

# FINAL HEALTH AND SAFETY PLAN

## SOIL AND GROUNDWATER INVESTIGATION

MTA DIVISION 6  
100 SUNSET AVENUE  
VENICE, CALIFORNIA  
LARWQCB FILE NO. 902910152  
CONTRACT NO. EN068-CWO-12

*Prepared for:*

Los Angeles County Metropolitan Transportation Authority  
One Gateway Plaza  
Los Angeles, California

MTA Project No. 200026  
Task No. 10.02.01  
Cost Center 8510

April 17, 2001

*Prepared by:*

**URS**

2020 East First Street, Suite 400  
Santa Ana, California 92705  
URS Project No. 57-0007056.01

Under Contract With:

Harding ESE  
A MACTEC Company  
2171 Campus Drive Suite 100  
Irvine, California 92612

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# TABLE OF CONTENTS

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<b>Section 1 Project Identifications and Approvals .....</b>	<b>1-1</b>
<b>Section 2 Introduction.....</b>	<b>2-1</b>
<b>Section 3 Background.....</b>	<b>3-1</b>
3.1 Description of Work .....	3-1
<b>Section 4 Hazard Assessment.....</b>	<b>4-1</b>
4.1 Chemical Hazards .....	4-1
4.1.1 Exposure Limits .....	4-2
4.1.2 Control of Chemical Exposures .....	4-3
4.1.3 Equipment Decontamination .....	4-3
4.1.4 Investigative Derived Wastes .....	4-3
4.1.5 Emergency Action .....	4-3
4.2 Physical Hazards .....	4-4
4.2.1 Underground and Overhead Utilities .....	4-4
4.2.2 Falling and Tripping .....	4-4
4.2.3 Foot and Body Injuries.....	4-4
4.2.4 Hand Injuries.....	4-5
4.2.5 Noise .....	4-6
4.2.6 Heavy Equipment.....	4-6
<b>Section 5 Work Zones .....</b>	<b>5-1</b>
<b>Section 6 Personal Protective Equipment.....</b>	<b>6-1</b>
<b>Section 7 General Safety Requirements.....</b>	<b>7-1</b>
7.1 Medical Clearances.....	7-1
7.2 Health and Safety Training .....	7-1
7.3 Health and Safety Briefing.....	7-1
7.4 Buddy System .....	7-2
7.5 Visitors.....	7-2
7.6 Prohibited Activities.....	7-2
7.7 Postings .....	7-3
7.8 Incident Reports .....	7-3
<b>Section 8 Emergency Procedures.....</b>	<b>8-1</b>
<b>Section 9 Project and Safety Personnel .....</b>	<b>9-1</b>

# **TABLE OF CONTENTS**

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## **List of Tables**

- 1 Action Levels
- 2 PPE Levels

## **List of Figures**

- 1 Site Location Map
- 2 Site Plan Map and Analytical Results, March 5, and March 7, 2001
- 3 Hospital Location Map

## **List of Appendices**

- A Health and Safety Forms
- B Underground Service Alert Information

# SECTION ONE

# Project Identifications and Approvals

Project Name: Los Angeles County Metropolitan Transportation Authority  
Division 6

Project Number: 57.00070056.01

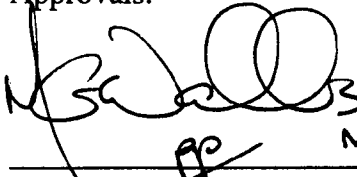
Operating Unit: Santa Ana

URS Project Manager: Susan Henry

Date of Issue: April 2001

Expiration Date: April 2003

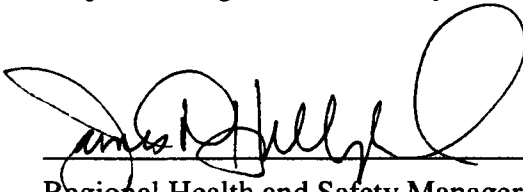
### Approvals:

  
MURRAY WALLIS, Ph.D.

Project Manager / Susan Henry, Ph.D.

4/17/01.

Date

  
Regional Health and Safety Manager / James D. Hollingshead, CIH

4/17/01

Date

This Health and Safety Plan (HSP) identifies the safety procedures to be conducted at the Los Angeles County Metropolitan Transportation Authority (MTA) Division 6 facility located at 100 Sunset Avenue, Venice, California. The site location is illustrated on Figure 1. This HSP is to be used in conjunction with the URS Injury and Illness Prevention Program (IIPP). A copy of this HSP shall be present on site during all work activities. Implementation of this HSP is the responsibility of the Project Manager (PM). The Site Safety Officer (SSO) assists the PM in carrying out this responsibility at the work site by enforcing the requirements of this HSP and by suspending work to protect the health of employees. The Health and Safety Manager (HSM), Regional HSM, or PM may suspend or limit work, or direct changes in work practices, if the HSP and/or work practices being used are deemed to be inadequate to ensure employee health and safety.

This HSP may not be used for work other than that described in Section 3.0. It may not be modified or used beyond the expiration date shown in Section 1.0 without written approval of the HSM and the Regional HSM.

URS Corporation (URS) is under contract with Harding ESE and is a team subcontractor for the MTA under contract ENO68 CWO-12 for environmental engineering services. URS is retained to perform a soil and groundwater investigation at the MTA Division 6 passenger bus maintenance facility (the site) in Venice, California.

The proposed soil and groundwater investigation shall be conducted in response to the Los Angeles Regional Water Quality Control Board (LARWQCB) letter, "Underground Storage Tank Program-Division 6 Bus Terminal" dated February 15, 2001. Based on the soil and groundwater analytical results of previous site investigations petroleum hydrocarbons and methyl tertiary butyl ether (MTBE) were identified in subsurface soil and groundwater at the site. Figure 2 illustrates the site plan map with the most recent groundwater analytical results. Material Safety Data Sheets (MSDSs) for the current UST contents at the site are available upon request.

### **3.1 DESCRIPTION OF WORK**

A site-specific workplan has been prepared to address work activities for the soil and groundwater investigation to be conducted at the site in 2001. The soil and groundwater investigation will consist of soil sampling with monitoring well installation and sampling. A hollow stem auger drill rig will be used to complete soil sampling and monitoring well installation activities. Other activities planned for the investigation include concrete coring, monitoring well development and sampling, and geophysical and boring location surveying. After the monitoring wells are installed, quarterly groundwater monitoring and sampling of the previously four and newly installed monitoring wells will be conducted at the site. This HSP identifies the safety procedures to be conducted while performing work activities at the MTA Division 6. Appendix A includes health and safety forms to be used for the planned work to be conducted at the site.

#### 4.1 CHEMICAL HAZARDS

The primary chemicals of concern for this project include machine oils, chlorinated solvents, and total petroleum hydrocarbons (TPH).

**TOTAL PETROLEUM HYDROCARBONS** - Petroleum distillate fuels are mixtures of aliphatic and aromatic hydrocarbons, the constituent concentrations of which can vary significantly dependent upon the crude feedstock, refining process, and seasonal variations. The predominant types of compounds in fuels are paraffins (e.g., pentane, hexane), naphthenes (e.g., cyclohexane) and aromatics (e.g., benzene, toluene, polynuclear aromatics). Gasoline contains about 80 percent paraffins, 6 percent naphthenes, and 14 percent aromatics. JP-1 and 4 contain up to 48 percent paraffin, 38 percent naphthenes, and 20 percent aromatics. Fuel oils and certain jet fuels (JP-3 and 5) contain about 10 percent paraffin, up to 23 percent naphthenes, and up to 78 percent non-volatile aromatic hydrocarbons. Gasohol is gasoline containing 10 to 40 percent ethyl alcohol. Methanol as it is used as a motor fuel typically contains up to 20% gasoline to improve cold starting characteristics as a safety factor to provide a visible flame. To improve their burning properties, compounds such as tetraethyl-lead, methyl tertbutyl ether (MTBE) and ethylene dibromide (EDB) are often added to automotive and aviation fuels.

Petroleum distillate fuels exhibit relatively low acute inhalation and dermal toxicity. Concentrations of 160 to 270 ppm gasoline vapor have been reported to cause eye, nose, and throat irritation in people after several hours of exposure. Levels of 500 to 900 ppm have been reported to cause irritation and dizziness in one hour and 2,000 ppm has been reported to cause mild anesthesia in 30 minutes. Gasoline, kerosene, and some jet fuels will cause severe eye irritation on contact with the eye and low to moderate skin irritation on contact with the skin. Methanol can be toxic by either skin or inhalation exposure, and is unique in that it attacks the optic nerve. Methanol blindness can be irreversible. Petroleum distillate fuels are flammable. Under certain conditions, this property presents a greater risk than toxicity. Lower explosive limits of the fuels range from 0.6 to 1.4 percent (6,000 to 14,000 ppm).

Benzene is a minor component of petroleum distillate fuels with concentrations ranging from non-detectable to 5%, with gasoline typically at 1%. Benzene has been classified a known human carcinogen by the American Conference of Governmental Industrial Hygienists (ACGIH) based on the increased incidence of leukemia in certain oil refinery workers.

**MTBE** - MTBE is among the top 50 chemicals produced in the United States. The primary use is as a gasoline additive to boost octane and improve combustion efficacy by "oxygenation." For



approximately the last fifteen years MTBE has been used as an additive for United States gasoline, primarily in unleaded premium brands.

Ingestion of gasoline-MTBE mixtures may result in aspiration pneumonitis. Inhalation of MTBE produces anesthesia in animals. Dizziness or suffocation may result following inhalation exposure. Contact with MTBE may irritate or burn skin and eyes. Although MTBE has been shown to be metabolized to methanol and formic acid in animal models, methanol or formic acid has only been detected in trace quantities in humans treated with MTBE for gallstone dissolution. MTBE is a mild eye irritant but otherwise is not very toxic in acute exposures. The effects of chronic exposure to MTBE are not well understood. The ACGIH recommended TLV for an 8-hour exposure is 40 ppm.

**4.1.1 Exposure Limits**

The Permissible Exposure Limits (PELs) represent the standards promulgated by the Occupational Safety and Health Administration (OSHA). The action levels are numbers identified by the HSM to initiate shut down activities. The PELs presented in the air monitoring table (below) are 8-hour time-weighted averages established by California OSHA (Cal-OSHA). These guidelines are concentrations of contaminants that most workers can be exposed to for a 40-hour work week on a permanent basis without significant adverse health effects. These limits are intended as guidelines and should not be construed as fine lines between safe and unsafe conditions. Efforts will be made to keep exposures as low as possible.

Air monitoring will be performed with a organic vapor analyzer (OVA). This instrument is more specific for petroleum hydrocarbon compounds. While monitoring with the OVA, action levels should not be exceeded at any time during this project.

Chemical	EXPOSURE LIMITS (PPM)			
	PEL	TLV	STEL	IDLH
Gasoline	300	--	500	--
Diesel Fuel†	300	--	500	--
Benzene*	1	0.5	5	500
Toluene	50	50	150	500
Ethylbenzene	100	100	125	800
Xylene	100	100	150	900
MTBE	--	40	--	--

\* Chemicals known to the State of California to cause cancer or reproductive harm.

† Based on the PEL of gasoline.

**4.1.2 Control of Chemical Exposures**

Inhalation of chemicals is the most common route of exposure to the chemicals of concern. Air monitoring will be performed while drilling. Ingestion of chemicals of concern will be controlled on this site by prohibiting eating and smoking at the project site and by requiring all field personnel to decontaminate themselves upon leaving the sampling area.

Skin and eye contact with the chemicals of concern at the project site may cause skin irritation, mucous membrane irritation, or severe burns. Chlorinated solvents and petroleum products may be absorbed into the bloodstream through the skin or eyes. Any body area which comes in contact with contaminated materials will be washed with soap and rinsed immediately. All field personnel will report any skin or eye contact symptoms to the SSO. The person will be treated by a physician and steps will be taken to eliminate similar exposures.

Potential hazards will be reduced by protecting against exposures to hazardous materials via utilization of appropriate personal protective equipment (PPE). Protection from inhalation is conducted by monitoring for Volatile Organic Compounds (VOCs) and controlling dust.

**4.1.3 Equipment Decontamination**

All sampling heads, tips, and other fittings that come in contact with the soil sample are decontaminated by thoroughly washing with soapy water and rinsing.

**4.1.4 Investigative Derived Wastes**

All decontamination liquid and soil cuttings generated from drilling operations will be stored in 55-gallon Department of Transportation (DOT) approved drums, labeled, and properly sealed or secured. URS will stage the drums in an appropriate designated area for disposal by MTA.

**4.1.5 Emergency Action**

In the event of a chemical emergency **CALL CHEMTREC AT 1-800-424-9300.**

1. Keep unnecessary people away; isolate hazard area and deny entry.
2. Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide limited protection.
3. If water pollution occurs, notify the appropriate authorities.

**4.2 PHYSICAL HAZARDS****4.2.1 Underground and Overhead Utilities**

All underground and overhead utilities shall be located prior to the commencement of field work. Prior to soil sampling, Underground Service Alert (USA) will be notified (See Appendix B). The utility companies should be contacted to visit the project site and map all utility lines (e.g., fuel pipelines, water, gas, telephone, and electricity).

**4.2.2 Falling and Tripping**

The ground around the work area may become uneven over time and may be cluttered with pieces of equipment. These situations can result in workers falling or tripping and subsequently injuring themselves. To reduce the risk of slips, trips and falls, the SSO will report trip hazards to the field crews and have them immediately taken care of.

**4.2.3 Foot and Body Injuries**

All Employees, must wear protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where such employees feet are exposed to electrical hazards.

Hard toe footwear is required for all employees who perform physical job tasks where the possibility of foot and/or toe injury is likely. This includes, but is not limited to, performing any type of mechanical activity. Steel-toed work boots will be required at all times while at the project site. Leather or rubber boots may be worn, since we do not suspect surface contamination at the facility. Rubber boots will be required when contamination is encountered and decontamination will be necessary.

Only hard toe footwear constructed to meet ANSI Z-41-1991 standards shall be allowed at the project site. While in a designated work area where the possibility of foot/toe injury hazards exist, all visitors, vendors, subcontractors, and employees of URS must wear hard toe protective footwear. All hard toe footwear, except rubber boots, shall be made of leather and have a defined heel. The defined heel must be an original design by the manufacturer.

In addition to foot injuries, workers may injure themselves while handling hollow stem augers. It is important to keep a good body position while handing this equipment. Workers should bend at the knees and keep their backs straight. Do not hold the augers when twisting at the hips or waist. All actions must be very deliberate, focused and in alignment with the activity at hand.

**4.2.4 Hand Injuries**

The SSO shall select and require employees to use appropriate hand protection when employees hands are exposed to identified hazards such as:

- Cuts, abrasions, and punctures,
- Thermal burns and harmful temperature extremes,
- Chemical burns,
- Irritation or exposure to harmful substances, and
- Vibration or repetitive motion hazards.

Practically every part of every job requires the use of the hands. Hand injuries are statistically one of the top injury categories. It is imperative these type hazards are recognized in our work planning processes and adequate hand protection be utilized by all affected employees to reduce the possibility of injury.

The SSO shall establish an effective process of identifying specific hand injury hazards such as:

- Hazard Assessment Safety
- Safe Plan of Action
- Work Permitting Processes
- Follow-up actions from accident investigations.

From these processes, specific glove types must be established and communicated to employees for specific job tasks, materials /chemicals handling, tools, and equipment.

Gloves are perhaps the most commonly used type of PPE. They provide protection to fingers, hands, and sometimes wrists and forearms. Ideally, gloves should be designed to protect against specific hazards of a job being performed. Types range from common canvas work gloves to highly specialized gloves used in specific industries such as high voltage rubber gloves for electricians. For this project, leather and nitrile gloves will be used. Leather gloves will be used for all equipment handling, including the hollow stem augers and drilling rig. Nitrile gloves will be used if chemical contaminants are suspected on the equipment (i.e., when withdrawn from the hole).

**4.2.5 Noise**

Working near the drilling equipment can subject workers to excessive levels of noise. Ideally, personnel who do not need to be next to noisy equipment should stay as far away as possible to lower their risk of noise-induced hearing loss. Site personnel who must work next to this equipment will wear hearing protection such as ear plugs or muffs to reduce their exposure. Hearing protection is required when loud equipment/machinery is operating. No noise monitoring will be conducted because it is assumed that these operations will exceed the action level of 85 decibels.

**4.2.6 Heavy Equipment**

The rotating shafts and augers associated with the drill rig equipment create pinch points which can cause serious injury. In all cases, rotating shafts or gears should be covered to prevent accidental contact. In some cases, where rotating parts cannot be adequately guarded, only experienced operators should be allowed to work around these rotating parts. Personnel who must work around rotating equipment (i.e. concrete coring, drill rig) should not wear loose fitting clothes that could become easily caught. Personnel operating the heavy equipment must be trained.

The primary hazard around heavy equipment is the lack of visual contact with equipment operators. Employees should be very cautious around heavy equipment, making sure that they have been seen by all operators when they are in, or around the work area. Site personnel will be required to wear high visibility orange construction vests, hard hat, safety glasses, ear plugs and steel toe boots while on site.

Access to hazardous and potentially hazardous areas will be controlled to reduce the probability of occurrence of physical injury and chemical exposure of field personnel, visitors and the public. Limited access zones or exclusion zones are the most highly contaminated portion of the site. The exclusion zone will be limited to the soil sampling area.

The perimeter will be clearly marked by physical barriers. An area of 25 feet around the soil sampling area will be established. Access control is established at the periphery of the exclusion zone to regulate the flow of personnel and equipment into and out of the zone and to verify implementation of proper entering and exiting procedures. No one will be allowed into the exclusion zone without the appropriate protective equipment and required training. No one will be allowed into the zone once sampling activities commence.

Entry into hazardous areas shall be limited to individuals who must work in those areas. Unofficial visitors must not be permitted to enter hazardous areas while work in those areas is in progress. Official visitors should be discouraged from entering hazardous areas, but may be allowed to enter only if they agree to abide by the provisions of this document, follow orders issued by the SSO, and are informed of the potential dangers that could be encountered in the areas.

The following equipment listed below will be available on-site for use when needed:

- NIOSH-approved half- or full-face respirators with organic vapor and high efficiency dust cartridges. Respirators must be worn when the total airborne hydrocarbon ACTION LEVELS are reached or exceeded.
- Uncoated coveralls.
- Safety goggles or glasses must be worn when working within 10 feet of operating equipment.
- Leather gloves.
- Neoprene or butyl rubber safety boots, calf-length, with steel toe.
- Hard hat must be worn when working within 10 feet of operating equipment.
- First Aid Kit will be available at the site to assist with minor injuries.
- Fire extinguisher will be available at the site and placed in a readily accessible location.
- Barricades or cones will be established to designate the decontamination and exclusion zone areas.

If sustained action levels are exceeded for five minutes in the background atmosphere around the working area, an upgrade in PPE is required. Minimum action levels for changes in PPE levels and for stop work requirements are shown in Table 1. USEPA PPE for levels D, Modified D, C, and B are shown in Table 2.

**7.1 MEDICAL CLEARANCES**

URS employees (and its subcontractors) assigned to perform work in the restricted area must have medical clearances satisfying the requirements of 29 CFR 1910.120, 1910.134, and California Code of Regulations (CCR), Title 8, Sections 5192 and 5144. The only acceptable proof of clearance is a letter or document, signed by a physician, certifying that the physician performed an examination within the past 12 months and found the person physically fit to wear a respirator and perform work at hazardous waste sites. URS personnel performing less than 30 days of field work at hazardous waste sites (low to moderate hazard) may have biennial physicals (24 months), based on the reviewing physician's recommendations. Documentation of medical clearance shall be furnished upon request. Individuals failing to provide these documents or whose medical clearance is not current will not be permitted to work on site.

**7.2 HEALTH AND SAFETY TRAINING**

URS employees (and its subcontractors) assigned to perform work in the restricted area must meet 29 CFR 1910.120 and CCR, Title 8, Section 5192 requirements regarding 40-hour basic health and safety training, supervisor training, and annual refresher training. Training is not required for employees of URS and its subcontractors assigned to observe on-site activities from points outside the restricted area. Decisions as to whether or not a person needs training shall be made by the HSM. Personnel are required to have active Basic First Aid certificates to qualify as the SSO. In addition to basic training, supervisors are required to have an additional 8 hours of specialized training.

**7.3 HEALTH AND SAFETY BRIEFING**

Each employee of URS and its subcontractors assigned to perform the work described in Section 3.0 must be briefed on the health and safety requirements presented in this HSP by the URS SSO or HSM. Each employee shall be given a personal copy of this HSP and requested to sign the Health and Safety Compliance Agreement attached in Appendix A. Individuals refusing to sign the agreement or appearing not to understand the health and safety requirements will not be permitted to work at the project site. Completed agreements shall be delivered to the HSM by the SSO after they are signed. Additional briefings should be scheduled and conducted by the SSO as needed. All meetings shall be documented in the field log book.

Daily briefings shall be conducted by the SSO or HSM and shall cover (1) work to be performed; (2) the chemical, physical, and biological hazards associated with the work to be performed;



(3) health effects that could result from overexposure to the suspected chemicals; (4) exposure limits for suspected chemicals; (5) methods of reducing exposure risks, including personal protective equipment, work zoning, decontamination, evacuation routes, action levels, and smoking and eating restrictions; (6) emergency response procedures; and (7) chain of command. Each person shall be informed of the location of the nearest working telephone. In addition, selected individuals should be tested for understanding of the health and safety provisions of this HSP and unclear provisions re-explained. All steps described in this section must be repeated for each addition to the project team before that person is permitted to begin work at the project site.

#### **7.4 BUDDY SYSTEM**

Whenever work is being performed at the site by URS or the subcontractor, at least two employees of one or both firms must be present at the project site. These employees should be in visual contact with each other during work activities. This buddy system is necessary so that the buddies may provide assistance in the event the other is injured or becomes ill at the project site.

#### **7.5 VISITORS**

Visitors shall not be allowed to enter restricted work zones unless they are made aware of URS' health and safety requirements for individuals authorized to enter restricted zones, agree to comply with the requirements, and demonstrate the ability to comply.

#### **7.6 PROHIBITED ACTIVITIES**

The following activities are prohibited:

- Eating, drinking, chewing gum or tobacco, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in the Exclusion Zone and the Contamination Reduction Zone. Drinking of water, Gatorade, or equivalent fluids may occur in the Contamination Reduction Zone at the discretion of the SSO. Good personal hygiene should be practiced by field personnel to avoid ingestion of contaminants or spread of contaminated materials.
- Smoking, carrying lighters and/or matches is prohibited in the Exclusion Zone and the Contamination Reduction Zone.
- Entering an Exclusion Zone without a buddy.
- Removal, disabling, or otherwise defeating safety devices on equipment.
- Approach or entry into areas or spaces where toxic or explosive concentrations of gases or dust may exist without proper equipment available to enable safe entry.

- Conduct on-site operations without off-site back-up personnel.

### **7.7 POSTINGS**

The following items (attached in Appendix A) must be posted in the work area:

1. Emergency telephone numbers
2. Directions to the nearest emergency facility
3. Proposition 65 Notification
4. URS Consultants Injury and Illness Prevention Program (IIPP), found in the Health and Safety Manual, must also be located on the project site with the SSO
5. Subcontractors IIPP
6. This HSP

### **7.8 INCIDENT REPORTS**

Health and safety infractions and accidents resulting in illness, injury, or property damage must be reported to URS health and safety authorities. Reporting procedures are described in URS' Health and Safety Operating Procedure SMS-49.

Illness, injuries, and accidents occurring on site must be attended to immediately. Personnel should report any physical accidents and/or skin or eye contact symptoms to the SSO for appropriate action to be taken. Dependent on severity of incident, 9-1-1 or emergency personnel may be contacted. Describe the injury or illness and answer all questions asked by the person answering the telephone. Do not hang up until the other person hangs up. First aid may be administered by a certified person if necessary. Following an incident, proper steps must be taken to eliminate similar accidents and/or exposures.

The emergency telephone number of the nearest emergency service is given below.

**Hospital:** Santa Monica UCLA Medical Center  
1250 16<sup>th</sup> Street  
Santa Monica, California  
(310) 319-4000

**Route to Hospital:** From the site, take Sunset Avenue southwest toward Pacific Avenue. Turn right on Pacific Avenue. Pacific Avenue becomes Neilson Way. Turn right onto Ocean Park Blvd. Turn left onto Lincoln Blvd./CA-1. Lincoln Blvd./CA-1 becomes Lincoln Blvd./CA-2. Turn right onto Santa Monica Blvd./CA-2. Turn left onto 14<sup>th</sup> Street. Turn right onto Wilshire Blvd. Turn Right onto 16<sup>th</sup> Street.

See Figure 3 for the Hospital Location.

**Regional Health and Safety Manager (HSM):****Jim Hollingshead  
(714) 835-6886 (Office)**

The RHSM has the following responsibilities:

- Review and approve the HSP
- Monitor implementation of the HSP
- Investigate accidents/incident reports
- Interface with the PM in regard to project health and safety matters
- Report to the RHSM on health and safety matters
- Develop or review and approve the HSP
- Appoint or approve the SSO
- Monitor compliance with HSP and conduct site audits
- Assist the PM to obtain the required health and safety equipment
- Approve personnel to work on the project with regard to medical examinations and health and safety training

**Project Manager (PM):****Susan Henry  
(714) 648-2887 (Office)  
(714) 273-5615 (Cell)**

The PM has the following safety related responsibilities:

- Ensure that the project is performed in a manner consistent with the URS health and safety program
- Ensure that the project HSP is prepared, approved, and properly implemented
- Coordinate with the HSO on health and safety matters

**Site Safety Officer (SSO): Jeff Engels/Stan Golaski**

The SSO has the following responsibilities:

- Direct health and safety activities on site
- Report immediately all safety-related incidents/accidents to the HSO and PM
- Assist the PM in all aspects of implementing the HSP
- Maintain health and safety equipment on site
- Implement emergency procedures as required

**Authorized Site Personnel**

URS personnel that meet the requirements for medical clearance, training, and respiratory fit-testing as of the date of approval of this plan are authorized to conduct the operations covered by this plan as long as they continue to meet the requirements.



**TABLE 1  
ACTION LEVELS**

**MTA Division 6  
100 Sunset Avenue  
Venice, California**

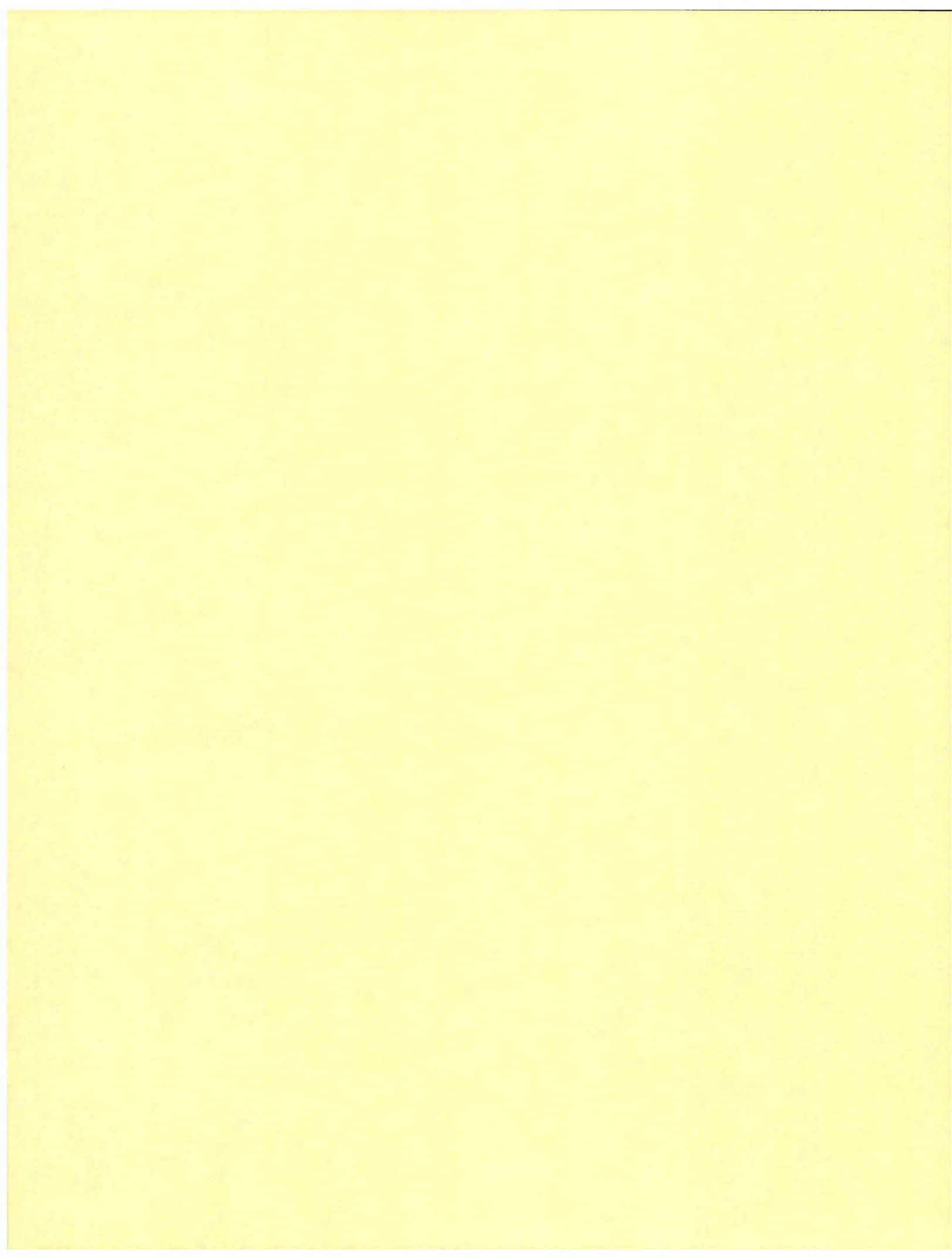
Instrument*/Function	Measurement # (sustained, above background)	Action
<b>Organic Vapor Analyzer (OVA) - Measures Total Organic Vapors</b>		
Conduct air monitoring for volatile organic compounds during activities where contaminated media are present.	0 - 10 ppm	Level D
	>10 - 30 ppm	<ul style="list-style-type: none"> <li>• Use Vapor Control Measure</li> <li>• Try to Characterize the Contaminant</li> </ul> If sustained (greater than 5 minutes) VOC concentrations in breathing zone cannot be reduced to below appropriate CalOSHA PELs, upgrade (Level C or Level B based on characterization).
	>30 ppm	Level B <ul style="list-style-type: none"> <li>• Use Vapor Control Measure</li> <li>• Contact the HSM</li> <li>• Try to Characterize the Contaminant</li> <li>• Monitor Job Site Fence Line</li> </ul> Based on characterization of contaminant determine appropriate PPE (Level D, Level C or Level B).
	>1,000 ppm	Stop Work <ul style="list-style-type: none"> <li>• All Personnel Leave the Exclusion Zone</li> <li>• Contact the HSM</li> </ul>
	>10 ppm Organics Departing Job Site Fence Line	<ul style="list-style-type: none"> <li>• Use Vapor Control Measures</li> </ul>
	>25 ppm Organics Departing Job Site Fence Line	Stop Work

**TABLE 2  
ACTION LEVELS**

**MTA Division 6  
100 Sunset Avenue  
Venice, California**

USEPA PPE Level	Required PPE
D	<ul style="list-style-type: none"> <li>- Disposable coveralls, cotton coveralls, or work clothes</li> <li>- Safety glasses with side shields</li> <li>- Steel-toed shoes</li> <li>- Hard hat</li> <li>- Ear protection (in high noise areas)</li> </ul>
Modified Level D	<ul style="list-style-type: none"> <li>- Tyvek ®(or equivalent) coveralls</li> <li>- Safety glasses with side shields</li> <li>- Chemical protective gloves</li> <li>- Steel-toed shoes with disposable shoe covers or chemical protective steel-toed boots</li> <li>- Hard hat</li> <li>- Ear protection (in high noise areas)</li> </ul>
C	<ul style="list-style-type: none"> <li>- Tyvek ®(or equivalent) coveralls</li> <li>- Inner Nitrile gloves</li> <li>- Outer Nitrile gloves</li> <li>- Steel-toed shoes</li> <li>- Disposable shoe covers</li> <li>- Hard hat</li> <li>- Full-face respirator with combination dust and organic vapor cartridges.</li> <li>- Ear protection (in high noise areas)</li> </ul>
B	<ul style="list-style-type: none"> <li>- Saranex ®(or equivalent) outer coveralls</li> <li>- Tyvek ®(or equivalent) inner coveralls</li> <li>- Inner Nitrile gloves</li> <li>- Outer Nitrile gloves</li> <li>- Steel-toed shoes</li> <li>- Disposable shoe covers</li> <li>- Hard hat</li> <li>- Airline or self contained breathing apparatus</li> <li>- Ear protection (in high noise areas)</li> </ul>

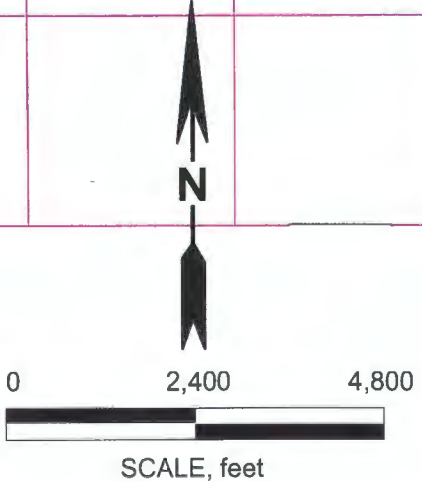






**SITE**

SEE V J5  
 1 VICTORIA CT  
 2 MURRAY CT  
 3 GRAND YEM AV



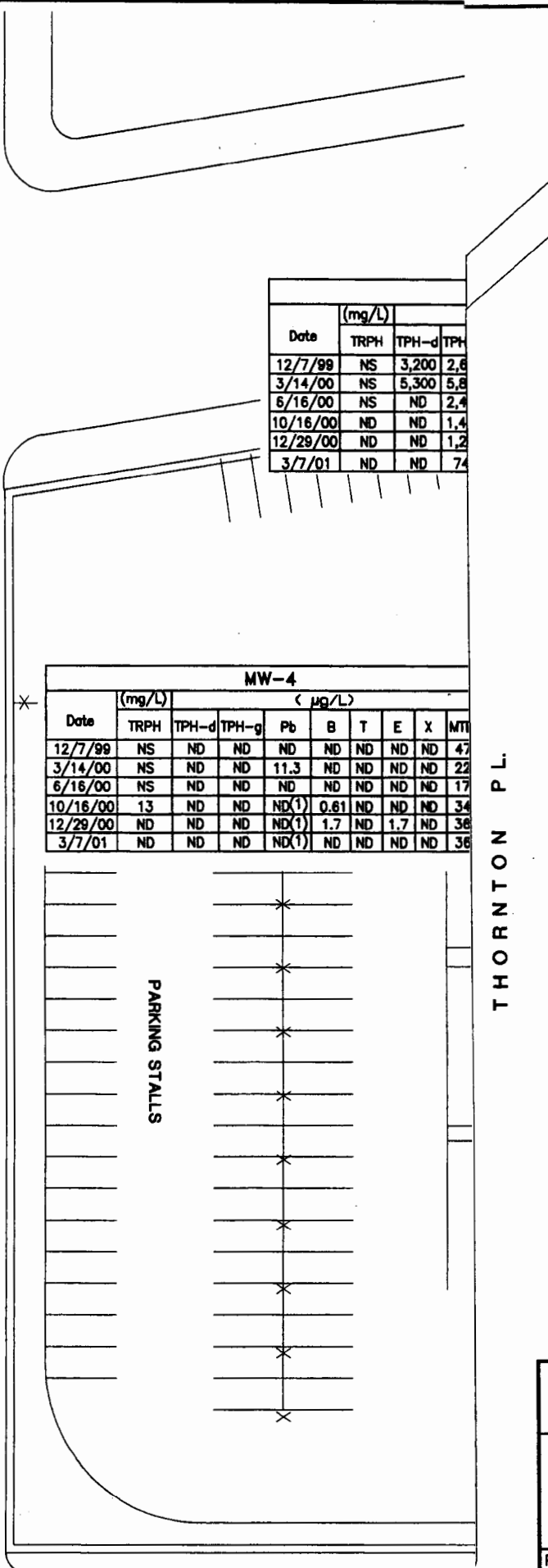
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**SITE LOCATION MAP**

Project No.: 57-00070056.01	Date: APRIL 2001	Project: MTA - DIVISION 6	Fig. 1
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57000056 DIV APR 2001 -C-0300 PRI DW

SUNSET AVE.



Date	(mg/L)		
	TRPH	TPH-d	TPH-g
12/7/99	NS	3,200	2,6
3/14/00	NS	5,300	5,8
6/16/00	NS	ND	2,4
10/16/00	ND	ND	1,4
12/29/00	ND	ND	1,2
3/7/01	ND	ND	74

Date	(mg/L)										
	TRPH	TPH-d	TPH-g	Pb	B	T	E	X	MT		
12/7/99	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	47
3/14/00	NS	ND	ND	11.3	ND	ND	ND	ND	ND	ND	22
6/16/00	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	17
10/16/00	13	ND	ND	ND(1)	0.61	ND	ND	ND	ND	ND	34
12/29/00	ND	ND	ND	ND(1)	1.7	ND	1.7	ND	ND	ND	36
3/7/01	ND	ND	ND	ND(1)	ND	ND	ND	ND	ND	ND	36

**TANK DESCRIPTION**

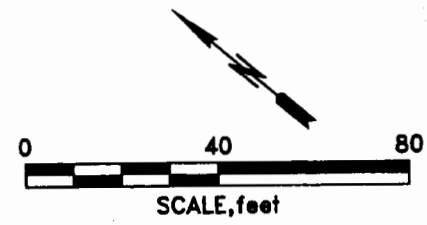
- 1 DIESEL TANK = 20,300 GAL.
- 2 DIESEL TANK = 20,300 GAL.
- 3 MOTOR OIL = 8,000 GAL.
- 4 UNLEADED GAS = 6,000 GAL.
- 5 WASTE OIL = 2,000 GAL.
- 6 DIESEL TANK = 20,300 GAL.
- 7 WASTE OIL = 2,000 GAL.

**LEGEND**

- MW-1 ⊕ GROUNDWATER MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 3.30 GROUNDWATER ELEVATION CONTOUR
- 3.35— GROUNDWATER ELEVATION CONTOUR
- TRPH TOTAL RECOVERABLE PETROLEUM HYDROCARBONS BY EPA METHOD 418.1 IN MILLIGRAMS PER LITER (mg/L)
- TPH-D TOTAL PETROLEUM HYDROCARBONS AS DIESEL BY EPA METHOD 8015 MODIFIED IN MICROGRAMS PER LITER (µg/L)
- TPH-G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE BY EPA METHOD 8015 MODIFIED IN MICROGRAMS PER LITER (µg/L)
- BTEX BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES BY EPA METHOD 8260B IN MICROGRAMS PER LITER (µg/L)
- MTBE METHYL-TERTIARY-BUTYL ETHER BY EPA METHOD 8260B IN MICROGRAMS PER LITER (µg/L)
- Pb TOTAL LEAD BY EPA METHODS 60108 AND/OR 7421 MICROGRAMS PER LITER (µg/L)
- ND NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMIT
- NS NOT SAMPLED

**NOTES:**

REFER TO TABLE 4 FOR A HISTORICAL SUMMARY OF GROUNDWATER ANALYTICAL RESULTS  
 (1) LEAD BY EPA METHOD 7421.



**URS Corporation**

**SITE PLAN MAP AND ANALYTICAL RESULTS  
MARCH 5 & 7, 2001**

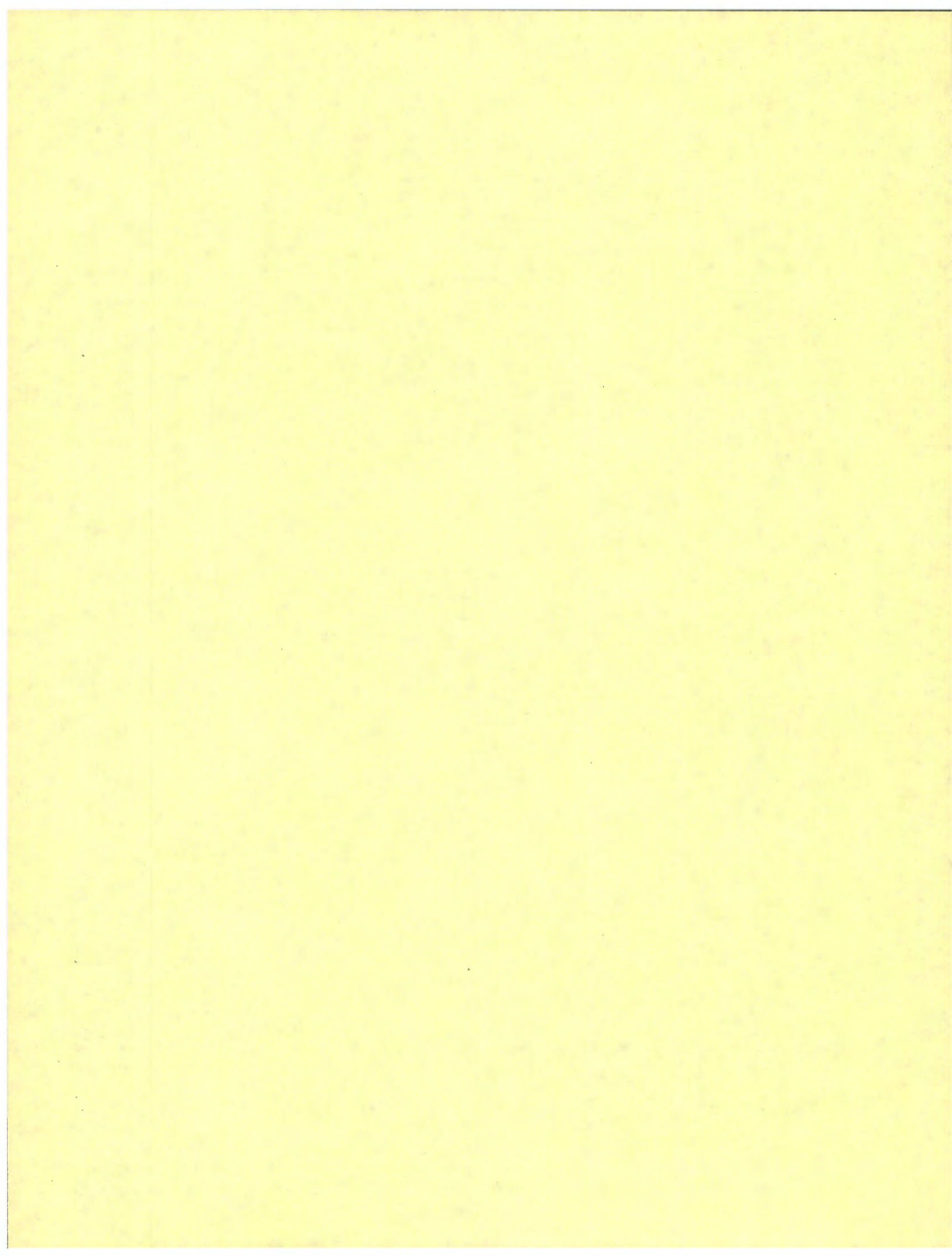
Proj. No.: 57.00070056.01	Date: APRIL 2001
Project: MTA - DIV. 6 100 SUNSET AVENUE VENICE, CA.	CAD ID: GW-CHEM-0300-APRIL-2 Figure: 2



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HOSPITAL LOCATION MAP

Project No.: 57-00070056.01	Date: APRIL 2001	Project: MTA - DIVISION 6	Fig. 3
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**Appendix A**  
**Health And Safety Forms**



# TAILGATE SAFETY MEETING

Project Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Specific Location: \_\_\_\_\_

Project Number: \_\_\_\_\_  
Time: \_\_\_\_\_  
Type of Work: \_\_\_\_\_

---

## SAFETY TOPICS PRESENTED AND DISCUSSED

Protective Equipment Necessary for Work Zone: \_\_\_\_\_  
\_\_\_\_\_

Physical Hazards: \_\_\_\_\_  
\_\_\_\_\_

Emergency Procedures: \_\_\_\_\_  
\_\_\_\_\_

Hospital Name, Address and Directions: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Special Equipment: \_\_\_\_\_  
\_\_\_\_\_

NAME PRINTED	ATTENDEES	SIGNATURE
--------------	-----------	-----------

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Meeting Conducted By: \_\_\_\_\_





## SAFETY COMPLETION REPORT

(This report must be submitted to the Health and Safety Officer within five days after completion of the project.)

Report Completed By: \_\_\_\_\_

Date Completed: \_\_\_\_\_

Project Name: \_\_\_\_\_

Project Number: \_\_\_\_\_

### 1. Evaluation of Health and Safety Plan (Add a page if additional space is needed.)

a. Was the plan adequate(Y/N)? \_\_\_\_\_

b. Did the plan adequately anticipate chemical and physical hazards actually present at the site (Y/N)?  
\_\_\_\_\_

c. What situations were discovered that were not anticipated in the health and safety plan?  
\_\_\_\_\_  
\_\_\_\_\_

d. How were these situations handled? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

e. Was the recommended personal protective equipment, such as gloves, respirators, eye, face and whole body skin protection appropriate to protect employees from chemical hazards (Y/N)? \_\_\_\_\_

f. If not, what should be improved in future plans of this type? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### 2. Exposure Data

a. Were any employees exposed to chemical or physical hazards as a result of failure of personal protective equipment or other problem (Y/N)? \_\_\_\_\_ If yes, give names of employees:

b. Was monitoring performed (Y/N)? \_\_\_\_\_

c. What type of monitoring?

\_\_\_\_\_ area monitoring

\_\_\_\_\_ personal (on-employee) monitoring

d. What type of monitoring equipment was used?

\_\_\_\_\_ personal air sampling pumps

\_\_\_\_\_ colorimetric indicator ("Draeger") tubes

\_\_\_\_\_ vapor badges

\_\_\_\_\_ film badges or TLD badges (radiation)

\_\_\_\_\_ charcoal sorbent tube (analyzed by lab) samples

\_\_\_\_\_ direct reading instruments, including:

\_\_\_\_\_ PID (circle one: HNu OVM Photovac MiniRae Other)

\_\_\_\_\_ Combustible gas

\_\_\_\_\_ Oxygen deficiency

\_\_\_\_\_ Hydrogen Sulfide

\_\_\_\_\_ Carbon monoxide

e. Summary of Sampling Results (Attach additional pages if more space is needed.)

(Report here the air quality sampling results, sampling locations, work activities during sampling, documentation of instrument calibration, weather conditions during sampling, and sampling frequency. Report should minimally contain a summary of all sampling completed within the breathing zone.)

**FORM HS-102**

**Woodward-Clyde HEALTH AND SAFETY INCIDENT REPORT**

Project Name: \_\_\_\_\_

TYPE OF INCIDENT (Check all applicable items)

Project Number: \_\_\_\_\_

Illness

Fire, explosion, flash

Date of Incident: \_\_\_\_\_

Injury

Unexpected exposure

Time of Incident: \_\_\_\_\_

Property Damage

Vehicular Accident

Location: \_\_\_\_\_

Health & Safety Infraction

Other (describe) \_\_\_\_\_

**DESCRIPTION OF INCIDENT** (Describe what happened and possible cause. Identify individual involved, witnesses, and their affiliations; and describe emergency or corrective action taken. Attach additional sheets, drawings, or photographs as needed.)

Reported by: \_\_\_\_\_

Print Name

Signature

Date

Reporter must deliver this report to the Operating Unit Health & Safety Officer within 24 hours of the reported incident for medical treatment cases and within five days for other incidents.

Reviewed by: \_\_\_\_\_  
Operating Unit Health & Safety Officer

\_\_\_\_\_ Date

Distribution by HSO:

- WCGI Corporate Health and Safety Manager
- Corporate Health and Safety Officer
- Project Manager
- Personnel Office (medical treatment cases only)

## CALIBRATION DATA SHEET

Project Name: \_\_\_\_\_  
 Project Number: \_\_\_\_\_  
 Relative Humidity: \_\_\_\_\_  
 Calibration Performed By: \_\_\_\_\_

Date/Time: \_\_\_\_\_  
 Temperature: \_\_\_\_\_

Instrument Type	Make	Model	Serial No.	Calibration Gas	Concentration	Instrument Reading	Span Setting (H/N only)/Comments
Sampling Pump	Make	Model	Serial No.	Flow Rate start    stop	Calibrator	Serial No.	Comments
Aerosol/Dust Monitor	Make	Model	Serial No.	Instrument zero'd before operation		Comments	
				yes	no		
				yes	no		
				yes	no		
				yes	no		

**WARNING:**

**THE CALIFORNIA STATE SAFE  
DRINKING WATER AND  
TOXIC ENFORCEMENT ACT  
(PROPOSITION 65)**

**REQUIRES PUBLIC NOTIFICATION  
OF THE PRESENCE OF CHEMICALS  
KNOWN BY THE STATE OF  
CALIFORNIA TO CAUSE CANCER.  
COMPOUNDS INCLUDED ON THE  
LIST, SUCH AS**

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**MAY BE PRESENT  
DURING THIS OPERATION.**

# **URS SAFETY MANAGEMENT STANDARD**

## **Worker Right-to-Know (Hazard Communication)**

---

### **1. Applicability**

This procedure applies to URS office and field operations.

### **2. Purpose and Scope**

The worker right-to-know program provides URS personnel with information and training about safety and health hazards associated with the chemicals they might encounter in the workplace. This procedure describes how chemical safety hazards are communicated to URS personnel working in offices and at field site locations, and how information is to be provided to employees of other employers working at the location. The requirements include steps to acquire this information, maintain it, and train everyone to use it.

### **3. Implementation**

Office Locations: Implementation of this program is the responsibility of the Office Manager.

Field Activities: Implementation of this program is the responsibility of the Project Manager.

### **4. Requirements**

#### **A. Hazardous Material Inventory**

1. Maintain a hazardous material inventory that lists all of the hazardous materials used at this workplace. Use chemical names consistent with the applicable MSDS's.
2. File a copy of the chemical inventory in the Safety Filing System.

#### **B. Material Safety Data Sheets (MSDS's)**

1. Obtain a MSDS for each chemical before it is used.
2. Review each MSDS when it is received to evaluate whether the information is complete and to determine if existing protective measures are adequate.
3. Maintain a collection of all MSDS's where they are accessible at all times.

## **URS SAFETY MANAGEMENT STANDARD**

### **Worker Right-to-Know (Hazard Communication)**

---

4. Replace MSDS sheets when updated sheets are received. Communicate any significant changes to those who work with the chemical.
5. MSDS's are required for all hazardous materials used on site by project personnel.

#### C. Labels

Label all chemical containers with:

1. Identity of the hazardous chemical(s),
2. Appropriate hazard warnings, and
3. Name and address of the chemical manufacturer, importer, or other responsible party.

#### D. Hazardous Nonroutine Tasks

Periodically, employees are required to perform hazardous non-routine tasks. Prior to starting work on such projects, provide each employee with information about hazards to which they may be exposed during such an activity.

This information will include:

1. Specific chemical hazards.
2. Protective/safety measures which must be utilized.
3. Measures that have been taken to lessen the hazards including ventilation, respirators, presence of another employee and emergency procedures.

#### E. Informing Contractors/Subcontractors

Provide contractors/subcontractors the following information on chemicals used by or provided to URS personnel:

1. Names of hazardous chemicals to which they may be exposed while on the jobsite.
2. Precautions the employees may take to lessen the possibility of exposure by usage of appropriate protective measures.



**URS SAFETY MANAGEMENT STANDARD**  
**Worker Right-to-Know (Hazard Communication)**

---

3. Location of URS MSDS's and written chemical inventory.

**F. Training**

1. Conduct training of all employees potentially exposed to hazardous materials on the following schedule:
  - a. Before new employees begin their jobs.
  - b. Whenever new chemicals are introduced into the workplace,  
or
  - c. Annually thereafter.
2. This training will include:
  - a. Applicable regulatory requirements.
  - b. Names of those responsible for implementing this program.
  - c. Location of the program, inventory and MSDS 's.
  - d. Chemicals used, and their hazards (chemical, physical and health).
  - e. How to detect the presence or release of chemicals.
  - f. Safe work practices.
  - g. How to read an MSDS.
3. Document the training.

**5. Documentation Summary**

- A. File these records in the Office Safety Filing System
  1. Chemical Inventory.
  2. Location of the MSDS inventory.
  3. Training records.
  4. Contractor/Subcontractor notifications.
- B. File these records in the Project Safety File.

## **URS SAFETY MANAGEMENT STANDARD**

### **Injury and Illness Prevention Program (California)**

---

Committee meetings may be conducted as part of other currently established meetings (such as routine line manager meetings). Each meeting should be documented and communicated to office employees.

- b. An employee suggestion box. Office management is responsible for responding to suggestions in a timely manner. The system must allow for employees to provide suggestions anonymously if they choose to do so.
  - c. An office-wide newsletter. The newsletter should be published at regular intervals and include information such as program updates, training schedules, health and safety tip, etc.
- 5. Conduct regular field briefings for all employees on a project (see SMS on Site Safety Briefings).
  - 6. Encourage employees to identify health and safety issues as they are observed. Inform employees that they may communicate health and safety concerns anonymously without fear of reprisal.

#### C. Hazard Assessment

- 1. Conduct hazard assessments in accordance with the URS Hazard Analysis Process.
- 2. Conduct hazard assessments:
  - a. When new substances, processes, procedures or equipment that present potential new hazards are introduced into the workplace. Contact a URS Health and Safety Program Representative if you are not certain that an assessment should be initiated.
  - b. When new, previously unidentified hazards are recognized, either through an employee report or a workplace inspection.
  - c. In conjunction with an incident investigation.

#### D. Accident and Exposure Investigations

Conduct investigations of accidents, near-misses, or chemical exposures in accordance with SMS 049 - Incident Reporting.

## **URS** SAFETY MANAGEMENT STANDARD **Injury and Illness Prevention Program (California)**

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### E. Hazard Correction

1. Require that unsafe or unhealthy work conditions, practices or procedures are corrected in a timely manner based on the severity of the hazards.
2. Hazards discovered during a formal audit shall be abated in accordance with the timetable provided in the audit report.
3. Correct imminent hazards either:
  - a. Immediately, or
  - b. If immediate correction cannot be accomplished without endangering employees and/or property, remove employees from the hazard area until the hazard can be safely abated.
4. Document hazard corrections to the project or office safety file.

### F. Training and Instruction

Provide training:

1. To all new employees
2. To employees with new job assignments for which training has not been previously accomplished.
3. Whenever new substances, processes, procedures or equipment are introduced to the workplace and may represent a new hazard not addressed by previous training.
4. To supervisory employees to familiarize them with the safety and health hazards to which workers under their supervision may be exposed.
5. Specific to an employee's job assignment as required by Cal-OSHA. (Contact your office Health and Safety Representative or Regional Health and Safety Manager for guidance.)

### G. Program Evaluation

Evaluate the IIP Program for each location on an annual basis using the checklist in Attachment 5-1 - IIPP Evaluation Checklist.

**URS SAFETY MANAGEMENT STANDARD**  
**Injury and Illness Prevention Program (California)**

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**5. Documentation Summary**

A. Maintain in the Office Safety File. At a minimum, the file should contain:

1. Employee training records.
2. Office hazard assessments and corrective actions.
3. Incident reports and records.
4. Communication records (i.e., Safety Committee notes, employee suggestions and resolutions, newsletters, etc).
5. A copy of this Program

B. Maintain in the Project Safety File:

1. Copies of employee training certificates.
2. Project Hazard Assessments – Hazard Analysis Process.
3. Safe Work Plan or Health and Safety Plan.

**6. Resources**

- A. Cal/OSHA Standard - Injury and Illness Prevention Program - 8 CCR 3203 (<http://www.dir.ca.gov/title8/3203.html>)
- B. Attachment 5-1 – IIPP Evaluation Checklist



Health and Safety Program

Attachment 5-1

Injury and Illness Prevention Program  
(California)  
EVALUATION CHECKLIST

Location: \_\_\_\_\_ Date Evaluated: \_\_\_\_\_

Name of Evaluator: \_\_\_\_\_

*Note: All "NO" answers must be explained in the remarks section*

		Yes	No
<b>Responsibility</b>			
1.	Has the office identified a local Health and Safety Representative?	<input type="radio"/>	<input type="radio"/>
2.	Have the employees been briefed on the URS Health and Safety Program and do they know the name of the office Health and Safety Representative?	<input type="radio"/>	<input type="radio"/>
<b>Compliance</b>			
3.	Are employees evaluated for health and safety compliance?	<input type="radio"/>	<input type="radio"/>
4.	Are employees disciplined for failure to comply with the Program?	<input type="radio"/>	<input type="radio"/>
5.	Is retraining provided to employees who fail to comply?	<input type="radio"/>	<input type="radio"/>
6.	Provide documentation for all items in this section answered "yes."	<input type="radio"/>	<input type="radio"/>
<b>Communication</b>			
7.	Does the office have a Health and Safety Committee? If yes, are meetings documented?	<input type="radio"/>	<input type="radio"/>
8.	Is health and safety information forwarded to employees?	<input type="radio"/>	<input type="radio"/>
9.	Have employees been instructed report health and safety issues and concerns?	<input type="radio"/>	<input type="radio"/>
10.	Does the office have a current OSHA poster?	<input type="radio"/>	<input type="radio"/>
<b>Hazard Assessment</b>			
11.	Does the office conduct periodic safety audits?	<input type="radio"/>	<input type="radio"/>
12.	Are hazard assessments performed and documented when a new process, substances, or equipment is brought into the workplace?	<input type="radio"/>	<input type="radio"/>
13.	Are hazard assessments performed and documented when supervisors are advised of new or previously unrecognized hazards?	<input type="radio"/>	<input type="radio"/>
<b>Accident/Exposure Investigation</b>			
14.	Are injuries/incidents reported in a timely manner (refer to SMS #49 for guidance)?	<input type="radio"/>	<input type="radio"/>
15.	Are investigations conducted to determination of the cause(s) of the work-related injury or incident?	<input type="radio"/>	<input type="radio"/>
<b>Hazard Correction</b>			
16.	Are corrective actions identified and implemented upon recognition of a work-related hazard?	<input type="radio"/>	<input type="radio"/>
17.	Are "lessons learned" shared with applicable office personnel?	<input type="radio"/>	<input type="radio"/>
<b>Training and Instruction</b>			
18.	Is job specific training provided to employees prior to them undertaking the assignment?	<input type="radio"/>	<input type="radio"/>
19.	Are employees re-trained upon recognition of new or previously unrecognized work related hazards?	<input type="radio"/>	<input type="radio"/>



Health and Safety Program

Attachment 5-1

Injury and Illness Prevention Program  
(California)  
EVALUATION CHECKLIST

*Note: All "NO" answers must be explained in the remarks section*

		Yes	No
<b>Recordkeeping</b>			
20.	Does the office have a Health and Safety File?	<input type="radio"/>	<input type="radio"/>
At a minimum, does the file contain the following records:			
	• A copy of the IIP Program?	<input type="radio"/>	<input type="radio"/>
21.	• Employee training records?	<input type="radio"/>	<input type="radio"/>
	• Office inspection records?	<input type="radio"/>	<input type="radio"/>
	• Injury/incident reports?	<input type="radio"/>	<input type="radio"/>

**REMARKS:**

Signature of Office Manager: \_\_\_\_\_ Date: \_\_\_\_\_

# **URS SAFETY MANAGEMENT STANDARD**

## **Electrical Safety**

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### **1. Applicability**

This program applies to URS field operations in North American where electricity is used, electrical systems are installed or maintained, or where live electrical circuits are accessed. For work around overhead or underground utilities, see SMS 34, "Utility Clearances".

### **2. Purpose and Scope**

This procedure describes requirements for working on electrical circuits with voltage greater than 50 volts. The primary hazards related to electricity are shock; burns; arc-blast; fire and explosions. This procedure is intended to reduce worker risk to electrical hazards.

### **3. Implementation**

Office Locations - Implementation of this program is the responsibility of the Office Manager.

Field Activities - Implementation of this program is the responsibility of the Project Manager.

### **4. Requirements**

A. Any work performed on live electrical systems must be done by a licensed or journeyman electrician.

B. Follow established lockout/tagout procedures. Refer to SMS 23, "Lockout and Tagout Safety".

1. Consider all electrical systems as hot until verified de-energized and grounded.

2. Do not work on or in close proximity to electrical circuits unless the circuit is de-energized, grounded or guarded.

C. Hazardous Locations

Determine if electric equipment and wiring will be installed in locations that are classified depending on:

1. The properties of flammable vapors, liquids or gases, or combustible dusts or fibers that may be present; as well as the likelihood that a flammable or combustible concentration or quantity

## **URS SAFETY MANAGEMENT STANDARD**

### **Electrical Safety**

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is present. (Refer to Attachment 12-1 for definitions of Hazardous Locations)

2. Consult Resources A, B, E, and F for information on working in classified locations.

#### **D. Ground Fault Circuit Interrupters and Grounding**

##### **1. Ground Fault Circuit Interrupters**

- a. Provide approved ground-fault circuit interrupters for all 120-volt, single phase, 15- and 20-ampere receptacle outlets on construction sites.
- b. Provide ground-fault circuit interrupters for all 120-volt, single phase, 15- and 20-ampere receptacle outlets within garages, bathrooms, kitchens and shops.

##### **2. Grounding/Earthing**

Effectively ground all wiring, electrical circuits, and equipment, except portable tools & appliances protected by an UL-approved system of double insulation. Examples of equipment requiring grounding include:

- a. Portable and vehicle or trailer mounted generators.
- b. Electrically powered arc welders.
- c. Switches.
- d. Motor controller cases.
- e. Fuse boxes.
- f. Distribution cabinets.
- g. Frames.
- h. Non-current-carrying rails used for travel and motors of electrically operated cranes.
- i. Electric elevators.



**URS SAFETY MANAGEMENT STANDARD**  
**Electrical Safety**

---

- j. Metal frames of non-electric elevators to which electric conductors are attached.

**E. Circuits**

1. Require that there are no missing blanks.
2. Close doors to circuit and fuse boxes when not in use.
3. Label every circuit located on a circuit breaker/fuse box and/or motor control center (MCC).

**F. Temporary Wiring, Electrical Tools and Extension Cords**

1. Require that temporary wiring is installed and used in accordance with references. Specifically:
  - a. Guard, bury or isolate by elevation temporary wiring to prevent accidental contact by workers and equipment.
  - b. Require that vertical clearance above walkways is not less than 10 feet (3 metres) from circuits carrying 600 volts or less.
  - c. Support all exposed temporary wiring on insulators.
  - d. Protect temporary wiring from accidental damage.
  - e. Guard live parts of wiring.
  - f. Mark temporary power lines, switch boxes, receptacle boxes, metal cabinets and enclosures around equipment to indicate the maximum operating voltage.
2. Require that lighting strings are installed and used in accordance with Resources A and B. Specifically:
  - a. Use nonconductive lamp sockets and connections permanently molded to the conductor insulation.
  - b. Require that lighting strings have lamp guards.
  - c. Replace all broken or defective bulbs promptly.

## **URS SAFETY MANAGEMENT STANDARD**

### **Electrical Safety**

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- d. Protect all lights used for illumination from accidental contact or breakage.
- e. Ground metal-case sockets.
- 3. Require that extension cords are installed and used in accordance with Resources A and B. Specifically:
  - a. Use only 3-wire grounded type extension cords, designated for hard service or extra hard service and listed by Underwriters Laboratories, Inc.
  - b. Check cords for damage before use.
  - c. Do not exceed the rated load.
  - d. Do not use spliced cords.
  - e. Destroy and discard worn or frayed cords.
  - f. Do not fasten extension cords with staples, hang them by nails or suspend them by wire.
  - g. Do not wrap cords or cables around any conductive materials.
- 4. Require that portable electric tools brought onto the site are in good condition. Before use on any shift, visually inspect portable cord and plug connected equipment for external defects and evidence of possible internal damage.
- G. Report to supervision potential electrical hazards or unexpected occurrences while electrical renovation or construction occurs.
- H. Keep accurate records of all pertinent work performed on a project.
  - 1. Keep as-built designs updated.
  - 2. Share information on modifications with contractors on site.
- I. Isolation of live electrical components

Isolate all live, unprotected electrical components through the use of barricades, fencing or other means to protect employees from contact.

## **URS SAFETY MANAGEMENT STANDARD**

### **Electrical Safety**

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#### J. Briefing

1. Brief workers on electrical hazards at the beginning of the job. Utilize Attachment 12-2 as a guide for proper PPE as applicable.
2. Brief new workers entering the site.
3. Brief workers when electrical conditions change or when hazards exist.

#### K. Inspection

Inspect the job site periodically using Attachment 12-3 to evaluate compliance with this standard.

### **5. Documentation Summary**

#### Project Safety Files

- A. Licensed/journeyman electrician for project (as necessary).
- B. Attachment 12-3, "Audits."
- C. Documented communications between URS, contractors, licensed/journeyman electricians, or others.

### **6. Resources**

- A. U.S. OSHA Standard - General Industry Electrical Safety - 29 CFR 1910, Subpart S
- B. U.S. OSHA Standard - Construction Electrical Safety - 29 CFR 1926, Subpart K
- C. U.S. OSHA Standard - Design Safety Standards for Electrical Systems - 29 CFR 1910, Subpart S
- D. U.S. OSHA Standard - The Control of Hazardous Energy (Lockout/Tagout) - 29 CFR 1910.147
- E. Australian Standards SAA HB94-1997 - Electrical Safety in the Workplace
- F. American National Standards Institute. ANSI C-2.1996 National Electrical Safety Code

**URS SAFETY MANAGEMENT STANDARD**  
**Electrical Safety**

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G. National Fire Protection Association, National Electric Code, NFPA-70

The following documents are PDF files requiring the use of Adobe Acrobat reader.

H. Attachment 12-1 - Hazardous Locations

I. Attachment 12-2 - PPE, Tools and Equipment

J. Attachment 12-3 - Electrical Hazard Check Sheet



**PPE, TOOLS AND EQUIPMENT  
NEEDED DURING ELECTRICAL WORK**

<b>If there is a danger of:</b>	<b>Then use the following:</b>
<ul style="list-style-type: none"><li>• Head injury from electric shock, or</li><li>• Burns due to contact with exposed energized parts</li></ul>	Nonconductive head protection – Class II nonconductive hard hat
Injury to the eyes or face from: <ul style="list-style-type: none"><li>• electric arcs or flashes; or</li><li>• flying objectives resulting from electrical explosion</li></ul>	Protective equipment for the eyes and face – face shield and safety glasses
Shock to hands while handling energized wires	Lineman's rubber insulated gloves rated for the voltage exposed to: leather overgloves may be needed if exposure to abrasive surfaces is possible.
<ul style="list-style-type: none"><li>• shock while working in areas where high voltage electrical systems are present, or</li><li>• shock when performing electrical repairs</li></ul>	Non-conductive protective foot wear
Exposure to electric arcing or flashing from: <ul style="list-style-type: none"><li>• opening or closing 2400 volt oil cutout switching devices;</li><li>• removing or installing links in high voltage able tap boxes; or</li><li>• removing or installing fuses in high voltage circuits.</li></ul>	Protective coveralls made of Nomex or other suitable flash-proof material.
<b>IF</b>	<b>THEN</b>
Energized parts are exposed.	Use nonconductive ropes and handlines near the exposed energized part.
Working near exposed energized conductors or circuit parts.	Use insulated tools or handling equipment if the tools or handling equipment might make contact with such conducts or parts.
The insulating capability of insulated tools or handling equipment is subject to damage.	Protect the insulating material.
Removing or installing fuses when the fuse terminals are energized.	Use fuse-handling equipment, insulated for the circuit voltage.
Working near exposed energized parts that might be accidentally contacted or where dangerous electric heating or arcing might occur.	Use protective shields, protective barriers, or insulating materials to protect from shock, burns, or other electrically related injuries.
Normally enclosed live parts are exposed for maintenance or repair.	Guard the parts to protect unqualified persons from contact with the live parts.

# **URS** SAFETY MANAGEMENT STANDARD

## **Hazardous Waste Operations**

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### **1. Applicability**

This standard applies to URS field operations involving the investigation or remediation of sites impacted with hazardous wastes or hazardous materials including those associated with underground storage tanks.

Investigation projects for real estate transactions conducted to confirm that a site is "clean" are not covered under this standard. Reference related Safety Management Standards for such operations.

### **2. Purpose and Scope**

The purpose of this standard is to provide guidance designed to minimize hazardous chemical exposures to URS personnel while URS is conducting hazardous waste field operations.

Investigation techniques included under this standard include, but are not limited to, hand auger, soil gas evaluation, test pits, and all types of power drilling, including direct push. Remediation techniques included under this standard include, but are not limited to, excavation, groundwater treatment, soil gas treatment, containment, and landfarming and similar insitu methods.

### **3. Implementation**

Field Activities - Implementation of this procedure is the responsibility of the Project Manager or Superintendent.

### **4. Requirements**

#### **A. Project Evaluation**

Assess the technical and field aspects of every hazardous waste site project to evaluate:

1. Risk of exposure to hazardous chemicals, with particular attention to suspected or known human carcinogens.
2. Personal protective equipment requirements.
3. Air monitoring requirements.
4. Emergency services requirements.
5. Hazards addressed by other URS Safety Management Standards.

## **URS SAFETY MANAGEMENT STANDARD**

### **Hazardous Waste Operations**

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6. Logistical considerations, such as access, distance from population centers.
7. Other safety and health hazards associated with site operations.

#### **B. Client/Contract Evaluation**

1. Review contract documents to determine whether the client has any special internal or regulatory requirements for hazardous waste site operations.
2. Implement client requirements in addition to those of this standard. Those requirements that are the most protective (e.g., most stringent) will be used.

#### **C. Site-specific Health and Safety Plan**

1. Prepare a site-specific Health and Safety Plan (HSP) for every project under this standard.
2. HSPs must be written or reviewed by a URS Health and Safety Regional Health and Safety Manager (RHSM) or a safety professional specifically approved by the RHSM.
3. Evaluate client and agency requirements prior to preparing the HSP, particularly if the client or an agency will approve the HSP prior to implementation.

#### **D. Training**

Verify that each assigned URS employee has completed required training. In general, the following are required for operations within North America:

1. 40-hours of initial training from an approved training provider.
2. 3-days of on-the-job training.
3. 8-hours of refresher training completed within 12 months of the initial or subsequent refresher training.
4. 8-hours of Site Safety Officer (Supervisor) training for directing the activities of any other URS employee.
5. Additional training for the Site Safety Officer as described below.

## **URS SAFETY MANAGEMENT STANDARD**

### **Hazardous Waste Operations**

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#### **E. Site Safety Officer**

1. Appoint a Site Safety Officer (SSO) with appropriate qualifications for the specific hazardous waste project.
2. Assure that the SSO for complex projects, such as those with complicated remediation activities, has no duties other than site safety and health.
3. Verify that the SSO has completed basic supervisor training, and has additional required training and experience as applicable:
  - a. Advanced respiratory protection training is required for projects where supplied air respirators may be used.
  - b. Heavy equipment/construction safety.
  - c. Personal air monitoring.

#### **F. Exposure Monitoring**

Require that exposure monitoring is conducted in accordance with the HSP on all hazardous waste projects.

#### **G. Project Equipment**

1. Provide all health and safety equipment as described by the project Health and Safety Plan.
2. Provide all personal protective equipment as described by the project Health and Safety Plan.

#### **H. Medical Surveillance**

Verify that each URS employee assigned to the project meets the minimum requirements of the URS Medical Surveillance Program. This typically includes:

1. Baseline examination.
2. Annual examination.
3. Appropriate clearance for respirator use.

### **5. Documentation Summary**



# **URS** SAFETY MANAGEMENT STANDARD

## **Hazardous Waste Operations**

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In the Project Safety File:

- A. Completed Health and Safety Plan.
- B. Completed and signed HSP approval form.
- C. Signed HSP acceptance form.
- D. Completed H&S field forms that are included in each HSP.
- E. Training and Medical Surveillance Clearance documentation for project personnel.

### **6. Resources**

- A. U.S. OSHA Technical Links - Hazardous Waste Operations

The following documents are PDF files which must be read with Adobe Reader:

- B. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities - NIOSH 85-115
- C. USACE EM 385-1-1 - Hazardous, Toxic and Radioactive Waste

## **HEAT RASH**

Heat rash (prickly heat) may result from continuous exposure to heat or humid air. It appears as red papules (elevated skin lesion), usually in areas where the clothing is restrictive, and gives rise to a prickly sensation, particularly as sweating increases. It occurs in skin that is persistently wetted by unevaporated sweat. The papules may become infected unless treated.

**First Aid for Heat Rash** - to prevent heat rash: shower after work, dry off thoroughly, and put on clean, dry underwear and clothes. Try to stay in a cool place after work. If, in spite of this, you develop heat rash, see your physician.

## **HEAT CRAMPS**

Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include:

- Muscle spasms.
- Pain in the hands, feet and abdomen.

**First Aid for Heat Cramps** - leave the work area, and rest in a cool, shaded place. Drink one or two glasses of electrolyte replacement drink, and try to gently massage the cramped muscle. Once the spasms disappear, you may return to work; taking adequate breaks and drinking electrolyte replacement drink should prevent the cramps from returning.

## **HEAT EXHAUSTION**

Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include:

- Pale, cool, moist skin.
- Heavy sweating.
- Dizziness.
- Nausea.
- Fainting.

The key here is that the victim is still sweating, so the cooling system is still working; it's just under severe stress. The body core temperature may be elevated. It is important to

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recognize and treat these symptoms as soon as possible, as the transition from heat exhaustion to the very hazardous heat stroke can be quite rapid.

**First Aid for Heat Exhaustion** - leave the work area immediately, go through decon and remove all chemical protective clothing. Rest in a cool, shaded place and open your clothing to allow air circulation; lay flat except when taking fluids. Drink plenty of cooled electrolyte replacement drinks. Your work is over for the day; do not attempt to return. Medical assistance in severe cases may be warranted.

## **HEAT STROKE**

Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occurs. Competent medical help must be obtained. Signs and symptoms are:

- Red, hot, usually dry skin.
- Lack of or reduced perspiration (lack of perspiration may be masked for those wearing chemical protective clothing since perspiration from earlier in the day will be present).
- Nausea.
- Dizziness and confusion.
- Strong, rapid pulse.
- Coma.

**First Aid for Heat Stroke - THIS IS A MEDICAL EMERGENCY! SUMMON MEDICAL ASSISTANCE IMMEDIATELY!** Remove the victim from the work area, perform a gross decon, and remove all PPE. Have the victim lie down in a cool, shady area. Attempt to bring the victim's temperature down by increasing air movement (electric fan) or placing wetted sheets or towels on them. Place an ice bag on the victim's head. The victim must not be sent home or left unattended without a physician's specific order.

## **HEAT STRESS PREVENTION**

The best approach to avoiding heat-related illnesses is through preventative heat stress management. The site manager and site safety officer are responsible for implementing this program.

**Rest areas** - a relatively cool, shaded area must be provided for breaks when ambient temperatures exceed 70° F and workers are wearing chemical protective clothing (including uncoated Tyvek), or if temperatures exceed 90° F and workers are wearing "Level D"

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coveralls or work clothes. A car or van is an oven, not a rest area. For Hazardous Waste Sites, the rest area should be located in the support zone adjacent to the contamination reduction zone, situated so that part of it is in the decon area so workers can take breaks without going through full decon. If shade is not available, build some: use a plastic "dining canopy", which can be obtained at sporting goods stores. This same type of canopy can be set up to shade personnel performing various types of work in hot weather.

**Liquids** - encourage employees to drink plenty of cool plain water and electrolyte replacement drinks. Supplementing water with cool electrolyte replacement drinks, such as Gatorade, Squench or Quik-kick (drink) is helpful to employees who tend to sweat a lot. Do not use "community cups"; use paper cups. Have workers drink 16 ounces of drink before beginning work, such as in the morning and after lunch. At each break, workers should take 8-16 ounces of drink. Don't wait until you are thirsty to drink.

Discourage the use of alcohol during non-working hours, and discourage the intake of coffee during work hours, as these make heat stress control more difficult.

**Acclimatization** - this is the process by which your body "gets used to" hot work environments. This is achieved by slowly increasing workloads. Start at 50 percent capacity on day one, and increase by 10 percent per day; on day six, you'll be at 100 percent. You don't lose acclimatization over a weekend, but it'll start to decrease after three to four days. If you don't do hot work for a week, it is gone. You don't have to do full shift hot work to achieve or retain acclimatization; a minimum of 100 minutes of continuous hot work exposure per day is adequate.

**Auxiliary Cooling** - auxiliary cooling is usually obtained by providing workers with a specially-designed vest, which is worn under the protective clothing, but over any underclothing. These vests typically provide cooling via one of two methods: the use of ice or other frozen media, or the use of a vortex cooler. Each method has its advantages and disadvantages.

The frozen media vest requires a means for freezing the media, and the media (usually water or "blue ice") will melt, requiring replacement.

The vortex cooler tends to cool more uniformly. Instead of frozen media, this vest uses the expansion of compressed air to cool the wearer. The drawback is the compressed air requirement, but this is negated when the wearer is already using an airline respirator supplied by a compressor. A vortex cooler should not be supplied from air cylinders, as this will draw down the cylinders rapidly.

Auxiliary cooling should be considered when the following conditions exist:

- Ambient temperature over 80° F
- Workers wearing impermeable garments (PE Tyvek, Saranex, Chemrel, etc.)
- It is desirable to have long work shifts with minimum interruption

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# **URS** SAFETY MANAGEMENT STANDARD

## **Heavy Equipment Operations**

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### **1. Applicability**

This procedure applies to URS field projects where heavy equipment is in operation.

### **2. Purpose and Scope**

The purpose of this procedure is to require that heavy equipment is operated in a safe manner, that the equipment is properly maintained and that ground personnel are protected.

### **3. Implementation**

Field Activities - Implementation of this procedure is the responsibility of the Project Manager.

### **4. Requirements**

#### **A. Authorized Operators**

1. Evaluate operators through documentable experience (resume) and a practical evaluation of skills.
2. Allow only qualified operators to operate equipment.
3. Prohibit equipment from being operated by any personnel who have not been specifically authorized to operate it.
4. Maintain a list of operators for the project and the specific equipment that they are authorized to operate.
5. Require operators to use seat belts at all times in all equipment and trucks.
6. Brief operators on the following rules of operation:
  - a. Operators are in control of their work area.
  - b. Equipment will be operated in a safe manner and within the constraints of the manufacturer's Operation Manual.
  - c. Operators will stop work whenever unauthorized ground personnel or equipment enter their work area and only resume work when the area has been cleared.



# **URS** SAFETY MANAGEMENT STANDARD

## **Heavy Equipment Operations**

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### B. Ground Personnel

1. Require that ground personnel on the site have received training and comply with the following rules of engagement:
  - a. All ground personnel must wear orange protective vests when in work areas with any operating equipment.
  - b. Ground personnel will stay outside of the swing zone or work area of any operating equipment.
  - c. Ground personnel may only enter the swing or work area of any operating equipment when:
    1. They have attracted the operator's attention and made eye contact.
    2. The operator has idled the equipment down and grounded all extensions.
    3. The operator gives the ground personnel permission to approach.
  - d. Ground personnel shall never walk or position themselves between any fixed object and running equipment or between two running pieces of equipment.

### C. Equipment

1. Maintain operations manuals at the site for each piece of equipment that is present on the site and in use.
2. Require that operators are familiar with the manual for the equipment and operate the equipment within the parameters of the manual.
3. Require that all equipment is provided with roll-over protection systems (ROPS). Tracked excavators are exempt from ROPS requirements but must have a cab which provides protection from overhead hazards
4. Verify that seatbelts are present and functional in all equipment.

## **URS SAFETY MANAGEMENT STANDARD**

### **Heavy Equipment Operations**

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5. Prohibit the use of equipment which has cab glass which is cracked, broken or missing.
6. Require that backup alarms are functional on all trucks and equipment. Tracked excavators must have bidirectional alarms or the operator must be provided with a spotter whenever tracking in either direction.
7. Require all extensions such as buckets, blades, forks, etc. to be grounded when not in use.
8. Require brakes to be set and wheels chocked (when applicable) when not in use.

#### **D. Inspection and Maintenance**

1. Require daily inspections of equipment by operators using Attachment 19-1.
2. Prohibit use of equipment deemed to be unsafe as a result of daily inspection until required repairs or maintenance occur.
3. Conduct maintenance as prescribed by the manufacturer in the Operations Manuals for each piece of equipment.
4. During maintenance/repair, require that:
  - a. Motors are turned off.
  - b. All extensions are grounded or securely blocked.
  - c. Controls are in a neutral position.
  - d. Brakes are set.

#### **5. Documentation Summary**

File the following documents in the Project Health and Safety File.

- A. List of authorized operators.
- B. Operator qualifications.
- C. Daily Equipment Inspection Logs.

# **URS** SAFETY MANAGEMENT STANDARD

## **Heavy Equipment Operations**

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- D. Site Briefing documentation for operator rules and ground personnel "rules of engagement".

### **6. Resources**

- A. U.S. OSHA Standard - Motorized Vehicles and Mechanized Equipment - 29 CFR 1926, Subpart O
- B. National Association of Demolition Contractors – Safety Manual (<http://www.demolitionassociation.com/> )
- C. Queensland Workplace Health and Safety - Competency Standard for Users & Operators of Industrial Equipment
- D. Attachment 19-1 - Equipment Inspection Form



**Health and Safety Program  
DAILY HEAVY EQUIPMENT  
SAFETY INSPECTION CHECKLIST**

Attachment 19-1

Equipment Id No. \_\_\_\_\_ Inspector's Name \_\_\_\_\_

Equipment Name \_\_\_\_\_ Employee No. \_\_\_\_\_

Beg. Hours \_\_\_\_\_ End Hours \_\_\_\_\_ Date \_\_\_\_\_

**INSTRUCTIONS:** Each shift shall inspect all applicable items indicated. If an unsatisfactory condition is observed, suspend operation of the equipment and report the unsatisfactory condition to the site supervisor immediately.

ITEM INSPECTED	CHECK IF SATISFACTORY	COMMENTS
Falling Object Protective Structure (FOP)		
Roll-Over Protection Structure (ROP)		
Seat Belts		
Operator Seat Bar(s)		
Side Shields, Screens or Cab		
Lift Arm Device		
Grab Handles		
Back-up Alarm – Working		
Lights		
Guards		
Horn		
Anti-Skid Tread Clear of Mud		
Safety Signs (i.e., counterbalance swing area)		
Fire Extinguisher		
General Condition		
Fuel Connection		
Oil (fuel and no leaks)		
Clear of Extra Materials		
Controls Function Properly		
Damaged Parts		
Hydraulic System (full and no leaks)		
Parking Brake		
Lift Arm and Bucket		
Tires/Tracks		
Steering		
Breathing Air System		
Blast Shields		
Gallons of Fuel Added		
Quarts of Oil Added		

**Operator Signature** \_\_\_\_\_



Health and Safety Program  
**DAILY HEAVY EQUIPMENT  
SAFETY INSPECTION CHECKLIST**

Attachment 19-1

Equipment Id No. \_\_\_\_\_ Inspector's Name \_\_\_\_\_

Equipment Name \_\_\_\_\_ Employee No. \_\_\_\_\_

Beg. Hours \_\_\_\_\_ End Hours \_\_\_\_\_ Date \_\_\_\_\_

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Back-up Alarm – Working		
Lights		
Guards		
Horn		
Anti-Skid Tread Clear of Mud		
Safety Signs (i.e., counterbalance swing area)		
Fire Extinguisher		
General Condition		
Fuel Connection		
Oil (fuel and no leaks)		
Clear of Extra Materials		
Controls Function Property		
Damaged Parts		
Hydraulic System (full and no leaks)		
Parking Brake		
Lift Arm and Bucket		
Tires/Tracks		
Steering		
Breathing Air System		
Blast Shields		
Gallons of Fuel Added		
Quarts of Oil Added		

**Operator Signature** \_\_\_\_\_

# **URS SAFETY MANAGEMENT STANDARD**

## **Medical Screening & Surveillance**

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### **1. Applicability**

This program applies to employees assigned to work environments where there is a potential for exposure to chemical, biological, and/or physical hazards. Individuals will be selected for medical screening based on regulatory standards, project health and safety plan assessments, the expected use of personal protective equipment, and client contract requirements.

### **2. Purpose and Scope**

The overall goal of this program is to prevent occupational illness and injury by early identification of exposure-related health effects before they result in disease. Medical examinations will be performed in order to determine if employees are capable of safely performing assigned tasks, to verify protective equipment and controls are effectively providing protection, and to comply with governmental regulations. Included are provisions for emergency medical consultation and treatment.

### **3. Implementation**

Office/laboratory locations – Implementation is the responsibility of the Office Manager.

Field activities – Implementation is the responsibility of the Project Manager.

Program Administration – The Occupational Health Specialist (OHS) is responsible for development and administration of this program in coordination with the URS Medical Service Provider (MSP). The OHS will maintain current injury and illness data and participate with Corporate Health & Safety Managers in evaluation of this program. The MSP will provide board certified occupational medicine oversight for the program and will approve medical surveillance protocols.

The United States and Canada locations will follow all requirements of this program.

International locations will follow sections B.1,2,3,5,6,7,8; G.3; and H.1 of this program.

### **4. Requirements**

A. Selection of program participants.

## **URS** SAFETY MANAGEMENT STANDARD **Medical Screening & Surveillance**

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1. The Medical Surveillance Evaluation (MSE) form provides the primary guidance for determining whether medical screening is required for an employee and the frequency of periodic exams. The MSE is to be completed by the employee and their supervisor at time of hire for any employee who may work outside an office environment and is to be reviewed for accuracy at each annual performance review. Other reviews are required whenever there is a change in job tasks.
2. Additional site/project specific biological monitoring or toxicological screening may be required in addition to this program's core exam schedule. These medical tests will be specified by the project-specific health and safety plan and will be authorized by the MSP on the exam appointment protocol. Note: See section D.2 if employee will have an initial assignment at a HAZWOPER site.

### B. Types of medical screening and surveillance exams

1. A baseline or preassignment baseline exam will be conducted prior to the start of work assignments requiring medical surveillance.
2. Periodic exam schedules are established by the MSP using the following criteria:
  - a. Employees performing the following types of work will receive annual exams: construction activities in the exclusion zone of HAZWOPER sites, field work activities in the exclusion zone of HAZWOPER sites for 30 or more days per year, projects involving exposure to OSHA-regulated materials at or above established action levels.
  - b. Employees performing the following types of work will receive biennial exams: field work activities at HAZWOPER sites less than 30 days per year; waste disposal activities; non-HAZWOPER environmental sampling; chemistry laboratory, pilot plant projects, or bench scale operations for 30 or more days per year.
3. Employees currently participating in an examination program will receive exit exams when they leave their work assignment as identified in the Exit Exam Determination. In the event an employee declines the exit exam, the employee will be requested to sign a Waiver of Exit Medical Surveillance Exam.

## **URS** SAFETY MANAGEMENT STANDARD

### **Medical Screening & Surveillance**

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4. Department of Transportation (DOT) exams will be conducted biennially when an employee is assigned to drive a vehicle with a gross weight rating of more than 10,000 pounds or when driving a placarded vehicle of any size used to transport hazardous chemicals. DOT exam certification can be added to a routine baseline or periodic exam protocol when scheduling with the MSP.
5. When noise levels in the employee's work environment equal or exceed an 8-hour time-weighted average of 85 decibels as measured on the A-scale (dBA), annual audiograms will be performed. For employees involved in construction activities or management of construction, enrollment in this program will be required if more than 50% of their time is spent in an active construction area.
6. Individual radiation dose monitoring will be conducted as required by the site-specific health and safety plan with approval by a Radiation Safety Officer. Personal dosimetry (film badges) are typically required, however, depending on the specific radiation hazard, additional excretory monitoring or thyroid scans may be required.
7. In order to determine an employee's ability to wear a respirator, a medical evaluation will be performed before an employee is fit tested or assigned to wear a respirator.
8. Employees assigned to work environments with airborne concentrations of asbestos fibers at or above the established action level will receive asbestos-specific baseline and annual exams. Exit exams will be performed if an exam has not been performed within the past 6 month period or if an employee has medical complaints related to asbestos exposure.

#### C. Exam protocols

1. The Medical Screening & Surveillance Exam Protocol identifies the medical exam components of this program.

#### D. Scheduling of exams

1. The Office or Project Manager, usually with assistance of the local H&S Representative, is responsible for contacting the MSP when baseline, exit, and project specific exams are required. The MSP maintains an employee scheduling database for tracking periodic



## **URS** SAFETY MANAGEMENT STANDARD **Medical Screening & Surveillance**

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exams and will contact the employee for scheduling the month their exam is due. These steps are detailed in the Medical Surveillance Exam Process.

2. Construction Services Division employees hired with an initial assignment to work at a OSHA HAZWOPER site whose work duties require passing a physical exam or who have an essential job function of wearing a respirator, will receive a job offer contingent upon passing a preassignment baseline exam. See HAZWOPER & Respirator Preassignment Baseline Exam Process. In the event of an urgent business necessity a temporary clearance to begin work the day of the exam, issued by the local physician and good for 14 days until the MSP physician final clearance is received, may be requested at the time a baseline exam is scheduled through the MSP.
3. If an exam becomes due during an employee's pregnancy, it is advised to defer the exam until after delivery and the employee returns to work from family/medical leave status.

### E. Exam Follow Up

1. Following each exam, the MSP will issue a physician's written opinion (Health Status Medical Report) to the site Health & Safety Representative which will include any medical restrictions and address the employee's ability to use personal protective equipment. See Exam Follow Up Procedures.
2. The MSP will mail the exam invoice to the site H&SR who will approve the charge and forward the invoice to the accounts payable department for payment.
3. The MSP will mail an exam results letter that is confidentially addressed to the employee at their home address within 30 days of the exam date.

### F. Emergency Medical Care

1. Preplanning is essential to a prompt and proper response to a medical emergency. Site specific emergency procedures will be provided in the site Health & Safety Plan. See Field First Aid Kit Supply List for recommended supplies. The contents of the first aid kit shall be checked prior to being sent out to each site/project and periodically thereafter to ensure the expended items are replaced.

## **URS** SAFETY MANAGEMENT STANDARD **Medical Screening & Surveillance**

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2. A MSP occupational physician can be reached 24 hours a day for phone consultation at 1-800-455-6155.
3. A workers' compensation claim should be filed by the Human Resource Representative with St. Paul Fire and Marine Insurance (1-800-787-2851) for an injured employee who receives professional medical care or who is disabled from working beyond the initial date of injury.
4. In order to comply with OSHA reporting regulations, immediately notify the OHS or a Division Health & Safety Manager if there is a work-related hospitalization or death.

### **G. Medical Records**

1. Medical records are maintained and preserved in confidential, locked files in the custody of the MSP for at least the duration of employment plus 30 years. Only information regarding the employee's ability to perform the job assignment will be provided to company representatives.
2. Upon request, each employee (or designated representative) will have access to the employee's medical record. Prior to the release of health information to the employee (or designated representative), a specific written consent must be signed by the employee.
3. International records (excluding the United States and Canada) will be maintained in country at the local clinic.

### **H. Program evaluation**

1. The OHS and Division Health & Safety Managers will evaluate this program annually and as needed. Issues to review include program efficacy and efficiency, employee satisfaction, and cost effectiveness.
2. The MSP will prepare an Annual Medical Trending Report specifying the number and types of exams performed and anonymous statistical exam results in group data format.
3. Each employee is mailed a Post-Exam Evaluation by the MSP. Employee feedback regarding the clinic, medical staff, and exam

# **URS** SAFETY MANAGEMENT STANDARD

## **Medical Screening & Surveillance**

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procedures are reviewed and corrective actions are identified and acted upon as needed.

### **5. Documentation Summary**

The H&SR will file the Medical Surveillance Evaluation and the Health Status Medical Report in the site health & safety records.

### **6. Resources**

- A. U.S. OSHA Technical Links - Medical Screening/Surveillance
- B. U.S. OSHA Publication 3162 (1999) Screening and Surveillance: A Guide to OSHA Standards
- C. Attachment 24-1 WorkCare Medical History Questionnaire
- D. Attachment 24-2 Medical Surveillance Evaluation
- E. Attachment 24-3 Medical Screening & Surveillance Exam Protocol
- F. Attachment 24-4 Medical Surveillance Exam Process
- G. Attachment 24-5 HAZWOPER/Respirator Preassignment Baseline Exam Process
- H. Attachment 24-6 Exit Exam Determination
- I. Attachment 24-7 Waiver of Exit Medical Surveillance Exam
- J. Attachment 24-8 Exam Follow Up Procedures
- K. Attachment 24-9 Field First Aid Kit Supply List
- L. SMS 8 Asbestos Survey and Oversight Operations
- M. SMS 17 Hazardous Waste Operations
- N. SMS 42 Respiratory Protection



**FIELD FIRST AID KIT  
SUPPLY LIST**

- Portable, plastic or metal, water resistance first aid kit, with handle
- Bloodborne pathogens personal protective equipment kit (minimum requirements are latex gloves and CPR shield)
- First aid manual
- Ace bandage 3"
- Assorted band aids
- Sterile gauze pads 4" x 4"
- Sterile non-stick gauze pads 2" x 3"
- Paper tape (hypo-allergenic)
- Burn ointment (for minor burns, use after cold water soak)
- Antibiotic ointment (Neosporin or generic)
- Alcohol prep pads
- Iodine prep pads (if not allergic to iodine, use after soap and water wash for bloodborne exposure)
- Ice pack
- Gauze roll 2"
- Butterfly strips (wound closure)
- Tweezers (one use, disposable)
- Temperature strips
- Flashlight
- Triangular bandage
- Bandage scissors
- Sterile normal saline eye wash, 4 ounce bottle
- Ammonia inhalant ampoules
- Insect sting relief wipes or spray

# **URS SAFETY MANAGEMENT STANDARD**

## **Noise and Hearing Conservation**

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### **1. Applicability**

This procedure applies to URS Corporation facilities and field operations where URS Corporation personnel may encounter noise exposures that may exceed 85 dBA as an 8 hour Time Weighted Average.

### **2. Purpose and Scope**

The purpose of this procedure is to protect employees from hazardous noise exposures and to prevent hearing loss.

### **3. Implementation**

**Office/Lab locations:** High noise is unlikely to be encountered at URS offices, however, if applicable, the implementation of this program is the responsibility of the Office Manager.

**Field Activities:** Implementation of this program is the responsibility of the Project Manager.

### **4. Requirements**

#### **A. General**

The use of hearing protectors in any location where powered or motorized equipment or any other noise source could reasonably be expected to exceed 85 dBA. Use of hearing protectors may only be discontinued when noise levels are verified to be less than 85 dBA through a properly conducted noise survey. Whenever information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 decibels, the project manager or location manager will be responsible to enforce the proper use of hearing protectors.

#### **B. Hearing Protectors**

1. Require that at least two (2) types of hearing protectors are available to employees free of charge, preferably a plug and a muff type.
2. Minimum Noise Reduction Ratings (NRR)

Hearing protectors issued must have the following minimum NRR:

Ear Plug	Muffs
29 dBA	27 dBA

**URS SAFETY MANAGEMENT STANDARD**  
**Noise and Hearing Conservation**

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3. Require that hearing protectors are used and thus effectively protect hearing.

**C. Noise Surveys**

1. Noise surveys must be conducted in a manner that reasonably reflects the exposure of the affected employees. Surveys must be conducted under the supervision of a URS Safety Program Representative.
2. Sound level meters and audio dosimeters used to determine employee exposure to noise sources must be Type II (accurate to within +/- 2 dBA), operated in "slow" response, on the "A" scale, and be calibrated to factory guidelines (including periodic factory recalibration).

**D. Noise Controls**

Eliminate noise sources to the extent possible. Examples of controls that must be considered follow:

1. Addition or replacement of mufflers on motorized equipment.
2. Addition of mufflers to air exhausts on pneumatic equipment.
3. Following equipment maintenance procedures to lubricate dry bearings.
4. Isolation of loud equipment with newer and quieter models.

**E. Audiometric Exams**

**1. Tests**

Details on the medical surveillance program (including audiometric testing) are included in SMS 24.

Audiometric tests shall be performed by a person meeting OSHA's 1910.95 (g)(3)'s definition. Within 6 months of an employee's first exposure at or above the action level, a valid baseline audiogram shall be established against which subsequent audiograms can be compared. Testing to establish a baseline audiogram shall be preceded by 14 hours without exposure to noise. Hearing protectors may be used as a substitute for the requirement that

## **URS** SAFETY MANAGEMENT STANDARD Noise and Hearing Conservation

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baseline audiogram shall be preceded by 14 hours without exposure to workplace noise. The medical surveillance provider shall notify employees of the need to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination. For multi-year projects, an annual audiogram shall be obtained for each employee exposed at or above an 8-hour time-weighted average of 85 decibels.

Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if there is a standard threshold shift (STS). If the annual audiogram shows that an employee has suffered a standard threshold shift, the employer will obtain a retest within 30 days and consider the results in assessing an STS as the annual audiogram. The audiologist, otolaryngologist, or physician shall review problem audiograms and shall determine whether there is a need for further evaluation. If an STS has occurred, the medical surveillance provider will notify the employee within 21 days of the determination.

### 2. Standard Threshold Shifts

If an employee's test results show a confirmed STS, their hearing protection will be evaluated and refitted, and a medical evaluation may be required.

### F. Training

Verify that each employee who must work in a noisy environment is current on the required Hearing Conservation Training. Training must include the following topics:

1. The effects of noise on hearing.
2. The purpose of hearing protectors.
3. The advantages and disadvantages of various types of hearing protectors.
4. The attenuation of various types of hearing protection.
5. The selection, fitting, care, and use of hearing protectors.
6. The purpose of audiometric testing.

## **URS SAFETY MANAGEMENT STANDARD**

### **Noise and Hearing Conservation**

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7. An explanation of the audiometric testing procedure.

#### **5. Documentation Summary**

A. File these records in the Office Safety Filing System:

1. Noise surveys, when applicable.
2. Training Records.

B. File noise surveys, when applicable, in the Project Safety File:

#### **6. Resources**

- A. U.S. OSHA Standard – Occupational noise exposure – 29 CFR 1910.95
- B. U.S. OSHA Construction Standard – Occupational noise exposure – 29 CFR 1926.52
- C. U.S. OSHA Technical Links - Noise and Hearing Conservation
- D. American Industrial Hygiene Association: The Occupational Environment – Its Evaluation and Control, Chapter 20. Fairfax, VA: 1997
- E. National Hearing Conservation Association web site
- F. URS SMS 24 Medical Screening and Surveillance



# **URS** Safety Management Standard **Personal Protective Equipment**

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## **1. Applicability**

This program applies to URS Corporation laboratory and field operations where the use of Personal Protective equipment (PPE) is warranted. Refer to SMS 42, "Respiratory Protection", for respiratory hazards. Hearing Protection issues are additionally addressed in SMS 26, "Noise and Hearing Conservation."

## **2. Purpose and Scope**

This procedure provides information on recognizing those conditions that require personal protective equipment as well as selecting personal protective equipment for hazardous activities.

## **3. Implementation**

Shop/Lab Locations - Implementation of this program is the responsibility of the Office Manager.

Field Activities - Implementation of this program is the responsibility of the Project Manager.

## **4. Requirements**

- A. Perform hazard assessments for those work activities that are likely to require the use of PPE.
  1. Use Attachment 29-1 to perform the assessment.
  2. Reevaluate completed hazard assessments when the job changes.
- B. Eliminate the hazards identified in Attachment 29-1, if possible, through engineering or administrative controls.
- C. Select PPE that will protect employees if hazards cannot be eliminated.
  1. See Attachment 29-1 for recommended PPE.
  2. Review Material Safety Data Sheets for chemicals used for PPE recommendations.
  3. If needed, consult with the URS Health and Safety Representative for assistance in selecting PPE.

## **URS** Safety Management Standard **Personal Protective Equipment**

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- D. Provide required PPE to employees free of charge (excluding in some instances components of standard work attire such as steel-toed boots), assuring that it fits properly giving them a choice if more than one type is available.
- E. Whenever a hazard is recognized, and PPE is required, the employees will be provided with the appropriate PPE. However, when a PPE is not required, and the employee selects to wear his or her own PPE, the project manager shall ensure that the employee is properly trained in the fitting, donning, doffing, cleaning, and maintenance of his or her employee owned equipment.
- F. Conduct and document employee training.
  - 1. Train all employees who are required to wear PPE.
  - 2. Require that training includes:
    - a. When PPE is necessary to be worn.
    - b. What PPE is necessary.
    - c. How to properly don, doff, adjust and wear PPE.
    - d. Limitations of PPE
    - e. Proper care, maintenance, useful life and disposal of PPE.
  - 3. Training must be conducted before PPE is assigned.
  - 4. Refresher training is needed when:
    - a. New types of PPE are assigned to the worker.
    - b. Worker cannot demonstrate competency in PPE use.
  - 5. Keep written records of the employees trained and type of training provided, including the date of training.
- G. Maintain Protective Equipment
  - 1. Check personal protective equipment for damage, cracks, and wear prior to each use. Replace or repair equipment not found in good condition.

## **URS** Safety Management Standard **Personal Protective Equipment**

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2. Wash off contaminated protective equipment with water and mild soap, if necessary, to prevent degradation of the equipment.
- H. Periodically inspect worksites where employees are using personal protective equipment, using Attachment 29-2.
1. Field activities – inspect work sites at least monthly.
  2. Office locations – inspect work sites semi-annually.

### **5.0 Documentation Summary**

A. Records required in the Project Safety File:

1. Completed Hazard Assessment Certification Forms (Attachment 29-1)
2. Completed Personal Protective Equipment Inspection Sheet (Attachment 29-2)
3. Documentation of employee training.

B. Records required in the Laboratory Safety Filing System:

1. Completed Hazard Assessment Certification Forms (Attachment 29-1)
2. Completed Personal Protective Equipment Inspection Sheet (Attachment 29-2)
3. Documentation of employee training.

### **6.0 Resources**

- A. U.S. OSHA Standards - Personal Protective Equipment -29CFR 1910 Subpart I  
(<http://www.osha-slc.gov/SLTC/lead/index.html>)
- B. U.S. OSHA Construction Standard - Personal Protective Equipment –29 CFR 1926 Subpart E  
([http://www.osha-slc.gov/OshStd\\_toc/OSHA\\_Std\\_toc\\_1926\\_SUBPART\\_E.html](http://www.osha-slc.gov/OshStd_toc/OSHA_Std_toc_1926_SUBPART_E.html))
- C. U.S. OSHA Technical Links - Personal Protective Equipment  
(<http://www.osha-slc.gov/SLTC/personalprotectiveequipment/index.html>)

**URS** Safety Management Standard  
**Personal Protective Equipment**

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- D. Australian Standards SAA HB9-1994 - Occupational Personal Protection
- E. American National Standards Institute, ANSI Z89.1-1986, Protective Headwear  
([http://www.ansi.org/cat\\_top.html](http://www.ansi.org/cat_top.html))
- F. American National Standards Institute, ANSI Z87.1 - 1989, Eye and Face Protection  
([http://www.ansi.org/cat\\_top.html](http://www.ansi.org/cat_top.html))
- G. American National Standards Institute, ANSI Z41.1 - 1991, Foot Protection  
([http://www.ansi.org/cat\\_top.html](http://www.ansi.org/cat_top.html))
- H. SMS 40 - Fall Protection
- I. Attachment 29-1 Hazard Assessment Form
- J. Attachment 29-2 PPE Inspection Form

**URS Corporation**URS Corporation Health & Safety Program  
HAZARD ASSESSMENT CERTIFICATION FORM

Location: \_\_\_\_\_

Job No: \_\_\_\_\_

Date : \_\_\_\_\_ Assessment Conducted by: \_\_\_\_\_

Specific tasks performed at this location: \_\_\_\_\_

Are any of the following present during the task?		No	Yes (Hazard Present)	Eliminate Hazard or Use Following PPE
<b>Overhead Hazards</b>				
1.	Suspended loads that could fall			Hard hat, ANSI Class A, B
2.	Overhead beams or load that could strike head			Hard hat, ANSI Class A, B
3.	Energized wires or equipment that could strike head			Hard hat, ANSI Class B
4.	Employees working above at an elevated site who could drop objects on others below			Hard hat, ANSI Class A, B
5.	Sharp objects or corners at head level			Hard hat, ANSI Class A, B or C
<b>Eye Hazards</b>				
6.	Chemical splashes or irritating mists			Chemical protective goggles See Attachment 29-3
7.	Excessive dust			Safety glasses or impact goggles
8.	Smoke & fumes			Chemical protective goggles
9.	Welding operations			See Attachment 29-3 and 29 T-1
10.	Lasers/optical radiation			See Attachment 29-3 and Reference F
11.	Projectiles			See Attachment 29-3
12.	Sawing, cutting, chipping, grinding			See Attachment 29-3
<b>Face Hazards</b>				
13.	Chemical splashes or irritating mists			Face shield if chemical is irritating to the skin or is corrosive. See Attachment 29-3
14.	Welding operations			See Attachment 29-3 and 29-T1
15.	Projectiles			See Attachment 29-3 and face shield
<b>Hand Hazards</b>				
16.	Chemical exposure			Use resistant gloves as recommended by manufacturer - See Best Chemrest Guide
17.	Sharp edges, splinters, etc.			Leather gloves

Location : \_\_\_\_\_ Job No: \_\_\_\_\_

Are any of the following present during the task?		No	Yes (Hazard Present)	Eliminate Hazard or Use Following PPE
18.	Temperature extremes - heat			Leather gloves; hot mill gloves; Kevlar gloves, welders' gloves
19.	Temperature extremes - cold			Leather gloves; insulated gloves
20.	Blood, fungus			Nitrile gloves
21.	Exposure to live electrical current			Electrical gloves - See Reference H
22.	Sharp tools, machine parts, etc.			Leather gloves, kevlar gloves
23.	Material handling			Leather gloves
<b>Foot Hazards</b>				
24.	Heavy materials (greater than 50 pounds) handled by employees			Safety shoes or boots
25.	Potential to crush whole foot			Safety shoes or boots with metatarsal guard
26.	Sharp edges or points - puncture risk			Safety shoes or boots
27.	Exposure to electrical wires			Safety shoes or boots with electrical protection
28.	Unusually slippery conditions			Rubber soled boots or grips
29.	Chemical contamination			Rubber, nitrile boots or boot covers
30.	Wet conditions			Rubber boots or boot covers
31.	Construction/demolition			Safety shoes or boots with metatarsal guard if who foot crushing hazard exists.
<b>Fall Hazards</b>				
32.	Elevations above 6 feet without guardrails			Full body harness, ANSI A-10.14 - 1991 - See Reference G
33.	Suspended scaffolds, boatswain's chairs, float scaffolds, suspended staging.			ANSI Type II - full body harness - See Reference G
34.	Working in trees			ANSI Type I full body harness - See Reference G
35.	Working in vehicle mounted, elevating work platforms (bucket trucks, pin-on platforms, etc.)			ANSI Type II full body harness - see Reference G
<b>Water Hazards</b>				
36.	Working on or above water where drowning hazards exist			U.S. Coast Guard approved personal flotation device, Type I, II, or III PFD
<b>Excessive Heat or Flame</b>				
37.	Full body chemical protective clothing in temperatures greater than 80 degrees			Cooling vest
38.	Work around molten metal or flame			Nomex or kevlar clothing

Location : \_\_\_\_\_ Job No: \_\_\_\_\_

<i>Are any of the following present during the task?</i>		No	Yes (Hazard Present)	Eliminate Hazard or Use Following PPE
39.	Welding activities			Welding leathers for those areas that are exposed to flame, spark or molten metal
<b>Respiratory Hazards</b>				
40.	See SMS for RESPIRATORY PROTECTION for selection guidance			
<b>Excessive Noise</b>				
41.	Exposure to noise			Ear plugs or muffs
<b>Body and Leg Protection</b>				
42.	Chemical exposure			Have local DMG H&S representative assist you in proper selection
43.	Using chainsaw, cutting brush			Chainsaw chaps

*I certify that the above inspection was performed to the best of my knowledge and ability, based on the hazards present on \_\_\_\_\_.*

\_\_\_\_\_  
Signature

**URS Corporation**

**URS Corporation Health & Safety Program  
PERSONAL PROTECTIVE EQUIPMENT INSPECTION SHEET**

Date Inspected: \_\_\_\_\_ Name of Inspector: \_\_\_\_\_

		True	False (= Hazard - Needs to be fixed)
<b>Hard Hats</b>			
1.	The brim or shell does not show signs of exposure and excessive wear, loss of surface gloss, chalking or flaking.		
2.	Suspension system in hard hat does not show signs of deterioration including cracking, tearing or fraying.		
3.	The brim or shell is not cracked, perforated or deformed.		
4.	Employees use hard hats in marked areas.		
5.	Hard hat areas are marked.		
<b>Safety Shoes</b>			
6.	Safety shoes used by employees do not show signs of excessive wear.		
7.	Safety shoe required areas are marked.		
<b>Work Gloves</b>			
8.	Gloves are worn when needed.		
9.	Gloves do not show signs of excessive wear such as cracks, scrapes or lacerations, thinning or discoloration or break through to the skin.		
<b>Protective Clothing</b>			
10.	Protective clothing is worn by employees when required.		
<b>Hearing Protection</b>			
11.	Noise hazardous areas are marked.		
12.	Employees are using earplugs or muffs when using noise hazardous equipment or working in noise hazardous areas.		
<b>Safety Glasses</b>			
13.	Eye hazardous areas are marked or posted.		
14.	Employees use safety glasses when working in eye hazardous areas or working with eye hazardous equipment.		

**REMARKS**


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# **URS SAFETY MANAGEMENT STANDARD**

## **Utility Clearances And Isolation**

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### **1. Applicability**

This procedure applies to URS projects where personnel may encounter subsurface or overhead utilities.

### **2. Purpose and Scope**

Many field activities are conducted near aboveground and underground utilities. The primary purpose of this Standard is to establish operating requirements that will permit employees to work safely in the vicinity of electrical, natural gas, fuel, water, and other utility systems and installations. The secondary purpose is to prevent economic damage to utility systems from operations associated with project-related activities.

The term "utility clearance" includes

- A. The positive locating of utility systems in or near the work area.
- B. A signed statement by an appropriate representative attesting to the location of underground utilities and/or the positive de-energizing (including lockout) and testing of electrical utilities.

Note that in some cases, utility representatives may deem it appropriate or necessary to use insulating blankets to isolate a power line; this is an acceptable alternative to positive de-energizing (only utility representatives can make the determination).

"Contact" with overhead power lines is considered to occur when equipment is closer to power lines than permitted by the criteria in the table in Section 4.0.C.2.b below. (See note for U.K. operations).

### **3. Implementation**

Field Operations - Implementation of this procedure is the responsibility of the Project Manager.

### **4. Requirements**

#### **A. Time for Completion**

Complete utility clearances prior to the start of any work in the area of the utility that could feasibly result in contact with or damage to that utility.

#### **B. Local Regulations**

# **URS** SAFETY MANAGEMENT STANDARD

## **Utility Clearances And Isolation**

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Research local codes and regulations regarding utility locating and isolation requirements. Utility companies and locating services are among the appropriate resources.

### C. Overhead Power Lines

#### 1. Proximity to Power Lines

No work is to be conducted within 50 feet (15 meters) of overhead power lines without first contacting the utility company to determine the voltage of the system. No aspect of any piece of equipment is to be operated within 50 feet (15 meters) of overhead power lines without first making this determination.

#### 2. Operations adjacent to overhead power lines are **PROHIBITED** unless one of the following conditions is satisfied:

- a. Power has been shut off, positive means (such as lockout) have been taken to prevent the lines from being energized, lines have been tested to confirm the outage, and the utility company has provided a signed certification of the outage.
- b. The minimum clearance from energized overhead lines is as shown in the table below, or the equipment will be repositioned and blocked so that no part, including cables, can come within the minimum clearances shown in the table.

<b>MINIMUM DISTANCES FROM POWERLINES</b>	
<b>Powerlines Nominal System kV</b>	<b>Minimum Required Distance</b>
0-50	10 feet (3 meters)
51-100	12 feet (3.6 meters)
101-200	15 feet (4.6 meters)
201-300	20 feet (6.1 meters)
301-500	25 feet (7.6 meters)
501-750	35 feet (10.7 meters)
751-1000	45 feet (13.7 meters)

Note: for U.K. operations, the specific safe distance is determined by the utility company.

- c. The power line(s) has been isolated through the use of insulating blankets which have been properly placed by the utility. If insulating blankets are used, the utility will determine

## **URS SAFETY MANAGEMENT STANDARD**

### **Utility Clearances And Isolation**

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the minimum safe operating distance; get this determination in writing with the utility representative's signature.

3. All inquiries regarding electric utilities must be made in writing and a written confirmation of the outage/isolation must be received by the Project Manager prior to the start of work.

#### **D. Underground Utilities**

1. Do not begin subsurface work (e.g., trenching, excavation, drilling, etc.) until a check for underground utilities and similar obstructions has been conducted. The use of as-built drawings must be confirmed with additional geophysical or other survey.
2. Contact utility companies or the state/regional utility protection service at least two (2) working days prior to excavation activities to advise of the proposed work, and ask them to establish the location of the utility underground installations prior to the start of actual excavation.
3. Obtain utility clearances for subsurface work on both public and private property. Clearances are to be in writing, signed by the party conducting the clearance.
4. Protect and preserve the markings of approximate locations of facilities until the markings are no longer required for safe and proper excavations. If the markings of utility locations are destroyed or removed before excavation commences or is completed, the Project Manager must notify the utility company or utility protection service to inform them that the markings have been destroyed.
5. Do not conduct mechanical-assisted subsurface work (e.g., powered drill rig, mechanical excavator, etc.) within five (5) feet (1.5 meters) of a confirmed or suspected utility or other subsurface structure. Confirm minimum distances for mechanical-assisted subsurface work with the utility owner, as distances beyond this five foot minimum may be required.
6. Subsurface work within five feet (1.5 meters) of a confirmed or suspected utility or other subsurface structure must be done by hand (e.g., hand auger, shovel) to the point where the obstruction is visually located and exposed. Once the obstruction location is confirmed in this manner, mechanical-assisted work may commence.

## **URS SAFETY MANAGEMENT STANDARD**

### **Utility Clearances And Isolation**

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7. Reference SMS 13, "Excavation Safety" for additional information regarding subsurface operations.

#### **E. Training**

Conduct a site briefing for site employees regarding the hazards associated with working near the utilities and the means by which the operation will maintain a safe working environment. Detail the method used to isolate the utility and the hazards presented by breaching the isolation.

#### **5. Documentation Summary**

File these records in the Safety Filing System:

1. Documents requesting utility clearance.
2. Documents confirming utility clearance.
3. Training/briefing documentation of each isolation.

#### **6. Resources**

1. Utility Locating Services (typically under "Utility" in the Yellow Pages)
2. NIOSH Alert - Preventing Electrocutions from Contact Between Cranes and Power Lines  
(<http://www.cdc.gov/niosh/crane.html>)
3. One Call Utility Locating List  
(<http://www.underspace.com/refs/ocdir.htm>)
4. National Utility Locating Contractor's Association  
(<http://www.underspace.com/nu/index.htm>)
5. U.K. - Health and Safety Executive GS6

# **URS SAFETY MANAGEMENT STANDARD**

## **Injury / Illness / Incident Reporting**

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### **1. Applicability**

This procedure applies to URS Corporation offices and field operations.

### **2. Purpose and Scope**

The purpose of this procedure is to provide guidance for the timely reporting of work related injuries, illness, and incidents.

### **3. Implementation**

Office Locations - Implementation of this program is the responsibility of the employee's Supervisor.

Field Activities - Implementation of this program is the responsibility of the Project Manager.

### **4. Requirements**

A. Reporting: All employees shall immediately notify their appropriate level of management (line, project, and/or office) of a reportable incident. A reportable incident includes the following:

1. An injury to any URS employee, subcontractor, client representative, or private citizen, even if the injury does not require medical attention;
2. An injury to a member of the public occurring on a URS work site or possibly resulting from a URS or subcontractor activity or involving URS or subcontractor property, equipment, or resource;
3. Illness resulting from suspected chemical exposure;
4. Chronic or re-occurring conditions such as back pain or cumulative trauma disorders (example: carpal tunnel syndrome);
5. Fire, explosion, or flash;
6. Any vehicle accidents occurring on site, while traveling to or from client locations, or with any company-owned or leased vehicle;
7. Property damage resulting from any URS or subcontractor activity;
8. Structural collapse or potential structural hazards;

**URS SAFETY MANAGEMENT STANDARD**  
**Injury / Illness / Incident Reporting**

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9. Unexpected release or imminent release of a hazardous material;
10. Unexpected chemical exposures to workers or the public;
11. A safety related complaint from the public regarding URS activities.
12. Any other significant occurrence that could impact safety.

B. Actions: The following actions will be taken following a reportable incident:

1. Employees:

- a. If necessary, suspend operations and secure and/or evacuate the area;
- b. Immediately notify your supervisor and/or project manager
- c. Record information pertaining to the incident (e.g., time, date, location, name and company of person(s) involved, description of event, and actions taken);
- d. Assist with incident investigation as directed by management;
- e. Implement corrective actions as directed by management;
- f. *Do not* discuss the incident with members of the news media or legal representatives (except URS legal counsel or your personal legal advisor) unless directed to do so by URS management;
- g. *Do not* make statements pertaining to guilt, fault, or liability.

2. Line/Project Management:

- a. Review circumstances of the incident with applicable employee(s);
- b. Notify local Health and Safety representative. If incident involves and an injury/illness of a URS employee, also notify the local Human Resources Representative;
- c. Complete and distribute injury/incident report within 24 hours. (Note: If the employee is unable to complete the

# **URS SAFETY MANAGEMENT STANDARD**

## **Injury / Illness / Incident Reporting**

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report, another company employee, line manager, project manager, or local health and safety representative may complete the report.);

- d. Review and verify that necessary corrective actions are identified and implemented;
- e. Discuss with department or project staff the circumstances surrounding the incident and corrective actions taken.

### **3. Local Health And Safety Representative**

- a. Assist with incident evaluation;
- b. With management, identify cause(s) of incident and identify corrective actions needed to avoid recurrence;
- c. Review injury/incident report for completeness and accuracy;

### **4. Local Human Resources Representative**

- a. Report work-related injuries and illness to worker compensation carrier

(St. Paul Fire and Marine @ 1-800-787-2851);

## **5. Documentation Summary**

A. File these records in the Office Safety File:

- 1. Attachment 49-1 - Incident Report Form
- 2. Maintain OSHA 200 Log.

B. File these records in the Project Health and Safety File

- 1. Attachment 49-1 - Incident Report Form
- 2. Maintain OSHA 200 Log if applicable for Project.

## **6. Resources**

A. U. S. OSHA

B. Attachment 49-1 - Incident Report Form



Health and Safety Program  
**INCIDENT REPORT FORM**

Attachment 49-1

Revised: 10/31/00

**ADMINISTRATIVE INFORMATION:**

URS Division/Company: \_\_\_\_\_

Project Office: \_\_\_\_\_

Project Number: \_\_\_\_\_

Date/Time of Incident: \_\_\_\_\_

Location: \_\_\_\_\_

**FOR INJURIES / ILLNESSES:**

Name of Injured Employee \_\_\_\_\_

Job Title \_\_\_\_\_

Phone Number \_\_\_\_\_ Age \_\_\_\_\_

Sex  Male  Female

See a Doctor?  Yes  No

*If yes, attach a doctor's report.*

**Describe Injury:**

**TYPE OF INCIDENT**  
(Check all applicable items)

- |  |   |   |  |
|--|---|---|--|
| <input type="checkbox"/> Illness         | <input type="checkbox"/> Injury             | <input type="checkbox"/> Fire, Explosion, Flash | <input type="checkbox"/> Unexpected Exposure |
| <input type="checkbox"/> Property Damage | <input type="checkbox"/> Vehicular Accident | <input type="checkbox"/> Other (describe):      |  |

**DESCRIPTION OF INCIDENT:** (Describe the facts contributing to the incident. Identify individuals involved, witnesses, and their affiliations. Attach additional sheets, drawings, or photographs as needed.)





Health and Safety Program  
**INCIDENT REPORT FORM**

Attachment 49-1

Revised: 10/31/00

**ADMINISTRATIVE INFORMATION:**

URS Division/Company: \_\_\_\_\_  
 Project Office: \_\_\_\_\_  
 Project Number: \_\_\_\_\_  
 Date/Time of Incident: \_\_\_\_\_  
 Location: \_\_\_\_\_

**FOR INJURIES / ILLNESSES:**

Name of Injured Employee \_\_\_\_\_  
 Job Title \_\_\_\_\_  
 Phone Number \_\_\_\_\_ Age \_\_\_\_\_  
 Sex                     Male                     Female  
 See a Doctor?                     Yes                     No  
*If yes, attach a doctor's report.*

**Describe Injury:**

<b>TYPE OF INCIDENT</b> (Check all applicable items)			
<input type="checkbox"/> Illness	<input type="checkbox"/> Injury	<input type="checkbox"/> Fire, Explosion, Flash	<input type="checkbox"/> Unexpected Exposure
<input type="checkbox"/> Property Damage	<input type="checkbox"/> Vehicular Accident	<input type="checkbox"/> Other (describe):	

**DESCRIPTION OF INCIDENT:** (Describe the facts contributing to the incident. Identify individuals involved, witnesses, and their affiliations. Attach additional sheets, drawings, or photographs as needed.)



Health and Safety Program  
**INCIDENT REPORT FORM**

Attachment 49-1

Revised: 10/31/00

**PREPARED BY:**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Reporter must deliver this report to the operating unit health and safety representative within 24 hours of the reported incident for medical treatment cases and within 5 days for other incidents.

**REVIEWED BY:**

\_\_\_\_\_  
Supervisor Date

\_\_\_\_\_  
Health and Safety Representative Date

**DISTRIBUTION:**

- Division Health and Safety Manager
- Project File
- Occupational Health Specialist (Fax 512-419-6013)
- Local Human Resources (Injury / Illness cases only)

**CORRECTIVE ACTONS** *(For Internal Use Only):*

# **URS SAFETY MANAGEMENT STANDARD**

## **Drilling Safety Guidelines**

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### **1. Applicability**

This program applies to URS projects in which truck-mounted, or other engine powered, drill rigs are used. It is applicable to URS employees and URS owned rigs. For drill rigs operated by contractors, the primary responsibility for drilling safety is with the drilling contractor.

### **2. Purpose and Scope**

The purpose of these guidelines is to provide an overview for working safely around drilling operations with truck-mounted and other engine-powered drill rigs. The procedure addresses off-road movement of drill rigs, overhead and buried utilities, use of augers, rotary and core drilling, and other drilling operations and activities.

### **3. Implementation**

**Field Activities** Drill rig safety and maintenance is the responsibility of the drill rig operator. URS employees are responsible for their own safety including recognizing and avoiding drill rig hazards. URS employees that observe a drill rig condition believed to be unsafe shall advise the drill rig operator of the unsafe condition.

### **4. Safety Guidelines**

#### **A. General Guidelines**

URS technicians, geologists, engineers, or other field staff assigned to observe drilling operations or collect soil samples should observe the following guidelines:

- Require a meeting at project start-up regarding the drill rig operator responsibility for rig safety and any site and equipment specific safety requirements
- Set up any sample tables and general work areas for the URS field staff to the side of the drill rig (preferably 10 meters away) and not directly behind the rig.
- URS engineers, technician, and geologists shall not assist the drillers with the drilling equipment or supplies and shall not at any time operate the drill rig controls.

#### **B. Movement of Drill Rigs**

Before moving a rig, the operator must do the following:

## **URS SAFETY MANAGEMENT STANDARD**

### **Drilling Safety Guidelines**

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- To the extent practical, walk the planned route of travel and inspect it for depressions, gullies, ruts, and other obstacles.
- Check the brakes of the truck/carrier, especially if the terrain along the route of travel is rough or sloped.
- Discharge all passengers before moving on rough or steep terrain.
- Engage the front axle (on 4x4, 6x6, etc. vehicles) before traversing rough or steep terrain.

Driving drill rigs along the sides of hills or embankments should be avoided; however, if side-hill travel becomes necessary, the operator must conservatively evaluate the ability of the rig to remain upright while on the hill or embankment. The possibility must be considered that the presence of drilling tools on the rig may reduce the ability of the rig to remain upright (raises the center of mass of the rig).

Logs, ditches, road curbs, and other long and horizontal obstacles should be normally approached and driven over squarely, not at an angle.

When close lateral or overhead clearance is encountered, the driver of the rig should be guided by another person on the ground.

Loads on the drill rig and truck must be properly stored while the truck is moving, and the mast must be in the fully lowered position.

After the rig has been positioned to begin drilling, all brakes and/or locks must be set before drilling begins. If the rig is positioned on a steep grade and leveling of the ground is impossible or impractical, the wheel of the transport vehicle should be blocked and other means of preventing the rig from moving or topping over employed.

#### **C. Buried and Overhead Utilities**

The location of overhead and buried utility lines must be determined before drilling begins, and the locations should be noted on boring plans and/or assignment sheets.

When overhead power lines are close by, the drill rig mast should not be raised unless the distance between the rig and the nearest power line is at least 20 feet (7 meters) or other distance as required by local ordinances, whichever is greater. The drill rig operator or assistant should walk completely around the rig to make sure that proper distance exists.

When the drill rig is positioned near an overhead line, the rig operator should be aware that hoist lines and power lines can be moved towards each other by wind. When necessary and approved by the Project

## **URS SAFETY MANAGEMENT STANDARD**

### **Drilling Safety Guidelines**

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Manager (PM), the utility and/or power lines may be shielded, shut down, or moved by the appropriate personnel.

For additional information, please refer to SMS #34 "Utility Clearances and Isolation".

#### **D. Clearing the Work Area**

Before a drill rig is positioned to drill, the area on which the rig is to be positioned should be cleared of removable obstacles and the rig should be leveled if sloped. The cleared/leveled area should be large enough to accommodate the rig and supplies.

#### **E. Safe Use of Augers**

Never place hands or fingers under the bottom of an auger flight or drill rods when hoisting the augers or rods over the top of another auger or rod in the ground or other hard surfaces, such as the drill rig platform.

Never allow feet to get under the auger or drill rod while they are being hoisted.

When the drill is rotating, stay clear of the drill string and other rotating components of the drill rig. Never reach behind or around a rotating auger for any reason.

Move auger cuttings away from the auger with a long-handled shovel or spade; never use hands or feet.

Never clean an auger attached to the drill rig unless the transmission is in neutral or the engine is off, and the auger has stopped rotating.

Do not wear loose clothing or jewelry while working near the drill rig. Long hair must be pulled back to avoid entanglement with moving parts.

Hearing protection is required when working near an operating drill rig.

#### **F. Safe Use of Hand Tools**

Regulations regarding hand tools should be observed in addition to the guidelines provided below:

- Each tool should be used only to perform tasks for which it was originally designed.
- Damaged tools should be repaired before use or discarded.
- Safety goggles or glasses should be worn when using a hammer or chisel. Nearby co-workers and by-standers should be required to wear safety goggles or glasses also, or move away.

## **URS SAFETY MANAGEMENT STANDARD**

### **Drilling Safety Guidelines**

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- Tools should be kept cleaned and stored in an orderly manner when not in use.

#### **G. Safe use of Wire Line Hoists, Wire Rope, and Hoisting Hardware**

Safety rules described in Title 29 Code of Federal Regulations (CFR) 1926.552 and guidelines contained in the Wire Rope User's Manual published by the American Iron and Steel Institute shall be used whenever wire line hoists, wire rope, or hoisting hardware are used. The driller should provide written reports (upon request) documenting inspections of equipment.

#### **H. Traffic Safety**

Drilling in streets, parking lots or other areas of vehicular traffic requires definition of the work zones with cones, warning tape, etc. and compliance with local police requirements.

#### **I. Fire Safety**

- Fire extinguishers (type ABC) shall be kept on or near drill rigs for fighting small fires.
- If methane or other flammable gases or vapors are suspected in the area, a combustible gas indicator (CGI) shall be used to monitor the air near the borehole with all work to stop at 20 percent of the Lower Explosive Limit (LEL).
- Work shall stop during lightning storms.

#### **J. Protective Gear**

##### **1. Minimum Protective Gear**

Items listed below should be worn by all staff working within 30 feet (10 meters) of drilling activities.

- Hearing Protection;
- Hard Hat;
- Eye Protection (safety glasses, goggles, or face-shield)
- Safety Shoes (shoes or boots with steel toes)

# **URS SAFETY MANAGEMENT STANDARD**

## **Drilling Safety Guidelines**

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### **2. Other Gear**

Items listed below should be worn when conditions warrant their use. Some of the conditions are listed after each item.

- **Safety Harnesses and Lifelines:** Safety harnesses and lifelines shall be worn by all persons working on top of an elevated derrick beam or mast. The lifeline should be secured at a position that will allow a person to fall no more than six feet (2 meters). OSHA Fall Protection (1926 Subpart M) requirements apply.
- **Life Vests:** Use for work over water.

### **5. Resources**

- A. International Association of Drilling Contractors Safety Alerts  
<http://iadc.org/alerts.htm>
- B. Fall Protection - SMS 040
- C. Hearing Conservation - SMS 026
- D. Subcontractor Health and Safety Requirements - SMS - 046
- E. Utility Clearances and Isolation - SMS 034

# **URS** SAFETY MANAGEMENT STANDARD

## **Vehicle Safety Program**

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### **1. Applicability**

This procedure applies to URS Corporation domestic U.S. operations.

### **2. Purpose and Scope**

The purpose of this procedure is to reduce the risk of injury to URS employees and control liability related to vehicle accidents.

This SMS applies to employees operating motor vehicles that are owned, rented or leased by the Company, and the use of personal vehicles while on company business.

This SMS does not apply to heavy equipment operations (see SMS 019).

### **3. Implementation**

The overall responsibility for program implementation is with the URS Health and Safety Director. Other responsibilities include:

Administration - Fleet management, vehicle acquisition, insurance, claims reporting, controlling access to vehicles, maintenance of vehicles, participating on accident review committee.

Human Resources - Documentation of driver's license, discipline.

Health and Safety - Employee safety training, maintenance of the vehicle safety program, participation on the accident review committee.

Employee - Familiarization with URS Vehicle Safety Program, compliance with its requirements.

### **4. Requirements**

#### **A. Authorized Drivers**

1. Authorized Drivers are those individuals permitted to drive URS owned, leased, or rented vehicles. Employees that only operate rental cars obtained on a daily basis through URS National Service Agreements are not required to be designated as Authorized Drivers.
2. Must be at least 18 (non-commercial license) or 21 (commercial license) years of age and have a current driver's license for the appropriate class of vehicle (unless more stringent requirements are established by the leasing/renting agency).
3. Human Resources and Office Administrators requires new employees and current employees (on an annual basis), designated as Authorized Drivers, to provide a copy of their driver's license. Authorized drivers who lose their license through legal action must notify their Human Resources



**URS** SAFETY MANAGEMENT STANDARD  
**Vehicle Safety Program**

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Representative immediately. The Human Resources Representative will notify the Fleet Manager.

4. The Company may suspend the privilege to operate vehicles on Company business due to non-compliance with the URS Vehicle Safety Program, involvement in a motor vehicle accident, or motor vehicle violations.
5. Authorized drivers must review the Vehicle Safety Program (SMS 057) and sign the Drivers Information form (Attachment 57-2).
6. Non-URS employees (e.g., subcontractors, alliance partners) may operate URS vehicles only when this activity is specifically agreed to in the applicable contract.

**B. Training**

1. Authorized Drivers shall be provided basic driver safety training, including a review of the URS Vehicle Safety Program (SMS 057) and video or on-line training, within 6 months of the effective date of this SMS or within 3 months of their hire date.
2. The Accident Review Committee may require additional training for select employees based on accident involvement.

**C. General Operating Policy and Procedure (Applies to Authorized and Non-Authorized Drivers Operating Motor Vehicles on Official Company Business)**

1. Company owned/rented/leased motor vehicles may be operated only by properly licensed employees who are specifically authorized to drive company vehicles.
2. Authorized drivers required to operate vehicles with special hazards (i.e. trucks carrying fuel cells, vehicles used to tow trailers, vehicles with limited visibility, etc.) shall be thoroughly briefed on the hazards and control measures necessary for safe operation of the vehicle. The local office shall maintain documentation of the briefing.
3. Drivers/operators shall know and obey all federal, state and local motor vehicle laws applicable to the operation of their vehicle.
4. A driver shall not permit unauthorized persons to operate a Company-owned/rented/leased vehicle.
5. URS policy regarding reimbursement and insurance coverage requirements for use of personal automobiles may be found in the Policy and Procedures Manual (Section 074.020).
6. Cell phone use while driving requires use of a hands-free device (e.g., headset or speakerphone), the vehicle must be stopped when the operator performs an activity that requires diverting attention from the operation of the vehicle (i.e. dialing calls).

**URS** SAFETY MANAGEMENT STANDARD  
**Vehicle Safety Program**

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7. Company owned/rented/leased vehicles are for official business use only and are not to be used for personal activities.
8. Seat belts and shoulder harnesses (occupant restraint systems) shall be worn or used whenever the vehicle is in operation. The vehicle may not move until all passengers have fastened their restraints.
9. When parking or leaving a vehicle, the following procedures must be followed: Shut off the engine, engage the transmission in park (automatic transmission) or first gear (standard transmission), set the parking brake, remove the ignition keys, and lock the vehicle.
10. The vehicle's engine is to be turned off during refueling. Smoking or cell phone use is not allowed while refueling.
11. Drivers/operators will not drive or operate vehicles while under the influence of alcohol or illegal drugs. Further details on the URS Substance Abuse Policy may be found in the Policy and Procedure Manual (section 034.030).
12. Drivers/operators will not drive or operate vehicles while under the influence of medications when told by a physician, another healthcare provider, or the manufacturer (i.e. instructions on the label) that the activity is unsafe.
13. Vehicle operators are responsible for any fines levied by law enforcement agencies for the operation of their vehicles.
14. Articles, tools, equipment, etc. placed in vehicles shall be stored as not to interfere with vision or the proper operation of the vehicle in any way. This also includes preventing items from flying about or out of the vehicle during sudden stops, turning, etc.
15. Trucks or vehicles with obstructed rear-view mirrors must observe the following procedures when backing up: Position an employee to act as a spotter at the rear of the vehicles, in the driver's line of sight, to ensure that the area behind the truck is clear. If no other employee is present, then the driver must step out of the vehicle and check the area behind the vehicle before backing up. As an added precaution, avoid backing up whenever possible.
16. Driver/operators may not deactivate or muffle any backup warning device.
17. All cargo extending 4 feet or more beyond the end of a truck, trailer or similar vehicle shall be clearly marked with a red warning flag or cloth measuring no less than 16 inches square. Red lights must be used at night.

**D. Field Site Vehicle Safety**

1. Define specific vehicle travel routes and parking areas at field sites. Use fencing, cones or other markings to define roads and parking.
2. If parking on the shoulder of an active road, park as far off the road as possible.

**URS** SAFETY MANAGEMENT STANDARD  
**Vehicle Safety Program**

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3. If work is required alongside an active road (e.g., surveying) park the vehicle behind the area of work to provide a barrier against out-of-control vehicles.
4. URS will not transport DOT-placard quantities of hazardous materials. However, small quantities of hazardous materials (e.g., sample coolers) may be transported if properly packaged. Be careful to prevent chemical contamination of the vehicle. Further details on DOT shipping may be found in the DOT Shipping SMS 048.
5. Nuclear density meters (e.g., Troxler units) may be transported only by employees who have been trained in the use of nuclear density meters (see SMS 044). Nuclear density meters must be secured from movement and locked during transport. NRC and state-specific regulations regarding transport documentation also apply.
6. When performing fieldwork requiring the blocking of traffic lanes (e.g., bridge inspection), follow URS SMS 032, the Manual on Uniform Traffic Control Devices for Streets and Highways (ANSI D6.1) and local police requirements for barriers, cones, and flaggers.
7. No employee may ride in the bed of a pickup truck unless seating and restraints are provided for this specific use.

**E. Accident Response and Reporting**

1. In case of injury, call or have someone else call, 9 1 1 immediately for emergency assistance. If you are involved in an accident and are not injured, do the following:
  - a. Protect the accident scene
  - b. Do not admit liability or place any blame for the accident
  - c. Provide only your name, address, driver's license number, and vehicle insurance information.
  - d. Obtain the following:
    - i. name(s), addresses, and telephone number(s) of the owner
    - ii. driver and occupants of other vehicle(s)
    - iii. the owner's insurance company
    - iv. driver's license number
    - v. year, make, model and license number of the vehicle(s)
    - vi. name(s) and addresses of any witnesses
  - e. **DO NOT:**
    - Call the insurance company; the Fleet Manger's office will do this (unless the incident involves your personal vehicle)
    - Give a statement to the press

**URS** SAFETY MANAGEMENT STANDARD  
**Vehicle Safety Program**

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- Give a signed statement to the claims adjuster representing the other driver's insurance company

**NOTE:** The Auto Claim Report (Attachment 57-1) for Company-leased or owned vehicles is located in the vehicle glove compartment. The driver must complete this form at the scene of the accident and submit it to management.

2. Notification

All accidents with a Company-leased, rented, or owned vehicle must be reported to your Office/Branch Manager/Supervisor and Fleet Manager within 24-hours of the time it occurs. Use the Auto Claim Report (Attachment 57-1) for this purpose. The Fleet Administrator will report the accident to the insurance carrier (leased and owned vehicles only) within 48 hours of when it occurred.

F. Accident Review Committee

1. The Fleet Manager will review all accidents involving URS-owned, rented or leased vehicles. Accidents involving any of the following will result in immediate disciplinary action in coordination with Human Resources:
  - a. Driving under the influence of alcohol or illegal drugs
  - b. Reckless driving
  - c. Driving without a license
  - d. Hit-and-run driving
  - e. Repeat accidents involving the same employee,
  - f. Unauthorized use of company vehicles.
2. Disciplinary action includes possible:
  - a. Loss of URS driving privileges
  - b. Additional driver safety training
  - c. Suspension without pay
  - d. Termination
3. The Accident Review Committee will review those accidents referred by the Fleet Manager or by employees appealing disciplinary action.
4. The Accident Review Committee will include one representative from each of the following:
  - a. Corporate Administration
  - b. Corporate Health and Safety
  - c. Corporate Human Resources
  - d. Operations

**URS** SAFETY MANAGEMENT STANDARD  
**Vehicle Safety Program**

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G. Inspection

1. The driver is responsible for inspecting the vehicle prior to use and not driving a vehicle with obvious safety defects.
2. Basic safety checks must include:
  - a. Tire condition/pressure
  - b. Lights/turn signals
  - c. A clean windshield and adequate window washer fluid
  - d. Gauges/warning lights indicating a normal condition
  - e. Mirrors properly adjusted
  - f. Brakes with adequate pedal pressure for proper braking
3. Any defects must be reported to the local office Fleet Representative/Office Administrator.

H. Vehicle Maintenance

1. The Office Administrator (or designee) is to ensure that all URS-leased/owned vehicles are properly maintained.
2. Routine maintenance must be performed in accordance the schedule provided in the owner's manual stored in the vehicle.
3. Reported defects/problems with vehicles must be repaired promptly.

**5. Documentation Summary**

- A. Auto Claim Report - (Attachment SMS 57-1)
- B. Driver's Information - (Attachment SMS-57-2)

**6. References**

The following sites provide additional information to assist you:

- A. National Safety Council; Information on Defensive Driving Courses  
<http://www.nsc.org/psg/ddc.htm>
- B. AAA Foundation for Traffic Safety  
<http://www.aaafoundation.org/>

**Policy**

All Company employees who operate a vehicle on company business must comply with the URS Vehicle Safety Program (SMS 57).

**License**

I authorize URS or its agents to verify any driving information necessary to determine if I meet the Acceptable Driving Criteria, as established in the Safety Program, and the requirements of Section 391.23 of the Federal Motor Carrier Safety Regulations.

I agree to notify URS Administration immediately if my driver's license is suspended or revoked.

*Please Print Legibly*

Name \_\_\_\_\_ Social Security Number \_\_\_\_\_

License Number \_\_\_\_\_ State \_\_\_\_\_ Class \_\_\_\_\_

Employee Signature \_\_\_\_\_ Date \_\_\_\_\_

If you, the prospective employee, do not have a current valid driver's license, withhold the above information, or do not meet the Company's Acceptable Driving Criteria, you will not be allowed to drive any Company vehicles or to drive your own vehicle on Company business.

(Attach the applicant's driver's license to this space and photocopy this sheet. All information on the license must be legible after photocopying.)



## DRIVERS INFORMATION

Attachment 57-2

### Policy

All Company employees who operate a vehicle on company business must comply with the URS Vehicle Safety Program (SMS 57).

### License

I authorize URS or its agents to verify any driving information necessary to determine if I meet the Acceptable Driving Criteria, as established in the Safety Program, and the requirements of Section 391.23 of the Federal Motor Carrier Safety Regulations.

I agree to notify URS Administration immediately if my driver's license is suspended or revoked.

*Please Print Legibly*

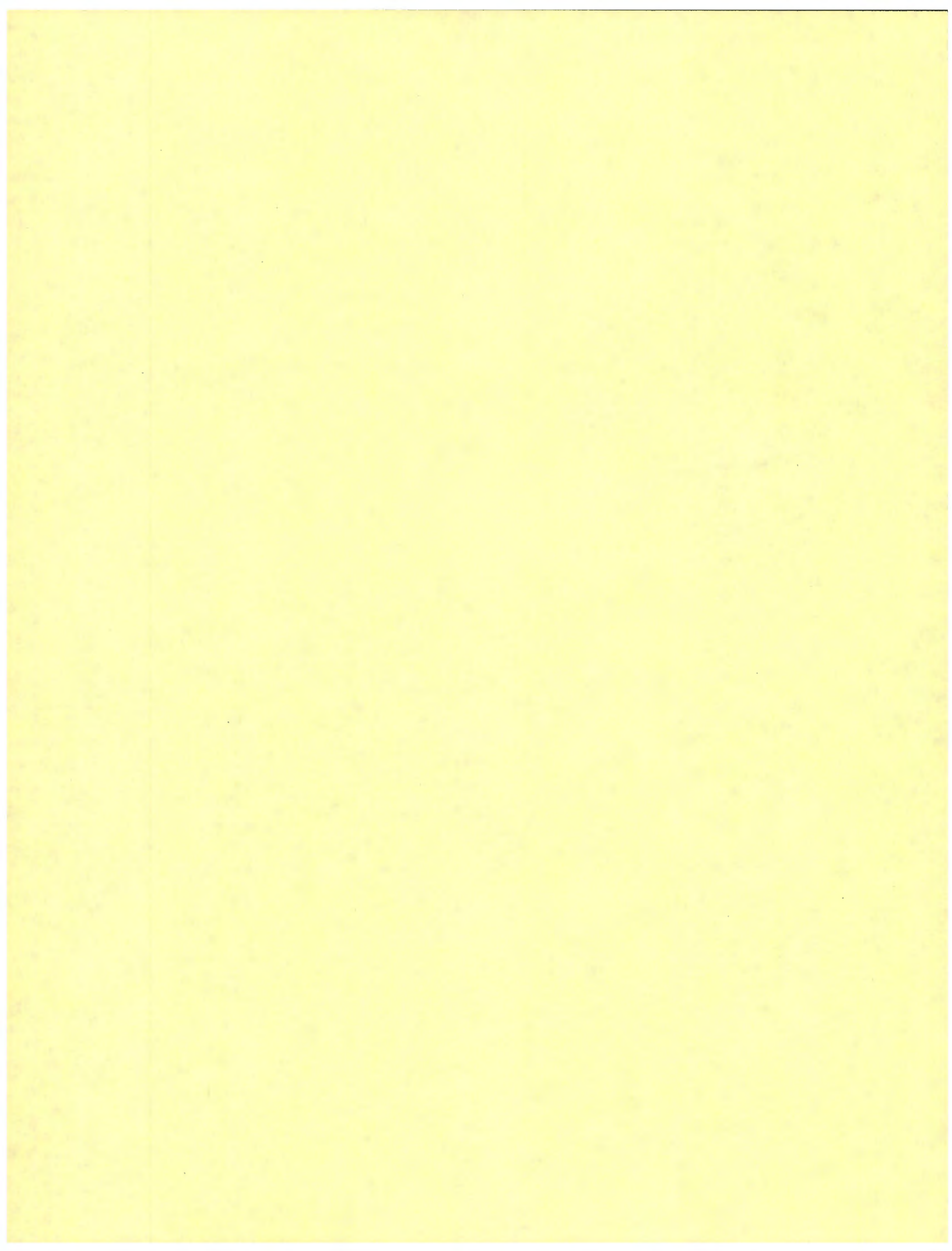
Name \_\_\_\_\_ Social Security Number \_\_\_\_\_

License Number \_\_\_\_\_ State \_\_\_\_\_ Class \_\_\_\_\_

Employee Signature \_\_\_\_\_ Date \_\_\_\_\_

If you, the prospective employee, do not have a current valid driver's license, withhold the above information, or do not meet the Company's Acceptable Driving Criteria, you will not be allowed to drive any Company vehicles or to drive your own vehicle on Company business.

(Attach the applicant's driver's license to this space and photocopy this sheet. All information on the license must be legible after photocopying.)





**Appendix B**  
**Underground Service Alert Information**

## **UNDERGROUND SERVICE ALERT (USA)**

California state law (Assembly Bill No. 73 on file in the library) **requires** that Underground Service Alert (USA) be contacted at 1-800-422-4133 or 1-800-227-2600 at least two working days and not more than ten working days prior to commencement of any soil boring or excavation work. Civil penalties of up to \$50,000 may be imposed on those who knowingly and willfully violate this law.

USA will inform its subscribers (utility companies) which have underground utilities in the project area, and those individual companies will send their representative to the project site to check the locations of field activities. The locations of field activities should be marked with white paint according to the attached "Marking Guidelines" brochure prior to the company representatives' site visits. The USA operator will need the following information:

- Exact location of project site, including street address and nearest cross street
- Thomas Brothers Guide page number and grid number
- Type of work
- Client name
- Company name (Woodward-Clyde) and contact person (give a primary contact and a back-up)
- Other pertinent instructions (such as site access)

The USA operator will verbally provide a ticket number and list of companies that USA will notify. The ticket number is valid for 14 days from the time of the call and may be extended by notifying a USA operator. This information should be recorded for future reference. It should be noted that current California law does not require Caltrans and agencies which operate nonpressurized sewer lines, nonpressurized storm drains, or other nonpressurized drain lines to be registered with USA. Therefore, USA cannot provide information regarding **all** underground lines and structures. Local water and sanitation agencies (both city and county) should also be contacted. In addition, the USA companies do not have maps of underground utilities at most private properties; they

typically mark the underground utility location to the point where it enters the private property.

Often, utility representatives call us to inquire about the project, but the contact person is unavailable (often because he is on a field assignment). Much effort is wasted attempting to respond to the utility because a back-up contact person has not been designated. To avoid unexpected charges to the project and to assure adherence to the project schedule, it is important to designate a back-up contact person.

If necessary, a list of USA members with addresses, telephone numbers, and contact names located within your project area may be obtained by sending a check for \$25, along with the site street address and Thomas Guide page and grid numbers, to:

**Underground Service Alert  
3030 Saturn Street, Suite 200  
Brea, CA 92621  
(714) 528-3423**

The following suggestions apply to cases where all practical precautions regarding utility locations have been exhausted and there is still concern of possible conflicts:

1. Obtain verbal or written approval from the list of companies supplied by USA.
2. Pot-hole the upper few feet in areas of concern.
3. Solicit the services of an outside utility locating company such as:

**Underground Technologies Incorporated (UTI)  
1080 Batavia, Unit N  
Orange, CA 92667  
(714) 288-9420  
\$95 (to show up) + \$50/hour**

**DIGALERT**



## **Marking Guidelines**

### **How to Delineate a Prospective Excavation Site**

**Call Before You Dig . . .  
At Least Two Working Days.  
1-800-227-2600**

**or  
1-800-422-4133**



## How to Delineate a Prospective Excavation Site

*This marking guide provides for uniform marking of the area to be excavated with white paint in paved surfaces, or in unpaved areas with other suitable markings such as stakes or flags.*

### White Paint Marking

In the case of a single excavation of known dimensions and location, delineate the exact area to be excavated with white paint through the use of dots or dashes, or a continuous solid line. Limit the size of each dash to 6 inches in length and 1 inch in width, with interval spacing not less than 48 inches between each dash. When using a solid line, limit its width to 1 inch. In either case, excavators must insure that their white paint marks cannot be misinterpreted as a traffic or pedestrian control.

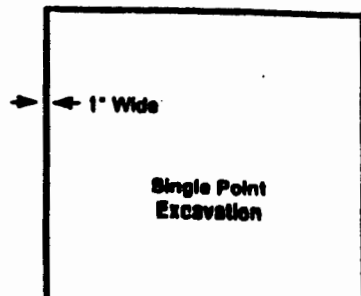
In the case of numerous excavations or one long, continuous excavation, mark the center line of the excavation with arrows showing the direction of the excavation. Mark lateral excavation with an arrow



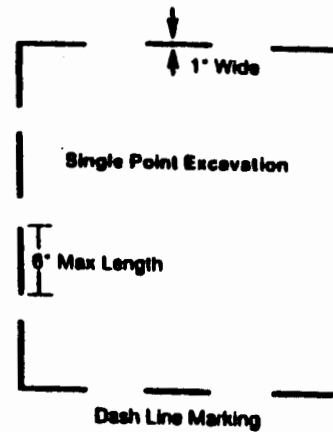
Single Point Excavation



Four Corner Marking



Single Point Excavation



showing direction from the center line with an additional mark at the curb of property line. Limit the size of each arrow to 6 inches in length and 1 inch in width, with interval spacing not less than 48 inches between each arrow. When calling the regional notification center for locating, give the width of the excavation in number of feet either side of the center line of lateral marks.

The marked area of excavation should be identified by the name, initials or logo, in white paint, of the company planning to conduct the excavation.

Delineate the area to be excavated before calling the regional notification center. If this is impractical due to permit requirements or other restrictions, notify the center of the exact date and time the excavation will be delineated. This will assist the operators of subsurface installations in scheduling their field marking.

All excavators are reminded that premarking is a requirement of the California Code of Regulations, Section 4216 and 4217. Failure to premark when practical can jeopardize your permit, or result in civil penalties. If premarking is not practical, the excavator shall contact the regional notification center to advise the operators that the excavator shall identify the area to be excavated in another manner sufficient to

