Health and Safety Plan
for
University of Washington
Project Title, Project Number

Company Name
Address
Telephone Number
1. INTRODUCTION

This Health and Safety Plan (HASP) establishes responsibilities, protective measures, safe work practices, and emergency procedures for personnel and subcontractors during the University of Washington vault repair work.

The project scope includes the repair of a utility vault and restoration of the project site.

All personnel involved in site activities must comply with this HASP as well as the FCCC Corporate Health and Safety Program (APP), and all applicable State of Washington safety and health regulations. If site conditions change, revisions to this HASP may be expected. All changes must be approved by the Project Superintendent and the Corporate Safety Director (CSD).

This HASP will be made available to all personnel and their subcontractors prior to site visits and project work. A copy of the plan will be available at the job site. All FCCC field personnel and subcontractors will be required to sign an acknowledgement stating that they have read, are familiar with, and will adhere to standard operating safety procedures and any additional instructions and information contained in this HASP and linked documents.

All aspects of the HASP will be applicable to subcontractors whose activities may affect the safety of workers underground. Direct communication and coordination will be through the Site Superintendent.

This HASP will have an effective date commencing with its approval by the CSD and will extend until the completion of the project.

2. PURPOSE

Construction work by its very nature is hazardous. Thus, every possible precaution will be taken to minimize safety and health hazards. This HASP contains the general guidelines to be followed during vault repair operations. All applicable State, City, Corporate, and Contractual regulations will be followed.

3. PROJECT ORGANIZATION

This plan has been prepared by the Corporate Safety Director, personnel responsible for implementing and monitoring of the plan will be

A Site Health and Safety Coordinator (HSC) will be present on-site whenever personnel are working. The Superintendent will direct and advise the HSC in the implementation of the Health and Safety Plan. The Project Foreman, HSC, and CSD are responsible for enforcing the health and safety requirements.

Project Manager (PM) –
The Project Manager will:
- Ensure that all onsite workers have received the appropriate level of health and safety training.
- Ensure that all onsite workers meet the required qualifications for site work.
- Ensure that all standard operating procedures are followed at all times.
- Address any unusual problems or conditions that may be encountered onsite.
- Maintain a current list of all workers on the site.
- Report any exposure that is at or above the PEL to the CSD.

Project Foreman/Health and Safety Coordinator (HSC) —

The HSC will:
- Walk the work site at the beginning of each shift to ensure that excavation barriers and other signage are in place.
- Periodically monitor the work environment for health and safety hazards.
- Record observations and instrument readings in a daily log, which shall be maintained at the FCCC project office.
- Investigate all accidents/illnesses.
- Oversee the proper use and maintenance of personal protective equipment.
- Be present at health and safety meetings and assist in topic selection and discussion.
- Report any unsafe conditions to the CSD and PM.

Corporate Safety Director (CSD) —

- Write the Health and Safety Plan.
- Conduct specialized training.
- Determine the need for personal and area monitoring as appropriate.
- Be available for consultation on any unsafe conditions that may be present on site.
- Be available for emergencies and assist the HSC in post-incident analysis.

Site Workers (including all employees and subcontractors)

- Read and follow the HASP.
- Complete the required training.
- Report any accidents/illnesses, unsafe conditions, or any unusual situation to the HSC.
- Check all personal safety equipment prior to entering a restricted area to assure that the equipment is in good working order.
- Maintain personal protective equipment as required.
- Avoid horseplay, fighting or other actions that could injure other workers by direct contact or through distraction from potential site hazards.

HASP Availability

This HASP will be made available to any contractor, subcontractor, or their representatives who will be involved with any operations covered by the HASP and to the personnel of federal, state, or local agencies with regulatory authority over the project.
4. **SCOPE OF WORK**

This project may consist of removal of soil, shoring, and soldier piling in order to repair the vault followed by pavement and sidewalk restoration. A complete description of all work included in the project may be found in the project specifications.

5. **SITE DESCRIPTION**

The project worksite is located on the University of Washington Campus at the Southeast corner of Cowlitz Street and Adams Lane in Seattle Washington.

6. **CONSTRUCTION SAFETY REQUIREMENTS**

6.1 **Traffic Control**

Signage, barriers and cones will be strategically placed in order to protect pedestrians, bikers and vehicles. All site workers and visitors will wear ANSI-approved high visibility vests.

6.2 **Excavation/Sloping**

Vault/excavation hazards include moving machinery, overhead loads, falling debris, falls from heights, and confined spaces. The hazards of moving machinery may be mitigated through employee awareness of moving machinery through backup alarms, and horn signaling when moving overhead load, operator awareness, and wearing high visibility traffic vests when onsite. Site workers are not to stand under overhead loads. Excavation of soil will be conducted through the use of a vac-truck. No shoring or benching will be required as the soil will be sloped. All supplies will be kept a minimum of two feet from the edge of the vault access grate. Employees will be protected from falls when working at heights greater than six feet through guardrails, barriers or fall protection devices. No site worker will enter a confined space unless they follow the APP confined space entry procedures.

6.3 **Confined Spaces**

Vaults may create a confined space environment due to depth and limited means of egress. As long as access/egress can be maintained by ladders or stairs and adequate ventilation is present, the space will be considered a non-permit confined space due to the lack of hazards that are immediately dangerous to life or health, such as low oxygen or hazardous atmosphere. The status of the vault in relation to the confined space permit requirements will be evaluated on a daily basis by the HSC and will follow the **Confined Space Program**.

6.4 **Heavy Equipment**

The hazards of heavy equipment may be mitigated through employee awareness of moving machinery through backup alarms, and horn signaling when moving overhead loads, operator awareness, and by wearing high visibility traffic vests.
6.5 Crane Safety/Hoisting

Cranes shall be equipped with a limit switch to prevent over-travel at the boom tip. Limit switches are to be used only to limit travel of loads when operational controls malfunction and shall not be used as a substitute for other operational controls. Materials, tools, and supplies being raised or lowered, shall be secured or stacked in a manner to prevent the load from shifting, snagging, or falling. An audible warning shall be given to employees at the excavation bottom whenever a load is above the excavation or the load is being moved into the excavation.

Cranes will be annually inspected by a certified inspector. A daily inspection will be conducted by the crane operator and documented using a crane inspection checklist.

6.6 Air Monitoring

The HSC will assess site conditions and tasks being performed, using observation and direct reading instruments to determine the need for personal monitoring and appropriate locations and interval for personal monitoring. At the beginning of the project or any new task, air monitoring will be conducted by the HSC, Foreman or designated competent person to assess airborne contaminants in the active work areas of the site or monitor personnel to determine if hazardous conditions or exposures exist. Additional general or personal monitoring will be performed following any alarm condition and as a response to a worker complaint regarding potential exposure.

6.7 Personal Protective Equipment

All site workers are required to wear workboots, hardhat, and high visibility vest while onsite. Work gloves, hearing protection and safety glasses are provided for all tasks that require their use. Specific PPE requirements for welding and confined space entry are detailed in the APP.

6.8 Access and Egress

A qualified supervisor shall examine the vault at the start of each shift and identify any safety concerns.

All access and egress shall be provided and maintained in such a manner that employees are protected from being struck by excavators, haulage machines, and vehicular traffic.

A designated person shall be on duty above ground whenever any employee is working underground. This designated person shall be responsible for securing immediate aid and keeping an accurate account of the number, identification, and location of employees who are underground in case of emergency. Control of access to all openings shall be provided to prevent unauthorized entry underground. Access to unattended underground openings shall be tightly covered, bulk-headed, or fenced off and posted. Subsidence areas that present hazards shall be fenced off.
6.9 Communications

When natural unassisted voice communication is ineffective, a power-assisted means of communication will be utilized. A battery powered intercom system or radio will be used to provide communication between the bottom of the vault and the surface. Direct communications for coordination of activities with other employers whose operations at the jobsite affect or may affect the safety of employees underground shall be established and maintained.

Communication systems shall be tested upon initial entry of each shift to the underground, and as often as necessary at later times to ensure that they are in working order.

Any employee working alone underground who is both out of the range of natural unassisted voice communication and not under observation by other persons, shall be provided with an effective means of obtaining assistance in an emergency.

6.10 Ventilation

If natural ventilation does not provide an adequate air supply, then, fresh air shall be supplied to all underground work areas in sufficient quantities to prevent dangerous or harmful accumulation of dust, fumes, mists, vapors, or gases. Air that has passed through underground oil- or fuel-storage areas shall not be used to ventilate working areas.

6.11 Fire Prevention and Control

Open flames and fires are prohibited in all underground construction operations except as permitted for welding, cutting, and other hot work operations.

Smoking may be allowed only in areas free of fire and explosions hazards. Readily visible signs prohibiting smoking and open flames shall be posted in areas having fire or explosions hazards.

Flammable liquids, gasoline or liquefied petroleum gases shall not be taken stored or used underground. Oils and grease, stored underground, shall be kept in tightly sealed containers. Flammable or combustible materials shall not be stored above ground within 100 feet of any access opening to any underground operation. No propane, propylene, butane, isobutane, or butylenes shall be stored inside buildings. Leaks and spills of flammable or combustible fluids shall be cleaned up immediately.

6.12 Welding, Cutting, and Other Hot Work

Fire control equipment must be easily accessible for each welding, cutting, or burning operation. Appropriate welding goggles or hoods shall be used. Fire extinguishers will be maintained in proper operational condition.

No more than the amount of fuel gas and oxygen cylinders necessary to perform welding, cutting or other hot work during the next 24-hour period shall be permitted underground.
Noncombustible barriers shall be installed below welding, cutting, or other hot work being done in or over an excavation.

6.13 Flood Control

Dewatering pumps will be installed in the vault if needed. The pumps will be sized and placed so that water seeping into the vault is adequately controlled.

7 GENERAL HEALTH & SAFETY REQUIREMENTS

7.1 Training

Training will be provided by Supervisors, including the HSC. The training will be provided prior to the start of work for existing employees and soon after hire for new employees. Training will be conducted using this HASP, and the APP. Because employees vary in their knowledge and experience, the total duration or use training will depend on the needs of the specific employees. As a minimum, the requirements containing in this safety plan will be covered. The training will be documented by signature.

All employees shall be instructed in the recognition and avoidance of hazards associated with underground construction activities including, where appropriate, the following subjects:

- Ventilation and air monitoring
- Illumination
- Confined space entry procedures – permit and non-permit
- Communications
- Flood Control
- Mechanical equipment
- Personal protective equipment including hardhats, eye protection, hearing protection, and special requirements.
- Fire Prevention and protection
- Emergency procedures

7.2 Personal Protective Equipment

To reduce the potential for injuries or detrimental effects on health to all employees, which are not controllable by engineering or administrative means, the use of personal protective equipment for protection from identified hazards will be mandatory under the following conditions:

- Where required by law.
- Where exposure to the hazard has the potential for injury or illness to an employee.

7.2.1 Eye and Face Protection

The use of safety glasses or face shields is mandatory where there is exposure to a work process that has been identified as a hazard with the potential for injury to the
eyes or face. Examples include the use of chainsaws and power tools. Safety glasses or face shields must conform to the American National Standards Institute (ANSI), Standard for Occupational and Educational Eye and Face Protection, Z87.1.

7.2.2 Hearing Protection

The use of hearing protection will be mandatory where workplace daily noise levels exist with the possibility that employees receive exposure in excess of the allowable noise as set forth in the hearing conservation program, the APP for this project and the WISHA exposure limit of 85 dBA. Hearing protection is available and will be worn during work activities as deemed necessary by the HSC.

7.2.3 Head Protection

Hardhats are required in all construction areas. The head protection devices will meet the specifications contained in the ANSI Z80.1, Requirements for Industrial Head Protection.

Hardhats for the protection of employees exposed to high voltage electrical shock and burns will meet the specifications contained in ANSI Z89.2.

7.2.4 Slips, Trips and Falls

While it is difficult to prevent slip-trip-fall hazards, injuries can be prevented by proper site control measures and by keeping the work area free of obstructions. Ladders will be set up on conspicuously firm, clean, and level surfaces. WISHA requirements will be followed whenever a ladder is used including securing the ladder at the top and extending the top of the ladder 3 feet past the top, maintaining the proper 1:4 ratio when using an extension ladder, and using the proper ladder for the job.

7.2.5 Respirator Protection Program

The use of respiratory protection is not anticipated during this project. If respiratory protection becomes necessary then the Respiratory Protection Program located in the APP will be implemented. This program will ensure the proper use, selection, maintenance, and training required for the protection of the employees on this project.

7.2.6 Foot Protection

Sturdy work boots are required of all personnel on the project. Safety toe boots are encouraged, rubber boots are provided for wet locations. Tennis shoes, and sandals are prohibited.

7.3 Fall Protection Systems

Whenever a potential fall hazard exists, fall restraint or fall arrest systems will be provided,
installed and their use implemented in accordance with the APP for this project. All site workers will wear fall protection when working at heights greater than 6 feet and when working in manbaskets. All workers must wear a body harness with a lanyard attached to the boom or basket when working from an extendable and articulating boom platform.

7.4 Illumination / Emergency Lighting

The minimum illumination requirement for excavations and general underground work areas shall be three foot-candles. Each employee underground shall have a flashlight in his or her work area for emergency use unless natural light or an emergency lighting system provides adequate illumination for escape.

7.5 Electrical Safety

Electric power lines shall be insulated and located away from water lines, telephone lines, airlines, or other conductive materials such that a damage circuit cannot energize other systems. Lighting circuits shall be located such that movement of personnel or equipment will not damage the circuits or disrupt service.

7.6 Hazard Communication

The use of hazardous chemicals during this project will be minimal. Material Safety Data Sheets (MSDS) will be collected and filed for each hazardous material or chemical that is used on the site. Employees who use these chemicals will be informed of their hazards and trained in the use of the proper PPE and use. MSDS and training records will be kept in the Field Office. Please refer to the APP section entitled Chemical Hazard Communication Program for more policy and procedure. Site workers will be informed of the hazards of contaminant gases that are inherent to underground operations such as hydrogen sulfide, methane, carbon monoxide, carbon dioxide and nitrogen dioxide as part of the site-specific training and air monitoring section of this plan.

7.7 Hazardous Energy Control/Lockout Tagout

Employees shall follow the APP section entitled Lockout/Tagout when servicing machinery and equipment that cannot be unplugged, de-energized, or disconnected. Potential sources of hazardous energy sources include electrical, mechanical, pneumatic, hydraulic, and thermal found on heavy equipment, and electrically powered tools.

7.8 Suspect Material

In the event that work encounters suspect soils or other conditions, work will be promptly suspended. Suspect conditions include oily soils, discolored soils, and soils with chemical odor. The Project Representative will be immediately notified if such a condition is encountered.

7.9 Project Injuries
If an incident occurs where an employee is injured, the employee is required to report the injury to the Superintendent, HSC, Foreman, Human Resources Manager and the Safety Director. Once reported, the injury will be evaluated by the three managers and a determination will be made whether the employee will be allowed to return to work at the project, placed on light duty, or assigned to another job.

All incidents and accidents must be investigated and documented by a Supervisor or HSC using the Accident Investigation Forms.

Minor injuries shall be treated at the nearest occupational health clinic. The closest clinic location to this project is U.S. Health Works located at 1151 Denny Way in Seattle. A map to this clinic is attached to this plan. Major injuries will be handled by the Seattle Fire Department by calling 911.

8. SITE SECURITY

Staging areas will have eight foot high temporary chain link fencing. The gate will be padlocked at the end of each workday.

9. EMERGENCY RESPONSE

9.1 Site Emergencies

In the event of injury, fire or workplace violence, the person most senior will call 911. If a worker is injured, the victim should be protected from further harm, given first aid by a certified provider and kept warm and still until help arrives. The person calling 911 should be able to accurately describe the location of the accident and have someone standing out on the street to flag and direct emergency crews to the scene.

In the event of a fire or natural disaster such as earthquake, all personnel shall leave the site and meet nearby so that all personnel can be accounted for. Personnel who have been trained in fire response may use fire extinguishers to put out small fires. Site workers will not respond to larger fires and will wait for the Seattle Fire Department to respond.

A map to the minor injury clinic and closest hospital as well as emergency telephone numbers is attached to this plan. This attachment shall be posted in the field office and located in the crane cab and key vehicles.

9.2 Contingencies

In the event of unforeseen emergency events, the Superintendent or Site Foreman will act as Incident Commander until relieved.

10. APPROVALS

This Health and Safety Plan is approved by the following individuals:
Acknowledgement of Safety Indoctrination

I, ______________________, attended the safety indoctrination session on
(print name)
________ given by __________________ Construction Company. I affirm that I
(date)
understand the information and will abide by the requirements presented.

________________________
Signature

________________________
Affiliation
UW Vault Fall Protection Work Plan

Refer to WAC 296-155-245 if you have any questions. Post this plan where it can be seen.

Fall Hazards of 10 feet or more:

- Open beam/truss/framework
- Beyond guard rails
- Hanging scaffolding/staging
- Tank/vessel/equipment tops
- Other

Standard scaffolding/staging
Roof edge
Erection/disassembly
Floor opening

Other Hazards:

- Electrical
- Hot surfaces
- Workers overhead
- Water
- Foot traffic below
- Workers below
- Chemical
- Other

Method of protection to be used:

- Guardrail/toe boards
- Harness
- Rope protection
- Parapet wall
- Belt
- Sling/runners
- Safety block
- Life line
- Retractable lanyard
- Fixed lanyard
- Rope grab
- Safety net
- RPD w/Boatswain Chair
- Warning line & monitor (low pitch only)
- Other

Method of access to work area:

- Portable Ladder
- Roof
- Truss/beam
- Fixed Ladder
- Man lift
- Framework
- Scaffolding
- Staging
- Suspended decent
- Other

Method of Material/Tool Handling

- Line
- Tool Belt
- Hoist
- Tool bucket
- Crane
- Designated lifting system
- Material stored at least 10 feet away from edge and no higher than barriers.
- Other

Method of Securing Lanyard/Lines (Minimum 5000 lbs. Holding Force):

- Ladder Side Rail (Secured)
- Structural Workings
- Steel Pipe
- Eye Bolts
- Other

(OVER)
Location of Anchor Points (Describe):  
N/A

Other:
Fall protection equipment inspected prior to use?  
X  Yes  No
Equipment inspected by:  Self
Name of monitor assigned:  None
Has the work plan been reviewed with the persons assigned below?  
X  Yes  No
Barrier set up for overhead hazards when people are working below?  
X  Yes  No

Persons Assigned:


Competent Person:  Date:
EMERGENCY NUMBERS

DIAL 911

PROJECT ADDRESS:
SE Corner of Cowlitz Street and Adams Lane
University of Washington Campus
Seattle, WA 98105

NEAREST HOSPITAL:
University of Washington Medical Center
1959 NE Pacific
Seattle WA 98195
(206) 598-3300

DIRECTIONS TO UW MEDICAL CENTER:
1. Start out on Cowlitz Rd. NE toward Lincoln Way.
2. Turn RIGHT onto Lincoln Way.
3. Turn RIGHT onto Brooklyn Ave. NE.
4. Turn LEFT onto NE Pacific St./NE 38th St.

MAP TO HOSPITAL IS ATTACHED

FIRE AND POLICE: 911

FCCC MAIN OFFICE
OFFICE TELEPHONE NUMBER
Fax

FCCC PROJECT MANAGER -
DIRECT TELEPHONE NUMBER

FCCC PROJECT SUPERINTENDENT -
CELLPHONE NUMBER

FCCC PROJECT FOREMAN -
CELLPHONE NUMBER

FCCC CORPORATE SAFETY DIRECTOR -
DIRECT TELEPHONE NUMBER