its blood, creating an opportunity for disease transmission. Covering exposed areas of the body and the use of tick repellent are two ways to prevent tick bites. Periodically during the workday, employees will inspect themselves for the presence of ticks. If a tick is discovered, the following procedure should be used to remove it:

- Do not try to detach a tick with bare fingers; bacteria from a crushed tick may penetrate even unbroken skin. Fine-tipped tweezers should be used.
- Grip the tick as close to the skin as possible and gently pull it straight away from the skin until it releases its hold.
- Do not twist the tick while pulling, and do not squeeze its bloated body. This may actually inject bacteria into the skin.

- Thoroughly wash hands and the bite area with soap and water, and apply an antiseptic to the bite area.
- Save the tick in a small container with the date, the body location of the bite, and where the tick possibly came from.
- Notify the SSHO of any tick bites as soon as possible.

Recently, Lyme disease has been the most prevalent type of disease transmitted by ticks in the United States.

4.8.2 Hantavirus

Rodents, such as deer mice, can potentially carry hantavirus. Deer mice, such as mesas, usually live at higher elevations, and can be distinguished from other rodents by their small size (2-4/5 inches to 4-inches long) and by their bi-colored tail. However, the Center for Disease Control believes that other rodents also have the potential to carry the virus, so precautions must be taken when dealing with any species of rodent. It is not possible to distinguish whether or not a rodent carries the hantavirus by observation.

Hantavirus affects the respiratory system in humans. The first symptoms of infection can occur at any time up to 45 days after exposure and include one or more of the following: fever, muscle aches, headache, or coughing. These symptoms progress rapidly into a severe lung disease that often requires intensive care treatment. Hantavirus can be transferred to humans, primarily from breathing infected rodent excreta particles that have become airborne or ingesting excreta particles that cling to hands or clothing. It can also be contracted from rodent bites or transferred through broken skin. Although the illness caused by hantavirus is severe, it is a relatively rare illness that can be prevented by simple precautions and common sense.

The best way to avoid contact with hantavirus is to avoid contact with rodents and their excreta. Do not leave food or garbage where rodents have access to them; this includes leaving food items and wrappers in vehicles. When possible, seal any opening greater than 1/4-inch diameter in vehicles or structures with steel wool to prevent rodent access. Minor amounts of rodent excreta and rodents caught in mouse traps may be disposed of by personnel, provided precautions are taken.

- When excreta or dead rodents are discovered in an enclosed area, ventilate the area for 30 minutes; the more air flow the better.
- Wear the proper PPE.
- Implement dust-suppression techniques (such as use of a "bug" sprayer filled with water and a small amount of detergent to lightly spray the floor prior to entry).
- To dispose of wastes, place the rodent excreta or dead rodents in a plastic bag. Rinse gloved hands with bleach solution of 1 part bleach to 10 parts water, and then remove any PPE in proper order, placing disposable items, such as boot covers and respirator cartridges in with the wastes. Place the respirator, if any, into a plastic bag and mark the bag clearly as "POTENTIALLY INFECTIOUS." Wet the wastes with the bleach solution, seal the plastic bag, place it into a second plastic bag, and seal this bag also. Spray the outside of the plastic bag with commercial spray disinfectant. The waste may be disposed of as regular garbage.

- After the wastes are properly bagged, spray the surfaces where the wastes originally were found with disinfectant.
- Thoroughly wash hands, face, and forearms with soap and water.

When mouse traps are used to control rodents, the traps should be checked on a regular basis. Dead rodents should be disposed of immediately; the trap may be discarded along with the dead rodent.

4.8.3 West Nile Virus

This virus is present in the Southern California area and causes West Nile encephalitis (infection of the brain). All residents of areas where virus activity has been identified are at risk of getting West Nile encephalitis, and persons older than 50 years have the highest risk of severe disease. The virus is spread through the bites of infected mosquitoes. Mosquitoes become infected when they feed on infected birds, which may circulate the virus in their blood for a few days. Infected mosquitoes can then transmit the West Nile Virus to humans and animals while biting to take their blood. During blood feeding, the virus may be injected into the animal or human, where it may multiply, possibly causing illness. The West Nile Virus is NOT transmitted from person to person.

Most infections are mild, and symptoms include fever, headache, and body aches, occasionally with skin rash and swollen lymph glands. More severe infection may be marked by headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, paralysis, and, rarely, death. The incubation period in humans (i.e., time from infection to onset of disease symptoms) for West Nile encephalitis is usually 3 to 15 days.

The following are precautions to minimize mosquito bites and potential exposure to the virus:

- Know that mosquito activity increases in the dawn, dusk, and early evening hours.
- Wear long-sleeved shirts and long pants whenever you are outdoors.
- Spray clothing with repellents containing permethrin or DEET (N, N-diethyl-meta-toluamide) since mosquitoes may bite through thin clothing.
- Apply insect repellent sparingly to exposed skin. An effective repellent will contain 35% DEET. DEET in high concentrations (greater than 35%) provides no additional protection.
- Repellents may irritate the eyes and mouth, so avoid applying repellent to the hands of children.
- Whenever you use an insecticide or insect repellent, be sure to read and follow the manufacturer's DIRECTIONS FOR USE, as printed on the product.

4.8.4 Flying Insects

Mosquitoes, flies, bees, and gnats pose a nuisance and physical hazard to field personnel. They can cause accidents when they distract workers and can also pose a health threat through the transmission of microorganisms. Perfumes and scented deodorants can attract these insects and will not be worn by field personnel while on site. There is also a potential to come in contact with other dangerous insects at the site. All personnel will perform “checks” on themselves periodically and at the end of the work shift. When walking or working in forested or vegetated areas, personnel will be alert and avoid encountering elaborate spider webs among trees and bushes. All insect bites must be reported to the SSHO. Personnel must always be

aware of individual reactions to bee stings or insect bites. Should an individual start to have shortness of breath and become covered in hives, that individual may be having an intense allergic reaction. Medical attention must be sought immediately.

4.8.5 Snakes

Poisonous and nonpoisonous species of snakes may be encountered at the site. Snakes typically do not attack people but will bite when provoked or accidentally injured. If a snake is encountered, one should avoid making quick, jerky motions and loud noises. Retreat must be accomplished slowly. If bitten, seek medical attention immediately.

4.8.6 Hazardous Flora

The incidence of human contact with poisonous/thorny plants is high when working in forested or vegetated areas; therefore, bare skin will be covered (i.e., long pants and long-sleeved shirt, boots, leather or cotton gloves, safety glasses, and head protection) as much as practical. Personnel will avoid entering any area in the direct path of known poisonous flora (e.g., poison oak, or poison sumac). Instead, a secondary route will be selected. Care must also be taken when walking in areas where uneven terrain or vines may present a tripping hazard. Rashes or other injuries will be reported to the SSHO as soon as they occur or are recognized to have occurred.

4.9 PHYSICAL HAZARDS

Potential physical hazards that may be encountered during work at the site include the following:

- Temperature Stress;
- Electrical and Utility;
- Noise;
- Manual Material Lifting;
- Heavy Equipment;
- Slip, Trip and Fall;
- Hand Tool; and
- Traffic Control.

4.9.1 Heat Stress Hazards

When the body temperature rises, the body seeks to dissipate the excess heat. The major disorders due to heat stress are heat cramps, heat exhaustion, and heat stroke. The symptoms and recommended prevention for heat stress are included in detail in Section 12.6 of the APP.

4.9.2 Cold Stress

For on-site workers, cold stress is not anticipated. However, it is important to keep in mind that for exposed skin, continuous exposure should not be permitted when the air speed and temperature results in an equivalent chill temperature of -32 degrees Celsius (°C) (-25.6 degrees Fahrenheit [°F]). Superficial or deep local tissue freezing will occur at temperatures below -1°C (30.2°F) regardless of wind speed. It is imperative that workers who become immersed in water or whose clothing becomes wet be immediately provided a change of clothing and treated for hypothermia when air temperatures are 2°C (35.6°F) or less.

4.9.3 Electrical and Utility Hazards

Prior to all scheduled work activities all electrical power must be isolated in order to prevent the transmission or release of energy. This isolation for the control of hazardous energy is commonly called "Lockout/Tagout." All provisions of the OSHA standard as stated in 29 CFR 1910.147 and Title 8 CCR Section 1760, Electrical Requirements for Construction Work, must be followed for controlling hazardous energy or locking out or tagging out electrical and utility hazards. The USACE Safety and Health Requirements Manual (EM 385-1-1), dated November 2003, contains Section 11 (Electrical) and Section 12 (Control of Hazardous Energy (Lockout/Tagout)), which also must be followed as guidance in abating electrical and utility hazards.

Electrical hazards potentially exist from the use of electrical equipment at the site. All electrical equipment will be visually inspected for external defects to the equipment, including the cord. Should there be any evidence of damage, that equipment is not to be used.

All portable electrical equipment must use a ground fault circuit interrupter system or an assured equipment grounding program as required in 29 CFR 1926.405(j)(1)(iii)(A-D). Electrical equipment must be stored in a dry area and must not be used outside in the rain. All electrically powered tools and equipment used on this project shall be inspected prior to each use, maintained in a safe and operable condition, and adequate for the designated use.

Safe working distances from power lines for heavy equipment including cranes and manlifts are indicated below in Table 4.3 (USACE, EM 385-1-1, November 2003).

TABLE 4.3
MINIMUM CLEARANCE FROM ENERGIZED OVERHEAD ELECTRIC LINES

Nominal system voltage	Minimum rated clearance
0 to 50 kV	3 m
51 to 200 kV	4.5 m
201 to 300 kV	6 m
301 to 500 kV	7.5 m
501 to 750 kV	10.5 m
751 to 1000 kV	13.5 m

kV = kilovolt
m = meter

Utility clearance is to be obtained prior to commencement of intrusive activities.

4.9.4 Noise Hazards

Noise is defined as unwanted sound in the form of vibration conducted through liquids, solids, or gases. The effects of noise on humans include psychological effects (interference with communication by speech, job performance, and safety) and physiological damage such as hearing loss. Of these, the most debilitating is hearing loss. The PELs for noise are listed in Table 4.4.

TABLE 4.4
PERMISSIBLE EXPOSURE LIMITS FOR NOISE

Duration (per day)	Measurement (dBA)
8 hours	90
6 hours	92
4 hours	95
3 hours	97
2 hours	100
1.5 hours	102
1 hours	105
30 minutes	110
15 minutes	115

dBA = decibels, A-weighted scale

The factors that affect the degree and extent of hearing loss are intensity (frequency) or loudness (weight) of the noise, type of noise, length of exposure each day, total work duration, and distance from the source.

Where 8-hour TWAs are 85 dBA or greater, a hearing conservation program is required. This includes an initial audiogram to establish a baseline on the employee's hearing ability, followed by an annual audiogram to measure hearing. The conservation program should also allow employees access to their audiogram records.

OSHA regulations stipulate that when employees are subject to sound that exceeds the PEL, feasible administrative or engineering controls shall be used. If controls fail to reduce sound exposure to within the PEL, PPE must be provided and used to decrease sound levels to within the PEL. Use of PPE (e.g., earplugs or muffs) should be implemented immediately upon discovery of sound levels above the action level pending evaluation of suitable engineering controls. Exposure to impact noise should not exceed the 140-dBA peak sound level. The potential for loud noise at this site is associated with excavation activities. Noise monitoring is not planned for the site's work activities.

4.9.5 Hearing Protection:

Expandable foam earplugs or earmuffs will be worn whenever personnel are working and hearing protection is required. The minimum noise reduction rating for earplugs or earmuffs is 25 dBA.

Hand signals will be used when noisy conditions exist and/or when hearing protection devices are used. The hand signals to be used will be discussed and agreed upon by site personnel before working with hearing protection.

4.9.6 Manual Material Lifting Hazards

Many different types of objects may be handled manually during site operations. Care should be taken when lifting and handling heavy or bulky items because they are the cause of many

back injuries. There are several fundamentals addressing the proper lifting techniques that are essential in preventing back injuries. The size, shape, and weight of the object to be lifted must first be considered. No individual employee is permitted to lift any object that weighs over 60 pounds. Multiple employees or the use of mechanical lifting devices are required for objects over the 60-pound limit.

The anticipated path to be taken by the lifter should be inspected for the presence of slip, trip, and fall hazards. The feet shall be placed far enough apart for good balance and stability (typically shoulder width). The footing shall be solid. The worker shall get as close to the load as possible. The legs shall be bent at the knees. The back shall be kept as straight as possible and abdominal muscles should be tightened. To lift the object, the legs are straightened from their bending position. A worker shall never carry a load that cannot be seen over or around. When placing an object down, the stance and position are identical to that for lifting. The legs are bent at the knees and the object lowered.

When two or more workers are required to handle the same object, coordination is essential to ensure that the load is lifted uniformly and that the weight is equally divided between the individuals carrying the load. When carrying the object, each worker, if possible, shall face the direction in which the object is being carried. In handling bulky or heavy items, the following guidelines shall be followed to avoid injury to the hands and fingers:

- A firm grip on the object is essential; leather gloves shall be used if necessary.
- The hands and the object shall be free of oil, grease, and water that might prevent a firm grip, and the fingers shall be kept away from any points that could cause them to be pinched or crushed, especially when setting the object down.
- The item shall be inspected for metal slivers, jagged edges, burrs, and rough or slippery surfaces prior to being lifted

4.9.7 Slip, Trip and Fall Hazards

Hazards such as slips, trips and falls may be encountered during the course of the project. Slip and trip hazards may be encountered due to obstructed walkways or uneven terrain/surfaces. It is not anticipated that falls will occur, since no work is being conducted at height.

Good housekeeping will go a long way in preventing such incidents. Material should be carefully stacked and located so that it does not block aisles, doors, emergency rescue equipment, fire extinguishers, fire blankets, stretchers, emergency eyewash fountains, emergency safety showers, fixed ladders, stairways, or electrical breaker panels. Also:

- Nails protruding from boards must be removed or bent over;
- All work areas shall be kept clear of form and scrap lumber and all other debris;
- Combustible scrap, waste materials, and debris shall be removed at regular and frequent intervals;
- Containers shall be provided for the collection and separation of refuse by type. Covers shall be provided on containers used for flammable, combustible, or harmful substances;
- Overhead storage of debris, tools, equipment, pipes, etc., is prohibited; and

- At the end of each work day, the SSHO shall provide for pickup of all debris such as paper, rags, empty cans and bottles, etc.

4.9.8 Hand Tool Hazards

Power tools shall never be left unattended in a place where they would be accessible to unauthorized persons. Power tools shall not be used in explosive or flammable atmospheres.

Power- and Air-Actuated Tools: Gasoline-powered, electric, or air-actuated tools are not to be used without prior approval of the SSHO.

Explosive-Actuated Tools: Explosive-actuated (powder-actuated) fastening tools shall meet the design requirements in "American National Standard Safety Requirements for Explosive-Actuated Fastening Tools" (ANSI A10.3-1970). A tool that does not meet these design standards cannot be used.

4.9.9 Traffic Control

Traffic control may be necessary for site activities. Traffic control devices may consist of:

- Traffic cones;
- Flags;
- Caution tape; and
- Other devices such as signs, barricades, flashing lights, high visibility fencing.

Signs and devices used will conform to the Department of Transportation Manual on Uniform Traffic Devices for Streets and Highways.

Additionally, positioning work vehicles properly is an effective way to help protect personnel from traffic, as does the wearing of high visibility vests. Use of an approved traffic control plan may be necessary depending on the roadway impacted by the work activities.

4.10 Specific Task Hazard Descriptions

In this section, specific work tasks and respective hazards that may be encountered during the course of performing these tasks are described. In addition to the requirements outlined in the following sections, the USACE Safety and Health Requirements Manual, EM 385-1-1, has requirements for the safe execution of various tasks. These requirements will be followed. The AIS SSHO is responsible for ensuring that the requirements are being implemented.

4.10.1 Utility Clearance

Underground utilities may be present and/or encountered on the site (see Section 4.1); therefore, the site preparation will consist of identifying all subsurface utilities through the "Dig Safe" practice. In brief, the "Dig Safe" practice includes:

- Site utility map review,
- USA network notification.

4.10.2 IDW Sampling

Investigation derived waste (IDW) consisting of soil and decontamination rinse water are expected at this site. Having personnel coming into contact with IDW is the main hazard during the work activities.

Personnel should always wear the appropriate PPE during work activities that involve IDW. All drums and containers used for storing IDW should be inspected for physical conditions such as rusting, swelling, and risk of structural failure.

When manually sampling from a drum, use the following techniques:

- Keep sampling personnel at a safe distance while drums are being opened. Sample only after initial operations are complete.
- Do not lean over other drums to reach the drum being sampled.
- Cover drum tops with plastic sheeting or other suitable non-contaminated materials to avoid excessive contact with the drum tops.
- Never stand on drums. Use mobile steps or another platform to achieve the height necessary to safely sample from the drums.
- Obtain samples with either glass rods or vacuum pumps. Do not use contaminated items when sampling, as they have the potential for cross-contaminating the sample and may not be compatible with the waste in the drum.

5.0 Staff Organization, Qualifications, and Responsibilities

Please refer to Section 4.0 of the APP for staff organization and responsibilities. Qualifications of personnel are based on training and experience. Training requirements are listed on Table 6.1 of the APP. Training certifications of personnel will be collected by each person's first day of field work and placed in Appendix C of this SSHP.

6.0 TRAINING

6.1 INTRODUCTION

AIS requires that all employees involved with the operation of heavy equipment and the management of hazardous materials have a thorough knowledge of potential occupational hazards. In addition, all employees are specifically trained in proper work procedures and how to eliminate or mitigate potential exposure (i.e., OSHA Hazardous Waste Operations and Emergency [Hazwoper] 40-hour and 8-hour refresher training). Appendix C contains the certifications of project safety personnel.

AIS personnel are required to attend frequent, formal training sessions during their entire employment with the company. The following sections discuss the corporate-mandated training that is required of all personnel and subcontractors working on a construction/remediation project.

In addition to the information provided in this Section, details of training requirements can be found in the APP, Table 6.1.

6.2 BASIC SAFETY TRAINING

Personnel are required to attend an initial 40-hour classroom training session, meeting requirements of OSHA 29 CFR 1910.120 and 1926.65; and Title 8 CCR 5192, focusing on chemical and physical hazards when projects are associated with hazardous materials. Other training subjects include proper work procedures, hazard communication, hearing conservation, PPE, respiratory protection, and First Aid/CPR for designated individuals. Heavy equipment operators are also given training on the equipment they are using on the project.

6.3 REFRESHER TRAINING

Regular 8-hour refresher training in compliance with 29 CFR 1910.120, 1926.65, and Title 8 CCR Section 5192 is provided to employees annually.

6.4 SUPERVISORY TRAINING

All supervisory personnel will have attended an 8-hour supervisor's course in compliance with 29 CFR 1910.120, 1926.65, and Title 8 CCR Section 5192 when projects deal with hazardous materials.

6.5 SAFETY-ORIENTATION BRIEFING

All AIS employees and subcontractors who perform field work during the project will be required to read this SSHP and acknowledge receipt and understanding of this SSHP by signing the SSHP Compliance Agreement in Appendix A, and submitting it to the AIS SSHO before performing any field activities.

An initial site safety briefing will be held for all AIS employees, subcontractors, and site visitors. This briefing will include, at a minimum:

- A review of the AHAs and other pertinent sections contained within this SSHP;
- A review of posted hazard warnings and permits applicable to the worker or visitor during site access;
- A review of hazards which may be encountered on site during that particular day or site visit;

- Site control and security measures; and
- Emergency evacuation areas and notification procedures.

6.6 DAILY SAFETY BRIEFINGS

The AIS SSHO will conduct and document a daily safety briefing of approximately 5 to 10 minute duration. These meetings will be conducted at the beginning of the scheduled work shift and will address safety and health issues pertaining to the upcoming daily operations. This briefing (commonly known as a "tailgate safety briefing") will accompany and complement the FTL or PM briefing of the daily work activities. Attendance will be documented on the Daily Tailgate Safety Meeting Form found in the APP in Appendix D. Copies of the daily safety briefing will be maintained in the project files.

6.7 HAZARD COMMUNICATION

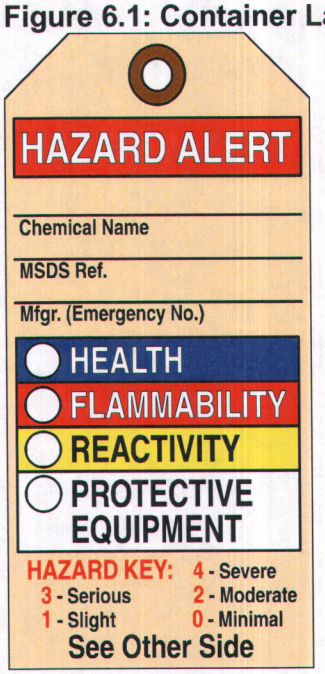
Site-specific hazard communication will be provided on site by the SSHO. MSDS or chemical substance fact sheets will be maintained on site for any compounds or contaminants present on the site during work activities and for any hazardous materials purchased for use at the site. The labeling provisions of OSHA 29 CFR 1910.1200 and Title 8 CCR Section 5194 will be followed.

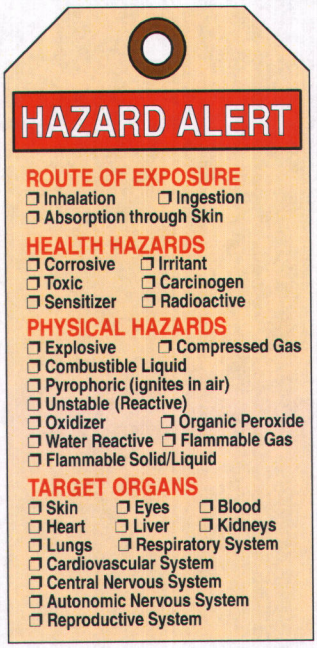
6.8 CONTAINER LABELING

All containers received on site will be inspected to ensure the following: (1) all containers will be clearly labeled as to its contents; (2) the appropriate hazard warnings will be noted, and (3) the name and address of the manufacturer will be listed (Figure 6.1). All secondary containers will be labeled with either an extra copy of the original manufacturer's label or with generic labels that have a block for identification and blocks for the hazard warning.

Copies of MSDS for all hazardous chemicals known or suspected on site will be maintained in the work area. MSDS for all chemicals brought on site such as: decontamination chemicals, gasoline, and other fuels, equipment calibration gases, etc. will also be maintained in the work areas. MSDS will be available to all employees for review during each work shift.

Figure 6.1: Container Labels





6.9 Hazard Communication Training

Prior to starting work, each employee will attend a health and safety orientation and will receive information and training on the following:

- An overview of the requirements contained in the Hazard Communication Standard, 29 CFR 1910.1200
- Chemicals present in their workplace operations
- Location and availability of a written hazard program
- Physical and health effects of the hazardous chemicals
- Methods and observation techniques used to determine the presence or release of hazardous chemicals
- How to decrease or prevent exposure to these hazardous chemicals through usage of control/work practices and personal protective equipment
- Emergency procedures in case of exposure to these chemicals
- How to read labels and review MSDS to obtain appropriate hazard information
- Location of MSDS file and hazardous chemical list.

6.10 Subcontractor Training

All subcontractors entering the project area will certify that their employees have successfully completed the appropriate training before undertaking site work. Such certification must include documented evidence that each subcontractor employee has completed site-safety orientation training conducted by the AIS SSHO. The SSHP Compliance Agreement must be signed by

subcontractor employees prior to commencement of work. This certification record will be stored along with other health and safety project documents.

6.11 VISITOR'S BRIEFING

All site visitors who will be in the work area only for short periods of time will be briefed by the SSHO. The visitor's briefing will include the hazards associated with the site, emergency procedures, and the use of PPE. Any visitors to the site will also be required to read this SSHP and sign and submit the SSHP Compliance Agreement. A Visitor's Log is included in the APP in Appendix D.

7.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment is designed to protect personnel from injury while conducting the tasks identified for this project. Level D PPE has been identified for the majority of the tasks. Modified Level D PPE and Level C PPE have been added as necessary.

Besides the information given in this Section, please refer to the APP, Section 11 PPE, for more details.

7.1 LEVEL D PROTECTION

Level D PPE shall be used when:

- The atmosphere contains no known hazard
- Work functions preclude significant splashes, immersions, or the potential for unexpected inhalation of, or contact with significant concentrations of harmful chemicals
- Atmospheric concentrations of contaminants are less than the TLV/PEL.

Level D PPE at a minimum shall consist of:

- Standard work uniform or coveralls
- ANSI-approved, steel-toed and steel shank work boots
- ANSI-approved, safety glasses with side shields
- Hearing-protection devices (during drilling operations and as necessary)
- ANSI-approved hard hat
- Heavy-duty cloth or leather-palm work gloves (as necessary to protect from cuts and lacerations during material handling activities).

Modified Level D PPE at a minimum shall be required for work activity inside of Exclusion Zones (EZs) below required respirator limits. Required PPE under this level:

- Tyvek® or Saranex® coveralls
- ANSI-approved hard hat
- ANSI-approved, steel-toed and steel-shank work boots
- ANSI-approved, safety glasses with side shields
- Latex or Nitrile inner gloves
- Nitrile outer gloves (when necessary)
- Hearing-protection devices (during drilling operations and as necessary).

The SSHO will be responsible for determining the need for the use of Tyvek® or Saranex® coveralls. When personnel are working in Tyvek® coveralls extreme care will be taken to ensure that personnel do not become susceptible to heat related stresses. The SSHO will be responsible for monitoring for heat related stress.

7.2 LEVEL C PPE

Work at this level is not anticipated at the site; however, if it is determined that a PPE upgrade is needed, the work will be immediately stopped and will subsequently follow the direction of the SSHO. The required PPE under Level C will include:

- Tyvek® or Saranex® coveralls
- ANSI-approved hard hat,
- ANSI-approved safety glasses with side shields,
- Neoprene boots (steel toe/shank),
- Latex or nitrile inner gloves,
- Nitrile outer gloves,
- Full-face air purifying respirator with organic vapor cartridges, and
- Hearing-protection devices.

7.3 RESPIRATORY PROTECTION PROGRAM REQUIREMENTS

AIS maintains a corporate written Respiratory Protection Program. Respiratory protection is not expected at this site.

8.0 MEDICAL SURVEILLANCE

This Section presents the AIS medical surveillance program and annual examination practice.

8.1 REQUIRED MEDICAL MONITORING

Prior to being assigned to site activities, all site personnel who are anticipated to enter the exclusion or contamination reduction zones shall participate in a medical surveillance program as required by Cal/OSHA Title 8 CCR § 5155, Hazwoper. At a minimum, this medical monitoring shall include:

- Complete medical and occupational histories,
- Physical examination,
- Pulmonary function tests,
- Eye examination and visual acuity,
- Audiometry, and
- Complete blood count.

The medical evaluation shall categorize employees as fit-for-duty and able to wear respiratory protection. Documentation is the responsibility of each employer. Each employee shall be able to provide proof of documentation.

In addition, medical monitoring shall be provided at the following times:

A. When employees have been injured, receives health impairment, develops signs or symptoms, which may have resulted from an exposure.
B. As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible over-exposure to hazardous substances, health hazards or exposure above an OSHA permissible exposure limit (PEL).
C. At least once every 12 months for each employee covered unless the physician determines a longer appropriate interval.
D. As soon as possible following an emergency incident where personnel may have been exposed.
E. Whenever there is a loss of time due to injury or illness.
F. At termination of employment or reassignment to an area not covered (if the employee has not been examined within six months).

8.2 SITE SPECIFIC MEDICAL MONITORING

If changes in the work conditions occur or unseen circumstances arise, the PM will be in contact with the Corporate Health and Safety Manager to determine whether or not additional monitoring is needed.

8.3 RECORDKEEPING REQUIREMENT

AIS maintains the project records listed below. Each subcontractor will be responsible for maintaining and providing the following reports and records to AIS' SSHO:

A. Fit to Work Form, signed by Physician, prior to start of work.
B. Respiratory Training Records, as required.

C. Respirator Fit-Test Results Records, as required.
D. Employee Health and Safety Training Records prior to start of work.
E. Air Monitoring Results, weekly.
F. Accident/Incident Investigation Reports, monthly or end of project whichever comes first (including number of subcontractor hours worked on site during the month).
G. Health and Safety Meeting Briefings and attendance sheets, monthly or end of project, whichever comes first.
H. Contingency Plan Meeting Reports, as required.

9.0 EXPOSURE MONITORING

Monitoring for the presence of hazardous conditions will be performed by the SSHO during excavation operations in order to prevent personnel exposure to chemical and physical hazards. Information gathered from air monitoring is used to determine appropriate on site protective measures and to design appropriate contingency plans and/or control measures to limit off site migration of contaminants. Monitoring activities and equipment are described in the following sections. All monitoring results will be recorded in the permanent log of all activities (see APP Appendix D). These logs will be kept in the project files and submitted upon request. Information in the logs includes:

- Date and time of monitoring,
- Air monitoring location,
- Instrument, model number, serial number,
- Calibration/background levels,
- Results of monitoring,
- Personnel signature, and
- Interpretation of data by SSHO.

9.1 FIELD CALIBRATION

All field calibration of monitoring equipment will follow manufacturer's procedures as listed in the operations manuals that are kept with each specific piece of equipment. The Field Equipment Calibration Data Sheet will be used to document the calibration results (see Appendix D in the APP).

9.2 FREQUENCY OF AIR SAMPLING AND ACTION LEVELS

Based on an evaluation of the contaminants at the site, real-time air monitoring equipment such as a Combustible Gas Indicator (CGI) or equivalent equipment with an alarm system and an organic vapor monitor or photoionization detector (e.g., PID with 10.2 eV lamp, or equivalent) will be maintained on site during excavation activities. The frequency of sampling around excavation and sampling areas and in the breathing zone will be:

- Every 2 hours (at a.m. startup, after a.m. break, after lunch, after p.m. break, all prior to resuming activities).
- Immediately after "unusual" events or incidents that raise exposure concerns.

Air monitoring exposure limits are indicated in Table 9.1. If the PID equipped with an 10.2 eV lamp detects VOC concentrations at or above 1.0 ppm and less than 10 ppm for a sustained period of 15 minutes or longer, a colorimetric detector tube will be used to determine if any of the contaminant is present (e.g., benzene). If the colorimetric detector tube indicates that VOC is not present, work will continue in Modified Level D PPE with PID monitoring conducted continuously.

Level C PPE is not expected at this site. If airborne VOC concentrations rise to >10 ppm but <25 ppm, air monitoring utilizing colorimetric detector tubes will continue every 30 minutes for the duration of the work. If at any time the PID monitoring or the detector tube sampling indicates airborne VOC levels exceeding 25 ppm, the project work must cease and the work

area evacuated. The AIS PM and SHM must be notified in order to evaluate the situation and determine the next course of action.

TABLE 9.1

AIR MONITORING EXPOSURE LIMITS

Exposure Limits	Response Actions
PID readings at or above 1.0 ppm and <10 ppm and sustained for 15 minutes.	• Conduct colorimetric detector tube tests. • If negative, continue work with continuous PID monitoring. • Continue detector tube monitoring once every 60 minutes. If detector tubes indicate positive for VOCs, stop work and reevaluate necessity to don Level C PPE (includes full face air purifying respirator with organic vapor cartridges).
PID readings >10 ppm and <25 ppm	• Continue Level C PPE • Conduct colorimetric detector tube tests every 30 minutes.
PID readings >25 ppm	• Evacuate work area and notify appropriate personnel. • Work resumes when appropriate corrective measures are implemented or air contamination levels are reduced to acceptable limits.

10.0 Heat and Cold Stress

Cold stress is not expected at the project site. Heat stress is discussed in Section 12.6 of the APP.

11.0 STANDARD OPERATING SAFETY PROCEDURES AND CONTROLS

All site personnel shall follow the general operating procedures. These precautionary measures are designed to reduce the risks of inadvertent or accidental chemical exposure or injury during on site operations.

11.1 PERSONAL PRECAUTIONS

- Be familiar with standard operating procedures and adhere to specific instructions and requirements in the APP and the SSHP.
- Eating, drinking, chewing gum, chewing tobacco, smoking, applying lip balm, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any contaminated or potentially contaminated area. However, a supply of cold, bottled water will be located in the decontamination area such that employees will have access to water with only removal of gloves, hat, and respirator and washing of face and hands.
- Hands and face must be thoroughly washed upon leaving the work area. Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garment is removed.
- No facial hair, which interferes with proper fit and function of respirators, is allowed on those personnel that are required to wear respirators.
- Avoid contact with contaminated or suspected contaminated surfaces. Whenever possible, avoid walking through puddles, pools and mud. Avoid kneeling or sitting on the ground, equipment, or steel drums.
- Personal articles shall be prohibited in any contaminated or potentially contaminated area.
- Medicine and alcohol can exacerbate the effects from exposure to toxic chemicals. While field operations are in effect, alcoholic beverage use should be minimized or avoided during off-work hours. Prescribed drugs should not be taken by personnel during on site operations where the potential for absorption, inhalation, or ingestion of toxic substances exists, unless specifically approved by a qualified physician. Do not work when ill.
- Avoid downwind positions during work activities to reduce potential contaminant exposure.

11.2 OPERATIONAL REQUIREMENTS

11.2.1 General Requirements for Level D

- All work shall be in Level D unless otherwise noted. Air monitoring for VOCs and airborne combustible gases will be conducted by the SSHO to assist in determining the appropriate PPE for work activities.
- The SSHO shall conduct daily and weekly inspections to determine if operations are being performed in accordance with this SSHP, OSHA, and any other pertinent regulations and contract requirements.

- All personnel working at the site shall be adequately trained and thoroughly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures, and communications. The SSHO shall conduct daily health and safety 'tailgate' meetings prior to the start of any work activities at the site.
- In the event of an accident, the AIS PM shall immediately notify the activity point of contact. If appropriate, within two working days of any reportable accident, the AIS SSHO and the PM shall complete and submit an Accident Report form (in APP, Appendix D).
- Unless part of the project work, drums and containers are not to be disturbed. This restriction does not apply to IDW drums or containers. If any drum and/or container is leaking or bulging, the SSHO must be notified immediately.
- Report all injuries or work related illnesses to the SSHO or FTL as soon as possible.

11.3 Subcontractor Safety and Health Plans

Although safety and health is the responsibility of all personnel working at the site (including subcontractors), AIS has the primary responsibility of implementing the SSHP. AIS will review the subcontractor's health and safety documents to see if there are any deficiencies or conflicts between the subcontractor and AIS requirements. Any deficiencies or conflicts should be resolved before starting the field activities. The SSHO has the authority to evaluate, correct, and take corrective actions where subcontract personnel do not follow the approved SSHP.

12.0 SITE CONTROL MEASURES

12.1 GENERAL

This section details the setup of the site into the various work zones. To minimize the possibility of exposing unprotected personnel and the translocation of contaminants, several measures will be taken. These measures include:

- Setting up security or physical barriers to exclude unnecessary personnel from the general area,
- Minimizing the number of personnel and equipment on site, in order to be consistent with effective operations,
- Establishing work zones within the site,
- Establishing control points to regulate access to work zones,
- Conducting operations in a manner to reduce the exposure of personnel and equipment,
- Minimizing the airborne dispersion of contaminants,
- Implementing appropriate decontamination procedures, and
- Conducting the fieldwork during daylight hours – minimum requirements will be provided in compliance with all regulatory requirements.

12.2 WORK ZONE DEFINITIONS AND SITE SECURITY

As long as the level of protection required is Level D or modified Level D, one work zone is sufficient. However, if the level of protection is upgraded to Level C (not expected), an exclusion zone, contamination reduction zone, and support zone will be established. These zone designations are defined as follows:

Exclusion zone is defined as the area where contamination is either known or likely to be present, or because of activity, will provide a potential to cause harm to personnel. Entry into the exclusion zone requires the use of personal protective equipment.

Contaminant reduction zone is the area where personnel conduct personal and equipment decontamination. It is essentially a buffer zone between contaminated areas and clean areas. Activities to be conducted in this zone will require personal protection as defined in the decontamination plan.

Support zone is situated in clean areas where the chance to encounter hazardous materials or conditions is minimal. Personal protective equipment is not required in the support zone, but should be available in case of emergency.

If these zone designations are required, they will be established using yellow "caution" tape and delineated as follows:

- The exclusion zone will be the immediate area of release or spill. For this contract task order an exclusion area would be established from the north side of the FMS to past the UST and clarifier pits.

- The contaminant reduction zone would establish a margin between the caution tape (exclusion zone). In this area, donning and doffing of any required PPE, and other decontamination would be performed.
- The support zone would be established where there is no potential contact with site contaminants. However, PPE would be available here in case, the site conditions change and require an upgrade.

Once the work in exclusion zones is completed, and the contaminant reduction zone is controlled, the areas must be restored to their former condition and site security classification. The SSHO will be responsible for clearing the area from site control, and the SSHO will document this approval in the field log book.

The buddy system will be utilized at all times when workers are in the various work zones.

13.0 Personal Hygiene and Decontamination

The decontamination of personnel will be performed within the exclusion and contamination reduction zone. The contamination reduction zone will be established to act as a transition zone for any necessary equipment or personnel decontamination, and for inspection activities. The decontamination reduction zone will be required for projects where site conditions change and personnel are required to wear Level C, Level B, or Modified Level D (NOT EXPECTED FOR THIS PROJECT). The following procedures should be used when decontaminating personnel or equipment:

- Remove disposable, outer-boot covers if used.
- Remove chemical-resistant, outer gloves.
- Remove hard hat, and goggles, safety glasses, or face shield.
- Remove disposable, inner gloves.

At a minimum, the hands and face of each employee must be thoroughly washed upon leaving the work area. All reusable PPE (boots, hard hats, and possibly outer gloves) will be decontaminated in a designated area within the contamination reduction zone. The SSHS will visually inspect all reusable PPE and other equipment once decontamination procedures are completed. All decontamination activity will be monitored to ensure compliance with procedures described in this SSHP. All disposable clothing that may have been contaminated will be collected and properly discarded.

Refer to Section 11.1 of this SSHP for an additional discussion of personal hygiene and decontamination procedures.

14.0 Equipment Decontamination

The decontamination of equipment will be performed within the work exclusion zone. To decontaminate hand tools and small pieces of equipment, a galvanized wash tub or clean, 5-gallon, plastic container will be partially filled with potable water. A non-phosphate detergent solution will be mixed in the container. The sampling equipment will be scrubbed visually clean using the detergent solution and a stiff, long-bristled brush. After the solution scrub, the device will be rinsed with reclaimed or potable to clean off the solution. Once the solution is rinsed, the equipment will be rinsed a second time with potable or distilled water and allowed to dry.

15.0 Emergency Equipment and First Aid

A list of emergency equipment to be maintained on site during the project is provided in Section 12.3 of the APP.

First aid kits will be made available to site workers and maintained in the proximity of the work zone. First aid kits will be provided at a ratio of one for every 25 employees. The presence of fewer than 25 employees on site still warrants a first aid kit to be on site. The SSHO will ensure that first aid kits are available on the work site and that these locations are known to all employees on the premises. The SSHO will make checks of the first aid and emergency equipment during the Daily Tailgate Safety Briefing. At least two on-site workers will be currently certified in First Aid and CPR.

16.0 EMERGENCY RESPONSE AND CONTINGENCY PLAN

Site personnel must be prepared to respond and act quickly in the event of an emergency or accidental contaminant release. Emergency preparedness and response procedures will aid in protecting site workers and the surrounding environment. Preplanning measures will include employee training, fire and explosion prevention and protection, spill and release prevention and protection, and safe work practices to avoid personal injury or exposure. Please refer to the APP for details of the emergency response preparation, lines of communication, and emergency medical information.

A meeting place will be designated, in the event of an emergency which requires the evacuation of all site employees (AIS and subcontractors). The meeting place is dependent on the location of the tasks being performed. During the daily tailgate safety meetings the specific evacuation location will be discussed.

17.0 MEETINGS, LOGS, REPORTS, AND RECORDKEEPING

17.1 SAFETY ORIENTATION BRIEFING

All AIS employees and subcontractors who perform field work during the project will be required to read this SSHP and acknowledge receipt and understanding of this SSHP by signing the SSHP Compliance Agreement in Appendix A, and submitting it to the AIS PM before performing any field activities. Any visitors at the site will also be required to read this SSHP and sign and submit the SSHP Agreement.

An initial site safety briefing will also be held for all AIS employees, subcontractors, and site visitors. This briefing will include, at a minimum:

- A review of the AHAs, and other pertinent sections contained within this SSHP.
- A review of posted hazard warnings and permits applicable to the worker or visitor during site access.
- A review of hazards which may be encountered on site during that particular day or site visit.
- Site Security Measures.
- Emergency evacuation meeting areas and notification procedures.

17.2 SAFETY INSPECTIONS

The SSHO has been delegated responsibility for conducting daily formal job site inspections to ensure compliance with the Site Safety and Health Program. The safety inspections will be conducted to identify non-compliance items including: unsafe equipment/tools; unsafe conditions; (hazardous materials, atmospheres, etc.); and unsafe acts (violations of SOPs). These inspections will be conducted to include immediate work areas and all equipment/materials storage or staging areas inclusive of vehicles, tool boxes, and storage trailers.

Imminent danger findings shall result in immediate work suspension of the affected operations until such dangers are corrected. Other findings shall be corrected immediately or preventive measures shall be taken to protect employees. Any identified non-compliance items or safety violations by employees will be recorded on an inspection report, in accordance with the AIS Corporate Safety and Health Program. File copies will also be maintained at the job site for review, and shall be reviewed with affected employees during pre-work briefings and weekly safety meetings.

17.3 INITIAL EQUIPMENT INSPECTIONS

Prior to project mobilization on site, all equipment must be inspected for safety conformance, including operation and functioning. The SSHO shall be responsible for the initial inspection prior to use. The items to be inspected shall include all equipment, cranes, backhoes, aerial lifts, welding/cutting equipment, hoisting and rigging apparatus, and all portable electric and pneumatic tools. Heavy construction equipment, including rental equipment, shall be identified with the equipment owner's name.

Defective or otherwise unsafe equipment or tools shall be tagged "DO NOT USE," and removed from the site. The repaired items shall be inspected prior to entering the site. Any hoisting/rigging equipment or other equipment that cannot be repaired shall be destroyed or

otherwise made inoperable to prevent inadvertent use by others at another project. The PM shall maintain equipment inspection reports and equipment inventory data at the site for review.

17.4 JOB SITE POSTING

In areas where hazards may occur, warning signs shall be posted to promote worker and visitor awareness. The following posted signs are anticipated for this project.

Sign	Application
"Construction Area – Hard Hat, Safety Glasses, Steel Toe Boots Required"	Required at boundaries to **ALL** established work areas.
"Authorized Personnel Only"	Required at boundaries to **ALL** established work areas.
"No Smoking"	Required at boundaries to **ALL** established work areas.

18.0 REFERENCES

American Conference of Governmental Industrial Hygienists (ACGIH) 2007. Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices, ACGIH, Cincinnati, OH.

Cal-OSHA Hazardous Waste Operations and Emergency Response Standard, 8 California Code of Regulations (CCR) § 5192.

Code of Federal Regulations (CFR) Title 29, Parts 1910 (section 120) and 1926 (section 65).

DHHS (NIOSH) 2002. NIOSH Pocket Guide to Chemical hazards and Other Databases, DHHS/CDC/NIOSH Publication No. 2002-140, June 2002.

NIOSH (National Institute of Occupational Safety and Health) 1997. Pocket Guide to Chemical Hazards, September 2005.

USACE 2003. Safety and Health Requirements Manual, EM 385-1-1.

APPENDIX A
Site Safety and Health Plan Compliance Agreement

SITE SAFETY AND HEALTH PLAN
COMPLIANCE AGREEMENT

Contract: W91238-08-D-0008
Demolition/Removal Underground Storage Tank, Piping, Fuel Island/Dispenser
CA ARNG, San Lorenzo, California

The contract for the above project requires the following: that you be provided with and complete formal site-specific training; that you be supplied with proper personal protective equipment including respirators; that you be trained in its use; that you receive a medical examination to evaluate your physical capability to perform your assigned work tasks under the environmental conditions expected, while wearing the required personal protective equipment. These things are to be done at no cost to you. By signing this certification, you are acknowledging that your employer has met these obligations to you.

I have read the plan, understand it and agree to comply with all of its provisions. I understand that I could be prohibited from working on the project for violating any of the safety requirements specified in the plan.

Name **Date**

FORMAL TRAINING: I have completed the following formal training courses that meet OSHA's Hazardous Waste Operations and Emergency Response (Hazwoper) requirements, as defined in 29 CFR 1910.120(e), "Training."

	Date Complete
Initial 40-hour training:	_____
3-day field supervised training:	_____
8-hour supervisory training:	_____
Annual 8-hour refresher training:	_____

SITE-SPECIFIC TRAINING: I have been provided and have completed the site-specific training required by this Contract. The Site Safety and Health Officer conducted the training

Date _____

RESPIRATORY PROTECTION: I have been trained in accordance with the criteria in the contractor's/my employer's Respiratory Protection Program. I have been trained in the proper work procedures and use limitations of the respirator(s) I will wear. I have been trained in and will abide by the facial hair policy.

Date _____

RESPIRATOR FIT-TEST TRAINING: I have been trained in the proper selection, fit, care, cleaning, and maintenance, and storage of the respirator(s) that I will wear. I have been fit-tested in accordance with the criteria in the contractor's/my employer's Respiratory Protection program and have received a satisfactory fit. I have been assigned my individual respirator. I have been taught how to properly perform positive and negative pressure fit check upon donning negative pressure respirator each time.

Date _____

MEDICAL EXAMINATION: I have had a medical examination within the last twelve (12) months, which was paid for by my employer. The examination included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray. A physician made determination regarding my physical capacity to perform work tasks on the project while wearing protective equipment including a respirator. I was personally provided a copy of the results of that examination. My employer's industrial hygienist evaluated the medical certification provided by the physician and checked the appropriate blank below. The physician determined that (check applicable box):

There were no limitations to performing the required work tasks	
There were identified physical limitations to performing the required work tasks (describe)	
Date medical examination completed	

CERTIFICATION

Employee's / Visitor's Signature	
Date	
Printed Name	

VERIFICATION

AIS SSHO Signature	
Date	
Printed Name	

APPENDIX B
MATERIAL SAFETY DATA SHEETS
(TO BE ADDED IN THE FIELD AS NECESSARY)

MATERIAL SAFETY DATA SHEET

Name: BENZENE - General Groundwater Contaminant

Ingredients/Identity Information

Proprietary: NO
Ingredient: BENZENE (SARA III)
NIOSH (RTECS) Number: CY1400000
CAS Number: 71-43-2
OSHA PEL: 1PPM/5STEL;1910.1028
ACGIH TLV: 10 PPM; A2; 9192

Physical/Chemical Characteristics

Appearance And Odor: COLORLES LIQUID WITH AN AROMATIC ODOR.
Boiling Point: 176F,80C
Melting Point: 42.0F,5.6C
Vapor Pressure (MM Hg/70 F): 74.6MMHG20
Vapor Density (Air=1): 2.8
Specific Gravity: 0.9
Evaporation Rate And Ref: 1.0 (CCL4=1)
Solubility In Water: 0.18% @ 25C
Autoignition Temperature: 928F

Fire and Explosion Hazard Data

Flash Point: 12F,-11C
Flash Point Method: CC
Lower Explosive Limit: 1.2
Upper Explosive Limit: 7.8
Extinguishing Media: DRY CHEMICAL CO2,WATER SPRAY OR FOAM,FOR LARGER FIRES USE WATER SPRAY,FOG OR FOAM.
Special Fire Fighting Proc: MOVE CONTAINER FROM FIRE AREA,IF POSSIBLE. EXTINGUISH ONLY IF FLOW CAN BE STOPPED,USE WATER AS A FOG.KEEP UPWIND,AVOID BREATHING HAZARDOUS MATERIALS.
Unusual Fire And Expl Hazrds: DANGEROUS FIRE HAZARD,MODERATE EXPLOSION HAZARD WHEN EXPOSED TO HEAT OR FLAME. VAPOR-AIR MIXTURES ARE EXPLOSIVE ABOVE FLASH POINT VAPORS HEAVIER THAN AIR.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): OTHER THAN NORMAL TEMPERATURES AND PRESSURES.
Materials To Avoid: HALOGENS,OXIDANTS,ACIDS, ORGANIC LIQUIDS HYDROCATBONS. SEE HANDBOOK OF REACTIVE CHEMICAL HAZARDS FOR MORE DETAIL.
Hazardous Decomp Products: THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): OTHER THAN NORMAL TEMPERATUURES AND PRESSURES.

Health Hazard Data

Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: CENTRAL NERVOUS SYSTEM DEPRESSANT; BONE MARROW DEPRESSANT. POISONING MAY EFFECT THE IMMUNE SYSTEM. INHALATION- RESPIRATORY TRACT IRRITATION. PULMONARY EDEMA. DEATH DUE TO ASPHXIA EYES- IRRITATION.
Carcinogenicity - NTP: YES
Carcinogenicity - IARC: YES
Carcinogenicity - OSHA: YES
Explanation Carcinogenicity: CONTAINS Benzene [71-43-2] WHICH IS LISTED BY NTP AND IARC AND REGULATED BY OSHA AS A CARCINOGEN.
Signs/Symptoms Of Overexposure: INHALATION- HEADACHE, DIZZINESS, WEAKNESS. CARDIAC OR RESPIRATORY FAILURE. SKIN- A BURNING SENSATION, AND WITH PROLONGED CONTACT, BLISTERING AND EDEMA. DEFATTING. EYES- CONJUNCTIVITIS. INGESTION- LOCAL IRRITATION, BURNING SENSATION, HEMORRHAGIC INFLAMMATORY LESIONS OF THE MUCOUS MEMBRANES.
Med Cond Aggravated By Exp: LEUKEMIA,VARIOUS TYPE OF CANCERS.
Emergency/First Aid Proc: GET MEDICAL ATTENTION IMMEDIATELY, INHALATION:REMOVE FROM EXPOSED AREA IF NECESSARY GIVE ARTIFICIAL RESPIRATION. SKIN:REMOVE CONTAMINATED CLOTHING AND WASH WITH SOAP AND WATER FOR 20 MINUTES INGESTION:GET QUALIFIED MEDICAL HELP IMMEDIATELY. GENERAL:MAINTAIN AIRWAY AND BLOOD PRESSURE REFERENCE: DREISBACH,HANDBOOK OF POISONINGS.

Precautions for Safe Handling and Use

Steps
If Material Released/Spill: SOIL:DIKE HOLDING AREA OR DIKE FLOW.REDUCE VAPOR AND FIRE HAZARD OF FLUOROCARBON WATER FOAM.AIR:KNOCK DOWN VAPORS WITH WATER SPRAY. KEEP UP UPWIND.WATER:LIMIT SPILL MOTION AND DISPERSION OCCUPATIONAL: SHUT OFF IGNITION SOURCES.LIMIT ACESS TO AREA.
Waste Disposal Method: DISPOSAL IN ACCORDANCE WITH STANDARDS TO GENERATORS OF HAZARDOUS WASTE,4 CFR 262 EPA HAZARDOUS WASTE NUMBER D001, OBSERVE ALL FEDERAL,STATE AND LOCAL REGULATIONS WHEN DISPOSING OF THIS SUBSTANCE.
Precautions-Handling/Storing: MAY BE IGNITED BY HEAT,SPARKS,OR FLAMES STORE IN ACCORDANCE W/ 29CFR1910.106; PROTECT AGAINST PHYSICIAL DAMAGE. OUTSIDE OR DETACHED STORAGE IS PREFER.
Other Precautions: STORAGE SHOULD BE IN A STANDARD FLAMMABLE LIQUIDS STORAGE ROOM OR CABINET. SEPERATE FROM OXIDIZING MATERIALS. SEPERATE FROM OXIDIZING OR OTHER INCOMPATABLE SUBSTANCES.GROUND AND BOND AS SPECIFIED IN NFPA77-1983 .

Control Measures

Respiratory Protection: USE CCROV RESPIRATOR OR AS REQUIRED BY 29CFR1910.1028,TABLE 1, OSHA.
Ventilation: PROVIDE EXHAUST OR PROCESS ENCLOSURE VENTICATION TO MEET PUBLISHED EXPOSURE LIMITS EQUIPMENT MUST BE EXPLOSION PROOF.
Protective Gloves: APPROPRIATE PROTECTION GLOVE A MUST.
Eye Protection: SPLASH PROOF OR DUST RESISTANT GOGGLES.
Other Protective Equipment: WEAR APPROPRIATE PROTECTIVE(IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT SKIN CONTACT.
Work Hygienic Practices: WASH THOROUGHLY AFTER HANDLING AND BEFORE EATING, SMOKING OR USING SANTIARY FACILITIES.

Transportation Data

Trans Data Review Date: 89269
DOT PSN Code: BRS
DOT Proper Shipping Name: BENZENE
DOT Class: 3
DOT ID Number: UN1114
DOT Pack Group: II
DOT Label: FLAMMABLE LIQUID
IMO PSN Code: BXB
IMO Proper Shipping Name: BENZENE
IMO Regulations Page Number: 3185
IMO UN Number: 1114
IMO UN Class: 3.2
IMO Subsidiary Risk Label: -
IATA PSN Code: DBA
IATA UN ID Number: 1114
IATA Proper Shipping Name: BENZENE
IATA UN Class: 3
IATA Label: FLAMMABLE LIQUID
AFI PSN Code: DBA
AFI Symbols: 0
AFI Prop. Shipping Name: BENZENE
AFI Class: 3
AFI ID Number: UN1114
AFI Pack Group: II
AFI Basic Pac Ref: 7-7

Label Data

Label Required: YES
Technical Review Date: 16FEB94
Label Status: F
Common Name: BENZENE
Chronic Hazard: YES
Signal Word: DANGER!
Acute Health Hazard-Severe: X
Contact Hazard-Slight: X
Fire Hazard-Severe: X
Reactivity Hazard-None: X
Special Hazard Precautions: CENTRAL NERVOUS SYSTEM DEPRESSANT; BONE MARROW DEPRESSANT. POISONING MAY EFFECT THE IMMUNE SYSTEM. INHALATION- RESPIRATORY TRACT IRRITATION. PULMONARY EDEMA. DEATH DUE TO ASPHXIA EYES- IRRITATION. FIRST AID: INHALATION- REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NEEDED. SEEK MEDICAL ATTENTION. SKIN- REMOVE CONTAMINATED SHOES AND CLOTHING. WASH AFFECTED AREA WITH SOAP AND WATER. GET MEDICAL HELP. EYES- FLUSH WITH COPIOUS AMOUNTS OF NORMAL SALINE OR WATER WITHIN 15 MINUTES. GET IMMEDIATE MEDICAL ATTENTION.
Protect Eye: Y
Protect Skin: Y Protect Respiratory: Y

Material Safety Data Sheet

Name: XYLENE - General Groundwater Contaminant

Ingredients/Identity Information

Proprietary: NO
Ingredient: XYLENES (O-,M-,P- ISOMERS) (SARA 313) (CERCLA)
Ingredient Sequence Number: 01
Percent: 100
NIOSH (RTECS) Number: ZE2100000
CAS Number: 1330-20-7
OSHA PEL: 100 PPM
ACGIH TLV: 100 PPM/150STEL;9596
Other Recommended Limit: NONE RECOMMENDED

Physical/Chemical Characteristics

Appearance And Odor: LIQUID;COLORLESS;XYLENE ODOR.
Boiling Point: 309F,154C
Vapor Pressure (MM Hg/70 F): 5.1
Vapor Density (Air=1): 3.6
Specific Gravity: 0.863
Decomposition Temperature: UNKNOWN
Solubility In Water: NEGLIGIBLE
Percent Volatiles By Volume: 100
Viscosity: <1CST@40C
Corrosion Rate (IPY): UNKNOWN

Fire and Explosion Hazard Data

Flash Point: 80.6F,27.0C
Lower Explosive Limit: 1.1
Upper Explosive Limit: 7
Extinguishing Media: CARBON DIOXIDE,FOAM,DRY CHEMICAL,WATER FOG.
Special Fire Fighting Proc: USE A SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER SPRAY.AVOID POLLUTION OF WATERWAYS FROM RUNOFF.
Unusual Fire And Expl Hazrds: FLAMMABLE VAPORS.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): STATIC BUILDUP,HIGH HEAT AND SOURCES OF IGNITION.
Materials To Avoid: STRONG OXIDIZING AGENTS,ACTIVE METALS,HALOGENS,ACIDS.
Hazardous Decomp Products: CARBON DIOXIDE,CARBON MONOXIDE
Hazardous Poly Occur: NO

Health Hazard Data

LD50-LC50 Mixture: ORAL LD50 (RAT) IS 4300MG/KG
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: INGEST:PRACTICALLY NON-TOXIC;>2G/KG. ASPIRATION HAZARD.TINHAL:HARMFUL IF INHALED.EYES:IRRITANT.SKIN-PRACTICALLY NON-IRRITATING,BUT MAY CAUSE DEFATTING.
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO

Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: PARA-XYLENE IS THE MOST FETOTOXIC ISOMER.
Signs/Symptoms Of Overexp: POSSIBLE DERMATITIS.
Med Cond Aggravated By Exp: NONE SPECIFIED BY MFR.
Emergency/First Aid Proc: EYES:FLUSH WITH WATER.GET MEDICAL ASSISTANCE.SKIN:WASH WITH SOAP AND WATER.INHAL:REMOVE FROM EXPOSURE.CALL PHYSICIAN,GIVE OXYGEN OR MOUTH-TO-MOUTH RESCUSITATION IF NEEDED.INGEST:DO NOT INDUCE VOMITING.GET PROMPT QUALIFIED MEDICAL ASSISTANCE.IF CONSCIOUS,GIVE 1-2 GLASSES OF WATER.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: ELIMINATE SOURCES OF IGNITION.VENTILATE AREA.SOAK UP WITH A NON-COMBUSTIBLE ABSORBANT.PLACE IN AN APPROPRIATE CONTAINER FOR DISPOSAL.PREVENT POLLUTION OF WATERWAYS;CALL 800-424-8802 FOR SPILL REPORTING.
Neutralizing Agent: NOT APPLICABLE
Waste Disposal Method: DISPOSE OF IN ACCORDANCE WITH FEDERAL,STATE AND LOCAL REGULATIONS.THIS ITEM MAY BE CLASSIFIED AS RCRA HAZARDOUS WASTE(IGNITABILITY,CORROSIVITY,REACTIVITY,TCLP).
Precautions-Handling/Storing: STORE IN A COOL,DRY PLACE.AVOID HEAT,SPARKS,FLAMES AND INCOMPATIBLE MATERIALS.KEEP CONTAINERS CLOSED.
Other Precautions: GROUND OR BOND CONTAINERS WHEN TRANSFERRING LIQUIDS.

Control Measures

Respiratory Protection: USE A NIOSH/MSHA APPROVED RESPIRATOR FOR ORGANIC VAPOR.
Ventilation: USE LOCAL EXHAUST AT THE WORKSITE;DILUTION VENTILATION TO MAINTAIN THE TLV/PEL.
Protective Gloves: IMPERVIOUS.
Eye Protection: CHEMICAL SPLASH GOGGLES.
Other Protective Equipment: PROTECTIVE CLOTHING AS NEEDED.PROVIDE AN EYE WASH STATION AND QUICK DRENCH SHOWER.
Work Hygienic Practices: USE REASONABLE CARE IN HANDLING THIS PRODUCT.WASH HANDS AFTER HANDLING MATL AND BEFORE EATING.
Suppl. Safety & Health Data: NONE

Transportation Data

Trans Data Review Date: 98078
DOT PSN Code: PWS
DOT Proper Shipping Name: XYLENES
DOT Class: 3
DOT ID Number: UN1307
DOT Pack Group: III
DOT Label: FLAMMABLE LIQUID
IMO PSN Code: PPF
IMO Proper Shipping Name: XYLENES
IMO Regulations Page Number: 3394
IMO UN Number: 1307
IMO UN Class: 3.3
IMO Subsidiary Risk Label: -
IATA PSN Code: ZPL
IATA UN ID Number: 1307
IATA Proper Shipping Name: XYLENES
IATA UN Class: 3

IATA Label: FLAMMABLE LIQUID
AFI PSN Code: ZPL
AFI Prop. Shipping Name: XYLENES
AFI Class: 3
AFI ID Number: UN1307
AFI Pack Group: III
AFI Special Prov: P5
AFI Basic Pac Ref: A7.3
MMAC Code: NR
Additional Trans Data: RQ FOR XYLENE IS 100 LBS.

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Label Data

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Label Required: YES
Technical Review Date: 19MAR98
MFR Label Number: UNKNOWN
Label Status: F
Common Name: XYLENE
Chronic Hazard: NO
Signal Word: WARNING!
Acute Health Hazard-Slight: X
Contact Hazard-Slight: X
Fire Hazard-Moderate: X
Reactivity Hazard-None: X
Special Hazard Precautions: INGEST:PRACTICALLY NON-TOXIC;>2G/KG.
ASPIRATION HAZARD. INHAL:HARMFUL IF INHALED.EYES:IRRITANT.
SKIN-PRACTICALLY NON-IRRITATING,BUT MAY CAUSE DEFATTING. STORE IN A COOL,DRY PLACE.AVOID HEAT,EYES:FLUSH WITH WATER.GET MEDICAL ASSISTANCE.SKIN:WASH WITH SOAP AND WATER.
INHAL:REMOVE FROM EXPOSURE.CALL PHYSICIAN,GIVE OXYGEN OR MOUTH-TO-MOUTH RESCUSITATION IF NEEDED.INGEST:DO NOT INDUCE VOMITING.GET PROMPT QUALIFIED MEDICAL ASSISTANCE.IF CONSCIOUS,GIVE 1-2 GLASSES OF WATER.
Protect Eye: Y
Protect Skin: Y
Protect Respiratory: Y
Label Emergency Number: 800-424-9300(CHEMTREC)

APPENDIX C
Training Certificates for Key Project Personnel

APPENDIX D

SSHP Amendments

This appendix is set up to contain any future amendments to the

SITE SAFETY AND HEALTH PLAN (SSHP)

American Integrated Services, Inc.

SITE SAFETY AND HEALTH PLAN AMENDMENT FORM

Amendment # _____

Site Name _____

Work Assignment # _____

Date _____

Type of Amendment _____

Reason for Amendment _____

_____

_____

Alternate Safeguard Procedures _____

_____

_____

Required Changes in PPE _____

_____

_____

_____

Health & Safety Officer Signature Date

_____

Program Manager Signature Date

INSTRUCTIONS

General Instructions

* Three (3) copies of this plan plus attachments and a payment of fees must be submitted to this Department.

* Any cutting into tanks requires local fire department approval.

* One complete copy of your approved plan must be at the construction site at all times; a copy of your approved plan must also be sent to the landowner.

* State of California Permit Application Forms A and B are to be submitted to this office. One Form A per site and one Form B for each removed tank.

Line Item Specific Instructions

2. SITE ADDRESS

   Address at which closure is taking place.

5. EPA I.D. NO. (under which the tanks will be manifested)

   EPA I.D. numbers may be obtained from the Department of Toxic Substances Control (DTSC), (800) 618-6942 or from DTSC's website.

6. CONTRACTOR

   Prime contractor for the project.

10. STATE REGISTERED HAZARDOUS WASTE TRANSPORTERS/FACILITIES

    a) All residual liquids and sludges are to be removed from tanks before tanks are inerted.

    c) Tanks must be hauled as hazardous waste.

    d) This is the location where tank and piping will be taken for cleaning/disposal.

15. TANK HISTORY AND SAMPLING INFORMATION

    Use History – This information is essential and must be accurate. Include tank installation date, products stored in the tank, **and the date when the tank was last used**.

    Material to be sampled – e.g., water, oil, sludge, soil, etc.

    Location and depth of sample(s) - e.g., beneath the tank at a maximum of two feet below the native soil/backfill interface, side wall at the high water mark, etc.

16. CHEMICAL METHODS AND ASSOCIATED DETECTION LIMITS

See Table 2, Recommended Minimum Verification Analyses for Underground Tank Leaks.

17. SITE HEALTH AND SAFETY PLAN

A site-specific Health and Safety plan must be submitted. We advocate that the site health and safety plan include the following items, at a minimum:

a) The name and responsibilities of the site health and safety officer;

b) An outline of briefings to be held before work each day to apprise employees of site health and safety hazards;

c) Identification of health and safety hazards of each work task. Include potential fire, explosion, physical, and chemical hazards;

d) For each hazard, identify the action levels (contaminant concentrations in air) or physical conditions which will trigger changes in work habits to ensure workers are not exposed to unsafe chemical levels or physical conditions;

e) Description of the work habit changes triggered by the above action levels or physical conditions;

f) Frequency and types of air and personal monitoring, along with the environmental sampling techniques and instrumentation, to be used to detect the above action levels. Include instrumentation maintenance and calibration methods and frequencies;

g) Confined space entry procedures (if applicable);

h) Decontamination procedures;

i) Measures to be taken to secure the site, excavation, and stockpiled soil during and after work hours (e.g., barricades, caution tape, fencing, trench plates, plastic sheeting, security guards, etc.);

j) Spill containment/emergency/contingency plan. Be sure to include emergency phone numbers, the location of the phone nearest the site, and directions to the hospital nearest the site;

k) Documentation that all site workers have received the appropriate OSHA approved training and participate in appropriate medical surveillance in accordance with 29 CFR 1910.120; and

l) A page for employees to sign indicating they have read and will comply with the site health and safety plan.

The safety plan must be distributed to all employees and contractors working in hazardous waste operations on site. **A complete copy of the site health and safety plan along with any standard operating procedures shall be on site and accessible at all times.**

NOTE: These requirements are excerpts from 29 CFR Part 1910.120 (b)(4), Hazardous Waste Operations and Emergency Response; Final Rule, March 6, 1989. Safety plans of certain underground tank sites may need to meet the complete requirements of this Rule.

19. PLOT PLAN

The plot plan should consist of a scaled view of the facility at which the tank(s) are located and should include the following information:

a) Scale;

b) North Arrow;

c) Property Lines;

d) Location of all Structures;

e) Location of all relevant existing equipment, including tanks and piping to be removed, and dispensers;

f) Streets;

g) Underground conduits, sewers, water lines, and utilities;

h) Existing wells (drinking, monitoring, etc.);

i) Depth to groundwater; and

j) All existing tank(s) and piping in addition to the tank(s) being removed.

20. FEES

A check payable to "Treasurer of Alameda County" for the amount indicated on the Alameda County Underground Storage Tank Fee Schedule, must accompany the closure plan.

21. Blank Unauthorized Leak/Contamination Site Report forms may be obtained in limited quantities from this office or from the San Francisco Bay Regional Water Quality Control Board at (510) 286-1255.

22. TANK CLOSURE REPORT

The tank closure report should contain the following information:

a) General description of the closure activities;

b) Description of tank, fittings, and piping conditions. Indicate tank size and former contents; note any corrosion, pitting, holes, etc.;

c) Description of the excavation. Include the tank and excavation depth, a log of the stratigraphic units encountered within the excavation, a description of root holes or other potential contaminant pathways, the depth to any observed groundwater, descriptions and locations of stained or odor-bearing soil, and descriptions of any observed free product or sheen;

d) Detailed description of sampling methods; i.e., backhoe bucket, drive sampler, bailer, bottle(s), sleeves;

e) Description of any remedial measures conducted at the time of tank removal;

f) To-scale figures showing the excavation size and depth, nearby buildings, sample locations and depths, and tank and piping locations. Include a copy of the plot plan prepared for the Tank Closure Plan under item 19;

g) Chain of custody records;

h) Copies of signed laboratory reports;

i) Copies of "TSDF to Generator" Manifests for all hazardous wastes hauled offsite (sludge, rinsate, tanks and piping, contaminated soil, etc.); and

j) Documentation for the disposal of, volume disposed, and final destination of all non-manifested contaminated soil disposed offsite.

ALAMEDA COUNTY ENVIRONMENTAL HEALTH / HAZARDOUS MATERIALS DIVISION
1131 HARBOR BAY PKWY., RM. 250, ALAMEDA, CA 94502-6577 (510)567-6700 FAX (510) 337-9355

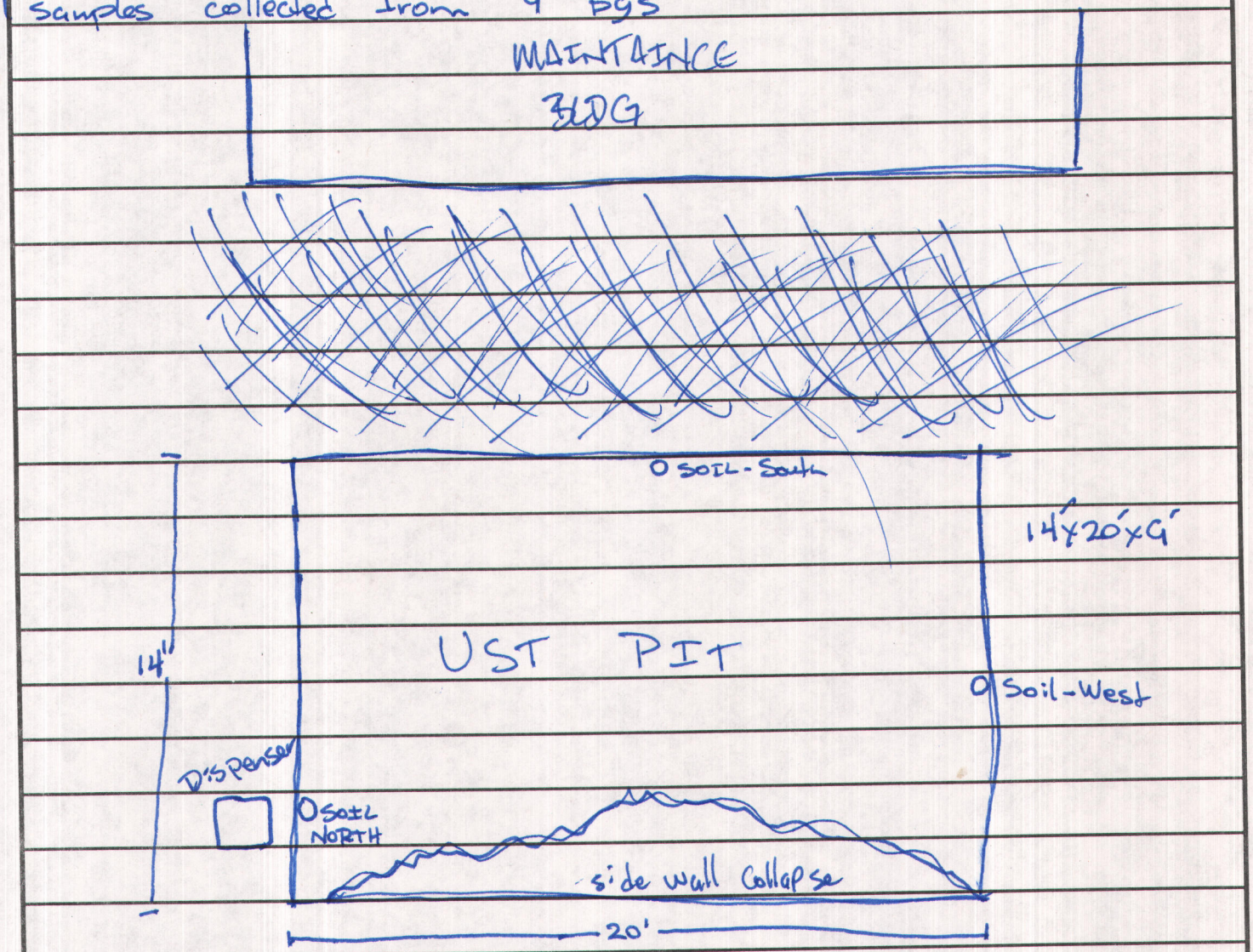
HAZARDOUS WASTE GENERATOR INSPECTION REPORT

STID #:	FACILITY NAME: CAL ARMY NATIONAL GUARD	PG. 2 OF 2

SUPPLEMENTAL FORM

- 15:00 Begin to clean out pea gravel from tank pit and prepare for soil & GW sampling.

- Operator indicates concrete slab at bottom of excavation soil samples collected from 9' bgs



PRINT NAME: STEVEN PLUNKETT	INSPECTED BY:
SIGNATURE: [signature]	DATE: 6/23/2010

GEN/SUPP RPT(REV. 7/94) JNS /ECO