Site-Specific Safety Plan

Senate District H
M-16184

MOA Project #14-28 & 14-37

September 2016
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# Safety Policy and Procedures

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Safety Policy and Procedures

1.0 Introduction

1.1 General Information
A Site-Specific Safety Plan is a requirement of the OSHA Standard for Construction 29 CFR 1926. This plan is designed to identify, evaluate, and control health and safety hazards for the purpose of protecting employees. The plan provides for emergency response activities at the jobsite as well as covering site hazard analysis, training requirements, engineering controls, materials handling, and safe construction operations.

This Site-Specific Plan is intended to provide guidance and information in dealing with the hazards that may be faced on the job by Mass Excavation, Inc. (Mass) employees. This plan is a site specific document. Technical, Contract and/or Operational Managers are responsible for ensuring all aspects of employee safety are addressed in this plan. Health and safety personnel are available to assist management with the contents of the plan. The health and safety personnel help ensure the plan complies with all applicable federal, state, and corporate regulations and policy. The Health and Safety Department has final authority for this plan’s contents and provisions.

1.2 Policy
Mass has a strong commitment to providing a safe and productive workplace. To this end Mass seeks to establish policies promoting high standards of employee health and safety while delivering to our customer the highest quality product. In keeping with this commitment Mass intends to maintain a positive Safety Program and a Substance-Abuse Program. Our employees conduct themselves and work in a safe manner with good construction practices.

Effective safety demands cooperation on everyone’s part. It’s important communication is kept open at all times. For this reason, Mass management practices an open-door policy. Employees who notice hazards or other safety problems or feel they need additional training must notify their supervisor. Supervisors and management address these concerns and take corrective action when warranted.
Responsibility for achieving our safety goals belongs to the site superintendent, supervisors, foreman, employees, and the safety office with the support of Mass management. Everyone is obligated to know the safety requirements and standards for their areas or job and abide by them. Supervisors must instill a positive attitude and awareness of the “safety culture” in their workers through personal adherence, training, personal contact, and regularly scheduled safety meetings. It’s the duty of all employees to perform their work with maximum regard for their safety and co-workers’ safety.

Our safety policies are an integral part of the Mass personnel policies. This means compliance with the policies is a condition of employment and must be taken seriously. Failure to comply with the Safety Program and Policy is grounds for disciplinary action up to and including termination.

1.3 Purpose
The purpose of this Site-Specific Safety Plan is to illustrate safety issues specific to the Senate District H jobsite. This site safety plan is consistent with the Safety Program and Policies located in the Mass Corporate Safety Plan.

This plan is intended to maintain a safe work environment and effectively reduce the number of accidents resulting in personal injury, property damage, and damage to Mass equipment.

This policy applies to all Mass employees. By contract, all subcontractors are required to comply with this policy in addition to their own safety program and policy.

This policy complies with applicable local, state, and federal laws concerning safety including 29 CFR 1926 and 29 CFR 1910. In the event a discrepancy exists between this policy and any applicable law, the provisions of that law govern.

This policy is made available in the following ways:

- A copy of this revised policy is made available to each newly hired employee in his/her new hire packet.
- A copy of this revised policy is available in the job site office.
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Site-Specific Safety Plan

- A copy of this revised policy is available upon request to the supervisor.

2.0 Scope of Project

2.1 Scope of the Work
The scope of work consists of SWPPP installation, mobilization, installation of storm water infiltration system including manhole and catch basin replacement. Work scope will also consist of drainage swale, street improvement, concrete curb and gutter replacement, concrete side walk, and asphalt surfacing. Work will also include reconstruct driveways, install signage, and topsoil and seed right of way.

2.2 Site Location
Project Street/Location: North boundary E. Tudor Rd and south boundary E. 46th Ave. and west boundary Folker St. and east boundary Grumman St.

City: Anchorage    State: Alaska    Zip Code: 99507
Borough or Subdivision: Municipality of Anchorage

2.3 Site Access/Traffic
Construction entrances are located off of E. Tudor Rd. using Folker St., Wright St., Piper St., and Grumman St.

2.4 Temporary Facilities
Several pieces of excavation equipment, equipment trailers, de-watering tank and porta-cans.

2.5 Utilities and Power
Generator is used for power and temporary lighting.

3.0 Health and Safety Responsibilities
The effectiveness and success of the safety program depends upon the active participation and cooperation of all employees. Duties and responsibilities of all employees under this policy are the following:

3.1 Safety Coordinator
- Coordinate health and safety training for management and supervisors.
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Site-Specific Safety Plan

- Coordinate monthly supervisor safety meetings.
- Coordinate jobsite safety audits.
- Maintain the jobsite postings and notices required by law.
- Ensure the proper filing of paperwork relating to accidents.
- Participate in post-accident investigations.
- Maintain all records and reports related to this policy.

3.2 Project Manager/Project Engineer
- Prepare the Site-Specific Safety Plan.
- Direct and coordinate health and safety regulations related to his/her area of responsibility.
- Participate in post-accident investigations.
- Assist in formulating policy matters.

3.3 Superintendent/Site Safety Representative
- Be familiar with the health and safety regulations related to area or responsibility.
- Direct and coordinate health and safety activities within area of responsibility.
- Ensure arrangements for prompt medical attention in case of serious injury. These arrangements include, at the very least: transportation, communication, and emergency telephone numbers.
- Ensure all supervised employees use required personal protective equipment (PPE) and safety devices.
• Ensure safety equipment is available, maintained, used, and stored correctly.

• Instruct and train all employees within area of responsibility in job health and safety requirements.

• Direct correction of unsafe conditions.

• Conduct weekly safety meetings.

• In the case of an accident complete the Report of Occupational Injury or Illness.

• Participate in post-accident investigation.

• Review all accidents/incidents with foremen and employees involved. Ensure corrective action is taken immediately to eliminate the cause of the accident.

• Ensure foremen are aware of and comply with requirements for safe practices.

• Require all subcontractors to comply with health and safety regulations as well as Mass Safety Program and Policy.

• Maintain copies of applicable programs and OSHA forms on site, in accordance with Mass practices and policies.

• Implement Mass Safety Program and Policy.

3.4 Foreman/Front Line Supervisor

• Be familiar with, explain, and enforce health and safety regulations applying to Mass operations within areas of responsibility.

• Direct and coordinate health and safety activities within area or responsibility.

• Ensure safety devices and proper PPE are used by employees under supervision.
• Instruct and train all employees within area of responsibility in job health and safety requirements, including (but, not limited to) hazard recognition and avoidance. Also, foreman/front line supervisors must require compliance by employees with the established safety rules.

• Direct the correction of unsafe conditions.

• Ensure safety equipment is available, maintained, used, and stored correctly.

• Ensure injuries are treated promptly and reported properly.

• Participate in post-accident investigations.

• Coordinate daily jobsite inspection.

• Implement Mass Safety Program and Policy.

3.5 All Employees
• Be familiar with and comply with proper health and safety practices.

• Use the required safety devices and proper PPE.

• Notify the supervisor immediately of unsafe conditions/acts, accidents, and injuries.

• Implement the Mass Safety Program and Policy.

3.6 Subcontractors
By contract subcontractors comply with and ensure the compliance of their employees with the provisions of this policy as well as their own safety program. Failure to fulfill this requirement is a failure to meet the conditions of the subcontract.

3.7 Key Personnel
The following Mass personnel are key individuals for this jobsite.

  Project Manager:    Mark Erickson
  Safety Coordinator:  Kirk Waggoner
4.0 General Safety Procedures

4.1 Personal Protective Equipment (PPE)
Mass provides Personal Protective Equipment (PPE) to all employees. Hard hats, safety glasses, reflective vest, and safety work boots are required to be worn at all times when on the jobsite. Exceptions may be made to this PPE requirement only under an approved Mass work plan. Employees learn where to get PPE during their new-hire orientation and are responsible for wearing and maintaining the required PPE. Additional PPE may be required depending on the task and if there’s a potential for exposure to hazardous conditions. PPE requirements are reviewed by the foreman. Employees are expected to use reasonable judgment regarding whether additional PPE (beyond the required) are necessary for certain tasks. If employees are unsure of the type of PPE required for a specific task or job, they should ask the supervisor.

4.2 Equipment Use and Operation
Equipment is used only for its intended use and as recommended by the manufacturer. Using equipment for purposes other than what it’s designed for is prohibited.

Employees are prohibited from operating a vehicle in a reckless manner or at a speed greater than is reasonable and proper, with due regard for weather, traffic, character of roadway, load, type of vehicle, and any other conditions which may affect the safe operation of the vehicle. The vehicle must be kept under control at all times and special care is exercised when transporting personnel. Employees using Mass vehicles must sign and abide by Mass Vehicle Policy.

Employees may only ride equipment if there are seats or equal protection available for each person. Seatbelts are worn at all times while operating equipment with seats. No cell phone or ear bud use while operating equipment.

Equipment Use and Operator Qualification are located in Section 11 of this SSSP binder.
4.3 Repairs
Employees are prohibited from making repairs, alterations, or attachments to equipment in the field except by the permission of the superintendent, foreman, or equipment mechanic. Only qualified personnel will perform repairs on equipment. Such repairs, alterations, or attachments are documented on the appropriate shop forms.

Employees are prohibited from removing a guard, safety device, or appliance from equipment or machinery except to make repairs as described in 4.1 first paragraph. While making repairs, employees use appropriate lockout/tagout procedures. When repairs are complete the guard, safety device, or appliance is replaced immediately.

4.4 Conduct
The following conduct is prohibited and may result in discipline up to and including termination:
♦ Horseplay and scuffling on the job.
♦ Making a false report or misrepresentation.
♦ Fighting.
♦ Violating the prohibitions of the Drug and Alcohol Policy (distributed to each employee in their new-hire packet).
♦ Dishonesty and theft of Mass property.
♦ Deliberate misuse of Mass equipment.
♦ Unnecessary risk taking.
♦ Violating or disobeying any instruction given by a supervisor.

4.5 Policy Violations
Employees committing policy violations other than those addressed in Section 4.0 may be subject to discipline up to and including immediate termination of employment.

4.6 Consequences for Policy Violations
The following consequences apply to all employees found to have violated this policy. Any foreman, supervisor, or official of management, as soon as becoming aware of any such failure, ensures the following action is taken:
Stage 1
A formal verbal warning may be given to the employee by the immediate supervisor, along with a warning that this is the first stage in the disciplinary procedure and any repetition within one month will lead to the second stage in the procedure.

Stage 2
If the offense(s) addressed in Stage 1 is repeated and/or continued or a more serious offense committed, the employee may be given a formal written warning, setting out the details of the offense(s) and stating if the offense(s) is (are) repeated within one month the third stage in this procedure will be invoked. In addition to the written warning the employee is suspended—without pay—for a period of one day. Upon returning to work the employee must undergo additional formal training in the area of the offense(s) before being permitted to work. This is to prevent injury to the employee or co-worker.

Stage 3
If an offense written up under Stage 2 is repeated within three months, the employee may be terminated. An employee so terminated is ineligible for rehire for 24 months.

Depending on circumstances, Mass reserves the right to bypass, duplicate, or alter any stage of the recommended disciplinary procedures described above.

5.0 General Jobsite Procedures

5.1 New-Hire Orientation
New-hire orientation may consist of, but is not limited to, the following:
A. Have the employee read the new-hire packet which includes this policy and the Drug and Alcohol Policy. Answer any questions the new hire may have about these policies and request a signature on the Statement of Understanding.
B. Return all forms to the Mass office as indicated on the first page of the new-hire packet.
C. Orient the employee to the jobsite indicating the location of the Safety Center, SDS book, emergency facilities, portable fire extinguishers, first-aid station, emergency phone numbers, public notices, EEO, and any jobsite specific information.
D. Explain the injury and accident policy.
E. Review the written hazard communication program. Discuss hazards, container labeling, and the use of protective equipment.
F. Explain the emergency response plan for catastrophic events such as fire, explosion, etc.
G. Issue PPE as required for the job.

5.2 Training
Training and education are necessary for the success of this policy. Employees are trained to recognize jobsite hazards and the procedures to follow to minimize these hazards. Training may consist of (but is not limited to) the following:

- Weekly jobsite safety meetings.
- Orientation training for new hires.
- Individual job/task training, including the applicable regulations/standards for the specific job/task.

Supervisors and management receive ongoing safety training throughout the year as organized by the Safety Coordinator and as deemed necessary by Mass owners. Such training includes the maintenance of first-aid and CPR cards.

Training and competent person documents are located in Section 9 of this SSSP binder.

5.3 Safety Meetings
Weekly safety meetings are held on the jobsite. All employees and subcontractors are required to attend. The meetings may cover a range of safety-related topics. The format and content of the meeting is up to the discretion of the superintendent.

Monthly safety meetings are held for all foremen, superintendents, project managers, project engineers, Mass owners, and other management personnel. These meetings are for the purpose of discussing companywide safety issues and providing continued safety training and education.

Safety meeting documents are located in Section 9 of this SSSP binder.

5.4 Safety Inspections
The superintendent and foreman conduct an initial safety inspection at the beginning of each project, following the “Safety Inspection Guide” included in the site-specific safety plan.
In addition, a daily safety inspection of the jobsite is conducted by Mass employees, employees of a subcontractor, or some combination thereof. The inspection is rotated between all workers on the jobsite. Inspection sheets covering different aspects of safety were developed for each day of the week. The sheets are intended as a guide. Any safety concern found during the inspection is reported. If a worker is unclear about any item on the inspection sheet, a Mass foreman or safety officer helps. If the area being inspected requires a competent person\(^1\), the employee conducts the inspection with the competent person. Also, if time allows, the foreman for the worker conducting the inspection is encouraged to walk through it with them.

Safety inspection documents are located in Section 8 of this SSSP binder.

5.5 Hazard Communication
Mass developed a written hazard communication plan. It’s explained to each employee during the new-hire orientation.

This plan is located in the site-specific safety plan appendices and is available upon request to the superintendent. The purpose of the hazard communication plan is to provide employees information on the chemical and physical hazards that may be present at the jobsite.

The Hazard Communication Plan is detailed in Section 7 of this SSSP binder.

5.6 Job Hazard Analysis
A job hazard analysis may be developed covering the major activities of construction, the hazards associated with these activities, and ways to mitigate these hazards.

The Job Hazard Analysis Procedures and forms are detailed in Section 6 of this SSSP binder.

\(^1\) Areas requiring a competent person are hearing protection, rigging, hot work on preservative coatings, scaffolds, fall protection, cranes, hoists, excavations, concrete work requiring lift-slab operations, steel erection, underground construction, demolition, blasting, stairways and ladders, accident prevention responsibility, ionizing radiation, welding and cutting, tunnels and shafts, cussions, cofferdams, compressed air, bolting, riveting, fitting up and planking, lead, mechanical demolition, respiratory protection, slings, electrical, and asbestos.
5.7 **Housekeeping**

Housekeeping is one of the most important factors for a safe jobsite. All unused materials and debris shall be cleared from work areas, passage ways, and stairs. Excess materials are stacked neatly out of the way. Tools should be stored in the tool van so they are available for all employees to use and tool storage areas cleaned on a regular basis.

Foreign object and debris (FOD) is a significant concern in nearby occupied space and construction areas. It’s extremely important to keep all trash and debris contained at this site. Housekeeping will be strictly enforced.

5.8 **Electrical Safety**

Electrical safety may consist of, but is not limited to, the following:

- Live electrical parts are guarded against accidental contact by cabinets, enclosure, location, or guarding.
- All receptacles not part of the permanent wiring of the building are equipped with GFCI receptacles at the temporary service drop.
- Extension cords are kept in safe, working condition.
- All lamps for general illumination have the bulbs protected against breakage. All light sockets are filled with a working bulb.
- Employees will not work in such close (able to contact) proximity to any part of an electric power circuit unless the circuit is de-energized, grounded, or guarded by insulation.
- De-energized equipment or circuits are locked out and tagged out. The tags identify the equipment or circuits being worked on.

5.9 **Tools**

Mass provides tools for employees to use. These tools meet applicable OSHA standards for safety. Only trained employees are allowed to use such tools. The safe use of tools may consist of, but is not limited to the following:

- Unsafe or defective tools are removed from service and tagged out.
- Power tools are turned off and motion stopped before setting down.
- Tools are disconnected from the power source before
changing drills, blades, or bits and before any repair or adjustment is made. Running tools are not left unattended.

- Power saws, table saws, and radial arm saws have operational blade guards installed and used.
- Portable abrasive grinders have guards installed covering the upper and back portions of the abrasive wheel.

5.10 Excavation and Trenches
Excavation and trenching are done in the presence of a competent person and in compliance with, but not limited to, the following procedures:

- Any excavation or trench five feet or more in depth is provided cave-in protection through shoring, sloping, benching, or the use of hydraulic shoring, trench shields, or trench boxes. Trenches less than five feet in depth and showing potential of cave-in are also provided cave-in protection. Specific requirements of each system are dependent upon the soil classification as determined by a competent person.
- A competent person inspects each excavation/trench daily prior to the start of work, after every rainstorm or other hazard increasing occurrence, and as needed throughout the shift.
- An exit is provided in trenches four feet or more. The exit(s) is/are within 25 feet of any employee in the trench.
- Spoil piles and other equipment are kept at least two feet from the edge of the trench or excavation.

The Excavation Plan is detailed in Section 10 of this SSSP binder.

5.11 Confined Space Entry
It is the policy of Mass Excavation to ensure the safety of all personnel during the completion of work in NPCS or PRCS. Company policy establishes the minimum standard for ensuring acceptable entry conditions that will protect all personnel who may enter a confined workspace, which includes compliance with applicable State and Federal safety regulations.

If Confined Space Entry becomes necessary on the project, refer to the Section 15 of this SSSP.
5.12 **Ladders**
Ladders are inspected during the weekly inspections to identify any unsafe conditions. Any ladders found to be unsafe are taken out of service. Extension ladders extend three feet above the work surface and are 100 percent tied off. Step ladders are only used in the open position. Ladders are stored lying down.

5.13 **Illumination**
Construction areas, aisles, stairs, ramps, runways, corridors, offices, shops, and storage areas where work is in progress are lighted with either natural or artificial illumination.

5.14 **Motor Vehicles and Mechanized Equipment**
Vehicles and equipment are only operated by qualified persons (training or experience). The Safety Department maintains equipment training logs. Employees operating Davis-owned vehicles must sign and abide by Mass Vehicle Policy.

All equipment operators are responsible for checking, on a daily basis, all fluid levels, drive and lift components, hydraulics, and back-up alarms. In addition, operators visually inspect the engine and look for structural breaks and cracks on the machine. Any and all deficiencies must be reported to a supervisor immediately. When equipment is stopped or parked, parking brakes are set and other safety precautions are taken as required for the type of equipment, such as placing the bucket on the ground. Keys shall be removed from equipment at the end of each shift.

5.15 **Traffic, Barricades, and Flagging**
The worker/vehicle interface is a recognized hazard. The project must address this exposure by identification of designated walk routes, cross walks, and vehicle access points.

Traffic flow and staging of materials will need to be coordinated to minimize impacts to the project construction activities. Traffic control plans shall be in place before any work in roadway starts. Flaggers used on roadways must be certified and wear proper PPE.

Barricades, flagging, and/or fencing shall be installed at open excavations, paths, and trails leading into the job and must be removed by the group completing the work as soon as it is safe to do so.
5.16 **Severe Weather**
Outside construction operations including, but not limited to, steel erection, site work, and concrete work are suspended if severe wind or rain conditions present safety hazards at the worksite. Ice and snow hazards are evaluated and appropriate measures taken to abate potential hazards.

5.17 **Accidents**
All accidents and near misses must be reported immediately to the foreman or superintendent. An accident report is then filled out by the employee and the supervisor. Filling out an accident report does not require the delay of medical attention. Any injury is treated first. Employees file such reports without fear of reprisal by management.

The accident or incident may be discussed at weekly safety meetings or in the Safety Alert to talk about how to avoid that sort of accident in the future.

Accident Prevention and Investigation Procedures and documents are located in **Section 5** of this SSSP binder.

5.18 **First Aid**
First-aid kits are available in the project office, at the safety center and other locations as indicated during orientation. In addition, foremen and superintendents maintain current first-aid and CPR cards.

5.19 **Fire Protection**
Mass maintains one or more fire extinguishers (rated not less than 2A) every 3000 square feet of building area, or every 100 feet. In multi-story buildings one or more fire extinguishers rated not less that 2A are provided on each floor and adjacent to the stairway(s). All trucks and equipment are fitted with portable fire extinguishers. Employees are instructed on the location and usage of these fire extinguishers. Emergency telephone numbers for fire protection and emergency medical services are posted on the field office bulletin board.

The Fire Prevention Plan is located in **Section 3** of this SSSP binder.
5.20 Emergency Action Plan
Each jobsite develops an emergency action plan that’s reviewed with each employee during orientation. The emergency action plan covers emergency escape procedures, procedures followed by employees remaining to operate critical operations before they evacuate, procedures to account for all employees, rescue and medical duties, and how to report emergencies.

The Emergency Action Plan is located in Section 3 of this SSSP binder.

5.21 Environmental Protection and Spill Control
All equipment using hydraulic hoses and cylinders are inspected on a regular basis and furnished with absorbent pads and other spill recovery materials to mitigate discharges to the environment in case of equipment failure. All workers will be trained on measures to control and prevent accidental discharge during storage and transfer. Any onsite storage is in approved containers. Absorbent pads and other recovery equipment is available to contain and recover any fuel accidentally spilled. Any spills and contaminated soils are cleaned and disposed of in accordance with applicable requirements of the State of Alaska Department of Environmental Conservation and the US Environmental Protection Agency.

The Environmental Protection Plan is located in Section 4 of this SSSP binder.

6.0 Safety Program and Policy Limitations
The provisions in this policy reflect decisions made by management and are not required to be approved by employees. It’s impossible to anticipate every circumstance or question about policy and include them all in this safety program and policy. Also, as time goes by, the need for revisions will arise and Mass reserves the right to revise, supplement, or rescind any portion of this policy at its discretion at any time with or without notice.

This revised policy replaces all prior Mass safety procedures and policies. To avoid confusion, please discard superseded copies.
# District H Road Rehabilitation and Drainage Improvement

**EMERGENCY PHONE NUMBERS**

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<td>267-4950</td>
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<tr>
<td>786-8500</td>
<td>ANCHORAGE POLICE DEPARTMENT</td>
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<tr>
<td>800 222-1222</td>
<td>STATE OF ALASKA POISON CONTROL</td>
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<tr>
<td>800 424-8802</td>
<td>SPILL RESPONSE (NRC)</td>
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<tr>
<td>800 478-9300</td>
<td>ADEC</td>
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<tr>
<td>269-7500</td>
<td>HAZARD MATERIALS EMERGENCY RESPONSE TEAM</td>
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<tr>
<td>TBD</td>
<td>DAVIS JOBSITE OFFICE</td>
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<tr>
<td>727-5290</td>
<td>DAVIS SUPERINTENDENT (CELL) - Randy Wooten</td>
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<tr>
<td>952-3816</td>
<td>SAFETY CORDINATOR (CELL) - Kirk Waggoner</td>
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<tr>
<td>632-7025</td>
<td>DAVIS PROJECT MANAGER (CELL) - Mark Erickson</td>
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Emergency Action, Evacuation, and Fire Plan

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1.0 Introduction
The purpose of this Emergency Action Plan (EAP) is to ensure employee safety from fire and other emergencies. This document demonstrates compliance with 29 CFR 1910.38. This document also provides details for actions and procedures in case of an emergency.

At the time of an emergency, employees should know what type of evacuation is necessary and what their role is in carrying out the plan. In some cases where the emergency is grave, total and immediate evacuation of all employees is necessary. In other emergencies, a partial evacuation of non-essential employees with a delayed evacuation of others may be necessary. In some cases, only employees in the immediate area of a fire are evacuated or moved to a safe area, such as when a local application of a fire suppression system discharge sounds the employee alarm. Employees must know what’s expected of them in all emergency possibilities. This plan contains required employee information.

2.0 Types of Emergency Evacuations
At this location, the following types of emergencies exist:

- Fire
- Earthquake
- Building collapse
- Other emergency

3.0 Employee Training
All employees are trained in safe evacuation procedures and refresher training is conducted whenever the employee’s responsibilities or designated actions under the plan change and whenever the plan changes. In addition, the employer must review with each employee upon initial assignment the parts of the plan which the employee must know to protect the employee in the event of an emergency. The training includes the use of floor plans and workplace maps clearly showing the emergency escape routes included in the Emergency Action Plan.
# 4.0 Floor Plans and Maps

Floor plans and workplace maps were developed for some locations to show the emergency escape routes. The color coding on the maps assist employees in determining their escape route assignments. These floor plans and maps are available and posted (at all times) in key areas of the jobsite to provide guidance in an emergency. A copy of the floor plans and map are located in **Office Emergency section**. **Note:** Jobsites floor plans and maps may not be available at the beginning of the project or may not be applicable to the jobsite.

# 5.0 Emergency Escape Procedures and Assignments

The following are evacuation procedures for fire, earthquake, building collapse, and/or other emergency:

- To achieve safety, employees proceed to the nearest available and safe exit leaving the building as quickly as possible in the event of a fire or other emergency requiring evacuation.

- As a matter of general practice, corridors (if applicable) are the primary means for evacuation from a building.

- Personnel operating moving machinery (e.g., trucks, forklifts, etc.) are to depress the closest emergency stop button (if applicable) or park it to the side immediately.

- Personnel are to gather at a refuge zone. The refuge zones provide sufficient space to accommodate the employees. During evacuation procedures, employees are to move away from the exit discharge doors of the building and avoid congregating close to the building(s) and/or the location’s main entrance area where they could hamper emergency operations.

- After the determination is made that re-entry is safe and authorized by the fire department or the Evacuation Coordinator, employees may re-enter the building or jobsite.
The refuge zones are as follows:
(Specific for each jobsite)

<table>
<thead>
<tr>
<th>Department</th>
<th>Designated Refuge Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Excavation</td>
<td>Front of Office Trailer</td>
</tr>
</tbody>
</table>

6.0 Critical Site Procedures

Only in the event of an incipient (becoming apparent) fire will employees address the fire and care for critical site operations. If the fire exceed the incipient fire stage, the employees evacuate the area immediately.

The procedures for taking care of essential jobsite operations until a total evacuation becomes absolutely necessary include:

- Monitoring the jobsite power and water supplies.
- Transfer/pumping operations which must be shut down in stages or steps to ensure the safe shut down procedures are completed, including the following:

  (Specific for each Jobsite)  
  **Indicate procedures which must be shut down in stages/steps**  
  **(e.g. pick-up or deliveries in progress, filling of containers, etc.)**

<table>
<thead>
<tr>
<th>1. All equipment operation</th>
<th>2. Material movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Sub-contractor utility</td>
<td>4. Fueling</td>
</tr>
</tbody>
</table>

7.0 Evacuation Procedures

If evacuation of the jobsite and/or building(s) is required, the following procedures are followed to ensure safe evacuation of all employees, contractors, and visitors.

1. The Evacuation Coordinator (default to Superintendent or Foreman) verifies an emergency situation truly exists. If so, the local fire department is notified.
2. The Emergency Coordinator utilizes the alarm system or a means of communication (e.g., bull horn, public address system, radio, etc.) to effectively communicate that evacuation of the building and/or jobsite is required.

3. The Evacuation Coordinator conducts a head count to verify all employees, contractors, and visitors (sub-contractors) are safely evacuated.

4. The Evacuation Coordinator communicates with the fire department that:
   - all personnel are safely evacuated or,
   - who remains unaccounted for.

5. No one may return to the building or jobsite until the Evacuation Coordinator or fire department authorizes the return.

8.0 Rescue and Medical Duty Assignments

If rescue is required, the local fire department responding to the emergency is responsible for performing any rescue.

Designated personnel trained in first aid and cardiopulmonary resuscitation (CPR) provide medical assistance within their capabilities. CPR trained personnel are:

<table>
<thead>
<tr>
<th>List employee names trained in First Aid/CPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Specific for each Jobsite)</td>
</tr>
<tr>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
</tr>
<tr>
<td>4.</td>
</tr>
<tr>
<td>5.</td>
</tr>
<tr>
<td>6.</td>
</tr>
</tbody>
</table>

Professional emergency services responding to an emergency assist with and direct all rescue and medical-duty assignments upon their arrival.

9.0 Fire and Emergency Reporting Procedures

In the event of a fire or any other type of emergency, the following reporting procedures are followed:

1. When a fire is detected (seen, heard, smelled etc.), alert everyone in the near vicinity and radio or otherwise inform the foreman/supervisor (if applicable).
List locations of alarm stations (if applicable).
(Specific for each Jobsite)

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>4.</td>
</tr>
</tbody>
</table>

2. Jobsite personnel (supervisor/foreman, Evacuation Coordinator, employee if needed) verify the alarm is indicating an emergency. If so, they contact the local fire department to summon assistance.

3. The local fire department performs all emergency rescue and fire fighting duties. The Evacuation Coordinator meets with the fire department to notify them of any missing persons.

4. Employees are not to return to the jobsite or buildings until authorized by the Evacuation Coordinator or fire department.

10.0 Earthquake Procedures

If an earthquake warning is issued by the local news service(s), the Evacuation Coordinator notifies all employees. If an employee notices earthquake indicators (shaking ground, swaying or falling objects) that employee is to evacuate to a pre-determined earthquake safety/shelter area. The area(s) designated to provide shelter/protection during an earthquake are:

List area(s) which are designated as earthquake shelter for personnel. (Specific for each Jobsite)

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>4.</td>
</tr>
</tbody>
</table>

11.0 Evacuation Coordinator

Selected personnel are trained as Evacuation Coordinators. They’ll conduct a head count of employees once evacuation is completed. There’s at least one trained Evacuation Coordinator for every twenty employees on the jobsite providing adequate guidance and instruction at the time of an evacuation. The employees selected are trained in the complete jobsite layout and various alternative escape routes from the jobsite.

All Evacuation Coordinators are made aware of:

- Any physically handicapped employees requiring additional assistance and the hazardous areas to avoid during emergencies.
Any visitors/sub-contractors or personnel not permanently assigned to work at this jobsite.

Before leaving the jobsite Evacuation Coordinators verify all rooms and other enclosed spaces in the building/jobsite are empty.

**Evacuation Coordinator(s) for this facility is (are) as follows:**
(Specific for each Jobsite)

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Department/Area</th>
<th>Work Shift</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**12.0 Fire Prevention Plan**

The Fire Prevention Plan was established to control and reduce the possibility of a fire and to specify the type of equipment needed in case of fire.

**12.1 List of Workplace Fire Hazards and Procedures**

**The fire hazards in this location are:**

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Location</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lumber stock piles</td>
<td>Storage area</td>
<td>Keep covered and keep smoking area and hot running equipment at distance</td>
</tr>
<tr>
<td>Paint aerosol cans</td>
<td>Flammable storage cabinet</td>
<td>All flammable paint containers and aerosol cans are stored in flammable storage cabinet</td>
</tr>
<tr>
<td>Office paper</td>
<td>Offices</td>
<td>Keep amount of paper on hand to a minimum. Ensure all trash containers are emptied every day.</td>
</tr>
<tr>
<td>Office supplies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel: gasoline</td>
<td>Fuel storage area</td>
<td>Keep distanced from any hot running equipment, welding area, and smoking area. Keep stored in safe</td>
</tr>
<tr>
<td>Liquefied Gas:</td>
<td>Fuel storage area</td>
<td>Follow all OSHA regulations (keeping stored upright, away from other fuel, in cool area etc.)</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>O₂ and acetylene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammable material/chemicals</td>
<td>Specially designated storage area</td>
<td>Keep separated and away from sources of heat. Otherwise follow above instructions.</td>
</tr>
<tr>
<td>Tools, and other electrical equipment</td>
<td>Tool storage</td>
<td>Keep closed when possible; keep things up above floor so no water gets on them. Also, keep smoking area safely away.</td>
</tr>
</tbody>
</table>

### 12.2 Housekeeping Procedures
Accumulations of combustible waste materials must be controlled to ensure against a fast developing fire, a rapid spread of toxic vapors or gases, or an explosion.

Large accumulations of combustible waste materials can cause a large fire or generate dense smoke.

Good housekeeping in the work place can prevent a significant fire hazard by controlling accumulation of oil soaked rags and/or large accumulations of waste paper, corrugated boxes, etc.

### 12.3 Equipment Maintenance (if applicable)
Certain equipment is installed in a workplace to control heat sources or to detect combustible fuel leaks (e.g. a temperature limit switch, storage tank high-level alarms, etc.). If these devices are not properly maintained, or if they become inoperative, a definite fire hazard exists. Employees and supervisors are aware of the specific type of hazard control devices utilized in the workplace and to ensure (through periodic inspection and/or testing) such devices are operable. The manufacturer’s instructions are followed to ensure proper operation and maintenance procedures are followed.
12.4 Ignition Sources and Fire Protection

The ignition sources and their control procedures at this location are:

<table>
<thead>
<tr>
<th>Ignition Source</th>
<th>Control Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Electrical</td>
<td>Periodic inspection of equipment. Dry, clean storage.</td>
</tr>
<tr>
<td>2. Flame heaters</td>
<td>Safely distanced from everything around. Constant checking up and supervision.</td>
</tr>
<tr>
<td>3. Welding</td>
<td>Observation and wetting of things around.</td>
</tr>
<tr>
<td>4. Cigarette butts</td>
<td>Smoke only in designated areas.</td>
</tr>
<tr>
<td>5. Hot running equipment</td>
<td>Keep a distance from other objects and observation.</td>
</tr>
</tbody>
</table>

In addition, smoking is only allowed in designated smoking areas of this location.

The designated smoking area(s) for this location is (are) as follows:

( Specific for each Jobsite)

<table>
<thead>
<tr>
<th>Designated Smoking Area:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
</tr>
</tbody>
</table>

12.5 Fire-Protection Equipment

The fire-protection equipment utilized at jobsite locations includes various sizes of multi-purpose dry chemical (a.k.a., ABC) portable fire extinguishers to protect from the various types of fire hazards. Employees are trained on site with the location and usage of portable fire extinguishers.
Attachment A

Floor Plans and Maps
Mass Excavation, Inc.

Site-Specific Safety Plan

Environmental Protection Plan &
Control of Hazardous Materials

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Environmental Protection Plan & Control of Hazardous Materials

1.0 Purpose
This is the written Hazardous Material Control Plan for the control, prevention, management, containment, cleanup, and disposal of petroleum products or other hazardous substances which may be generated on this project.

2.0 Identification of Hazardous Materials

2.1 Materials
The following material is assumed to be hazardous or to contain hazardous substances (toxic, corrosive, ignitable, explosive, or chemically reactive) and is subject to control:
- Petroleum products (including diesel fuel or fuel oil, gasoline, grease, motor oil, hydraulic oil, and gear lube)
- Petroleum-contaminated materials
- Solvents
- Paints
- Antifreeze
- Lead/acid batteries

2.2 Control Measures
Control measures include safe storage and containment, recovery of spills, and identification and accountability.

3.0 Storage, Containment, and Disposal

3.1 Diesel Fuel, Fuel, Oil, and Gasoline
The project Superintendent ensures control and prevents accidental discharge during storage and transfer. Any onsite storage is in approved containers. Absorbent pads and other recovery equipment are available to contain and recover any fuel accidentally spilled. Any spills and contaminated soils are cleaned and disposed of in accordance with applicable requirements of the State of Alaska Department of Environmental Conservation and the US Environmental Protection Agency.
3.2 **Petroleum-Contaminated Materials**
Petroleum-contaminated materials such as used oil filters and old hydraulic hoses are retained and safely stored until disposal in an area or container where discharge of petroleum is prevented or contained. Disposal is in accordance with regulations.

3.3 **Grease and Gear Lube (solidified)**
Solid lubricants are stored in a protected area where containers are not damaged. Spent containers are appropriately disposed of in accordance with regulations. Accidental discharges are recovered.

3.4 **Motor Oil, Hydraulic Oil, and Liquid Gear Lube**
Unused motor oil and other liquid lubricants are stored in protected areas where the containers are not damaged. Bulk containers are placed in a lined area. Spent containers are disposed of in accordance with regulations. Absorbent material is available and used to recover any oil accidently discharged during transfer operations or at any other time.

Used oil is recovered, stored in the same manner as new oil, and disposed of in accordance with regulations. Used oil is not stored in open containers.

All equipment using hydraulic hoses and cylinders are inspected on a regular basis and furnished with absorbent pads and other spill recovery materials to mitigate discharges to the environment in case of equipment failure.

When equipment operating on or adjacent to waterways has a petroleum leak which cannot be immediately repaired or controlled, it’s removed from service until repairs are made.

3.5 **Solvent and Paints**
Solvent and paints are stored in a protected area where the containers are not damaged. Spent solvents are retained and disposed of in accordance with regulations, as are leftover paints. Accidental discharges are recovered.

3.6 **Cement and Epoxies**
Cement and epoxies are stored in dry protected areas. No discharge or diluted cement is allowed outside of concrete
forms. Cleaning of ready mix trucks and disposal of leftover ready mix are only accomplished in an appropriate manner. Leftover epoxy is stored and disposed of in accordance with regulations.

3.7 Lead/Acid Batteries
Lead/acid batteries are stored in a protected area. Used batteries which cannot be recharged, are returned to the dealer or to a battery recycling facility.

3.8 Explosives
Explosives are securely stored and accounted for in accordance with regulations covering the storage and handling of explosives. Transport is only in approved equipment. Handling is by licensed explosive handlers. Surplus explosives are returned to the vendor.

3.9 Antifreeze
Antifreeze is stored in the same manner as liquid petroleum. Spent antifreeze is recovered and retained until proper disposal is accomplished. Antifreeze accidentally discharged is recovered with absorbent materials.

4.0 Emergency Response Procedures
4.1 Brief Jobsite Employees
All employees are briefed on emergency response procedures and the use of emergency response equipment and materials.

4.2 Phone Numbers
The contact phone numbers for spill reporting, spill, or hazardous material emergency response organizations, and the fire department are posted at the jobsite.

5.0 Equipment and Material
5.1 Equipment
Equipment is available on site for hazardous substance containment and cleanup.
5.2 Pads
Absorbent pads are carried in all maintenance vehicles readily available to clean any oil discharges.

5.3 Bags
Plastic bags are carried in all maintenance vehicles readily available for storage of absorbent pads and/or contaminated soil that must be removed from the jobsite.

5.4 Spill Recovery
Any spill recovery supplies used for spill cleanup are stored in a protected dry area until the materials are removed from the site and shipped to a proper disposal area.

6.0 Housekeeping

6.1 Housekeeping Practices
Good housekeeping practices are continually followed. Refueling and maintenance areas are kept clean and free of debris and are monitored daily for compliance. Additional housekeeping items are as follows:

- Hazardous and non-hazardous wastes are not mixed. This will keep the total volume of hazardous waste to a minimum. Waste oil is not mixed with non-hazardous material. It’s separated and properly labeled until it’s demobilized and disposed of offsite.
- Original containers of hazardous products are completely used before discarding the container.
- Excess amounts of hazardous products are not used; only enough for the job intended.
- Original product labels and Material Safety Data Sheets (MSDS) are kept onsite for each produce in use.

7.0 Reporting Requirements

7.1 Notification
Telephone notification to Mass Excavation, Inc. (Mass) home office and to the State of Alaska Department of Environmental Conservation of any discharge of oil or hazardous substances is required as follows:
- Discharge to water: as soon as discharge is noticed.
• Discharge to land: as soon as discharge is noticed, if in excess of 55 gallons. Within 48 hours if in excess of 10 gallons. Fifty-five gallons or less: maintenance of written record of any petroleum product discharge from one to ten gallons.

7.2 Written
Written notification is required within 15 days after the cleanup is completed or, if no cleanup occurs, within 15 days after the discharge.

7.3 Documentation
Written documentation in the form of the Oil and Hazardous Materials Incident Final Report must be submitted to the State of Alaska Department of Environmental Conservation.

Note: Environmental protection and hazardous materials control is also addressed in the site Storm Walter Pollution Prevention Plan (SWPPP).
Accident Prevention and Reporting Procedures

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Accident Prevention and Reporting Procedures

1.0 Introduction
Accidents are unplanned events sometimes resulting in injury or damage to property. Good companies learn from accidents especially those that don’t result in injury. This Accident and Loss Prevention Program is Mass Excavation, Inc. (Mass) approach to reducing or eliminating accidents at the home office and jobsites. This plan can be used alone or in conjunction with other safety plans and programs.

2.0 Responsibility
Management at all levels and the Safety Department are responsible for implementation of this Program. Each Project Manager (with assistance from the Safety Department) is responsible for carrying out these provisions. Employees are responsible for understanding the safety aspects and hazard controls and using these controls properly throughout their workplace. This Site-Specific Safety Plans and/or activity hazard analysis is used to evaluate the hazards and identify suitable controls.

3.0 Communication
Project management and the Safety Department communicates with workers continually on health and safety matters including providing the incentive and mechanism for employees to report jobsite hazards, near misses, and accidents without fear of reprisal. The field crew is totally involved in all aspects of Mass Safety Programs, primarily through open communications. Anyone in our organization can call the corporate safety office (907-562-2336) for advice on a safety issue anytime, although supervisors should be aware of all communications.

4.0 Compliance
Mass makes available to all employees this Site-Specific Safety Plan and communicates requirements of each employee. Failure to comply includes disciplinary action that may include the termination of employment.

5.0 Accident Investigation
Accident investigation and reporting is a systematic search and review for factual information on the cause, extent, and nature of an accident. The purpose of this investigation is to learn what caused an accident and how Mass can prevent similar accidents in the future.
throughout the company. This should be done for all near misses, property damage, and injuries.

Management and employees at all levels, plus the Safety Department are responsible for implementation of accident investigation and reporting as well as implementing follow-up recommendations.

5.1 **Mass Safety Department Responsibilities**
- Report injuries or illness to appropriate agencies, as required by law.
- Review all accident reports or forms, including near misses, accidents, and losses.
- Develop and coordinate report forms to ensure their current and applicable.
- Train supervisors in accident and loss responsibilities, report investigation, and recordkeeping.
- Conduct follow-up investigations when required.
- Review accident investigation policy and adjust as necessary.
- Ensure follow-up recommendations are implemented.

5.2 **Supervisor/Project Manager Responsibilities**
- Conduct accident investigations using appropriate forms and procedures (see forms in appendices at the end of this section). Report all:
  - Recordable occupational injuries
  - Near misses
  - Occupational illness or disease
  - Occupational deaths
  - Occupational accidents involving any of the above
• Train and encourage employees to report all work-related near misses, accidents, illnesses and injuries as they occur.

• Identify and take required corrective measures to prevent similar accidents.

• Report all serious accident and deaths immediately (or within reason) to Mass Safety Coordinator.

5.3 Employee Responsibilities
• Report immediately all occupational injuries, accident, illnesses and near misses.

• Communicate all factors surrounding an incident.

• When requested participate fully in an accident or injury investigation.

6.0 Accident Reporting Procedure
6.1 General Reporting
Standard OSHA Form 300 reporting classifications used are: Death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or a significant injury or illness diagnosed by a physician or other licensed health care professional, the reporting requirements are as follows:

Death:
You must record an injury or illness resulting in death by entering a check mark on the OSHA 300 Log in the space for cases resulting in death. You must also report any work-related fatality to OSHA within eight (8) hours, as required by Part 1904.39.

Days away from work:
When an injury or illness involves one or more days away from work, record the injury or illness on the OSHA 300 Log with a check mark in the space for cases involving days away and an entry of the number of calendar days away from work in the number of days column. If the employee is out for an extended period of time, enter an estimate of the days the employee will
be away and update the day count when the actual number of days is known.

**Restricted work or transfer to another job:**
When an injury or illness involves restricted work or job transfer but, does not involve death or days away from work, record the injury or illness on the OSHA 300 Log by placing a check mark in the space for job transfer or restriction and an entry of the number of restricted or transferred days in the restricted workdays column.

**Medical treatment beyond first aid:**
If a work-related injury or illness results in medical treatment beyond first aid, record it on the OSHA 300 Log. If the injury or illness did not involve death, one or more days away from work, one or more days of restricted work, or one or more days of job transfer, enter a check mark in the box for cases where the employee received medical treatment but remained at work and was not transferred or restricted.

Injuries requiring treatment beyond the care available on site requires evacuation to a facility capable of a higher level of care.

Emergency first-aid supplies are required at each work site. Minimum supplies required for worksites where a medical facility isn’t readily available include the following:

- bandages
- antiseptic
- pain reliever

**6.2 Employee Reporting**
All work-related accidents, injuries, and illnesses must be reported by employees as soon as they occur. In addition to verbal notification, employees complete a report of damage or an injury report form.

**6.3 Supervisors/Project Managers Reporting**
Supervisor reports all accidents to the Safety Coordinator immediately. The Safety Coordinator determines if the incident is work related and whether it’s recordable or lost-time. Enter
each recordable injury or illness on the OSHA 300 Log and 301 Incident Report within seven (7) calendar days of receiving information of a recordable injury or illness has occurred, or an Alaska Worker’s Compensation Form, if applicable. OSHA Log of Occupational Injury, Form 300 is maintained at the Mass corporate office by the HR/Safety Administrator on a continuous basis from January to January of each year. For the month of February of the following year, the completed OSHA log is posted in a conspicuous location at the work place.

6.3.1 Recordable Injuries
An injury or illness must be considered to meet the general recording criteria, and therefore be recordable, if it results in any of the following:
• death,
• days away from work,
• restricted work or transfer to another job,
• medical treatment beyond first aid, or
• loss of consciousness.

Consider a case to meet the general recording criteria if it involves a significant injury or illness diagnosed by a physician or other licensed health care professional, even if it doesn’t result in death, days away from work, restricted work or job transfer, medical treatment beyond first aid, or loss of consciousness.

6.3.2 First-aid Criteria
For the purposes of part 1904, “first aid” means the following:
• Using a non-prescription medication at non-prescription strength (for medications available in both prescription and non-prescription; a recommendation by a physician of other licensed health care professional to use a non-prescription medication at prescription strength is considered medical treatment for recordkeeping purposes).

• Administering tetanus immunizations (other immunizations, such as Hepatitis B vaccine or rabies vaccine, are considered medical treatment).
• Cleaning, flushing or soaking wounds on the surface of the skin.

• Using wound coverings such as bandages, Band-Aids™, gauze pads, etc.; or using butterfly bandages or Steri-Strips™ (other wound closing devices such as sutures, staples, etc, are considered medical treatment).

• Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc. (devices with rigid stays or other systems designed to immobilize parts of the body are considered medical treatment for recordkeeping purposes).

• Using temporary immobilization devices while transporting an accident victim (e.g., splints, slings, neck collars, back boards, etc.).

• Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister.

• Using eye patches.

• Removing foreign bodies from the eye using only irrigation or a cotton swab.

• Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means.

• Using finger guards.

• Using massages (physical therapy or chiropractic treatment are considered medical treatment for recordkeeping purposes); or

• Drinking fluids for relief of heat stress.

This is a complete list of all treatments considered first aid for Part 1904 purposes.
6.4 **Occupational Illness and Disease**

Occupational illnesses for an employee is any abnormal condition or disorder, other than one resulting from an occupational injury caused by exposure to environmental factors associated with employment. Occupational illnesses include acute and chronic illnesses or diseases that may be caused by inhalation, absorption, ingestion, or direct contact with hazardous materials.

7.0 **Reporting Losses and Accidents**

All accidents, damage or near misses (no matter how trivial) are reported immediately to supervisors. Supervisors follow-up on each incident and report results to the Safety Coordinator and Mass management within 24 hrs of occurrence. Reportable incidents or lost-time accidents are recorded immediately on OSHA Form 300 and any required State Department of Labor forms. OSHA Form 300A is displayed at each main office from February 1 to April 30 of each year.

7.1 **Procedure for Injuries**

If an employee is injured and/or complains of illness or pain caused by work, follow these steps:

- Encourage the employee to go to a licensed health-care provider for treatment. A Doctor Visit Packet must go with employee to medical center. Stress to the employee that documents in the packet must be filled out before returning to work. Doctor Visit Packet and all related documents for injuries are found in the Accident Folder in jobsite office.

- Complete:
  - Department of Labor form
  - Authorization for Release of Information
  - Accident Investigation form

  Forward to office ASAP.

- Call Kirk or Jacque at 562-2336. Back up: Darla and Sheila. While on phone ask about drug/alcohol testing.
7.2 Procedure for Serious Accidents
If it’s a serious accident, follow these steps:

- Call 911.
- Secure accident scene and don’t let anyone leave. Get witness names, company name, address, and phone number.
- Don’t talk to the media. Refer media to Josh.
- Notify family members of the location and condition of the injured employee(s)
- Call Josh at 529-8031
- Call Kirk at 952-3816

8.0 Accident and Loss Forms (See Appendices)
Post-Accident Procedures: When an employee is injured follow these steps:

Hazard Alert/Near Miss Report: All Mass employees on a job site are familiar with this form. This is intended to inform all employees, supervisors and safety personnel of near misses. Our intent is to learn from near misses and prevent accidents.

Damage to Property form: Needs to be completed by both supervisor and employee involved in an incident where damage to Mass property is done, whether it’s work related or not.

Report of Occupational Injury or Illness: The injured employee completes the one page form. Send form to Jacque at the corporate office within 24 hours. (This is a one page DOL form found in the jobsite accident folder.)

Mass Accident Investigation Form: This form is used to track the progress of previously reported injuries. Did they become lost time, etc?
Supervisor
Post-Accident Procedures

If an employee is injured and/or complains of illness or pain caused by work, follow these steps:

1. **Strongly encourage** a doctor visit.
2. **Send** “Doctor Visit Packet” with employee to doctor.
3. **Call**/notify Kirk of incident cell. 952-3816.
4. **Call** Jacque at 632-7847.
5. While on phone **discuss** whether a drug or alcohol test is necessary.
6. **Complete** these forms:
   - DOL Employee Accident Form
   - Have employee fill out “**Authorization for Release of Information.**”
   - Accident Investigation form (w/Kirk).
7. **Send** all forms to office ASAP to Jacque.

If it’s a SERIOUS accident, follow these steps:

1. **Call** 911.
2. **Secure** accident scene. Don’t let anyone leave or enter except Emergency Responders or OSHA. Get witnesses’ names, company name, addresses, and phone numbers.
3. **Call** Kirk: Cell. 952-3816.
4. **Don’t talk to the media.**
   Refer media to Josh, Carl, Jed, or Luke.
5. **Notify** family members of the location and condition of the injured employee(s).
6. **Call:**
   - Josh cell. 529-8031 hm: 346-1885
   - Carl cell. 529-9300 hm: 344-8570
   - Jed cell. 441-1288
   - Luke cell. 301-4017
7. **Call** Jacque cell. 632-7847
8. Now, return to bullets in left column to complete paperwork.
Mass Excavation, Inc.

Accident Investigation Form

Date: ______________________

Project Name/Location: ____________________________________________

Name of Injured Employee: __________________________________________

Superintendent: ____________________________________________________

Project Manager/Owner Signature: _________________________________

Superintendent/Foremen Signature: _________________________________

Employee Signature: _____________________________________________

1. Background Information:
   a. Where and when the accident occurred:

   b. Who and what were involved:

   c. Witnesses:

2. Account of the Accident (what happened?):
   a. Sequence of Events:
b. Extent of damage:

c. Personal or property:

3. Subsequent Remedial Measures:
   a. Causes (may include unsafe acts, conditions, management policies, personal, or environmental factors):

b. Remedial Recommendations (how do we prevent this from occurring in the future?):

c. Will there be additional training or discipline for the involved employee(s):

Attach additional notes and photos of scene and conditions (do not attach any photos that contain people).
Mass Excavation, Inc.

Site-Specific Safety Plan

Incident/Property Damage Report Form

Reported By _________________________________ Dept. __________________

Date __________________________

Date of Incident ___________ Time of Incident _______ a.m. ________p.m.

Location of Incident_____________________________________________________

Was Police Dept. Notified?  Yes ☐ No ☐  Fire Dept?  Yes ☐ No ☐

Incident Report

Please provide a brief description of the type of damage:

Injury to Person ________________________________________________________________

Damage to Property____________________________________________________________

Other (describe) _______________________________________________________________

Name of Party ________________________________ Phone____________________________

Address (include complete address, with street address, city, state and zip)
________________________________________________________________________________

Driver’s License No. ______________________ Vehicle License No. ___________________

Briefly Describe What Happened:
________________________________________________________________________________
________________________________________________________________________________

Did party indicate intent to file a claim against agency?  Yes ☐  No ☐

Witnesses:
Name ______________________________ Address ________________________________

Phone ____________________________

Name ______________________________ Address ________________________________

Phone ____________________________
Hazard Alert/Near Miss Report

Employees may use this form to report a workplace hazard or provide safety suggestions.

Hazards posing an immediate danger to life or health should be reported immediately to your Supervisor.

Date: ___________________ Time: ____________________________

Location of Hazard/Incident (building, room, area, and other description):
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________

Description of Hazard/Incident (including whether it is Chemical, Biological, or Physical):
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________

Your Recommendation for Correction: ___________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________

Has this Hazard/Incident been reported to a Supervisor?  Yes ☑  No ☐

Optional:
Date:__________

Employee Name:______________________________

Remarks:  ____________________________
_________________________________________________________________________________
_________________________________________________________________________________
Job Hazard Analysis

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2.0 Procedure .................................................................................................................. 2
3.0 Job Selection .............................................................................................................. 2
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  3.2 Potential for severe injuries or illnesses ................................................................. 2
  3.3 Newly established jobs ........................................................................................... 3
  3.4 Modified jobs .......................................................................................................... 3
  3.5 Infrequently performed jobs .................................................................................... 3
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5.0 Identifying Potential Hazards .................................................................................. 3
6.0 Determining Preventive Measures .......................................................................... 4
  6.1 Eliminate the hazard ............................................................................................... 4
  6.2 Contain the hazard ................................................................................................... 4
  6.3 Revise work procedures .......................................................................................... 4
  6.4 Reduce the exposure ............................................................................................... 4
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1.0 Purpose

One way to increase knowledge of hazards in the workplace is by conducting a job hazard analysis on individual tasks. A job hazard analysis (JHA) is a procedure which helps integrate accepted safety and health principles and practices into a particular operation. In a JHA each basic step of the job is examined to identify potential hazards and to determine the safest way to do the job. The analysis process may identify previously undetected hazards and increase the job knowledge of those participating.

2.0 Procedure

Four basic steps are used in conducting a job hazard analysis. The JHA is documented by using the appropriate JHA forms or tablets.

- Selecting the job to be analyzed.
- Breaking the job down into a sequence of steps.
- Identifying potential hazards.
- Determining preventive measures to overcome these hazards.

3.0 Job Selection

Ideally all jobs should be subjected to a JHA. In some cases practical constraints exist posed by the amount of time and effort required to do a JHA. Factors considered in assigning a priority for analysis of jobs include:

3.1 Accident frequency and severity
Jobs with frequent or infrequent accidents resulting in disabling injuries.

3.2 Potential for severe injuries or illnesses
The consequences of an accident, hazardous condition, or exposure to harmful substance are potentially severe.
3.3 Newly established jobs
Due to lack of experience hazards may not be evident or anticipated.

3.4 Modified jobs
New hazards may be associated with changes in job procedures.

3.5 Infrequently performed jobs
Workers may be at greater risk when undertaking non-routine jobs and a JHA provides a means of reviewing hazards.

4.0 Break the Job Into Steps
After the job is chosen for analysis the next stage is to break the job down into steps. A job step is defined as a segment of the sequence in the operation necessary to advance the work. An important point to remember is to keep the steps in correct sequence. Any “out of order” steps may miss potential hazards or introduce hazards which do not actually exist.

5.0 Identifying Potential Hazards
To help identify potential hazards the job analyst may use questions such as these (this is not a complete list):

- Could a body part be caught in or between objects?
- Do tools, machines, or equipment present any hazards?
- Could the worker make harmful contact with objects?
- Could the worker slip, trip, or fall?
- Could the worker suffer strain from lifting, pushing, or pulling?
- Is the worker exposed to extreme heat or cold?
- Is excessive noise or vibration a problem?
- Is there a danger of falling objects?
- Is lighting a problem?
- Could weather conditions affect safety?
- Is harmful radiation a possibility?
- Could contacts be made with hot, toxic, or caustic substances?
- Are there dusts, fumes, mists, or vapors in the air?
- Is there a confined space?
6.0 Determining Preventive Measures

The final stage in a JHA is to determine ways to eliminate or control the hazards. The generally accepted measures (in order of preference) are:

6.1 Eliminate the hazard
This is the most effective measure. These techniques should be used to eliminate the hazards:
- Choose a different process
- Modify an existing process
- Substitute with less hazardous substance
- Improve environment (ventilation)
- Modify or change equipment or tools

6.2 Contain the hazard
If the hazard cannot be eliminated, contact might be prevented by using enclosures, machine guards, worker booths, or similar devices.

6.3 Revise work procedures
Consideration might be given to modifying hazardous steps, changing the sequence of steps, or adding additional steps.

6.4 Reduce the exposure
These measures are the least effective and should only be used if no other solutions are possible. One way of minimizing exposure is to reduce the number of times the hazard is encountered. Personal protective equipment is a means of reducing exposures.

In listing the preventive measures use of general statements such as “be careful” or “use caution” are avoided. Specific statements which describe both what action is taken and how it’s performed are preferable.

7.0 Communication
JHA is a useful technique for identifying hazards so measures can be taken to eliminate or control them. Once the analysis is completed the results must be communicated to all workers performing that job. JHA can also be used for review when repetitive tasks are performed.
Appendices

JHA and SPA Template
<table>
<thead>
<tr>
<th>Activity:</th>
<th>Analyzed by:</th>
<th>Date:</th>
</tr>
</thead>
</table>

**Spec Sections:**

<table>
<thead>
<tr>
<th>Principal Steps</th>
<th>Potential Safety/Health Hazards</th>
<th>Recommended Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>1a)</td>
<td>1a)</td>
</tr>
<tr>
<td>2)</td>
<td>2a)</td>
<td>2a)</td>
</tr>
<tr>
<td>3)</td>
<td>3a)</td>
<td>3a)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equipment to be used</th>
<th>Inspection Requirements</th>
<th>Training Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPE:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Mass Excavation, Inc.
## PLAN OF ACTION

<table>
<thead>
<tr>
<th>JOB/TASK</th>
<th>Work Area</th>
<th>DATE</th>
</tr>
</thead>
</table>

**Work Plan:**

**Material Needed:**

**Hazards:**

**Safe Plan:**

---

## Work Area

### Work Plan:

<table>
<thead>
<tr>
<th>Crew Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>--------------</td>
</tr>
<tr>
<td>--------------</td>
</tr>
</tbody>
</table>

**The Supervisor certifies the completion of the Work Plan.**

**Supervisor:** __________________ _______ **Date** __________________

*Instructions:* 1. Write the name of the job or task in the space provided. 2. In the 1st column, write the steps of the task. 3. In the 2nd column, list material needed to complete task at hand. 4. In the third column, identify the hazards that the crew will be exposed to. 5. In the Safe Plan column, provide the corrective actions that will be taken to prevent the hazards and injury from reaction to failure. 6. Review the Work Plan at the end of the task for improvements.  

*NOTE: THE WORK SHALL STOP IF CONDITIONS CHANGE, JOB CHANGES, OR DEFICIENCY IN PLAN IS NOTED.*
### SPA Checklist Review

Review the following after the Task Hazard Assessment has been completed to ensure all hazards have been identified and a safe plan has been noted.

<table>
<thead>
<tr>
<th>Permit Supplements</th>
<th>Hazards</th>
<th>Safe Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Work</td>
<td>Slips, Trips Falls</td>
<td>Inspect for trip hazards</td>
</tr>
<tr>
<td>Hot Work</td>
<td>Extension cords properly secured</td>
<td>Work zone free of debris</td>
</tr>
<tr>
<td>Pipe Opening</td>
<td>Pinch Points</td>
<td>List potential pinch points:</td>
</tr>
<tr>
<td>Confined Space</td>
<td>Hand Hazards</td>
<td>PPE</td>
</tr>
<tr>
<td>Limited Lift</td>
<td>Working near mobile equip.</td>
<td>PPE</td>
</tr>
<tr>
<td>Critical Lift</td>
<td>Hand/Body positioning</td>
<td>PPE</td>
</tr>
<tr>
<td>Excavation</td>
<td>Additional Information:</td>
<td>PPE</td>
</tr>
<tr>
<td>Water Blasting</td>
<td></td>
<td>PPE</td>
</tr>
</tbody>
</table>

#### Required PPE

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Hat</td>
<td>Working near Vehicular Traffic or Heavy Equip.</td>
<td>Traffic Barricades</td>
</tr>
<tr>
<td>Safety Vest</td>
<td>Potential for Fire or Sparks</td>
<td>Cones</td>
</tr>
<tr>
<td>Safety Glasses</td>
<td>Heavy Lifting</td>
<td>Signs</td>
</tr>
<tr>
<td>Face Shield</td>
<td>Power Tools:</td>
<td>Flagmen</td>
</tr>
<tr>
<td>Chemical Goggles</td>
<td></td>
<td>Lane closure</td>
</tr>
<tr>
<td>Welding Goggles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Welding Hood</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Hand Protection:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloth Gloves</td>
<td>Hand Tools:</td>
<td>Inspect general condition</td>
</tr>
<tr>
<td>Leather Gloves</td>
<td></td>
<td>Identified PPE required for each tool</td>
</tr>
<tr>
<td>Nytrel Gloves</td>
<td></td>
<td>Addtl. info below</td>
</tr>
<tr>
<td>Cut Resistant Gloves</td>
<td></td>
<td>Addtl. info below</td>
</tr>
<tr>
<td>Rubber Gloves</td>
<td></td>
<td>Addtl. info below</td>
</tr>
<tr>
<td>Surgical Gloves</td>
<td></td>
<td>Addtl. info below</td>
</tr>
</tbody>
</table>

#### Foot Protection:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Toe Boots</td>
<td>Hand Tools:</td>
<td>Inspect general condition</td>
</tr>
<tr>
<td>Rubber Boots</td>
<td></td>
<td>Identified PPE required for each tool</td>
</tr>
<tr>
<td>Neoprene Boots</td>
<td></td>
<td>Addtl. info below</td>
</tr>
<tr>
<td>Metatarsal Guard</td>
<td></td>
<td>Addtl. info below</td>
</tr>
</tbody>
</table>

#### Respiratory Protection:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust Mask</td>
<td>Hearing protection is required:</td>
<td>Ear plugs</td>
</tr>
<tr>
<td>Respirator</td>
<td></td>
<td>Ear Muffs</td>
</tr>
<tr>
<td>SCBA</td>
<td></td>
<td>Both</td>
</tr>
</tbody>
</table>

#### Coveralls:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton Coveralls</td>
<td>Working w/ Chemicals</td>
<td>Reviewed MSDS for each chemical form PPE requirements and precautions</td>
</tr>
<tr>
<td>Tyvek Suit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tychem Suit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Fall Protection:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Harness</td>
<td>Working on ladder</td>
<td>Inspect general cond. before use</td>
</tr>
<tr>
<td>Double Lanyard</td>
<td></td>
<td>Ladder inspected with in last quarter</td>
</tr>
<tr>
<td>Anchorage Point</td>
<td></td>
<td>Ladder tied off</td>
</tr>
<tr>
<td>Cross Arm Strap</td>
<td></td>
<td>Proper angle and placement</td>
</tr>
<tr>
<td>Retractble Device</td>
<td></td>
<td>Reviewed ladder safety</td>
</tr>
<tr>
<td>HLL System</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miller Hook</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance Distance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rescue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Additional Information:

Required clearance distance = _______ Ft.  
Safe work zone Marked
## Jobsite: Mass Excavation, Inc.
## Job Hazard Analysis

**Activity:** Excavation/Earthwork

### Spec Sections:

<table>
<thead>
<tr>
<th>Principal Steps</th>
<th>Potential Safety/Health Hazards</th>
<th>Recommended Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Excavation</td>
<td>1a) Underground utilities&lt;br&gt;Overhead electrical&lt;br&gt;UXO or Contaminated soil&lt;br&gt;Open excavations&lt;br&gt;Trench collapse</td>
<td>1a) Locate and mark all underground utilities&lt;br&gt;Maintain proper distance according to voltage, mark or flag, de-energize&lt;br&gt;Cease work when found and notify authorities. Testing may be needed.&lt;br&gt;Barriers- fencing, signage&lt;br&gt;Stockpile material 2 ft. from edge, Slope for soil class, C soil 34 deg.&lt;br&gt;1 1/2 - 1 slope proper slope or trench box/shoring.&lt;br&gt;Dewatering</td>
</tr>
<tr>
<td>2) Trucking/Moving</td>
<td>2a) Dust&lt;br&gt;Personnel/Equipment&lt;br&gt;Vehicle/equipment or equipment collision&lt;br&gt;Rollover&lt;br&gt;Over head hazard</td>
<td>2a) Control with watering, Street sweep at site entrance&lt;br&gt;Keep pedestrian personnel out of equipment swing radii.&lt;br&gt;Keep personnel not directly involved in activity out of area.&lt;br&gt;Be aware of operator blind spots and keep out.&lt;br&gt;Make eye contact with operator and get ok to cross path.&lt;br&gt;Establish routes of travel.&lt;br&gt;Eye contact and signaling between operators/drivers&lt;br&gt;Keep unauthorized vehicles out of work area.&lt;br&gt;Keep trucks away from open trenches&lt;br&gt;Don’t exceed equipment limits on side hill travel or position for work.&lt;br&gt;Keep vibrating equipment away from excavation edge.&lt;br&gt;Keep all personnel out from under loads.</td>
</tr>
<tr>
<td>3) Fill</td>
<td>3a) Bury personnel</td>
<td>3a) Keep personnel out of excavation or away from activity during fill.&lt;br&gt;Maintain communication with the operator while in excavation.&lt;br&gt;Maintain safe egress.</td>
</tr>
<tr>
<td>4) Compaction</td>
<td>4) Equipment collisions/&lt;br&gt;caught between&lt;br&gt;Noise</td>
<td>4) Eye contact and signaling between operators/drivers.&lt;br&gt;Use hearing protection.</td>
</tr>
</tbody>
</table>

### Equipment to be used

- PPE: Hardhats
- Work boots
- Safety glasses
- Reflective vest

### Inspection Requirements

- Daily equipment inspections
- Daily excavation inspections

### Training Requirements

- Excavation competent person
Hazard Communication Plan

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Hazard Communication Plan

1.0 Introduction
The Mass Excavation, Inc. (Mass) Hazard Communication Program is designed to transmit information regarding the hazards of chemical and physical agents present in the workplace to those employees who may be affected.

This Hazard Communication Program was established in accordance with the Occupational Safety and Health Standards for General Industry (29 CRF 1910.1200 Hazard Communication) as regulated by the Occupational Safety and Health Administration (OSHA). In addition, this program was established in accordance with Title 8 of the Alaska Administrative Code (AAC) Chapter 61 Section 1110 (Additional Hazard Communication Standards) as regulated by the Alaska Department Labor and Workforce Development, Occupational Safety and Health Division.

2.0 Procedures
Employee exposures to hazardous chemicals and/or physical agents can lead to serious and permanent injuries and illnesses. Certain operations conducted by Mass require employees to handle hazardous chemicals and/or expose employees to physical agents.

This Hazard Communication Program provides guidelines and procedures for safe handling of hazardous chemicals and/or exposure to physical agents under normal use conditions as well as during foreseeable emergencies. It also includes areas of responsibility for Mass management, supervisors, and other employees.

This Hazard Communication Program affects all Mass employees exposed to hazardous chemicals and/or physical agents. Each Mass workplace institutes and maintains a Hazard Communication Program.

3.0 Definitions

<table>
<thead>
<tr>
<th>TERM</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical</td>
<td>Any element, chemical compound, or mixture of elements and/or compounds.</td>
</tr>
<tr>
<td>Combustible Liquid</td>
<td>A liquid having a flash point at or above 100 degrees Fahrenheit (°F) but below 200°F.</td>
</tr>
<tr>
<td>Compressed Gas</td>
<td>A gas or mixture of gases in a container having an absolute</td>
</tr>
<tr>
<td><strong>Term</strong></td>
<td><strong>Definition</strong></td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Pressure</td>
<td>Pressure exceeding 40 pounds per square inch (psi) at 70°F; or a gas or mixture of gases in a container having an absolute pressure exceeding 104 psi at 130°F regardless of the pressure at 70°F; or a liquid having a vapor pressure exceeding 40 psi at 100°F.</td>
</tr>
<tr>
<td><strong>Container</strong></td>
<td>Any bag, barrel, bottle, can, cylinder, drum, reaction vessel, storage tank, or the like containing a hazardous chemical.</td>
</tr>
<tr>
<td><strong>Explosive</strong></td>
<td>A chemical that when subjected to sudden shock, pressure, or high temperature causes a sudden, almost instantaneous release of pressure, gas, and heat.</td>
</tr>
<tr>
<td>Flammable Aerosol</td>
<td>An aerosol that yields a flame projection exceeding 18 inches at full valve opening or a flashback (a flame extending back to the valve) at any degree of valve opening.</td>
</tr>
<tr>
<td>Flammable Gas</td>
<td>A gas that at ambient temperature and pressure forms a flammable mixture with air at a concentration of 13% by volume or less; or, a gas at ambient temperature and pressure forms a range of flammable mixtures with air wider than 12% by volume regardless of the lower limit.</td>
</tr>
<tr>
<td>Flammable Liquid</td>
<td>A liquid having a flashpoint below 100°F.</td>
</tr>
<tr>
<td>Flammable Solid</td>
<td>A solid, other than a blasting agent or explosive, that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily. And, when ignited burns so vigorously and persistently it creates a serious hazard.</td>
</tr>
<tr>
<td>Flashpoint</td>
<td>The minimum temperature at which liquid gives off a vapor in sufficient concentration to ignite.</td>
</tr>
<tr>
<td>Hazardous Chemical</td>
<td>Any chemical that is a physical hazard or a health hazard.</td>
</tr>
<tr>
<td>Hazard Warning</td>
<td>Any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning conveying the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s).</td>
</tr>
<tr>
<td>Health Hazard</td>
<td>A chemical with statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. This term includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents that act upon the hematopoietic, and agents which damage the lungs, skin, eyes, or mucous membranes.</td>
</tr>
<tr>
<td>Label</td>
<td>Any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.</td>
</tr>
<tr>
<td>Safety Data Sheet (SDS)</td>
<td>Written or printed material concerning a hazardous chemical prepared in accordance with OSHA Hazard Communication Standard requirements.</td>
</tr>
</tbody>
</table>
Oxidizer | A chemical other than a blasting agent or explosive that initiates or promotes combustion in other materials thereby causing fire either of itself or through the release to oxygen of other gases.

Physical Agent | Means heat stress, cold stress, hand-arm (segmental) vibration, ionizing, radiation, lasers, noise, radio frequency and microwave radiation, or ultraviolet radiation which exceeds the threshold established in the 1995-1996 edition of *Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure indices in the Work Environment* published by the American Conference of Governmental Industrial Hygienists (ACGIH).

Physical Agent Data Sheets (PADS) | Written or printed material concerning a physical agent prepared in accordance with the Alaska Department of Labor and Workforce Development Occupational Safety and Health Division requirements.

Physical Hazard | A chemical with scientifically valid evidence that it’s a combustible liquid, compressed gas, explosive, flammable, and organic peroxide, an oxidizer, pyrophoric, unstable (reactive), or water-reactive.

Pyrophoric | A chemical that will ignite spontaneously in air at temperatures of 130°F or below.

Unstable (Reactive) | A chemical in its pure state or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure, or temperature.

Water-Reactive | A chemical that reacts with water to release a gas that is either flammable or presents a health hazard.

Work Area | A room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

Workplace | An establishment, jobsite, or project, at one geographical location containing one or more work areas.

### 4.0 Hazard Determination
Mass relies on information provided by chemical manufacturers and chemical importers for the purpose of hazard determination under this Hazard Communication Program. The information provided by chemical manufacturers and chemical importers is in the form of a safety data sheet (SDS).
4.1 Hazardous Chemical and Physical Agent Inventory List
Mass completes a hazardous chemical and physical agent inventory for each workplace. This inventory list is updated, if a new hazardous chemical or physical agent is introduced to a workplace. In addition, Mass performs (at a minimum) an annual inventory of hazardous chemicals and physical agents ensuring the inventory list is current and complete.

4.2 Material Safety Data Sheets
Mass obtains an SDS for each hazardous chemical present in a workplace. SDS is maintained at a central location at each workplace easily identified and readily accessible to all employees during their work shift. Mass requests SDS be supplied with shipments of hazardous chemicals to each workplace. Updated SDS (when made available by the chemical manufacturer or chemical importer) are incorporated into this Hazard Communication Program.

Mass evaluates each SDS received for completeness. At a minimum, SDS must include the following information:

- Exposure controls and hazard information.
- Physical and chemical properties of the material.
- Stability and reactivity of the material.
- Toxicological information.
- Handling, storage, transportation, and disposal considerations.
- Composition information on ingredients of the material.
- Signs, symptoms, and health effects of exposure.
- First-aid measures.
- Fire fighting measures.
- Accidental release measures.
4.3 Physical Agent Data Sheets
Mass obtains physical agent data sheets (PADS) for each physical agent present in a worksite. PADS are maintained at a central location at each workplace easily identified and readily accessible to all employees during their work shift. PADS are obtained from the Alaska Department of Labor and Workforce Development, Occupational Safety and Health Division at the following address:

Alaska Department of Labor
Labor Standards and Safety
3301 Eagle Street
Anchorage, Alaska 99510-7022

Phone: 907-269-4955

Internet Web Site: http://www.labor.state.ak.us/lss/oshhome.htm

5.0 Container Labeling Procedures
Mass personnel ensure each container of an incoming shipment of hazardous chemicals is properly labeled with the following minimum information:

- Product identification and manufacturer information.
- Hazard(s) identification.
- Composition/information on ingredients.
- First-aid measures.
- Fire fighting measures.
- Accidental release measures.
- Handling and storage
- Exposure controls / personal protection
- Physical and chemical properties
- Stability and reactivity
Labels supplied by the manufacturer are not defaced or removed from the containers. Labels are in English and prominently displayed on the containers.

If a Mass employee transfers a hazardous chemical from the manufacturer or importer, the employee ensures the secondary container is immediately labeled with the following minimum information:

- Product Identifier
- Supplier Identification
- Precautionary Statements
- Hazard Pictograms / Signal Words
- Hazard Statement
- Supplemental Information

Secondary container labels can include a photocopy of the original container label or any combination of words, pictures, or symbols that convey at least general information regarding the hazards of the material. SDS can be used to provide specific information to the employee when secondary container labels provide general information regarding material hazards. Employees are trained in the specific labeling procedures for secondary containers used at each Mass worksites.
6.0 Performing Non-Routine Tasks
Mass informs affected employees of the hazards associated with the performance of non-routine tasks. Prior to initiating a non-routine task Mass management specifies the appropriate engineering controls, administrative controls, PPE, and the safe work practices required to complete a non-routine task. This information is reviewed with employees prior to performing the non-routine task.

7.0 Training Program
Mass requires all employees affected by this Hazard Communication Program attend a training program. Employee training is conducted at the time of initial assignment to a work area where hazardous chemicals and/or physical agents are present. Additional training is provided whenever a new hazardous chemical and/or physical agent is introduced to the work area for which an employee was not trained. Mass management and supervisors may require an employee repeat the training if that employee exhibits a lack of understanding regarding this Hazard Communication Program.

The contents of the training program will (at a minimum) include the following:

- The requirements of the OSHA Hazard Communication Standard.
- Additional hazard communication requirements of the Alaska Department of Labor and Workforce Development.
- Any operations in work area where hazardous chemicals and/or physical agents are present.
- The location and availability of this Hazard Communication Program including the hazardous chemical and physical agent inventory list, SDS, and PADS.
- Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area.
- The physical and chemical health hazards of chemicals and/or physical agents in the work area.
• The measures employees can take to protect themselves from the physical and chemical health hazards and/or physical agents (e.g., appropriate work practices, emergency procedures, and PPE).

• The details of this Hazard Communication Program including an explanation of the labeling system, MSDS, and PADS, and how employees can obtain and use the appropriate hazard information.

When training about hazards associated with hazardous chemicals the information may be presented to cover categories of hazards such as flammable liquids, carcinogens, or compressed gases. However, chemical-specific information of each hazardous chemical must always be available through labels and MSDS.

8.0 Subcontractor Requirements
Mass coordinates the implementation of this Hazard Communication Program in each workplace where subcontractors may be exposed to hazardous chemicals and/or physical agents. Mass provides a copy of this Hazard Communication Program and applicable MSDS and PADS to the subcontractors. In addition, subcontractors are responsible for providing Mass with copies of SDS and PADS for hazardous chemicals or physical agents they intend introducing at a Mass worksite. Affected Mass and subcontractor employees are trained on the hazardous chemicals or physical agents for the new hazards they may be exposed to.

9.0 Posting Requirements
Mass ensures current state and federal labor law documents are posted at each workplace. This poster is designed to meet the requirements of Alaska Statute (AS) 18.60-065. An equivalent poster may be displayed, if it meets the requirements of AS 19.60-065 through 18.60-068.

In addition, Mass posts SDS, PADS or equivalent information for each hazardous chemical and physical agent to which an employee may be exposed. Instead of posting each SDS or PADS, Mass may instead opt to post the hazardous chemical and physical agent inventory list at each workplace with an identification of a location where employees may access SDS and PADS at any time during the work shift.
Mass Excavation, Inc.

Site-Specific Safety Plan

Jobsite and Equipment Inspection

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   3.3 Weekly (formal documented) ..................................................................... 3
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4.0 Reporting and Documentation ........................................................................ 3
Jobsite and Equipment Inspection

1.0 Purpose
Inspections are performed on all jobsite locations and equipment for prevention and identification of potential hazards. In most every section of this SSP there’re requirements for either daily or weekly inspections. Some inspections are performed informally (daily) and not documented, but other formal inspections (daily and weekly) may require documentation kept on site.

2.0 Responsibility
The Project Manager, Superintendent, and Foreman are all responsible for making sure all documented inspections are performed on the jobsite. Employees are responsible for performing daily informal inspections and may be assigned the task of performing and documenting formal inspections.

3.0 Types of Inspections
Ideally, all jobs and equipment are subjected to an inspection. The following is a list of inspections that should be performed. This list is non-inclusive; there may be other required inspections. Consult our Safety Coordinator.

3.1 Daily Inspections (informal, not documented)
- Work area
- Exits, corridors, pathways
- Site security
- Material storage
- Lighting
- Housekeeping
- Tools and guards
- Electrical cords and panels
- Fall-arrest equipment being used
- PPE
- Ladders
- Slip hazards
- Temp. heat
3.2 Daily
- All power equipment, excavators, dozers, loaders, crusher, etc.
- Excavations
- Confined space

3.3 Weekly (formal documented)
- Jobsitewide safety inspection: hazards and corrections
- Storm water pollution prevention

3.4 Monthly
- Fire extinguishers: documented on extinguisher tag.

4.0 Reporting and Documentation
- All employees are required to report all safety hazards to their supervisors.

- All employees are required to fix or correct all safety hazards noted during inspections in a timely manner regardless if the inspection was documented or not.

- Forms for inspection documentation can be found in the appendices of this section or in the appendices following a specific section of this SSSP.

**Note:** Various weekly inspections forms are in the appendices of this section. This will allow for jobsites to use the form that fits their needs best.
Mass Excavation, Inc.
Safety Inspection Report

Jobsite: _________________________________   Date: ____________________________________
Company Name: _______________________     Representative: _______________________

S=Satisfactory, U=Unsatisfactory, N/A

<table>
<thead>
<tr>
<th>Safety Item</th>
<th>Grade</th>
<th>Location and Corrections Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper PPE used for all tasks.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavations protected and/or sloped properly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavation barricaded, marked if left open.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic plan in place, pedestrian traffic control.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rigging in good condition and used properly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overhead power identified and controlled.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spoil piles 2 ft. back of excavation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perimeter slip hazard controlled (wet, rock, ice).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment inspections performed daily.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Back-up alarms operating.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire extinguishers inspected and accessible.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right tool being used for the job and guards in place.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension cords in good condition and inspected. Power source grounded and GFCI.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work areas clear of construction debris.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Break areas clean and trash disposed properly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tools stored properly when not in use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammable/combustible materials stored properly. Materials storage neat and orderly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First aid kit accessible and stocked.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restroom facilities adequate and clean.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exits, corridors, &amp; pathways clear.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competent person designated and known.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site &amp; equip secured at end of each day. Keys</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inspection observations, findings, and comments:

1.   ________________________________________________________________

2.   ________________________________________________________________

3.   ________________________________________________________________

4.   ________________________________________________________________

*Use the back of the sheet for additional notes.*
## Mass Excavation, Inc.
### Weekly Safety Inspection Guide

**Location:**

**Performed By:**

**Date:**

<table>
<thead>
<tr>
<th>Safety Item</th>
<th>Grade</th>
<th>Date Corrected</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forklifts</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspections performed and up to date.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check boom and forks for cracks.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check nylon straps for wear.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check steel chokers for kinks and fraying.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ladders</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ladders inspected and in good condition.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ladders properly secured top and bottom</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension ladders extend 3’ at top edge.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ladders used properly, no use of top two steps.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step ladders fully opened &amp; locked when in use.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ladders used near guard rails worker using FAS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No metal ladders around electrical hazards</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ladder safety feet used properly.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Scaffolding/Mobile Scaffolding</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All structural members meet safety factors.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All connections secure.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foot sills and mud sills provided.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaffold plumb and square with cross bracing.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guard rails, intermediate rails, toe boards.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequate, sound planking provided.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaffold equipment in good working order.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ropes and cables in good condition.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile scaffold wheels/casters locked when in use.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rails use when working surface above six feet.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fall Protection/Arrest Equipment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check body harnesses for wear problems.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check lanyards, wear and snap hooks.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check anchorages for holding strength (5,000 lbs).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check self-retracting lifelines for use and inspection.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check guardrails placed at heights.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Personal Protective Equipment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head protection--hard hats</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing protection--noise monitoring on job.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foot protection.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety glasses.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubber gloves, aprons &amp; sleeves for chemicals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proper PPE used for all activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricians rubber gloves and protectors.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Use the back of this sheet for additional notes*

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Date:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>S=Satisfactory, U=Unsatisfactory, N/A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety Item</td>
<td>Grade</td>
<td>Date Corrected</td>
<td>Notes</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------</td>
<td>----------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td><strong>FIRE PREVENTION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire protection program developed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire instructions provided to personnel.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequate fire extinguishers provided, identified, inspected and accessible at necessary locations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone number of fire department posted.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrants clear, access open (not blocked).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good housekeeping in evidence.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporary heating devices safe. Adequate ventilation?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HOISTS AND CRANES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cables and sheaves regularly inspected.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slings and chains, hooks and eyes inspected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment firmly supported.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outriggers used if needed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power lines inactivated, removed or at a safe distance.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swing radius barricaded.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proper loading for capacity at lifting radius.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated load capacities posted.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All equipment properly lubricated and maintained.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signal workers where needed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signs posted, understood and observed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspection and maintenance logs maintained.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazard signs posted and visible to operator.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WELDING AND CUTTING, HOTWORK</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operators qualified.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screens and shields used when needed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goggles, welding helmets, gloves and clothing used.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment in safe operating condition.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical equipment grounded.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power cables and hoses protected and good repair.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire extinguishers of proper type nearby.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surrounding area inspected for fire hazards.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammable materials protected or removed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas cylinders secured upright.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cylinder caps in use.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OPENINGS IN FLOORS AND ROOFS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covered properly or guarded.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covering material will hold 200 lbs.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Use the back of the sheet for additional notes

<table>
<thead>
<tr>
<th>Safety Item</th>
<th>Grade</th>
<th>Date Corrected</th>
<th>Notes</th>
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<tbody>
<tr>
<td><strong>WORK METHODS &amp; ATMOSPHERE</strong></td>
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<tr>
<td>Proper Lifting Techniques used.</td>
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<tr>
<td>No running on the jobsite</td>
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<tr>
<td>Adequate manpower for individual activities.</td>
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<tr>
<td>Workers aware of the their surroundings.</td>
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<tr>
<td>Slip, trip, or fall hazards identified and corrected.</td>
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<tr>
<td>Housekeeping.</td>
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<tr>
<td>Are JHA’s completed for each task.</td>
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<tr>
<td>Inspections documented for excavation/confin. space.</td>
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<tr>
<td>Proper lighting for outdoors and work area.</td>
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<tr>
<td><strong>JOB SITE INFORMATION</strong></td>
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<tr>
<td>All required posters posted.</td>
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<tr>
<td>Safety Meetings Held and Documented.</td>
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<td>Medical services, first aid equipment.</td>
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<td>Emergency Telephone numbers posted.</td>
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<td>Haz-Com information posted.</td>
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<tr>
<td>MSDS collected and available.</td>
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<tr>
<td><strong>HEALTH INFORMATION PROGRAM</strong></td>
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<tr>
<td>Employees aware of any dangerous airborne hazards.</td>
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<td>Employees aware of any dangerous chemical hazards</td>
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<tr>
<td>PADS available to all employees.</td>
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<tr>
<td><strong>HAND TOOLS</strong></td>
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<tr>
<td>Proper tools being used for each job.</td>
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<tr>
<td>Safe carrying practices used (and on ladders).</td>
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<tr>
<td>Tools are regularly inspected and maintained.</td>
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<tr>
<td><strong>POWER TOOLS</strong></td>
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<tr>
<td>Good housekeeping where tools are used.</td>
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<tr>
<td>Tools and cords in good condition.</td>
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<td>Proper grounding of all tools (3 prongs!).</td>
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<tr>
<td>Proper instruction in use provided.</td>
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<tr>
<td>All mechanical safeguards in use.</td>
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<tr>
<td>Tools neatly stored when not in use.</td>
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<tr>
<td>Right tool being used for the job at hand.</td>
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<tr>
<td>Wiring properly installed.</td>
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<tr>
<td><strong>POWDER-ACTUATED TOOLS</strong></td>
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<tr>
<td>All operators licensed.</td>
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<td>Tools used only on recommended materials.</td>
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<td>Safety glasses or face shields worn.</td>
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<td>Tools stored properly &amp; unloaded when not in use.</td>
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<tr>
<td>Competent instruction and supervision provided.</td>
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<td>Safety Item</td>
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<tr>
<td><strong>HEAVY EQUIPMENT</strong></td>
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<td>Inspection and maintenance records current.</td>
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<tr>
<td>Lights, brakes and warning signals operative.</td>
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<td>Wheels chocked when necessary</td>
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<td>Haul roads well maintained and properly laid out.</td>
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<td>Equipment is properly secured when not in use.</td>
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<td>Noise arresters in use.</td>
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<td>Roll over protection devices in place.</td>
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<td>Fire extinguishers installed and inspected.</td>
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<td><strong>MOTORIZED VEHICLES &amp; LIFT TRUCKS</strong></td>
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<td>Barricades illuminated or reflectorized at night.</td>
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<td>Traffic control devices used when appropriate.</td>
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<td>Inspection and maintenance records up to date.</td>
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<tr>
<td>Operators qualified for vehicle in use.</td>
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<td>Brakes, lights and warning devices operative.</td>
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<td>Weight limits and load sizes controlled.</td>
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<td>Personnel transported in safe manner.</td>
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<td>Fire extinguishers installed where required.</td>
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<td>Backup signals (visual and audible) provided.</td>
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<td>Forks, masts, hydraulic lines, batteries, fuel lines, etc. in good shape.</td>
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<td><strong>FLAMMABLE GASES &amp; LIQUIDS (HAZ-MAT)</strong></td>
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<td>All containers approved and clearly identified.</td>
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<td>Proper storage practices observed.</td>
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<td>Fire hazards checked.</td>
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<td>Proper types and number of extinguishers nearby.</td>
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<td>Proper method for moving cylinders used.</td>
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<td>MSDS information available.</td>
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<td>Safety Item</td>
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<tr>
<td><strong>HOUSEKEEPING</strong></td>
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<td>Sanitary facilities adequate and clear.</td>
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<td>Potable water available for drinking.</td>
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<td>Disposable drinking cups available/container for used cups.</td>
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<td>Working areas generally neat.</td>
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<td>Waste and trash regularly disposed.</td>
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<tr>
<td>Enclosed chute provided when material dropped outside of building from over 20 feet.</td>
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<tr>
<td>Lighting adequate for all work tasks.</td>
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<td>Projecting nails removed or bent over.</td>
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<tr>
<td>Oil &amp; Grease removed from all passageways</td>
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<tr>
<td>Waste containers provided and used.</td>
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<tr>
<td>Passageways and walkways clear.</td>
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<tr>
<td><strong>MATERIAL STORAGE/HANDLING</strong></td>
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<tr>
<td>Materials properly stored or stacked.</td>
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<tr>
<td>Passageways clear.</td>
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<tr>
<td>Stacks on firm footings, not too high.</td>
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<tr>
<td>Materials protected against weather conditions.</td>
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<tr>
<td>Trash chutes safeguarded and properly used.</td>
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<tr>
<td>Dust protection observed.</td>
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<tr>
<td>Traffic controlled in storage area.</td>
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<tr>
<td><strong>AIR COMPRESSORS</strong></td>
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<tr>
<td>Equipped with pressure gauge.</td>
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<td>Safety valve provided.</td>
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<td>Hoses secured to fittings</td>
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<td>Reducer valve installed.</td>
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<tr>
<td><strong>IMPALEMENT HAZARDS</strong></td>
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<tr>
<td>Vertical hazards and exposed rebar capped.</td>
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<tr>
<td>Conduit and tubing capped or covered.</td>
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<td>Horizontal hazards covered and marked.</td>
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<tr>
<td><strong>ELECTRICAL INSTALLATIONS</strong></td>
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<tr>
<td>Adequate wiring, insulated, grounded, protected</td>
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<tr>
<td>Ground fault circuit interrupters tested</td>
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<td>Electrical panels clear.</td>
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<tr>
<td>Terminal boxes equipped with required covers.</td>
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<tr>
<td>Extension cords in good condition.</td>
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<td>Time Observed: (am) (pm)</td>
<td>Location:</td>
<td>Safety Deficiency:</td>
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<td>6</td>
<td>(am)</td>
<td>Location:</td>
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</table>

The above safety deficiencies were observed on the jobsite as indicated. Please ensure the safety deficiencies are corrected and have the person verifying the correction sign and date where indicated.

Safety Officer:______________________________________________________       Date: _________________________

Return Completed Form to Safety Officer
Mass Excavation, Inc.

Site-Specific Safety Plan

Training and Meeting Documents

1. Site Safety Orientation Sheet
2. Site Safety Orientation Log
3. Weekly Safety Meeting Topic Sheet
4. Weekly Safety Meeting & Inspection Sheet – 24 Names
5. Weekly Safety Meeting Attendance Log
6. General Training Log
7. Training Records
MASS EXCAVATION
Site Safety Orientation

Policy for Safety Orientation
Before a new employee or subcontractor may begin work they must participate in a Site Safety Orientation which explains the policies and mandatory safety requirements for working on a MASS X construction project.

The following information has been conveyed to me:
1. Safety needs to be integrated into everything we do—think safe, don't do anything you feel is unsafe.
2. Attendance at daily or weekly safety meetings is required; Monday at 12:30.
3. How to obtain, use, and care for personal protective equipment.
   - Appropriate clothing must be worn at all times on the jobsite.
   - Work boots, 4” sleeves, and long-legged pants (No tank tops or shorts).
   - Hardhats and safety glasses must be worn at all times. Exceptions must be approved.
   - Reflective vest will be worn when working around heavy equipment.
4. How to perform initial job assignments in a safe manner through job hazard analysis (JHA).
5. Hazard Communication (HAZCOMM), jobsite postings, and environmental issues (SWPPP).
6. Actions to take in an emergency, including exit routes from the site, and safe gathering areas.
7. Employees are required to report to their supervisor immediately any and all unsafe conditions, injuries or illnesses, regardless of the degree of severity.
8. The location of first aid kits, fire extinguishers, and eyewash station.
9. Keep in mind that all employees are responsible for housekeeping.
10. Inspect all electrical equipment and cords daily before use. All power sources must be GFCI protected.
11. Daily inspection of all equipment prior to use. Equipment will be used according to manufacturer's specifications.
12. Accident and injury reporting and employee rights and obligations regarding workers compensation.
13. Operation, qualifications, and lockout/tag out of equipment.
14. Davis Constructors employees must undergo required drug testing prior to the first day of employment.
15. Profane language will not be tolerated.
16. Cell phone policy, operating equipment while using a cell phone is strictly prohibited.

General Job Safety Procedures

Site Specific Safety Procedures
1. Fall protection is required for any activity that exposes an employee to a fall of six or more feet, if employees need to use fall protection they must attend specific training.
2. Emergency phone numbers are located on each safety station positioned at the site entrance points.
3. No Smoking except in authorized areas.
4. SWPPP, report all spills and any water or liquids flowing off site. Spill kit.
5. Park only in authorized areas and observer posted speed limits on site as these are strictly enforced.
6. Maintain the security of the jobsite by securing tools in locked gang boxes, locking doors and gates.
7. Working around the public and traffic considerations.
8. Other site issues as needed.

Acts That Are Grounds For Immediate Dismissal
1. The use of alcohol or narcotics on the job or arrival on the job under the influence of these substances.
2. No gambling, fighting, inciting riots, practical joking, horseplay, or sexual/racial harassment.
3. Carrying firearms or dangerous weapons to the job site.
4. Theft of material, equipment, or supplies.
5. Unauthorized use of company vehicles, reckless driving, and operating tagged out equipment.
6. Repeated minor, or a major violation of safety regulations.

Employee or Subcontractor Signature
This informational form provides an overview and is not intended to be an all-inclusive list. MASS Excavation reserves the right to revise any policy at its sole discretion, at any time, without prior notice. All information in this orientation checklist was explained to me, and I agree to comply with MASS Excavation Safety policies.

<table>
<thead>
<tr>
<th>Print Name</th>
<th>Company</th>
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<tbody>
<tr>
<td>Sign Name</td>
<td>Date</td>
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Acted On By
I explained all items in this orientation checklist to the employee.

<table>
<thead>
<tr>
<th>Print Name</th>
<th>Title</th>
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<tr>
<td>Sign Name</td>
<td>Date</td>
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Supervisor or Briefer Signature
<table>
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<tr>
<th>Print Name</th>
<th>Signature</th>
<th>Company</th>
<th>Date</th>
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# WEEKLY SAFETY MEETING

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<th>Jobsite:</th>
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<th>Job # :</th>
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<th>12:30</th>
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Meeting held by:

## Items to Discuss

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## Other Items of Discussion

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## Suggestions

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<th>Name</th>
<th>Company</th>
<th>Comment</th>
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</table>
### Weekly Safety Meeting & Jobsite Inspection Report

<table>
<thead>
<tr>
<th>Jobsite: #________</th>
<th>Date: ____________________</th>
<th>Time: ____________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting held by:</td>
<td></td>
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</tbody>
</table>

#### Attendees:

<table>
<thead>
<tr>
<th>Name</th>
<th>Employer</th>
<th>Name</th>
<th>Employer</th>
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<tbody>
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#### Items Discussed

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#### Action to be Taken

- [ ]
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### Jobsite Inspection

<table>
<thead>
<tr>
<th>Title:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Interior Housekeeping in Order</td>
<td>Proper PPE Being Used</td>
</tr>
<tr>
<td>Exterior Housekeeping in Order</td>
<td>Flammable Materials Properly Stored</td>
</tr>
<tr>
<td>Storage Yard Housekeeping in Order</td>
<td>Back-Up Alarms Operational</td>
</tr>
<tr>
<td>All Equipment Inspected and Operable</td>
<td>Excavations Protected, Slope/Box</td>
</tr>
<tr>
<td>Walkway &amp; Corridors Clear</td>
<td>Egress Available, Ladder</td>
</tr>
<tr>
<td>First-aid Kits Serviceable</td>
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</tbody>
</table>
# General Training Log

<table>
<thead>
<tr>
<th>Equipment Type:</th>
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<tbody>
<tr>
<td>Project Number:</td>
<td></td>
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<tr>
<td>Project Name:</td>
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<thead>
<tr>
<th>Instructor Printed Name</th>
<th>Instructor Signature</th>
<th>Date</th>
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Trenching and Excavation Procedures

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Mass Excavation, Inc.

Site-Specific Safety Plan

Trenching and Excavation Procedures

1.0 Introduction
Anytime Mass Excavation, Inc. (Mass) employees are working near or in an excavation it’s considered a trenching and excavation activity. An excavation is a trench, hole, pit, or other circumstance where an engulfment or cave-in hazard may exist. This program provides the safety requirements for activities involving excavations in accordance with 29 CFR 1926, Subpart P – Excavations.

2.0 Scope
The purpose of the Trenching and Excavation Procedures (TEP) is to establish basic criteria for safe trenching and excavation during earth moving operations. Variances in site conditions, project scope, and design features may warrant alterations to these general safety procedures. The TEP will apply to all Mass and Mass X projects and activities when working within the scope of our Health and Safety Policies.

3.0 Definitions

<table>
<thead>
<tr>
<th>TERM</th>
<th>DEFINITION</th>
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<tbody>
<tr>
<td>Benching</td>
<td>Is a method of protecting employees from cave-ins by excavating the sides of an excavation forming one set of horizontal levels or steps usually vertical or near vertical surfaces between levels.</td>
</tr>
<tr>
<td>Competent Person</td>
<td>A competent person is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate hazards.</td>
</tr>
<tr>
<td>Excavation</td>
<td>Any man-made cut, cavity, trench, or depression in an earth surface formed by earth removal.</td>
</tr>
<tr>
<td>Hazardous Atmosphere</td>
<td>An atmosphere that by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic or otherwise harmful, may cause death, illness, or injury.</td>
</tr>
<tr>
<td>Protective Systems</td>
<td>A method of protecting employees from cave-ins from material that could fall or roll from an excavation or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems providing the necessary protection.</td>
</tr>
<tr>
<td>Sloping</td>
<td>A method of protecting employees from cave-ins by excavation</td>
</tr>
</tbody>
</table>
to form sides of an excavation inclined away from the excavation preventing cave-ins. The angle of incline required to prevent a cave-in varies with differences in factors as well as the soil type, environmental conditions of exposure, and application of surcharge loads.

Support System
A structure such as underpinning, bracing, or shoring, providing support to an adjacent structure, underground installation, or the sides of an excavation.

Trench
A narrow excavation made below the surface of the ground. In general the depth is greater than the width, but the width of a trench measured at the bottom is not greater than 15’. If forms or other structures are installed or constructed in an excavation so as to reduce the dimension measured from the forms or structure to the side of the excavation of 15’ or less, the excavation is also considered to be a trench.

4.0 Responsibilities

4.1 Competent Person
The competent person(s) is responsible for:
- Day-to-day oversight of open excavations and trenches.
- Conducting soil classifications.
- Selection of protective systems.
- Conducting daily inspections of open excavations and trenches.
- Providing the Safety Coordinator with all required documentation on a daily basis.

4.2 Line Management
The superintendent is responsible for:
- Ensuring compliance with this procedure.
- Providing the necessary resources for compliance with this procedure.
- Designating competent personnel in consultation with the Health and Safety Coordinator.

4.3 Safety Coordinator
The Safety Coordinator (SC) is responsible for:
• Providing oversight on the implementation of the requirements contained in this procedure.

• Conducting periodic review of open trenches and excavations.

• Consulting with the superintendent and competent person on excavation issues.

• Maintaining required records.

5.0 Procedures
The following sections provide general requirements governing activities in and around open excavations and trenches as well as the requirements for the selection and use of protective systems. The requirements are presented in Section 5.1 and 5.2 respectively.

5.1 Designation of Competent Person
Prior to starting any excavation work the superintendent designates a competent person to fulfill the requirements of this procedure.

5.2 General Requirements
• Surfaces surrounding open trenches and excavations have all surface hazards removed.

• All utilities are located and cleared prior to initiating digging, public or facility utility groups are utilized where possible for this purpose. In the absence of either, the SC specifies the procedure to use to clear utilities in consultation with a Mass or Mass X superintendent. When the excavation is open utilities are supported and protected from damage. Clearance and support methods are documented on the daily inspection checklist.

• Where structural ramps are used for egress, they’re installed in accordance with 1926.651 (c) (1).

• Stairways, ladders, or ramps are provided as means of egress in all trenches 4 feet or more in depth. Travel distance is no more than 25 feet between means of exit.

• Employees exposed to vehicular traffic wear traffic vests.
• No employee is permitted under loads being lifted or under loads being unloaded from vehicles.

• When vehicles and machinery are operating adjacent to excavations, warning systems such as stop logs or barricades are used to prevent vehicles from entering the excavation or trench.

• Scaling or barricades are used to prevent rock and soils from falling on employees.

• Excavated and loose material is kept at least 3 feet from the edge of excavations.

• Walkways or bridges with standard railing are provided at points employees cross over excavations or trenches.

• Barriers are provided to prevent personnel from inadvertently falling into an excavation.

5.3 Hazardous Atmospheres
Where atmospheres containing less than 19.5 percent oxygen or other types of hazardous atmospheres may exist the following requirements are implemented:
• Atmospheric testing is done prior to employees entering excavations 4 feet or greater in depth.

• Testing methods are listed on the daily inspection checklist and results documented daily in field logs.

• Control measures such as ventilation and PPE are used to control employee exposure to hazardous atmospheres below published exposure limits.

• Ventilation is used to control flammable and combustible vapors to below 10 percent of their lower explosive limit.

• Testing is repeated as often as necessary to ensure safe levels of airborne contaminants.

• Emergency equipment is provided and present when the potential for a hazardous atmosphere exists. This equipment includes (but, is not limited to) an emergency
breathing apparatus, harnesses, lifelines, and basket stretchers. Required equipment is listed on the daily inspection checklist and reviewed daily.

5.4 Protection From Water Hazard
When water collects in excavations and trenches the following is required:

- Employees do not work in excavations in which water has, or is, accumulating without the use of additional protection such as special support systems or water removal.

- Water removal is monitored by a competent person.

- Barriers such as ditches and dikes are used to divert runoff from excavations and trenches.

- Trenches are re-inspected prior to re-entry after water accumulation due to heavy rainfall or see page.

5.5 Stability of Adjacent Structures
When excavating or trenching near an adjacent structure the following practices are implemented:

- Support systems such as shoring, bracing, or underpinning are provided when the stability of buildings, walls, or other such structures is endangered by excavation.

- Excavations at bases or footings of foundations are prohibited unless:
  - support systems are used,
  - the excavation is in stable rock,
  - a professional engineer (PE) determines the structure sufficiently removed from the site does not pose a hazard,
  - or the PE determines the excavation does not pose a hazard to employees due to the structure.

- Support systems are used when it’s necessary to undermine sidewalks, pavements, and appurtenant structures.

- Surcharge load sources and adjacent encumbrances are listed with their evaluation date on the daily inspection checklist.
5.6 Daily Inspections
Inspections are performed daily on all excavations, adjacent areas, and protective systems before personnel enter the trench. The checklist provided in Appendix 1 or equivalent is used.

5.7 Soil Classifications
To perform soil classifications, the competent person uses a thumb test, pocket penetrometer, or shear vane to determine the unconfined compressive strength of the soils being excavated. In soils with changing properties (i.e. one soil type mixed with another within a given area) several tests may be necessary. When different soil types are present, the overall classification is that of the type with the loosest unconfined compressive strength. Classifications result in a soil rating of Stable Rock, Type A, Type B, or Type C in daily inspection checklist. The soil analysis checklist provided in Appendix 2 or equivalent is used for soil classifications.

5.8 Sloping and Benching
All sloping and benching is done in accordance with 29CFR 1926.652, Appendix B. Selection of the sloping method and evaluation of the surface surcharge loads is made by a competent person familiar with the requirements of 29CFR 1926.652, Appendix B. Sloping and benching methods and specifications are listed on the daily inspection checklist.

5.9 Protective Systems
Protective systems are required on all excavations over 5 feet in depth or in excavations less than 5 feet when examination of the ground by a competent person reveals conditions may result in cave-ins.

6.0 Training
Competent person has an adequate combination of experience and training to classify soil types and select protective systems as outlined in 29 CFR 1926.652. Training and experience pertaining to qualification as a competent person is documented and include the following:

- General safety practices related to working in or near open excavations.
- Inspection requirements and techniques.
• Classifications of soils in accordance with 29 CFR 1926.652.

• Uses, limitations, and specifications of protective systems in accordance with 29 CFR 1926.652.

7.0 References
OSHA (U.S. Department of Labor, Occupational Safety and Health Administration) 29 CFR 1926, subpart P, Excavations.
Mass Excavation
Appendix 1

Trench/Excavation Inspection

Site Name: _______________________________ Date: _______ Time: _______
Excavation Location______________________________________________________

Site Evaluation

<table>
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<th>Ok</th>
<th>Unsafe</th>
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<td>___</td>
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<tr>
<td>Ok</td>
<td>Unsafe</td>
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</tbody>
</table>

Surface encumbrances
Underground installations
Access and egress
Exposure to vehicular traffic
Exposure to falling loads
Hazardous atmospheres
% Oxygen (O2)

Warning system for mobile equipment
Protection from water accumulation
Stability of adjacent structures
Employee protection - loose rock/soil
Inspections
Fall protection
% Flammables (L.E.L.)

Note: The air shall be tested in excavations deeper than 4 feet, and in areas where oxygen deficiency or gaseous conditions. Air samples shall be taken prior to each shift or more often if required. A log shall be maintained on site. Samples shall be taken for oxygen deficiency, toxicity and explosive environment.

Soil Classification

Soil classification shall be made based on the results of at least one visual, and one manual test.

<table>
<thead>
<tr>
<th>Visual Tests</th>
<th>Manual Tests</th>
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<tbody>
<tr>
<td>Stable rock</td>
<td>Plasticity</td>
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<tr>
<td>Type A</td>
<td>Dry strength</td>
</tr>
<tr>
<td>Type B</td>
<td>Thumb penetration</td>
</tr>
<tr>
<td>Type C</td>
<td>Pocket penetrometer</td>
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</tbody>
</table>

Inspect worksite for:
Fissured ground
Layered soil
Previously disturbed earth
Seepage
Vibration
Poor drainage

Protective Support Systems

<table>
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<tr>
<th>Sloping &amp; Benching</th>
<th>Shoring &amp; Shielding</th>
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</thead>
<tbody>
<tr>
<td>Stable rock: 90 degrees</td>
<td>Timber or hydraulic</td>
</tr>
<tr>
<td>Type A: 53 degrees</td>
<td>Trench boxes, trench shields</td>
</tr>
<tr>
<td>Type B: 45 degrees</td>
<td>Design using tabulated data</td>
</tr>
<tr>
<td>Type C: 34 degrees</td>
<td>RPE design</td>
</tr>
</tbody>
</table>

Additional Comments or Information: ____________________________________________________________
___________________________________________________________________________________________
___________________________________________________________________________________________

Inspection performed by: _________________________________________________________________

Authorized Competent Person
Trenching and Excavation Procedures

Excavation Inspection Checklist
(“Competent Person” completes this form.)

For each item indicate by circling Y (Yes), N (No). Address in the Comments section items marked N/A.

I. General Inspection of Jobsite:

A. Surface encumbrances removed or supported? Y N N/A

B. Employees protected from loose rock or soil that could pose a hazard by falling or rolling into the excavation? Y N N/A

C. Hard hats worn by all employees? Y N N/A

D. Spoils, materials, and equipment set back at least 3’ from edge of the excavation? Y N N/A

E. Barriers provided at all remotely located excavations, wells, pits, shafts, etc? Y N N/A

F. Walkways and bridges over excavations of 4’ or more in depth are equipped with standard guardrails? Y N N/A

G. Warning vests or other highly visible clothing provided and worn by all employees exposed to public vehicular traffic? Y N N/A
**Mass Excavation, Inc.**  
*Site-Specific Safety Plan*

<table>
<thead>
<tr>
<th>H. Warning system established and utilized when mobile equipment is operated near the edge of the excavation?</th>
<th>Y N N/A</th>
</tr>
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<tbody>
<tr>
<td>I. Employees prohibited from working on the faces of sloped or benched excavations above other employees?</td>
<td>Y N N/A</td>
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</tbody>
</table>

### II. Utilities:

<table>
<thead>
<tr>
<th>A. Utility companies contacted and/or located?</th>
<th>Y N N/A</th>
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<tbody>
<tr>
<td>B. Exact location of utilities marked when approaching the utilities?</td>
<td>Y N N/A</td>
</tr>
<tr>
<td>C. Underground installations protected, supported, or removed when excavation is open?</td>
<td>Y N N/A</td>
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</tbody>
</table>

### III. Means of Access and Egress:

<table>
<thead>
<tr>
<th>A. Lateral travel to means of egress no greater than 25’ in excavations 4’ or more in depth?</th>
<th>Y N N/A</th>
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<tbody>
<tr>
<td>B. Ladders used in excavation secured and extended 3’ above the edge of the trench?</td>
<td>Y N N/A</td>
</tr>
<tr>
<td>C. Structural ramps used by employees designated by a competent person?</td>
<td>Y N N/A</td>
</tr>
<tr>
<td>D. Structural ramps used for equipment designed by a Registered Professional Engineer (RPE)?</td>
<td>Y N N/A</td>
</tr>
<tr>
<td>E. Ramps constructed of materials of uniform thickness, cleated together on the bottom, and equipped with a no-slip surface?</td>
<td>Y N N/A</td>
</tr>
<tr>
<td>F. Employees protected from cave-ins when entering or exiting the excavation?</td>
<td>Y N N/A</td>
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### IV. Wet Conditions:

| A. Precautions taken to protect employees from the accumulation of water? | Y N N/A |
B. Water removal equipment monitored by competent person?  
Y  N  N/A

C. Surface water or runoff diverted or controlled to prevent accumulation in the excavation?  
Y  N  N/A

D. Inspections made after every rainstorm or other hazard increasing occurrence?  
Y  N  N/A

V. Hazardous Atmosphere:

A. Atmosphere within the excavation tested where there’s a reasonable possibility of an oxygen deficiency, combustible, or other harmful contaminant exposing employees to a hazard?  
Y  N  N/A

B. Ventilation?  
Y  N  N/A

C. Testing conducted often to ensure the atmosphere remains safe?  
Y  N  N/A

D. Emergency equipment such as breathing apparatus, safety harness and line, and basket stretcher readily available where hazardous atmospheres could or do exist?  
Y  N  N/A

E. Safety harness and life line used and individually attended when entering deep confined excavations?  
Y  N  N/A

VI. Support Systems:

A. Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads?  
Y  N  N/A

B. Materials and equipment used for protective systems inspected and in good condition?  
Y  N  N/A

C. Materials and equipment not in good condition were removed from service?  
Y  N  N/A

D. Damaged materials and equipment used for protective systems inspected by a RPE after repairs and before being placed back into service?  
Y  N  N/A
E. Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or from being struck by materials or equipment? Y N N/A

F. Members of support system securely fastened to prevent failure? Y N N/A

G. Support system provided to insure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc? Y N N/A

H. Excavations below the level of the base or footing approved by the RPE? Y N N/A

I. Removal of support systems progresses from the bottom and members are released slowly to observe any indication of possible failure? Y N N/A

J. Backfilling progresses with removal of support system? Y N N/A

K. Excavation of material to a level no greater than 2′ below the bottom of the support system and only if the system is designed to support the loads calculated for the full depth? Y N N/A

L. Shield system placed to prevent lateral movement? Y N N/A

M. Employees are prohibited from remaining in shield system during vertical movement? Y N N/A
VII. Comments:

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Appendix 2
Soil Analysis Checklist

A competent person completes this form.

This checklist must be completed when soil analysis is made to determine the soil type(s) present in the excavation. A separate analysis is performed on each layer of soil in excavation walls. A separate analysis is also performed, if the excavation (trench) is stretched over a distance where soil type may change.

Site location: _______________________________ Date: _______________________

Time: __________ Name of Comp. Person: ________________________________

Where was the sample taken? ____________________________________________

**VISUAL TEST**

- Particle type: □ Fine Grained (cohesive) □ Coarse grained (sand or gravel)
- Water conditions: □ Wet □ Dry □ Surface water present □ Submerged
- Previously disturbed soils? _____ Yes _____ No
- Underground utilities? _____ Yes _____ No
- Layered soils? _____ Yes _____ No
- Layered soil dipping into excavation? _____ Yes _____ No
- Excavation exposed to vibrations? _____ Yes _____ No
- Crack-like openings or spallings observed? _____ Yes _____ No
- Conditions that may create a hazardous atmosphere? _____ Yes _____ No
- If yes, identify condition and source:

_____________________________________________________________________

- Surface encumbrances? _____ Yes _____ No
- Work to be performed near public vehicular traffic? _____ Yes _____ No
- Possible confined space exposure? _____ Yes _____ No
### MANUAL TEST

<table>
<thead>
<tr>
<th>Plasticity</th>
<th>☐ Cohesive</th>
<th>☐ Non-cohesive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Strength:</td>
<td>☐ Granular (crumbles easily)</td>
<td>☐ Cohesive (broken with difficulty)</td>
</tr>
</tbody>
</table>

**NOTE:** The following unconfined compressive strength tests should be performed on undisturbed soil.

### THUMB TEST

(Used to estimate unconfined compressive strength of cohesive soil)

<table>
<thead>
<tr>
<th>Test Performed:</th>
<th>☐ Yes</th>
<th>☐ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A</td>
<td>☐ Yes</td>
<td>☐ No</td>
</tr>
<tr>
<td>Type B</td>
<td>☐ Yes</td>
<td>☐ No</td>
</tr>
<tr>
<td>Type C</td>
<td>☐ Yes</td>
<td>☐ No</td>
</tr>
</tbody>
</table>

**NOTE:** No soil is Type “A” if soil is fissured, subject to vibration, previously disturbed, layered, dipping into the excavation on a slope of 4H:1V.

### WET SHAKING TEST

(Used to determine percentage of granular and cohesive materials) Compare to soil textural classification chart to determine soil type.

<table>
<thead>
<tr>
<th>Test performed:</th>
<th>☐ Yes</th>
<th>☐ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A</td>
<td>☐ Yes</td>
<td>☐ No</td>
</tr>
<tr>
<td>Type B</td>
<td>☐ Yes</td>
<td>☐ No</td>
</tr>
<tr>
<td>Type C</td>
<td>☐ Yes</td>
<td>☐ No</td>
</tr>
</tbody>
</table>

**NOTE:** No soil is Type “A” if soil is fissured, subject to vibration, previously disturbed, layered, dipping into the excavation on a slope of 4H:1V.
Soil Classification:

- Type A
- Type B
- Type C

Selection of Protective System:

- Sloping, Specify angle: _____
- Timber Shoring
- Aluminum Hydraulic Shoring

**NOTE:** Although Federal OSHA accepts the above tests in most cases, some states do not. Check Alaska’s safety requirements for trenching regulations.
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Mass Excavation, Inc.

Site-Specific Safety Plan

Excavating Equipment Use
and Operator Qualification

1.0 Purpose and Scope
This SOP provides the minimum procedures to be followed for the use of excavating equipment and for the qualification of excavation equipment operators. This SOP applies to all employees and subcontractors covered by the Site Specific Safety Plan for this Project.

2.0 Responsibilities
General responsibilities for this procedure are stated in Section A of this Site Specific Safety Plan. Additional management, staff, employee, and subcontractor responsibilities that address duties specific to this topic are stated in this procedure.

2.1 Project Managers / Site Superintendent:
The Site Superintendent shall:
• Designate a Competent Person(s) using the procedure and form provided in contract documents or site documentation binder and personally conduct all excavation equipment operator qualification and inspection
• Ensure that only approved equipment is used.
• Assign qualified persons to operate the excavating equipment.
• Ensure that the proper equipment for the task is provided for the employees performing the work.

2.2 Jobsite Superintendents / Foreman:
Jobsite Superintendents / Foreman shall ensure that only qualified and authorized employees are assigned to work requiring the use of equipment covered by this SOP. Supervisors must monitor the work to ensure that equipment is operated in compliance with this SOP, with manufacturers’ recommendations, and with national, state, local, and client requirements.

2.3 Equipment Operators:
Equipment operators are responsible for safe operation of the equipment, which they have been pre-qualified to operate, and must do so in accordance with training they have received, with all applicable Company SOPs, and with manufacturers’ instructions pertinent to the equipment that they will be operating.
Prior to using excavating equipment, the operator must possess a comprehensive understanding of the machine’s controls and the procedures necessary for its safe operation. Equipment operators must have the physical ability and knowledge to safely operate the equipment. Operators of equipment that can be used on public highways shall have a valid motor vehicle operator’s license.

2.4 Site Safety Supervisor
The Site Safety Supervisor along with Site Foreman will monitor the work to ensure that equipment is operated in compliance with this SOP, with manufacturers’ recommendations, and with national, state, local, and client requirements. Correction will be made and may result in additional training.

3.0 Definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back Hoe</td>
<td>A tractor mounted attachment for digging trenches and excavations.</td>
</tr>
<tr>
<td>Bulldozer</td>
<td>A track mounted machine with a front mounted blade designed for moving materials by pushing it from one place to another.</td>
</tr>
<tr>
<td>Competent Person</td>
<td>One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them. For some non-US locations the competent person may have to be an external supplier with the proper certificates based on relevant national legislation.</td>
</tr>
<tr>
<td>Dump Trucks</td>
<td>A vehicle with a tilting body to facilitate unloading itself.</td>
</tr>
<tr>
<td>FOPS</td>
<td>Falling Object Protective Structures</td>
</tr>
<tr>
<td>Front-end Loader</td>
<td>A machine with a bucket attachment designed for loading loose materials for transport.</td>
</tr>
<tr>
<td>Loader</td>
<td>Roll Over Protective Structures mounted on equipment to protect the operator.</td>
</tr>
<tr>
<td>ROPS</td>
<td>Vehicules designed for removing soil by simultaneously scraping, loading, and transporting excavated materials.</td>
</tr>
<tr>
<td>Scraper</td>
<td>A track-mounted backhoe.</td>
</tr>
<tr>
<td>Track Hoe</td>
<td>A trailer type vehicle, which has a tilting body to facilitate unloading itself and which is moved by an independent tractor or truck.</td>
</tr>
<tr>
<td>Tractor/Trailer</td>
<td>Dump Bed</td>
</tr>
<tr>
<td></td>
<td>A trailer type vehicle, which has a tilting body to facilitate unloading itself and which is moved by an independent tractor or truck.</td>
</tr>
</tbody>
</table>
4.0 Procedure

4.1 General Requirements for Excavating Equipment Use
Do not use equipment that is not in proper operating condition. Attach a “Danger — Do Not Use” tag to inoperable equipment and notify the supervisor.

Excavation equipment is inspected by operator before each use. The company oiler also inspects the equipment at least bi-weekly during general maintenance checks. A thorough documented inspection is performed every 250 working hours.

Mobile equipment must be equipped with a fire extinguisher with a minimum rating of 2A -10BC.

When mounting or dismounting equipment, clean shoes and hands before climbing. Always use handrails, grab rails, and steps. Maintain a three-point contact with steps and handholds. Never jump on or off equipment. Never attempt to mount or dismount a moving machine. Do not use steering wheel or control levers as a handhold.

Passengers shall not be allowed on equipment unless seated in a manufacturer’s installed seat and with the seat belt fastened. Never use buckets, forks, or attachments as a work platform or personnel carrier. The equipment must be equipped with:

- a functioning service brake and parking brake maintained in good working order and with
- a functioning audible back-up alarm that is distinguishable from surrounding noise.

All rubber-tired, self-propelled scrapers, rubber-tired front-end loaders, rubber-tired dozers, wheel-type agricultural and industrial tractors, crawler tractors, crawler-type loaders, and motor graders, with or without attachments, that are used in construction work shall be equipped with rollover protective structures (ROPS) and seat belts.

The manufacturer must provide written approval for modifications, for use of attachments, or for equipment use for other than its intended
purpose. Equipment capacities must be adjusted to accommodate the modifications or attachments.

4.2 **General Requirements for Operators**

It is the responsibility of the operator to read and understand the operator’s manual and the manufacturers’ recommendations for each type and model of equipment to be operated and the requirements of this SOP.

The equipment must be inspected by the operator prior to each use. Do not use equipment that is not in proper operating condition or is not within the last monthly inspection period. Attach a “Danger —Do Not Use” tag to inoperable equipment and notify the supervisor.

Operators must know the capacity and operating characteristics of the equipment to be operated.

The equipment must be attended at all times or attachments must be placed in the “transport lock position” or lowered to the ground.

The operator must check the work area for slopes, obstructions, potholes, etc. prior to beginning work. Check for overhead obstructions such as power lines, pipe racks, etc. and ensure proper clearances.

Loads must be carried as low as possible to maintain stability of the equipment and operator visibility.

Operations are to be performed only from the operators control station. When equipped with “roll over protective structures, the operator must wear seat belt at all times.

Never lift loads over people, occupied buildings, or operating equipment.

Use caution when handling objects such as equipment, poles, stumps, cylinders, sheets of plywood, etc. Lifting too high or rolling the bucket too far back could result in objects sliding down the loader arms and falling onto the operator’s control station.

Obey posted speed limits. When operating on the jobsite, take it slow and easy. Give right of way to loaded machines and maintain a safe distance from other machines.

Avoid steep slopes or unstable surfaces. When operating on a slope, keep the load low and use extreme caution. Avoid sudden starts, stops, and turns when operating on inclines. Do not drive across steep slopes,
rather, drive up and down the slope. Avoid making turns on inclines. If it is necessary, make turns wide and slowly with load carried low. When traveling up or down inclines, do so with loaded buckets facing uphill and empty buckets facing downhill.

When parking, select a place out of traffic areas. Select a level area whenever possible. When it is necessary to park on an incline, position the machine at right angles to the incline. Secure or lower buckets, blades, and attachments and set the parking brake. Shut down the machine and chock wheels. Cycle the controls to ensure all attachments are secure.

4.3 Transporting or Driving Excavating Equipment on Public Highways
When traveling on public roads, lock dual brake pedals together. Make sure all clearance flags, lights, and warning signs are in place and visible. Make sure the “Slow Moving Vehicle” emblem is visible to traffic approaching from the rear. Use escort vehicles, as required.

When loading or unloading the machine, select a level surface. Chock the transport vehicle to prevent movement. Keep trailer bed and ramps free of oils, mud, snow, ice, and debris. On articulated machines, attach the steering frame lock after loading and remove it before unloading. Chain and block the machine securely. Secure all attachments in the transport mode and lower buckets or blades. Cover or remove “Slow Moving Vehicle” emblems before transporting.

When loading trucks, ensure the driver of the truck is out of the cab and away from the work area before loading unless a falling object protection structure is provided over the operator.

Only the equipment operator and personnel trained and qualified to load equipment shall be allowed in the area during equipment loading or unloading.

Unless qualified as an operator of the specific type of equipment to be transported, the truck driver shall not be allowed to drive the equipment onto or off of the trailer.

4.4 General Requirements for Excavations
The location of underground utilities, i.e., electric, gas lines, water lines, etc. must be identified prior to beginning excavation. Follow all requirements for utility clearance.
Check with the supervisor or the facility owner for permit requirements. If unidentified encumbrances or utilities are struck, stop all work and notify the supervisor.

Precautions must be implemented to keep personnel out of excavations and at least 10 feet away from the equipment and its maximum boom and/or counterweight swing radius when operating. Accessible areas within the swing radius of the equipment may need to be barricaded to prevent personnel from being struck or crushed.

Vehicles and excavating or materials handling equipment must not approach an excavation while employees are in the excavation.

When excavating, extreme caution should be utilized to avoid hazards caused by cave in, i.e., roll over, tipping, or objects falling from overhead. If equipped with such, use the machine stabilizers. Avoid dangers such as rock or earth slides, when working at the base of excavations, overhangs, or stockpiles. See Section M for additional requirements for working on or near excavations and trenches.

4.5 General Requirements for Fueling and Maintenance

Refueling and/or battery charging must only be done in well-ventilated and designated areas.

Shut down equipment and allow sufficient time for the engine to cool prior to refueling.

Fueling personnel must use approved fuel hose with embedded grounding and approved connections or attach a static ground from equipment to fuel transfer equipment to avoid fuel ignition due to static discharge. Fire protection equipment must be readily available.

Starting aids, such as jumper cables or ether, may only be used with extreme caution and according to manufacturer’s instructions. Always connect the ground cable last. The ground cable should be attached to the engine at a point away from the battery.

Only trained and authorized personnel are permitted to perform equipment maintenance. This includes inflating or changing tires and “jump starting.” Control of the sudden release of hazardous energy must be implemented during service or maintenance.

Equipment towing should be avoided. If it is necessary, use a rigid tow bar and consult the manufacturer’s requirements.
4.6 **Excavating Equipment Operator Qualification Procedure**
Operator qualifications are designated through the Operators Union and only qualified operators are sent to the jobsites.

The Site Supervisor or the designated Competent Person:

- Shall evaluate the skills of each prospective operator of excavating equipment to ensure that they have the physical abilities and knowledge to safely operate the equipment they are being qualified on.

Operators of dump trucks, tractor/trailer trucks, and any equipment that can be driven on a public roadway must also be licensed by the government/state to operate the vehicles on public roads or property.

4.7 **Equipment Specific Precautions**

**Dozers**

**Backhoes and Trackhoes**

**Compactor, Rollers**

**Wheeled Loaders**

**Excavators**

**Graders**

**Dump Trucks**

Prior to operating this equipment, the prospective operator must receive proper training and study the operator’s manual to ensure a comprehensive understanding of the machine operation and controls.

Read and understand the danger, caution, and warning signs on the equipment prior to beginning work.

Perform walk around and operational inspection prior to the start of each shift. Also inspect jobsite for hazards in the work area.

Always obtain utility locates prior to digging.
Never operate equipment controls from the ground. Always operate from the operators control station.

For boom type equipment, never enter or allow anyone to enter the pivot-point area or the swing radius of the boom. Maintain a clear zone of at least 10 feet beyond the maximum reach of the boom or counterweight.

All employees working around equipment must be wearing appropriate PPE, (hardhat, safety glasses, work boots, reflective vest or shirt, and proper clothing).

When equipped use stabilizers. Apply enough pressure to the stabilizers to support the machine without raising the machine axles off the ground. Do not dig under the machine or stabilizers.

Only qualified mechanics will perform repairs and maintenance. Always remove key and tag out equipment before performing repairs or maintenance.

When operating on a slope, swing to the uphill side to dump the load, if possible. If downhill dumping is necessary, swing only as far as required to dump the load. Use extreme caution. Use stabilizers to support the machine.

When using the backhoe bucket or excavator for hoisting:

- Consult the manufacturer’s manual for lifting capacity.
- Position the machine so that load lowering is done over the front or back of the machine, not the side.
- Always use stabilizers, and in soft soil place pads under each stabilizer.
- Ensure that the load is balanced and move slowly to maintain control of the load. Use tag lines.
- Be aware of overhead obstructions and power lines. Use a spotter when vision is obstructed.
- Never lift the load higher than necessary to clear obstacles.
• Lower the load as soon as the obstacle is cleared and never hoist loads over people.

**Skid Steer Loaders**
Prior to operating this equipment, the prospective operator must receive proper training and study the operator’s manual to ensure a comprehensive understanding of the machine operation and controls.

Read and understand the danger, caution, and warning signs on the equipment prior to beginning work.

Perform walk around and operational inspection prior to the start of each shift.

Skid Steer Loaders are inherently dangerous machines due to their short wheelbase and operating characteristics.

Operators must maintain complete control at all times and operate at a slow speed suitable to site conditions.

When changing direction, look both ways to ensure adequate clearance from personnel and equipment.

Extreme caution should be used when operating in and around excavations to avoid tipping. Always travel up and down slopes with the loaded bucket facing up the hill or the empty bucket facing down the hill.

Avoid sudden starts, stops, and turns to avoid tipping or striking other equipment or people.

Attachments used with skid steer loaders must be approved by the manufacturer and used in accordance with manufacturer instructions. Equipment capacities must be adjusted to accommodate such attachments.

**Powerscreen**
Prior to operating this equipment, the prospective operator must receive proper training and study the operator’s manual to ensure a comprehensive understanding of the machine operation and controls.

Read and understand the danger, caution, and warning signs on the equipment prior to beginning work.
Inspect equipment prior to each shift.

Emergency stop must be inspected and be operational at all times.

All guards must be in place. Only remove guards when machine is shut down and locked out. All repairs are performed with machine shut down and locked out.

Screening activities may require hearing and/or respiratory protection. Check with your supervisor to determine the proper personal protective equipment.

Keep all unauthorized personnel away from the work area.
Mass Excavation, Inc.
Site-Specific Safety Plan

Lifting, Hoisting, & Rigging Procedure

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Attachment 1 Critical Lift Plan
Attachment 2 Electrical Clearances
Attachment 3 Hand Signals
Attachment 4 Load Stress Chart
Attachment 5 Wire Rope Sling Capacity Chart
Attachment 6 Pre- Lift Checklist
Lifting, Hoisting, & Rigging Procedure

1.0 Introduction
The Davis Constructors & Engineers, Inc. Crane/Hoisting and Rigging Program is designed to convey information regarding hoisting and rigging present in the workplace.

This program is not intended to meet every hoisting and rigging regulation. It was established to provide guidance and information to employees regarding rigging operations. For more information refer to the OSHA and ASME Standards.

2.0 Procedures

2.1 Definitions

| Approved Cable Clamp | A drop forged cable clamp with its size marked on it and for which the manufacturer required torque values, number of clamps per splice, and distance between clamps or total amount of cable turn back are known. |
| Approved Shackle | A shackle that is permanently marked with its size, capacity, and the name or trademark of the manufacturer. The safety factor for the shackles shall be in accordance with ASME, CSA, British Standard and/or other government or local regulatory requirements. |
| Approved Wire Rope Sling | A sling made of 6 X 19 or 6 X 37 (non US 6 X 19 or 6 X 36) Extra Improve Plow Steel or Improved Plow Steel with a fiber core (FC) or independent wire rope core (IWRC) and braided Flemish eyes secured with a pressed-on mechanical ferrule/sleeve with an identification tag stating the capacity of sling. |
| Approved Wire Rope Sling Capacity Chart | Refer to ASME 30.9 Wire Rope Sling Chart for Improved Plow Steel with a fiber core. This chart may be used for the same style slings with independent wire rope core. Manufacturer charts for higher strength cables may be used if the material in the sling can be accurately identified and the slings meet the requirements of ASME B30.9 (or equivalent standards) and this HSEP. |
| Basket Hitch | A method of rigging a sling in which the sling is passed around the load and both eyes of the sling attached to the lifting device. D/d ratio must exceed 25. |
### Lifting, Hoisting, & Rigging Procedure

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bird Caging</td>
<td>Damage to a wire rope creating a torsional imbalance on the rope such that the strands are separated and distorted such that they will no longer evenly distribute the load to the rope. This may be caused by sudden stops, by being pulled through too small a sheave, etc.</td>
</tr>
<tr>
<td>Choker Hitch</td>
<td>A method of rigging a sling in which the sling is passed around the load, then though one loop eye, end fitting, or other device, e.g., a shackle, with the other loop eye or end fitting attached to the lifting device; reduces vertical capacity 20% – 25%.</td>
</tr>
<tr>
<td>D/d Ratio</td>
<td>The ratio of the diameter (D) of the item being picked or connector to the diameter (d) of the sling or rigging used to pick it. D/d minimum = 1 for wire rope slings to obtain the full single cable vertical capacity of the sling.</td>
</tr>
<tr>
<td>Hitch</td>
<td>Method of attaching a sling to a load, i.e., choke, basket, double wrap, etc.</td>
</tr>
<tr>
<td>Kink</td>
<td>Deformation of wire rope so severe that the wires or strands are pushed out of their original position permanently deforming the wire rope by freezing or locking wires and strands, thereby preventing them from sliding and adjusting to properly take the load. This represents irreparable damage and is cause for replacement of the wire rope.</td>
</tr>
<tr>
<td>Lifting/Hoisting Equipment</td>
<td>Means mobile cranes, derricks, tower cranes, overhead cranes, chain falls, air winches (tuggers), forklift, etc.</td>
</tr>
<tr>
<td>Rated Load</td>
<td>The maximum allowable working load established by the rigging hardware manufacturer. The terms “rated capacity”, capacity, safe working load (SWL), and “working load limit” are commonly used to describe rated load.</td>
</tr>
<tr>
<td>Rigger</td>
<td>The competent person designated to be responsible for safe rigging of a load.</td>
</tr>
<tr>
<td>Reeving</td>
<td>A rope system in which the rope travels around drums and/or sheaves.</td>
</tr>
<tr>
<td>Shackle</td>
<td>A U-shaped load bearing rigging connection device designed for use with a removable screw pin or bolt.</td>
</tr>
<tr>
<td>Side</td>
<td>A load applied at an angle to the vertical plane of the</td>
</tr>
</tbody>
</table>
# Lifting, Hoisting, & Rigging Procedure

<table>
<thead>
<tr>
<th>Loading</th>
<th>boom/lift.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal Person(s)</td>
<td>Individual(s) assigned to signal the hoisting equipment during rigging and hoisting operations. Only one signal person at a time will have authority to directly signal the lifting equipment operator.</td>
</tr>
<tr>
<td>Sling</td>
<td>An assembly used for lifting when connected to a lifting device or hoisting equipment. The upper portion is connected to the lifting device or hoisting equipment and the lower end supports the load made from materials, e.g., wire rope, synthetic materials like polyester and nylon webbing, and metal mesh.</td>
</tr>
<tr>
<td>Softener</td>
<td>An appropriately sized member used to protect the choker, load or cable from damage while making a lift and may also prevent the load from slipping.</td>
</tr>
<tr>
<td>Sorting Hook</td>
<td>Hook with a long tip that is designed for sorting material. To be used only at ground level and only for sorting material, since they do not have a latch.</td>
</tr>
<tr>
<td>Synthetic Sling Shackle</td>
<td>A wide body shackle designed to be used with synthetic slings to prevent bunching or pinching of the sling material, which reduces the rated load and which could cause additional stress on the edges or center of the webbing.</td>
</tr>
<tr>
<td>Total Gross Load</td>
<td>The total weight of equipment or material being lifted applied to the crane or hoisting equipment, including the weight of load attaching equipment such as lower load block, spreader bars, shackles, slings, additional parts of load line cable, etc.</td>
</tr>
</tbody>
</table>

## 2.2 General Requirements

All rigging practices will be conducted in accordance with company requirements and must either meet or exceed those standards. Approved rigging charts and manufacturer guidelines shall be used at all times to determine rigging equipment capacity.

The use of cranes, derricks, hoists, and rigging equipment is subject to certain hazards that cannot be eliminated without exercising skill.
Lifting, Hoisting, & Rigging Procedure

and common sense. Trained competent supervision and craft personnel are to be used to reduce rigging hazards.

Rigging activities that involve forklifts and excavation equipment will follow the same procedures explained in this document.

Rigging hazards include overloading, dropping, or slipping of the load caused by improper selection of rigging or attachment/hitches. Examples include using extreme sling angles, rigging below the center of gravity, obstruction to the free passage of the load, and using equipment for a purpose for which it was not intended or designed.

All rigging operations are to be carefully planned and executed. When the lift is over 75% of the rigging capacity, as configured, there shall be a written lift plan, including, as a minimum, the hoisting equipment capacity, the rigging to be used, and the load weight.

Lift calculations shall be written on the Critical Lift Permit and shall be approved by the rigger or competent person in charge of the lift prior to the lift.

Provided below are specific requirements for using various lifting equipment and rigging hardware in a safe manner.

2.3 General Safety Rules For Lifting and Hoisting Equipment

The rigger(s), designated signal person(s), hoisting equipment operator(s), and tagline person(s) shall know and discuss lift requirements including gross load weight, rigging plan, lifting equipment capacity limitations, maximum allowable radius, load path, and lift sequence with prior to the lift.

The rigger(s), designated signal person(s) and hoisting equipment operator shall know and understand the equipment’s limitations related to the lifting/hoisting equipment used for the rigging operation as well as any manufacturer and site-specific requirements.

Keep all hoisting equipment, rigging, and the load at least 20 feet from power lines. The most frequent killer in rigging is electrocution caused by contacting overhead power lines. Always maintain at least a twenty-foot safe working distance from any power line. (See attachment 2 for greater distances required for higher voltages).

Hoisting equipment operators shall know exact locations of utilities, pipelines, sewers, and any other underground obstructions and avoid them with proper clearances.
Lifting, Hoisting, & Rigging Procedure

The hoisting equipment operator shall refuse to move a load if he/she is not satisfied with the rigging, does not know the weight of the load, does not like the load path, or perceives any other problem that will endanger people or property during the lift.

Loads shall be lifted in a smooth controlled manner to prevent shock or impact loading to hoisting equipment and the rigging.

The hook of the hoisting equipment and the rigging equipment shall be connected above the center of gravity of the material or equipment being lifted unless additional load control measures are employed.

The hoisting equipment operator shall not swing loads over personnel.

Hoisting equipment shall not be side-loaded.

Do not lift equipment or piling that is embedded or secured to a base or the ground. Use jacks, wedges, or similar devices to break the bond between the ground, grout, or etc. prior to lifting.

Only one signal person at a time shall have the authority to directly signal the lifting equipment operator except for situations where the signal person cannot see both the lifting equipment and the load.

Any person, who sees a danger to the lifting operation, is authorized to signal the operator to make an emergency stop.

Suspended loads shall not be left unattended by the hoisting equipment operator.

Discontinue all lifting operations during thunderstorms.

2.4 General Safety Rules For Rigging and Rigging Equipment

Lifting lugs or rigging attachment points shall be engineered or certified by the manufacturer to withstand its maximum calculated load plus an additional 125% of the load as a safety factor. A qualified engineer shall engineer the lifting lugs and rigging attachment points.

Employees using rigging shall know the different types of slings and below-the-hook lifting devices available and use them correctly and efficiently.

All rigging equipment shall be legibly marked with its rated capacity and be within its inspection period.
Mass Excavation, Inc.

Site-Specific Safety Plan

Lifting, Hoisting, & Rigging Procedure

All lifting/hoisting/rigging equipment shall be visually inspected before it is used to make certain it is in good condition and properly set-up.

Report any lifting/hoisting/rigging equipment that appears to be unsafe and tag it do not use or destroy it.

Use two slings when rigging bundles of materials like pipe, rebar, or lumber with a choker hitch.

Rig vertical or sloping pipe or structural steel with a stop lug above the sling hitches or use a lift lug affixed to the material being lifted to prevent sling slippage and dropped loads.

Rigging equipment shall be used within manufacturer recommended temperature ranges. Use extreme caution when the temperature is below freezing or above 120°F. Reduce capacities based on manufactures recommendations. Brittle fracture of the rigging equipment can occur at lower temperatures.

All lifting equipment shall be stored in proper racks or containers to prevent damage.

A pre-lift checklist shall be used for all critical lifts. This is recommended for all lifts.

Report all accidents/incidents that cause damage to lifting equipment, operating equipment, the rigging equipment, the structure and/or injury to any person for proper investigation.

2.5 Working On or Near Loads

Loads shall be stabilized prior to hooking or unhooking them. Use chocks, blocks, or other means to prevent movement of materials during these operations.

All loads shall be kept from swinging into the hoisting equipment or other structures. When lifting a load fee from a previously anchored position, such as piping that has been in service, removing equipment from foundations, or dismantling structural members, attach a security device such as a come-a-long, chainfall, rope, etc., to prevent sudden movements.
Lifting, Hoisting, & Rigging Procedure

All personnel shall be clear of the load before it is lifted. Barricade the work area when necessary to protect other workers. The load shall not be lifted or transported over or near people.

No one shall distract the equipment operator’s attention while they are engaged in lifting operations.

No one shall work under a hoisted or suspended load.

All material transported on top of the load being lifted shall be secured.

Riding the load or headache ball is prohibited.

Note: Davis Constructors does not normally use employee lifting platforms during operations. If employee lifting platforms are needed additional procedures will be added and this document will be revised.

2.6 Instruments and Components
Cranes and derricks with variable angle booms are equipped with a boom-angle indicator readily visible to the operator.

Cranes with telescoping booms are equipped with a device to indicate clearly to the operator, at all times, the boom’s extended length or an accurate determination of the load radius used during the lift are made prior to hoisting personnel.

A positive acting device is used which prevents contact between the load block or overhaul ball and the boom tip (anti-two-blocking device), or a system is used which deactivates the hoisting action before damage occurs in the event of a two-blocking situation (two-block damage prevention feature).

The load line hoist drum has a system or device on the power train, other than the load hoist brake, which regulates the lowering rate of speed of the hoist mechanism (controlled load lowering.) Free fall is prohibited.

2.7 Critical Lifts
This procedure provides guidance for control of lifts with cranes which are considered to be critical lifts and not repetitive lifts. Lifts that fall into this category are those which:

- Exceed 75 percent of the crane’s rated capacity for the crane configuration,
Lifting, Hoisting, & Rigging Procedure

- Requires two or more cranes to make the lift,
- Lifts that require the load lifted, swung, or placed out of the operator’s view,
- Is located such that the load or the crane boom could fall on electric lines, transformers, pipelines, vessels, or reactors containing flammable, explosive, or hazardous gases or liquids etc.
- Utilize poles and derricks that have been erected for a specific lift

2.7.1 Interpretation
Crane configuration as used in this procedure refers to such variables of the crane as boom length, boom angle, counterweight, outriggers extended and set/tracks extended or retracted and attachments (jib, headache ball, load block, lifting devices, etc.). All above items affect the gross capacity of the crane and are taken into consideration prior to lift.

2.7.2 Guidelines
If in completing the permit it’s determined the lift equals or exceeds 95 percent of the crane configuration capacity for the greatest radius the load will achieve during pick, swing or set, the lift will not be made. If by changing the crane configuration within manufacturing specifications a greater gross capacity may be gained, the change is made. If not, a larger capacity crane is obtained and used.

2.7.3 Responsibilities
The Critical Crane Lift Permit is completed prior to the “critical lift” by the supervisor of the lift. After the permit is completed by the supervisor, the designated project personnel review and sign off on the lift permit in the order listed on the permit. A copy of the permit is placed in the cab of the lift-crane with the original filed in the project safety office. A pre-lift meeting is held with responsible parties.
2.8 Training for Rigging and Hoisting

All rigging will be performed by a competent and qualified rigger. Supervisors will ensure each employee is trained, as necessary, by a competent person qualified in the following areas:

- The nature of rigging hazards in the work area.
- The correct procedures for proper rigging, maintaining equipment, load capacities, and inspecting the rigging components and hoisting system to be used.
- The limitations on the use of mechanical equipment during the performance of rigging, lifting and hoisting.
- The correct procedures for the handling and storage of equipment and materials.
- The role of employees in critical lift plans.

Re-training is required if a lack of proficiency is observed, or when new equipment or new hazards are introduced.
Lifting, Hoisting, & Rigging Procedure

Attachment 1
Critical Lift Plan
Lifting, Hoisting, & Rigging Procedure

Attachment 2
Electrical Minimum Clearance Distances

Devices originally designed by the manufacturer for use as: A safety device (see § 1926.1415), operational aid, or a means to prevent power line contact or electrocution, when used to comply with this section, must meet the manufacturer's procedures for use and conditions of use.

<table>
<thead>
<tr>
<th>Voltage (nominal, kV, alternating current)</th>
<th>Minimum clearance distance (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 50</td>
<td>10</td>
</tr>
<tr>
<td>over 50 to 200</td>
<td>15</td>
</tr>
<tr>
<td>over 200 to 350</td>
<td>20</td>
</tr>
<tr>
<td>over 350 to 500</td>
<td>25</td>
</tr>
<tr>
<td>over 500 to 750</td>
<td>35</td>
</tr>
<tr>
<td>over 750 to 1,000</td>
<td>45</td>
</tr>
<tr>
<td>over 1,000</td>
<td>(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).</td>
</tr>
</tbody>
</table>

Note: The value that follows "to" is up to and includes that value. For example, over 50 to 200 means up to and including 200kV.

For power lines at or below 1000 kV, wherever the distance "20 feet" is specified, the distance "50 feet" must be substituted; and

For power lines over 1000 kV, the minimum clearance distance must be established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution.
Lifting, Hoisting, & Rigging Procedure

Attachment 3 - Standard Hand Signal Chart
Mass Excavation, Inc.

Lifting, Hoisting, & Rigging Procedure

Sling Load Stress Based on Sling Angle Multiplier Chart

To calculate vertical load by angle at which pulled. Sling from the

<table>
<thead>
<tr>
<th>Sling Angle</th>
<th>Load Angle Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>5º</td>
<td>1.149</td>
</tr>
<tr>
<td>10º</td>
<td>5.75</td>
</tr>
<tr>
<td>15º</td>
<td>3.86</td>
</tr>
<tr>
<td>20º</td>
<td>2.93</td>
</tr>
<tr>
<td>25º</td>
<td>2.37</td>
</tr>
<tr>
<td>30º</td>
<td>2.00</td>
</tr>
<tr>
<td>35º</td>
<td>1.75</td>
</tr>
<tr>
<td>40º</td>
<td>1.56</td>
</tr>
<tr>
<td>45º</td>
<td>1.42</td>
</tr>
<tr>
<td>50º</td>
<td>1.31</td>
</tr>
<tr>
<td>55º</td>
<td>1.22</td>
</tr>
<tr>
<td>60º</td>
<td>1.16</td>
</tr>
<tr>
<td>65º</td>
<td>1.11</td>
</tr>
<tr>
<td>70º</td>
<td>1.07</td>
</tr>
<tr>
<td>75º</td>
<td>1.04</td>
</tr>
<tr>
<td>80º</td>
<td>1.02</td>
</tr>
<tr>
<td>85º</td>
<td>1.01</td>
</tr>
<tr>
<td>90º</td>
<td>1.00</td>
</tr>
</tbody>
</table>

sling load, multiply sling factor for the the sling is being angle is measured horizontal.

Example of use of sling load stress multiplier chart:

At 30º Sling Angle Sling Load = 2 x 500 = 1000 units each sling

Examples of Affect of Sling Angle on Sling Load
## Wire Rope Sling Capacity Chart

**Rated Loads For Single LG Slings 6 X 19 Or 6 X 37**

**Classification Improved Plow Steel Grade Rope With Fiber Core (FC)**

*(See Definitions for Approved Sling)*

<table>
<thead>
<tr>
<th>Rope Diameter Ln.</th>
<th>Vertical</th>
<th>Choker</th>
<th>Vertical Basket+</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8</td>
<td>1,020</td>
<td>760</td>
<td>2,000</td>
</tr>
<tr>
<td>1/4</td>
<td>1,580</td>
<td>1,200</td>
<td>3,200</td>
</tr>
<tr>
<td>1/2</td>
<td>2,200</td>
<td>1,700</td>
<td>4,400</td>
</tr>
<tr>
<td>3/16</td>
<td>3,000</td>
<td>2,400</td>
<td>6,000</td>
</tr>
<tr>
<td>1/4</td>
<td>4,000</td>
<td>3,000</td>
<td>8,000</td>
</tr>
<tr>
<td>3/8</td>
<td>5,000</td>
<td>3,800</td>
<td>10,000</td>
</tr>
<tr>
<td>1/2</td>
<td>6,200</td>
<td>4,600</td>
<td>12,400</td>
</tr>
<tr>
<td>1/4</td>
<td>8,800</td>
<td>6,600</td>
<td>17,600</td>
</tr>
<tr>
<td>1/2</td>
<td>12,000</td>
<td>9,000</td>
<td>24,000</td>
</tr>
<tr>
<td>1/2</td>
<td>15,400</td>
<td>11,800</td>
<td>30,000</td>
</tr>
<tr>
<td>1/2</td>
<td>19,000</td>
<td>14,800</td>
<td>38,000</td>
</tr>
<tr>
<td>1</td>
<td>24,000</td>
<td>18,000</td>
<td>48,000</td>
</tr>
<tr>
<td>1</td>
<td>28,000</td>
<td>22,000</td>
<td>56,000</td>
</tr>
<tr>
<td>1</td>
<td>34,000</td>
<td>26,000</td>
<td>68,000</td>
</tr>
<tr>
<td>1</td>
<td>38,000</td>
<td>30,000</td>
<td>76,000</td>
</tr>
<tr>
<td>1 1/4</td>
<td>44,000</td>
<td>34,000</td>
<td>88,000</td>
</tr>
<tr>
<td>2</td>
<td>58,000</td>
<td>44,000</td>
<td>116,000</td>
</tr>
</tbody>
</table>

MS = Mechanical Splice

1 The values in the chart are based on slings being vertical. If they are not vertical, the rated load shall be reduced. If two or more slings are used, the minimum horizontal angle between the slings shall also be considered.

2 These values only apply when the D/d ratio is 25 or greater. D = Diameter of curvature around which the body of the sling is bent. d = Diameter of rope.
# Mass Excavation, Inc.
## Site-Specific Safety Plan

## Lifting, Hoisting, & Rigging Procedure

### Pre-Lift Checklist

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Crane Operator meets company qualification requirements?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2.</td>
<td>Lift calculations and rigging plan completed?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3.</td>
<td>Are all required approvals/permits signed?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4.</td>
<td>Crane inspections up to date (Annual/Monthly/Daily)?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5.</td>
<td>Weather conditions and wind speed acceptable?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6.</td>
<td>Has the stability of the ground been assured?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7.</td>
<td>Matting and/or outrigger pads inspected and approved?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8.</td>
<td>Electrical equipment and power lines at required distance?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9.</td>
<td>Rigging Inspected for defects?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>10.</td>
<td>Engineered lifting lugs fabricated and installed correctly?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>11.</td>
<td>Connecting/disconnecting means been developed?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>12.</td>
<td>Have the safety precautions been reviewed?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>13.</td>
<td>Is survey equipment required?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>14.</td>
<td>The total lifted weight is below 95% of capacity?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>15.</td>
<td>Signal person(s) assigned?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>16.</td>
<td>Safe Plan of Action (SPA) Completed?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>17.</td>
<td>Pre-Lift Meeting/Task Safety Awareness Meeting (TSA)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>18.</td>
<td>Hoist area &amp; load path cleared of non-essential personnel?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>19.</td>
<td>Crane set up per the lift plan (radius, configuration, etc)?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>20.</td>
<td>Rigging equipment and tag line(s) installed per plan?</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Person Completing Check List: ____________________________

Signature: ____________________________ Date: ____________
Lifting, Hoisting, & Rigging Procedure
CRANE LIFTING AND RIGGING PLAN

Project Name: ___________________________ Project Number: ___________________________

Superintendent: __________________________ Date: __________________________

Description of Load(s): ___________________________________________________________

All persons involved in crane activities must comply with 29CFR 1926.1400 regulations

CRANE INFORMATION

Manufacturer: ___________________________ Model Number: ___________________________

Total Boom: ________ ft. Maximum Capacity: __________________________

Maximum Operating Hook Radius: _______ Maximum Hook Height with Jib set at 20 degrees: _______

Maximum Hook Height with Jib Horizontal: _______

LOAD INFORMATION

Weight of the Load: _________ lbs. Effective Weight of Jib: __________________________ lbs.

Effective Weight of Overhaul Ball (2X Ball Weight): __________________________ lbs.

Weight of Load Block: _________ lbs. Weight of Spreader: __________________________ lbs.

Weight of Slings: _____________ lbs. Weight of Shackles: __________________________ lbs.

Weight of Other Rigging: _____________ lbs. TOTAL LIFT WEIGHT: __________________________ lbs.

LOAD PERCENT OF CRANE CAPACITY PER LOAD CHART: __________________________ %

(85% will be considered critical lift)

Competent/ Qualified Persons

Crane Operations: __________________________ Lift Supervisor: __________________________

Rigging and Rigging Inspection: __________________________ Secondary Rigger: _____________

Signal Person and Communication/Signal Means: __________________________
Crane Set Up and Inspection

Annual/monthly inspections will be documented and available (on site).
All load charts and labels will be visible and legible on crane.
Daily operating inspection will be performed (crane and rigging).
Controlling entity (GC) will ensure ground conditions will support all equipment and activities. Follow manufacturers set instructions.
Crane swing radius barricaded.
Are electrical lines near lift swing radius? (20’ clearance): __________________________
Identify work zone (crane boom swing radius): __________________________

Basic Rigging and Lift Plan

Communications: Operator will communicate with rigging crew and placement crew by________________________

Rigging will be inspected daily and periodically during operations. All rigging must have appropriate legible labels and tags.
Load limits and weights of loads will be well below Working Load Limits.
Load center of gravity will be established during fabrication but will be re-evaluated during each pick.
Pick points will be inspected at each lift. Sling angle will be at __________________________
Sling padding may not be necessary but if situation occurs where sling is in contact with sharp edges padding will be utilized.
Tag lines will be used as needed, tag lines will be long enough for stabilization of load but not too long as to snag or foul.
Environmental factors (weather, wind) will be evaluated each day.
Type of fall protection for personnel used on roof: __________________________

Lift Supervisor will control work area. All personnel will be kept away from overhead loads. Swing radius and line of travel will be barricaded.
Provide a sketch/ drawing of crane set-up location, load unit location, and swing radius.

Person Making Calculations  Title  Approved By  Title
Temporary Traffic/Pedestrian Control Procedures for Worker Safety

**Note:** Most of project traffic control will be installed and performed by an outside source. These companies will supply expertise, control devices, and flaggers as needed.

This document provides guidance on how to protect employees that may be exposed to the hazards of working in traffic, and information for compliance with the Manual of Uniform Traffic Control Devices.

These control measures are general and specific jobs may require a pre job briefing to assess traffic control measures. Such factors as weather, specific location and traffic speed may require additional control measures such as directional arrow boards or use of road signs. Vehicles used during temporary traffic control measures must be outfitted with either a rotating strobic light, or high intensity flashing LED lights. A vehicle's 4 way hazard lights may not be used instead of high intensity LED lights.

If work in traffic is during the daytime and the tasks being performed allow workers to devote time to watch traffic patterns while doing their job, the following traffic control options are available:

- When working in parking lots or garages, near the road, or doing such tasks as Investigation or measurements, or working around mobile equipment
  - Workers shall wear at least ANSI Class II garment.

- If work will be at one location for less than one hour and in front of the vehicle or off the road:
  - Vehicles shall have either a strobic light or high intensity flashing LED lights
  - Workers shall wear at least ANSI Class II garment

- If work will be in one location for more than one hour, but not more than a shift, OR if work must be performed behind the vehicle for any duration:
  - Vehicles shall have either a strobic light or high intensity flashing LED lights
  - Traffic cones are placed in the road tapering back from 20 feet
  - Worker has on ANSI Class II high visibility clothing

If one lane of a two lane road needs to be temporarily closed, the following options are available:

- If it is determined that traffic can be self regulating, one lane can be closed and the site will be treated like a 4 way stop (one car goes from each way at a time).
• If it is determined that traffic will not be self regulating, yield or stop signs may be placed to get the one car at a time traffic flow.

When work in traffic is at night, or when the tasks being performed do not allow workers to devote time to watch traffic patterns:

  o Vehicles shall have either a strobic light or high intensity flashing LED lights  
  o Workers shall wear in ANSI Class III garment  
  o Traffic cones with reflective surface shall be set up 20-30 feet back

Any time while performing work near or on a road way and a workers has a sense of traffic patterns not being controlled properly or speeds to extreme for conditions, work should remove them self from the area and notify Supervisor.

**Pedestrian Control** – Barricades and signage must place around job site areas to keep pedestrians out of the jobsite. Project Managers and Superintendents should evaluate the site before work starts to plan site control. Fencing and barricades shall be erected and secured as to keep pedestrians out and stay up-right. When possible re-routing of walkways to allow flow to go around job area is preferable and should be accommodated.

Job Superintendents shall stress and discuss at Job Safety Meetings for all workers to be aware of pedestrians and stop work if unauthorized individuals come on to the site.
# Lockout/Tagout Policy

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Lockout/Tagout Policy

1.0 Purpose
Mass Excavation, Inc. (Mass) has a safety control system policy for lockout and tagout to prevent the unexpected release or transmission of equipment energy. This policy is instituted to protect employees from inadvertent operation or energized equipment and to comply with all applicable standards. This policy applies to activities such as, but not limited to, erecting, installing, constructing, repairing, adjusting, inspecting, cleaning, operating, or maintaining equipment. It also applies to energy sources such as, but not limited, to electrical, mechanical hydraulic, pneumatic, chemical, radiation, thermal, compressed air, energy stored in springs and potential energy from suspended parts.

2.0 Definitions

<table>
<thead>
<tr>
<th>TERM</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>Types of energy that can operate equipment such as electricity, air, oil, water, under pressure and steam. The use of steam under pressure for heating does not remove it from this requirement because it's capable of causing an injury and/or material/equipment damage and is subject to lockout procedure.</td>
</tr>
<tr>
<td>Lock</td>
<td>The device used to securely fasten the disconnecting means of the source of power and energy.</td>
</tr>
<tr>
<td>Block</td>
<td>One solid piece of substantial material placed under a suspended load or machine part completely immobilizing all potential vertical movement. Most equipment manufacturers supply an engineered block as part of the maintenance equipment.</td>
</tr>
<tr>
<td>Chock</td>
<td>One solid piece of substantial material placed between horizontal pieces or on both the downward and upward slope of inclined equipment to immobilize all potential lateral movement. Most equipment manufacturers supply an engineered chock as part of the maintenance equipment.</td>
</tr>
<tr>
<td>Disconnect Device</td>
<td>A pipe valve, electrical switch, or other mechanical device which will cut off the source of power or supply at the entry point to machine or equipment.</td>
</tr>
<tr>
<td>Residual Energy</td>
<td>The energy remaining in a system after disconnecting the equipment.</td>
</tr>
<tr>
<td>Entry Point</td>
<td>The point at which the power enters the machine or unit such as the main disconnect.</td>
</tr>
</tbody>
</table>
**3.0 Lock and Tag Control**

**3.1 Distribution**
Locks and tags are assigned to and used by all foremen, journeyman, and other persons designated by the project superintendent. Sub-journeymen and helpers use locks in conjunction with the foreman or journeyman’s lock and tag. Designees are referred to as foreman/journeyman in this procedure.

**3.2 Type**
The locks provided are mastered. Locks and master keys are controlled by the safety supervisor or designee.

**3.3 Issuance**
One lock and one key are issued by the safety supervisor. Additional locks and keys may be temporarily checked out from the Safety Department for jobs requiring more than one lock.

**3.4 Identification**
The safety supervisor or designee records the employee’s name and number on the lock record when locks and keys are issued.

**4.0 Application**
When employees adjust, re-energize, repair, service, or work near machines or equipment where unexpected movement could cause injury or material damage they apply a tag, lock, block, or chock device to the source of power which controls such movement. The ignition key must be removed from all equipment prior to repairs or service. Such circumstances include employees exposing themselves directly to:
- Parts under power,
- Suspended, inclined, or jammed parts or equipment,
- Lines carrying hazardous substances, pressure, or energy.

**Basic Rule:** Lock out all main disconnecting switches, valves, and devices so only the employees exposed (by removing their own lock) can allow the power to be re-applied.

**Procedure:** An employee controls the source of power through the following actions as applicable to the work the employee is performing.
5.0 Parts Under Power

Obtain approval to de-energize and lockout from the superintendent/foreman (supt./foreman).

Arrange with the supt./foreman to do a “walk around” of the jobsite.

Have the supt./foreman first de-energize the system with the Mass lockout and tagout to follow.

Before lockout, make certain the circuit control at the starting switch is the correct one for the equipment involved.

Make certain all power at its source was disconnected by turning off the main disconnect.

Press the starter button to ensure all electrical power is shut off or have an electrician test the circuit load side of the disconnect device to be sure all ungrounded current-carrying conductors are open.

The supt./foreman inserts a multi-lock device on the main breaker and inserts the operator’s lock to secure it. The supt./foreman hangs a properly completed danger tag on the lock. Any Mass employee working on this equipment wanting it to remain inoperative inserts a Mass lock in the same lockout device. The employee also hangs a properly completed orange danger tag on the lock.

Caution: Employees don’t pull any disconnect switches or handles, or shut off any operation equipment without first obtaining proper authorizing from Mass supervision.

6.0 Suspended, Inclined or Jammed Parts or Equipment

- Remove ignition key when applicable.
- Shut off the main source of any power in accordance with instructions outlined in “Parts Under Power.”
- Mechanically block any load or machine part before working under or in it. For example: presses, dump-truck beds, lift cylinders, or forklifts.
- Mechanically chock any inclined equipment on both sides of the slope before working on or between pieces of equipment.
- To place turbines, pumps, and compressors in their zero mechanical state all procedures must be followed with a Mass representative present.
7.0 Lines Carrying Hazardous Substances, Pressure, or Energy

• Be sure line is blocked closed.
• Bleed off or otherwise dissipate residual pressure or contents in steam, air, and hydraulic or chemical systems.
• Flush, back flush, or “blind” lines as applicable prior to locking valve in required positions.

Note: These steps are checked by a Mass or Mass X employee prior to installing lock tag.

8.0 Removing an Abandoned Lock or Tag
If a lock and/or tag is left on equipment and the employee left the jobsite, the locks and tags may be removed by the following methods—if the equipment is imperative for the jobsite operation:
  o The employee may be called in to remove the lock and tag.
  o The foreman of the employee’s work group may remove the lock and tag only after checking the equipment and ensuring all employees are clear of the equipment and it’s safe for restart.
  o The safety supervisor may remove the lock or tag, if the above removal steps are not available.
  o The employee whose lock/tag was removed must be notified by the foreman of the removal before being released for work.

Note: The master key is available in the safety office.

9.0 Loss of Lock and/or Key
If an employee loses his key to an assigned lock, the employee immediately advises the foreman and returns the lock to the safety officer. If the lock is in service, it’s removed by the safety supervisor using the master key when the job is completed.

10.0 Supervisor’s Responsibility
It’s the responsibility of all supervisors to enforce the lockout procedure.

11.0 Fuses
Pulling of fuses is not a substitute for locking out electrical switches.
12.0 Availability of Locks
Each person with an assigned lock uses it for lockout only. It’s not used on toolboxes or anything else.

13.0 Equipment
- Valves can be locked out with a combination of chain and lock.
- Where a disconnect switch or control energizes more than one machine the supervisor is notified before any work is started to determine if a modification is required to enable each machine to be locked out separately.

14.0 Identifying Danger Tags
- All employees sign and attach “danger tags” to each lockout point to identify owner of the lock.
- Only one person signs the Danger Tag.
- The tag is legibly marked showing the employee’s name, date, company name, and defect.
- The tag is not used as a substitute for a lock.

15.0 Multiple Lockout
- If two or more employees are working on a job, a separate lock and tag is attached by each employee so controls cannot be operated until all locks are removed.
- If the location of the controls allows the attachment of only one lock, then a special hoop holding several locks is used.

16.0 Complex Lockout Procedures
Equipment requiring the installation of ten or more lockout locks and tags is locked out using the following procedures:
- The initial supervisor and journeyman assigned to the project contacts the supt./foreman to begin lockout procedures. The supt./foreman assumes the responsibility of Lockout Coordinator for the project.
- The Mass Lockout Coordinators walk the system with the foreman and install the required number of contractor lockout locks and tags to ensure 100 percent zero-mechanical state is achieved.
The key(s) for these locks are placed in a “satellite” lock box and secured with the supervisor’s (or Lockout Coordinator’s) personal lockout lock and orange contractor tag properly filled out.

As assigned all employees attach their individual lock/tag to the lock box system while work is performed; and remove each employee’s lock/tag as work is completed.

### 17.0 Removal of Locks and Tags
See the following “Abandoned Lock and Tag:”
- Locks and tags remain on equipment until the job is finished. Then removed only by the individual whose name appears on the respective locks and tags.
- If equipment is down for an extended period of time with no work being done, the lockout lock is removed and arrangements made to place a security lockout lock on the equipment. When work resumes the security lock is removed and replaced with the appropriate lockout lock. A tag remains attached to the lockout at all times.
- Under no circumstances is equipment operated until all locks and tags are removed.

### 18.0 Transfer of Locks and Tags
When it becomes necessary for a foreman or journeyman to transfer the job to another foreman or journeyman the transferring employee removed his own lock and tag. The successor applies his lock and tag.

### 19.0 Transfer Between Shifts
If a new work shift comes on, a “tie-in” between shifts takes place with the oncoming employees placing new locks and tags on the system and the off-going employees removing theirs.

It’s the responsibility of the oncoming employees performing the work to determine that the piece of equipment is locked out properly before starting work.

### 20.0 Sub-journeyman and Helpers
When a job is completed the foreman and journeyman check that:
- work is complete,
Mass Excavation, Inc.

Site-Specific Safety Plan

- sub-journeyman and helpers are clear,
- locks are removed.

Only then do they remove their locks and tags.

21.0 Review
All employees review the lockout procedures at 12-month intervals. Documentation of names and dates of attendance are kept on file.

22.0 Discipline
Violators of this procedure are subject to strict disciplinary action up to and including termination.
# Confined-Space Program

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Confined-Space Program

1.0 Introduction

The Davis Constructors & Engineers, Inc. (Davis) Confined-Space Program is designed to convey information regarding the requirements for working in Confined Spaces.

Its purpose is to identify Confined Spaces, safe work practices, and required training for designated responsible employees.

2.0 Procedures

Employee exposures to confined spaces can lead to serious and permanent injuries and illnesses. Certain operations conducted by Davis require employees to enter confined spaces.

This Confined-Space Program affects all Davis employees exposed to hazards of confined spaces.

2.1 Definitions

<table>
<thead>
<tr>
<th>Attendant</th>
<th>An individual stationed outside one or more confined spaces monitoring the authorized entrants and who performs all attendant duties assigned in Davis confined-space program.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confined Space</td>
<td>Is large enough and configured so that an employee can bodily enter and perform assigned work; and has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and isn’t designed for continuous employee occupancy.</td>
</tr>
<tr>
<td>Entrant</td>
<td>An employee authorized by Davis to enter a confined space.</td>
</tr>
</tbody>
</table>
| Permit-Required Confined Space | A confined space that has one or more of the following characteristics:  
  • Contains or has a potential to contain a hazardous atmosphere;  
  • Contains a material with the potential for engulfing an entrant;  
  • Has an internal configuration such that an entrant could be trapped or |
Confined-Space Program

| **Supervisor** | asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a small cross-section; or |
| **Supervisor** | Contains any other recognized serious safety or health hazard. |
| **Supervisor** | The person such as a foreman, or crew chief, responsible for: |
| **Supervisor** | • determining if acceptable entry conditions are present in a confined space where entry is planned, |
| **Supervisor** | • for authorizing entry and overseeing entry operations, |
| **Supervisor** | • and for terminating entry. |
| **Supervisor** | A supervisor also may serve as an attendant or entrant, as long as that person is trained and equipped for each role. The duties of the supervisor may be passed from one individual to another during the course of an entry operation. |
| **Supervisor** | NOTE: For additional definitions, please refer to Exhibit A, Terms and Definitions of this procedure. |

2.2 Confined Spaces

1) Confined Spaces are identified as any area with a limited means of access/egress and subject to oxygen deficiency, accumulation of flammable vapors, or any airborne contaminant exceeding established Permissible Exposure Limits *(PEL). |

2) Identification of confined space is determined first by use of the project identification system whereby signs are posted to alert employees of areas classified as Confined Space. These spaces bear warning signs instructing entrants as to whether it’s a "permit-required" confined space. Other areas may be designated as a "non-permit" confined space where atmospheric evaluation is recommended. Davis management accepts the responsibility to evaluate all potentially hazardous areas and initiate the terms of this procedure. |

Confined-Space Program

Permit Required Confined Space
1) A Permit Required Confined Space is a space with a limited means of access/egress and contains or has the potential to contain a physical or atmospheric hazard(s) that may expose personnel to risk of death, incapacitation, impairment of ability to self-rescue, injury or acute illness.

2) Examples of Permitted Confined Spaces are:
   a) Any space with oxygen content below 19.5 percent or above 23.5 percent including all inert spaces.

   b) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);

   c) Airborne combustible dust at a concentration that meets or exceeds its LFL;

   NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.

   d) A confined space containing an atmospheric concentration above the Permissible Exposure Limit (PEL) of a material that could cause an acute illness or inability to self-rescue.

3) All confined spaces are considered to be Permitted Confined Space unless evaluated and determined to be a Non-Permitted Confined Space by the Davis project management.

4) All level permitted confined spaces are tagged: “Permit required confined space, do not enter, warning, see procedure and permit for safeguards and protective equipment.”

5) Requirements for entry into a Permitted Confined Space are:
   a) Comply with the written entry procedure Exhibit B.

   b) Isolate the confined space.

   c) Test for atmospheric hazards prior to entry and as needed during the entry.

   d) Evaluate the confined space for physical hazards.
Confined-Space Program

e) Provide and use a retrieval system to perform non-entry rescue of entrants from confined spaces. Retrieval systems may include retrieval lines, harnesses, and lifting devices. The retrieval system must be specified on the permit.

f) Provide and use personal protective equipment as specified in the permit and procedure.

g) Provide adequate lighting to work safely and to exit the space in the event of an emergency.

h) Install barriers to prevent personnel from falling into the confined space and to prevent objects from falling onto employees in the confined space.

i) Maintain an "Entry/Exit Personnel Accountability Log."

j) A permit is valid for one shift.

k) A confined space supervisor is on site at all times when a permitted entry takes place.

l) A Hot-Work Permit is required for any hot work performed in a confined space.

Non-Permitted Confined Space

1) A Non-Permitted Confined Space is a confined space that does not contain a physical hazard or atmospheric hazard(s) that may expose personnel to the risk of death, incapacitation, impairment of ability to self-rescue, injury or acute illness.

2) Examples of Non-Permitted Confined Spaces are:
   a) Any heater, tower, tank, boiler, regenerator, ditch, pit, or trench more than four feet deep with the following characteristics:

   The oxygen content is above 20.0 percent and below 23.5 percent.

   The confined space contains an atmospheric concentration below the Permissible Exposure Limit.
Confined-Space Program

(PEL) of a material that could cause an acute illness or impair the ability to self-rescue.

The confined space is below 5 percent of the lower explosive limit (LEL).

b) All non-permitted confined spaces are tagged: “Non-permitted confined space, caution: see procedure and permit for safeguards and protective equipment.”

3) Requirements for entry into a Non-Permitted Confined Space are:
   a) Comply with written entry procedure in exhibit B.
   
   b) Isolate the confined space.
   
   c) Test for atmospheric hazards prior to entry and as needed during the entry.
   
   d) Require standby attendant.

2.3 Training and Responsibilities of Subcontractor Employees

Each affected employee is trained prior to initial assignment, prior to change in assigned duties, if a new hazard was created or special deviations have occurred.

1) Qualified Person

   a) Persons authorized or in charge of entry are trained in and perform assigned duties as follows:

       Ensure required procedures, practices, and equipment for safe entry are in effect before allowing entry.

       Conduct appropriate atmospheric evaluation of the confined space via the use of testing equipment on which the qualified person is trained to operate.

       Determine that all requirements of the entry permit are met before allowing entry.

       Ensure operations remain consistent with the terms of the entry permit at all times.

       Cancel entry authorization at any time conditions are inconsistent with the guidelines of this procedure.
Confined-Space Program

Terminate entry authorization upon completion of the scheduled work.

Determine that unauthorized personnel are prohibited from entry at all times.

b) Specific training/instruction for Qualified Persons will include:

- Use and calibration of monitoring equipment
- Hazard communication
- Respiratory protection
- Permit authorization and termination
- Hazard recognition
- Contacting advanced rescue personnel

2) Confined-space Attendant

a) Persons authorized as attendants are trained in and perform assigned duties as follows:

Remain stationed outside the confined space at all times during entry operations.

Maintain an accurate count of all persons inside confined spaces.

Ensure that permits specifically required by certain projects are used as required.

Recognize potential permit space hazards and monitor conditions to ensure that a safe atmosphere remains.

Maintain continuous communication with authorized entrants.

Authorize evacuation of confined spaces when hazardous conditions or permit violations exist.
Confined-Space Program

Prevent entry of unauthorized personnel.

Contact advanced rescue personnel, if required. **Attendants will not be permitted to monitor more than one confined space at a time.**

b) Specific training/instruction for Confined Space Attendants will include:

Hazard Communication
Respiratory protection
Hazard recognition
Communication techniques
Basic rescue
Evacuation authority

3) Authorized Entrants
a) Employees working as authorized entrants are trained in and perform assigned duties as follows:

Be aware of confined space hazards that may be encountered.
Recognize hazard exposure symptoms.
Understand exposure hazards and their results.
Maintain contact with the attendant.
Recognize the need and initiate self-evacuation when necessary or when they perceive danger is present.

Hazard recognition
Communication techniques
Use of personal protection equipment
Self-rescue
NOTE: Training for all employees in confined space procedures will include a written exam to assure employee competency and training material retention.

2.4 Permit Requirements

1) Davis employees work within the provisions outlined in Exhibit B, Confined Space Entry Permit. The qualified person completes all portions of the permit. The completed permit is posted at the confined space entrance and then becomes the responsibility of the attendant. Upon completion of the shift or the work (whichever is the first to occur) the attendant signs the permit to indicate all entrants have safely exited the confined space; then returns the permit to the qualified person for retention.

2) Upon placement of the permit, the attendant is responsible for control of the work area and has full authority to cease operations or terminate entry at any time. These actions are reported to the qualified person immediately following their occurrence. The authority of the attendant is superseded on by the qualified person and/or a recognized member of the Safety Department who believes work should be stopped based on suspicion of imminent danger.

3) A blanket confined space entry permit may be requested for spaces opened for extended periods of time and in which permanent or temporary/portable ventilation equipment is utilized. Ventilation equipment should be capable of maintaining a good atmosphere in the space when utilized.

2.5 Rescue Operations

1) All permit required confined spaces will incorporate rescue devices and equipment on site. Employees will be training in the use of rescue device (retrieval system) and understand the aid requirements of entrant personnel.

2) The option of utilizing off-site rescue personnel is invoked by Davis management in accordance with OSHA requirements, the Project Safety Manager/or management designee is responsible for developing a list of hazards that may be
Confined-Space Program

encountered by the rescue team while on site. This list is communicated to the designated rescue source nearest each plant location.

3) In the event of an emergency, project personnel, trained in advanced rescue, are utilized to assist in directing the rescue effort pending the arrival of the designated rescue team.

2.6 Subcontractor/Multi-employers

1) All subcontractors follow the provisions of this procedure or submit to the Davis Safety Manager the subcontractors program.

2) The Davis site management is responsible for the coordination of multi-employer employees entering the same confined space.
   a) A review of each contractor activities to be performed in the confined space.

   b) A pre-job meeting is conducted with the respective subcontractors.

   c) The subcontractors review the provisions of the plan with their respective employees as part of the employees’ safety briefings.

2.7 Program Review

1) This program is reviewed annually and revised as necessary to protect employees from confined-space hazards.

2) The program is reviewed anytime there is:
   - An unauthorized entry of a confined space,

   - A hazard discovered that was not addressed by the permit,

   - The occurrence of an injury or near miss, and

   - Employee complaints.
Confined-Space Program

Exhibit A
Terms and Definitions

Acceptable Environmental Conditions: Confined Space workplace conditions in which uncontrolled hazardous atmospheres are not present and which include an additional environmental criteria Davis may require for employee entry into a permit-required Confined Space.

Attendant: An individual stationed outside the permit-required confined space trained as required by this standard and who monitors the authorized entrants inside the permit-required confined space. An attendant may not monitor more entrants or more permit spaces than the entry permit specifically authorizes.

Authorized Entrant: An employee authorized by Davis to enter a permit-required confined space. Authorized entrants may rotate duties serving as attendants if the permit program and the entry permit so states. Any properly trained person with the authority to authorize entry by other persons may enter the permit space during the term of the permit provided the attendant is informed of that entry.

Blanking or Blinding: The absolute closure of a pipe, line, or duct by fastening across its bore a solid plate or "cap" which completely covers the bore; extends at least to the outer edge of the flange where it’s attached; and is capable of withstanding the maximum upstream pressure.

Double Block and Bleed: The closure of a line, duct, or pipe by locking and tagging a drain or vent which is open to the atmosphere in the line between two locked-closed valves.

Emergency: Any occurrence (including any failure of hazard control or monitoring equipment) or event(s) internal or external to the confined space, which could endanger entrants.

Engulfment: The surrounding and effective capture of a person by a liquid or finely divided solid substance.

Entry: The act by which a person intentionally passes through an opening into a permit-required confined space and includes ensuing work activities in that space. The entrant is considered to have entered as soon as any part of the entrant’s face breaks the plane of an opening into the space.
Confined-Space Program

**Entry Permit:** The written or printed document established by Davis the content of which is based on Davis hazard identification and evaluation for that confined space (or class or family of confined spaces if a number of spaces may contain similar hazards) and is the instrument by which Davis authorizes employees to enter that permit-required confined space. The entry permit:

- defines the conditions under which the permit space may be entered,
- states the reason(s) for entering the space,
- defines the anticipated hazards of the entry,
- defines entries where the individual authorizing the entry does not assume direct charge of the entry,
- lists the eligible attendants, entrants, and the individuals who may be in charge of the entry, and
- establishes the length of time for which the permit may remain valid.

**Entry Permit System:** Davis written procedure for preparing and issuing permits for entry and returning the permit space to service following termination of entry and designates by name or title the individuals who may authorize entry.

**Hazardous Atmosphere:** An atmosphere exposing employees to a risk of death, incapacitation, injury or acute illness from one or more of the following causes:

- A flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);

- An airborne combustible dust at a concentration that obscures vision at a distance of five feet (1.52 m) or less;

- An atmospheric oxygen concentration below 19.5 percent or above 23.5;

- An atmospheric concentration of any substance for which a permissible exposure limit is published in Subpart Z of 29 CFR Part 1910 and could result in employee exposure in excess of its permissible limit(s). When an air contaminant for which OSHA has not determined a permissible exposure limit may be present in the permit space atmosphere, OSHA recommends employers consult other sources of information such as Material Safety Data Sheets, which comply with the Hazard Communication Standard.
Confined-Space Program

1910.1200, for guidance in establishing the acceptable environmental conditions for entry by their employees; and/or

- Any atmospheric condition recognized as immediately dangerous to life or health.

**Hot-Work Permit:** Davis written authorization to perform operations, which could provide a source of ignition, such as riveting, welding, cutting, burning, or heating.

**Immediately Dangerous to Life or Health (IDLH):** Any condition posing an immediate threat of loss of life; may result in irreversible or immediate severe health effects; may result in eye damage; irritation or other conditions which could impair escape from the permit space.

**Immediate-severe Health Effects:** Any acute clinical sign(s) of a serious exposure-related reaction manifested within 72 hours after exposure.

**Inerting:** Rendering the atmosphere of a permit space nonflammable, non-explosive, or otherwise chemically non-reactive by such means as displacing or diluting the original atmosphere with steam or a gas that is non-reactive with respect to that space.

**In-plant Rescue Team:** A group of two or more employees designated and trained to perform rescues in permit spaces in their plant.

**Isolation:** The separation of a permit space from unwanted forms of energy, which could be a serious hazard to permit space entrants. Isolation is accomplished by such means as blanking or blinding; removal or misalignment of pipe sections or spool pieces; double block and bleed; or lockout and/or tagout of all energy sources.

**Lower Explosive Limit (LEL):** Minimum concentration of a combustible gas, vapor, or dust in the air which ignite in the presence of an ignition source.

**Line Breaking:** Means the intentional opening of a pipe, line, or duct that is or was carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a pressure or temperature capable of causing injury.

**Low-hazard Permit Space:** A permit space with an extremely low likelihood that an IDLH or engulfment hazard could be present and where all other serious hazards have been controlled.
Confined-Space Program

Not-permitted Condition: Any condition or set of conditions whose hazard potential exceeds the limits stated in the entry permit.

Oxygen-deficient Atmosphere: An atmosphere containing less than 20 percent oxygen by volume.

Oxygen-enriched Atmosphere: An atmosphere containing more than 23.5 percent oxygen by volume.

Permissible Exposure Limit (PEL): The maximum eight-hour time-weighted average of any airborne contaminant to which an employee may be exposed. However, at no time will the exposure level exceed the ceiling concentration for that contaminant.

Permit-required Confined Space (permit space): An enclosed space which:
- Is large enough and so configured that an employee can bodily enter and perform assigned work;
- Has limited or restricted means for entry or exit (some examples are tanks, vessels, silos, storage bins, hoppers, vaults, pits and diked areas);
- Is not designed for continuous employee occupancy; and, Has one or more of the following characteristics:
  - Contains or has a known potential to contain a hazardous atmosphere;
  - Contains a material with the potential for engulfment of an entrant;
  - Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or a floor which slopes downward or tapers to a smaller cross-section; or,
  - Contains any other recognized serious safety or health hazards.

Permit-required Confined Space Program: Davis program for preventing unauthorized employee entry and for ensuring safe entry into and work within permit spaces by authorized employees.

Retrieval Line: A line or rope secured at one end to the worker by a chest-waist or full-body harness or wristlets, and with its other end secured
Confined-Space Program

to either a lifting (or other retrieval) device to an anchor point located outside the entry portal.

**Threshold Limit Value (TLV):** The American Conference of Governmental Industrial Hygienists (ACHIIG) has established three (3) categories of TLV for airborne contaminants and they are defined as follows:

**Threshold Limit Value Time-Weighted Average (TLV-TWA):** The time-weighted average concentration for a normal eight-hour work day and for a 40-hour week to which nearly all workers may be repeatedly exposed, day after day, without adverse effect.

**Threshold Limit Value Short-Term Exposure Limit (TLV-STEL):** A STEL is defined as a 15-minute time weighted average exposure, which should not exceed at any time during a workday even if the eight-hour TWA is within the TLV. Exposures as the STEL should not be longer than 15 minutes and should not be repeated more than four times in a day. There should be at least 60 minutes between successive exposures at the STEL.

**Threshold Limit Value-Ceiling (TLV-C):** The concentration that should not be exceeded even instantaneously.
Confined Spaces Emergency Planning and Procedures

Overview:
- Anticipated hazards
- Type of incidents
- Response plan
- Training of personnel (confined space workers, attendants, and rescuers)

Essentials of the Plan:
- In-plant or off premises rescue?
- Who is responsible for rescue operation?
- Who call off-premises and when?
- Communication: Worker to Attendant – Attendant to Rescuers
- Location and type of rescue equipment
- Special training on rescue equipment
- Lighting (Location and type)
- Medical facilities and personnel
- Power ventilation and air compressors
- Need for specially trained staff (HazMat, radiation, fire).
- Permit plan in use – special information shown (physical structure, chemicals in use, nature of work, etc)

The Six Essentials of Rescue:
- Rescue from outside if possible
- Enter to rescue only after help arrives
- Always assume presence of an IDLH atmosphere
- Only use SCBA or SAR (P/D) with escape bottle
- Never use same air (or atmosphere) as confined space workers
- Safety harnesses and lifelines in addition to PPE

Rescue Personnel Training:
- Hands-on, repetitive, on-site
- Torches, saws, ventilation principles, fire fighting, first aid, CPR, decontamination, spill containment, etc.
**Mass Excavation, Inc.**

**Confined Space Pre-entry Checklist for Non-permit Required Spaces**

This form must be completed prior to entering non-permit confined spaces. This applies to authorized Mass Excavation (Mass) employees as well as subcontractors. A second person must be present during all non-permit confined space entries.

Date: ________________

Name of person completing this checklist (print): _________________________________

Space name and location: _______________________________________________________

Reason for entry into the space: _________________________________________________

1. Review the confined space policy in the Site Specific Safety Plan.

2. Verify that there have not been any changes to the space since the hazard evaluation.

3. Answer the following questions below and proceed accordingly.

Will there be any activities conducted inside the confined space (e.g., welding, line breaking) or any chemicals (e.g., solvents) brought into the confined space that could create a hazardous atmosphere inside the space?

☐ NO     ☐ YES If yes, **Do Not Enter.** Contact Safety Department for assistance.

Are there conditions in or around this confined space that could adversely affect anyone entering the confined space?

☐ NO     ☐ YES If yes, **Do Not Enter.** Contact Safety Department for assistance.

If both questions were answered **No:**

1. Secure the site.
2. Install barriers and post warning signs.
3. Take measures to prevent any hazards on the outside of the space.
4. Control vehicular and pedestrian traffic.
5. Ensure second person is present.

**Note:** Any indication of an abnormal condition inside the space is cause to evacuate the space immediately. Return this form to the Site Safety Officer or jobsite office. Debrief personnel involved after entry.
# PRCS Entry Checklist

All applicable items shall be ‘YES’ or ‘N/A’ for the permit to be valid.

<table>
<thead>
<tr>
<th>Procedure provided, reviewed, and enforced?</th>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. All job procedures reviewed, understood, and training completed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Person on site at all times to enforce all procedures?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Material Safety Data Sheets (MSDS) reviewed?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Welding, cutting, open flame present, welding permit approved and posted? |  |  | |

| Confined space isolated? |  |  | |
| a. Lockout/Tagout procedure followed? |  |  | |
| b. Power sources off and locked out? |  |  | |
| c. Electrical hazards isolated, removed, and tagged? |  |  | |
| d. Rotating equipment locked out, removed, or disconnected? |  |  | |
| e. Lines carrying materials to and from confined space blanked off, section removed or locked by two valves and drained? Drain valve locked open and tagged? |  |  | |
| f. Contents removed and flushed? |  |  | |

| Confined space atmosphere prepared and monitored? |  |  | |
| a. Purged? |  |  | |
| b. Flanges and access doors removed or manholes opened? |  |  | |
| c. Continuous ventilation provided? |  |  | |
| d. Oxygen level maintained over 19.5% but less than 23%? |  |  | |
| e. Air monitoring equipment provided? |  |  | |

| PPE provided and specific instructions giving for its use? |  |  | |
| a. Air lines, SCBA or other approved respirators provided? |  |  | |
| b. Safety harnesses with D-ring and life line provided? |  |  | |
| c. Head, hearing, hand, foot and body protection provided? |  |  | |
| d. Lighting equipment of approved type provided and grounded? |  |  | |
| e. Fire extinguishers readily available? |  |  | |
| f. Walking/working surfaces protected from slippage? |  |  | |

| Attendant standing outside of space trained and ready to respond to emergencies? |  |  | |
| a. Rescue equipment provided at confined space? |  |  | |
| b. Emergency alarms or communications available? |  |  | |

<table>
<thead>
<tr>
<th>Supervisor</th>
<th>Date</th>
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</table>
Mass Excavation, Inc.

Confined-Space Entry Permit

1. Location of Space

2. Description of Space

3. Employee authorizing entry

4. Date

5. Purpose of authorization

6. Entry authorized from ______ to ______

7. Date

8. Authorized entrants

9. Authorized attendants(s)

Space Hazards and Controls

1. Asphyxiating: Oxygen deficiency [ ] Chemical [ ] Engulfment [ ]

2. Flammable/Explosive: Dust [ ] Chemical (specify) ______________________________

3. Toxic: Chemical (specify) ______________________________

4. Unauthorized Activation: Mechanical ______ Electrical ______

5. The confined space shall be isolated or potential hazards controlled by:
   Depressurization [ ] Purging and cleaning pipe [ ] Ventilation [ ]
   Lockout/tagout [ ] Blanking/capping pipe [ ] Other (specify) [ ]

6. Rescue services/equipment are available: Onsite [ ] Outside [ ]

7. Communications equipment procedures to be used:

8. The following personal protective equipment have been assigned to, and shall be worn by entrants:

9. Hot work [ may ] shall not [ ] be conducted in this space. If hot work is permitted, the following controls shall be utilized:
Testing and Monitoring

1. The space has an oxygen content of _______ and is [ safe ] [ unsafe ].

2. The space has been monitored and contains the following concentrations of toxic hazards:
   
   Carbon Monoxide _______  Hydrogen Sulfide _______  Methane _______
   
   Other (specify) ________________________________

3. The space has been tested and contains the following percentages of lower flammable limit of flammable/explosive chemicals (specify):
   
   _____________

4. Monitoring will be conducted: continuously[     ] or at _______ intervals.

Authorization: All actions and conditions necessary for safe entry to, work in, and exit from the confined space have been performed. Entry is permitted on the date and time, and for the duration, specified above.

__________________________  Time ____________________
(Signature of individual authorizing entry)

Cancellation: All entrants have exited the confined spaces and this permit is cancelled.

__________________________  Time ____________________
(Signature of individual canceling entry)
# Mass Excavation, Inc.

## Exposure Monitoring Log

<table>
<thead>
<tr>
<th>Date/Time (24-Hr Clock)</th>
<th>Type of Sample</th>
<th>Monitor Intervals</th>
<th>Readings</th>
<th>Other</th>
<th>Sampler’s Initials</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>BZ or BG</td>
<td>In Depth</td>
<td>PID (ppm)</td>
<td>%O₂ (%)</td>
<td>%LEL (%)</td>
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</table>

### Remarks:

- [Blank lines]

### Field Team Leader Signature:

### Legend:

**Breathing Zone + BZ**

**Background + BG**
# Respiratory Protection Plan

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<td>4.0</td>
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## Appendices:

- **Appendix 1**: Medical Questionnaire For Respirator Use
- **Appendix 2**: Respirator Fit Test Report
- **Appendix 3**: Voluntary Use Of Dust Mask Document
- **Appendix 4**: Respiratory Equipment and Training Log
Respiratory Protection Plan

1.0 Introduction

The Respiratory Protection Plan described in this document is intended to conform to the current OSHA Regulations, 29 CFR 1910.134.

The law states a written Respiratory Protection Plan must be established by the employer for selection and use of respirators, for use at existing or potentially hazardous or toxic work sites, or for any asbestos abatement work. The Respiratory Protection Plan includes a specifically mandated 11-point program. This 11-point program was used as an outline for a written Respiratory Protection Plan, as described in the following paragraphs.

2.0 Program

2.1 Selection and Use of Respirators

Appropriate types of administrative and engineering controls are used to reduce the levels of exposure to hazardous and toxic materials before selecting respirators. These controls may include establishing policies such as appropriate air monitoring of areas prior to entering, using wet techniques for dust control, and effective use of ventilation, negative air machines, enclosures, or sprays, and wind direction when applicable.

When such controls are not feasible or the containment level after use of controls is still potentially above the permissible exposure level, appropriate respiratory protection is provided by Davis Constructors & Engineers, Inc. (Davis) and used by the employee. Employees are required to sign a respirator fit test (Appendix 2) and training form (Appendix 4) stating they’ve read and understand this program prior to using respiratory equipment.

The respirator protection program is administered by the Safety Coordinator or a designee. This includes proper use, fit testing of respirators, training programs, and recordkeeping.
2.2 **Respiratory Selection**
Respiratory equipment is selected based on the hazards the worker may be exposed to. This selection is based on the criteria found in ANSI Z88.2. Both personal and environmental air monitoring is performed on a level, intensity, and schedule sufficient for initial selection of respiratory equipment and to either upgrade or downgrade as necessary during the course of the work.

All respiratory equipment selected conforms to National Institute for Occupational Safety and Health (NIOSH) guidelines and will retain NIOSH approvals. Respirators include the following information:
- an assigned identification number,
- a label identifying the type of hazard the unit is designed to protect against and,
- information concerning the limitations and approved component parts for this type of unit.

2.3 **Training in the Use of Respirators**
All employees using or who may use respirators are properly trained. Training addresses selection of the respirator, seal checking the face piece, proper use of the respirator in the situation, hazards anticipated, inspection and maintenance of the respirator, cleaning and disinfecting, and storage techniques. Most of these topics are covered in subsequent sections of this plan.

Training is documented *(Appendix 4)* and made a part of each employee’s permanent records. The program also includes formal qualitative-fit testing using amyl acetate and/or irritant smoke before using a particular type of respirator. Each employee completes a fit-test form upon completion of his or her fit test *(Appendix 2)*. Employees are allowed to wear the unit in an uncontaminated area for at least 30 minutes before using them in a contaminated area. Fit tests, medical determinations and other records related to the respiratory protection program are kept by the health and safety department for the period of time required by regulation.

2.4 **Respirator Assignment**
Whenever possible employees are assigned their own respirator. They mark their unit with a unique number to use and be
responsible for the unit for the duration of a specific project or for the life of the unit, if appropriate. This tends to cause employees to take better care of the unit and do a better job of cleaning and maintaining it. It also prevents germs from colds, flu, etc. from passing from one individual to another.

If individual assignment of units is not possible, the units are thoroughly cleaned and disinfected by each person immediately after using the unit and by the next person before using it.

When different types of respirators including different brands, sizes, or basic types (supplied vs. air purified) are used, the worker receives brief instructions on the use of the different respirator and undergoes and passes a qualitative-fit test. A card is issued to each person telling what respirator they’re assigned and fit tested for.

2.5 Respiratory Cleaning and Disinfecting
Respirators are cleaned after each day’s use. The filter cartridges are disposed of after each day’s use or more often if required by the site safety person or as the situation dictates. The respirators are rinsed off in the shower or in the washbasin with the headbands removed, depending on the type of respirator. The entire unit is cleaned in hot, soapy water (less than 120 degrees F). A pliable hand brush is used if the unit is exceptionally dirty. The unit is rinsed in clean, warm water and then rinsed in a disinfectant solution such as 50 ppm iodine or chlorine (1 teaspoon in 1 gallon of water) then thoroughly dried both inside and outside the face piece.

The units are air dried overnight in a clean area. If not being used again immediately, units are:
- inspected and any worn or defective parts replaced,
- reassembled and placed in clean, marked Ziploc® plastic bags for storage in a cool, dry place.
- inserted in the storage bag so the unit’s unique number is visible.

Organic solvents are not used for cleaning, because they deteriorate the rubber of the face piece. Respirator bags are not closed until units are completely dry (at least 48 hours).
2.6 Storage
Respirators are stored in a cool, dry, dark location inside plastic bags and/or boxes clearly marked with the unique number, the brand name, model number, and the unit size.

The unit is stored with the face piece down to protect the rubber from assuming an abnormal shape and essentially ruining it. The storage location affords protection against dust, chemicals, sunlight, and extreme heat or cold, like inside a metal or wood cabinet. Cartridges are not stored in bags with face pieces.

The inhalation valve of each mask is taped over with duct tape during temporary or long-term storage, if not kept in a Ziploc® bag to prevent dust or fibers from entering the unit.

Stored units are inspected at least once a month to ensure no distortion of the rubber is taking place.

2.7 Maintenance and Inspection
Inspection of respirators includes checking condition of the:
- glass faceplate for scratches, cracks, etc,
- condition of the rubber of the face piece,
- headbands for elasticity and damage,
- valves, both inhalation and exhalations, for fit, presence of dirt, hair and pliability,
- cartridge fittings are checked for cracks,
- Hoses are inspected, all fittings and connections are checked for leaks, cracks and pliability,
- clamps for tightness and exposure,
- quick-connects or threads for damage,
- dangerous clamps (those that might cut you) and other safety problems are eliminated from each unit.

Special care is taken if exposures to Permissible Exposure Limits (PELs) greater than the Short-Term Exposure Limits (STELs) or Immediately Dangerous to Life and Health (IDLH) atmospheres are encountered.

2.8 Medical Surveillance
Prior to participating in situations requiring respirators, employees receive baseline physical exams including the medical questionnaire in 1910.134 Appendix C. A copy of this
Medical questionnaire is at the end of this section (Appendix 1). The physician may also perform a Forced Expiratory Volume in one second (FEV 1.0) and a Total Vital Capacity (TVC) test on each person intending to use a respirator to help determine physical ability to safely wear respiratory equipment.

The physician then issues a written medical opinion as to the ability of the employee to wear a respirator and perform the tasks in question.

Medical examinations are:
- repeated annually,
- after a major change in job responsibilities,
- after an incident involving exposure or onset of any symptoms or,
- upon termination of the employee.

Employee records concerning medical surveillance are kept for 30 years after employment.

2.9 Approved Respirators
As stated previously, only NIOSH-approved respiratory equipment, including cartridges, are used. Respirators are not used when out of date. Cartridges and filters must be color coded for use according to NIOSH.

2.10 The Evaluation of Respiratory Protection Plan
On the basis of inspections, comments, and changes in the workplace, the program administrator and employees review this written Respiratory Protection Plan annually. This ensures the plan is adequate and achieves state-of-the-art practices. Necessary changes are made to the Respiratory Protection Plan as required to conform to new or existing state or federal regulations. An independent Industrial Hygienist also reviews the program on an annual basis and comments on and updates the program when required.

2.11 Other Items
The following items are also covered under Davis Respiratory Protection Plan:

   a) A Quality Assurance Plan is employed ensuring the respirator plan is used and enforced.
b) Facial hair in the form of beards and long sideburns (which may interfere with the fit of the respirator) are not allowed for employees required to wear respirators.

c) IDLH (those Immediately Dangerous to Life or Health), Level A work, work in explosive atmospheres, and SCBA respirators are not covered by this Plan and are not worked in by Davis employees unless the plan is updated to include such activities.

d) If entered, Permit Required Confined Spaces requires:

1) An attendant in verbal or sight communication with the worker at all times.

2) Respiratory protection for the attendant is worn at least equivalent to the worker.

3) Written permission from Davis management in the form of a signed entry permit.

4) Workers never enter areas with low oxygen (less than 19.5 percent) with air-purifying respirators.

5) Temple eyepieces cannot be worn while using full-face respirators. Eyeglass lens clips are provided, if requested.

6) Contact lenses are never worn with respirators.

7) All employees involved in confined-space entry are trained to the extent required by law for their duties.

3.0 Fit-Testing Procedure
The employer ensures an employee using a right-fitting face piece respirator is fit tested prior to initial use of the respirator, whenever a different respirator face piece (size, style, model or make) is used, and at least annually thereafter.
The fit test is administered using an OSHA-accepted Qualitative Fit Test protocol. The OSHA-accepted QLFT protocols and procedures are contained in Appendix A of 1910.134.

QLFT may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor or 100 or less.

Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air purifying respirators are accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) used for respiratory protection.

4.0 Voluntary Use of Respirators

Respirator use is encouraged, even when exposures are below the exposure limit to provide an additional level of comfort and protection for the worker. Voluntary use of a filtering face piece respirator (dust mask/disposable paper type dust respirator) does not require medical evaluation.

The supervisor needs only to ensure:
- the dust masks are not dirty or contaminated,
- their use does not interfere with the employee’s ability to work safely.
- provide a copy of Appendix 3 (Appendix D 1910.134) to each voluntary wearer. The same applies to voluntary air-purifying respirators.
Appendix 1: Medical Questionnaire for Respirator Users

Section 1

To the Employee: Can you read?
Your employer must allow you to answer this questionnaire during normal work hours or at a time and place that’s convenient for you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers. Your employer must tell you how to deliver or send this questionnaire to the health-care professional who will review it.

Answer the following question and please print:
Today’s date: __________________
Your name: ______________________________
Your age: ________
Sex: (circle one): Male Female
Your height: Feet: _____ Inches: ______
Your weight: Pounds: __________
Employee ID number: ____________
Your job title: ______________________________
Your telephone number: ____________________

<table>
<thead>
<tr>
<th>Have you worn a respirator?</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>If yes, what type(s):</td>
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</table>

What respirator will you wear for your job? (select from list below)

- Air purifying respirator (full or half face piece)
- Air purifying respirator (powered air purifying respirator)
- Air purifying respirator (single use, filtering face piece)
- Supplied air respirator (full or half face piece)
- Supplied air respirator (airline)
- Self-contained breathing apparatus (SCBA)
- Supplied air respirator (escape only)
# Mass Excavation, Inc.

**Site-Specific Safety Plan**

## Section 2

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>1.</td>
<td>Do you currently smoke tobacco or have you smoked in the last month? If yes, explain:</td>
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<td>2.</td>
<td>Have you ever had any of the following conditions?</td>
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<td></td>
<td>a. Seizures (fits)</td>
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<td>b. Diabetes (sugar disease)</td>
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<td></td>
<td>c. Allergic reactions that interfere with your breathing</td>
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<td></td>
<td>d. Claustrophobia (fear of closed-in places)</td>
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<td></td>
<td>e. Trouble smelling odors</td>
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<td>3.</td>
<td>Have you ever had any of the following pulmonary or lung problems?</td>
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<td>a. Asbestosis</td>
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<td></td>
<td>b. Asthma</td>
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<tr>
<td></td>
<td>c. Chronic bronchitis</td>
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<td></td>
<td>d. Emphysema</td>
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<tr>
<td></td>
<td>e. Pneumonia</td>
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<td></td>
<td>f. Tuberculosis</td>
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<td></td>
<td>g. Silicosis</td>
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<td></td>
<td>h. Pneumothorax (collapsed lung)</td>
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<td></td>
<td>i. Lung cancer</td>
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<td>j. Broken ribs</td>
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<td></td>
<td>k. Any chest injuries or surgeries</td>
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<td></td>
<td>l. Any other lung problem you’ve been told about. If yes, explain:</td>
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<td>4.</td>
<td>Do you currently have any of the following symptoms of pulmonary or lung illness?</td>
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<tr>
<td></td>
<td>a. Shortness of breath</td>
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<td>b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline.</td>
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<td></td>
<td>c. Shortness of breath when walking with other people at an ordinary pace on level ground.</td>
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<td></td>
<td>d. Have to stop for breath when walking at own pace on level ground.</td>
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<td></td>
<td>e. Shortness of breath when washing or dressing yourself.</td>
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<td>f. Shortness of breath that interferes with your job.</td>
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<td></td>
<td>g. Coughing that produces phlegm (thick sputum)</td>
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<td></td>
<td>h. Coughing that wakes you early in the morning.</td>
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<td></td>
<td>i. Coughing that occurs mostly when you’re lying down</td>
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<td></td>
<td>j. Coughing up blood in the last month.</td>
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<td></td>
<td>k. Wheezing</td>
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<td></td>
<td>l. Wheezing that interferes with your job.</td>
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<td></td>
<td>m. Chest pain when you breathe deeply.</td>
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<td></td>
<td>o. Other symptoms you think may be related to lung problems. If yes, explain:</td>
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<tr>
<td>5.</td>
<td>Have you ever had any of the following cardiovascular or heart problems?</td>
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</table>
## 6. Have you ever had any of the following cardiovascular or heart symptoms?
- a. Frequent pain or tightness in your chest.
- b. Pain or tightness in your chest during physical activity
- c. Pain or tightness in your chest that interferes with your job.
- d. In the past two years, heart skipped or missed a beat.
- e. Heartburn or indigestion not related to eating.
- f. Other symptoms that may relate to heart or circulation problems. If yes, explain:

## 7. Do you currently take medication for any of the following problems?
- a. Breathing or lung problems
- b. Heart trouble
- c. Blood pressure
- d. Seizures (fits)
If yes, explain:

## 8. If you've used a respirator, have you ever had any of the following problems?
- a. Eye irritation
- b. Skin allergies or rashes
- c. Anxiety
- d. General weakness or fatigue
- e. Any other problem interfering with your use of a respirator.
If yes, explain:

## 9. Would you like to talk to the health-care professional who will review this questionnaire about your answers here?

## 10. Have you ever lost vision in either eye (temporarily or permanently)? If yes, explain:

## 11. Do you currently have any of the following vision problems:
- a. Wear contact lenses.
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<tbody>
<tr>
<td>b. Wear glasses</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>c. Color blind</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>d. Any other eye or vision problem</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>12. Have you ever had an injury to your ears including a broken ear drum? If yes, explain:</td>
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<tr>
<td>13. Do you currently have any of the following hearing problems?</td>
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<tr>
<td>a. Difficulty hearing</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>b. Wear a hearing aid</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>c. Any other hearing or ear problem. If yes, explain:</td>
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<tr>
<td>14. Have you ever had a back injury? If yes, explain:</td>
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<tr>
<td>15. Do you currently have any of the following musculoskeletal problems?</td>
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<td></td>
</tr>
<tr>
<td>a. Weakness in any of your arms, hands, legs, or feet</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>b. Back pain</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>c. Difficulty fully moving your arms and legs.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>d. Pain or stiffness when you lean forward or backward at the waist.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>e. Difficulty fully moving your head up or down</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>f. Difficulty fully moving your head side to side</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>g. Difficulty bending t your knees.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>h. Difficulty squatting to the ground.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>i. Climbing a flight of stairs or a ladder carrying more than 25 lbs.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>j. Muscle or skeletal problem that interferes with respirator. If yes, explain:</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Section 3</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>-----------</td>
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<td>----</td>
</tr>
<tr>
<td>1. In your present job are you working at high altitudes (over 5,000 feet) or in a place with lower than normal amounts of oxygen? If yes, do you have feelings of dizziness, shortness of breath, pounding in your chest or other symptoms when you’re working under these conditions?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. At work or at home have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g. gasses, fumes, or dust), or have you come into skin contact with hazardous chemicals? If yes, name the chemicals, if you know them:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Have you ever worked with any of the materials or under any of the conditions listed below?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Asbestos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Silica (e.g. in sandblasting)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Tungsten/cobalt (e.g. grinding or welding this material)</td>
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<td></td>
</tr>
<tr>
<td>d. Beryllium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Aluminum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Coal (for example mining)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Iron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Tim</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Dusty environments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. Any other hazardous exposures? If yes, describe these exposures:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. List any second jobs or side businesses you have.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. List your previous occupations:</td>
<td></td>
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<tr>
<td>6. List your current and previous hobbies:</td>
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<tr>
<td>7. Have you been in the military services? If yes, were you exposed to biological or chemical agents (either in training or combat)?</td>
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<tr>
<td>8. Have you ever worked on a HAZMAT team?</td>
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<tr>
<td>9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications)? If yes, name the medications, if you know them:</td>
<td></td>
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</tr>
</tbody>
</table>
10. Will you be using any of the following items with your respirator(s)?
   a. HEPA filters
   b. Canisters (e.g. gas masks)
   c. Cartridges

11. How often are you expected to use the respirator(s) (place a check in the “yes” or “no” box to the right for all answers applying to you).
   a. Escape only
   b. Emergency rescue only
   c. Less than 5 hours a week
   d. Less than 2 hours a day
   e. 2 to 4 hours a day
   f. Over 4 hours a day

12. During the period you’re using the respirator(s) is your work effort?
   a. **Light** (less than 200 kcal per hour). If yes how long does this period last during the average shift: _____hrs. _____min. Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work or standing while operating a drill press (1-3 lbs.) or controlling machines.

   b. **Moderate** (200-350 kcal an hour). If yes how long does this period last during the average shift: _____hrs. _____min. Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

   c. **Heavy** (about 350 kcal an hour). If yes how long does this period last during the average shift: _____hrs. _____min. Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you’re using your respirator? If yes, describe this protective clothing and/or equipment:

14. Will you be working under hot conditions (temperature exceeding 77 degrees F)?

15. Will you be working under humid conditions?
16. Describe the work you’ll do while using your respirator(s):

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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</thead>
</table>

17. Describe any special or hazardous conditions you might encounter while using your respirator(s). For example, confined spaces, life-threatening gases:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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</thead>
</table>

18. Provide the following information—if you know it—for each toxic substance you’ll be exposed to when using your respirator(s):

- a. Name of the first toxic substance:
- b. Estimated maximum exposure level per shift:
- c. Duration of exposure a shift:
- d. Name of the second toxic substance:
- e. Estimated maximum exposure level per shift:
- f. Duration of exposure a shift:
- g. Name of third toxic substance:
- h. Estimated maximum exposure level per shift:
- i. Duration of exposure a shift:
- j. The name(s) of any other toxic substances you’ll be exposed to while using your respirator:

19. Describe any special responsibilities you’ll have while using your respirator(s) that may affect the safety and wellbeing of others (for example, rescue, security):

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
Respirator Training and Hazards

<table>
<thead>
<tr>
<th>Attendees</th>
<th>Name</th>
<th>Employer</th>
<th>Name</th>
<th>Employer</th>
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</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**Items Discussed**

- Hazards of contaminant - JHA for task
- Use of administrative and engineering controls
- Exposure levels
- Respirator components and care
- Respirator limitations and cautions
- Respirator cartridges and filters
- Donning respirator and user seal check
- Fit testing procedure - Qualitative Test
### Respirator Fit Test Report

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>Fit Test Expires:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Name:</th>
<th>License or SS #</th>
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<table>
<thead>
<tr>
<th>Address:</th>
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<table>
<thead>
<tr>
<th>City:</th>
<th>State:</th>
<th>Zip:</th>
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<tr>
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</table>

<table>
<thead>
<tr>
<th>Respirator Type:</th>
<th>1/2 Face Negative Pressure</th>
<th>Full-Face Negative Pressure</th>
<th>PAPR</th>
</tr>
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<tbody>
<tr>
<td>(Circle)</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Manufacturer:</th>
<th>Model Number:</th>
<th>Size:</th>
</tr>
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<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Cartridge Type Tested:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Restrictions:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Test</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Type of Test (Circle)</th>
<th>Quantitative</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Device:</td>
<td>Isoamyl Acetate</td>
<td>Saccharin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bitrex</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Results</th>
<th>Pass</th>
<th>Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Test Given By:</th>
<th>Test Subject:</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>
Appendix 3
Voluntary Use of Dust Masks

This program is designed to protect employee health even though it was determined respirators are not required. Filtering face piece dust masks are allowed for those employees wishing to use them. This program is designed for compliance with OSHA Standard 29 CFR 1910.134(c)(2)(i) with the exception in 1910.134(c)(2)(ii).

The position title determined that respirators are not required for the following jobs, tasks, or departments:

The use of dust mask respirators by employees is strictly voluntary.

The position title provides, and employees are to read, Appendix D of the OSHA Respirator Standard 29 CFR 1910.134, a copy of which follows:

Appendix D 1910.134 (Non-Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.

2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It tells you what the respirator is designed for and how much it will protect you.

3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.

4. Keep track of your respirator so that you do not mistakenly use someone else’s respirator.
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Subcontractor Health and Safety Procedures

1.0 Policy
Mass Excavation, Inc. (Mass) policy is to select, contract with, and oversee subcontractors with the same priority and emphasis on safety as we practice. It’s a contractual requirement that subcontractors comply with Mass, client, state, and federal safety and health regulations.

2.0 Purpose and Scope
All contractors and employees on a project can only achieve the goal of an accident-free jobsite through a cooperative effort. This procedure provides guidelines used by Mass management when selecting subcontractors as well as safety requirements implemented when subcontractors and their employees begin work on Mass projects.

This procedure applies only to subcontractors who have a contractual relationship with Mass and their tier subcontractors.

3.0 Definitions

<table>
<thead>
<tr>
<th>TERM</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcontractor</td>
<td>Any person, partnership, or corporation with a contract with Mass and/or their subcontractor(s) to furnish labor, material, or equipment as part of the work</td>
</tr>
<tr>
<td>Work</td>
<td>The total of the contractor’s responsibilities as set forth in the contract documents.</td>
</tr>
<tr>
<td>Superintendent</td>
<td>The highest-ranking representative of Mass whose regular work location/office is on the project site.</td>
</tr>
</tbody>
</table>

4.0 Responsibilities
The Project Manager, project engineer, and superintendent are responsible for the selection of subcontractors. The Safety Department is available as a resource to interpret safety data and provide assistance in the selection of subcontractors as required. The Project Manager and superintendent and the project staff are responsible for assuring the overall implementation of and compliance
with the requirements of this procedure through the subcontractor management/supervisor chain of command.

5.0 Training
Subcontract employees must complete safety training complying with all applicable federal, state, local, client, and Mass safety requirements. Documentation of all safety training is maintained on the project by the subcontractor and provided to Mass upon request.

Under federal and state safety requirements subcontractors (employers) must certify all operators of mobile equipment, such as forklifts, cranes, boom lifts, buses, etc., are trained and/or certified on the proper operation of the equipment. Copies of this training and certification are maintained on the project by the subcontractor and forwarded to Mass upon request.

All subcontractor employees are required to participate in weekly safety training sessions. Signed copies of the weekly meeting reports are made available to Mass within 24 hours of each session.

6.0 Inspection and Storage
Copies of all subcontractor safety documents are maintained for a minimum of 12 months, unless a specified longer retention time is required by a regulatory agency.

Accident reports, OSHA logs, and other critical safety documentation become part of the permanent project files and maintained by Mass at project completion.

7.0 Procedure
Requesting and evaluating subcontractor general safety plan:
• The Project Manager/engineer or designee requests a subcontractor general safety plan from all potential subcontractors in conjunction with a request for quotation for services.

• Upon return receipt, the general safety plan is reviewed by the Project Manager/engineer and superintendent with input from the Safety Department to determine if the subcontractor has a safety program meeting acceptable guidelines for performing the work.
Subsequent to review of the general safety plan, the Project Manager/engineer and/or superintendent jointly qualify or disqualify a subcontractor. Three primary sources of information provide ways to evaluate the probable safety performance of prospective subcontractors:

1) Experience modification rates for worker’s compensation insurance premiums.

2) OSHA incidents rates for recordable injuries and illnesses.

3) Contractor safety programs, procedures, and practices.

Note: Due to the vast number of variables that may impact safety measurement systems, Mass has no standard minimum or set safety criteria for disqualifying potential subcontractors.

7.1 Documentation and Reporting Requirements

Every subcontractor’s employee is required to review all elements of the Mass Site Specific Plan and acknowledge said review by signature.

Prior to mobilizing the project, all subcontractors are to forward a copy of their safety program and hazard communication program to the site safety officer.

Subcontractors must generate a Hazard Assessment Safety Action Plan, specific to their scope of work and completed before mobilizing the project. The Mass Safety Department reviews the plan.

Subcontractors are required to participate in producing task-specific hazard analysis for daily activities as well as review all site safety reports.

Signed copies of subcontractor’s weekly safety meeting reports are made available to Mass within twenty-four (24) hours of each meeting.

Accident investigation reports for all subcontractor accident, injuries, and work-related illnesses are forwarded to the Mass
site superintendent within twenty-four (24) hours of the occurrence.

Subcontractors provide a Monthly Summary of Injuries for each month in which they conduct work on the project. These reports are due to the Mass site safety manager by the fifth (5th) day of the month for the past month.

Subcontractors are also responsible for and comply with all federal and state accident reporting and recordkeeping requirements for their employees.

Each subcontractor develops a project specific emergency action plan in accordance with federal, state, client and Mass requirements.

Site management must be informed promptly of any accident occurring on the project. Serious injuries, illnesses or any accident involving a third party or a member of the general public must be reported to Mass site management immediately.

Site management must be informed immediately of any OSHA, EPA, or other safety or health regulatory agencies actions involving the subcontractor’s work.

7.2 Basic Safety Requirements
The following basic safety rules list some of the Mass primary safety concerns for subcontractor safety, but are in no way all-inclusive. All other client, owner, Mass, federal, state, and local safety and health regulations governing the work applies.

Each subcontractor appoints an on-site safety representative who attends Mass scheduled project safety meeting and is responsible for implementation of rules listed below, as well as any other safety rules determined necessary for the safe execution of the project as decided by Mass.

Rules:
- Hard hats are worn at all times. This includes welders when using welding hoods, and all visitors.
- Sleeved shirts are worn at all times. (No tank tops.)
- Hard-toe, leather work boots, are worn at all times.
Mass Excavation, Inc.

Site-Specific Safety Plan

- Safety glasses (with rigid side shields), designated ANSI Z87.1, are worn at all times. This includes under welding hoods and employees with prescription eye wear.

- Face shields must be worn in conjunction with safety glasses when grinding, chipping, jack hammering, power sawing, or conducting other tasks involving serious face/eye hazards.

- Gloves, appropriate for the hazard present, are worn when hands are exposed to absorption of harmful substances, cuts, abrasions, punctures, chemical burns, thermal burns or harmful temperature extremes.

- All subcontractor employees comply with the Mass Fall-Protection Policy. This policy simply states: “Anytime employees are working from an unprotected elevation of six (6) feet or more, fall protection must be used.” Working as stated above means while traveling, stationary, or at any time exposed to a fall from a surface not protected by approved handrails, guardrails or some other approved fall-arrest device.

- Good housekeeping is maintained on a continual basis. Supplies, tools, materials, scrap material and construction debris are stored, transported, signed, contained and disposed of properly.

- Hearing protection is worn when employees are exposed to noise levels requiring protection, as defined by OSHA safety standards.

- Illegal drugs, alcohol, firearms, fireworks or other dangerous substance are not allowed on the project and may result in permanent dismissal.

7.3 Drug and Alcohol Compliance

Drug or alcohol usage or impairment on the worksite is not tolerated. Such impairment may risk injury or death to the impaired worker and/or co-workers. For the safety and protection of all jobsite workers, subcontractors must agree to mandate its employees to subject themselves to reasonable suspicion drug and/or alcohol testing when:
Mass Excavation, Inc.

Site-Specific Safety Plan

7

a. Any subcontractor manager or superintendent has a reasonable suspicion of drug or alcohol usage or impairment.

b. Mass superintendent or designee has a reasonable suspicion that any subcontractor employee may be in violation of the zero-tolerance drug and alcohol policy or appears impaired and such impairment could adversely affect job safety and/or performance.

Mass Drug and Alcohol Policy is posted at the jobsite and on the “Subcontractor” page of Mass website, www.massexcavation.com this page is password protected. The password is: subp@ge.

7.4 Equipment

All equipment brought onto the project will, at a minimum, comply with Mass, state, and federal OSHA regulations. All equipment inspections are properly documented and maintained on site.

All equipment on the project is used in accordance with both federal and state safety requirements and the manufacturer’s instructions and guidelines. Equipment is not altered in any way for a use for which it’s not intended.

An inspection program and schedule are implemented for all equipment used on site, as required by applicable safety regulations. Documentation of these inspections are maintained by the subcontractor and provided to Mass upon request.

A scaffold tagging program is enforced on all projects. All subcontractor scaffolds are required to have a scaffold tag attached indicating subcontractor’s:

- name,
- date,
- status of scaffold safety requirements and
- any additional items that may be needed before using the scaffold.

Subcontractors use either Ground Fault Circuit Interrupters (GFCI’s) or an assured equipment grounding inspection.
program to protect employees using electrical tools and equipment.

7.5 Certification and Permits
Certain operations may require a Client/Owner permit. The subcontractor representative inquires with Mass site management to determine if any of the subcontractor’s activities require a Client/Owner permit. Such activities may include, but are not limited to:

- Hot Work
- Confined Space
- Excavations

Various state and local authorities require permits for specific activities such as excavations, heavy lifts, lead abatement, scaffolding, etc.

7.6 Hazard Communication Program
All subcontractor companies are required to have a written Hazard Communication Program meeting federal, state, and OSHA requirements and comply with the program. A copy of the program is forwarded to the Mass site management and a copy is required to be in the possession of the subcontractor on the site. The employer must complete documentation of employee Hazard Communications Training prior to the commencement of work.

Any potentially hazardous material or chemical brought onto the project must have a Material Safety Data Sheet (MSDS). Copies of the MSDS’s are forwarded to site management before the product is brought on to the project.

Small quantities of hazardous liquids, such as gasoline, diesel fuels and any solvents, brought onto the project are stored in a properly labeled safety container with a flame arrester and self-closing lid. All hazardous materials and chemicals brought onto the project are in the proper containers with no visible signs of leaks. Contact site management prior to bringing large quantities of hazardous materials or liquid on site.
All containers brought onto the project must be labeled as to their contents.

Site management is notified before any chemical/material creating noxious or toxic fumes is used.

7.7 **Respiratory Protection**
All subcontractors, whose employees may be expected to wear a respirator, send a copy of their written Respiratory Protection Program to Mass site management. The program must comply with current Mass, state, and federal requirements. A Respiratory Protection Program must address the following:

- Proper respirator selection,
- Proper respirator training and the required fit-test procedures,
- Proper respirator cleaning, sanitizing, inspection and maintenance,
- Respirator users medical clearance.

7.8 **Safety Surveys**
Site management and the Mass Safety Department conduct periodic safety surveys of projects. Any safety discrepancy observed is reported to the appropriate subcontractor’s site safety representative for immediate resolution.

Mass safety surveys do not relieve subcontractors of their responsibility to self-inspect their work and equipment. All subcontractors—at all times—conduct their work in a safe manner.

7.9 **Safety Adherence**
Mass understands the discipline of subcontractor personnel is the responsibility of subcontractor management. When observed, however, Mass documents violations of safety policies and forward said documentation to the subcontractor’s representative. After verbal and written notices are documented and if the subcontractor repeatedly fails to comply, the employee may be removed from the worksite (as outlined by the procedures below).
7.9.1 Consequences for Policy Violations

The consequences discussed below apply to all employees/subcontractors found in violation of this policy. Any foreman, supervisor, or official of management after becoming aware of any such failure ensures the following action is taken:

Stage One
A formal verbal warning may be given to the employee by his/her immediate supervisor, along with a warning that this is the first stage in the disciplinary procedure and any repetition within one month will lead to the second stage in the procedure.

Stage Two
If the offense(s) addressed in Stage 1 is repeated and/or continued or a more serious offense is committed, the employee may be given a formal written warning setting out the details of the offense(s) and stating that if the offense(s) is (are) repeated within one month, the third stage in this procedure is invoked. In addition to the written warning, the employee is suspended without pay, for a period of one day. Upon his/her return to work the employee must undergo additional formal training in the area of the offense(s) before being permitted to work in order to prevent injury to the employee or co-workers.

Stage Three
If an offense identified in Stage 2 is repeated within three months, the employee may be terminated. An employee so terminated is ineligible for rehire for 24 months.

Note: Depending on circumstances, Mass reserves the right to bypass, duplicate, or alter any stage of the recommended disciplinary procedures described above.

7.10 Imminent Danger

Upon discovery of any situation which may (in the opinion of the site management or safety representative) lead to a serious injury, illness, or death site management or safety immediately suspends the related work. Work may resume only after the safety concern(s) is corrected to the satisfaction of Mass.
Examples of “imminent danger” situations may include, but are not limited to, the following:

- Falls from elevations exceeding Mass, federal, or state safety standards.
- Excavation not properly sloped or shored.
- Possible electrocution hazards to the general public.
- Operations of vehicles, machinery, or heavy equipment in an unsafe manner.

Other than immediate suspension of work the procedure for correction of imminent danger situations follows the procedure set forth in section 7.9.