

PENCE SAFETY MANUAL

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Management Policy Statement on Safety

You are now a critical member of the Pence Construction (Pence) Safety Team. Pence has an exceptional safety record and is pleased to return workers safely to their families each day. **Your continued employment is contingent upon you working safely at all times.**

Before you begin working on the site you must review the General Safety Practices and have your superintendent or foreman train you on the specific site hazards and safety requirements. Utilizing the employee jobsite orientation checklist as a member of Pence's Safety Team you will be asked to participate in specific job hazard analysis/pre-task planning. Take this opportunity to make your job safer.

New employees are at the greatest risk of being injured on a construction site. Remember, other workers and their families are counting on you working safely.

The Pence management team is committed to the safety and health of all employees.

Thank you for your commitment to safety,

Dave Hays
Principal

GENERAL SAFETY PRACTICES

The following general safety policies and procedures apply to all Pence Construction (Pence) projects. Additional policies and procedures may be added based on Project Specific Hazards or Protocols.

It is important to remember that policies and procedures cannot be created to cover all conditions on the construction site. The most important element in prevention of injuries is a positive safety attitude.

1. Pence Safety Pact: Our Commitment
 - a. You have a **Right** to work Safely
 - b. You have the opportunity to **Plan** your work
 - c. You have the **Time** to work safely
 - d. You have the **Authority** to stop the work if unsafe
 - e. You have the **Expectation** of clear instructions
2. Pence Safety Pact: Your commitment
 - a. You will work safely
 - b. You will plan the task
 - c. You will not work distracted
 - d. You will stay out of harm's way
 - e. You will do something if you see something
 - f. You will care about people
 - g. You will not rush the task
3. Follow all Pence's project safety policies and procedures.
4. Fall protection required over **6 ft.**
5. Never violate any warning signs or barricades.
6. Report any unsafe conditions to your supervisor immediately.
7. Attend weekly safety meetings.
8. Report any injury to your supervisor immediately. This includes: If you are taking any medication that could cause physical or mental impairment. Or if you have a domestic or other problem that may reduce your ability to concentrate on work.
9. Compliance with Alcohol and Drug Policy is mandatory on all jobsites.
10. No fighting, horseplay, stealing, running, drug or alcohol use.
11. Wear appropriate work clothing and Personnel Protective Equipment (PPE).
12. Protective eyewear will be worn while on the jobsite at all times unless you are given permission from the project superintendent to do tasks without glasses. Safety glasses must be on person at all times.
13. If you are not sure how to perform your assigned task safely, stop and contact your immediate supervisor.
14. Help promote good housekeeping. This includes proper disposal of lunch bags, or other personal items brought to the job.
15. Indiscriminate throwing of materials from elevations is prohibited.
16. Operate only the equipment that you have been trained and authorized to use.
17. Do not walk or stand under suspended loads.
18. Think before you lift...
 - I. Plan the lift
 - II. Move closer to the load

- III. Keep your back straight
- IV. Bend your knees & lift with your legs
- V. Do not lift and twist in the same motion
- VI. If the load is too heavy get help
- 19. Always use equipment in accordance with the manufacturers' specifications.
- 20. Appropriate work boots shall be worn at all times.
- 21. Do not enter a ditch or trench that is not in compliance with [OR OSHA](#) code, (over 4 feet in depth), unless properly shored or sloped at the correct angle of repose.
- 22. Only trained personnel may access and/or erect scaffold.
- 23. Smoking is only permitted in designated areas.
- 24. All employees must be familiar with emergency procedures and locations of fire extinguishers and first aid supplies.
- 25. SDS (Safety Data Sheets) are available in the job trailer or from your supervisor.
- 26. All hazardous chemicals or solvents shall be stored in properly labeled containers. Only those trained in the proper usage shall handle such materials.

**WORKING SAFELY IS A CONDITION OF EMPLOYMENT ON A
PENCE CONSTRUCTION PROJECT.**

Failure to abide by the safety policies and procedures will be subject for disciplinary action up to and including immediate termination, *and/or removal/debarment from the jobsite, whichever is applicable.*

These policies and procedures must be posted on the project bulletin board.

FOLLOW THE PENCE SAFETY POLICIES & PROCEDURES

SUPERINTENDENT'S/FOREMAN'S RESPONSIBILITIES

2.02

SAFETY – PEOPLE ARE OUR MOST IMPORTANT ASSET.

The Pence Construction (Pence) Project Superintendent is fully responsible for overall safety on the job. Superintendents will be responsible and accountable for a superior level of safety performance. The Safety Committee, Safety Department, Leadership Team, and General Superintendent will provide support to ensure jobsite safety. However, being fully responsible for overall safety on the job does not mean he/she can accomplish a safe project alone. He must rely on his/her entire project field team including the foreman and the employee. The following are some general responsibilities for all three positions:

Superintendents

- Responsible and accountable for the safety of everyone on and/or around the jobsites.
- Monitor safety performance on the project.
- Institute work practices, which reflect the safest, most efficient methods available for accomplishing the required tasks.
- Provide site specific safety orientation for all Pence and subcontractor employees prior to them working on site.
- Facilitate a team approach to job hazard analysis/pre-task planning.
- Hold and document weekly “Toolbox” safety meetings with crew and subcontractors.
- Train employees in site specific hazard communication program.
- Ensure field employees have received all necessary safety training.
- Identify and correct safety hazards on the project.
- Take progressive disciplinary action when appropriate.
- Coordinate project safety meetings.
- Weekly Jobsite Safety Inspections.
 - The Superintendent shall ensure that the [Weekly Jobsite Safety Inspection Checklist Form \(2.42A\)](#) is performed by a Competent Person or perform the inspection himself.
 - The Competent Person shall be agreed to by the Superintendent and Safety Manager.
 - The Competent Person must have at least an OSHA 10 card or similar training.
 - The Superintendent must sign the [Weekly Jobsite Safety Inspection Checklist Form \(2.42A\)](#).
- Develop a site-specific Fall Protection Plan for jobsite and train employees.
- Ensure employees have proper training to operate equipment and tools.
- Ensure tools on site function properly and safely.
- Report all accidents/incidents/near misses etc.

- Maintain a current First Aid/CPR card.
- Maintain fully stocked First Aid Kits.
- Post all mandatory poster forms at jobsite.
- Attend safety training.
- Abide with and enforce Pence Safety Policies.
- Assure that the Employee Safety Walkthrough program is followed.
- Train the employees in the use of the [Employee Safety Walkthrough Report Form \(2.42G\)](#).
- Loop back with the employees conducting the walkthrough to discuss the items that were found.

Foreman

- Assist the superintendent with his/her responsibilities.
- Responsible and accountable for the safety of everyone on and/or around the jobsites.
- Monitor individual employees safe work practices.
- Conduct weekly toolbox safety meetings (If not done by the Superintendent).
- Identify and correct safety hazards.
- Assist in investigating accidents and near misses.
- Develop pre-task plans and review them with his/her crews.

Employees

- Responsible and accountable for the safety of everyone on and/or around the jobsites.
- Attend new hire and site-specific orientations and complete orientation checklist.
- Attend weekly, daily, and special safety meetings.
- Follow company and project safety policies at all times.
- Use and take care of the safety equipment provided for them.
- **DO NOT** proceed with work if unsafe conditions exist.
- Report all unsafe conditions immediately.
- Participate in the Injury Illness Prevention Program.
- Work in a safe manner at all times – **NO SHORTCUTS!!**
- Participate in the weekly Employee Safety Walkthrough Program.

Employee Safety Walkthrough Program

The intent of the program is to empower the field employees to be more involved with the safety culture and the safety programs of the company. This program will also help teach the employees hazard identification and correction skills and it is hoped that the employee will carry on using those skills even when they are not formally performing the safety inspections. It is also the intent that the field employees will correct or have corrected all the hazards they find during their walk.

On projects where there is at least one field employee working on the site, the superintendent will assure that the employee(s) are given time to perform a site safety inspection using the [Employee Safety Walkthrough Report Form \(2.42G\)](#). If there is no field employee present, this safety inspection is not required.

- The superintendent or a foreman shall:
 - Instruct the employees on basic hazard identification
 - Instruct the employees on the intent of the program
 - Empower the employees with the authority to correct all hazards they discover
 - Discuss the findings with the employee immediately after the inspection is complete
 - Loop back with the employees at least once a week to discuss what was done to correct the hazards, they were not able to correct (if any)
 - Ensure the correct number of inspections are completed each week
 - Send the completed forms to the office weekly
- Inspection Schedule:
 - 1 field employee onsite 1 report per week
 - 2 field employees onsite 2 reports per week
 - 3 field employees onsite 3 reports per week
 - 4 field employees onsite 4 reports per week
 - 5 or more field employees onsite 5 reports per week
- Each day's walkthrough should be done by a different employee.
- If more than 5 employees are onsite, then the inspectors should rotate so that as many employees as possible get the opportunity to perform the safety walkthroughs.

All safety forms and documents are available on the network drive. Contact the General Superintendent or your project manager to make your forms and orientation site specific. This safety manual is based on the Oregon Occupational Safety and Health code. Refer to local codes for work outside of Oregon. More stringent codes may apply.

REQUIRED POSTINGS

2.03

The following are required to be posted at all jobsites. Postings are available from the Salem Office.

ALL SITES

- [Safety Policy & Procedures \(2.01\)](#)
- Drug Free Workplace
- [Required Safety & Equipment Training List \(2.07A\)](#)
- Emergency Action Principles
- Emergency Response Plan
- [Fall Protection Plan \(2.16\)](#)
- [Employees Trained in Ladder Safety \(2.19A\)](#)
- Hazard Communication Notice
- [Listing of Hazardous Chemicals/Materials on this Jobsite \(2.31A\)](#)
- [Visitor's Waiver, Release and Hold Harmless Agreement \(2.42F\)](#)
- Description of Assured Equipment Grounding Program
- Sexual Harassment Policy
- EEO Policy
- Military Family Leave
- Safety Documentation Matrix

OREGON

- Federal Minimum Wage
- Federal EEO is the Law
- Federal Family and Medical Leave
- Employee Polygraph Protection Act
- State of Oregon Construction Contractors Board License
- Worker's Compensation Notice of Compliance
- OROSHA "It's the Law"
- Oregon Family Leave Act
- Oregon Minimum Wage
- OSHA 300 Log (February 1st to April 30th)
- BOLI Prevailing wage rates and benefits (On Prevailing wage jobs)
- USERRA Poster
- Oregon's Smoke Free Workplace Law

WASHINGTON

- Maternity Leave
- L&I Rights as Non-Agriculture Worker
- L&I Rights as Agriculture Worker
- Washington Minimum Wage
- Unemployment Benefits
- Job Safety and Health Protection
- L&I Notice to Employees
- Certificate of Coverage
- OSHA 300 Log (February 1st to April 30th)
- BOLI Prevailing wage rates and benefits (On Prevailing wage jobs)
- Notice to Employees – If a Job Injury Occurs

- Job Safety and Health Law
- Your Rights as a Worker

2.04

SAFETY INCENTIVE/ RECOGNITION PROGRAM

This Section Not used in the Pence Construction Safety Manual.

DRUG AND ALCOHOL SUBSTANCE ABUSE POLICY

2.05

Pence Companies' objective is to provide a workplace and environment that is free from the effects of substance abuse. Pence Companies believes that we all have a responsibility to our fellow employees, to those who use or come in contact with our services, and to the general public to ensure safe operating and working conditions. To satisfy our drug free workplace objective and meet these responsibilities, we must establish a work environment where employees are free from the effects of drugs, alcohol, or other impairing substances.

All employees are expected and required to report for work on time and in appropriate mental and physical condition to work safety and effectively.

Pence Companies has a "zero tolerance" policy with respect to the use of drugs or alcohol in the workplace. The following conditions and activities are expressly prohibited on Pence Companies premises or property, in company vehicles, or while conducting company business off company premises or while representing Pence Companies in any work-related fashion and may result in immediate termination:

- The manufacture, purchase, distribution, use, sale, attempt to sell, transfer or possession of any illegal, intoxicating or unauthorized controlled substance.
- Use of any other substances that impair job performance or pose a hazard when use or possession occurs;
- Reporting for work, working, or engaging in any activity on Pence Companies' behalf under the influence of or with an illegal, intoxicating, or unauthorized controlled substance in your system that may impair work performance.

Illegal and Controlled Substances

This policy applies to prescription drugs, not used in accordance with the healthcare provider's instructions, or prescriptions used which are authorized for other individuals. This policy applies to marijuana. While its use may be authorized under state law, cannabis is illegal under federal law and therefore is considered an illegal and/or unauthorized controlled substance for purposes of this policy. Accordingly, having any detectable level of cannabis in your system while working is prohibited and will result in a violation of this policy, even if lawfully used outside of work.

This policy applies to alcohol. Conduct prohibited includes consumption or being under the influence while on, or in route to, company property, company time, or in other circumstances we believe will adversely affect our operations or safety.

There may be some company functions (award banquets or social holiday parties) where beer and wine will be served. Alcohol will only be served with prior approval from the owners in these situations and consumption will be strictly monitored and controlled.

For purposes of this policy, having any detectable level of an illegal or controlled substance in one's system will be considered to be a violation of the policy. Violation of this policy will subject an employee to disciplinary action up to and including termination.

Prescription and Over the Counter Medication

Employees who are medically authorized to use drugs or other substances which can impair safety or other necessary functions of their work are responsible for having the prescribing or recommending physician determine whether work may still be performed safely and properly with or without reasonable accommodation. If accommodation is needed or if safety or work performance is impaired, the employee must present the issue to Human Resources and provide necessary medical information.

Marijuana

Marijuana is an illegal drug under federal law even when authorized under state law or recommended by a physician under a state medical marijuana program. Possession or use of marijuana on the job will be treated the same as use or possession of any other illegal drug. Authorized use of marijuana is not a valid excuse for a positive drug test when an employee is tested due to reasonable suspicion or after an on-the-job accident. An employee who received a recommendation to use medical marijuana due to a disability should contact Human Resources to discuss reasonable accommodations other than medical marijuana which would permit the employee to perform the essential functions of his/her job.

Convictions

Employees are required to report to Human Resources all convictions related to alcohol or drugs by the end of the next working day. Failure to do so will be grounds for disciplinary action.

Testing

Pence Companies may require drug and/or alcohol testing, including without limitation urinalysis, oral fluids and/or blood screens, under any of the following circumstances:

Pre-Employment: All potential employees are required to pass a drug test subsequent to a conditional employment offer as a condition of their employment. Employees who test positive for marijuana/THC on a pre-employment drug test may reapply after six (6) months from the date of the first positive drug test for marijuana/THC. An employee who reapplies after a positive drug test for marijuana/THC will be required to pass a subsequent drug test as a condition of their employment. The ability to reapply after a positive drug test for marijuana/THC is at the sole discretion of Pence Companies. Any

evidence of tampering, adulteration, or otherwise trying to interfere with a drug test will make the potential employee ineligible to reapply.

Reasonable Suspicion: An employee must pass a drug and/or alcohol test when Pence Companies, in its sole discretion, has reasonable suspicion that the employee is under the influence of alcohol or an illegal drug in violation of this policy. Reasonable suspicion may be based on any specific observation that suggests an employee's possible involvement with alcohol or illegal drugs, including the employee's performance, appearance (including, for example, noticeable odor of an alcoholic beverage), behavior, speech, self-reports, substantiated third-party reports, or involvement in an accident on company property, premises, or job sites. Pence Companies reserves the sole right to determine whether reasonable suspicion exists.

On-the-Job Accidents: Employees may be required to pass a drug test after any on-the-job accident involving property damage, death or physical injury requiring immediate professional medical care beyond first aid or resulting in a workers' compensation claim. Pence Companies will determine if there is a reasonable possibility that alcohol and/or drug use is a contributing factor to the accident in which case a drug and/or alcohol test is required.

Unannounced: Pence Companies may conduct testing of an entire work location, work group, department, or job classification at any time. In these circumstances, all employees in the selected group must submit to a drug test.

Reemployment: Pence Companies may conduct testing of an employee returning to work from a leave of absence, layoff, or other separation of employment lasting 6 months or longer.

Testing Time Requirements: If an employee is unable to provide an acceptable urine sample in a three-(3) hour time period after arrival at the testing location this could be deemed as "refusing to test." If the employee has evidence from a physician of a medical condition that prevents this type of testing and is willing to undergo alternative testing, the employee and Human Resources Manager will seek out such testing. Such evidence must be provided within five (5) calendar days. During that time the employee will be placed on unpaid administrative leave. If the employee has not presented a physician report that is acceptable to the company at the end of the five (5) calendar day period, the employee will be terminated from employment.

Test Results: The employee's test results, positive or negative, and the fact that a test was performed, will be kept as confidential as possible under all the factual circumstances. Positive test results will be considered with medical and other evidence to determine what action, if any, is to be taken.

Refusal to Test: Refusal to test includes failure to cooperate with the testing process in a manner which does not allow the test to be conducted, refusal to offer an adequate specimen, failure to immediately report to the collection location when requested, adulterating, substituting or tampering with a specimen or other behavior that interferes

with the testing. Consequences of refusal to test will, in most cases, result in termination from employment.

Applicable Law and Consent: Any provisions of this policy regarding testing are subject to applicable federal, state and local laws or regulations. Information received through Pence Companies' drug and alcohol testing program will be treated as confidential, consistent with these laws and/or regulations. Individuals taking a drug and/or alcohol test must sign a consent form for the test that allows release of the test results to Pence Companies. Employees who refuse to sign a consent form will be subject to immediate suspension or termination of employment.

Split Samples: Employees may ask that their sample be split into two parts, with one part retained for retesting in the event of a positive result. Employees who test positive for drug use, and who believe the test was in error, may request a re-test of the split sample at a laboratory approved by Pence Companies. The request must be made within 24 hours of receiving the positive test result. The employee will be responsible for paying the full cost of the retesting. The lab will require payment in advance. If the retest is negative, Pence Companies will reimburse the employee for the cost of the retest. If the retest is positive, the employee will not be reimbursed. Pence Companies will pay for all initial tests.

Consequences

Any employee who violates this policy or tests positive for or is found to be under the influence of alcohol or any illegal drug in violation of this policy will be subject to disciplinary action, up to and including termination of employment.

Any employee who refuses to submit to or cooperate with testing for alcohol or illegal drugs or who subverts or attempts to subvert the testing process in any way will be subject to immediate suspension or termination of employment.

Searches

Pence Companies reserves the right to inspect and/or search all property on company property, premises, or job sites (including an employee's personal property and vehicle) for alcohol, illegal drugs, or any drug paraphernalia upon reasonable suspicion of possession of such items. Refusal to submit to any such inspection or search or refusal to cooperate in any investigation will subject the employee to disciplinary action, up to and including termination of employment. Pence Companies reserves the right to involve law enforcement officials for any conduct which may be in violation of state or federal law.

Professional Assistance

Employees are encouraged to seek professional help for a drug or alcohol problem. Employees who do so before their drug or alcohol problem leads to performance problems or disciplinary action will be supported in their efforts to seek help; employees who delay seeking help will not be excused from the consequences of their performance

deficiencies. Additionally, where, in Pence Companies' sole discretion, it appears that rehabilitation is likely, Pence Companies may require an employee to be evaluated by a professional alcohol and drug counselor and participate in any education or rehabilitation programs as recommended by the counselor as an alternative to termination of employment.

Pence Companies reserves the right to deal with each case under this policy in its discretion in light of the specific circumstances involved, including but not limited to the conduct at issue and whether an employee should be given the opportunity to participate in a drug or alcohol program. Such decision will be based partly on the circumstances of the employee, the manner Pence Companies obtained the information, and the seriousness and frequency of other company policy violations. Pence Companies reserves the right to require all employees who seek treatment to sign and comply with a return to work agreement as a condition of continued employment. The return to work agreement may require the employee to be evaluated and referred to successfully participate in an appropriate treatment or education program, submit to random or periodic testing for alcohol and/or drug use for a specified period of time upon reemployment, and meet various standards that are imposed as a condition of continued employment. Any return to work agreement shall be in addition to and not a substitute for otherwise applicable standards of performance and behavior. Nothing in this policy is to be interpreted as a waiver of Pence Companies' right to impose disciplinary action or terminate employment in the case of poor performance, misconduct, or violations of this company policy.

Off-the-Job Conduct

Nothing in this policy is intended to regulate lawful conduct while off the job, so long as the lawful off-the-job use of alcohol or drugs does not result in being under the influence of or otherwise impaired by the use of alcohol or drugs in violation of this policy or result in a positive drug test due to reasonable suspicion or an on-the-job accident.

Definitions

For purposes of this policy, the following definitions apply:

Under the Influence: Having any detectable level of alcohol or illegal drugs in an employee's body, or any noticeable or perceptible impairment of the employee's mental or physical faculties.

Illegal Drug: Includes any drug or other substance, other than a legal prescription or nonprescription medication, that (1) may affect an employee's ability to work safely and effectively; (2) is defined as a "controlled substance" under the Drug-Free Workplace Act of 1988; or (3) is otherwise prohibited or restricted by state or federal law. Illegal drugs include but are not limited to: Narcotics, hallucinogens, stimulants, sedatives, and prescription drugs that are not medically authorized or that are used inconsistently with the prescription. Marijuana is specifically included in this definition.

Tests Positive: A test result indicating any detectable amount of alcohol or any illegal drug.

Situations not Covered by Policy

Pence Companies recognizes that situations may arise which are not specifically covered by this policy. Those situations will be dealt with on a case by case basis taking into account such things as the nature of the situation or problem, the employee's overall employment record and job assignment, the potential impact on safety, production, and customer service. Pence Companies reserves the right to modify, amend, or revise this policy at its sole discretion.

If you have questions about this policy or issues related to drug or alcohol use at work, please contact Human Resources.

DISCIPLINARY POLICY

2.06

PURPOSE & INTENT

- Pence Construction (Pence) made a firm commitment to providing all employees, including subcontractor and sub tiered contractor employees, a safe working environment to practice their trades. To effectively and consistently achieve this goal, compliance to the [Safety Policies & Procedures \(2.01\)](#) is a mandatory requirement and is considered a condition of employment. To this end, any Pence employee, subcontractor employee, sub tiered contractor employee, or any employee of contractors under the management of Pence, all or in part, are subject to this policy.
- Employees found to be in non-compliance with the [Safety Policies & Procedures \(2.01\)](#) of Pence, our Clients, and General or Prime Contractors will be counseled or disciplined up to including termination from the applicable project.
- Project Supervision demonstrating a lack of Safety commitment will be subject to the terms of this policy.

POLICY

- First Offense
 - Will receive a documented verbal warning.
 - If an employee is found working in an unsafe manner, the employee will be counseled in his/her work habits and how working in an unsafe manner is inconsistent with our goals. The counseling session will be documented as to who was present, what was discussed and why, and will serve as a verbal warning to the employee.
- Second Offense
 - Will receive a written warning.
 - If the employee is found a second time working in an unsafe manner, that employee will again be counseled concerning their unsafe work habit. Documentation will also be as stated above. In addition, a written warning will be given to the employee that will state what unsafe action was noted and that they are in jeopardy of being terminated for further non-compliance with the [Safety Policies & Procedures \(2.01\)](#).
- Third Offense
 - Will result in termination.
 - The third time an employee is found working in an unsafe manner, that employee will, for their own safety and the safety of others, be immediately terminated from and escorted off the project.
- Blatant Violation
 - Will result in **immediate termination**.

TERMINATION

- It would be the hope of Pence that we would never have to resort to termination of any employee on one of our projects. But, for the safety of all employees on the project, we retain the right and responsibility to terminate the employment, or cause the removal from the project, of any individual who has demonstrated a habitual unwillingness to work in the safest possible manner, or any individual that blatantly places themselves or others in extreme or excessive danger.



EMPLOYEE/SUBCONTRACTOR SAFETY VIOLATION NOTICE

Employer:

Employee Name: Date:

Supervisor Name: Job Site:

Stated Policy Violation:

- | | |
|--|---|
| <input type="radio"/> First Offense: | Employee was found working in an unsafe manner. The employee was counseled in his/her work habits and how working in an unsafe manner is inconsistent with our goals. |
| <input type="radio"/> Second Offense: | Employee was again found working in an unsafe manner. The employee was counseled in his/her work habits and how working in an unsafe manner is inconsistent with our goals. The employee is in jeopardy of being terminated for further non-compliance with safety policies and procedures. |
| <input type="radio"/> Third or Blatant Offense: | Employee was found working in an unsafe manner or has blatantly placed themselves or others in extreme or excessive danger and is to be immediately terminated. |

Employee Signature: _____

Supervisor Signature: _____

Witness Signature: _____



SAFETY/HOUSEKEEPING VIOLATION

JOB SITE:

SUBCONTRACTOR:

DATE: **TIME:** AM PM

PENCE CONSTRUCTION'S RESPONSIBILITY IS TO PROVIDE A SAFE WORKING ENVIRONMENT TO OUR EMPLOYEES, SUBCONTRACTORS, AND VENDORS. WE FIND YOUR COMPANY HAS THE FOLLOWING CONDITION:

PLEASE TAKE CARE OF THIS PROBLEM IMMEDIATELY!

PENCE CONSTRUCTION CONTRACT, SECTION 6.3 CLEAN WORK, CLEAN UP; STATES – Subcontractor at all times shall continuously keep the premise free from accumulation of waste materials or rubbish, and both daily and at completion of Work shall remove, at its expense, all his waste materials and rubbish from and about the Project. All material provided, stored and/or installed by this Subcontractor, shall be maintained and installed in a clean manner from beginning to completion of the scope of each SPO. In addition, Subcontractors shall provide labor for a composite cleaning crew to pick-up and dispose of incidental waste and dirt and debris which may accumulate on this project. The composite cleaning crew shall consist of all the subcontractors employed by Pence, which shall clean and maintain the project site. This clean-up crew shall perform cleaning and maintenance as necessary and as directed by Pence until the project is acceptable to Pence. The cleaning and maintenance crew shall be initiated and begin working at the discretion of Pence, in the areas designated. Subcontractor shall dedicate a minimum of one person once per week for a period of the day so determined by the Contractor's Superintendent to participate in a composite cleaning crew. The composite crew will be responsible for picking-up and disposing of incidental waste, dirt and debris that may accumulate on the project site.

Pence Construction Superintendent

Subcontractor

Compliance Date:

Time: am pm

A copy of this notice will be sent to the Subcontractor's main office, and a copy will be sent to Pence's main office.

2.07

PURPOSE AND INTENT

Pence Construction (Pence) provides “Train the Trainer” safety training for Superintendents which enables them to train their crew. Superintendents are responsible for the Site-Specific portion of training. See the appropriate section of the Safety Manual for training requirements. The Salem Office maintains the **Field Employee Training Report**. This report shows when employees received formal safety training on the listed subjects. The table on page 2 shows required training which must be documented.

DEFINITIONS: OR-OSHA has general training requirements intended to make workers aware of the overall safety and health aspects of their jobs and specific training requirements that apply to workers who perform special jobs or tasks. OR-OSHA’s safety and health requirements frequently use the words *certified*, *designated*, *authorized*, *competent person*, and *qualified person* to identify workers who must meet specific training requirements.

- **Certified** indicates that a worker has successfully completed specialized training and that the training has been certified in writing by a professional organization. For example, OR-OSHA’s safety and health rules allow only trained audiologists, otolaryngologists, or technicians who have been certified by the Council of Accreditation in Occupational Hearing Conservation to perform audiometric tests.
- **Designated** generally refers to a person who has received extensive training in a particular task and is assigned by the employer to perform the task.
- **Authorized** refers to a person permitted by an employer to be in a regulated area; the term also refers to a person assigned by an employer to perform a specific task or to be in a specific location at a jobsite.
- A **competent person** is someone who has broad knowledge of worksite safety and health issues, who is capable of identifying existing and predictable worksite hazards, and who has management approval to control the hazards. For example, only a competent person can supervise erecting, moving, or dismantling scaffolds at a worksite.
- A **qualified person** is someone who, through training and professional experience, has demonstrated the ability to resolve problems relating to a specific task or process. For example, an individual may be qualified to perform electrical circuit tests but not qualified to perform hydraulic pressure tests.

SAFETY TRAINING

Type	Card Required	Site Specific	Safety Notebook Reference	Expires
Forklift	X	X	2.23	3 Years
First Aid/CPR	X			2 Years
Respirator			2.26	1 Year
Powder Actuated Tools	X			
Welding/Cutting		X	2.36	
Excavation		X	2.17	
Confined Space		X	2.34	
Fall Protection		X	2.23	
Ladders		X	2.19	
Mobile Elevating Work Platform (MEWP)			2.20	
Generalized Training	X			
Familiarization Training		Lift Specific		
Scaffold Erector		X	2.20	
Scaffold User		X	2.20	
Hazmat		X	2.31 & 2.32	
Lead Awareness		X	2.29	1 Year
Asbestos Awareness		X	2.28	1 Year
PPE		X	2.15	
Rigging	X		2.21	5 Years
Signalman	X		2.21	5Years

Required Safety & Equipment Training List

Project Name: _____

Subcontractor: _____

Supervisor Signature: _____

By my signature I am verifying I have received this training and/or hold proper certification. I also understand this list is not all-inclusive and there may be other safety trainings I am required to attend related to this project.

Print Name	Signature	Date	Powder Actuated (Card Required)	Exposure Control Plan	Rigging/Signaling (Card Required)	HazCom/Hazmat	Trench & Excavation Awareness	Ladder Use	Fall Protection	Scaffold User	Confined Space Awareness	Required PPE	Oxy/Fuel Gas Welding & Cutting	Forklift (Card Required)	MEWP	ATV (Card Required)	Other

2.08

ACCIDENT/ INCIDENT PROCEDURES

POLICY STATEMENT

The intent of Pence Construction (Pence) is for this section to ensure all injuries and incidents are reported, and then investigated to determine the root cause and corrective actions implemented to prevent recurrence. Any injury which requires offsite medical attention is considered reportable. All accidents/incidents/near misses shall be reported.

SUPERINTENDENTS RESPONSIBILITIES (ALL INJURIES)

- Ensure the safety and security of the individuals who were injured or involved, other people on site, the public, and the project.
- Secure the accident scene. Disturb only as necessary for rescue of injured workers or preventing further injury or damage.
- Contact the General Superintendent and Safety Director immediately. In case of fatality or catastrophe contact the crisis manager.
- Conduct an accident/incident investigation.
- Complete the [Incident Report Form \(2.08A\)](#) and submit to the Safety Department at PenceSafety@pence.net within 2 hours of the incident.
- Complete the [Incident Investigation Form \(2.08D\)](#) and submit to the Safety Department at PenceSafety@pence.net within 48 hours of the incident.
- Take photos of the accident scene and the surrounding area immediately.
 - A digital camera can be used for this purpose.
 - Use the date stamp function if the camera has it.
 - If the camera does not document the day and time the pictures were taken, you must then document in some way the date the pictures were taken.

SUPERINTENDENT RESPONSIBILITIES (PENCE EMPLOYEE INJURIES)

- Determine if the injury is serious enough to require offsite medical care.
- If you are uncertain, and are in the AMR or Cascade Health service areas, call them to evaluate the employee
- Where possible take the worker to the preferred clinic listed on the project's Emergency Response Plan (2.10).
- Superintendent must call the preferred clinic to:
 - Notify them an injured Employee is coming in
 - Remind the clinic of the establish medical protocols we have established with them
- Employee shall be taken to a medical facility under the following conditions:
 - If the employee asks to go to a medical facility
 - If the superintendent believes the employee should go (Even if the employee says no. Remember, Pence can require employees to go)
 - If the injury happens on Friday
 - If the employee does not feel they are able to work the rest of the day

- If the employee goes to or is sent to a medical facility a representative of Pence field management shall take or accompany the employee (Except in the AMR or the Cascade Health service areas)
- If the employee is taken to a medical facility, the Employee Injury Packet 2.08B Part A and 2.08B Part B shall be sent with them.
- The Employee Injury Packet 2.08B Part A includes:
 - Packet Instructions
 - The 801 Form
 - Injured Party Statement
- The Employee Injury Packet 2.08B Part B includes:
 - Pence Companies Return to Work Program
 - Work Related Injury Protocols
 - Work Release/Physical Capacities Form
- Have the workers return to the project site after the medical treatment is completed regardless if it is past the time of their shift ending.
- Employee needs to bring back a work release form signed by the treating medical professional
- Send all forms including the 801 and the Work Release form to the Safety Department
- Have the employee fill out the (Worker) portion of the [801 Form](#) and return form to the office within 24 hours. The Superintendent will need to fill out the (Employer) section of the [801 Form](#)
- Have the employee fill out and sign the Injured Party Statement 2.08E
- Have others involved with or were a witness to the accident/incident or are in the area of the accident, complete a [Witness Statement Form \(2.08F\)](#).
- Have employee and any others involved with the accident/incident transported for drug/alcohol testing. [BIO-MED Testing Service INC Form \(2.08C\)](#)
- If AMR or Cascade Health does the transporting of the injured employee, they can do the drug testing upon request.
- Complete [Incident Report Form \(2.08A\)](#)
- Report **all** accidents/incidents/near misses

SAFETY DIRECTOR RESPONSIBILITIES

- Send out or cause to have sent, an initial incident report notification to all upper management personnel.
- Notify Human Resources when an employee injury occurs.
- Copy Human Resources with all paperwork related to the injury.
- Ensure the accident scene is secured and unmodified until the investigations are complete.
- Assist the project team in the accident/incident investigation.
- Collect the facts about what happened
- Develop the sequence of events
- In the case of a fatality or catastrophe, the Safety Department will lead the investigation.
- Conduct or cause to have conducted an incident review meeting with the General Superintendent, project team, any subcontractors involved, the involved party, and one of the Pence Principals in attendance.

- In the case one of the Principals is unavailable, any one of the upper management group can fill in.
- In case of a fatality or catastrophe, the Safety Director will notify **OR-OSHA within 8 hours after occurrence or employer knowledge.**
 - A catastrophe is defined as an accident in which two or more employees are fatally injured, or three or more employees are admitted to a hospital or an equivalent medical facility.
- In case of an overnight hospitalization of an injured employee, the Safety Director will notify OR-OSHA within 24 hours after occurrence or employer knowledge.
- In **Washington**, the Safety Director will notify the nearest office of the Department of Labor and Industries in person or by phone within 8 hours of the work-related incident or accident as listed below:
 - In case of a fatality
 - In case of a probable fatality
 - In case of 2 or more employees are admitted to the hospital
 - See [WAC296-800-320](#) for further requirements.

SAFETY COMMITTEE RESPONSIBILITIES

- Evaluate all accidents to determine the causes
 - Analyze the injury event to identify and describe the direct cause of injury
 - Analyze events occurring just prior to the injury event to identify those conditions and behaviors that caused the injury (primary surface causes) for the accident
 - Analyze the conditions and behaviors to determine other specific conditions and behaviors (contributing surface causes) that contributed to the accident
 - Analyze each contributing condition and behavior to determine if weaknesses in carrying out safety policies, programs, plan, processes, procedures, and practices (inadequate implementation) exist.
 - Determine implementation flaws to determine the underlying design weaknesses
- Determine possible disciplinary actions.
- Recommend corrective actions and improvements
 - Engineering Controls- Remove or reduce the hazard
 - Management Controls- Remove or reduce the exposure
 - Personal Protective Equipment- Put up a barrier
- Implement the solution
- Share or cause to share the findings with all project teams
- Follow up to verify solution is working



For important documentation instructions, click [HERE](#)

INCIDENT REPORT

THIS FORM MUST BE SUBMITTED WITHIN 2 HOURS OF INCIDENT

INCIDENT INFORMATION

<u>Date of Incident</u>	<u>Time of Incident</u> <input type="radio"/> am <input type="radio"/> pm	<u>Type of Incident</u> <input type="radio"/> Injury <input type="radio"/> Property Damage <input type="radio"/> Vehicle Accident
<u>Name of Company(s) and/or Party(s) involved in incident:</u>		<u>Name of Person(s) involved:</u>
<u>Weather Conditions:</u>		<u>Name of Superintendent:</u>
<u>Name of Project Manager:</u>		<u>Name of Foreman:</u>
<u>Address/location of incident. *If jobsite, provide name of jobsite and describe area of jobsite where incident occurred:</u>		
<u>Were there any witnesses?</u> <i>*If yes, complete separate "Witness Statement" form(s).</i>	<input type="radio"/> Yes <input type="radio"/> No	<u>If yes, name(s) of witness(es):</u>

N/A

VEHICLE ACCIDENT INFORMATION

<u>Name and contact information of other driver:</u>
Was a police report filed? <input type="radio"/> Yes <input type="radio"/> No

N/A

EQUIPMENT INFORMATION

<u>Was the operator trained on this equipment? ** If yes, attach verification of training to this form.</u>	<input type="radio"/> Yes <input type="radio"/> No
<u>Name of operator:</u>	<u>Name of company responsible for equipment:</u>
<u>Was equipment owned or leased?</u>	<input type="radio"/> Owned <input type="radio"/> Leased
<u>If owned, name of company that owns equipment:</u>	
<u>If leased, name of company that leased out equipment:</u>	
<u>If incident was caused by faulty equipment, describe equipment (include manufacturer name):</u>	

Part A: TRANSITIONAL RETURN TO WORK

EMPLOYEE RESPONSIBILITIES

1. Complete the Employee portion of the 801 and the Injured Party Statement Forms and return them to your supervisor or the Return to Work Specialist.
2. Note that you will receive full wages following the incident if your treating medical professional releases you to full or light duty work. Otherwise, you will only receive 66.66% of your pay, through the workers Compensation System subject to the maximum rate.
3. Please have the treating medical professional complete any return to work forms and to continue to keep us informed of your progress and work restrictions. If not released to work, please contact your supervisor
4. Report back to work after seeing the doctor with the work release information. This should be done immediately after your visit to the treating medical professional.
5. Follow your treating medical professional instructions. You are responsible for giving your treating medical professional the Release to Return to Work form for completion at all appointments. The completed forms must be provided to your supervisor immediately after your appointment
6. If you have any questions, please ask your supervisor/Human Resources. You may also contact the workers compensation insurance claims adjuster.
7. Stay in communication with your workers compensation insurance claims adjuster. Return their calls timely to make certain your claim is processed appropriately. Ask questions and make sure you understand your rights and responsibilities.



400 High St. SE, Salem, OR 97312



For SAIF Customer Use

Area _____
Dept. _____
Shift _____ CC _____

CLAIM NO. _____
SUBJECT DATE _____
CLASS _____
DEFAULT DATE _____
EMPLOYER'S ACCOUNT NO. _____

Email: saif801@saif.com
Toll-free phone: 1.800.285.8525
Toll-free FAX: 1.800.475.7785

Report of Job Injury or Illness

Workers' compensation claim

Worker

To make a claim for a work-related injury or illness, fill out the worker portion of this form and give to your employer. If you do not intend to file a workers' compensation claim with SAIF, do not sign the signature line. Your employer will give you a copy.

Form fields for worker information: 1. Date of injury or illness, 2. Date you left work, 3. Time you began work on day of injury, 4. Regularly scheduled days off, 5. Time of injury or illness, 6. Time you left work, 7. Shift on day of injury, 8. What is your illness or injury? What part of the body? Which side?, 9. Check here if you have more than one job, 10. What caused it? What were you doing? Include vehicle, machinery, or tool used.

DEPT USE: Emp, Ins, Occ, Nat, Part, Ev, Src, 2src

Information ABOVE this line: date of death, if death occurred; and Oregon OSHA case log number must be released to an authorized worker representative upon request.

Form fields for worker information: 11. Your legal name, 12. Worker's language preference other than English, 13. Birthdate, 14. Gender, 15. Your mailing address, city, state and zip, 16. Home phone, 17. Social Security no. (see back*), 18. Occupation, 19. Work phone, 20. Names of witnesses, 21. Name and phone number of health insurance company, 22. Name and address of health care provider who treated you for the injury or illness you are now reporting, 23. Have you previously injured this body part?, 24. Were you hospitalized overnight as an inpatient?, 25. Were you treated in the emergency room?, 26. By my signature, I am making a claim for worker's compensation benefits. The above information is true to the best of my knowledge and belief. I authorize health care providers and other custodians of claim records to release relevant medical records to the workers' compensation insurer, self-insured employer, claim administrator, and the Oregon Department of Consumer and Business Services. Notice: Relevant medical records include records of prior treatment for the same conditions or of injuries to the same area of the body. A HIPAA authorization is not required (45 CFR 164.512(I)). Release of HIV/AIDS records, certain drug and alcohol treatment records, and other records protected by state and federal law requires separate authorization. I understand I have a right to see a health care provider of my choice subject to certain restrictions under ORS 656.260 and ORS 656.325.

27. Worker signature, 28. Completed by (please print), 29. Date

Employer

Complete the rest of this form and give a copy of the form to the worker. Notify SAIF within five days of knowledge of the claim. Even if the worker does not wish to file a claim, maintain a copy of this form.

Form fields for employer information: 30. Employer legal business name, 31. Phone, 32. FEIN, 33. If worker leasing company, list client business name, 34. Client FEIN, 35. Address of principal place of business (not P.O. Box), 36. Insurance policy no., 37. Street address from which worker is/was supervised, 38. Nature of business in which worker is/was supervised, 39. Address where event occurred, 40. Was injury caused by failure of a machine or product, or by a person other than the injured worker?, 41. Class code, 42. Were other workers injured?, 43. Did injury occur during course and scope of job?, 44. OSHA 300 log case no., 45. Date employer knew of claim, 46. Worker's weekly wage: \$, 47. Date worker hired, 48. If fatal, date of death, 49. Return-to-work status: Not returned, Regular Date, Modified Date, 50. If returned to modified work, is it at regular hours and wages?, 51. Employer signature, 52. Name and title (please print), 53. Date

A guide for workers recently hurt on the job

The following information is provided by SAIF at the request of the Workers' Compensation Division

saif

400 High St. SE, Salem, OR 97312

How do I file a claim?

- Notify your employer and a health care provider of your choice about your job-related injury or illness as soon as possible. Your employer cannot choose your health care provider for you.
- Ask your employer the name of its workers' compensation insurer.
- Complete **Form 801, "Report of Job Injury or Illness,"** available from your employer and **Form 827, "Worker's and Physician's Report for Workers' Compensation Claims,"** available from your health care provider.

How do I get medical treatment?

- You may receive medical treatment from the health care provider **of your choice**, including:
 - Authorized nurse practitioners
 - Chiropractors
 - Medical doctors
 - Naturopaths
 - Oral surgeons
 - Osteopathic doctors
 - Physician assistants
 - Podiatrists
 - Other health care providers
- The insurance company may enroll you in a managed care organization at any time. If it does, you will receive more information about your medical treatment options.

Are there limitations to my medical treatment?

- **Health care providers may be limited in how long they may treat you and whether they may authorize payments for time off work.** Check with your health care provider about any limitations that may apply.
- **If your claim is denied, you may have to pay for your medical treatment.**

If I can't work, will I receive payments for lost wages?

- You may be unable to work due to your job-related injury or illness. In order for you to receive payments for time off work, your health care provider must send written authorization to the insurer.
- Generally, you will not be paid for the first three calendar days for time off work.
- You may be paid for lost wages for the first three calendar days if you are off work for 14 consecutive days or hospitalized overnight.
- If your claim is denied within the first 14 days, you will not be paid for any lost wages.
- Keep your employer informed about what is going on and cooperate with efforts to return you to a modified- or light-duty job.

What if I have questions about my claim?

- SAIF or your employer should be able to answer your questions. Call SAIF at 800.285.8525.
- If you have questions, concerns, or complaints, you may also call any of the numbers below:

Ombudsman for Injured Workers:

An advocate for injured workers

Toll-free: 800.927.1271

Email: oiw.questions@oregon.gov

Workers' Compensation Compliance Section

Toll-free: 800.452.0288

Email: workcomp.questions@oregon.gov

* **Do I have to provide my Social Security number on Forms 801 and 827? What will it be used for?**

You do not need to have an SSN to get workers' compensation benefits. If you have an SSN, and don't provide it, the Workers' Compensation Division (WCD) of the Department of Consumer and Business Services will get it from your employer, the workers' compensation insurer, or other sources. WCD may use your SSN for: quality assessment, correct identification and processing of claims, compliance, research, injured worker program administration, matching data with other state agencies to measure WCD program effectiveness, injury prevention activities, and to provide to federal agencies in the Medicare program for their use as required by federal law. The following laws authorize WCD to get your SSN: the Privacy Act of 1974, 5 USC § 552a, Section (7)(a)(2)(B); Oregon Revised Statutes chapter 656; and Oregon Administrative Rules chapter 436 (Workers' Compensation Board Administrative Order No. 4-1967).



PART A: INJURED PARTY STATEMENT

THIS FORM MUST BE SUBMITTED WITHIN 48 HOURS OF INCIDENT

Incident Information

<u>Date of Incident</u>	<u>Time of Incident</u> <input type="radio"/> am <input type="radio"/> pm	<u>Day of Week Incident Occurred</u> <input type="radio"/> SUN <input type="radio"/> MON <input type="radio"/> TUE <input type="radio"/> WED <input type="radio"/> THU <input type="radio"/> FRI <input type="radio"/> SAT
-------------------------	--	---

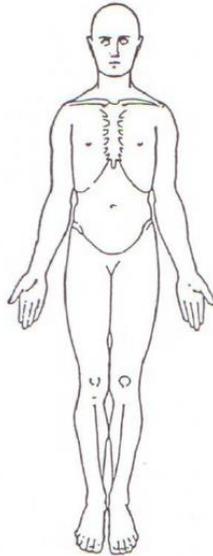
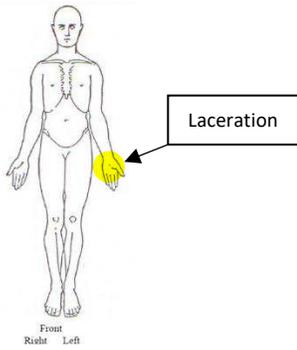
<u>Involved Company Name</u>	<u>Jobsite Name</u>
------------------------------	---------------------

Name of Injured Party

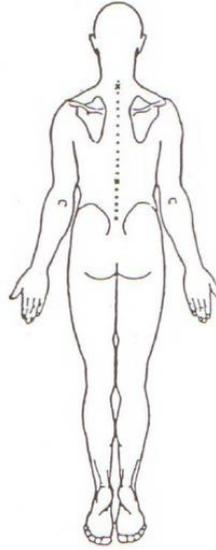
Injured Party's Statement – Describe in detail the circumstances of the incident (attach diagrams, drawings and/or photos of accident scene). Give a chronological sequence of events. Include any/all pertinent details of incident, such as things leading up to the incident, every step of the incident, and actions taken or not taken following incident.

Injury Diagram – Please indicate the location of all incurred injuries and describe the type of injury. For example, for a laceration to the left palm – shade the left hand palm area and write “laceration” next to it connected by a line.

Example:



Front
Right Left



Back
Left Right



Side
Right



Side
Left

SIGNATURES

Name of Injured Party	Signature of Injured Party
Name of Injured Party's Supervisor	Signature of Injured Party's Supervisor
Name of Pence Supervisor	Signature of Pence Supervisor
Safety Director Initials	Safety Committee Review Initials

PART B: RETURN TO WORK PROGRAM NOTIFICATION

Dear Physician:

Thank you for examining our valued team member. Pence Construction has a comprehensive return to work program and will provide modified work for our employees whenever appropriate for their rehabilitation, including work that has minimal physical requirements such as sitting or lying at home watching training videos or simply helping around the office filing paperwork. We are confident we can keep our employee working at all phases of their recovery without hindering the healing process.

Please review the attached forms(s) and:

- a. Complete the *Release to Return to Work Form* outlining our workers current physical capabilities, follow up date, and anticipated return to regular work date.

If the Modified Job Description is attached:

- b. Please review and sign the bottom portion of the job description(s) ensuring to check the "yes or no" boxes.

If our worker is not released to any work at this time, please provide us an anticipated return to work date: _____

Thank you for caring for our injured employee. Please call our company's Safety Director or claims adjuster at SAIF for any questions.

Pence Construction
Phone 503-252-3802

PART B: WORK RELATED INJURY PROTOCOLS

Pence Construction has established the safety and welfare of our employees as a priority within our company. We are committed to keeping our workers safe, healthy and working on the projects. However, we do realize that despite our best efforts, injuries do occur. When this happens, it is our desire to minimize the impact of the injuries on our workers and their families as well as to our companies. In an effort to accomplish this, we have established the following protocols we ask all the Physicians we work with to consider when seeing our injured workers.

- Pence has active Early Return to Work Programs. We can accommodate most light duty work restrictions our injured workers might be given. (Please consider this before you give the workers time off from work.)
- Workers are paid their full wage for most light duty work restrictions. (Please consider that our workers are paid their full wage for light duty in comparison to 2/3 their wage by the worker compensation program when on leave.)
- Over the counter medications instead of prescription medications. (Please consider recommending over the counter medications before you write a prescription. As an example, many workers do not fill prescriptions for pain medication and, just take Advil or Tylenol to relieve the pain. However, an unfilled prescription by the worker constitutes a recordable injury.)
- Soft supports instead of hard braces. (Please consider soft supports when you need to immobilize an injury.)
- Butterfly tape bandages instead of stitches. (Please consider using butterfly tape bandages when closing lacerations.)
- In an effort to keep our worksites safe and drug free we may require a post-accident drug screen.

Note: Time away from work, prescription medications, writing a prescription even if unfilled, hard braces and stitches make the injury an OSHA recordable injury. Recordable injuries have a negative impact on our incident and experience modification rates as well as our workers compensation costs. This in turn negatively impacts our competitiveness in the market place, and negatively impacts our ability to get work, and; thus, impact our ability to keep our workers employed.

In no way should you consider these protocols as trying to tell our Physicians how to do their jobs or that we are trying to limit the amount or quality of care you are providing our injured workers. We defer to our Physicians to use their medical judgment in providing the most appropriate care to our injured workers.

Pence Construction
Phone 503-252-3802



PART B: WORK RELEASE / PHYSICAL CAPACITIES

Employee: _____ Project: _____

Date of Injury: _____ Employer: Pence Pence Kelly

SAIF Claim Number: _____

Works Compensation Insurance Carrier. Select One SAIF Corporation:

Pence Policy# 947765 Pence Kelly Policy# 927299

Note to the Treating Physician:

The above worker is an employee of either, Pence Construction, LLC or Pence/Kelly Concrete, LLC. Both companies have established medical care protocols with this medical facility. Please review those protocols when providing treatment to our employees.

The above worker may return to: Regular work on: _____
or
Modified work on: _____
or
Is not released, anticipated release date: _____

If Modified work, please complete entire form:

Is worker capable of full time? Yes___ No___

If unable to work full time, specify hours per day the worker can work: _____.

Please indicate which level of modified work the worker is capable of performing:

___ **Sedentary work:** Lifting 10 pounds maximum. Includes occasionally lifting and/or carrying small objects. Involves sitting, but a certain amount of walking and standing is often necessary in carrying out job duties. Jobs are sedentary if walking and, standing are required only occasionally and all other sedentary criteria are met.

___ **Light work:** Lifting 20 pounds maximum with frequent lifting and/or carrying objects weighing up to 10 pounds; or requires walking or standing to a significant degree; or requires sitting most of the time but entails pushing and pulling of arm and/or leg controls.

___ **Light/medium work:** Lifting 30 pounds maximum with frequent lifting and/or carrying of objects weighing up to 15-20 pounds; or requires walking or standing to a significant degree; or requires sitting most of the time but entails pushing of arm and/or leg controls.

___ **Medium work:** Lifting 50 pounds maximum with frequent lifting and carrying of objects weighing up to 50 pounds.

___ **Heavy work:** Lifting 100 pounds maximum with frequent lifting and carrying of objects weighing up to 50 pounds.

Other specific restrictions: (i.e., climbing, kneeling, bending, stooping, repetitive motion, reaching, grasping, overhead work, twisting, dry environment, hot or cold environment, etc.)

The modified work restrictions are:

___ Permanent ___ Temporary and expected to last _____ weeks. Next Appointment Date: _____

Physician's signature

Date

DRUG TEST AUTHORIZATION FORM (Non-Regulated)

TO BE COMPLETED BY DER. EMPLOYEE MUST PRESENT TO COLLECTION SITE PERSONNEL.

*** BOXES MARKED IN RED ARE REQUIRED FIELDS ***

Employee (Donor) Name:*

Employee ID Number/SSN:

Company:*

Company Address:*

DER Name:*

DER Phone:*

DER Fax:*

Date Donor Received Notice to Test
00/00/0000:*

Donor Must Arrive at Collection Site
by (time):

Collection Site Name and Address:

Test Panel:

Test Type:

- Pre-Employment
- Random
- Post-Accident
- Reasonable Suspicion

- Return To Duty
- Follow-UP
- Breath Alcohol Only
- Jobsite Requirement

Breath
Alcohol Test
Required?

- Yes
- No

***Employee:** Please report to the collection site listed above. Failure to report to collection site within the designated time frame after notification (box 9) is considered to be a refusal to test. **Avoid drinking excessive amounts of liquids (more than 12oz) 3 to 4 hours prior to specimen collection.** You will need a valid employer or government issued photo ID. Please sign below to acknowledge receipt of this notification.

Sign Here: _____

Collection Site: Collect urine drug test specimen and/or breath alcohol test is indicated above. Use **Legacy Laboratory CCF** and supplies, account number **2063**.

Questions, supply requests, collection abnormalities, etc, call Bio-Med @ **503.585.6654** or **1.800.434.6654**.



For important documentation instructions, click [HERE](#)

INCIDENT INVESTIGATION

THIS FORM MUST BE SUBMITTED WITHIN 48 HOURS OF INCIDENT

INCIDENT INFORMATION		
<u>Date of Incident:</u>	<u>Time of Incident:</u> <input type="radio"/> am <input type="radio"/> pm	<u>Day of Week Incident Occurred:</u> <input type="radio"/> SUN <input type="radio"/> M <input type="radio"/> T <input type="radio"/> W <input type="radio"/> TH <input type="radio"/> F <input type="radio"/> SAT
<u>Involved Company Name:</u>		<u>Involved Company Address:</u>
<u>Exact Location of Incident:</u>		
<u>Involved Party's Name:</u>		<u>Involved Party's Job Title:</u>
<u>Employee Classification:</u> <input type="radio"/> Full-Time <input type="radio"/> Part-Time <input type="radio"/> Contract <input type="radio"/> Temporary		
<u>Years of Experience:</u>		<u>Shift Start Time:</u> <input type="radio"/> am <input type="radio"/> pm
<u>Weather Conditions:</u>		<u>Name of Superintendent:</u>
<u>Name of Project Manager:</u>		<u>Name of Foreman:</u>
<u>Specific Activity at time of incident (ie: cutting sheetrock):</u>		
<u>Was worker working on a Crew?</u> <input type="radio"/> Yes <input type="radio"/> No		<u>If on a crew, what was the crew size?</u>
** <u>Attach the Pre-Task Plan made for the work being performed at the time of the incident.</u>		

PROJECT INFORMATION	
<u>Jobsite Name:</u>	<u>Jobsite Address:</u>
<u>Contractor Foreman/Supervisor Name:</u>	<u>Pence Project Superintendent Name:</u>

INJURY/ILLNESS INFORMATION		
<input type="checkbox"/> N/A		
<u>Nature of Injury:</u>		
<input type="checkbox"/> Illness	<input type="checkbox"/> Strain/Sprain	<input type="checkbox"/> Scratch/Abrasion
<input type="checkbox"/> Internal	<input type="checkbox"/> Fracture	<input type="checkbox"/> Amputation
<input type="checkbox"/> Foreign Body	<input type="checkbox"/> Chemical Reaction	<input type="checkbox"/> Bruising
<input type="checkbox"/> Dislocation	<input type="checkbox"/> Laceration/Cut	<input type="checkbox"/> Burn/Scald
<input type="checkbox"/> Other (Describe):		

Treatment:	
<input type="checkbox"/> First Aid	<u>Name and Address of Treating Physician or Facility:</u>
<input type="checkbox"/> Clinic Visit	
<input type="checkbox"/> Hospitalization	
<input type="checkbox"/> ER Visit	
<u>Date Reported to Pence:</u>	<u>Reported to Whom at Pence:</u>
<u>Was First Aid given onsite?</u> <input type="radio"/> Yes <input type="radio"/> No	<u>If First Aid was given on site, by whom?</u>
<u>Did worker go to a medical facility offsite?</u> <input type="radio"/> Yes <input type="radio"/> No	<u>If yes, date:</u>
<u>Transported by:</u> <input type="radio"/> Ambulance <input type="radio"/> Company Vehicle <input type="radio"/> Private Vehicle	
<u>Name of Driver:</u>	
<u>Employee returned to:</u> <input type="radio"/> Regular Work <input type="radio"/> Modified Work <input type="radio"/> Not at all	

<input type="checkbox"/> N/A	PROPERTY DAMAGE
<u>Property, Equipment or Material Damaged:</u>	
<u>Visible Damage:</u>	
<u>Object or Substance Inflicting Damage:</u>	

EVENTS OF INCIDENT
<u>Events of Incident – Sequence of events, weather conditions, extent of damage or injury, etc. (attach photographs or diagrams if necessary):</u>

CONTRIBUTING FACTORS – CHECK ALL THAT APPLY

<u>Unsafe Acts</u>	<input type="checkbox"/> Improper work technique	<input type="checkbox"/> Safety rule violation
	<input type="checkbox"/> Improper PPE or PPE not used	<input type="checkbox"/> Operating without authority
	<input type="checkbox"/> Failure to warn or secure	<input type="checkbox"/> Operating at improper speeds
	<input type="checkbox"/> Bypassing safety devices	<input type="checkbox"/> Guards not used
	<input type="checkbox"/> Improper loading or placement	<input type="checkbox"/> Improper lifting
	<input type="checkbox"/> Servicing machinery in motion	<input type="checkbox"/> Horseplay
	<input type="checkbox"/> Drug or alcohol use	<input type="checkbox"/> Unnecessary haste
	<input type="checkbox"/> Unsafe act of others	<input type="checkbox"/> Other:
<u>Unsafe Conditions</u>	<input type="checkbox"/> Poor workstation design or layout	<input type="checkbox"/> Congested work area
	<input type="checkbox"/> Hazardous substances	<input type="checkbox"/> Fire or explosion hazard
	<input type="checkbox"/> Inadequate ventilation	<input type="checkbox"/> Improper material storage
	<input type="checkbox"/> Improper tool or equipment	<input type="checkbox"/> Insufficient knowledge of job
	<input type="checkbox"/> Slippery conditions	<input type="checkbox"/> Poor housekeeping
	<input type="checkbox"/> Excessive noise	<input type="checkbox"/> Inadequate guarding of hazards
	<input type="checkbox"/> Defective tools/equipment	<input type="checkbox"/> Insufficient lighting
	<input type="checkbox"/> Inadequate fall protection	<input type="checkbox"/> Other:
<u>Management Deficiencies</u>	<input type="checkbox"/> Lack of written procedures or policies	<input type="checkbox"/> Safety rules not enforced
	<input type="checkbox"/> Hazards not identified	<input type="checkbox"/> PPE unavailable
	<input type="checkbox"/> Insufficient worker training	<input type="checkbox"/> Insufficient supervisor training
	<input type="checkbox"/> Improper maintenance	<input type="checkbox"/> Inadequate supervision
	<input type="checkbox"/> Inadequate job planning	<input type="checkbox"/> Inadequate hiring practices
	<input type="checkbox"/> Inadequate workplace inspection	<input type="checkbox"/> Inadequate tools/equipment
	<input type="checkbox"/> Unsafe design or construction	<input type="checkbox"/> Unrealistic scheduling
	<input type="checkbox"/> Poor process design	<input type="checkbox"/> Other:

INCIDENT ANALYSIS

Using the Contributing Factors list above, explain each contributing factor as it relates to the incident, in as much detail as possible:

--	--

How bad could the incident have been? <input type="radio"/> Very serious <input type="radio"/> Serious <input type="radio"/> Minor	What is the chance of this incident happening again? <input type="radio"/> Frequent <input type="radio"/> Occasional <input type="radio"/> Rare
Is additional training required? <input type="radio"/> Yes <input type="radio"/> No	If additional training is required, who will provide the training?

PREVENTATIVE ACTIONS		
<u>Describe the actions which will be taken to prevent recurrence</u>	<u>When</u>	<u>By Whom</u>

SAFETY COMMITTEE REVIEW
<u>Safety Committee Comments:</u>

SIGNATURES	
<u>Name of Person Completing this form</u>	<u>Signature of Person Completing this form</u>
<u>Employer of Person Completing this form</u>	<u>Title of Person Completing this form</u>
<u>Pence Supervisor Name:</u>	<u>Pence Supervisor Signature:</u>
<u>Safety Director Initials</u>	<u>Safety Committee Review Initials</u>



INJURED PARTY STATEMENT

THIS FORM MUST BE SUBMITTED WITHIN 48 HOURS OF INCIDENT

Incident Information

<u>Date of Incident</u>	<u>Time of Incident</u> <input type="radio"/> am <input type="radio"/> pm	<u>Day of Week Incident Occurred</u> <input type="radio"/> SUN <input type="radio"/> MON <input type="radio"/> TUE <input type="radio"/> WED <input type="radio"/> THU <input type="radio"/> FRI <input type="radio"/> SAT
-------------------------	--	---

<u>Involved Company Name</u>	<u>Jobsite Name</u>
------------------------------	---------------------

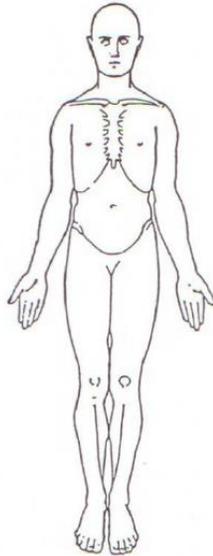
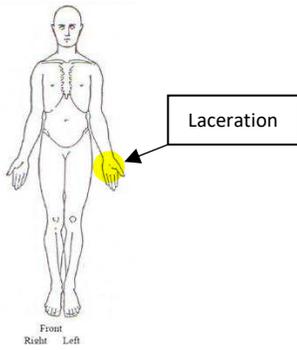
Name of Injured Party

Injured Party's Statement – Describe in detail the circumstances of the incident (attach diagrams, drawings and/or photos of accident scene). Give a chronological sequence of events. Include any/all pertinent details of incident, such as things leading up to the incident, every step of the incident, and actions taken or not taken following incident.

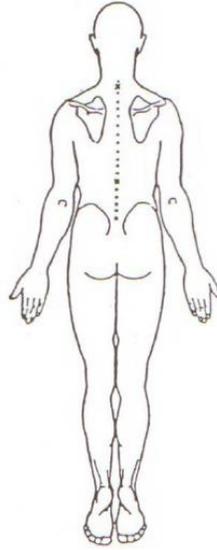
[Large empty box for the injured party's statement]

Injury Diagram – Please indicate the location of all incurred injuries and describe the type of injury. For example, for a laceration to the left palm – shade the left hand palm area and write “laceration” next to it connected by a line.

Example:



Front
Right Left



Back
Left Right



Side
Right



Side
Left

SIGNATURES

Name of Injured Party	Signature of Injured Party
Name of Injured Party's Supervisor	Signature of Injured Party's Supervisor
Name of Pence Supervisor	Signature of Pence Supervisor
Safety Director Initials	Safety Committee Review Initials



WITNESS STATEMENT

THIS FORM MUST BE SUBMITTED WITHIN 48 HOURS OF INCIDENT

INCIDENT INFORMATION		
<u>Date of Incident</u>	<u>Time of Incident</u> <input type="radio"/> am <input type="radio"/> pm	<u>Day of Week Incident Occurred</u> <input type="radio"/> SUN <input type="radio"/> M <input type="radio"/> T <input type="radio"/> W <input type="radio"/> TH <input type="radio"/> F <input type="radio"/> SAT
<u>Involved Company Name</u>		<u>Jobsite Name</u>
<u>Name of Inured Party</u>		
STATEMENT INFORMATION		
This Statement being completed by:	<input type="radio"/> Involved Party <input type="radio"/> Witness to Incident <input type="radio"/> Injured Party's Supervisor	
<u>Witness's Statement</u> – Describe in detail the circumstances of the incident (attach diagrams, drawings and/or photos of accident scene). Give a chronological sequence of events. If materials and/or equipment were involved, start before the materials/equipment were brought to the incident scene. Include any/all pertinent details of incident, such as things leading up to the incident, every step of the incident, and actions taken or not taken following incident.		
What would prevent this incident from reoccurring?		
What was the root cause of this incident?		
<u>Name of Party Completing this form</u>	<u>Signature of Party Completing this form</u>	
<u>Name of Supervisor of Party Completing this form</u>	<u>Signature of Supervisor of Party Completing this form</u>	
<u>Safety Director's Initials</u>	<u>Safety Committee Review</u>	



Theft and/or Vandalism Report

****REPORT ALL LOSSES IMMEDIATELY****

Email all losses to Roland at rolandm@pence.net, Steve at stevet@pencekelly.com, and Caleb at calebh@pence.net. Answer every question on this form. All losses are important, even the small losses. We need the information in tracking the crime patterns.

Contractor Information

Site Name:	Date of Report:
Person Preparing Report:	Phone Number:

Incident Information

Location of Incident:	City:	State:
Date and Time First Noticed:	Reported by:	
When did crime occur:	Witnesses:	
How was entry gained onto site:	Estimated cost of property stolen/damaged:	
Security Company:		
Describe how the incident occurred:		

Law Enforcement Information

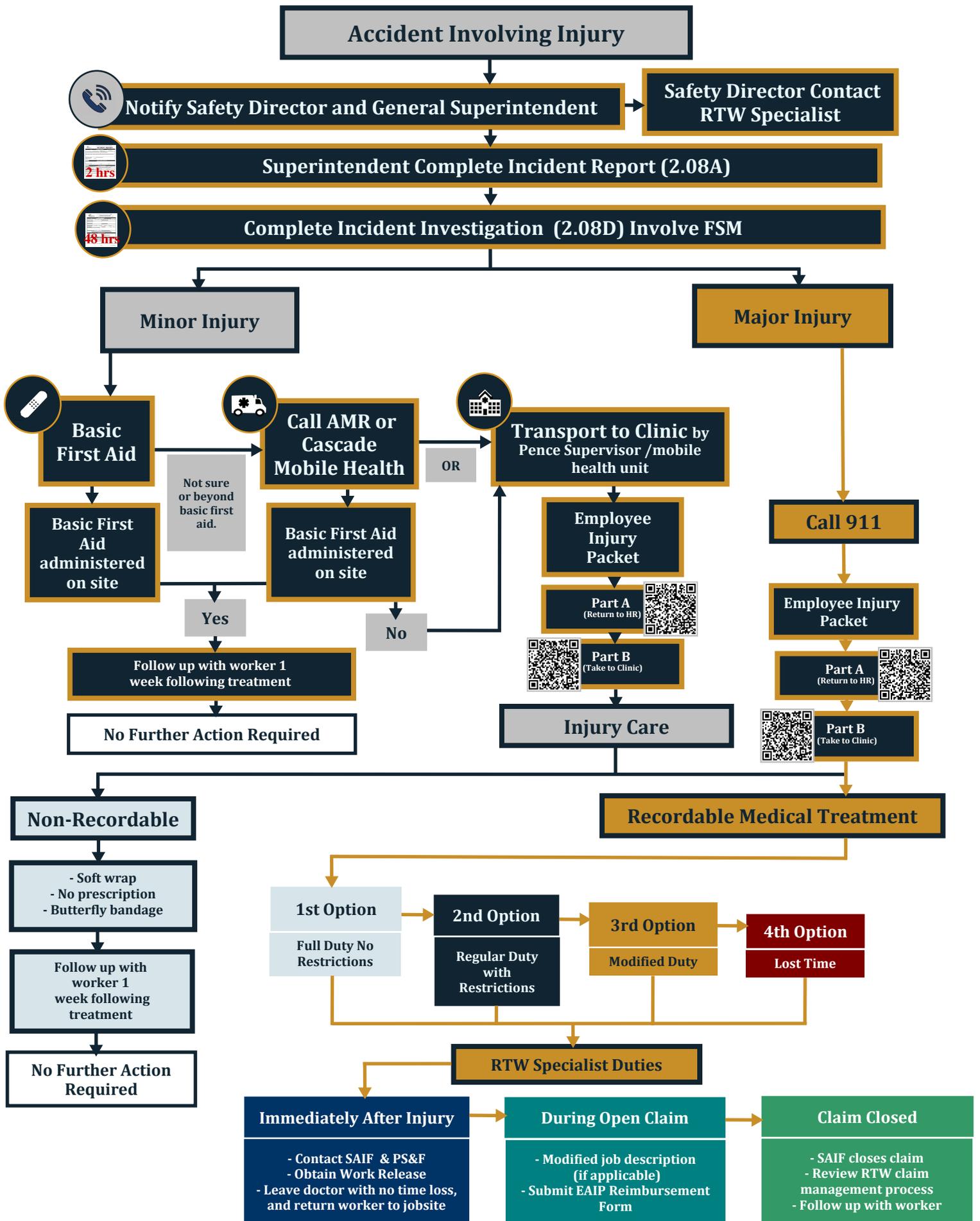
Law Enforcement Agency Notified:	Date of Notification:
Officer Name	Report#

Property Loss Information

ITEMS STOLEN/ VANDALIZED	YR/ MAKE/ MODEL	SERIAL# PIN# VIN#	VALUE	BECO ToolWatch #	UNIQUE IDENTIFIERS

Use additional sheets if necessary

Return to Work Standard Operating Procedures



EARLY RETURN TO WORK PROGRAM

2.09

PURPOSE AND INTENT

- In order to minimize serious disability due to on-the-job injuries and to reduce workers' compensation costs, Pence Construction (Pence) has developed procedures to deal with injuries/illnesses in which the worker can be offered light duty or modified work, temporarily.
- Light duty jobs will be identified after obtaining and examining the injured worker's physical limitations of restrictions. "Light duty" might be the worker's regular job, modified by removing heavier tasks and reassigning these to other workers; a different regular job currently existing at the workplace, or a job that is specifically designed around the worker's restrictions.
- The light duty job will be made for all injuries. The light duty job will end with the date the worker received a release for regular duty.
- On-the-job injuries and occupational diseases will be handled by a team consisting of the injured worker, his/her supervisor, the Safety Department, the HR Manager, the insurance company, and the injured workers physician. The team approach is the most effective method for achieving a return to productive work at the earliest opportunity. Responsibilities of the injured worker, the supervisor, and the safety manager are outlined in the following pages.

EMPLOYEE'S RESPONSIBILITIES

- Report all injuries to your supervisor immediately. If off site medical treatment is necessary, AMR or Cascade Health will be contacted and if necessary, they will transport the employee to the emergency facility.
- Take the Employees Injury Packet 2.08B Part A and Part B with you to the medical facility.
- 2.08B Part A
 - Read the Packet instructions
 - Fill out the employee portion of the 801 Form
 - Fill out the Injured Party Statement Form
 - Return forms to your supervisor or to the Return to Work Specialist
- 2.08B Part B
 - Give the treating medical professional the:
 - Pence Companies Return to Work Program
 - Work Related Injury Protocols
 - Work Release Physical Capacities Form
 - Tell the doctor the company will be able to place you in a temporary modified job if you cannot return to regular work.
- Return form completed by the doctor to your supervisor or the Return to Work Specialist.
- When you return to a light duty job, you must make sure that you do not go beyond either the duties of the job or your physician's restrictions.

- If your restrictions change at any time, you must notify your supervisor at once and give your supervisor a copy of the new medical release at which time the light/modified duties may be changed to be consistent with your current restrictions.
- If you see a Doctor or Emergency facility after hours or on a weekend for a work-related injury, you must notify your Supervisor of this fact and the nature of the injury and any restrictions on the next scheduled business day.
- Employee must understand that refusal of a light duty job offer may impact the workers worker compensation benefits.

SUPERINTENDENT/FOREMAN RESPONSIBILITIES

- Assure the employee understands and follows his/her responsibilities as listed above.
- Work with the Safety Director and the Return to Work Specialist and employee to determine what light duty jobs are available that will meet the restrictions specified by the treating physician.
- Verify that the employee does not go beyond either the duties of the job or the physician's restrictions.

SAFETY DEPARTMENT RESPONSIBILITIES

- Assist the superintendent/foreman in determining available light duty work that will meet the restrictions set by the treating physician.

2.10

Emergency Response Plans Are Developed By The Safety Department

Email pencesafety@pence.net for more information.

CRISIS MANAGEMENT PLAN AND MEDIA GUIDELINES FOR JOBSITE ACCIDENTS

2.11

CRISIS MANAGEMENT PLAN AND MEDIA GUIDELINES

The overall reason for planning for an emergency is to provide a systematic approach to managing the crisis in an organized fashion, without causing a major disruption of normal activities. A crisis management plan is designed to maintain the Company's credibility and positive image with all of its identified audiences in the face of adversity. Our customers, employees, management, financial supporters, industry peers, and others should all feel we were well organized and handled the emergency in a professional manner. Because emergencies do not pause to allow us to think through the problem, we need to be prepared for every emergency most apt to happen.

Our plan is organized for immediate use in the event of an emergency. The project teams should develop the Crisis Management Plan prior to starting the project. Copies of the plan should be printed out and kept onhand by all senior staff of the project.

This plan must be developed for each project regardless who would be taking the lead with the media. Whether we are a subcontractor, the general contractor on a stand alone site or the general contractor on a large site where the owner has requested that all media relations be handled by their spokesperson, the information within this plan will help who ever is dealing with the media.

The [Crisis Management Plan Template](#) and the instructions for [Developing the Crisis Mangement Plan](#) are linked.

SAFETY COMMITTEE POLICY

2.12

PURPOSE

The purpose is to propagate a safe working environment throughout Pence Construction and to assist in the detection and elimination of unsafe conditions and work procedures. Our safety committee consists of representations from employees and management.

OBJECTIVE

- To establish procedures to ensure a safe and hazard free work areas for our employees.
- Evaluate all accidents for cause and possible disciplinary action.
- Improve the spirit of cooperation between employer and employee.
- Provide a channel for communication between employees and management to address safety questions or concerns.
- Monitor the safety program effectiveness.
- Promote and publicize safety.

PROCEDURE

- The committee will consist of at least four volunteer members of the workforce and management. There will be an equal number of field and office employees, unless agreed upon otherwise.
- Meetings will be held the fourth Tuesday of each month.
- Minutes will be maintained in the file for a period of three years.
- Copies of the minutes will be distributed to all superintendents to be posted on their bulletin board, and to all office and shop personnel.

SAFETY CONSULTATIONS

2.13

PRE-JOB SAFETY CONSULTATIONS

- Pre-job Safety consultations will be scheduled with project superintendent, project manager, and Safety Committee. Topics are on attached checklist.

OR-OSHA CONSULTATIVE SERVICES

- Pence Construction encourages the use of OR-OSHA consultative services to help employers and employees identify and correct occupational safety and health hazards. Services include: Hazard assessments, Ergonomic evaluations, Industrial hygienists, Occupational safety and health programs, and Accident investigation.
- Consultants can be utilized for pre-job and pre-task planning. Contact the Safety Director to arrange an OR-OSHA Consultation.

DOSH CONSULTATIONS

- Pence Construction encourages the use of DOSH consultative services to help employers and employees identify and correct occupational safety and health hazards. Services include: Hazard assessments, Ergonomic evaluations, Industrial hygienists, Occupational safety and health programs, and Accident investigation.
- Consultants can be utilized for pre-job and pre-task planning. Contact the Safety Director to arrange a DOSH Consultation.

AGC SAFETY CONSULTANTS

- Pence Construction encourages the use of AGC consultative services to help employers and employees identify and correct occupational safety and health hazards. Services include: Hazard assessments, Ergonomic evaluations, Industrial hygienists, Occupational safety and health programs, and Accident investigation.
- Consultants can be utilized for pre-job and pre-task planning. Contact the Safety Director to arrange an AGC Consultation.

Pence Construction Pre-Job Safety Consultation

Job:
Date:

- **Chemicals: SDS**
- **Concrete Work: Pre-cast, Tilt-up, Vertical, Form Work, Concrete Pump**
- **Confined Space**
- **Demolition Activities: Asbestos, Lead, General Demolition**
- **Emergency Response Plan**
- **Excavation & Trenching**
- **Fall Protection Plan**
- **Fire Prevention**
- **Hoisting/Rigging Activities: Cranes, Forklifts**
- **Housekeeping & Sanitation**
- **Jobsite Orientation: Employee & Subcontractor**
- **Job Hazard Analysis/ Pre-Task Planning**
- **Masonry**
- **Non-Routine Activities**
- **Owners Requirements**
- **Public Exposure: Phased Occupancy, Partial Demolition, Traffic Control**
- **Scaffolding**
- **Site Constraints**

- **Staging Areas**
- **Steel Erection: General Contractor and Steel Erectors Responsibilities**
- **Subcontractors Safety Record**
- **Temporary Power (GFCI)**

JOB HAZARD ANALYSIS/ PRE-TASK PLANNING

2.14

PURPOSE

- To eliminate incidents/accidents and business interruptions by utilizing and standardizing best know methods. To recognize existing and potential hazards, work crew coordination and communication needs and implement practices which ensure all tasks are performed incident free.
- The crew or individual assigned to perform the task must prepare the pre-task planning worksheet, this includes all subcontractors onsite. To effectively plan the task being performed, the crew or individual must physically walk down the area before the work is to be performed to identify all potential hazards. Once the potential hazards are identified the crew or individual shall:
 - Refer to and identify all Personal Protective Equipment (PPE) applicable to the work to be performed. If an item is checked, ensure the proper training is completed prior to start of work.
 - Refer to and identify all applicable emergency equipment. Ensure the location of each is known by all crewmembers.
 - Supervisor, safety coordinator, safety committee, superintendent, project engineer, etc., may help to identify potential hazards and effects on systems.
 - The completed worksheet is posted in the foreman's trailer and remains posted for the duration of the task.

NOTE:

If performance of the task requires deviation from the posted plan, the crew is to immediately cease work and notify supervision. Supervisor and crew shall re-assess the plan, make necessary modifications, re-communicate any additional changes, initial the worksheet and post the modified plan before resuming work.



 1949
 CONSTRUCTION
Pre-Task Plan Check List

Project Name:	
Crew Supervisor Review:	
Superintendent Review:	
End Date:	Crew Size:

Be sure to ask the following during evaluation of your work:

- | | |
|---|--|
| Will your work impact existing buildings/occupants? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Does this task require disassembly or equipment? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Should the safety comm. be involved in this planning? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Are Toxic or Hazardous chemicals in use? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Are the shop drawings on hand? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Have the Safety Data Sheets been reviewed? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Will weather conditions affect the safe completion of this work? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Has a complete hazard analysis been done? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Date of analysis: | |
| Are enough personnel assigned to this task to complete it safely? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Was pre-task planning at work location? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Does this task require any special permits/procedures? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Do other subs need to be involved? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Does this task require special training? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| If a ladder is required for the task has it been inspected? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| If rigging is required for the task has it been inspected? | Yes <input type="checkbox"/> No <input type="checkbox"/> |

Check if any of the following are required:

- | | |
|---|---|
| <input type="checkbox"/> Open Flame
<input type="checkbox"/> Barricades/Signs
<input type="checkbox"/> Fall Protection PPE
<input type="checkbox"/> Hearing PPE
<input type="checkbox"/> Reviewed w/all crew members
<input type="checkbox"/> Dust Control | <input type="checkbox"/> Eye/Face PPE
<input type="checkbox"/> Hand/Arm PPE
<input type="checkbox"/> Respirator
<input type="checkbox"/> Full Body PPE
<input type="checkbox"/> Hazard Communications
<input type="checkbox"/> Other |
|---|---|

The tasks for today have been reviewed in the work area they will be performed and the workers on this crew have been through the required training.

<u>Crew Leader's Signature:</u>	<u>Foreman's Signature:</u>
<u>Crew Signatures:</u>	
1.	6.
2.	7.
3.	8.
4.	9.
5.	10.

IF WORK CONDITIONS CHANGE, WORK MUST STOP AND PRE-TASK UPDATED FOR CHANGING CONDITIONS.



 1949

Pence

 CONSTRUCTION

 Pre-Task Plan Work Sheet

Task Plan #:	Page	of
Company Name: Pence Construction		
System/Area of Work:		
Author:	Task to be Accomplished:	
Prepared Task Plan Data		
<u>SEQUENCE OF CONSTRUCTION ACTIVITIES</u>	<u>HAZARD ANALYSIS</u>	<u>METHOD TO ELIMINATE HAZARDS</u>

IF WORK CONDITIONS CHANGE WORK MUST STOP AND PRE-TASK UPDATED FOR CHANGING CONDITIONS.

PERSONAL PROTECTIVE EQUIPMENT (PPE) PROGRAM

2.15

PURPOSE

Pence Construction has adopted this Personal Protective Equipment (PPE) policy and procedure to ensure that when hazards cannot be fully controlled with engineering or process controls, that employees use appropriate personal protection. It is also to assist in ensuring compliance with OR OSHA standards. This policy does not include [Fall Protection \(2.16\)](#) or [Respiratory Protection \(2.26\)](#) – see separate programs for those policies.

Appropriate training on the use and maintenance of PPE will be arranged for or provided by supervisors. Employees are required to wear proper personal protective equipment.

The PPE provided shall be used as outlined by specific job procedures and maintained in a sanitary and reliable condition.

Employees shall not provide any of their own personal protective equipment, unless inspected and approved by job site supervision.

The selection of PPE shall be made by our management staff and designed to match the hazard to allow employees to safely conduct their job tasks.

PPE is designed to protect the worker from injury or harm. However, it is not designed to prevent the *occurrence* of an incident which might cause harm or injury. Therefore, we must ensure that working conditions are safe and PPE is used as a back-up for additional protection.

This policy reviews basic requirements for personal protective equipment including:

- Appropriate Clothing
- Head protection
- Hearing – Ear protection
- Eye and Face protection
- Hand protection
- Foot protection

PROCEDURES

Workplace hazards will be assessed by the project superintendent.

Prior to achieving Temporary Certificate of Occupancy (T.C.O.) the requirements for PPE are 100% coverage all the time for all people onsite. After achieving T.C.O., should

conditions change, the area and requirements can be reassessed, by the project superintendent and workers shall be retrained if necessary.

Selected PPE shall be fitted to each affected employee.

Defective or damaged PPE shall not be used.

APPROPRIATE CLOTHING

- Long pants are required at all times. Shorts, dresses, and sweatpants are not allowed on the jobsite.
- Shirts with sleeves that cover the shoulder are required. No muscle, mesh, tank top or similar shirts are allowed on the jobsite. Shirts with the hem on the sleeve cut off are not allowed on the jobsite.
- Clothing that may get caught in tools or equipment, such as loose fitting, torn or ragged clothing shall not be allowed on the jobsite.
- High-vis clothing (vests, sweatshirts, t-shirts etc.) shall be worn when employees are exposed to vehicle traffic onsite.
- When working in the streets after dark clothing shall be required to have enough reflective material to meet the DOT Class #2 requirements.

HEAD PROTECTION

- Hard hats are to be used to protect the head from flying objects, impact, and electrical shock. Hard hats used at our work operations will meet ANSI standards for the job task.
- Hard hats shall be used by all employees at construction sites or when overhead hazards are present. This includes when working under floor openings or walkways, protruding objects, or inside a confined space below ground level.
- Hard hats shall be worn whenever 'hard hat' signs are posted regardless of whether an overhead hazard exists.

HEARING PROTECTION

- Earmuffs and earplugs are used to protect against hazardous noise levels when they cannot be adequately lessened by various engineering controls. The sites' noise levels will vary a great deal. Areas requiring hearing protection shall be posted. If not, hearing protection should be worn whenever there are loud sounds from power equipment or processes.
- Hearing protective devices are supplied to all employees.
- If earmuffs are worn, temple bars of glasses will interfere with the seal of the earpiece. As a result, ear plugs should be worn by those required to wear safety glasses or glasses with corrective lenses.

EYE AND FACE PROTECTION

- Safety glasses or prescription glasses with safety lenses, frames and side shields are to be **worn at all times by Pence Employees.**
- Appropriate eye or face protection must be worn when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation. Employees must use eye protection that provides side protection when there is a hazard from flying objects.
- The requirement for eye or face protection shall be noted on relative Pre-Task Plans.
- Eye protection is required to meet the following criteria based on Safety Regulations:
 - Provide adequate protection against the particular hazards for which they are designed.
 - Provide reasonable comfort and shall not unduly interfere with the movements of the wearer.
 - Be durable.
 - Be capable of being cleaned easily.
 - Be kept clean and in good repair.
- The specific type of eye and face protection needed depends on the type of hazard.
 - Particle hazards for grinding/chipping require goggles or safety glasses with side shields in tandem with a full-face shield.
 - Particle hazards for drilling/grinding/chipping/shooting into concrete overhead require the use of goggles or safety glasses with side shields in tandem with a full-face shield.
 - Liquid splash hazards require chemical splash goggles or safety glasses with a face shield.
 - Gas welding requires welding goggles.
 - Arc welding requires the use of a welding helmet with a dark lens covering.
 - Face protection is worn when liquid splashes or significant particle matter could impact the face and cause injury.

HAND PROTECTION

- Hand protection is worn to protect the hands from a mechanical injury due to friction, heat, shearing/cutting actions, and for protection against chemicals.
- Chemical protective gloves are selected based on the type of rubber/plastic material which affords proper protection against specific chemicals used. The selection will be made by the supervisor.
- Chemical protective gloves will be worn when there is skin contact with the following chemicals:
 - Solvents
 - Any corrosives
 - Spill clean-up
 - Concrete

- Kevlar gloves will be worn when using handheld grinders.
- Kevlar gloves will be worn when erecting tilt panels.

FOOT PROTECTION

- Appropriate work boots are required to be worn.

LEG PROTECTION

- Persons using chainsaws must wear chaps or leg protectors that cover the leg from the upper thigh to mid-calf.
 - The chaps must be made of a material designed to resist cuts from the chainsaw.

POLICY AND SCOPE

Fall Protection is a broad concept that includes training, procedures, rules, systems, and methods, intended to protect workers from fall hazards. Pence Construction (Pence) requires fall protection for work activities that expose workers to fall hazards of 6 feet or more or over dangerous equipment. *All employees must comply with the site fall protection policy. Failure to adhere to the site fall protection policy is grounds for immediate termination of offending employees.* **This section is in reference to OR-OSHA. [Subdivision M – Fall Protection](#).** Referring to the following sections of this safety manual for [Scaffold and Elevated Work Platforms \(2.20\)](#), [Ladders and Stairways \(2.19\)](#), and [Steel Erection \(2.18\)](#).

PRE-TASK PLANNING

A Site-Specific Fall Protection Plan is required to be submitted and approved prior to performing activities that expose workers to fall hazards. You should try to engineer out the need for a fall arrest system during your pre-task planning. Examples would be pre-fabricating on the ground, using a man-lift, or installing standard guardrails. A company safety representative will approve of Fall Protection Plans. Fall Protection equipment will not be issued from the shop without an approved plan. **Fall Protection equipment is for exclusive use by Pence employees and will not be loaned to others.**

The Fall Protection Plan should include the following:

- Type of Work
- Procedure
- Assembly, Inspection and Disassembly
- Rescue Plan
- Training Program and list of trained employees
- Date plan Prepared and Approved.
- Fall protection Equipment Required.

See the attached sample. [Fall Protection Plan \(2.16A\)](#) and [Fall Protection Plan Outline\(2.16B\)](#)

FALL-PROTECTION SYSTEMS

A fall-protection system refers to equipment designed to control fall hazards. All fall-protection systems either *prevent* a fall from occurring or safely *arrest* a fall. Types of fall-protection systems include the following:

- **Guardrail Systems**
 - Top edge height of guardrail systems shall be 42", plus or minus 3". Guardrails shall have a midrail and toe board.
 - Guardrail systems shall be capable of withstanding a 200-pound force in any outward or downward direction.
 - Wood top rails and posts shall be at least 2"x4" and posts shall be spaced not more than 8' on center.
 - Wire rope used for a top rail must be at least ¼" diameter and be flagged at not more than 6' intervals with high-visibility material.
 - When guardrail systems are used at hoisting areas, a chain, gate, or removable guardrail section shall be placed across the access opening when hoisting operations are not taking place.

- **Handrails for Stairs, Ramps Etc.**
 - Handrails will be installed between 30" and 37" high.
 - Measurement shall be taken from the nose of the tread to the top of the handrail.

- **Warning Lines**
 - Warning lines may be used for roof work. Roofing work does not include the construction of the roof deck or leading-edge work.
 - A warning line system shall not be used as fall protection on roof slopes greater than 2 in 12.
 - Warning lines shall be erected not less than 6' from the roof edge.
 - Warning lines shall be flagged with high-visibility material at not more than 6' intervals.
 - Height of warning line shall be 34" to 39", and capable of withstanding a 16-pound force when applied horizontally at the stanchion.

- **Safety Monitoring System**
 - Safety monitoring systems shall only be used for roofing work. Roofing work does not include the construction of the roof deck or leading-edge work.
 - At no time shall the Safety Monitoring Systems be used as a means of fall protection without prior approval from the Safety Director.

- **Warning Lines Used for Other Than Roofing Work**
 - Warning lines may be used to mitigate the fall hazards by eliminating exposure.
 - When a safe work distance is designated, which may also include some sort of warning line or other barricade, it must be one that eliminates the potential for the worker to stumble and fall over the unprotected edge but at a **minimum 10 feet**.
 - There should also be a margin of error included in the distance since there is not a positive means of stopping the worker's forward momentum toward the unprotected edge.

- Factors that might enter into such an evaluation could include weather conditions, lighting, the slope and condition of the walking surface, the kind of work being performed, materials being handled, the height of the worker above the work surface (such as working from a ladder), housekeeping, training, experience, how much time the job takes, or the distance that the worker stays away from any open sides or edges.
 - The guiding principle to follow when evaluating warning or barricade lines is that the distance from the unguarded edge of the work surface must be great enough to remove the worker from exposure to a fall hazard.
 - Factors to evaluate in determining the allowable use and correct location of barrier lines include such things as the kind of fall hazard present, the work being done and the exposure to the hazard, the pitch of the work surface, whether the deck is secure or not, the degree of slickness of the walking surface, weather conditions and environmental conditions (ice, moss, rain, wind, lighting, sun glare, etc.), what equipment is being used, access and egress protection, training, and supervision.
 - It's quite simple, if there's no exposure, then there's no hazard, and thus, no violation.
 - Warning lines should be constructed the same as for roofing work.
- **Access to All Types of Warning Line Systems**
 - When accessing the warning line area from the roof edge, the following must be in place:
 - A hard barrier or guardrail system on both sides of the access point from the roof edge to the warning line system
 - When the access point is not in use, a gate made of the same material creating the warning line around the work area must be used to separate the work area and the access point.
 - An alternative to the gate is to create an offset so that there is an indirect path from the ladder to the work area.
 - If a situation arises where the hard barrier or guardrail system cannot be used or is impractical the project team must contact the safety department for approval of another means of creating an access point.
 - When creating a haul line area at the access point, the following must be in place:
 - A section of hard barrier or guardrail system shall be added perpendicular to the access point's hard barrier or guardrail along the roof edge.
 - This section shall be adjacent to the step off area on the ladder.
 - This section shall be large enough so that the worker's body is completely behind the hard barrier or guardrail system while pulling up a load.
 - The rope shall be attached to a fashion so that the worker can grab it without placing themselves in a fall hazard.

- When accessing the warning line area from a floor opening within the area, the following must be in place:
 - A hard barrier or guardrail system around the entire opening
 - A landing must be created so the worker can step off the ladder.
 - A gate or an offset must be created so that there is an indirect path from the ladder/landing to the work area.

- **Safety Net Systems**
 - Safety Net systems consist of mesh nets, including panels, connectors, and other impact absorbing components.
 - If safety nets are needed, the designated competent person will oversee the installation and performance requirements of the system.

- **Personal Fall Arrest Systems (PFAS)**
 - Personal Fall Arrest Systems has four basic components.
 - Pence exclusively uses **the DBI/SALA brand for the full body harness.** The designed working load for DBI/SALA, combined weight (clothing, tools, etc.) is no more than **420 lbs.**, unless labeled otherwise. **DO NOT EXCEED THIS WEIGHT.**
 - **Body Support (Full body harness)**
 - The only form of bodywear acceptable for fall arrest is full body harness.
 - **The Lanyard connecting device (Connecting components)**
 - Lanyards shall be constructed of synthetic material (nylon rope, nylon webbing) and have a locking snaphook.
 - Lanyards will not be “tied-back” unless they are designed for that purpose (IE: Miller BackBiter). Carabiners shall be locked.
 - Lanyards, connectors, and carabiners shall have a minimum breaking strength of 5,000 pounds.
 - **Deceleration devices (rope grabs, shock absorbing lanyards, self-retracting lanyards)**
 - You need to verify if the retractable lanyard you are using may be operated flat, some need to be in the overhead position.
 - **Anchorage points (Includes: lifelines; horizontal and vertical)**
 - Anchorage points need to be capable of supporting 5,000 pounds for each employee attached to it.
 - Anchorage points and lifelines are not required to be the DBI/SALA brand.
 - If there are no permanent tie-off anchors installed on the building, the Superintendent should work with the owner and architect to have them installed.
 - Vertical lifelines are designed to be used by only one person with a rope grab for vertical mobility, only for up and down movement.

- Horizontal lifelines can only be used when designed, installed, and used under the supervision of a qualified person.
 - Horizontal lifelines and their anchors are subject to much greater loads than vertical lifelines.
 - Although two workers can tie off to the same horizontal lifeline, if one falls, the line movement could cause the other worker to fall, too, subjecting the line and anchors to even greater forces.
 - For these reasons, horizontal lifelines must be designed, engineered, and installed under the supervision of a qualified person.
 - Locations of anchor points need to be planned, considering free-fall distances and swing fall risks.

- **Covers**
 - Floor and roof openings shall be protected by a standard guardrail system or covered. The cover shall be clearly marked “hole” or “cover” and be secured to prevent accidental displacement. Covers shall be capable of supporting at least twice the weight of employees, equipment or material that may be imposed on them at any one time.

PROCEDURES

All components of PFAS shall be inspected before usage for damage and serviceability. Referring to manufacture instructions for inspection procedures. Lanyards, Harnesses, Lifelines and Retractable Lanyards shall be checked quarterly by job foreman or superintendent and marked with colored tape according to OR OSHA Division 3, Subdivision K, rule [437-003-0404\(3\)](#) **Assured Equipment Grounding Conductor Program.**

RESCUE PLAN

Workers who use personal fall arrest systems must be able to rescue themselves if they are suspended after a fall or they must be promptly rescued. Workers may be trained in self-rescue or aided rescue. The superintendent should consult with the local fire department about rescue procedures and access to the site. Only rescue trained personnel should assist with rescue.

TRAINING PROGRAM

The employer shall provide a training program for each employee who might be exposed to fall hazards. The program shall enable each employee to recognize the

hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards. Fall protection training shall be site specific.

The employer should assure you that each employee has been trained in the following areas:

- The nature of fall hazards in the work area.
- The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used.
- The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, personal fall restraint systems, slide guard systems, positioning devices, and other protection to be used.
- The limitations on the use of mechanical equipment during the performance of roof work.
- The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection; and
- The role of employees in the fall protection plan

CERTIFICATION OF TRAINING

Training shall be documented on the site-specific Fall Protection Plan. The written certification record shall contain the name of the employee trained, the date(s) of the training, and the signature of the person who conducted the training.

RETRAINING

When the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required, the employer shall retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete; or
- Changes in the types of fall protection systems or equipment to be used render previous training obsolete; or
- Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

PENCE CONSTRUCTION

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FALL PROTECTION PLAN OUTLINE

FOR

320-001 BECO Office Building

1. TYPE OF WORK

1.1 List all the specific types of work to be performed that will require fall protection.
 (I.E. Cast in place columns, cast in place walls, installing weather protection,
 etc.)

1.	Pour slab on metal deck
2.	Installing roof edge curb parapet cap
3.	Forming slab edges for concrete pour
4.	Poured in place 12ft columns
5.	Poured in place 12ft. walls
6.	Pour housekeeping pads on roof
7.	
8.	

2. TYPE OF FALL HAZARD

2.1 Check all specific types of fall hazards the employee(s) may encounter

	Excavations/Trenches		Elevator Shafts
X	Floor Openings	X	Climbing Wall or Column Forms
	Wall Openings		Leading Edge Work
X	Roof Edges		Swing Falls
X	Skylights		High Sloped Roofs (>4:12)
X	Roof Openings		Low Sloped Roofs (<4:12)
	Work Over Hazardous Equip/Material	X	Flat Roofs (<2:12)
	Swing Fall		

3. FALL PROTECTION SYSTEM

- 3.1 Check the specific type of fall protection system to be used for each type of fall hazard.
- 3.2 Other than for the harness, lanyard, and positioning device, attach the owner's manual for each piece of fall protection equipment used.

X	Harness		Horizontal Lifeline
X	Lanyard		Vertical Lifeline and Rope Grab
X	Guardrail System	X	Warning Line System
X	Covers (Holes and Openings)	X	Anchor Cart
	Anchors used separately		Cross Over Strap
	Anchors used as part of a system		
X	Retractable Lifelines		
	Personal Fall Restraint System		
X	Positioning Device		

4. PROCEDURES

(List the procedures for assembly, disassembly, maintenance, and use of each fall protection system used.)

- 4.1 Fall protection shall be required for all employees who are working from unprotected work surfaces 6 ft or greater in height.
- 4.2 Fall protection shall be accomplished using; full body harness, double locking lanyards, retractable lanyards, anchor cart, guardrail systems, covers, and warning lines.
- 4.3 All openings in floor or roof decks and roof skylights shall be protected with a guardrail or cover. All roof edges will be protected by a guardrail or a warning line system set back 10ft from the roof edge. Covers shall be secured to prevent accidental displacement and be marked "Hole".
 - 4.3.1 Covers, warning line systems, and guardrail systems shall be installed and removed with the use of a full body harness and retractable lifeline anchored to the anchor cart.
 - 4.3.2 The anchor cart shall be set on the roof by use of a forklift. The worker will immediately pull the cart back from the edge, position the cart perpendicular to the fall hazard, set the brake and immediately tie off to the cart.
 - 4.3.3 Anchor cart should be removed from the roof in the reverse order it was set up.
- 4.4 Fall protection for the column forming and stripping shall be accomplished by use of a harness, positioning device, and a lanyard.
 - 4.4.1 Worker shall climb the column form with the use of the positioning device and the lanyard.
 - 4.4.2 Either the positioning device or the lanyard will always be connected.
 - 4.4.3 Once the worker is in the work position, both the positioning device and the lanyard will be connected.
- 4.5 Fall protection for wall forming and stripping shall be accomplished by use of a harness and retractable lifeline with a pull-down rope.

- 4.5.1 The retractable lifelines shall be attached to the top of the wall form prior to standing the wall form.
- 4.5.2 The pull-down rope shall be attached to the eye of the retractable lifeline.
- 4.5.3 When the wall form is standing, the worker will pull the rope down to him, disconnect the rope from the retractable and attach the retractable to his harness.
- 4.5.4 When the work is done, the worker will remove the retractable lifeline from his harness, connect the rope to it and gently let the lifeline retract back into the housing.

5. INSPECTIONS

(List the procedures for inspecting each fall protection equipment used.)

5.1 Harnesses, Lanyards, and Positioning Devices

- 5.1.1 Each employee issued a harness, lanyard, or positioning device shall inspect each piece of equipment before each use to see that they are not cut, torn, deformed, or frayed in any way.
- 5.1.2 Any equipment found defective will not be used and will be returned to the supervisor immediately for repair or replacement.

5.2 Covers, Warning lines, and Guardrail Systems

- 5.2.1 All covers, warning lines, and guardrails will be inspected at the start of each shift and more often as necessary to maintain their integrity.

5.3 Retractable Lifelines

- 5.3.1 Retractable lifelines shall be inspected before each use per manufacturer instructions.
- 5.3.2 To inspect the retractable lifelines attached to the wall forms. The worker shall pull on the rope so he can inspect the cable. The worker shall also verify the attachment point is still secure.

5.4 Anchor Cart

- 5.4.1 The anchor cart shall be inspected before each use per the manufacturer instructions.

6. PROCEDURES FOR HANDLING AND STORAGE

(List the procedures for handling and storage of each fall protection equipment used.)

6.1 Harnesses, Lanyards, and Positioning Devices

- 6.1.1 All personal fall protection equipment shall be hung up in the dry shack when not in use.

6.2 Retractable Lifelines

- 6.2.1 Retractable lifelines shall never be stored in a fashion where the cable is exposed to the weather. When not in use the cable needs to be completely incased in the housing.
- 6.2.2 Retractable lifelines shall be stored in the dry shack when not in use.

6.3 Anchor Cart

- 6.3.1 Anchor cart should be set in a protected area overnight. If the work is completed, the cart should be brought down off the roof and properly stored.

7. PROCEDURES FOR FALLING OBJECT PROTECTION

(List the procedures for the types of falling objects protection to be used on this project.)

- 7.1 All building perimeters, roof or floor openings, and elevated walkways shall be protected for falling objects by the use of a toeboard system.
- 7.2 All entry locations will be protected by a screening system that is at least as high as the guardrail system.

8. RESCUE PLAN

Describe rescue procedures. 911 cannot be the primary means of rescue unless it has been prearranged with the local fire department if the local fire department has the capabilities for rescue. Call the fire department and have them look at your site. You may need to assist the rescue with a boom lift, scissor lift crane, forklift, etc.

- 8.1 Primary Rescue of a fallen worker shall be accomplished by using a boom lift, scissor lift, forklift, or ladder.
- 8.2 Call 9-1-1 if an emergency occurs and ensure the foreman/superintendent is notified. Others should meet emergency personnel at gate and direct them to the scene.
- 8.3 Pence will assist fire department in rescue and retrieval if required. Aerial lifts, forklifts, and ladders may also be utilized for rescue.

9. TRAINING PROGRAM

- 9.1 Each employee shall receive training on this site-specific fall protection plan prior to use.
- 9.2 Employees will sign Form 2.07A as verification that they have received training.
- 9.3 Employees will be retrained if there are changes in the type of fall protection systems or equipment used, or if use of the equipment indicate the employee has not retained the requisite understanding or skill.

10. DATE PLAN PREPARED: December 3, 2020

Plan prepared by: Tim Fasching

Plan Approved by: Caleb Harris

Plan Supervised by: Tim Fasching

FALL PROTECTION EQUIPMENT REQUIRED

Job #: 320-001

#1 Body Harnesses	
	Body Harness – Small
1	Body Harness – Medium
	Body Harness – Large
	Body Harness – Extra Large
1	Body Harness – Extra Extra Large
#2 Lanyards	
	D Ring Extender
2	Shock Absorbing Lanyard
	DBI Twin Leg Nano Lok Edge
	DBI Trauma Safety Strap
#3 Self-Retracting Lifelines	
2	Miller Mighty Lite SRL 25 Ft. (State the required length)
	Werner Leading Edge SRL Ft. (State the required length)
	Diablo Leading Edge SRL Ft. (State the required length)
#4 Fall Restraint	
	Vertical Lifeline and Rope Grab
	Guardian HLL 100 Horizontal Lifeline
#5 Positioning Assembly	
2	Positioning Assembly
#6 Anchor Points	
	Guardian Temper Anchor
	Guardian Halo Anchor
	Guardian D-Bolt Forged Anchor
	Guardian CB Anchor
	Guardian Parapet Anchor
	Guardian Cross Arm Strap with D-Rings (wrap around beam or column)
	Miller Anchorage Connector

	Bridge and Form Guard System
1	Penetrator Fall Cart
#7 Handrail	
	Guardian Parapet Clamps
	Ellis Parapet Clamps
	All Speed Slab Grabbers
	Airport Steel Post Base Stair Handrail
	Safe-T-Ladder Extensions
	Roof Brackets (Falling object protection only – Not for use as Fall Protection)
#8 Rescue Devise	
	DBI Rollgliss Rescue & Escape Device
Miscellaneous Equipment	
	Anchor Plates for CMU/Concrete
1	Warning Line 300 Feet
60	Warning Line Posts/Basis
	Guardrail Cable
	U-bolt Cable Clips
	“Hole” Signs or stencil
	Locking Carabiner
	Add specific manual required in this list also

PENCE CONSTRUCTION

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FALL PROTECTION PLAN OUTLINE

FOR

YOUR JOB #
YOUR JOB NAME

1. TYPE OF WORK

1.1 List all the specific types of work to be performed that will require fall protection. (I.E. Cast in place columns, cast in place walls, installing weather protection, etc.)

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

2. TYPE OF FALL HAZARD

2.1 Check all specific types of fall hazards the employee(s) may encounter

	Excavations/Trenches		Elevator Shafts
	Floor Openings		Climbing Wall or Column Forms
	Wall Openings		Leading Edge Work
	Roof Edges		Swing Falls
	Skylights		High Sloped Roofs (>4:12)
	Roof Openings		Low Sloped Roofs (<4:12)
	Work Over Hazardous Equip/Material		Flat Roofs (<2:12)
	Swing Fall		

3. FALL PROTECTION SYSTEM

- 3.1 Check the specific type of fall protection system to be used for each type of fall hazard.
- 3.2 Other than for the harness, lanyard, and positioning device, attach the owner's manual for each piece of fall protection equipment used.

	Harness		Horizontal Lifeline
	Lanyard		Vertical Lifeline and Rope Grab
	Guardrail System		Warning Line System
	Covers (Holes and Openings)		Anchor Cart
	Anchors used separately		Cross Over Strap
	Anchors used as part of a system		
	Retractable Lifelines		
	Personal Fall Restraint System		
	Positioning Device		

4. PROCEDURES

(List the procedures for assembly, disassembly, and maintenance of each fall protection system used.)

4.1 Procedures

5. INSPECTIONS

(List the procedures for inspecting each fall protection equipment used.)

5.1 Procedures

6. PROCEDURES FOR HANDLING AND STORAGE

(List the procedures for handling and storage of each fall protection equipment used.)

6.1 Procedures

7. PROCEDURES FOR FALLING OBJECT PROTECTION

(List the procedures for the types of falling objects protection to be used on this project.)

7.1 Procedures

8. RESCUE PLAN

Describe rescue procedures. 911 cannot be the means of rescue unless it has been prearranged with the local fire department if the local fire department has the capabilities for rescue. Call the fire department and have them look at your site. You may need to assist the rescue with a boom lift, scissor lift crane, forklift, etc.

8.1 Procedures

9. TRAINING PROGRAM

- 9.1 Each employee shall receive training on this site-specific fall protection plan prior to use.
- 9.2 Employees will sign Form 2.07A as verification that they have received training.
- 9.3 Employees will be retrained if there are changes in the type of fall protection systems or equipment used, or if use of the equipment indicate the employee has not retained the requisite understanding or skill.

10. DATE PLAN PREPARED: Month xx, xxxx

Plan prepared by: _____

Plan Approved by: _____

Plan Supervised by: _____

FALL PROTECTION EQUIPMENT REQUIRED

Job #:

#1 Body Harnesses	
	Body Harness – Small
	Body Harness – Medium
	Body Harness – Large
	Body Harness – Extra Large
	Body Harness – Extra Extra Large
#2 Lanyards	
	D Ring Extender
	Shock Absorbing Lanyard
	DBI Twin Leg Nano Lok Edge
	DBI Trauma Safety Strap
#3 Self-Retracting Lifelines	
	Miller Mighty Lite SRL Ft. (State the required length)
	Werner Leading Edge SRL Ft. (State the required length)
	Diablo Leading Edge SRL Ft. (State the required length)
#4 Fall Restraint	
	Vertical Lifeline and Rope Grab
	Guardian HLL 100 Horizontal Lifeline
#5 Positioning Assembly	
	Positioning Assembly
#6 Anchor Points	
	Guardian Temper Anchor
	Guardian Halo Anchor
	Guardian D-Bolt Forged Anchor
	Guardian CB Anchor
	Guardian Parapet Anchor
	Guardian Cross Arm Strap with D-Rings (wrap around beam or column)
	Miller Anchorage Connector

	Bridge and Form Guard System
	Penetrator Fall Cart
#7 Handrail	
	Guardian Parapet Clamps
	Ellis Parapet Clamps
	All Speed Slab Grabbers
	Airport Steel Post Base Stair Handrail
	Safe-T-Ladder Extensions
	Roof Brackets (Falling object protection only – Not for use as Fall Protection)
#8 Rescue Device	
	DBI Rollgliss Rescue & Escape Device
Miscellaneous Equipment	
	Anchor Plates for CMU/Concrete
	Warning Line Feet
	Warning Line Posts/Basis
	Guardrail Cable
	U-bolt Cable Clips
	“Hole” Signs or stencil
	Locking Carabiner
	Add specific manual required in this list also

EXCAVATION AND TRENCHING PROTECTION PLAN

2.17

INTRODUCTION

The primary objective of this trenching and excavating plan is to prevent injury or death to Pence Construction (Pence) or its subcontractor personnel when excavations or trenches are opened on our job sites.

PURPOSE AND SCOPE

The purpose of this program is to define procedures for the protection of Pence and its subcontractor personnel **anytime** they are required to work in a trench or excavation. On our varied projects, the opportunity for employee exposure to the hazards associated with trenching and excavation are numerous, therefore **no work** will commence until all aspects of this program are addressed.

RESPONSIBILITIES

- The Project Superintendent will be responsible for ensuring the presence of a “competent person” when employees are working in any excavation.
- Project Superintendent’s responsibilities as a “competent person” must satisfy the definition of “competent person” as stated in OR-OSHA definitions [1926.32\(f\)](#).
- The Project Superintendent or “competent person” will also be responsible for the following:
 - Performing daily inspections of excavations and recording the results of these inspections on [Excavation and Trenching Inspection Form \(2.17B\)](#).
 - Maintaining a log of daily inspections and their results on [Excavation and Trenching Inspection Form \(2.17B\)](#).
 - Testing for and controlling hazardous atmospheres.
 - Conferring with registered professional engineer for the design of shoring systems or shielding systems.
 - The availability of rescue equipment and services to include emergency medical response.
 - Removing employees from the excavation or trench when conditions deteriorate, threatening employee safety.
 - Determining the scope of all work performed in the trench or excavation.
 - Locating all underground utility installations.
 - Ensuring that only those employees who have received appropriate training enter the trench or excavation.
 - Supervising the installation of shoring/shielding systems.
 - Maintaining emergency rescue equipment on site.
 - Correcting unsafe conditions within the excavation or trench.

- Removing or supporting underground installations that would threaten the safety of employees.

SURFACE ENCUMBRANCES

- All surface encumbrances such as railroad tracks, footings, etc. will be removed or supported, as necessary to safeguard employees.
- Equipment, workers, etc. are not to disturb the actual top of slope.
- A minimum 10-foot setback for workers is advised.
- Equipment and materials will be evaluated individually.

UNDERGROUND INSTALLATIONS

- The estimated location of all underground installations such as telephone, fuel, electric, and water lines are to be determined before opening any excavation.
- When excavation operations approach the estimated location of underground installations, the exact location of these installations shall be determined by requesting a “locate” from the client or their representative.
- While the excavation is open underground installations will be removed or supported as necessary to safeguard employees (utilizing local utility companies as required).

ACCESS AND EGRESS

- Ladders, stairways, ramps, or other safe means of egress shall be located in trenches and excavations greater than four (4) feet in depth, so as to require no more than twenty-five (25) feet of lateral travel for employee.

EXPOSURE TO FALLING LOADS

- No employee will be permitted under loads handled by lifting or excavation equipment.
- No employee will enter the bucket or scoop of any excavation equipment for the purposes of being lifted or lowered, steadying equipment etc.
- Employees will stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials.
- Spoil piles will be located at least two (2) feet from the edge of the excavation.
- Large rocks, scrap pipe etc. will not be placed on the edge of any excavation as to present a hazard to workers in the excavation.
- Pipe staged along a trench will be placed at least two (2) feet from the edge of the trench to prevent it from being dislodged and rolling into the trench.

WARNING SYSTEMS FOR MOBILE EQUIPMENT

- When mobile equipment is operated adjacent to an excavation or when equipment must approach an excavation, if the operator does not have a clear view of the

edge of the excavation, a ground guide will be used to guide the operator in conjunction with appropriate back up alarms on bi-directional equipment.

HAZARDOUS ATMOSPHERES

- In addition to the requirements set forth in the following rules [Subdivision D, 1926.50 through Subdivision E, 1926.107](#), to prevent exposure of employees to harmful levels of atmospheric contaminants and to assure acceptable atmospheric conditions the following requirements, will apply:
 - Where oxygen deficiency (atmospheres containing less than 19.5 percent oxygen) or a hazardous atmosphere exists or could reasonably be expected to exist, such as in excavations in landfill areas or excavations in areas where hazardous substances are stored nearby, the atmospheres in the excavation shall be tested before employees enter excavations greater than 4 feet (1.22 m) in depth.
 - Adequate precautions will be taken (providing respiratory protection, or ventilation) to prevent employee exposure to atmospheres containing less than 19.5 percent oxygen.
 - Adequate precaution (ventilation etc.) will be taken to prevent exposure of employees to atmospheres containing more than twenty (20) percent of the lower explosive limit of flammable gas.
 - When controls are used that are intended to reduce the level of atmospheric contaminants to acceptable levels, testing shall be conducted as often as necessary to ensure that the atmosphere remains safe.

EMERGENCY RESCUE EQUIPMENT

- Emergency rescue equipment i.e. S.C.B.A., safety harness and lifeline, or basket stretcher, will be readily accessible where hazardous atmospheric conditions exist or may be expected to develop during work in excavations.

PROTECTION FROM HAZARDS ASSOCIATED WITH WATER ACCUMULATION

- No Pence employee will work in any excavation where there is water accumulation, or where water is accumulating, unless adequate precautions (pumping, installing wells, etc.) have been taken to protect employees from the hazards associated with water accumulation (trench wall soaking up water and sloughing in etc.)
- The Project Superintendent will be responsible for dewatering excavations.
- Excavations subject to run off from heavy rains or excessive ground water will be inspected by the Project Superintendent or other “competent person” in accordance with rules [1926.651\(k\)\(1\),\(2\)](#).

PROTECTION OF EMPLOYEES FROM LOOSE ROCK OR SOIL

- Adequate protection shall be provided to protect employees from loss rock or soil that could pose a hazard by falling or rolling from an excavation face.
- Such protections shall consist of scaling to remove loose material; installation of protective barricades at intervals as necessary on the face to stop and contain falling material; or other means that provide equivalent protection.
- Employees shall be protected from excavated or other materials or equipment that could pose a hazard by falling or rolling into excavations.
- Protection shall be provided by placing and keeping such materials or equipment at least 2 feet (.61m) from the edge of excavations, or by the use of retaining devices that are sufficient to prevent material or equipment from falling rolling into excavations, or by a combination of both if necessary.

INSPECTIONS

- Daily inspection of excavations, adjacent areas, and protective systems will be made by the Project Superintendent or other “competent person”.
- The inspections will focus on situations that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions.
- When the “competent person” finds a hazardous condition to exist, employees will be removed or prevented from entering the excavation/trench until corrective action, has been taken, including flagging off the area with danger tape to ensure their safety.
- A log of these inspections will be kept, to include:
 - The name of the excavation inspected.
 - The date and time of the inspection.
 - Results of the inspection (hazards found etc.)
 - Name of “competent person” making the inspection.
- The [Excavation and Trenching Form \(2.17B\)](#) may be used for this purpose.

FALL PROTECTION

- Walkways shall be provided where employees or equipment are required or permitted to cross over excavations.
- Guardrails which comply with rule [1926.502\(b\)](#) shall be provided where walkways are six (6) feet (1.8 m) or more above lower levels.
- Each employee at the edge of an excavation six (6) feet (1.8m) or more in depth shall be protected from falling by guardrail systems, fences, or barricades when the excavations are not readily seen because of plant growth or other visual barrier.
- Each employee at the edge of a well, pit, shaft, and similar excavation six (6) feet (1.8 m) or more in depth shall be protected from falling by guardrail systems, fences, barricades, or covers.

EXCAVATION AND TRENCHING EVALUATION SHEETS

2.17A

To be completed prior to any excavation or trenching work. This is an initial review of required procedures.

Project:		Date:	
Competent Person:		Time:	
Excavation Width and Depth:		Soil Type:	
Protective System used if any:			

General Site Conditions

Description	Y	N
Excavation, adjacent areas, and protective systems inspected by a designated competent person daily prior to start of work or hazards warrant.		
Competent person has the authority to remove employees from the excavation immediately and stop work.		
Surface encumbrances removed or supported.		
Employees protected from loose rock/soil that could pose a hazard by falling or rolling into the excavation.		
Spoils, materials, and equipment set back at least 2' from the edge of the excavation.		
Barriers provided at all remotely located excavations, wells, pits, shafts, etc.		
Walkways and bridges over excavations 6' (4' for WA) or more in depth are equipped with standard guardrails and toeboards.		
Warning vests or other highly visible clothing provided and worn by all employees exposed to vehicular traffic.		
Employees required to stand away from vehicles/equipment being loaded or unloaded.		
Employees are prohibited from going under suspended loads.		
Employees prohibited from working on the faces of sloped or benched excavations above other employees.		

Utilities

Description	Y	N
Utility company contacted and/or utilities located.		
Exact locations of utilities marked		
Underground installations protected, supported or removed when excavation is open.		

Means of Access and Egress

Description	Y	N
Unobstructed lateral travel to means of egress no greater than 25' in excavations 4' or more in depth.		
Ladders used in excavations secured and extended 3' above the edge of the trench.		
Structural ramps used by employees designed by a competent person.		
Structural ramps used for equipment designed by a registered professional engineer.		
Ramps constructed of materials of uniform thickness, cleated together on the bottom and equipped with a no-slip surface.		
Employees protected from cave-ins when entering or exiting excavations.		

Wet Conditions

Description	Y	N
Precautions taken to protect employees from the accumulation of water.		
Water removal equipment monitored by a competent person.		
Surface wear or runoff diverted or controlled to prevent accumulation in the excavation.		
Inspections made after every rainstorm or other hazard increasing occurrence.		

Hazardous Atmospheres

Description	Y	N
Atmosphere within the excavation tested where there is a reasonable possibility of an oxygen deficiency, combustible, or other harmful contaminant posing a hazard.		
Adequate precautions taken to protect employees from exposure to an atmosphere containing less than 19.5% or more than 23.5% oxygen and/or other hazardous atmosphere.		
Ventilation provided to prevent employee exposure to an atmosphere containing flammable gas in excess of 10% of the lower explosive limit of the gas.		
Testing conducted often to ensure that the atmosphere remains safe.		
Emergency equipment, such as breathing apparatus, safety harness and lifelines and/or basket stretcher readily available where hazardous atmospheres could or do exist.		
Employee trained to use PPE and rescue equipment		
Safety harness and lifeline used and individually attended when entering bell bottom or other deep confined excavations.		

Support Systems

Description	Y	N
Materials and/or equipment for support systems selected based on soil analysis, depth, width and expected loads.		
Materials and equipment used for protective systems inspected and in good condition.		
Materials and equipment not in good condition have been tagged and removed from service.		
Damaged materials and equipment used for protective systems inspected by a registered professional engineer after repairs and before being placed back into service.		
Protective systems provided to insure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.		
Members of support system securely fastened to prevent failure.		
Support systems provided to insure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.		
Excavations below the level of the base or footing supported and approved by a registered professional engineer.		
Removal of support systems progresses from the bottom and members are released slowly.		
Backfilling progresses with removal of the support system.		
Excavation material to a level no greater than 2' below the bottom of the support system.		
Shield system placed to prevent lateral movement.		
Employees are prohibited from remaining in shield system during vertical movement.		

Comments

EXCAVATION AND TRENCHING INSPECTION SHEET

2.17B

Daily Excavation & Trenching Log

Project:							
Competent Person Print:							
Competent Person Sign:							
Excavation Width and Depth:				Dates: (From – To)			
Protective System Used:				Weather:			
Soil Type Determined By:	Visual/Manual Tests			Soil Engineers Report/Letter			

Inspection Items:

Days of the week	M		T		W		T		F		S		S	
Check if Safe (S) or Unsafe (U)	S	U	S	U	S	U	S	U	S	U	S	U	S	U
Soil engineer's procedures followed														
Employees enter excavation trained														
Water entering the excavation area														
Dewatering procedures in place														
Surface traffic exposure														
Surface encumbrances														
Spoil pile 2ft from edge														
Sloped, benched or shored properly														
Perimeter protection/barricades														
Excavation ≥ 20ft deep engineered														
Access within 25' of work area														
Plastic coverings in place														
Exposed utilities supported/protected														
Potential for hazardous atmosphere														
Falling object protection														
Fall protection in place (if required)														
Excavation wall deformed														
Fissures present in the excav. walls														
Excavation walls excessively wet														
Excavation walls excessively dry														

2.18

STEEL ERECTION RESPONSIBILITY CHECKLIST

Job Name:
Job #:
Steel Erector:
Date:

The following is an excerpt from Subdivision R-Steel Erection. Controlling contractor's duties/responsibilities are listed. Refer to [Subdivision R](#) for more information. This checklist needs to be completed prior to steel erection.

SUBDIVISION R-STEEL ERECTION

SCOPE

The duties of controlling contractors under this subpart include, but are not limited to, the duties specified in rules [1926.752\(a\)](#), [1926.752\(c\)](#), [1926.755\(b\)\(2\)](#), [1926.759\(b\)](#), and [1926.760\(e\)](#).

DEFINITIONS

Controlling contractor means a prime contractor, general contractor, construction manager, or any other legal entity which has the overall responsibility for the construction of the project-its planning, quality, and completion.

APPROVAL TO BEGIN STEEL ERECTION

- Before authorizing the commencement of steel erection, the controlling contractor shall ensure that the steel erector is provided with the following written notifications:
 - The concrete in the footings, piers, and walls and the mortar in the masonry piers and walls have attained, on the basis of an appropriate ASTM standard test method of field cured samples, either 75 percent of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection.
 - Any repairs, replacements, and modifications to the anchor bolts were conducted in accordance with rule [1926.755\(b\)](#).

SITE LAYOUT

- The controlling contractor shall ensure that the following is provided and maintained:
 - Adequate access roads into and through the site for the safe delivery and movement of derricks, cranes, trucks, other necessary equipment, and the material to be erected and means and methods for pedestrian and vehicular control. Exception: this requirement does not apply to roads outside of the construction site.
 - A firm, properly graded, drained area, readily accessible to the work with adequate space for the safe storage of materials and the safe operation of the erector's equipment.
 - At tight sites, special arrangements to be made in your site-specific erection plan.

FALLING OBJECT PROTECTION

- Securing loose items aloft. All materials, equipment, and tools, which are not in use while aloft, shall be secured against accidental displacement.
- Protection from falling objects other than materials being hoisted.
- The controlling contractor shall bar other construction processes below steel erection unless overhead protection for the employees below is provided.

FALL PROTECTION

- Custody of fall protection:
 - Fall protection provided by the steel erector shall remain in the area where steel erection activity has been completed, to be used by other trades, only if the controlling contractor or its authorized representative:
 - Has directed the steel erector to leave the fall protection in place.
 - Has inspected and accepted control and responsibility of the fall protection prior to authorizing persons other than steel erectors to work in the area.

SITE SPECIFIC ERECTION PLAN

- Steel Erection Contractor must develop and implement a written site-specific erection plan as per rule [1926.752](#) and Division 3, Subdivision R rule [437-003-0752](#).
- Also see attached [Appendix A](#) to Subpart R-Guidelines for Establishing the Components of a Site-Specific Erection Plan: Non-Mandatory Guidelines for Complying with rule [1926.752](#).

- It is the responsibility of the steel erection contractor to provide all expected crane assembly and work zone locations to Pence Construction (Pence) as part of their site-specific erection plan.
- It is Pence's responsibility to provide the steel erection contractor with the ground condition information for those locations indicated on the erection plan.

CRANE ACTIVITIES

- All crane activities related to steel erection must meet OR-OSHA, [Subdivision CC, Cranes and Derricks in Construction](#) rules.
- It will be the responsibility of Pence to provide the steel erection company with any pertinent ground condition information prior to crane activities.
- It will be the sole responsibility of the contractor who is control of the crane to perform all hazard assessments for their work zones including the presence of power lines.
- Steel erection contractor will provide a Crane Lift Plan to Pence 10 days prior to first lift.
- A Pre-Lift Meeting and Work Zone Training session will be held before the first day of crane activity. The Pence [Pre-Lift Meeting and Work Zone Training Checklist Form \(2.21D\)](#) will be used for this session.
- This meeting/training session will be attended by all crew members working in the work zones, crane operator, oiler, and the Pence Superintendent.
- All attendees will sign the Pence [Pre-Lift Meeting and Work Zone Training Checklist Form \(2.21D\)](#).

QUALIFIED PERSONS

- Only qualified riggers will perform rigging activities.
- Only qualified riggers trained in the use of multiple rigging will perform multiple rigging activities.
- The steel erection contractor will provide Pence proof of rigger qualifications.
- Only qualified signalman will give instructions to the crane operator.
- The steel erection contractor will provide Pence proof of signalman qualifications.

Appendix A to Subpart R – Guidelines for Establishing the Components of a Site-specific Erection Plan: Nonmandatory Guidelines for Complying with §1926.752(e)

(a) General. This appendix serves as a guideline to assist employers who elect to develop a site-specific erection plan in accordance with §1926.752(e) with alternate means and methods to provide employee protection in accordance with §1926.752(e), §1926.753(c)(5), §1926.757(a)(4) and §1926.757(e)(4).

(b) Development of a site-specific erection plan. Pre-construction conference(s) and site inspection(s) are held between the erector and the controlling contractor, and others such as the project engineer and fabricator before the start of steel erection. The purpose of such conference(s) is to develop and review the site-specific erection plan that will meet the requirements of this section.

(c) Components of a site-specific erection plan. In developing a site-specific erection plan, a steel erector considers the following elements:

(1) The sequence of erection activity, developed in coordination with the controlling contractor, that includes the following:

(i) Material deliveries:

(ii) Material staging and storage; and

(iii) Coordination with other trades and construction activities.

(2) A description of the crane and derrick selection and placement procedures, including the following:

(i) Site preparation;

(ii) Path for overhead loads; and

(iii) Critical lifts, including rigging supplies and equipment.

(3) A description of steel erection activities and procedures, including the following:

(i) Stability considerations requiring temporary bracing and guying;

(ii) Erection bridging terminus point;

(iii) Anchor rod (anchor bolt) notifications regarding repair, replacement and modifications;

(iv) Columns and beams (including joists and purlins);

- (v) Connections;
 - (vi) Decking; and
 - (vii) Ornamental and miscellaneous iron.
- (4) A description of the fall protection procedures that will be used to comply with §1926.760.
- (5) A description of the procedures that will be used to comply with §1926.759.
- (6) A description of the special procedures required for hazardous non-routine tasks.
- (7) A certification for each employee who has received training for performing steel erection operations as required by §1926.761.
- (8) A list of the qualified and competent persons.
- (9) A description of the procedures that will be utilized in the event of rescue or emergency response.
- (d) Other plan information.** The plan:
- (1) Includes the identification of the site and project; and
 - (2) Is signed and dated by the qualified person(s) responsible for its preparation and modification.

Stat. Auth.: ORS 654.025(2) and 656.726(4).
Stats. Implemented: ORS 654.001 through 654.295.
Hist: OR-OSHA Admin. Order 3-2002, f. 4/15/02, ef. 4/18/02.

Appendix B to Subpart R – [Reserved]

LADDER & STAIRWAY SAFETY

2.19

GENERAL REQUIREMENTS

A stairway or ladder shall be provided at all personnel points of access where there is a break in elevation of 19 inches (48 cm) or more, and no ramp, runway, sloped embankment, or personnel hoist is provided.

STAIRWAYS

Stairways having four or more risers or rising more than 30 inches (76 cm), whichever is less, shall be equipped with at least one handrail, and one stair rail system along each unprotected side or edge.

LADDERS

The following requirements apply to the use of all ladders, including job-made ladders, except as otherwise indicated:

- When portable ladders are used for access to an upper landing surface, the ladder side rails shall extend at least 3 feet above the upper landing surface to which the ladder is used to gain access; or,
- When such an extension is not possible because of the ladder's length, then the ladder shall be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grabrail, shall be provided to assist employees in mounting and dismounting the ladder.
- In no case shall the extension be such that ladder deflection under a load would, by itself, cause the ladder to slip off its support.
- Ladders shall be maintained free of oil, grease, and other slipping hazards.
- Ladders shall not be loaded beyond the maximum intended load for which they were built, nor beyond their manufacturer's rated capacity. Do not use a ladder that is rated less than a Type 1.
- There are three classifications assigned to commercially manufactured ladders and a label must be affixed on the ladder showing the classification. They are:
 - **Type I: INDUSTRIAL**
 - Type I ladders are for heavy-duty use such as that which is experienced by utilities, industrial contractors, and other heavy-duty applications. There are three sub-classifications to this group.
 - Type 1AA Special Duty, professional use. Load capacity: 375lbs. Potential uses: Heavy-duty industrial construction, utilities contractors, etc.
 - Type 1A Extra Heavy Duty, professional use. Load capacity: 300lbs. Potential uses: Industrial construction, building construction, roofing, and general contracting.

- Type 1 Heavy Duty, industrial use. Load capacity: 250lbs. Potential uses: General contracting, maintenance work, and drywalling.
 - **Type II: COMMERCIAL DO NOT USE**
 - Type II ladders are for medium duty use, such as activities required by painters, offices, other light industrial, or commercial users. These ladders have a load capacity of 225lbs.
 - **Type III: HOUSEHOLD DO NOT USE**
 - Type III ladders constructed for light duty or household uses. They have a load limit capacity of 200 lbs. Type III ladders are not authorized for use.
- Ladders shall be used only for the purpose for which they were designed.
- Ladders shall be used only on stable and level surfaces unless secured to prevent accidental displacement.
- Ladders shall not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement.
- Slip-resistant feet shall not be used as a substitute for care in placing, lashing, or holding a ladder that is used upon slippery surfaces including, but not limited to, flat metal or concrete surfaces that are constructed so they cannot be prevented from becoming slippery.
- Ladders placed in any location where they can be displaced by workplace activities or traffic, such as in passageways, doorways, or driveways shall be secured to prevent accidental displacement, or a barricade shall be used to keep the activities or traffic away from the ladder.
- The area around the top and bottom of ladders shall be kept clear.
- The top of a non-self-supporting ladder shall be placed with the two rails supported equally unless it is equipped with a single support attachment.
- Ladders shall not be moved, shifted, or extended while occupied.
- Ladders shall have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized electrical equipment.
- Ladders shall be inspected by a competent person for visible defects on a periodic basis and after any occurrence that could affect their safe use.
- Portable ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, corroded components, or other faulty or defective components, shall either be immediately marked in a manner that readily identifies them as defective, or be tagged with "Do Not Use" or similar language, and shall be withdrawn from service until repaired.
- When ascending or descending a ladder, the user shall face the ladder.
- Each employee shall use at least one hand to grasp the ladder when progressing up and/or down the ladder.
- An employee shall not carry any object or load that could cause the employee to lose balance and fall. Raise and lower heavy, awkward loads with a hand line or hoist.
- If your work position requires that your shoulders be outside the side rails, you're in an unsafe position. Move the ladder or use other equipment such as scaffolding.

LADDER TYPES

Extension ladder

- A non-self-supporting portable ladder that is adjustable in length. It consists of two or more sections in guides or brackets that permit length adjustment. When used to access another level, ladder must extend 3' above level and be secured. When using extension ladders use the 1:4 rule. This means if you are using a 12' ladder, the base should be 3' from the structure.

Straight ladder

- A single section non-self-supporting portable ladder, nonadjustable in length. Common use is to access a trench or excavation.

Stepladder

- A self-supporting portable ladder, nonadjustable in length that has flat steps and a hinged back. Length is measured along the front edge of a side rail. Ladder is not designed to lean against a wall. Stepladders should only be used on surfaces that offer firm, level footing. Do not stand on or above the top two treads on a step ladder. Cross-bracing on the rear section of stepladders shall not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.

TRAINING

- The employer shall provide a training program for each employee using ladders and stairways, as necessary.
- The program shall enable each employee to recognize hazards related to ladders and stairways and shall train each employee in the procedures to be followed to minimize these hazards.
- Site specific training shall be recorded and posted on Safety Bulletin Board
- The employer shall ensure that each employee has been trained by a competent person in the following areas, as applicable:
 - The nature of fall hazards in the work area;
 - The correct procedures for erecting, maintaining, and disassembling the fall protection systems to be used;
 - The proper construction, use, placement, and care in handling of all stairways and ladders;
 - The maximum intended load-carrying capacities of ladders used.
 - Retraining shall be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired through compliance with this section.



COMMON USE DAILY LADDER INSPECTION CHECKLIST

Project:	_____
Competent Person:	_____
Date of Inspection:	_____

Note: This inspection sheet is designed for ladders that are being used by several trades to access a common area. It is not for use for a specific task. Use your [PTP Form \(2.14A\)](#) to document ladder inspection for your tasks.

Step Ladder		Size: _____	FT.
		YES	NO
Steps:	Loose, Cracked, Bent or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Rails:	Cracked, Bent, Split, or Frayed Rail Shields	<input type="checkbox"/>	<input type="checkbox"/>
Labels:	Missing or Not Legible	<input type="checkbox"/>	<input type="checkbox"/>
Pail Shelf:	Loose, Bent, Missing or Broken	<input type="checkbox"/>	<input type="checkbox"/>
Top:	Cracked, Loose or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Spreader:	Loose, Bent or Broken	<input type="checkbox"/>	<input type="checkbox"/>
General:	Rust, Corrosion or Loose	<input type="checkbox"/>	<input type="checkbox"/>
Other:	Bracing, Shoes, Rivets	<input type="checkbox"/>	<input type="checkbox"/>
Actions:	<input type="checkbox"/> Ladder tagged as damaged & removed from use <input type="checkbox"/> Ladder is in good condition		

Extension Ladder		Size: _____	FT.
		YES	NO
Rungs:	Loose, Cracked, Bent or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Rails:	Cracked, Bent, Split, or Frayed	<input type="checkbox"/>	<input type="checkbox"/>
Labels:	Missing or Not Legible	<input type="checkbox"/>	<input type="checkbox"/>
Rung Locks:	Loose, Bent, Missing or Broken	<input type="checkbox"/>	<input type="checkbox"/>
Hardware:	Broken, Loose or Missing	<input type="checkbox"/>	<input type="checkbox"/>
Shoes:	Worn, Broken, Missing	<input type="checkbox"/>	<input type="checkbox"/>
Rope/Pulley:	Loose, Bent or Broken	<input type="checkbox"/>	<input type="checkbox"/>
Other:	Bracing Rivets	<input type="checkbox"/>	<input type="checkbox"/>
General:	Rust, Corrosion or Loose	<input type="checkbox"/>	<input type="checkbox"/>
Actions:	<input type="checkbox"/> Ladder tagged as damaged & removed from use <input type="checkbox"/> Ladder is in good condition		

SCAFFOLDS, STILTS, AND MEWP

2.20

SCAFFOLDS

No subcontractor, its agents, employees, subcontractors, or suppliers shall use Pence Construction (Pence) owned or rented scaffolding without the express written permission of one of the Pence Principals.

No subcontractor, its agents, employees, subcontractors or suppliers shall use the Pence owned or rented scaffolding without:

- First reading and signing the Equipment Indemnification form. This form must be read and signed by every person using the Pence Scaffolding equipment.
- Approval by one of the Pence Principals.
- Providing proof of user training for every worker using the scaffolding.

If a subcontractor or any of its agents, employees, suppliers or lower tier subcontractors utilize any machinery, equipment, tools, scaffolding, hoists, lifts or similar items owned, leased, or under the control of Pence, the Subcontractor shall be liable to Pence for any loss or damage (including personal injury or death) which may arise from such use, except where such loss or damage shall be found to have been due solely to the negligence of a Pence employee operating such equipment.

Each subcontractor working on a Pence project will comply with OR-OSHA [Subdivision L](#), **Scaffolding**, regulations in addition to the following:

PROCEDURES

- General Requirements
 - Capacity
 - Scaffolds shall be designed by a qualified person and shall be constructed and loaded in accordance with that design.
 - Each scaffold and scaffold component shall be capable of supporting, without failure, its own weight and at least 4 to 6 times the maximum intended load applied or transmitted to it. The specific load requirement is specified in OR-OSHA [Subdivision L](#).
 - Erection
 - Scaffolds must be erected under the supervision of a competent person.
 - The name and qualifications of this person must be submitted to Pence prior to the start of work.
 - Planking
 - Only scaffold grade planking shall be used.
 - All working levels must be fully planked.
 - Supported Scaffolds

- Scaffold poles, legs, posts, frames and uprights must be placed on compatible wheel assemblies or steel base plates, then mudsills or other adequate firm foundations.
 - Steel plates must be secured to the mudsills.
 - When free standing scaffold exceed four times their minimum base dimension vertically, they must be restrained from tipping.
- Suspension Scaffolds
 - Counterweights must be made of non-flowable material. Sand, gravel, water or similar material may not be used.
 - Counterweights must be secured to the outrigger beams by mechanical means to prevent accidental displacement.
 - Outrigger beams that are not bolted to the structure must be secured by tiebacks.
 - The tiebacks must be attached to a structural member of the building.
 - Standpipes, vents, conduit and other piping systems are not adequate structural members.
- Scaffold Access
 - When scaffold platforms are more than 2' above or below a point of access, proper ladders must be installed. Cross bracing must never be used as a means of access.
 - Stair rail and handrail systems must be smooth surfaced so as to prevent lacerations or puncture wounds.
 - A competent person must evaluate and decide whether a ladder or other safe means of access is feasible during the erection and dismantling of scaffolds.
- Scaffold Use
 - A competent person must inspect each scaffold before every shift and after any occurrence that may affect its structural integrity.
 - [Daily Scaffold Safety Checklist Form \(2.20A\)](#) will be used to document scaffold inspections.
 - A tagging program can be used to verify daily inspection of the scaffolding, stair tower or similar. If the tag system is used the:
 - Tag shall be present on all scaffolding.
 - The competent person will “tag” the scaffold “in service” or “out of service” prior to employee use.
 - Any damaged or defective component discovered during the inspection will require:
 - Scaffolding immediately taken out of service until the component is repaired or replaced.
 - Scaffolding shall be tagged as “out of service” by a positive means.
- Fall Prevention
 - A Personal Fall Arrest System (PFAS) or guardrail system must be in place on all scaffolds at 6 feet or higher.

- If cross bracing is used as the midrail, the competent person must demonstrate to the Pence Superintendent that all components of the cross bracing meet the OR-OSHA Standards for use as midrail.
 - The use of fall prevention devices is required during the erection or dismantling of a scaffold. If the competent person does not feel this is feasible the Pence Safety Director must be consulted prior to erection or dismantling.
 - On suspension scaffolds the personal lifelines must be independent of the scaffold support lines.
 - Falling Object Protection
 - The area below a working scaffold must be barricaded to protect employees from a falling object hazard.
 - Toeboards or other means of falling object protection is required at all times.
- Requirements for Specific Scaffold Types
 - Tube and Coupler Scaffolds
 - Tube and coupler scaffolds, in excess of 125', must be designed by a registered professional engineer (RPE).
 - Fabricated Frame Scaffolds
 - Frames and panels must be braced by cross, horizontal or diagonal braces.
 - Frames and panels must be joined together vertically by stacking pins or equivalent couplings.
 - Frame scaffolds, in excess of 125', must be designed by an RPE.
 - Pump Jack Scaffolds
 - Brackets, braces and accessories must be fabricated from metal.
 - Each pump jack bracket must have two positive gripping mechanisms to prevent failure.
 - Mobile Scaffolds
 - Mobile scaffolds must be braced by cross, horizontal or diagonal braces based on manufacturer's requirements to prevent racking during movement.
 - All wheels must be locked when in use.
 - At no time will a worker "self-propel" a mobile scaffolding over 5' in elevation. If the working platform is under 5' then the following factors must be addressed:
 - No work being completed while scaffold is in motion
 - There must be means to lock and unlock scaffolding from the work platform
 - Rolling surface must be smooth and free of object, debris, and cords/hoses
 - Any elevation change in the area must be sufficiently blocked, barricaded, or delineated to prevent scaffold from rolling off
 - This procedure has been signed off by the project superintendent and safety department.

- Caster and wheel stems must be pinned to the scaffold legs or adjustment screws.
 - Scaffold sections must be pinned to prevent displacement.
 - The height to base width ratio on a mobile scaffold cannot exceed 2:1 unless it is braced with outrigger frames.
 - Scaffolds that are less than 45” in width (Baker Type), a guardrail is required when working height is greater than 6 feet above the floor. In addition, if more than one section is used on this type of scaffold, outriggers must be used.
 - Do not attempt to move mobile scaffolding without sufficient help to watch for obstructions on the floor and overhead.
- Scaffold Training Requirements
 - Each employee that works on a scaffold must be trained by a qualified person in the recognition and avoidance of hazards associated with the type of scaffold they will be required to work from.
 - Training for Pence employees must be documented using [Employees Trained In Scaffolding Use Form \(2.20B\)](#)
 - The training shall include the following areas, as applicable:
 - The natures of any electrical hazards and falling object hazards in the work area.
 - The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used.
 - The proper use of scaffold, and the proper handling of materials on the scaffold.
 - The maximum intended load and the load carrying capacities of the scaffolds used.
 - Each employee involved in the erection, dismantling, moving, operating, repairing, maintaining, or inspecting of a scaffold must be trained by a qualified person in the recognition and avoidance of hazards associated with these operations.
 - The training shall include the following topics as applicable:
 - The nature of scaffold hazards.
 - The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question.
 - The design criteria, maximum intended load carrying capacity and intended use of the scaffold.
 - Any other pertinent requirements of OSHA regulations.

MOBILE ELEVATING WORK PLATFORMS (MEWP)

- **Group A – Scissor Lift**
- **Group B – Boom lifts and Articulating lifts**

At no time shall Pence allow an inspector, owner's representative, subcontractor, its agents, employees, subcontractors, or suppliers to operate an aerial boom lift or a scissor lift that is owned or rented by Pence.

- All scissor lift and articulating boom platforms must be inspected pre-shift to assure there are no mechanical defects. Pence employees shall use the [Mobile Elevating Work Platform \(Scissor Lift/Boom Lift\) Inspection Form \(2.20F\)](#).
- Daily inspections shall be documented by the subcontractors and are subject to verification by Pence.
- Field modifications are not allowed on mobile elevating work platforms.
- Only authorized and trained individuals may operate mobile elevating work platforms.
- Boom and basket load limits specified by the manufacturer should not be exceeded.
- The brakes should be locked on when outriggers are used. They should be positioned on pads or a solid surface. Wheel chocks must be used before using a mobile elevating work platform on an incline, provided they can safely be installed.
- A mobile elevating work platform must be in the lowered position to travel.
- Slight movements can be made in the raised position to fine tune your placement.
- A spotter may be needed when there is a potential for operator or pedestrian injury due to physical contact with facility systems or structures or in congested areas. Spotters may also be needed when there is a potential for damage to sensitive facility systems or structures.
- Employees must use personal fall arrest systems (PFAS) when working from Group B mobile elevated work platform.
- When working from a scissor lift, the use of fall prevention devices depends upon several factors, including, but not limited to the following:
 - Client / contract requirements
 - Manufacturer's recommendations
 - Pence site specific requirements
- Anytime a worker does not have at least one foot on the scissors lift deck, 100% fall protection is required.
- Man baskets such as those utilized from fork truck type vehicles are not allowed on Pence projects unless:
 - The man basket was built by the manufacturer of the forklift.
 - Prior approval of the Pence Safety Director has been obtained.
- Mobile Elevating Work Platform Lift Training Requirements
 - Each employee that works on a mobile elevating work platform must be trained by a qualified person in the recognition and avoidance of hazards associated with the type of mobile elevating work platform they will be required to work from.
 - Each employee operating a mobile elevating work platform must receive training in the general safe operation procedures of mobile elevating work platform.
 - This training must be done by a qualified person such as rental company, training specialist, or the Pence Safety Department.

- An operator's card will be issued after successfully completing this training
 - Each employee operating a mobile elevating work platform must receive familiarization training.
 - This can be self-performed by the operator if the operator has received prior general MEWP training.
 - A familiarization sheet must be filled out and logged by Pence.
 - The familiarization form for lifts is the following:
 - [MEWP Familiarization Form \(2.20D\)](#)
- Safe use plan requirements
 - A safe use program specific to MEWP's must be developed by the user and must include but not be limited too.
 - A site risk assessment to identify hazards, evaluate risk, develop control measures, and communicate with everyone affected:
 - Planning operation, including rescue plans for safe recovery of persons and/or the MEWP in case of an emergency.
 - The selection of the appropriate MEWP for the task;
 - Access plans for the site to include an assessment that the support surface is adequate to support the weight of the MEWP;
 - Allowing only trained and authorized personnel to operator and/or occupy the MEWP;
 - Prohibiting the use of unauthorized personnel;
 - Ensuring the operators have been informed of all the local site requirements and has been warned and provided the means to protect against identified hazards in the area where the MEWP will operate.
 - Have a trained and qualified supervisor monitor the performance and the work of the operator to ensure compliance with provisions in this standard.
- Rescue plans.
 - A rescue plan is required to be in place prior to commencing work in a MEWP.
 - This plan should consider the maximum height of the lift, the potential hazards in the work area and response time to limit possible suspension trauma.
 - Three types of rescue;
 - Self.
 - Assisted.
 - Technical.

STILTS

This program is designed for the safe and successful use of stilts to access work areas. Special emphasis is placed on housekeeping and being aware of the work area. Any worker who fails to follow this program will not be allowed to use stilts on the project.

General Requirements

- Before stilts are used, an assessment of the work area and the workers performing the work must be made, including but not limited to the following:
 - User must be properly trained and familiar with stilt use
 - Housekeeping in good order with all trip hazards removed, including but not limited to:
 - Electrical cords
 - Rolling stock
 - Wet materials
 - Slippery materials
 - Stored Materials
 - Screws, nails, ceiling wires etc.
 - All open holes are covered
 - All changes in elevation are clearly marked
 - Workspace is not in the area where trade stacking is taking place
 - A coworker is in the area to clean any spills or debris resulting from the work activity
 - Proper task lighting is in place so hazards can be readily seen
 - Overhead hazards are not present

Procedures

- Inspect the stilts before each use
- Designated areas to mount and dismount stilts
- Stilts will not be used in corridors unless the closure of that corridor can be maintained
- Use a secured, elevated platform to sit on
- Do not use stilts in conjunction with another device (Ladder, scaffold, buckets, etc.)
- Do not alter the stilts in any way
- Perform an inspection each time the stilts are used
- Inspect as per manufacturers requirements
- No running or climbing stairs while wearing stilts
- No horse play of any type

Daily Scaffold Safety Checklist

Project:		Company:	
Competent Person:		Signature:	
Date Range of Inspections:		Time of Inspections:	

	Item	Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	Are sills properly placed and adequately sized?							
2	Have screw jacks been used to level and plumb scaffold instead of unsafe objects like concrete blocks?							
3	Are base plates and/or screw jacks in firm contact with sills and frames?							
4	Are all scaffold legs braced with braces properly attached?							
5	Is guard railing in place on all open sides and ends above the 6' level?							
6	Have ladders been provided as a means of access to the scaffolding?							
7	Have free standing towers been guyed or tied so as not to exceed the 4 to 1 base to height ratio?							
8	Are working level platforms fully planked between guard rails?							
9	Are all planks used as a platform free of splits?							
10	Does planking have a minimum of 12" overlap extended beyond supports and have cleated ends?							
11	Are toe-boards installed properly?							
12	Are scaffolding components free of damage?							
13	Are all scaffolding components of the same type and compatible?							

Rolling Towers/Baker/Perry Scaffolds

1	Are outriggers (if required) properly installed on both sides of the tower?							
2	Are platforms fully planked with no gaps greater than 1"?							
3	Are wheels brakes operable?							
4	Are all four-wheel brakes set while scaffold is in use?							
5	Are guard rails installed at 6' level, or other means of fall protection provided?							
6	Have caster or wheel stems been pinned to prevent them from coming separate from the scaffold legs?							

Notes:

2.20C

Section NOT

In Use



 1949
 CONSTRUCTION
MEWP Familiarization Form

Employee Name: _____

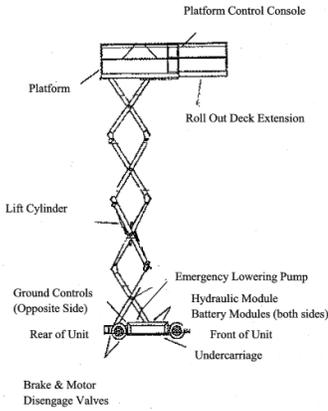
Date: _____

Employee Signature: _____

Jobsite: _____

By marking a in the following boxes below, you are verifying that you have reviewed and understand the following procedures and functions for the mobile elevating work platform (MEWP) selected below.

Type of Lift: Mark a for the type of lift you will be familiarizing on.



Scissor Lift

Unique Characteristics

Extension Platform

4-wheel drive (rough terrain)

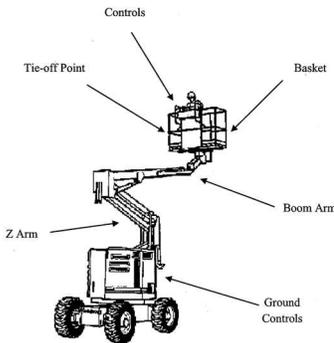
Model # _____

- Manuals specified by the manufacturer are complete, legible, in good shape and are stored in a weather-resistant compartment on the lift.
- You have reviewed the manuals.
- Pre-operation inspections (Identified a current annual inspection date)
- Function test = use ground controls to run machine before you get into it (OSHA Requirement)
- Risk Assessment : Inspect work area (holes, vaults, power lines, overhead hazards, firm level surfaces, etc).

- Operation of controls (Understand purpose and functions)
- Understand limitations of lift
- Driving procedures
- Parking procedures
- Rescue plan in place
- Emergency lowering device properly functions
- If occupant is present: Occupant instructions will be reviewed with occupant.

Unique characteristics:

- Outriggers _____
- Fuel type _____
- Weight capacity _____
- Max slope _____
- Max height _____



Articulating Lift

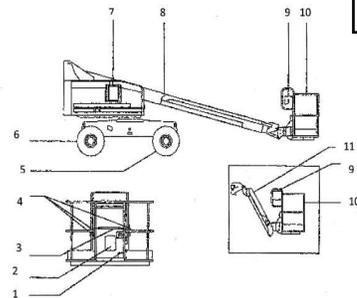
Unique Characteristics

Harness and lanyard use

Extension axle

Extendable arm

Model # _____



Boom Lift

Unique Characteristics

Harness and lanyard use

4-wheel drive

Model # _____

- 1. Foot switch
- 2. Manual storage container
- 3. Sliding mid-rail
- 4. Lanyard anchorage point
- 5. Non-steer tire
- 6. Steer tire
- 7. Ground controls
- 8. Boom
- 9. Platform controls
- 10. Platform
- 11. Jib boom

Daily Scaffold Stair Tower Inspection

Project:		Company:	
Competent Person:		Signature:	
Date Range of Inspection:		Time of Inspections:	

	Item	Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	Is ground in stable condition? (no washout or displacement)							
2	Is the scaffold on base plates and are mudsills adequately sized, level, sound, secured to mudsill and rigid?							
3	Has scaffold been erected by competent person?							
4	Does scaffold comply with all federal, state and local regulations?							
5	Scaffold is plumb, square and level?							
6	Are scaffold components in safe condition for use? (bent or broken)							
7	Are planks/stair treads free of any visible defects?							
8	Are all scaffold legs braced with braces properly attached?							
9	Is guard railing in place on all open sides and ends above 6'?							
10	Is access clear to get on and off of scaffolding. <22" height.							
11	Have free standing towers been guyed or tied so as not to exceed the 4 to 1 base height ratio.							
12	Do hand rails meet the 38" minimum height?							
13	Are hand rails smooth and free of rigid edges?							
14	Does hand rail have a minimum of 2" clearance?							
15	Are working level platforms/turn arounds fully planked between guard rails?							
16	Are toeboards installed properly? (3" minimum height)							
17	Have hazardous conditions been provided for:							
	• Power lines							
	• Wind							
	• Snow or Ice							

Notes:

Mobile Elevating Work Platform Inspection /Assessment

Company Name: _____

Type of Lift: _____

Contact Number: _____

Model or Equip. Number: _____

Supervisor Name: _____

DATE							
<i>Initials of person performing inspection</i>							
Has the operator been instructed in the safe operation of this type of lift?	Y/N						
Operator has been familiarized on selected MEWP.	Y/N						
Annual inspection date has been reviewed and is in compliance.	Y/N						

Inspection Item & Description		P/F	P/F	P/F	P/F	P/F	P/F
Pass Fail Status							
1	Operating and emergency controls are in proper working condition - EMO button or Emergency Stop Device.	P/F	P/F	P/F	P/F	P/F	P/F
2	Upper drive control interlock mechanism is functional (i.e., foot pedal, spring lock, or two hand controls).	P/F	P/F	P/F	P/F	P/F	P/F
3	Emergency lowering function operates properly.	P/F	P/F	P/F	P/F	P/F	P/F
4	Lower operating controls successfully over-ride the upper controls.	P/F	P/F	P/F	P/F	P/F	P/F
5	Both upper and lower controls are adequately protected from inadvertent operation.	P/F	P/F	P/F	P/F	P/F	P/F
6	Control panel is clean & all buttons/switches are clearly visible (no fire proofing, paint over spray, etc.)	P/F	P/F	P/F	P/F	P/F	P/F
7	All switch & mechanical guards are in good condition and properly installed.	P/F	P/F	P/F	P/F	P/F	P/F
8	All Safety Indicator lights work.	P/F	P/F	P/F	P/F	P/F	P/F
9	Drive controls function properly & accurately labeled (up, down, right, left, forward, back).	P/F	P/F	P/F	P/F	P/F	P/F
10	Motion alarms are functional.	P/F	P/F	P/F	P/F	P/F	P/F
11	Safety decals are in place and readable.	P/F	P/F	P/F	P/F	P/F	P/F
12	All guardrails are sound and in place, including basket chains.	P/F	P/F	P/F	P/F	P/F	P/F
13	Work platform & extension slides are clean, dry, & clear of debris.	P/F	P/F	P/F	P/F	P/F	P/F
14	Work platform extension slides in and out freely with safety locking pins in place to lock setting on models with extension platforms.	P/F	P/F	P/F	P/F	P/F	P/F
15	Inspect for defects such as cracked welds, fuel leaks, hydraulic leaks, damaged control cables or wire harness, etc.	P/F	P/F	P/F	P/F	P/F	P/F
16	Motor and battery compartments fully checked for foreign objects	P/F	P/F	P/F	P/F	P/F	P/F
17	Tires and wheels are in good condition, with adequate air pressure if pneumatic.	P/F	P/F	P/F	P/F	P/F	P/F
18	Braking devices are operating properly.	P/F	P/F	P/F	P/F	P/F	P/F
19	The manufacturer's operations manual is stored on unit.	P/F	P/F	P/F	P/F	P/F	P/F

Workplace Assessment

Survey work area for potential hazardous operating conditions prior to use of lift.	Conditions Have Been Verified <input checked="" type="checkbox"/>						
Ensure all the hazards identified are addressed in pre-task planning with sufficient strategies to mitigate the hazards and or risks.							
Floor conditions: Drop offs, holes, uneven surfaces, sloped floors, etc.							
Housekeeping: debris, floor obstructions, cords, construction material/ supplies, etc.							
Hazardous Energy: Electrical power cables or panels, chemical lines, gas lines, drain lines, utilities, etc.							
Correct lift selected for task.							
Work place hazard assessment has been completed and reviewed with all crew members.							
Rescue plan has been reviewed with all crew members.							
Operator has received training and riders have received instructions on how to safety work from MEWP.							

CRANES, RIGGING, MATERIAL, AND PERSONNEL HOISTS

2.21

POLICY

The intent of Crane and Rigging Safety Procedures is to ensure all crane operations are performed in a safe manner. Each contractor working on a Pence Construction (Pence) project will comply with Oregon OSHA, [Subpart CC – Cranes and Derricks in Construction](#), and shall comply with the [American Society of Mechanical Engineers B30.5-2007 Safety Codes for Mobile and Locomotive Cranes](#) in addition to the following:

GENERAL REQUIREMENTS

- The crane operator must have a current crane operator's certification for the size of crane in which he/she is operating.
- No computer systems or limit switches are to be in a non-functioning or override position.
- Mobile crane movement on site must be in accordance with manufacturer's recommendations.
- An anti-two-block or warning device is required on all cranes except those engaged in driving piles.
- All rigging gear must be rated for safe capacity and inspected for defects by a qualified rigger prior to each shift.
- Crane Operators are not allowed to use Handheld Electronic Devices of any type while they are in the operating position of the crane unless they are being used as part of the lift. Handheld Electronic Devices are handheld devices, including cell phones, iPads and any other communication devices.
- The use of a crane to hoist employees in a personnel platform is **prohibited** except as allowed in [Section 2.22](#) of the Pence Safety Manual.
- Only Qualified Signalman will give directions to the crane operator
- Hand signals to crane operators shall be those prescribed by as the Standard Method in [Appendix A to Subpart CC](#).
- An illustration of the standard method hand signals shall be posted on the crane or in the immediate area of the lifting operations.

PRE-PLANNING CRANE ACTIVITIES

- Superintendent must determine early in the project what crane activities will take place on the project, what contractor is in control of the crane activities, areas of the jobsite likely to be used as a crane assembly and work zones, etc.
- Superintendents must determine if there are power lines near for the crane activities on the project.
- If yes, then the Superintendents must determine the voltage of those power lines.

- The Superintendent must determine if any part of the equipment, load line, load, rigging or lifting accessories shall get closer than 20 ft. to a power line under 350kV, 50 ft. to a power line over 350kV but under 1,000kV or the utility company specified distance to a power line over 1,000kV.
- If yes, then a competent person must fill out the Work Zone Power Line Safety Form located at the end of this section.
- If yes, then the Superintendent must set up a meeting with the crane supplier, crane user, Pence Safety Director and the Superintendent.
- Each crane assembly area and work zone must have a hazard assessment completed by a competent person.
- The Crane Assembly Area and Work Zone Hazard Assessment Form, found at the end of this section, must be used for this assessment.
- The Superintendent shall gather all pertinent ground condition documents and make them available to the crane supplier, crane user and AD Director.
- The superintendent will use the [Superintendent Master Crane Worksheet Form \(2.21A\)](#) to document his pre-planning activities.

INSPECTIONS

- No crane shall be placed in service on a Pence project without the Superintendent and Crane Operator inspecting the Anti-Two Block system.
- Anti-Two Block system inspection at a minimum shall consist of the following:
 - The weight for condition and for proper sized keeper pins
 - The chain for condition
 - System functionality
- If any component manufacturers specifications, the lift shall not take place until the components are repaired or replaced.
- No crane or hoist shall be placed in service on a Pence project until the post crane assembly/erection inspection has been performed by the AD Director and a copy of the inspection has been submitted to Pence.
- No crane or hoist shall be placed in service on a Pence project until the post crane assembly/erection wire rope inspection has been performed by the AD Director a copy of the inspection has been submitted to Pence.
- Daily/shift crane and wire rope inspections shall be performed, documented and a copy shall be submitted to Pence weekly.
- Monthly crane and wire rope inspections, if required, shall be performed, documented and a copy submitted to Pence.
- The annual inspection must be performed, and a copy shall be submitted to Pence with the lift plan.

LIFT PLANS

- **ALL** crane lifts must be preplanned.
- Pre-planning must be documented in writing on the [Crane Lift Plan Form \(2.21B\)](#).

- Written Crane Lift Plans must be submitted to the Pence Superintendent Ten (10) days prior to the lift.
- If the lift is to be conducted over several days (example steel erection) then only one lift plan needs to be submitted.
- Crane Lift Plans must contain at a minimum but not limited to:
 - General information of the project
 - Crane information
 - Specific lift information
 - Rigging to be used
 - Diagram of the work zone
 - Day of lift information include weather, site conditions etc.
 - Signatures of competent, qualified or certified persons involved with the lift
- Subcontractors are not required to use the Pence Crane Lift Plan but if they elect to use their own, the information in their plan must meet or exceed the information on Pence's Crane Lift Plan.
- All lifts that exceeds 75% rated capacity, is specified by the project team as a Critical Lift or requires two cranes to pick one piece of equipment or material, will be considered critical lifts.
- The Pence Safety Director must be involved with any Critical Lift.
- Critical lifts must have the load weight verified by some means. (If the crane has load weighing capabilities then a test pick with the crane to verify the weight is acceptable. Superintendent must be the one verifying the weight.)

PRE-PLANNING MEETING

- A Pre-Planning Meeting to discuss the Critical Lift will be held at the jobsite with all parties involved in the lift prior to the day of the lift.
- If the Critical Lift will be conducted over several days, only one Pre-Planning Meeting is required unless conditions change that would warrant any additional meetings.
- A Pre-Planning Meeting to discuss power lines hazards will be held at the jobsite with all parties involved in the lift prior to the day of the lift. (This will only be required if the [Work Zone Power Line Safety Form \(2.21C\)](#) indicates the crane activities will encroach on the clearance distance set by [Subpart CC.](#))
- A Pre-Lift meeting.
 - The meeting will be conducted by the Pence Superintendent with all members of the crew involved with the Critical Lift.
 - If the Critical Lift is to be conducted over more than one day, a Pre-Lift meeting must be conducted daily.

PRE-LIFT MEETINGS/TRAINING

- A Pre-Lift Meeting and Work Zone Training session will take place immediately before **ALL** lifts.
- The meeting will be conducted by the Pence Superintendent with all members of the crew involved with the lift.
- If the lift is to be conducted over several days (example steel erection) then only one Pre-Lift Meeting and Work Zone Training session need be conducted.
- The Pre-Lift Meeting and Work Zone Training Checklist form, found at the end of this section, will be used to document this meeting.
- All attendees must sign the Pre-Lift Meeting and Work Zone Training Checklist form.
- Items to be discussed or accomplished at the Pre-Lift Meeting and Work Zone Training are at a minimum but not limited to:
 - Review Lift Plan.
 - Verify crane is the one specified in the plan
 - Verify annual inspection of the crane
 - Verify operator's certification for the crane used
 - Verify overhead and underground hazards
 - Review responsibilities of all parties involved in the lift
 - Discuss weather conditions at the time of the lift
 - Rigging inspection of all components
 - Determine who has the authority to call off the lift

DOCUMENTATION

The following documentation should be in the Superintendent's possession prior to the lift.

- Crane Assembly Area and Work Zone Hazard Assessment
- Work Zone Power Line Safety Form (If needed)
- Ground Condition Documentation for crane assembly areas and work zones
- Post assembly/erection crane and wire rope inspections
- Written Crane Lift Plan
- Annual Inspection of the Crane
- Operators Certification
- Documentation of training for Qualified Signalman
- Documentation of training for Qualified Riggers
- Documentation of rigging inspection (at pre-lift meeting)
- Documentation of daily crane and wire rope inspections
- Documentation of Pre-Planning Meeting (Critical Lift or Power Line encroachment only)
- Documentation of Pre-Lift Meeting and Work Zone Training

MATERIAL AND PERSONNEL HOISTS

- Material Hoists
 - Operating rules must be posted at the operator's station along with the notice "No Riders Allowed".
- Personnel Hoists
 - Hoistway doors or gates shall be at least 6'6" high and shall have a mechanical lock, which cannot be operated from the landing side.
 - All entrances to hoists must be protected by substantial gates or bars, which guard the full width of the landing entrance.
 - Hoists shall be inspected on a weekly basis. Hoists shall also be inspected after exposure to winds exceeding 35 mph.
 - All hoists shall be inspected and tested at not more than three-month intervals.
 - All hoists shall have a "No Smoking" sign posted in the car and a fully charged fire extinguisher available for use.

RIGGING

Knowledge of the equipment and materials with which we work is one of the most important factors in accident prevention. Each piece of equipment and material has been designed and developed to serve a specific purpose. Recognizing its capabilities and limitations not only improves efficiency but also eliminates hazards. It should be used as a guide in conjunction with the applicable safety regulations by contractors, supervisors, operators, riggers and employees who are concerned with or responsible for safety in construction.

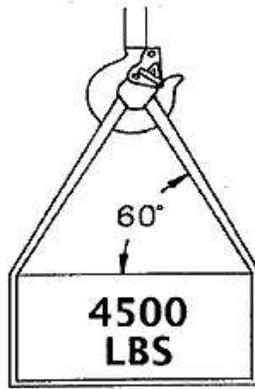
GENERAL REQUIREMENTS

- Only Qualified Riggers will be allowed to perform rigging duties on Pence Projects.
- Pence Qualified Riggers shall carry a qualification card with them at all time.
- Rigging and all rigging equipment shall be inspected prior to use on each shift and as necessary during its use to ensure that it is safe.
- Daily sling inspections will be documented on the sling inspection sheet at the end of this section.
- Defective rigging equipment shall be removed from service.
- Rigging equipment shall not be loaded in excess of its recommended safe working load.
- Rigging equipment, when not in use, shall be removed from the immediate work area so as not to present a hazard to employees.
- Special custom design grabs, hooks, clamps, or other lifting accessories, for such units as modular panels, prefabricated structures and similar materials, shall be marked to indicate the safe working loads and shall be proof tested prior to use to 125 percent of their rated load.

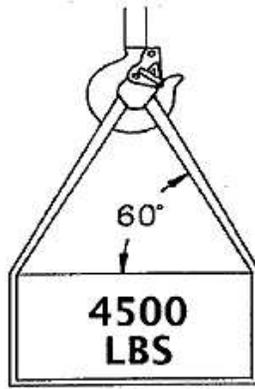
- Alloy Steel Chains
 - Welded alloy steel chain slings shall have permanently affixed durable identification stating size, grade, rated capacity, and sling manufacturer.
 - Hooks, rings, oblong links, pear-shaped links, welded or mechanical coupling links, or other attachments, when used with alloy steel chains, shall have a rated capacity at least equal to that of the chain.
 - Job or shop hooks and links, or makeshift fasteners, formed from bolts, rods, etc., or other such attachments, shall not be used.
 - Rated capacity (working load limit) for alloy steel chain slings shall conform to the values shown in Table H-1 of OR-OSHA rule [1926.251\(f\)\(2\)](#), Rigging Equipment for Material Handling.
- Wire Rope Chokers
 - There are several different types of wire rope chokers. Use the correct type for your job.
 - Check load rating stamped on each choker to determine its correct capacity.
 - When increasing the spread or angle of chokers you decrease the capacity.
 - Use spreader bars when needed.
- Synthetic Web and Round Slings
 - Removal from service
 - The sling has an identification tag is missing or in any way unreadable
 - Acid or caustic burns
 - Melting or charring of any part of the sling.
 - Holes, tears, cuts or snags or embedded particles
 - Broken or worn stitching in load bearing splices
 - Excessive abrasive wear
 - Knots in any part of the sling
 - Excessive pitting or corrosion, or cracked, distorted fitting or any distortion of the sling
 - If you see our Red Core warning yarns.
 - Anytime a sling is loaded beyond its rated capacity or reason
 - Operating Practices
 - Determine weight of the load. The weight of the load shall be within the rated capacity of the sling.
 - Select sling having suitable characteristics for the type of load, hitch and environment.
 - Slings shall not be loaded in excess of the rated capacity. Consideration shall be given to the sling to load angle which affects rated capacity. (see load chart)
 - Slings with fittings which are used as a choker hitch shall be of sufficient length to assure that the choking action is on the webbing and never on a fitting.
 - Slings used in a basket hitch shall have the load balanced to prevent slippage.

- The opening in fittings shall be the proper shape and size to ensure the fitting will seat properly in the hook or other attachments.
- Slings shall always be protected from being cut by sharp corners, sharp edges, protrusions or abrasive surfaces.
- Slings shall not be dragged on the floor or over an abrasive surface.
- Slings shall not be twisted or tied into knots or joined by knotting.
- Slings shall not be pulled from under loads if the load is resting on the sling.
- Do not drop slings equipped with metal fittings.
- Slings that appear to be damaged shall not be used unless inspected and accepted.
- The sling shall be hitched in a manner providing control of the load.
- Personnel, including portions of the human body, shall be kept from between the sling and the load, and from between the sling and the crane hook or hoist hook.
- Personnel shall stand clear of the suspended load.
- Personnel shall not ride the sling.
- Shock loading shall be avoided.
- Twisting and kinking the legs (branches) shall be avoided.
- Load applied to the hook shall be centered in the base (bowl) of hook to prevent point loading on the hook.
- During lifting, with or without the load, personnel shall be alert for possible snagging.
- The web slings' legs (branches) shall contain or support the load from the sides above the center of gravity when using a basket hitch.
- Slings shall be long enough so that the rated capacity of the sling is adequate when the angle of the legs (branches) is taken into consideration. (see load chart)
- Place blocks under load prior to setting down the load, to allow removal of the web sling, if applicable.
- Nylon and Polyester slings shall not be used at temperatures above of 194 degrees F (90 degrees C).
- Exposure to sunlight or ultra-violet light degrades the strength of slings. Store slings in a cool, dry and dark place when not in use.
- Inspections
 - Initial Inspection
 - Before any new or repaired sling is placed in service, it shall be inspected by a designated person to ensure that the correct sling is being used, as well as to determine that the sling meets the requirements of this specification and has not been damaged in shipment.
 - Frequent Inspection

- This inspection shall be made by a qualified person handling the sling each time the sling is used.
- Periodic Inspection
 - This inspection shall be conducted by designated personnel. Frequency of inspection should be based on:
 - Frequency of sling use
 - Severity of service conditions
 - Experience gained on the service life of slings used in similar applications
 - Periodic inspections should be conducted at least monthly
- Sling Angle and Sling Load Chart
 - SLING ANGLE is the angle measured between a horizontal line and the sling leg or body. This angle is very important and can have a dramatic effect on the rated capacity of the sling. As illustrated, when this angle decreases, the load on each leg increases. This principle applies whether one sling is used to pull at an angle, in a basket hitch or for multi-legged bridle slings. This data is only for equally loaded sling legs. Sling angles of less than 30 degrees are not recommended.



Actual Sling Capacity = factor X rated capacity



Actual Sling Capacity = factor X rated capacity

Sling Angle In Degrees	Factor
90	1.000
85	.996
80	.985
75	.966
70	.940
65	.906
60	.866
55	.819
50	.766
45	.707
40	.643
35	.574
30	.500

- Shackles – Hooks
 - Shackles
 - All shackles should have a U.L. load rating stamped on the side to indicate its capacity.
 - Screw shackle have a pin which must be in all the way, then back it off ¼ turn.
 - Choker must never rest on the pin.
 - When doing cycle work (concrete work and spreaders) check the pins frequently or use anchor shackles. Anchor shackles have a bolt with nut a cotter pin, turn shackles upright.
 - Never pull at an angle.
 - Hooks
 - All hooks must have a safety latch.
 - No open throat hooks (sorting hooks, pelican hooks) are to be used, hooks must have a latch.

- Check for cracks, wear, deformation, if there is more than 10% wear in the crown or pin hook or shackle must be thrown away.
- Tag - Lines
 - All loads must have at least one tag line.
 - No knots or eyes on end of line.
 - Never wrap tag line around wrist or waist.
 - Never attempt to stop a load that is spinning uncontrollable, instead let the operator set the load on the ground to stop the spin.
- Multiple Lift Procedures (Non-Steel Erection)
 - A multiple lift shall only be performed if the following criteria are met:
 - A multiple lift rigging assembly is used
 - A maximum of five members are hoisted per lift
 - All employees engaged in the multiple lift have been trained in these procedures
 - No crane is permitted to be used for a multiple lift where such use is contrary to the manufacturer's specifications and limitations.
 - Components of the multiple lift rigging assembly shall be specifically designed and assembled with a maximum capacity for total assembly and for each individual attachment point.
 - This capacity, certified by the manufacturer or a qualified rigger, shall be based on the manufacturer's specifications with a 5 to 1 safety factor for all components.
 - Each leg of the assembly must be independently supported so that if one leg fails no other load will fall
 - The total load shall not exceed:
 - The rated capacity of the hoisting equipment specified in the hoisting equipment load charts
 - The rigging capacity specified in the rigging rating chart.
 - The multiple lift rigging assembly shall be rigged with members:
 - Attached at their center of gravity and maintained reasonably level
 - Rigged from top down
 - The members on the multiple lift rigging assembly shall be set from the bottom up.
 - Controlled load lowering shall be used whenever the load is over the workers setting the components

LOADS

- Flying Loads
 - Choke all possible loads.
 - Do not fly rebar by the bundle wire.
 - Do not fly barrels by holes cut in the top.
 - Pick heavy pallets by the strong side.
 - Long loads should have an appropriate length tag line for greater control.
- Overhead Loads

- Stay out from under overhead loads at all times.
- Warn other personnel if a load is coming overhead so they have time to prepare.
- The operator may sound his horn when load is coming overhead stay alert to this sound.
- Landing Loads
 - Avoid pinch points (stay out of the bite)
 - Keep fingers and toes out from under the load
 - Use proper dunnage (cribbing) Do not use 2x4's on edge always lay them flat.
 - Do not push or pull the load when it is in the air, let the operator move the load that is what he or she is there for. Let the machine do the work.
 - Never stack anything higher than it is wide.

SIGNALING

- Only a Qualified Signaller shall give instructions to the crane operator.
- All Pence Signaller shall carry a qualification card with them at all times.
- A Qualified Signaller must:
 - Know and understand the type of signals being used
 - If hand signals are used, they must know and understand the [Standard Method for Hand Signals \(2.21G\)](#)
 - Be competent in the application of the type of signals used
 - Have a basic understanding of the equipment operations and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisted loads.
 - Know and understand the duties of a signaller.
 - Be able to provide documentation indicating which form of signaling he/she is qualified to perform.
 - Meet all requirements for signaller specified in [Subpart CC](#).
 - Signaller's qualification documentation must be submitted to Pence.
 - Use hand signals only when conditions are such that his signals are clearly visible to the operator.
 - Be responsible for keeping the public and all unauthorized personnel outside of the crane's operating radius.
 - Direct the load so that it minimizes passing over anyone.
 - Inspect the load to see that it is rigged safely.
- Signaling – Using the Radio
 - The radio must be tested onsite before use
 - Signal must be through a dedicated channel
 - Prior to beginning lift the crane operator, signaller and lift director (if used) must agree on voice signals to be used.
 - Each voice signal must contain the following elements, given in the specific order.
 - Function

- Direction
 - Distance and/or speed
 - Function
 - Stop command
- Use one-word commands whenever possible, load up, load down, swing right, swing left, trolley in, trolley out.
- To begin the movement key in the mike, state clearly the command example “load up” will begin the load moving upward.
- To stop the movement, key in the mike, and state the command without the adverb. Example: “load”
- Keep the mike keyed in when signaling in the blind (when the operator can not see you and you can not see the operator) this will ensure that the operator will hear every command.
- When changing channels make sure the channel is clear before breaking in.
- Signaling – Using Hand
 - When using hand signals, the Standard Method must be used.
 - If you must use non-standard signals then the signalman, crane operator, and lift director (if used) must all agree on the non-standard signals.
 - Make sure the operator can see you clearly.
 - When signaling the crane, indicate where the load is to go in advance so the operator can get the load to its destination quickly, when load is near its destination you can fine tune location for placement.

IN CONCLUSION:

- **NEVER SACRIFICE SAFETY FOR PRODUCTIVITY!**
- **TAKE YOUR TIME – DO IT RIGHT THE FIRST TIME!**
- **OUR GOAL IS TO HAVE EVERYONE FEEL SAFE 100% OF THE TIME!**
- **IF ANYONE HAS A SUGGESTION ON A BETTER WAY TO DO SOMETHING LET YOUR SUPERVISOR KNOW.**



SUPERINTENDENT MASTER CRANE WORKSHEET

CHECK OFF ITEMS AS THE ARE COMPLETED OR CROSS OUT IF NOT APPLICABLE

- Determine and list all anticipated crane activities for the project (use next page)
- Determine and list the contractors involved with all the crane activities (use next page)
- Determine the areas of the jobsite that will be used for assembly of the crane(s) (use next page)
- Determine the work zones on the site that will be used for crane activities (use next page)
- Determine if any power lines are near the assembly areas or work zones (use next page)
- Determine the voltage of the power lines that will be near the assembly areas or work zones
 - Document attempted contacts with the utility company (page 3 this form)
- Determine if any power line safety procedures will be needed
 - If yes, set up a meeting with Safety Department, crane user, crane supplier and Pence.
- Determine who will perform the assembly area and work zone hazard assessments for each activity
- Determine what ground condition documentation will need to be made available to the crane supplier, crane user and AD director
- Document crane supplier, user and AD Director have seen ground condition information (Lift Plan 2.21B)

SUBCONTRACTOR CRANE ACTIVITIES

If a subcontractor is in control of the crane activities the following must be on file prior to lifting activities

- Verification of receipt of ground conditions from crane supplier and user (Lift Plan 2.21B)
- Crane assembly area and work zone hazard assessment (may use Pence form 2.21B)
- Work Zone power line safety form if required based on hazard assessment (may use Pence form 2.21C)
- Crane Lift Plan (Outside lift plans must contain all info on Pence form 2.21B or use Pence form 2.21B)
 - Annual inspection
 - Crane operator's certification
- Pre-lift meeting and work zone training documentation (may use Pence form 2.21D)

VERIFICATION FOR DOCUMENTATION

All items below need to be verified no matter who controls the crane activities

- Verify the Crane Assembly Area and Work Zone Hazard Assessment Form for each lift is on file
- Verify the Work Zone Power Line Safety Form for each lift (if needed) is on file
- Verify the Pre-Lift Meeting and Work Zone Training Checklist for each lift is on file
- Verify the Crane Lift Plan is fully filled out with all information included is on file
- Verify Crane Operators Certificate for each lift is on file
- Verify Qualified Rigger(s) for each lift have been identified and qualifications are on file (page 4 this form)
- Verify Qualified Signaller for each lift have been identified and qualifications are on file (page 5 this form)
- Verify post assembly/erection, daily/shift, monthly and annual crane inspections on file
- Verify post assembly/erection, daily/shift, monthly and annual wire rope inspections on file

ANTICIPATED CRANE ACTIVITIES	
Anticipated Crane activity:	<input type="text"/>
Anticipated assembly/work zone:	<input type="text"/>
Contractor in charge of the lift:	<input type="text"/>
Who will perform hazard assess:	<input type="text"/>
Power lines near work zone:	<input type="text"/>
Date anticipated for the lift:	<input type="text"/> Date completed: <input type="text"/>
Are all forms, hazard assessments, plans etc. in place?	Yes <input type="checkbox"/> NO <input type="checkbox"/>

ANTICIPATED CRANE ACTIVITIES	
Anticipated Crane activity:	<input type="text"/>
Anticipated work zone:	<input type="text"/>
Contractor in charge of the lift:	<input type="text"/>
Who will perform hazard assess:	<input type="text"/>
Power lines near work zone:	<input type="text"/>
Date anticipated for the lift:	<input type="text"/> Date completed: <input type="text"/>
Are all forms, hazard assessments, plans etc. in place?	Yes <input type="checkbox"/> NO <input type="checkbox"/>

ANTICIPATED CRANE ACTIVITIES	
Anticipated Crane activity:	<input type="text"/>
Anticipated work zone:	<input type="text"/>
Contractor in charge of the lift:	<input type="text"/>
Who will perform hazard assess:	<input type="text"/>
Power lines near work zone:	<input type="text"/>
Date anticipated for the lift:	<input type="text"/> Date completed: <input type="text"/>
Are all forms, hazard assessments, plans etc. in place?	Yes <input type="checkbox"/> NO <input type="checkbox"/>

QUALIFIED RIGGERS LIST

Qualified riggers must be trained in rigging techniques and inspections as prescribed by OSHA 29CFR§1926.1400. By listing them on this form you are attesting to the fact, they meet these criteria. List all your company’s qualified riggers who will be working on this project. List must be updated as qualified riggers are added to the project.

Project Name: Date:

Project Address:

Company Name:

Company Rep. Attesting to Training:

Signature of Co. Representative:

Qualified Rigger Name:

QUALIFIED SIGNALPERSON LIST

Qualified signal person must be trained in signaling techniques as prescribed by OSHA 29CFR§1926.1400. By listing them on this form you are attesting to the fact, they meet these criteria. List all your company's qualified signal persons who will be working on this project. List must be updated as qualified signal persons are added to the project.

Project Name: Date:

Project Address:

Company Name:

Company Rep. Attesting to Training:

Signature of Co. Representative:

Qualified Signal Person:



CRANE LIFT PLAN

GENERAL INFORMATION	
Project Name:	
Project Address:	
Superintendent:	
Project Number:	Date :

CRANE INFORMATION	
Crane Owner/Supplier:	
Crane contact person:	
Make of crane: _____	Model of crane: _____
Size of crane: _____	Type of crane: _____
Max reach: _____	Max radius: _____
Has the crane supplier's representative visited the site to do his/her assessment?	YES <input type="radio"/> NO <input type="radio"/>
Has the crane supplier's rep seen the slope of the ramp to the slab (If applicable)	YES <input type="radio"/> NO <input type="radio"/>
Has all ground condition information for the assembly area and work zone been made available to crane owner, crane user and AD director?	YES <input type="radio"/> NO <input type="radio"/>
Will the crane need assembly/disassembly?	YES <input type="radio"/> NO <input type="radio"/>
Will the manufacturer's procedures be used for assembly/disassembly?	YES <input type="radio"/> NO <input type="radio"/>
Will the employer's procedures be used for assembly/disassembly?	YES <input type="radio"/> NO <input type="radio"/>
Has post assembly inspection been completed and verified with documentation?	YES <input type="radio"/> NO <input type="radio"/>
Has the wire rope inspection been completed and verified with documentation?	YES <input type="radio"/> NO <input type="radio"/>
Annual crane inspection has been verified and is attached?	YES <input type="radio"/> NO <input type="radio"/>
Crane operator license has been verified and is attached?	YES <input type="radio"/> NO <input type="radio"/>
Forces expected to be generated by the outriggers: (PSI or PSF)	
Has the outrigger Pad size been calculated? Size? _____	YES <input type="radio"/> NO <input type="radio"/>
Will additional outrigger plates, pads, block or cribbing be needed for lift?	YES <input type="radio"/> NO <input type="radio"/>
Who will supply outrigger plates, pads, blocking or cribbing?	Contractor <input type="radio"/> Crane Supplier <input type="radio"/>

WORK ZONE ASSESSMENT

Power lines present in the immediate Assembly Area/Work Zone? YES NO
Voltage of the power lines verified with the Utility Company? YES NO NA
Voltage of the power lines? Under 350kV Over 350kV Over 1,000kV

If power lines are present, all of the following must be filled out. If answered No or NA no further action is needed. If any are answered yes then the Work Zone Power Line Safety Form must be completed and used.

If < 350kV, will any part of the crane, load line, load, rigging or lifting accessories, when operated in the WZ, get closer than 20 ft. YES NO NA
If >350kV will any part of the crane, load line, load, rigging or lifting accessories, when operated in the WZ, get closer than 50 ft. YES NO NA
If > 1,000kV will any part of the crane, load line, load, rigging or lifting accessories, when operated in the WZ, get closer than the minimum clearance distance established by the utility company? YES NO NA
What is that distance? _____ Is it in writing? YES NO NA

GROUND CONDITIONS for CRANE SETUP and WORK ZONE AREAS

Have the crane setup and work zone areas been properly:
Compacted: YES NO Drained: YES NO
Will a slope be a factor or concern: YES NO
Are there any underground utilities in either area? YES NO
If underground utilities are present are they visibly marked? YES NO
Site drawings, as-builts, soil analysis made available to the crane supplier? YES NO
Other ground condition hazard information made available to the crane supplier? YES NO

VERIFICATION OF RECEIPT OF GROUND CONDITION INFORMATION

I acknowledge I have seen all the relevant documentation concerning the ground conditions related to the crane assembly area and work zone for my crane activities. This documentation may but not necessarily include asbuilts, soils analysis, soil bearing calculations, structural or soil engineer' calculation, compaction reports, etc.

Crane Supplier Name: _____
Crane Supplier Representative Signature: _____ Date: _____
AD Director Signature: _____ Date: _____
Crane User's Company Name: _____
Crane User's Representative Signature: _____ Date: _____

CRANE PAD CALCULATION

To determine the pad size, use Formula #1.

$$\frac{\text{F.G.}}{\text{L.B.C.}} = \text{Pad Area Required}$$

F.G. = Forces Generated from Outrigger
 L.B.C. = Load Bearing Capacity of Soil
 Pad Area Required = Size of the Outrigger Stabilizer Pad that is required.

OR

If you have pads available you can verify if those pads are of proper size by using Formula #2.

$$\frac{\text{Load}}{\text{Area}} = \text{PSI}$$

Load = Forces Generated from Outrigger
 Area = Size of the Available Pad in Square Inches
 PSI = Pressure expected to be generate on the soil.

WORK ZONE SETUP

How will the Work Zone be identified?	Demarcating boundaries	<input type="checkbox"/>
	Work Zone 360° around crane	<input type="checkbox"/>
If demarcating boundaries what method will be used?	Flags	<input type="checkbox"/>
	Range limit device	<input type="checkbox"/>
	Range control warning device	<input type="checkbox"/>

LIFT INFORMATION

Contractor in charge of the lift: _____

Contact person for that contractor: _____

Date of lift: _____ Time of lift: _____

Specific jobsite area for the lift: _____

Description of load: _____

Load Weight (lb)	_____	Rigging Weight (lb)	_____
Block Weight (lb)	_____	Total Weight (lb)	_____
Radius (ft)	_____	Boom angle (°)	_____

Chart indicates % _____

Will two or more cranes be used for this lift? YES NO

Load, rigging, etc. equal to or greater than 75% of load chart YES NO

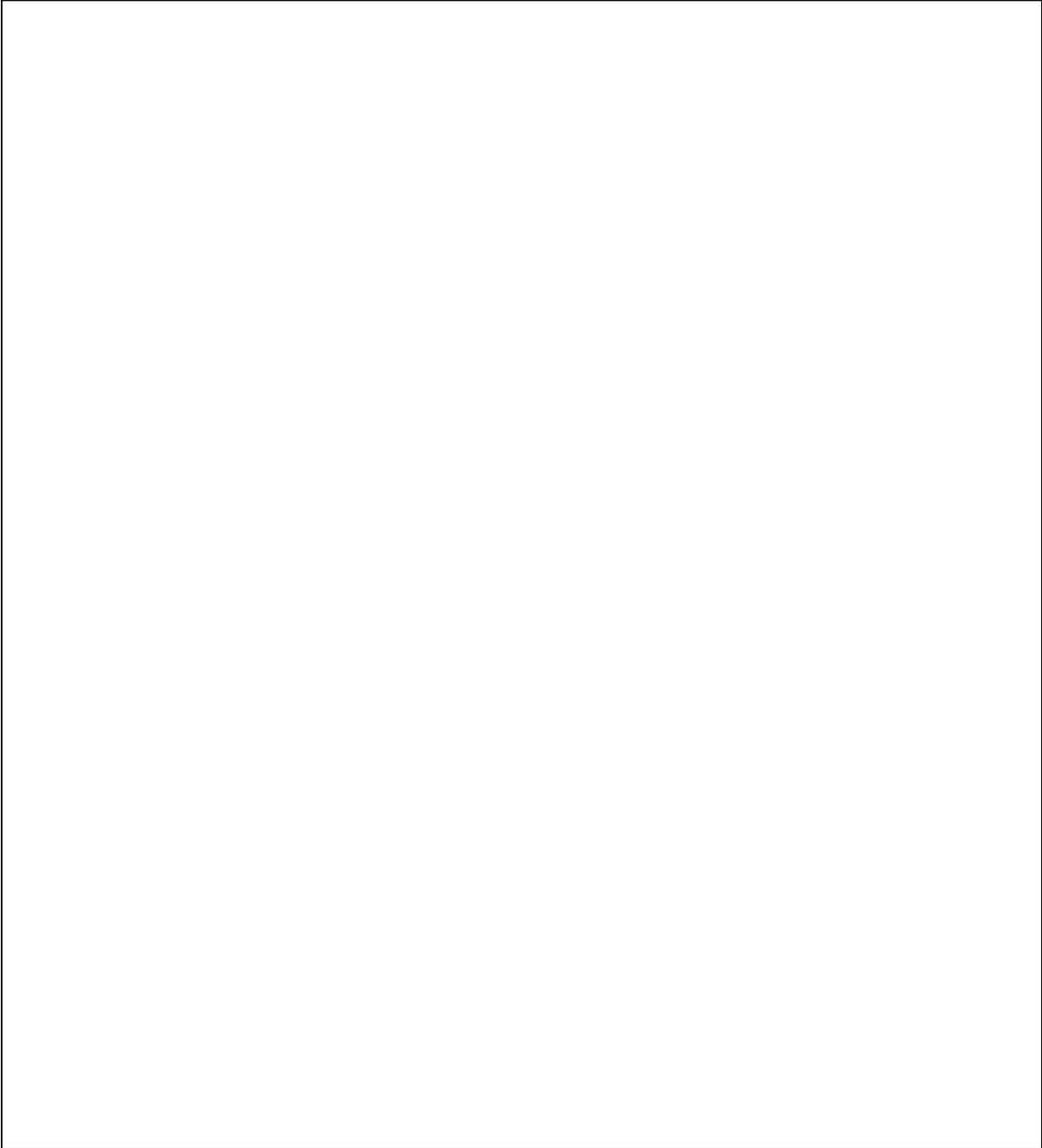
If yes, has the weight of the load been verified? (cut sheet, weighed on scale, etc) YES NO

If yes, is there documentation attached? YES NO

DIAGRAM OF WORK ZONE

Note: You don't have to use this sheet for your diagram but a diagram must be included with this plan.

Draw a diagram of the work zone or provide on a separate sheet, including but not limited to; location, radius, overhead hazards, buildings, underground hazards, trees, swing zones, delivery truck, load, work zone demarcation, power lines, etc.



RIGGING TO BE USED				
Type of rigging to be used:	Wire Rope <input type="checkbox"/>	Nylon <input type="checkbox"/>	Chain <input type="checkbox"/>	Other <input type="checkbox"/>
Rigging configuration:	Straight <input type="checkbox"/>	Sling <input type="checkbox"/>	Basket <input type="checkbox"/>	
Rigging load rating:	_____	_____	_____	
Will a shackle(s) be used?	YES <input type="radio"/>	NO <input type="radio"/>	Shackle load rating:	_____
Will a spreader bar be used?	YES <input type="radio"/>	NO <input type="radio"/>	Spreader bar load rating	_____
Taglines used?	YES <input type="radio"/>	NO <input type="radio"/>	Tagline material:	_____

DAY OF LIFT											
Crane outriggers fully extended?	<input type="checkbox"/>	Crane is set up level?	<input type="checkbox"/>								
Is work zone demarcation completed?	<input type="checkbox"/>	Are WZ electric safety procedures in place?	<input type="checkbox"/>								
Crane outrigger pads are in place?	<input type="checkbox"/>	Crane swing zone protected?	<input type="checkbox"/>								
Anti Two-block device is in place?	<input type="checkbox"/>	Anti Two-block device has been tested?	<input type="checkbox"/>								
Crane daily inspection performed?	<input type="checkbox"/>	Crane daily inspection document on file?	<input type="checkbox"/>								
Wire rope daily inspection performed?	<input type="checkbox"/>	Wire rope daily inspection document on file?	<input type="checkbox"/>								
Fire Extinguisher in crane?	<input type="checkbox"/>	Lift Director identified? (if needed)	<input type="checkbox"/>								
Qualified rigger(s) identified?	<input type="checkbox"/>	Rigging has been inspected and documented?	<input type="checkbox"/>								
Qualified signalman identified?	<input type="checkbox"/>	Signalman qualifications verified?	<input type="checkbox"/>								
Communication means identified/agreed to	<input type="checkbox"/>	Communication means tested?	<input type="checkbox"/>								
Qualified spotter (if needed) identified?	<input type="checkbox"/>	Spotter (if needed) qualifications verified?	<input type="checkbox"/>								
Weather conditions:	<table border="1"> <tr> <td>Clear</td> <td>Over cast</td> <td>Drizzle</td> <td>Rain</td> <td>Fog</td> <td>Snow</td> <td>Ice</td> <td>Sun</td> </tr> </table>			Clear	Over cast	Drizzle	Rain	Fog	Snow	Ice	Sun
Clear	Over cast	Drizzle	Rain	Fog	Snow	Ice	Sun				
Wind:	<table border="1"> <tr> <td>0 – 5 MPH</td> <td>6 to 10 MPH</td> <td>11 to 15 MPH</td> <td>Over 15 MPH</td> </tr> </table>			0 – 5 MPH	6 to 10 MPH	11 to 15 MPH	Over 15 MPH				
0 – 5 MPH	6 to 10 MPH	11 to 15 MPH	Over 15 MPH								
Maximum wind speed allowed for the lift:	_____										
Who determined the maximum wind speed?	_____										

SIGNATURES	
Person performed work zone hazard assessment	_____
AD Director (if needed)	_____
Person verified weight for critical lift (if needed)	_____
Qualified rigger performing inspection	_____
Qualified spotter (if needed)	_____
Lift Director (if needed)	_____

OTHER CONSIDERATIONS

Pre-Task Plan been completed: YES NO **If NO stop and complete before lift**

Is public exposed to the lift? YES NO How? _____

Public exposures addressed? YES NO How? _____

FINAL APPROVAL for LIFT

Pence Superintendent: _____ Date: _____



WORK ZONE POWER LINE SAFETY FORM

GENERAL INFORMATION

Date of original assessment from lift plan: _____		Date of lift: _____	
Contractor responsible for the lift: _____			
Crane Owner/Supplier: _____			
Make of crane: _____	Model of crane: _____		
Size of crane: _____	Type of crane: _____		
Max reach: _____	Max radius: _____		

POWER LINE ASSEMBLY AREA and/or WORK ZONE ASSESSMENT

This form is only to be used when any part of the crane, load line, load, rigging or lifting accessories will get closer than 20ft to a power line up to 350kV or 50ft to a power line from 351kV to 1,000kV or a distance specified by the utility company if the power line is 1,001kV and over. If these distances cannot be met then you must determine what is the minimum clearance distances from Table "A" below and select one of the three option below to provide work safety.

What is the power line voltage? Under 350kV Over 350kV Over 1,000kV

If >1,000kV, what is the clearance distance established by the utility company? _____

Note: If the crane operations will require work to be performed directly below the power line(s) the Safety Department must be consulted!

Which option will be used to provide worker safety in the work zone? (See below for details of each option)	Option #1	<input type="checkbox"/>
	Option #2	<input type="checkbox"/>
	Option #3	<input type="checkbox"/>

Table "A" Minimum Clearance Distances

Voltage (nominal, Kv, AC and DC)	Minimum Clearance Distance
Up to 50	10
Over 50 to 200	15
Over 200 to 350	20
Over 350 to 500	25
Over 500 to 750	35
Over 750 to 1,000	45
Over 1,000	Specified Distance by Utility

OPTION #1 – DE-ENERGIZE AND GROUNDED

- Have all the power lines that pose a hazard to the work zone been de-energized? YES NO
- Have all the power lines been confirmed de-energized by the utility company? YES NO
- Have the power lines been visibly grounded at the work site? YES NO

Note: If the answers to the three questions above are all YES, then stop here. If not, then Option #2 or #3 must be selected and the rest of the form must be used.

OPTION #2 – 20 FOOT CLEARANCE

If option #2 is select you must ensure that no part of the crane, load line, load, rigging or lifting accessories gets closer than 20 ft. for 350kV power line(s), 50 ft. for >350 but <1,000kV power line(s) or minimum clearance distance established by utility for >1,000kV power line(s), by implementing the measures specified below: (Item #1, 2, 3 and one of 4, unless noted otherwise)

1. Conduct a planning meeting with the operator and all workers in the work zone to review:
 - The location of the power line(s)
 - The steps that will be implemented to prevent encroachment and/or electrocution
2. All tag lines used must be non-conductive
3. Erect and maintain an elevated warning line or line of signs equipped with flags or similar high-visibility markings at the specified distance required, as listed above, from the power line(s). Lines must be in view of the operator.

Note: If the operator is unable to see the elevated warning lines, two of the following options must be used. One of which must be a dedicated spotter.

4. And implement one of the following: (please indicate which option(s) will be used)
 - Proximity alarm set to give the operator sufficient warning to prevent encroachment
 - Device that automatically warns operator when to stop movement (range control device)
 - Device that automatically limits the range of movement, set to prevent encroachment
 - Insulating link/device installed at a point between the end of the load line and the load
 - Provide a dedicated spotter who must be:
 - In continuous contact with the operator
 - Equipped with a visual aid to assist in identifying minimum clearance distance
 - Positioned to effectively gauge the clearance distance
 - Where necessary, use equipment that enables him to communicate with operator
 - Give timely information to the operator so the clearance distance is maintained

OPTION #3 – TABLE “A” CLEARANCES

If option #3 is select you must:

- Determine the power line(s) voltage and minimum approach distance permitted under Table “A”
- Determine if any part of the crane, load line, load, rigging or lifting accessories while operating up to the equipment’s maximum working radius in the work zone could get closer than the minimum approach distance of power line(s) permitted under Table “A” (See Table “A”)
 - If yes, then ensure that no part of the crane, load line, load, rigging or lifting accessories gets closer to the power line(s) than the minimum approach distance by implementing the measures specified below
- 1. Conduct a planning meeting with operator and all workers in the work zone to review:
 - The location of the power line(s)
 - The steps that will be implemented to prevent encroachment and/or electrocution
- 2. All tag lines used must be non-conductive
- 3. Erect and maintain an elevated warning line or line of signs equipped with flags or similar high-visibility markings at the minimum approach distance from the power line(s) as specified in Table “A”. (See Table “A”) Lines must be in view of the operator.

Note: If the operator is unable to see the elevated warning lines, two of the following options must be used. One of which must be a dedicated spotter.

- 4. And implement one of the following: (please indicate which option(s) will be used)
 - Proximity alarm set to give the operator sufficient warning to prevent encroachment
 - Device that automatically warns operator when to stop movement (range control device)
 - Device that automatically limits the range of movement, set to prevent encroachment
 - Insulating link/device installed at a point between the end of the load line and the load
 - Provide a dedicated spotter who must be:
 - In continuous contact with the operator
 - Equipped with a visual aid to assist in identifying minimum clearance distance
 - Positioned to effectively gauge the clearance distance
 - Where necessary, use equipment that enables him to communicate with operator
 - Give timely information to the operator so the clearance distance is maintained

Note: If for any reason during the crane operations, any part of the crane, load line, load, rigging or lifting accessories will become closer than the minimum approach distance of power line(s) permitted under Table “A” the Safety Manager must be consulted.

OTHER INFORMATION

- If working around transmitter or communication towers the following must be met
 - The equipment must be grounded
 - Taglines must be non-conductive

TRAINING

Training must be provided for the operator and anyone working in the designated work zone. The training must include at a minimum the following items:

- Procedures to be followed in the event of electrical contact with a power line(s). Including:
 - Information regarding the danger of electrocution from the operator simultaneously touching the equipment and the ground.
 - The importance to the operator to remain in the cab except where there is imminent danger of fire or explosion
 - Safest means of evacuating the equipment that may be energized
 - The danger of the potential energized zone around the equipment (step potential)
 - The need for the crew in the area to avoid approaching or touching the equipment or load
 - Safe Clearance distances from the power line(s)
 - Power line(s) are to be presumed energized
 - Power line(S) are to be presumed un-insulated
 - Limitations of an insulating link/device, proximity alarm, and range control devices
 - Procedure to be followed to properly ground equipment and the limitation of grounding

WORK ZONE POWER LINE HAZARD ASSESSOR

Name of person performing the assessment: _____

Signature of person performing the assessment: _____



PRE-LIFT MEETING AND WORK ZONE TRAINING CHECKLIST

JOB NAME: _____ **DATE:** _____

DISCUSSION TOPICS AND TRAINING	
<input type="checkbox"/>	Anti-Two Block System has been fully inspected by the operator and Superintendent
<input type="checkbox"/>	Results of the Work Zone Hazard Assessment
<input type="checkbox"/>	Ground Conditions (underground utilities, tanks, soil analysis, compaction, etc)
<input type="checkbox"/>	Work Zone identification method
<input type="checkbox"/>	Demarcation Lines
<input type="checkbox"/>	360° around the crane at the maximum working radius of the crane including rigging and load
<input type="checkbox"/>	Crane operator is prohibited from exceeding these boundaries
<input type="checkbox"/>	Hazard posed by the rotating superstructure
<input type="checkbox"/>	Barricading the swing area of the crane
<input type="checkbox"/>	Procedures to enter barricaded area
<input type="checkbox"/>	Inform the operator before entering barricaded area
<input type="checkbox"/>	Operator shall not move the crane while the worker is in the barricaded area
<input type="checkbox"/>	Inform the operator when worker is clear of the barricaded area
<input type="checkbox"/>	Potential pinch or crush points in the work zone
<input type="checkbox"/>	Hazards of flying loads overhead
<input type="checkbox"/>	When overhead loads are unavoidable the procedures established as a warning (I.E whistle blown during lift)
<input type="checkbox"/>	Fall Zone: Means the area (including but not limited to the area directly beneath the load) in which it is reasonably foreseeable that partially or completely suspended materials could fall in the event of an accident
<input type="checkbox"/>	Only person(s) receiving the load are permitted in the fall zone (none tilt-up lifts)
<input type="checkbox"/>	Only person(s) considered essential to the lift are permitted in the fall zone (tilt-up lifts)
<input type="checkbox"/>	Person(s) consider essential during a tilt-up
<input type="checkbox"/>	Person(s) guiding the panel
<input type="checkbox"/>	Person(s) directing the movement of the panel
<input type="checkbox"/>	Person(s) attaching, detaching or guiding braces or other support material or equipment
<input type="checkbox"/>	At no time is anyone permitted to be directly under the load
<input type="checkbox"/>	Location of the power lines and the voltage of those lines (if any)
<input type="checkbox"/>	Review the responsibilities of all parties involved
<input type="checkbox"/>	Weather conditions
<input type="checkbox"/>	Determine who has authority to call off the lift
<input type="checkbox"/>	Additional topic for discussion:

WORK ZONE POWER LINE SAFETY

Note: Work Zone Power Line Safety section to be used only when work zone is within 20ft of power lines if under 350 kV, 50ft of power lines if over 350kv but under 1000kv or the utility company's specified distance from the power lines if over 1000kV

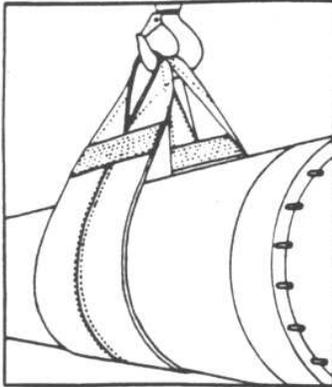
- Work Zone Power Line Safety
 - The option selected to prevent encroachment/electrocution (#1, #2 or #3)
 - Steps taken to prevent encroachment/electrocution
 - Taglines must be non-conductive
 - Elevated warning lines
 - Proximity alarms (if used)
 - Range control device (if used)
 - Range limiter device (if used)
 - Insulated link/device (if used)
 - Dedicated Spotter (if used)
 - Power lines are to be presumed energized at all times
 - Power lines are to be presumed un-insulated at all times
 - Procedures to be followed in the event of electrical contact with a power line(s). Including:
 - Danger of touching equipment and ground simultaneously
 - Operator to remain in the cab except where there is imminent danger of fire or explosion
 - Safest means of evacuating the equipment that may be energized
 - Danger of the potential energized zone around the equipment (step potential)
 - Avoid approaching or touching the equipment or load
 - Safe Clearance distances from the power line(s) (see Table "A" below)
 - Power line(s) are to be presumed energized
 - Power line(s) are to be presumed un-insulated
 - Limitations of an insulating link/device, proximity alarm, and range control devices
 - Procedure properly ground equipment and the limitation of grounding

Table "A" Minimum Clearance Distances

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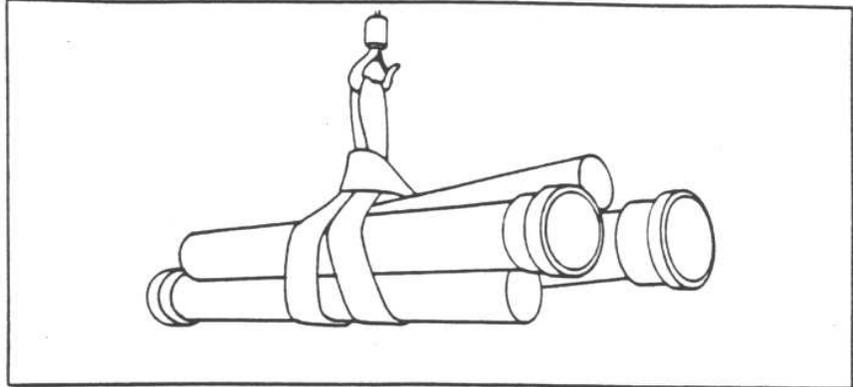
RIGGING INFORMATION

Fig. 6.22 Synthetic Web Slings do not Damage or Crush Like Wire Ropes or Chain



Endless or Grommet Sling

Pipe handling illustrates the tendency of webbing slings to mold themselves to the load. This allows handling irregularly shaped loads securely.



Standard Eye and Eye Slings

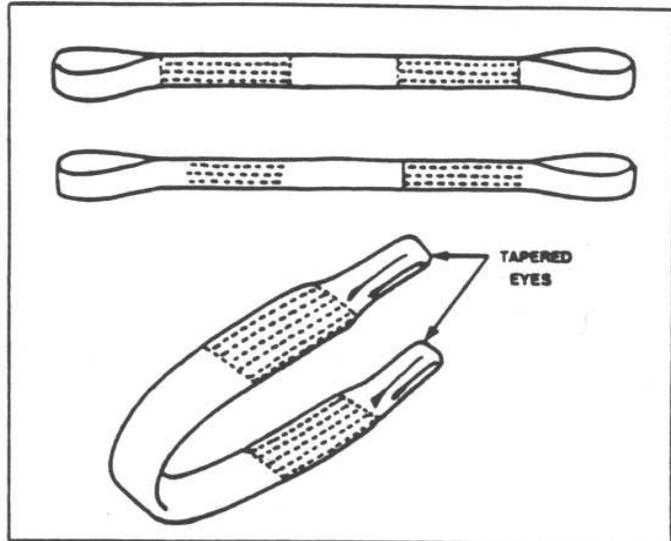
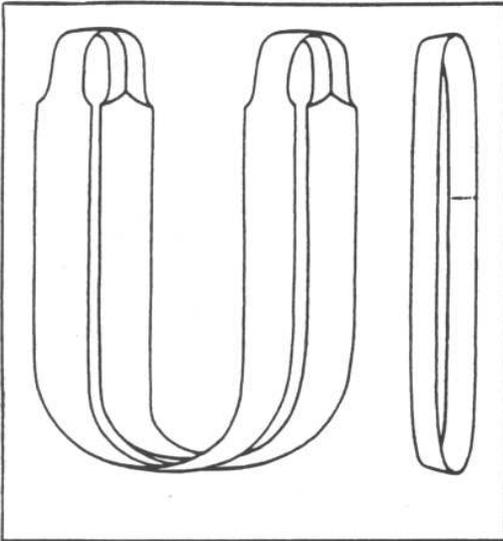
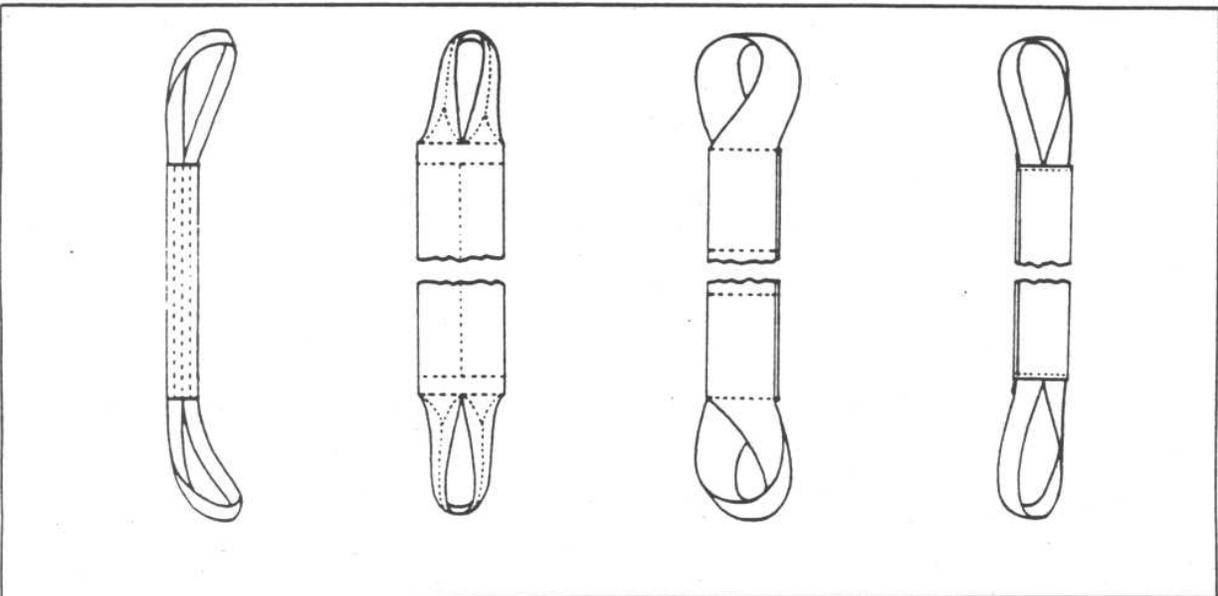
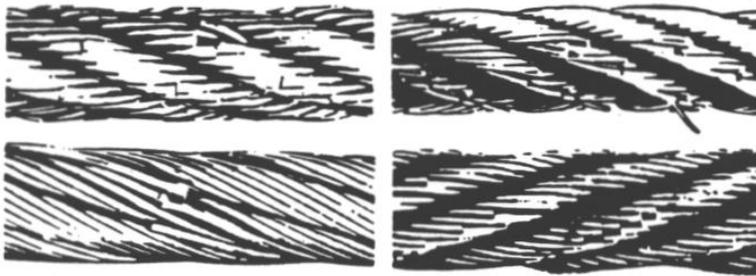
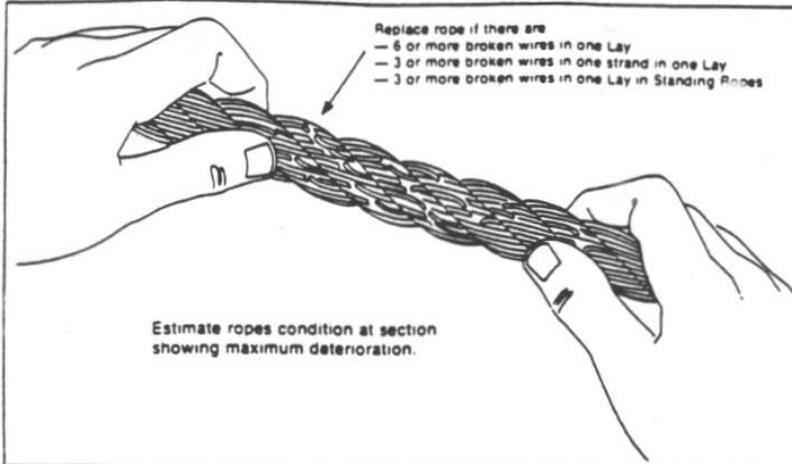


Fig. 6.26 Twisted Eye Slings



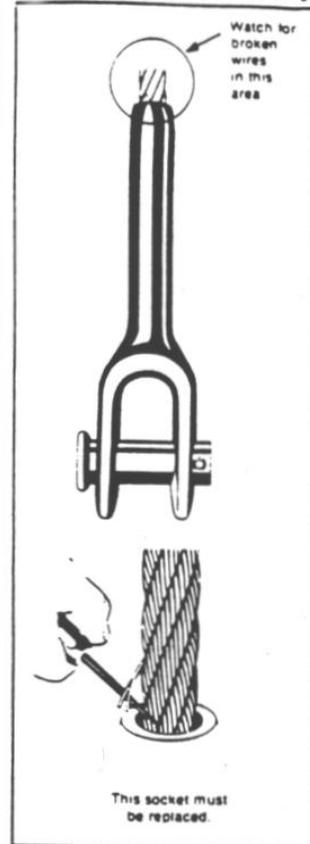
RIGGING INFORMATION

Rope Replacement Criteria Based on the Number of Broken Wires

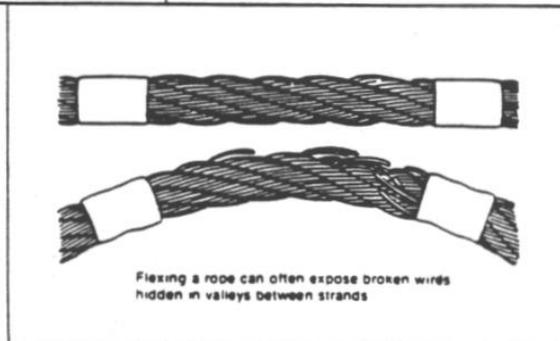
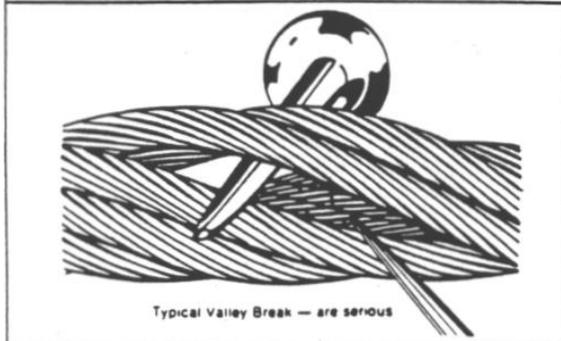
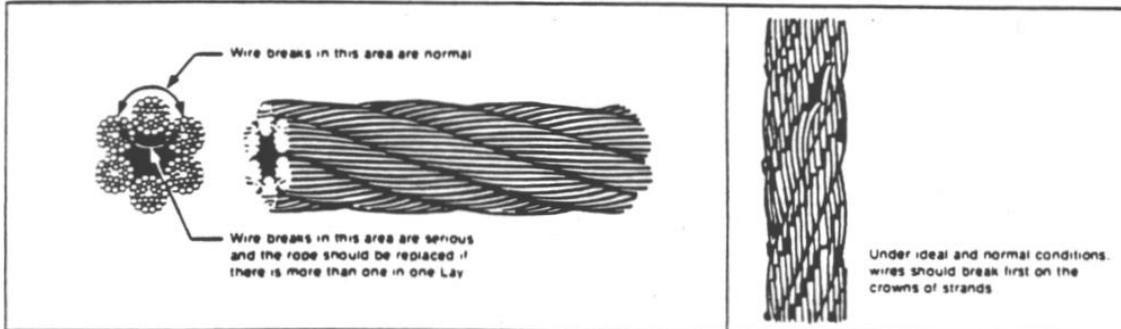


These ropes exhibit wire breaks caused by fatigue after repeated bending over sheaves of the proper size and under moderate loads

Broken Wires Near Fittings



Wire Breaks Inside a Rope



RIGGING INFORMATION

SHACKLES:

There are two types of shackles commonly used in rigging. They are the anchor (bow type) shackle and chain ("D" type) shackle both of which are available with screw pins or round pins.

Shackles, like most other rigging hardware are sized by the diameter of the steel in the bow section rather than the pin size. They should only be of forged alloy steel.

Never replace the shackle pin with a bolt, only the proper fitted pin should be used. Bolts are not intended to take the bending that is normally applied to the pin.

Never use a shackle if the distance between the eyes is greater than listed in the following table. All pins must be straight and all screw pins must be completely seated. Cotter pins must be used with all round pin shackles.

Shackles worn in the crown or the pin by more than 10% of the original diameter should be destroyed.

Never allow a shackle to be pulled at an angle because the capacity will be tremendously reduced. Centralize whatever is being hoisted on the pin by suitable washers or spacers.

Do not use screw pin shackles if the pin can roll under load and unscrew.

SHACKLES (ALL TYPES) — Weldless Construction — Forged Alloy Steel		
Stock Diameter (Inches)	Inside Width At Pin (Inches)	Max. Safe Working Load Single Vertical Pull (Pounds)
3/16	3/8	665
1/4	15/32	1,000
5/16	17/32	1,500
3/8	21/32	2,000
7/16	23/32	3,000
1/2	13/16	4,000
5/8	1 1/16	6,500
3/4	1 1/4	9,500
7/8	1 7/16	13,000
1	1 11/16	17,000
1 1/8	1 13/16	19,000
1 1/4	2 1/32	24,000
1 3/8	2 1/4	27,000
1 1/2	2 3/8	34,000
1 3/4	2 7/8	50,000
2	3 1/4	70,000
2 1/2	4 1/8	100,000
3	5	150,000
3 1/2	5 3/4	200,000
4	6 1/2	260,000

EYE BOLTS:

It is recommended that all eye bolts and ring bolts used for hoisting be of forged alloy steel and equipped with shoulders or collars. The plain or shoulderless eye bolt is fine for vertical loading but as soon as it is loaded at an angle it is subjected to bending and the load it can safely carry is severely reduced.

Even when equipped with shoulders, the safe working loads of eye bolts and ring bolts are reduced with angular loading. When installed the shoulder must be at right angles to the axis of the hole and must contact the working surface and the nuts must be properly torqued. Washers may have to be used to ensure that the shoulders are firmly in contact with the working surface. The tapped hole for screwed eye bolts (body bolts) should have a minimum depth of one and one-half times the bolt diameter and must be a good fit for the screwed shank of the eye bolt.

To keep the bending to a minimum, the loads should always be applied to the plane of the

eye, never in the other direction. This is particularly important when bridle slings are used because an angular pull is always developed in the eye bolts, unless a spreader bar is used as part of the sling.

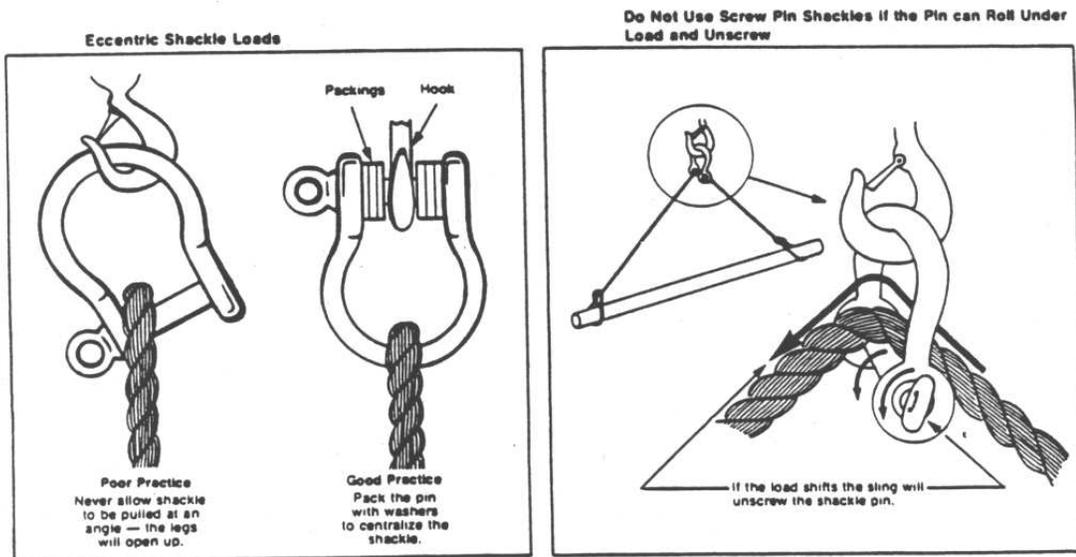
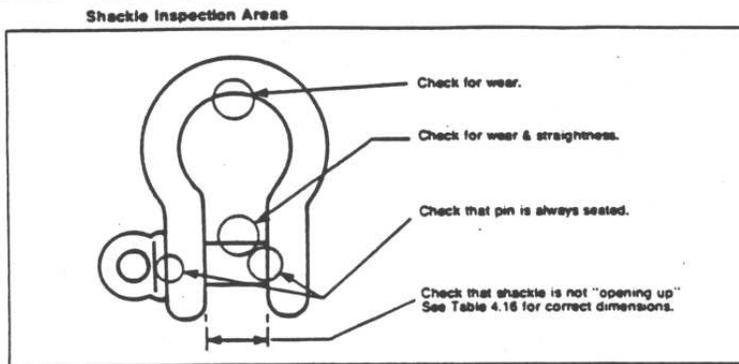
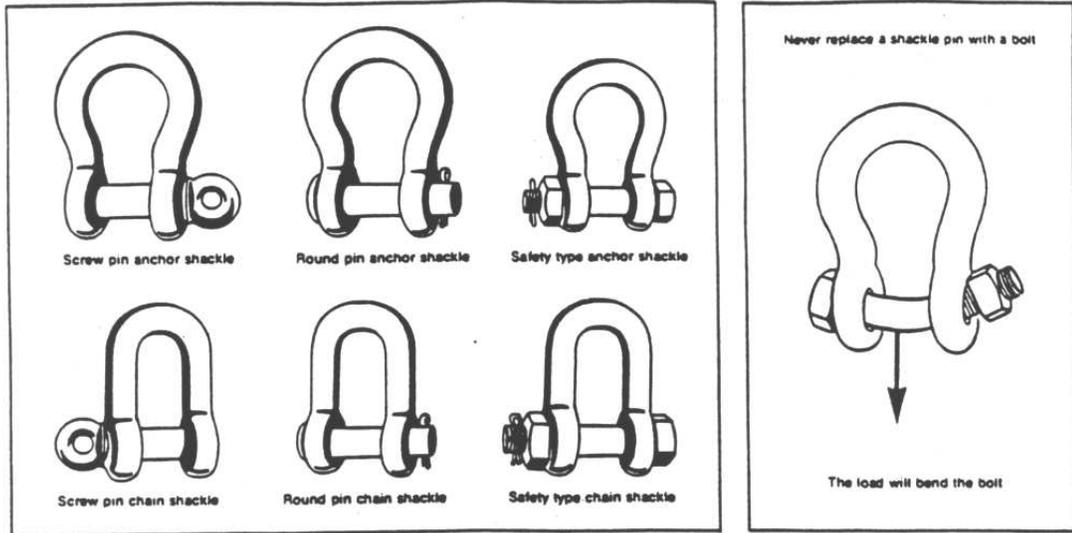
Never insert the point of a hook in an eye bolt, always use a shackle.

Do not use a sling reeved through an eye bolt or reeved through a pair of eye bolts. One single leg only should be attached to each eye bolt.

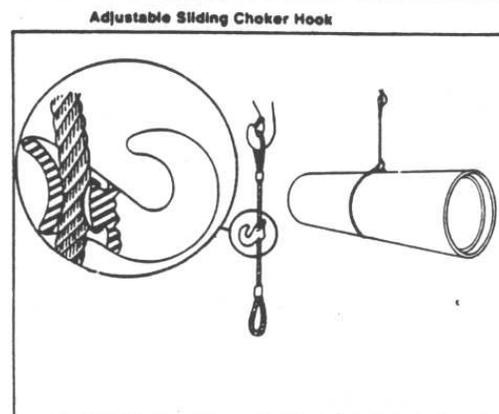
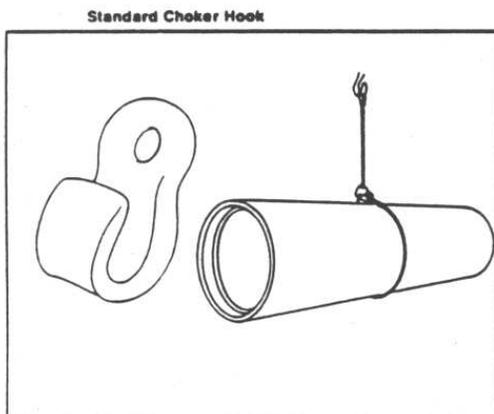
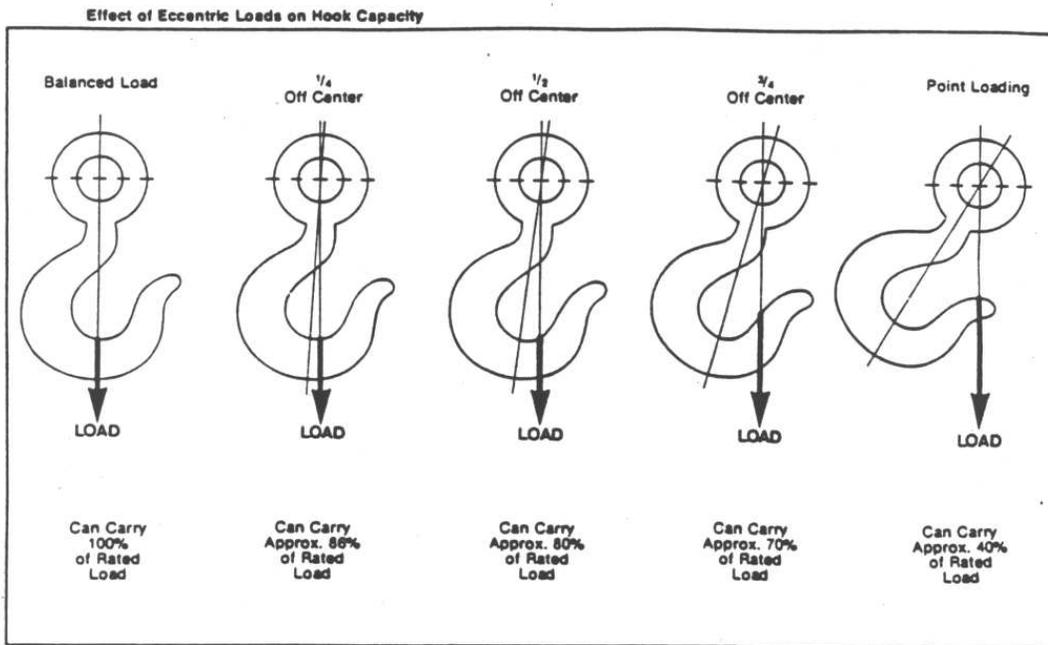
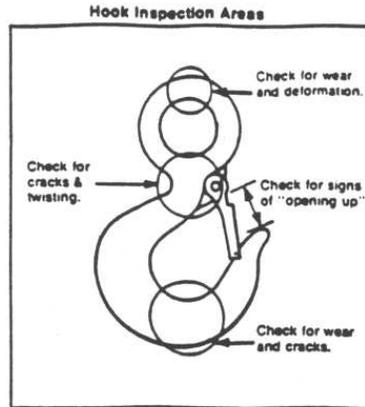
Where eye bolts cannot be kept in line with each other and at the same time tightened, thin washers or shims may be inserted under the collars to permit the eye bolt being tightened and turned in line with each other.

The same precautions apply to ring bolts and the working loads are generally the same as for the eye bolts.

RIGGING INFORMATION



RIGGING INFORMATION



RIGGING INFORMATION

The following tables of loads (Tables 4.5, 4.6, 4.7, 4.8 and 4.9) are included to provide an indication of what can be expected from a

hook based on its throat opening. Refer to the manufacturers' ratings for specific values of specific hooks.

TABLE 4.5

EYE HOOKS, SHANK HOOKS, SWIVEL HOOKS FORGED ALLOY STEEL (SAFETY FACTOR = 5)		
 Eye Hook	 Swivel Hook	 Shank Hook
Throat Opening (Inches)	Maximum Safe Working Load (Pounds)	
5/8	600	
11/16	800	
1	1,500	
1 1/16	2,000	
1 1/8	2,500	
1 1/4	4,000	
1 3/8	4,500	
1 1/2	5,000	
1 5/8	5,500	
1 3/4	6,000	
1 7/8	6,800	
2	8,000	
2 1/8	8,400	
2 1/4	10,000	
2 1/2	10,400	
2 3/4	11,000	
3	12,500	
3 1/8	13,000	
3 1/4	16,000	
3 3/8	18,000	
3 1/2	19,200	
3 3/4	20,000	
4	24,000	
4 1/4	26,000	
4 1/2	33,400	

TABLE 4.6

TYPICAL SORTING HOOK FORGED ALLOY STEEL	
	
I.D. of Eye Opening at Top of Hook	1 1/4" 2 13/16"
Safe Working Load 2 1/2" From Tip	2 Tons
Safe Working Load at Bottom of Hook	7 1/2 Tons

TABLE 4.7

CHAIN GRAB HOOKS (CLEVIS TYPE AND EYE TYPE) FORGED ALLOY STEEL		
 Clevis Type		 Eye Type
Throat Opening (Inches)	For Size of Chain (Inches)	Maximum Safe Working Load (Pounds)
1 1/32	1/4	2,750
7/16	5/16	4,300
1/2	3/8	5,250
9/16	7/16	7,000
21/32	1/2	9,000
25/32	5/8	13,500
13/16	3/4	19,250
1 1/16	7/8	26,000
1 3/16	1	34,000

TABLE 4.8

CHAIN SLIP HOOKS (CLEVIS TYPE AND EYE TYPE) FORGED ALLOY STEEL (SAFETY FACTOR = 4)		
 Clevis Type		 Eye Type
Throat Opening (Inches)	For Size of Chain (Inches)	Maximum Safe Working Load (Pounds)
15/16	1/4	2,750
1 1/16	5/16	4,300
1 3/16	3/8	5,250
1 9/16	7/16	7,000
1 11/16	1/2	9,000
2	5/8	13,500
2 1/8	3/4	19,250
2 3/4	7/8	26,000
3	1	34,000

TABLE 4.9

SLIDING CHOKER HOOKS FORGED ALLOY STEEL (SAFETY FACTOR = 5)		
		
Throat Opening (Inches)	For Rope Size (Inches)	Maximum Safe Working Load (Pounds)
1/2	1/4 - 5/16	1,500
5/8	3/8	2,600
7/8	1/2	3,400
1 1/8	5/8	5,100
1 1/4	3/4	8,000
1 7/16	7/8 - 1	15,000
1 3/4	1 1/8 - 1 1/4	23,000
2 1/16	1 3/8 - 1 1/2	30,000

RIGGING INFORMATION

Alloy Chain Slings Working Load Limits*

Size of Chain		Single Chain Lbs. at 90°	Double Chain Slings/Lbs. Type D			Triple and Quad Chain Slings/Lbs. Type T and Type Q		
Ins.	mm							
9/32	7	3,500	6,050	4,950	3,500	9,100	7,400	5,250
3/8	10	7,100	12,300	10,000	7,100	18,500	15,000	10,600
1/2	13	12,000	20,800	17,000	12,000	31,200	25,000	18,000
5/8	16	18,100	31,300	25,600	18,100	47,000	38,400	27,200
3/4	20	28,300	49,000	40,000	28,300	73,500	60,000	42,500
7/8	22	34,300	59,400	48,500	34,300	89,100	72,800	51,500
1	26	38,750†	67,100	54,800	38,760	100,600	82,200	58,200
1 1/4	32	57,500†	99,600	81,300	57,500	149,400	122,000	86,300

* Important: Working Load Limit should not be exceeded Ratio 4 to 1.
† Values shown for these sizes are Grade 63 embossed "A" only.

Synthetic Web Slings

- Single Ply Triangle

Sling body width (inches)	Vertical	Choker	Vertical Basket	60 Deg. Basket	45 Deg. Basket	30 Deg. Basket
1	1,600	1,200	3,200	2,720	2,240	1,600
2	3,200	2,400	6,400	5,440	4,480	3,200
3	4,800	3,600	9,600	8,160	6,720	4,800
4	6,400	4,800	12,800	10,880	8,960	6,400
5	8,000	6,000	16,000	13,600	11,200	8,000
6	9,600	7,200	19,200	16,320	13,440	9,600

NOTES: (1) All angles shown are measured from the horizontal
(2) Capacities for intermediate widths not shown may be obtained by interpolation

Shackles Screw Pin Anchor Type				Forged Eye Bolts Shoulder Nut			
Nominal Shackle Size (inches)	Working Load Limit (pounds)	Nominal Shackle Size (inches)	Working Load Limit (pounds)	Shank Size (inches)	90 Deg. To Horiz.	60 Deg. To Horiz.	45 Deg. To Horiz.
3/16	660	1	17,000	1/4	500	175	125
1/4	1,000	1 1/8	19,000	5/16	800	280	200
5/16	1,500	1 1/4	24,000	3/8	1,200	420	300
3/8	2,000	1 3/8	27,000	1/2	2,200	770	550
7/16	3,000	1 1/2	34,000	5/8	3,500	1,225	875
1/2	4,000	1 3/4	50,000	3/4	5,200	1,820	1,300
5/8	6,500	2	70,000	7/8	7,200	2,520	1,800
3/4	9,500	2 1/4	80,000	1	10,000	3,500	2,500
7/8	13,000	2 1/2	110,000	1 1/4	15,200	5,320	3,800
				1 1/2	21,400	7,490	5,350

Wire Rope Slings 6 x 19 or 6 x 37 IWRC IPS

Rope Diameter (inches)	Vertical (1)	Choker (1)	Vertical Basket (2)	60 Deg. To Horiz.	45 Deg. To Horiz.	30 Deg. To Horiz.	Rope Diameter (inches)
1/4	1,120	840	2,200	1,940	1,580	1,120	1/4
3/8	2,400	1,860	5,000	4,200	3,600	2,400	3/8
1/2	4,400	3,200	8,800	7,600	6,200	4,400	1/2
5/8	6,800	5,000	13,600	11,800	9,600	6,800	5/8
3/4	9,800	7,200	19,400	16,800	13,800	9,800	3/4
7/8	13,200	9,800	26,000	22,000	18,500	13,200	7/8
1	17,000	12,800	34,000	30,000	24,000	17,000	1
1 1/8	20,000	15,600	42,000	36,600	30,000	20,000	1 1/8
1 1/4	24,000	18,400	48,000	42,000	34,000	24,000	1 1/4
1 3/8	30,000	22,000	58,000	50,000	42,000	30,000	1 3/8
1 1/2	34,000	26,000	70,000	60,000	50,000	34,000	1 1/2
1 5/8	40,000	30,000	82,000	70,000	58,000	40,000	1 5/8
1 3/4	48,000	36,000	94,000	82,000	66,000	48,000	1 3/4
2	60,000	46,000	122,000	106,000	86,000	60,000	2

NOTES: (1) These values are based on slings being vertical. If they are not vertical, the rated load (rated capacity) shall be reduced.
(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

PENCE CONSTRUCTION SLING INSPECTION RECORD

MANUFACTURER: _____ MONTH/YEAR _____

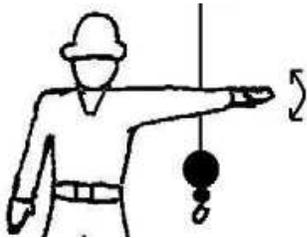
SERIAL NO. _____ WORKING LOAD LIMIT _____

TYPE _____ SIZE _____ REACH _____ GRADE _____

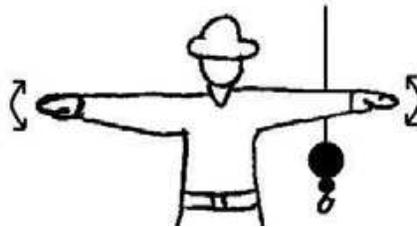
Day	WEEK #1			WEEK #2			WEEK #3			WEEK #4			WEEK #5		
	Condition	Date	By												
Monday	P / F			P / F			P / F			P / F			P / F		
Tuesday	P / F			P / F			P / F			P / F			P / F		
Wednesday	P / F			P / F			P / F			P / F			P / F		
Thursday	P / F			P / F			P / F			P / F			P / F		
Friday	P / F			P / F			P / F			P / F			P / F		
Saturday	P / F			P / F			P / F			P / F			P / F		
Sunday	P / F			P / F			P / F			P / F			P / F		

Date Put into Service _____ Date Removed/Destroyed _____ Date Repaired _____

STANDARD METHOD HAND SIGNALS



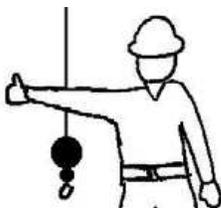
STOP – With arm extended horizontally to the side, palm down, arm is swung back and forth.



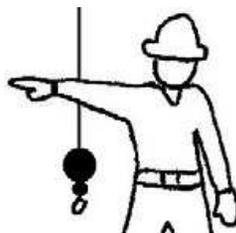
EMERGENCY STOP – With both arms extended horizontally to the side, palms down, arms are swung back and forth.



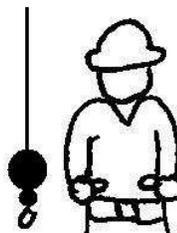
HOIST – With upper arm extended to the side, forearm and index finger pointing straight up, hand and finger make small circles.



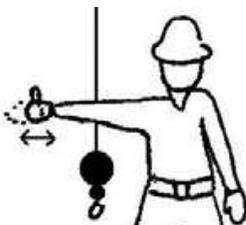
RAISE BOOM – With arm extended horizontally to the side, thumb points up with other fingers closed.



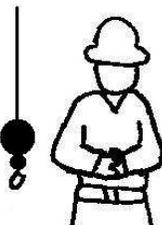
SWING – With arm extended horizontally, index finger points in direction that boom is to swing.



RETRACT TELESCOPING BOOM – With hands to the front at waist level, thumbs point at each other with other fingers closed.



RAISE THE BOOM AND LOWER THE LOAD – With arm extended horizontally to the side and thumb pointing up, fingers open and close while load movement is desired.



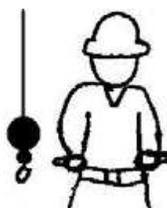
DOG EVERYTHING – Hands held together at waist level.



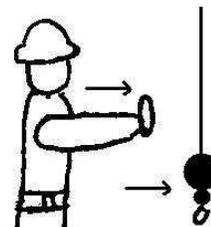
LOWER – With arm and index finger pointing down, hand and finger make small circles.



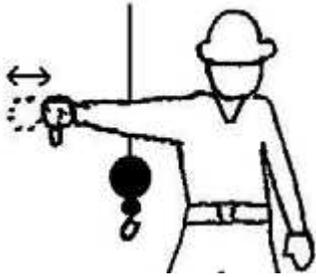
LOWER BOOM – With arm extended horizontally to the side, thumb points down with other fingers closed.



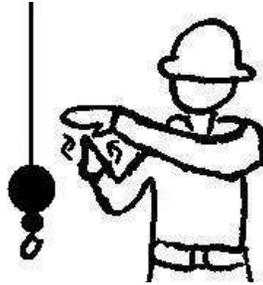
EXTEND TELESCOPING BOOM – With hands to the front at waist level, thumbs point outward with other fingers closed.



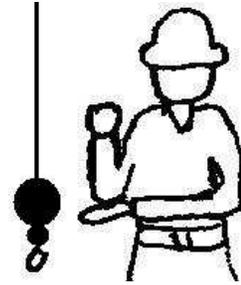
TRAVEL/TOWER TRAVEL – With all fingers pointing up, arm is extended horizontally out and back to make a pushing motion in the direction of travel.



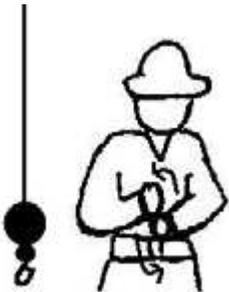
LOWER THE BOOM AND RAISE THE LOAD – With arm extended horizontally to the side and thumb pointing down, fingers open and close while load movement is desired.



MOVE SLOWLY – A hand is placed in front of the hand that is giving the action signal.



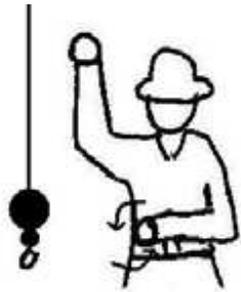
USE AUXILIARY HOIST (whipline) – With arm bent at elbow and forearm vertical, elbow is tapped with other hand. Then regular signal is used to indicate desired action.



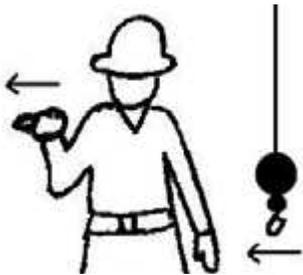
CRAWLER CRANE TRAVEL, BOTH TRACKS – Rotate fists around each other in front of body; direction of rotation away from body indicates travel forward; rotation towards body indicates travel backward.



USE MAIN HOIST – A hand taps on top of the head. Then regular signal is given to indicate desired action.



CRAWLER CRANE TRAVEL, ONE TRACK – Indicate track to be locked by raising fist on that side. Rotate other fist in front of body in direction that other track is to travel



TROLLEY TRAVEL – With palm up, fingers closed and thumb pointing in direction of motion, hand is jerked horizontally in direction trolley is to travel.

HOISTING OF PERSONNEL IN BASKETS

2.22

POLICY

The use of an equipment suspended personnel platform is prohibited on Pence Construction (Pence) projects unless the employer can demonstrate that conventional methods to do the work are more hazardous. The Pence Safety Director shall be notified of each request.

Specific crane operational criteria, listed in OR-OSHA, [Subpart CC](#), must be followed if it is determined that a suspended personnel platform will be used.

The use of equipment to hoist employees is prohibited except where the employer demonstrates that erection, use, and dismantling of conventional means of reaching the work area, such as a personnel hoist, ladder, stairway, aerial lift, elevating work, platform or scaffold, would be more hazardous, or is not possible because of the project's structural design or worksite conditions.

In this section the word "Equipment" refers to the crane or derrick being used to lift the personnel platform.

EQUIPMENT SETUP

- The equipment must be uniformly level within 1%
- Located on footing that a qualified person has determined to be sufficiently firm
- Equipment with outriggers or stabilizers must have them fully extended and locked
- The amount of extension must be the same for all outriggers or stabilizers and must be in accordance with the manufacturer procedures and load charts

EQUIPMENT CRITERIA

- Total load shall not exceed 50% of rated capacity for the radius and configuration of the equipment (except during proof testing)
- When the occupied personnel platform is in the stationary working position, all load and boom hoist brakes, swing brakes, operator actuated brakes and locking features must be engaged
- All equipment must have all applicable safety devices in place as required for each type of equipment
- Anti two blocking device must be operational and in place
- Load line hoist must have a system which regulates the lowering rate of speed of the hoisting mechanism

PERSONNEL PLATFORM CRITERIA

- Platform and the attachment/suspension system must be designed by a qualified person
- Attachment/suspension system must allow the platform to remain within 10 degrees of level at all times
- Attachment/suspension system must be designed to minimize tipping of the platform due to movement of employees
- Platform must be capable of supporting, without failure its own weight and at least 5 times the maximum intended load
- All welding on a platform must be performed by a certified welder.
- Platforms must be equipped with a guardrail system which:
 - Meets requirements of [Subpart M](#)
 - Must be enclosed at least from the toe board to the midrail
 - Must be solid or
 - Opening no larger than ½ inch
- Anchorage points for PFAS must meet requirements of [Subpart M](#)
- A grab rail must be installed inside the perimeter except at the gate
- Access gates must
 - Not swing outward
 - Equipped with a device that prevents accident opening
- Headroom must be sufficient to allow workers to stand upright
- Must have overhead protection
- Overhead protection must not obscure the view of the operator or platform occupants
- Weight of platform and its rated capacity must be posted on the platform

PLATFORM LOADING

- Platform shall not be loaded in excess of its rated capacity
- Platforms must be used to lift employees, their tools and materials needed for the task
- Platforms are not to be used to lift materials when not lifting personnel
- Materials and tools must:
 - Be secured to prevent displacement
 - Evenly distributed
- Number of employees occupying the lift must never exceed the number the lift was designed to hold

ATTACHMENT AND RIGGING

- Hooks used as connection between the hoist lines and the platform must be:
 - Type that can be closed and locked, eliminating the throat opening
 - Closed and locked when attached
- Shackles used in place of hooks must be of the alloy anchor type with either:
 - A bolt, nut and retaining pins in place or

- Of the screw type with the screw pin secured from accidental removal
- Where other detachable devices are used, they must be of the type that can be closed and locked to the same extent as the devices listed above
- When a rope bridle is used to suspend the platform each bridle leg must be connected to a master link or shackle in a manner that ensures that the load is evenly divided
- Rigging hardware and hooks must be capable of supporting, without failure at least 5 times the maximum intended load
- Eyes in wire rope slings must be fabricated with thimbles
- Bridles and associated rigging for suspending personnel platforms must be used only for suspending the employees, their tools and materials
- Bridles and associated rigging must not have been used for any other purpose other than hoisting personnel

TRIAL LIFT AND INPECTIONS

- A trial lift with an unoccupied platform loaded to at least the anticipated lift weight must be made from where the employees will enter the platform to each location at which the platform is to be hoisted and positioned
- The trial lift must be performed immediately prior to each shift in which personnel will be hoisted
- The trial lift must be repeated in each of the following circumstances
 - The equipment is moved to a new location
 - The lift route is changed
- The competent person must determine that:
 - All safety devices and operational aids require for the equipment by [Subpart CC](#) are activated and functioning
 - Nothing interferes with the equipment or platform in the course of the lift
 - The lift will not exceed 50% of the equipment's rated capacity at any time during the lift
 - The load radius to be used during the lift has been accurately determined
- Immediately after the trial lift the competent person must:
 - Conduct a visual inspection of:
 - The equipment
 - Base support or ground
 - Personnel platform
 - Confirm that, upon completion of the trial lift the test weight has been removed
- Immediately prior to each lift:
 - The platform must be hoisted a few inches with personnel, tools and material on board and inspected by the competent person to ensure it is secure and properly balanced
 - The competent person must determine if the following conditions exist prior to lifting personnel
 - Hoist ropes must be free of deficiencies in accordance to rule [1926.1413\(a\)](#) of Subpart CC
 - Multiple part lines must not be twisted

- Primary attachment must be centered over platform
- Hoisting system must be inspected to ensure that all ropes are properly seated on drums and in sheaves

PROOF TESTING

- Prior to hoisting employees and after any repair or modification, the platform and rigging must be proof tested to 125% of the platforms rated capacity
- Proof testing may be done concurrently with the trial lift
- The platform must be lowered by controlled load lowering, braked and held in a suspended position for a minimum of 5 minutes with the test load evenly distributed on the platform
- After proof testing, a competent person must inspect the platform and rigging to determine if the test passed
- If the test fails or if any deficiencies are found all must be corrected and the test repeated
- Hoisting of personnel will not be conducted until the competent person determines that the platform and rigging have passed the proof test

WORK PRACTICES

- Hoisting of personnel must be performed in a slow, controlled and cautious manner with no sudden movements of the equipment or platform
- Platform occupants must:
 - Keep all body parts inside the platform while raising, lowering or horizontal movement occurs
 - Stay on the deck of the platform at all times
 - Not pull the platform out of plumb in relation to the hoisting equipment
- Before employees enter or exit the platform, when not landed, the platform must be secured to the structure
- If the platform is secured to the structure the equipment operator must not move the platform
- Use taglines when necessary to control the platform
- Where platforms are not equipped with controls the equipment operator must stay at the controls while the platform is occupied
- Where the platform is equipped with controls all of the following must be met at all times when the platform is occupied
 - The occupant using the controls must be a qualified person
 - The equipment operator must be at a set of controls that include boom and swing functions
 - Platform operating manual must be in the platform or on the equipment
- If the wind speed exceeds 20 MPH (sustained or gusts) at the personnel platform, the qualified person must determine if it is safe to start or continue lift operations
- If other dangerous or hazardous weather or environmental conditions exist, the qualified person must determine if it is safe to start or continue lift operations

- Employees being hoisted must stay in communications with the signal person (if used) or the operator
- Except over water employees occupying the platform must be provided and use a personal fall arrest system. (PFAS)
- PFAS must be attached to a structural member within the platform
- When working over water the requirements of rule [1926.106](#) apply
- The PFAS including the anchor point must meet the requirements in [1926.502](#)
- No lifts must be made on any other of the equipment load lines while personnel are being hoisted (Except in pile driving operations)
- Factory produced boom mounted personnel platforms that incorporate a winch as part of the original equipment, are permitted to hoisted by the winch if:
 - Winch line load does not exceed 500 lbs.
 - Does not exceed the rated capacity of the winch and platform
- Traveling with hoisted employees is prohibited except:
 - Equipment travels on fixed rails
 - Employer demonstrates there is no safe alternative
 - Exceptions do not apply to rubber-tired equipment
- Hoisting of personnel within 20 ft. of power lines up to 350kV or 50 ft. of power lines over 350kV is prohibited

PRE-LIFT MEETING

- A pre-lift meeting must be held to review the applicable requirements of this section and the procedures that will be followed
- Meeting must be attended by the following:
 - Equipment operator
 - Signal Person (if used)
 - Employees to be hoisted
 - The person responsible for the task to be performed
- Held prior to trial lift at each new work location
- Must be repeated for any new employees assigned to the operation
- This meeting and all tests shall be documented per attached log and left with the equipment operator and site superintendent



HOISTING PERSONNEL – PRE-LIFT MEETING LOG

PROJECT NAME: _____ **DATE:** _____
PROJECT ADDRESS: _____ **TIME:** _____
SPECIFIC LOCATION OF THE LIFT: _____
LIFT COMPETENT PERSON: _____

TOPICS OF DISCUSSION

Applicable requirements for hoisting personnel in a man basket <input type="checkbox"/> Equipment setup <input type="checkbox"/> Equipment criteria <input type="checkbox"/> Platform criteria <input type="checkbox"/> Platform loading <input type="checkbox"/> Attachments and rigging <input type="checkbox"/> Trial lift and inspections <input type="checkbox"/> Proof testing <input type="checkbox"/> Work practices	<div style="text-align: right;"><u>Notes:</u></div> <p style="text-align: center;"><i><u>Meeting must be held prior to trial lift at each new work location.</u></i></p> <p style="text-align: center;"><i><u>Must be repeated for any new employees assigned to the operation.</u></i></p> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>
Reason for using the man basket	
Means of Fall Protection	_____
PPE requirements	_____
Results of the inspection and test	_____
PTP for task reviewed by all	_____

PLEASE PRINT	SIGNATURES
Competent Person:	Signature:
Crane Operator:	Signature:
Signal Person:	Signature:
Print Name:	Signature:



MAN LIFT PLATFORM - TRIAL LIFT, INSPECTION FORM

PROJECT NAME: _____ **DATE:** _____
PROJECT ADDRESS: _____ **TIME:** _____
SPECIFIC LOCATION OF THE LIFT: _____
LIFT COMPETENT PERSON: _____

Note: Hoisting of personnel in a man basket is considered a critical lift. Therefore all provisions specified in Section 2.21 Cranes must be met before this form is used. Including but not limited to 2.21B Crane Assembly Area and Work Zone Assessment Form, 2.21C Work Zone Power Line Safety Form and 2.21D Crane Lift Plan Form

Trial lift to each location the platform will be hoisted?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Platform loaded to anticipated lift weight?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Trial lift performed immediately prior to each shift?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Trial lift repeated when crane relocated?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Trial lift repeated when lift route changed?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are all the safety devices and operational aids activated and functioning?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Any obstructions present in the lift path?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Verified that lift does not exceed 50% of cranes capacity at any time during the lift?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Load radius to be used during lift has been accurately determined?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Immediately after the lift, the Competent Person has conducted a visual inspection of:	
• The Equipment (crane)	<input type="checkbox"/> YES <input type="checkbox"/> NO
• The base support and/or ground	<input type="checkbox"/> YES <input type="checkbox"/> NO
• The personnel platform	<input type="checkbox"/> YES <input type="checkbox"/> NO
• The attachment rigging	<input type="checkbox"/> YES <input type="checkbox"/> NO
Has the test weight been removed from the platform?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Prior to each lift the competent person must perform the following inspections:	
• Man lift Platform has been hoisted a few inches with personnel, material and tools	
○ Platform is secure and balanced	<input type="checkbox"/> YES <input type="checkbox"/> NO
○ Hoist ropes are free of deficiencies in accordance with subpart 1926.1413(a)	<input type="checkbox"/> YES <input type="checkbox"/> NO
○ Multiple part lines are not twisted	<input type="checkbox"/> YES <input type="checkbox"/> NO
○ Primary attachment is centered over platform	<input type="checkbox"/> YES <input type="checkbox"/> NO
○ All ropes properly seated on drums and in sheaves	<input type="checkbox"/> YES <input type="checkbox"/> NO

COMPETENT PERSON SIGNATURE: _____



MAN LIFT PLATFORM - PROOF TESTING FORM

PROJECT NAME: _____ **DATE:** _____
PROJECT ADDRESS: _____ **TIME:** _____
SPECIFIC LOCATION OF THE LIFT: _____
LIFT COMPETENT PERSON: _____

Note: Hoisting of personnel in a man basket is considered a critical lift. Therefore all provisions specified in Section 2.21 Cranes must be met before this form is used. Including but not limited to 2.21B Crane Assembly Area and Work Zone Assessment Form, 2.21C Work Zone Power Line Safety Form and 2.21D Crane Lift Plan Form

Platform Capacity:		Test Weight (125% of capacity)	
Will the proof test be done concurrently with the trial lift?			<input type="radio"/> YES <input type="radio"/> NO
Is the test load distributed evenly on the platform?			<input type="radio"/> YES <input type="radio"/> NO
Has the platform been lowered by controlled load lowering?			<input type="radio"/> YES <input type="radio"/> NO
Has the platform been braked and held in a suspended position for at least 5 minutes?			<input type="radio"/> YES <input type="radio"/> NO
Immediately after the lift, the Competent Person has conducted a visual inspection of:			
<ul style="list-style-type: none"> • The Equipment (crane) • The base support and/or ground • The personnel platform • The attachment rigging 			<input type="radio"/> YES <input type="radio"/> NO <input type="radio"/> YES <input type="radio"/> NO <input type="radio"/> YES <input type="radio"/> NO <input type="radio"/> YES <input type="radio"/> NO
Did the proof test pass?			<input type="radio"/> YES <input type="radio"/> NO
Has the test weight been removed from the platform?			<input type="radio"/> YES <input type="radio"/> NO

COMPETENT PERSON SIGNATURE: _____

FORKLIFT & ATV PROGRAM

2.23

FORKLIFT GENERAL REQUIREMENTS

Per OR-OSHA Division 2, Subpart N rule [1910.178\(l\)\(1\)\(i\)](#). Pence Construction (Pence) requires that any employee that operates a powered industrial truck (forklift) of any size must first complete a training program. Upon completion of the training program the operator must be evaluated by the trainer before being allowed to operate a forklift on an actual jobsite.

TRAINING PROGRAM IMPLIMENTATION

Trainees may operate a forklift only;

- Under the direct supervision of persons who have the knowledge, training and experience to train operators and evaluate their competence and
- Where such operation does not endanger the trainee or other employees.
- Operator training and evaluations must be conducted by persons who possess the knowledge, training, and experience to train forklift operators and evaluate their competence.

TRAINING PROGRAM CONTENT

Forklift Operators shall receive initial general training on the following topics:

- Operating instructions, warnings, and precautions for the types of forklift the operator will be authorized to operate.
- Differences between the forklift and the automobile.
- Forklift controls and instrumentation, where they are located, what they do, and how they work.
- Engine or motor operation.
- Steering and maneuvering.
- Visibility (including restrictions due to loading).
- Fork and attachment adaptation, operation, and use limitations.
- Vehicle capacity and how to use the load chart.
- Vehicle stability.
- Any vehicle inspection and maintenance the operator will be required to perform.
- Refueling and/or charging of batteries.
- Operating limitations.
- Any other operating instruction, warnings, or precautions listed in the operator's manual for the type of vehicle the operator is being trained to operate.

Workplace Topics – Site Specific

- Familiarization training specific to the forklift the operator will use.
- Changing surface conditions where the vehicle will be operated.
- Composition of loads to be carried and load stability.
- Load manipulation, stacking, and un-stacking.

- Pedestrian traffic.
- Narrow and restricted areas where the forklift will be operated.
- Ramps and sloped surfaces that could affect the vehicles stability.
- Hazardous locations where the vehicle will be operated.
- Closed environments and other areas where insufficient ventilations could cause the build-up of carbon monoxide or diesel exhaust.
- Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.

Refresher Training

- Operator refresher training shall be conducted at least every three years by persons who possess the knowledge, training, and experience to evaluate operators in their competence.
- Refresher training may be required if:
 - An operator has been observed operating a forklift in an unsafe manner.
 - An operator is involved in an accident or near miss incident.
 - An operator is assigned to operate a different type or size of forklift or
 - A condition in the workplace changes which could affect the safe operation of the forklift.

Documentation

- All Pence forklift operators must have a valid driver license to operate a forklift.
- All Pence forklift operators must have a Pence operator's card.
- A Pence operator's card will be automatically issued if the Pence employee has one of the following:
 - Valid operator card issued by one of the union's
 - Valid operator card issued by an outside known training entity (I.E. Overton Safety or other)
 - Valid operator card issued by a large national rental yard (Star, Ahern, Sunbelt, Etc.)
- If an employee has a valid operator's card issued by another employer. Their operating skills will at evaluated by the Safety Director or Sr. Field Safety Manager before they are issued a Pence operator card.
- The Pence superintendent is responsible to verify the operator's license.
- It is required by OR-OSHA that any operator that is trained and or evaluated in forklift operation be "certified" by documentation of such.
 - Pence will issue trained operators a forklift card which includes the following;
 - The name of the operator being trained.
 - The date the training was conducted.
 - The date the operator was evaluated.
 - The name and signature of the trainer.
- It is required by OR-OSHA that any operator that is trained and or evaluated in forklift operation be trained on the specific forklift the operator will use and on the conditions of the site where the equipment will be operated. This training will be documented in writing in the following forms:

- [Extended Reach Forklift Make/Model Specific Familiarization Form \(2.23B\)](#)
- [Straight Mast Forklift Make/Model Specific Familiarization Form \(2.23C\)](#)

INSPECTIONS

Inspections procedures will be conducted as follows:

- All powered industrial trucks must be inspected by the certified operators daily or prior to each shift.
- Certified operators will document the daily or pre-shift inspections in the following form [Forklift Operator's Daily Checklist Form \(2.23A\)](#).

RIGGING

- All rigging equipment used on site in conjunction with forklifts or other lifting devices and material handling by Pence or its subcontractors will follow the rigging and forklift manufactures recommendations.
- This includes but is not limited to:
 - Rigging components rejection criteria for remove from use.
 - Rigging components lifting capacities
 - No Free Rigging (Rigging must be positively attached to the forklift or other lifting devise)
 - Following the load chart of the forklift or other lifting devise

OPERATION OF FORKLIFTS BY NON-PENCE EMPLOYEES

Operation of forklifts owned or rented by Pence by others than those employed by Pence is strictly prohibited except as outlined below.

- No non-Pence employee will be allowed to operate a Pence owned or rented forklift without a valid Pence Operator's card.
- For a subcontractor operator to receive a Pence operator's card, the project team must first: (These requirements are project specific)
 - Get approval by one of the Principals
 - Every non-employee operator must first sign a release of indemnification form
 - Verify proof of training for the size and type of forklift they are requesting a non-employee to operate.
- Once all the items above are in place then:
 - Every non-employee operator must receive an operator evaluation from either the Pence Safety Director or Sr. Field Safety Manager
- A Pence card will be issued to match the validation (expiration) date of the original training
- Once a Pence operator card has been issued to the subcontractor operator, it can be used on other Pence projects if the project team has:
 - All the project specific requirements in place
 - Verified the Pence card is still valid

ATV GENERAL REQUIREMENTS

Per OR-OSHA Division 3, Subdivision E rule [437-003-0134\(1\)](#) Pence requires an assessment of the worksite to determine if there are hazards that would require Pence or subcontractor employees to use personal protective equipment while operating an ATV. This includes all four classifications of ATV's.

- Class I – includes “three-wheelers” and “quads”
- Class II – includes sport utility vehicles capable of cross-country travel, dune buggies, and sand rails
- Class III – includes off-road motorcycles
- Class IV – includes “side-by-sides”

SITE ASSESSMENT

- Prior to the mobilization and use of an ATV, a site-specific hazard assessment must be completed by the use of [ATV Hazard Assessment Form \(2.23E\)](#).
- Periodic assessments should be conducted as the topography, weather or site conditions change (suggested quarterly)
- In conducting this evaluation ATV manufacturer's instructions associated with ATV operation must be taken into consideration
- This evaluation must be documented by use of [ATV Daily Checklist Form \(2.23D\)](#) or similar for subcontractors

TRAINING

- All workers driving an ATV must have documented training for the specific equipment being used
- Refer to the operator's manual for required Safety information for worker protection (note that different brands and models have different requirements)
- Any driver who plans to use a public road must have a valid driver's license and show proof of attending the Oregon Online ATV Safety Education Course <http://www.rideatvoregon.org/>
- Employee and Subcontractor Employee training must be documented in the following [Required Safety & Equipment Training List Form \(2.07A\)](#).

USE

- All ATV's must:
 - Yield to heavy equipment, pick-ups, forklifts, pedestrians, etc.
 - Use of cell phones, radios or other electronic devices are prohibited
 - Follow the site speed limit at all times during operation
 - Not be parked in a location that blocks emergency egress or emergency vehicle access to the building
 - Limit the number of passengers to the number of seats
 - If seat belts are provided with the ATV, they must be worn during operation

INSPECTIONS

- Inspections shall be performed as per equipment manufactures instructions and requirements

PENCE CONSTRUCTION FORKLIFT OPERATOR'S DAILY CHECKLIST

Before Starting Engine Check the Following

Walk Around Items (Visual)	Status (place an X if it is ok)							Comments
	M	TU	W	TH	FR	SA	SU	
Decals, Signs, Leaks, etc.								
Front End, Forks, Carriage, Mast, Boom								
Wheels, Tires, Lug Nuts, Air Pressure								
Engine (Check oil level and leaks)								
Transmission (Check oil level and leaks)								
Engine Belts (Adjustment and wear)								
Air Cleaner								
Fuel Filter								
Radiator (Check level and leaks)								
Hydraulic Tank (Check level and leaks)								
Fuel Tank (Check level and leaks)								
Lubricate Chassis (As required)								
ROPS (Check for damage and steps etc.)								

After Starting Engine Check the Following

Start-Up Items	Status (place an X if it is ok)							Comments
	M	TU	W	TH	FR	SA	SU	
Engine (Does it sound normal)								
Instruments (Check for normal readings)								
Exhaust Sys (Check leaks and smoke)								
Lights (All Lights)								
Horn and Backup Alarms (Working)								
All Controls (Working normal)								
Transmission (Working normal)								
Brakes (Both parking and service)								
Steering (Working normal)								

NOTE ANYTHING ABNORMAL OR IN NEED OF REPAIR BELOW

Operator: _____ Superintendent: _____
 Forklift: _____ Dates (from/to:): _____

Extended Reach Forklift Make/Model Specific Familiarization

Employees Name: _____
(Please Print)

Date: _____

Employees Signature: _____

Jobsite: _____

Instructors Name: _____
(Please Print)

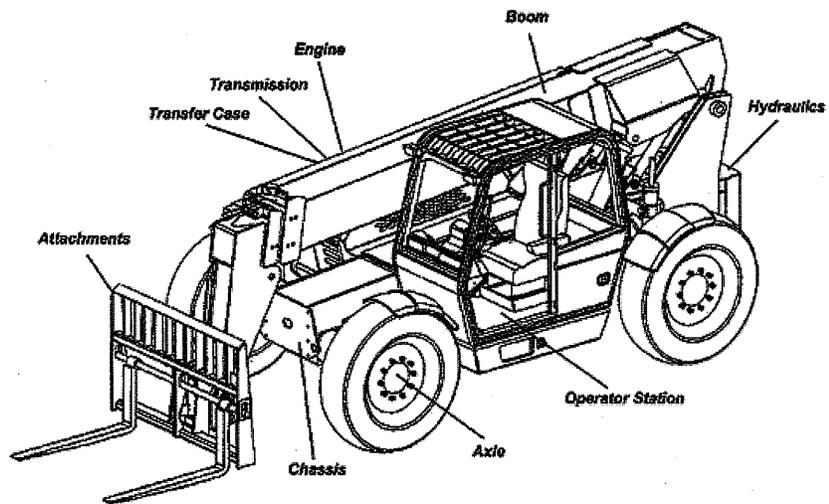
Instructors Signature: _____

Brand Name and Model # _____

Rental Co.: _____

Evaluation/Familiarization:

- Manual located and reviewed
- Pre-operation inspection
- Inspect work area (holes, vaults, power lines, overhead hazards, firm level surfaces, etc)
- Capacity plate – Load Chart – 24 inch load center
- Seatbelt use
- Operation of controls
- Driving procedures
- Backing procedures
- Parking procedures
- Picking loads
- Placing loads
- Unique characteristics
 - Swivel carriage
 - Outriggers
 - Attachments _____
 - _____
 - Fuel type _____
 - Max slope _____
 - Max reach _____



Straight Mast Forklift Make/Model Specific Familiarization

Employees Name: _____
(Please Print)

Date: _____

Employees Signature: _____

Jobsite: _____

Instructors Name: _____
(Please Print)

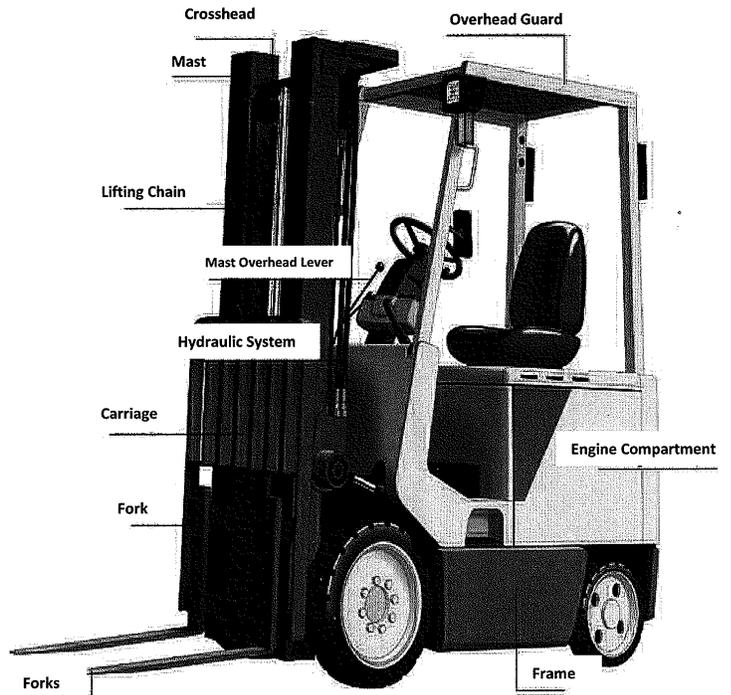
Instructors Signature: _____

Brand Name and Model # _____

Rental Co.: _____

Evaluation/Familiarization:

- Manual located and reviewed
- Pre-operation inspection
- Inspect work area (holes, vaults, power lines, overhead hazards, firm level surfaces, etc)
- Capacity plate – Load Chart – 24 inch load center
- Seatbelt use
- Operation of controls
- Driving procedures
- Backing procedures
- Parking procedures
- Picking loads
- Placing loads
- Unique characteristics
 - Free lift (second stage moves)
 - Non-marking tires
 - Attachments _____
 - _____
 - Fuel type _____
 - Max slope _____
 - Max height _____



Pence Construction ATV Daily Checklist

Model:		Equipment #:	
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DATE:								
<i>Initials of person performing inspection:</i>								
Has the operator been trained in the safe operation of this type of vehicle?		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
Inspection Item & Description (Pass / Fail)		P / F	P / F	P / F	P / F	P / F	P / F	P / F
<i>Walk Around Items (Visual)</i>								
1	Decals, Signs, Leaks, etc.	P / F	P / F	P / F	P / F	P / F	P / F	P / F
2	Wheels, Tires, Lug Nuts, Air Pressure	P / F	P / F	P / F	P / F	P / F	P / F	P / F
3	Operator's Manual	P / F	P / F	P / F	P / F	P / F	P / F	P / F
4	Quarterly Inspection (complete)	P / F	P / F	P / F	P / F	P / F	P / F	P / F
5	Engine Compartment	P / F	P / F	P / F	P / F	P / F	P / F	P / F
6	Air Filter (Every 20 hours)	P / F	P / F	P / F	P / F	P / F	P / F	P / F
7	All Fluid Levels	P / F	P / F	P / F	P / F	P / F	P / F	P / F
8	Fuel Tank (Check level and for leaks)	P / F	P / F	P / F	P / F	P / F	P / F	P / F
9	Lubricate Chassis (Every 50 hours)	P / F	P / F	P / F	P / F	P / F	P / F	P / F
10	ROPS (Check for damage and steps, etc.)	P / F	P / F	P / F	P / F	P / F	P / F	P / F
11	Doors (Make sure they close)	P / F	P / F	P / F	P / F	P / F	P / F	P / F
<i>Start-Up Items</i>								
1	Seat Belt	P / F	P / F	P / F	P / F	P / F	P / F	P / F
2	All Gauges	P / F	P / F	P / F	P / F	P / F	P / F	P / F
3	Warning Signs/Placards	P / F	P / F	P / F	P / F	P / F	P / F	P / F
4	Steering (working normal)	P / F	P / F	P / F	P / F	P / F	P / F	P / F
5	Lights	P / F	P / F	P / F	P / F	P / F	P / F	P / F
6	Horn	P / F	P / F	P / F	P / F	P / F	P / F	P / F
7	Brakes (service)	P / F	P / F	P / F	P / F	P / F	P / F	P / F
8	Gear shift	P / F	P / F	P / F	P / F	P / F	P / F	P / F
9	Gas pedal	P / F	P / F	P / F	P / F	P / F	P / F	P / F

NOTE ANYTHING ABNORMAL OR IN NEED OF REPAIR:

Operator: _____

Superintendent: _____

Vehicle: _____

Date: _____

Pence Construction ATV Hazard Assessment

Project Name:		Make & Model of ATV:	
Company:		Date of Assessment:	
Responsible Person's Name:		Signature:	
Locations on Project being Assessed:		ATV used by:	
CONDITIONS PRESENT IN TRAVEL PATH			
Uneven terrain	<input type="checkbox"/> Yes <input type="checkbox"/> No	Ditches	<input type="checkbox"/> Yes <input type="checkbox"/> No
Large Rocks	<input type="checkbox"/> Yes <input type="checkbox"/> No	Paved surfaces	<input type="checkbox"/> Yes <input type="checkbox"/> No
Dirt Roads	<input type="checkbox"/> Yes <input type="checkbox"/> No	Graded Roads	<input type="checkbox"/> Yes <input type="checkbox"/> No
Snow	<input type="checkbox"/> Yes <input type="checkbox"/> No	Ice	<input type="checkbox"/> Yes <input type="checkbox"/> No
High Wind	<input type="checkbox"/> Yes <input type="checkbox"/> No	Adequate Lighting	<input type="checkbox"/> Yes <input type="checkbox"/> No
Open Holes	<input type="checkbox"/> Yes <input type="checkbox"/> No	Pedestrians	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Trees / Bushes	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Steep Grade /not to exceed 10%	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Heavy Equipment	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Wet Surfaces	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Muddy or soft surfaces	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Public Roadway	<input type="checkbox"/> Yes <input type="checkbox"/> No
PPE / SAFETY MEASURES REQUIRED FOR USE			
Hard Hat	<input type="checkbox"/> Yes <input type="checkbox"/> No	Long Pants	<input type="checkbox"/> Yes <input type="checkbox"/> No
Safety Glasses	<input type="checkbox"/> Yes <input type="checkbox"/> No	Over the ankle boots	<input type="checkbox"/> Yes <input type="checkbox"/> No
Safety Vest	<input type="checkbox"/> Yes <input type="checkbox"/> No	Proper PPE in use	<input type="checkbox"/> Yes <input type="checkbox"/> No

ATV REQUIREMENTS

All buggies must have a 6ft ATV high viz flag	<input type="checkbox"/> Yes <input type="checkbox"/> No	Lights	<input type="checkbox"/> Yes <input type="checkbox"/> No
Seatbelts for each person	<input type="checkbox"/> Yes <input type="checkbox"/> No	Fire Extinguisher (2.5 lbs.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Company label / logo	<input type="checkbox"/> Yes <input type="checkbox"/> No	Company Phone #	<input type="checkbox"/> Yes <input type="checkbox"/> No
Gates / Doors closed when driving	<input type="checkbox"/> Yes <input type="checkbox"/> No	Weight Limits Understood	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roll-over protection	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Horn	<input type="checkbox"/> Yes <input type="checkbox"/> No		

All ATV's **must** adhere to the site posted speed limits. All ATV's must **yield** to pickup trucks, **heavy equipment**, and pedestrians
 Parking locations are job-specific, **do not park in front of doorways or block exits**. Do **not** operate ATV's while using a **cell phone**.

HOUSEKEEPING POLICY

2.24

POLICY STATEMENT

It is the position of Pence Construction (Pence) that every worker strives to provide a work environment free of unnecessary clutter, debris, and refuse of any kind.

It is the policy of Pence that:

- All direct hire, sub-contractor and sub tiered contractor work areas, lay down areas, lunch & office trailers, material storage areas and parking areas will be kept in a clean and orderly manner at all times.
- During the course of construction, alteration, or repairs, form and scrap lumber with protruding nails, and all other debris, shall be kept cleared from work areas, passageways, and stairs, in and around buildings or other structures.
- Combustible scrap and debris shall be removed at regular intervals during the course of construction.
- Safe means shall be provided to facilitate such removal.
- Containers shall be provided for the collection and separation of waste, trash, oily and used rags, and other refuse.
- Containers used for garbage and other oily, flammable, or hazardous wastes, such as caustics, acids, harmful dusts, etc. shall be equipped with covers.
- Garbage and other waste shall be disposed of at frequent and regular intervals.
- Work areas shall not be overly stocked with materials as to create/cause undue congestion, or cramped conditions.
- Store only that material that will be utilized in the near future whenever possible.
- An appropriate number of refuse containers shall be located as near the work stations, trailers etc. as possible and accessible to the site workers.
- Ensure containers are dumped as needed.
- Also ensure that appropriate containers are available and labeled for hazardous waste items.
- Each employee is responsible for keeping his/her immediate work area clean.
- Clean up of the work area shall be ongoing.
- Welding rod ends, paper, rags, scrap materials, and weekly composite etc. shall not be allowed to accumulate.
- Site management shall see that lunch trailers and office trailers are routinely cleaned and disinfected if appropriate.
- An ample supply of refuse containers shall be located to facilitate refuse removal.
- Toilet facilities/water closets shall be available on site in adequate numbers.
- A routine cleaning schedule shall be developed to ensure continued sanitary conditions.
- Periodic audits of these facilities shall be performed to verify that the cleaning schedule is adequate.
- Adjust schedule as needed.

- Clean hands unit shall be provided on projects in Oregon with an estimated cost of \$1,000,000.00 or more.
- Special attention shall be given to the storage of tools, materials and supplies in tool rooms/trailers.
- Tool rooms/trailers are to be maintained in a neat and orderly fashion at all times.
- Materials and supplies that are not compatible shall be stored separate from one another.
- Consult the Safety Data Sheet for compatibility information.

Disposal of Waste Materials

- Whenever materials are dropped more than 20 feet to any point lying outside the exterior walls of the building, an enclosed chute of wood, or equivalent material, shall be used. For the purpose of this paragraph, an enclosed chute is a slide, closed in on all sides, through which material is moved from a high place to a lower one.
- When debris is dropped through holes in the floor without the use of chutes, the area onto which the material is dropped shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edge of the opening above. Signs warning of the hazard of falling materials shall be posted at each level. Removal shall not be permitted in this lower area until debris handling ceases above.
- All scrap lumber, waste material, and rubbish shall be removed from the immediate work area as the work progresses.
- All solvent waste, oily rags, and flammable liquids shall be kept in fire resistant covered containers until removed from worksite.

2.25

The project superintendent is responsible for ensuring this program is properly implemented.

In accordance with OR-OSHA Division 3, Subdivision K rule [437-003-0404](#) all 125-volt, single phase, 15-20 and 30- Ampere receptacles on construction sites, that are for temporary power and are available for use by employees, must have approved ground fault circuit interrupters. GFI protection must be at the outlet end of the circuit. Extension cords or other devices with listed ground-fault circuit interrupter protection for personnel identified for portable are acceptable.

All electrical power equipment that has a nonstandard/specialized pigtail brought onsite are:

- Required to be mark or label in a way that lets others know of the hazard. As an example: A pigtail may be as 220V only.
- Required to be kept control of at all times, so that it does not become a hazard for others.

All electrical power equipment in field and shop operations will be inspected before each shifts use.

- 110-volt extension cords will also be inspected immediately if subjected to possible damage by vehicle or equipment traffic.
- At least quarterly all GFCI receptacles will be tested to ensure proper functioning.
- In addition, each jobsite will test continuity of power cords quarterly and mark female cord end with the appropriate colored tape which are as follows:
 - Quarter 1 (January, February, and March)..... WHITE
 - Quarter 2 (April, May, and June)..... GREEN
 - Quarter 3 (July, August, and September)..... RED
 - Quarter 4 (October, November, December)..... ORANGE
 - Defective..... BROWN
- If any power cord, end, or receptacle is found to be defective or in need of any repair it will be marked with BROWN tape and taken out of service for repairs.
- Once repairs are made to any tool or power cord it will be tested and marked with the appropriate colored tape before being placed back in service.

All power tools will be inspected before each shift's use, including power cord, plug, tool body and guards.

- Should a visual inspection indicate a need for repairs, the tool shall be tagged "out of service" and sent to the shop for repairs. Please indicate on the tag what is wrong with the tool.
- If tool, cord, and plug are defect-free the appropriate colored tape must be in place before the tool is used.

Receptacles, cords, and tools more than 125-volt, single phase, 30-ampere will be subject to the assured equipment grounding program as follows.

- All 220-volt temporary power cords will be protected from damage by vehicle and equipment traffic.
- Before each shift's use, visually inspect each extension cord, or other device, and any equipment connected by cord and plug, for external defects, such as deformed or missing pins or insulation damage, and for signs of possible internal damage.
- Extension cords, devices and receptacles not exposed to damage are exempt from this inspection.
- Any damaged or defective cord device or tool will be taken out of service tagged and sent to shop for repairs.
- Test all equipment grounding conductors for continuity.
- Test each receptacle or plug to assure the equipment grounding conductor is connected to its proper terminal.
- Do all required tests:
 - Before first use.
 - Before first use after repair.
 - Before use after any incident that reasonably could cause damage.
 - At least every 3 months.
- Record all tests required in this paragraph by means of colored cord tape as described above.
- The employer must designate one or more competent person to implement this program.

RESPIRATORY PROTECTION PROGRAM

2.26

Pence Construction (Pence) has determined that, due to the nature of the construction industry, our employees may at times be exposed to respiratory hazards during the course of their work. These hazards may include lack of sufficient breathable oxygen, and/or the presence of wood dust, and other particulates and vapors (the hazards). The purpose of this program is to ensure that all Pence employees are aware of such hazards, the necessity and procedures for protecting themselves from such hazards, and of remedial health measures to take if they are exposed to such hazards.

SCOPE AND APPLICATION

- This program applies to all employees who may come into contact with the hazards.
- Any employees required to wear respirators must be enrolled in the company's respiratory protection program.
- To be enrolled requires a medical evaluation, fit test for the respirator and training in cleaning, maintenance, and storage of respirators, and training in different types of respirators.
- Employees who voluntarily wear filtering face pieces (dust masks) are not subject to the medical evaluation, cleaning, storage, and maintenance provisions of this program.
- Employees participating in the respiratory protection program do so at no cost to them.
- The expense associated with training, medical evaluations, fit testing and respiratory protection equipment will be borne by the company.
- Each employee will be assigned a personal respirator.
- At no time will employees share the use of a respirator.

RESPONSIBILITIES

- Program Administrator: Duties of the program administrator include:
 - Selection of respiratory protection options.
 - Monitoring respirator use by employees in accordance with their certifications.
 - Arranging for and/or conducting training.
 - Ensuring proper storage and maintenance of respiratory protection equipment.
 - Conducting or have conducted qualitative fit testing.
 - Administering the medical surveillance program.
 - Maintaining records required by the program.
 - Evaluating the program.
 - Updating written program, as needed.

- Supervisors: Duties of the Jobsite Superintendent include:
 - Identifying work areas, or tasks that require workers to wear respirators, and evaluating hazards.
 - Ensuring employees under their supervision, required to wear a respirator, are enrolled in the company's respiratory program and have received appropriate training, fit testing, and medical evaluation.
 - Ensuring the availability of appropriate respirators and accessories.
 - Being aware of tasks requiring the use of respiratory protection.
 - Enforcing respirators are properly cleaned, maintained, and stored according to the respiratory protection plan.
 - Ensuring that respirators fit well and do not cause discomfort.
 - Continually monitoring work areas and operations to identify respiratory hazards.
 - Coordinating with the Program Administrator on how to address respiratory hazards or other concerns regarding the program.

- Employees: Duties of the employee:
 - Care for and maintain their respirators as instructed and store them in a clean sanitary location.
 - Inform their supervisor if the respirator no longer fits well and request a new one that fits properly.
 - Inform their supervisor or the Program Administrator of any respiratory hazard that they feel is not adequately addressed in the workplace and any other concerns they have regarding the program.

PROGRAM ELEMENTS

Selection Procedures:

- The Program Administrator will select respirators to be used on site, based on the hazards to which workers may be exposed and in accordance with all OR OSHA standards.
- The Program Administrator will conduct a hazard evaluation for each operation, or work area where airborne contaminants may be present in excess.
- The hazard evaluation will include:
 - Identification and development of a list of hazardous substances used in the workplace.
 - Review work processes to determine where potential exposure to these hazardous substances may occur.
 - Exposure monitoring to quantify air contaminants.
 - Monitoring will be contracted out.

Updating the Hazard Assessment:

- The Program Administrator must revise and update the hazard assessment as needed.

- If an employee believes respiratory protection is necessary, he/she is to contact the supervisor or the Program Administrator.
- The Program Administrator will evaluate the potential hazard and communicate the result to all employees.

Medical Evaluation

- Employees who are required to wear respirators must pass a medical exam before using a respirator on the job.
- The Program Administrator will select a medical facility to conduct the medical evaluations.
- The medical evaluation procedure is as follows:
 - The Program Administrator will set up the appointment with a Physician or other Licensed Health Care Professional (PLHCP) facility for the employees.
 - At the time the Program Administrator sets up the appointment he will inform the PLHCP facility of the of potential respiratory hazards and the working conditions the workers will be exposed to
 - The PLHCP facility will provide the questionnaire for the employee to fill out.
 - Based on the answers of the questionnaire the PLHCP facility will determine if additional exams or tests are required to determine if the employee is able to wear a respiratory.
 - The PLHCP facility will then provide the respirator fit testing for the employee.
 - After an employee has received clearance and begun to wear his/her respirator, additional medical evaluations will be provided if the employee reports shortness of breath, dizziness, chest pains, or wheezing.
 - All examinations and questionnaires are to remain confidential between the employee and the physician.

Fit Testing

All Employees who are required to wear half-face piece or full-face APR's will be fit tested as follows:

- The PLHCP facility will provide the respirator fit testing for the employee after the employee passes the medical evaluation.
- Fit testing shall be completed:
 - Prior to being allowed to wear any respirator with a tightly fitting face piece.
 - Annually
 - When there are changes in the employee's physical condition such as loss/gain of weight, beards, or facial scarring, etc.

Respirator Use

- Respiratory protection is required in the following situations:
 - When required by SDS.
 - When air particles are greater than tolerance levels.

- When employee requests.

Respirator Cleaning

- Respirators are to be cleaned after each use as follows:
 - Remove the filters, canisters, or cartridges
 - Hose off any visible dust or debris
 - Use non-alcohol cleaning wipes of the surface that touches the face
 - Dry the respirator completely before storage
- Respirators are to be regularly cleaned and disinfected as follows:
 - Disassemble respirator, removing any filters, canisters, or cartridges.
 - Wash the face piece and associated parts in a mild detergent with warm water. Do not use organic solvents.
 - Rinse completely in clean warm water.
 - Wipe the respirator with disinfectant wipes to kill germs.
 - Air dry in a clean area.
 - Reassemble the respirator and replace any defective parts.

Maintenance

- The following checklist will be used when inspecting respirators:
 - Face piece – Cracks, tears, or holes, facemask distortion, and cracked or loose lenses/face shield.
 - Head straps – Breaks or tears, broken buckles, and loss of elasticity.
 - Valves – Residue or dirt, and cracks or tears in valve material.
 - Filters/Cartridges – Approval designation, gaskets, cracks or dents in housing, and proper cartridge for hazard.

Change Schedule

- Employees shall change the cartridges on their respirators when they first begin to experience difficulty breathing while wearing their masks, or at the end of each work week to ensure the continued effectiveness of the respirators.

Storage

- Respirators shall be stored separately from used filters, canisters, or cartridges to prevent contamination of the storage device and respirator.
- Respirators must be stored in a clean, dry area, out of direct sunlight and in accordance with the manufacturer's recommendations.
- Each employee will clean and inspect their respirator in accordance with this program.

Training

- The Program Administrator will provide training to respirator users and their supervisors on the contents of the Pence Respiratory Protection Program and their responsibilities under it.
- Workers will be trained prior to using a respirator in the workplace.
- Supervisors will also be trained prior to using a respirator in the workplace, or prior to supervising employees that must wear respirators.

- The training course will cover the following topics:
 - The Pence Respiratory Protection Program
 - Respiratory hazards encountered by Pence
 - Proper use of respirators
 - Limitations of respirators
 - Fit checks
 - Emergency procedures
 - Maintenance and storage
 - Medical signs/symptoms limiting the effective use of respirators
- Employees will be retrained at least annually or as needed.
- Employees must demonstrate their understanding of the topics covered in the training through hands-on exercises and written test.
- Respirator training will be documented by the Program Administrator and the documentation will include the type, model, and size of respirator for which each employee has been trained and fit tested.

Documentation and Recordkeeping

- A written copy of this program and the OR-OSHA standard is kept with the Program Administrator and is available to all employees who wish to review it.
- The Program Administrator will retain copies of the employee's medical determination document from the PLHCP, training and fit test records.
 - These records will be updated as new employees are trained, as existing employees receive refresher training, and as new fit tests are conducted.
- The completed medical questionnaire and the physicians documented findings are confidential and will remain at the PLHCP Facility.

INTRODUCTION

The purpose of this program is to protect Pence Construction (Pence) employees from noise induced hearing loss and to comply with all applicable state and federal regulations regarding hearing conservation at all job sites. A hearing conservation program is required by state and federal regulations whenever employee noise exposures equal or exceed an 8-hour time weighted average (TWA) sound level of 85 dBA.

MONITORING

- When employee noise exposure may equal or exceed an 8-hour TWA of 85 dBA, individual or representative monitoring will be conducted to determine actual employee exposure.
- Dosimeters will be used to measure personal employee exposure, and sound level meters will be used for personal or area sampling.
- Sound level meters will be used for determining the daily exposure of employees only when noise levels and exposures are continuous.
- If the employees are highly mobile or if there are significant variations in sound level or impulse noises, dosimeters will be used instead of sound level meters.
- Dosimeters must meet the Class 2A-90/80-5 American National Standard Specification (ANSI) S.1.25-1978, and sound level meters must meet the Type 2 requirements of ANSI S.1.4-1971.
- All continuous, intermittent, and impulse sound levels in the range of eighty (80) dBA to 130 dBA will be integrated into the exposure monitoring.
- After the initial noise exposure assessment, monitoring will be repeated annually or whenever a change in production, process, equipment or controls increases the sound level.
- Monitors will be calibrated before and after sampling.
- Employees included in the hearing conservation program or their representative will be given an opportunity to observe the monitoring.
- Employees who are exposed at or above eighty-five 85 dBA will be notified of the monitoring results.

NOISE CONTROL

- Whenever employee noise exposures equal or exceed an 8-hour TWA of 90 dBA, administrative or engineering controls must be used.
- Altering the work process is a simple and effective engineering control.
 - For example, welding machines can be moved further from the work site or a soft material can be placed in the jaws of pipe stands to absorb or deaden the noise.
- Administrative control involves rotating workers out of noisy areas and is of limited use if all work areas are noisy.

- If engineering or administrative controls are not feasible or do not lower the exposure level below 90 dBA, then hearing protective devices must be used.
- Hearing protectors will be made available to all employees at no cost to the employee.
- These hearing protectors must be worn by employees.
- Supervisors will ensure that employees wear their hearing protection when it is needed.
- Employees will be given a choice between at least two different types of suitable hearing protectors.
- Hearing protectors must be assessed for each noise environment and must attenuate employee exposure to at least an 8-hour TWA of 90 dBA.
- According to OSHA, the manufacturer's attenuation factor should be reduced by half to determine the actual attenuation.
 - For example, if a pair of ear plugs had an attenuation factor of 32 dB and the exposure level without earplugs was ninety-five (95) dB, the actual noise attenuation would be 16 dB ($32 \text{ dB} \div 2$) and the exposure level with those earplugs in would be 79 dB ($95 \text{ dB} - 16 \text{ dB}$).

TRAINING

- A training program will be initiated for those employees exposed to noise at or above an eight 8 hours TWA of 85 dBA, and participation will be ensured by a quiz covering the material.
- Training will be repeated annually and include updated information on protective equipment and work processes.
- The training program will encompass three major areas.
 - Effects of Noise on Hearing
 - Sound level intensity is measured in units called decibels (dB).
 - The sound level of a normal conversation is approximately 65 dB, and the pain threshold level or level at which pain begins is about 120 to 125 dB.
 - The OSHA permissible exposure level for noise is 90 dB averaged throughout a work shift.
 - Employee exposure is measured with either a sound level meter or a dosimeter.
 - Sound level meters are real time monitors that constantly display the current noise level.
 - Dosimeters are worn by employees during the work shift, and they operate by averaging the sound level throughout the day and calculating a noise dose.
 - The OSHA allowable noise dose is 100% which corresponds to 90 dB averaged over an 8-hour day.
 - The human ear has three parts: the outer ear, the middle ear, and the inner ear.
 - The outer ear, which includes the auricle and the ear canal, collects sound waves and channels them to the ear drum.
 - The ear drum is a thin membrane which stretches across the ear canal and separates the outer ear from the middle ear.

- The middle ear is an air-filled chamber that contains three small bones which transmit sound vibrations from the ear drum to the inner ear.
- The cochlea is lined with tiny cells which turn vibration into electrical nerve signals that are perceived by the brain as sound.
- There are two types of hearing loss: conductive and sensorineural.
 - Conductive hearing loss is due to impairment of sound transmission before it reaches the inner ear and is usually not a result of prolonged and excessive noise exposure.
 - Sensorineural hearing loss is a result of damaged hair cells in the cochlea and is often due to repeated and excessive exposure to noise.
- Aging also causes some sensorineural hearing loss but noise induced hearing loss occurs more quickly and is more extreme.
- The hair cells in the cochlea correspond to the audible frequency range which is 20 Hz to 20,000 Hz for a normal young ear.
- Exposure to loud noises for an extended period of time causes the hair cells to become worn down and thus, less sensitive to sound waves.
- This hearing loss is permanent, and the hair cells sensitive to the higher frequency range around 4,000 Hz are usually the first to be damaged.
- Prolonged and excessive noise exposure will damage more and more hair cells causing permanent hearing loss over a wider frequency range.
- Hearing aids are not very effective for noise induced hearing loss because they function by amplifying sound.
- Sound and specifically speech will still seem muffled and fuzzy no matter how high the volume.
- Hearing Protectors
 - Hearing protector training will include the purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care.
 - Hearing protectors reduce noise exposure to a level which is designed to prevent hearing loss.
 - It is important to remember that attenuation factors cannot be added together when two hearing protectors are worn.
 - For example, if a worker is using a pair of earplugs with an attenuation factor of 30 dB, adding a pair of earmuffs with a noise reduction rating of 20 dB does not result in a total attenuation factor of 50 dB. Only 5 to 10 additional decibels of sound attenuation can be obtained from the added earmuffs.
 - Aural inserts-Aural inserts or earplugs are inserted into the outer ear canal, and they are made with soft pliable materials to prevent any injury to the ear canal lining.
 - Earplugs are usually inexpensive, but the service life is limited ranging from a single use to several months.

- There are three categories of aural inserts: formable, custom-molded, and pre-molded.
 - Formable earplugs are inserted by reaching over the head and grasping the top of the ear and placing an earplug that has been rolled between the fingers into the ear canal.
 - These earplugs get dirty easily and should be thrown away when they become soiled.
 - Custom-molded devices are made for the individual user and fit the ear canal precisely.
 - They are more expensive, but they last longer and are more comfortable.
 - Custom-molded earplugs should be washed with warm water and mild soap periodically.
 - Pre-molded earplugs are either made in various sizes or designed to fit all ear canals like canal caps.
 - These earplugs last longer because they do not need to be compressed with dirty fingers, but they have several disadvantages.
 - To be effective, they must fit snugly, and this may be uncomfortable for some.
 - In addition, they may shrink and become hard if they come in contact with ear wax which extracts the plasticizer from some plug materials.
 - Regular cleaning of these protectors with mild soap and water prolongs their useful life.
- Noise attenuation varies with the type of earplug.
 - Formable and custom-molded earplugs have the highest noise reduction rating because they fit the ear canal more precisely.
 - Their attenuation factor ranges from 26 dB to 32 dB. The attenuation factor for pre-molded earplugs varies from 20 dB for canal caps to 26 dB for some universal fit earplugs.
- Circumaural Protectors -Circumaural protectors or earmuffs consist of two dome shaped devices that fit over the entire external ear and seal against the side of the head.
 - They are either attached directly to hard hats or on a spring-loaded headband.
 - Earmuffs are expensive, but they last for a long time and they are comfortable to wear for extended periods of time.
 - However, the seals need to be replaced periodically because perspiration tends to extract the plasticizer from the seal material which causes stiffening.
 - In addition, the attenuation factor decreases when glasses are worn because a proper seal cannot be maintained.
 - Finally, the noise reduction rating for earmuffs is approximately 20 dB which is less attenuation than most earplugs.

- Right to Access to Records
 - A copy of this standard will be available to all affected employees or their representatives and will be posted at all job sites.
 - All monitoring records will be provided upon request to employees, former employees, and employee representatives.

RECORD KEEPING

- Noise exposure monitoring records will include the following for each employee represented by the sample.
 - Name
 - Social security number
 - Job classification
 - Date
 - Name of tester
 - Location
 - Test time
 - Serial numbers of equipment used
 - Calibration dates
 - Exposure level
- Monitoring records will be retained for two years.

ASBESTOS CONTAINING MATERIALS SAFETY

2.28

POLICY

The Pence Construction (Pence) Project Superintendent will coordinate with the Safety Manager to ensure that this policy is properly implemented. Pence requires all employees and subcontractor employees follow this policy at all times.

In the course of renovation and demolition, workers may encounter materials which contain asbestos fibers. Exposure to asbestos fibers has been linked to cancer and asbestosis. In order to mitigate these problems, the following policy prevents exposure to asbestos fibers.

DEFINITIONS

ACM – Asbestos Containing Materials

PACM – Presumed Asbestos Containing Materials

Impact to ACM or PACM – Hitting, cutting, striking, bumping, jarring, removing or etc. any material that is ACM or PACM

Clean Letter – Any documentation from the client’s environmental consultant stating the areas is asbestos free

GENERAL REQUIREMENTS

- Prior to the renovation or demolition of any building, an asbestos survey from a certified asbestos technician must be provided. The result of this survey must be kept on the jobsite for the duration of the renovation or demolition
 - Only the areas of the building that are being renovated or demolished need to be surveyed
- If asbestos is discovered by the certified asbestos technician, it must be abated by a licensed abatement contractor
 - Pence is not a licensed abatement contractor, and cannot abate asbestos
 - Subcontractors of Pence are not permitted to abate asbestos, regardless of whether they are properly licensed, unless special dispensation has been given in writing by the Pence leadership team
 - Employees and/or subcontractor should never attempt to disturb, remove, clean up or dispose of, ACM
 - Do not work in or around areas where abatement is taking place
 - If the asbestos containing material is in an area where it will not be disturbed, it does not need to be abated
 - Do not disturb asbestos containing materials
 - Make sure all asbestos containing material are properly labeled
- If during the construction process, there is an accidental impact to ACM or PACM the following procedure is to be followed:

- All work activity in this area must be stopped
- The project Superintendent must be immediately notified
- Work area must be secured so that no one will enter the area
- Project superintendent must contact the client to have the material tested
- If ACM is confirmed the project superintendent must ask the client or the client's environmental consultant to have the abatement contractor clean the area
 - At no time will an employee or subcontractor employees cleanup or attempt to cleanup ACM or PACM
- Once the cleanup is complete the project superintendent must get a clean letter for this area
- If materials are discovered that could be asbestos containing, bring this occurrence to the immediate attention of the project superintendent or the project manager
- Do not remove or disturb these materials until they have been tested and proven to be non-asbestos containing
- The following items are commonly asbestos containing materials. If you discover these items, and they do not appear on the building survey, notify your project superintendent or project manager and do not disturb them:
 - VCT Flooring, Floor Base and Mastic (Commonly 9" x 9")
 - Black VCT Mastic (even if used with 12" x 12" tiles)
 - Roofing Material
 - Plaster
 - Mortar
 - Vermiculite use as insulation of CMU walls
 - Ceiling Tile and Mastic
 - Pipe Lagging
 - HVAC Duct Tape/Lagging
 - Insulation
 - Window putty
 - Exterior caulking
- Do not allow subcontractors to remove, disturb, or dispose of materials that are suspected of being asbestos containing

SPECIFIC DUTIES

Prior to the renovation or demolition of any building or its components the follow groups must complete their assigned responsibilities

- Safety Department/General Superintendent must:
 - Verify at Pre-Con meeting that the Asbestos Survey has been completed
 - Verify that Pence is in possession of a copy of the Asbestos Survey
 - Assist the Project Superintendent in understanding the survey as needed
 - Verify that all aspects of this policy are being complied with
- Project Manager/Project Engineer must:
 - Verify that all project subcontractors are formally made aware of the presence of the Asbestos Survey

- If ACM is present on the project, formally notify all project subcontractors of its presence
- Verify that the subcontractors requiring and/or requesting a copy of the Asbestos Survey receive one (I.E. Demolition Sub)
- If required by the building owner to contract with the abatement subcontractor:
 - Get in writing from a member of the Pence Management Team, the approval to hire the abatement contractor
 - Verify the subcontractor has pollution insurance
 - Explore the need for Pence to also have pollution insurance
- Project Superintendent must:
 - Read and fully understand the Asbestos Survey
 - Be knowledgeable about the Asbestos Survey at all times
 - Fully understand what materials onsite are going to be impacted by renovation or demolition activities
 - Fully understand what materials onsite have or have not been tested
 - Fully understand what materials are or are not ACM
 - If a suspect material to be impacted is not identified on the survey get that material tested
 - Walk the work areas and verify the ACM and PACM materials are in good shape and properly labeled
 - If damage is detected on ACM or PACM material, the material must be repaired, and the area cleaned up by the abatement contractor before renovation or demolition work is started
 - Once the abatement and cleanup are complete, request a clean letter from the client or the client's environmental consultant before starting work
 - If a suspect material to be impacted is discovered during the renovation or demolition process, stop the work, secure the area and get the material tested
 - Share all information concerning asbestos with employees and subcontractor employees by way of the site orientation, foreman's meetings and all hands safety meetings

A copy of this policy shall be made available to all employees and concerned parties.

LEAD CONTAINING OR LEAD BASED PAINT SAFETY POLICY

2.29

POLICY

The Pence Construction (Pence) Project Superintendent will coordinate with the Safety Department to ensure that this policy is properly implemented.

In the course of renovation and demolition, workers may encounter lead containing or lead based paint. Lead is a poison, and exposure to lead containing or lead based paint could be hazardous to your health. In order to mitigate these problems, the following procedures have been developed.

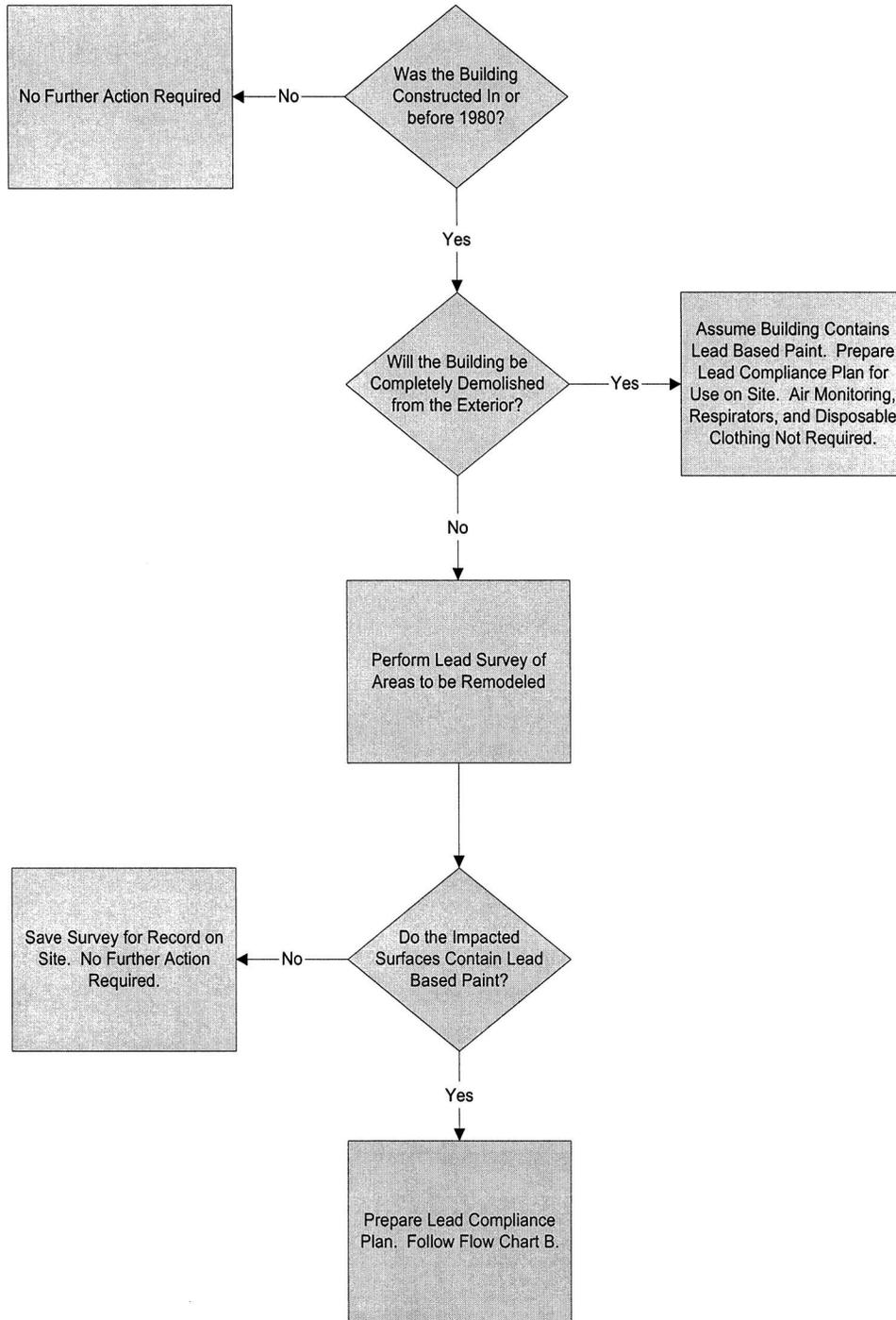
GENERAL REQUIREMENTS

- Prior to the renovation or demolition of any building, a lead paint survey from a certified technician must be provided
 - Buildings built after 1980 are assumed to be free from lead containing or lead based paint, and do not require a survey.
 - Only the areas of the building that are being renovated or demolished need to be surveyed
 - The results of this survey must be kept on the jobsite for the duration of the renovation or demolition
- If lead containing or lead based paint is discovered by the certified technician, the following procedures must be followed
 - Develop a lead compliance plan:
 - A sample plan is attached
 - Plan must be project specific
 - Plan must be kept on site
 - Have an on-site lead competent person:
 - Person will be the jobsite superintendent
 - Person must have received lead competence training
 - Employees working on tasks that disturb the lead must be lead and respirator trained
 - Contact your safety manager to arrange training
 - Provide a HEPA-filtered vacuum at the jobsite
 - Provide hand washing facilities at the jobsite
 - Sign the project as required in the lead compliance program
 - Set up containment for the work area (if needed)
 - Perform a Negative Exposure Assessment for each different task that will impact the lead containing or based paint
 - During the Negative Exposure Assessment all employees working on the tasks shall be provided with and required to wear:
 - Tyvek suits

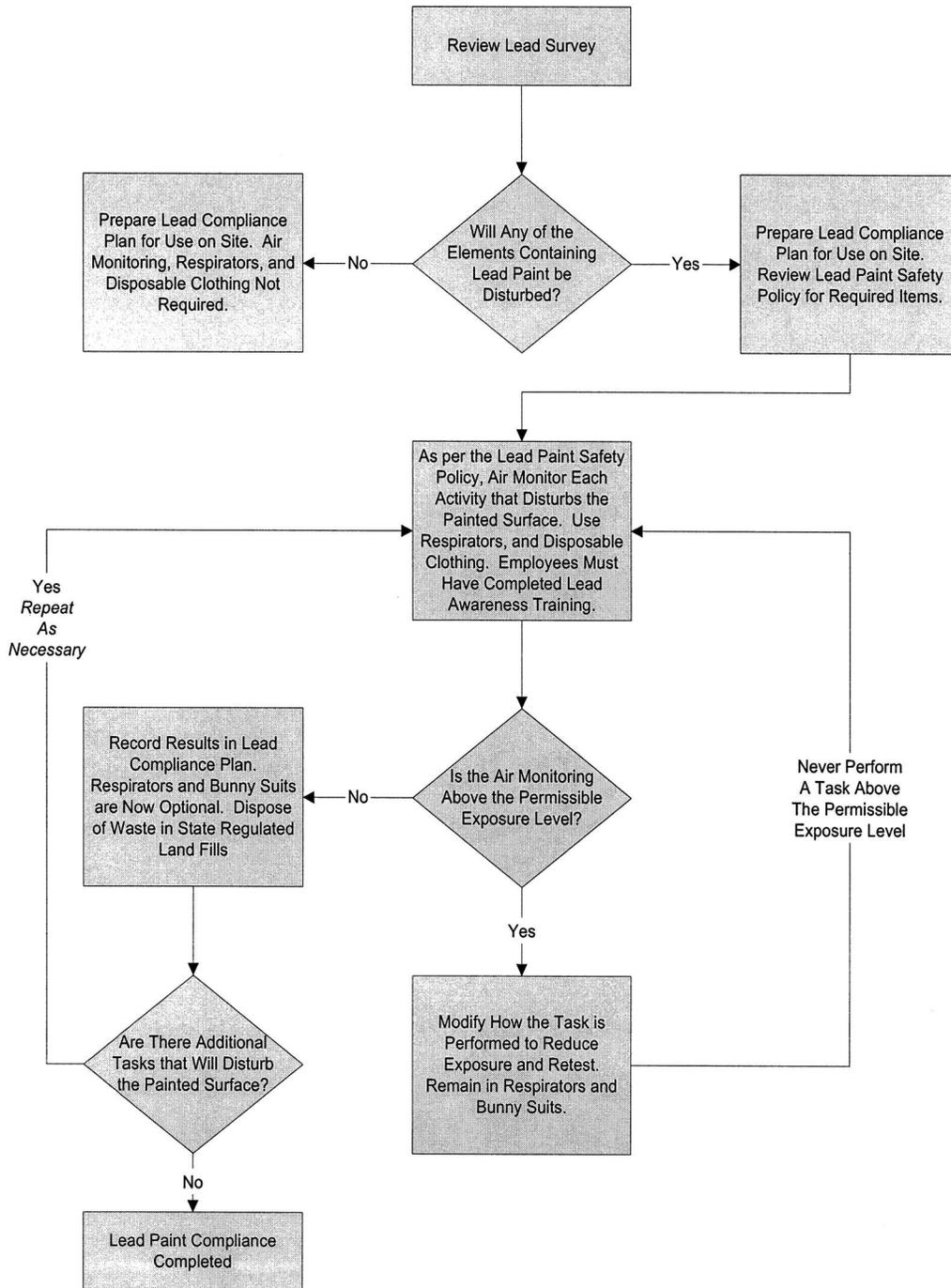
- Respirators
 - If the Negative Exposure Assessment indicates there is no exposure above the permissible exposure limit for an 8-hour TWA, then the use of the Tyvek suits and respirators becomes optional
 - If above the permissible exposure level, modify the task or the procedures for the task and retest
 - Never work on a task that is above the permissible exposure level
 - Record the tasks and results in the written lead compliance plan
 - Dispose of debris that contains lead-based paint only in approved landfill
 - It is intended that the written lead compliance program shall be used by subcontractors as well
 - Subcontractors will follow the written lead compliance program
 - Air monitoring will be required for each of their tasks that disturb the lead containing or lead based paint
- Work to minimize the exposure of adjacent facilities to debris that contains lead containing or lead based paint
 - Consider utilizing temporary barriers to protect adjacent people and spaces
 - Consider utilizing air moving equipment to exhaust air from the contaminated area
- Free-Air (whole building) demolitions done entirely from the exterior with a back-hoe or similar equipment will not require to develop a lead compliance plan but will be required to follow approved lead demolition procedures (as an example hosing down the building at the location the backhoe is working)

A copy of this policy shall be made available to all employees and concerned parties.

Lead Based Paint Compliance
Flow Chart A - Lead Paint Discovery
To Be Completed on Every Remodel/Demolition Project



Lead Based Paint Compliance
Flow Chart B - Lead Compliance Plan
 To Be Completed on Projects Qualified in Flow Chart A





LEAD COMPLIANCE PROGRAM

***LENT ELEMENTARY SCHOOL FIRE
RESTORATION***

PREPARED 3/18/03

LEAD COMPLIANCE PLAN

TAB 1

INTRODUCTION 1.1
REGULATORY OVERVIEW 2.1 – 2.3
BUILDING SITE CHARACTERIZATION 3.1
PROJECT ACTIVITIES IMPACTING LEAD-BASED PAINT 4.1 – 4.9

TAB 2

LEAD PAINT IDENTIFICATION REPORTS

TAB 3

RESPIRATORY PROTECTION PROGRAMS

TAB 4

CERTIFICATES OF TRAINING RECORDS

TAB 5

EXPOSURE MONITORING RESULTS

TAB 6

CONTRACTOR/TASK SPECIFIC ACTIVITY LOGS

TAB 7

MEDICAL SURVEILLANCE PROGRAMS

LENT ELEMENTARY FIRE RESTORATION, PORTLAND, OREGON

PENCE CONSTRUCTION

INTRODUCTION

INTRODUCTION

Lead-containing paint was identified at the Lent Elementary Fire Restoration project in Portland, OR. The building will be undergoing renovation that will impact lead-based paint (LBP).

Pence Construction (Pence) has self-prepared this Lead-Based Paint Compliance Plan. This plan includes work practices to perform renovation activities. It should be noted that the guidelines included in this plan are subject to change as new information becomes available through further testing and project evaluation.

Pence and our subcontractors are committed to taking necessary steps to ensure that all work done on the project is performed in a manner which reduces potential employee exposure and is within regulatory requirements. The purpose of this plan is to establish standards and protocol for:

- Inspection
- Testing
- Lead-based paint exposure controls
- Disposal of lead-based paint

The following information outlines the individual roles and responsibilities of the project as they relate to impact of lead-based paint.

- General Contractor: Pence Construction
Contacts: Paul Schulz (Project Manager)
Tom Morley (Superintendent)
Mobile Phone (503) 209-3593
Office: (503) 399-7223

- Oversee and administer compliance plan
- Disseminate testing information to subcontractors
- Perform necessary demolition and renovation activities to complete project
- Ensure employees are adequately trained in relation to lead-based paint tasks
- Provide adequate personal protective equipment to employees
- Ensure subcontractor(s) comply with applicable OSHA regulations and this plan

PENCE CONSTRUCTIONREGULATORY OVERVIEW**REGULATORY OVERVIEW**

EPA/HUD

The Environmental Protection Agency (EPA) and the Department of Housing and Urban Development (HUD) has the primary responsibility to regulate LBP in federally owned or assisted housing. The HUD definition of LBP hazard includes exterior as well as interior intact and flaking painted surfaces. The HUD guidelines apply to Public and Indian Housing Authorities and are not requirements for any other agencies. The guidelines do, however, represent the first national compilation of technical protocols, practices, and procedures on testing, abatement worker protection, cleanup and disposal of lead-based paint. Although the HUD guidelines may not apply to this project, their standards may be utilized for work procedures, identification of LBP and dust sampling.

HUD has determined 5,000 ppm of lead as the definition for LBP requiring abatement using atomic absorption and 1.0 milligrams per square centimeter (mg/cm²) using the XRF spectrum analyzer.

If dust sampling is performed HUD and EPA protocols will be utilized to determine lead contamination. The surface areas selected will be wiped using nonalcoholic-containing wipes in a one square foot area. The following criteria will be utilized when determining lead dust levels:

Floors:	100 mg/SF
Window Sills:	500 mg/SF
Window Wells:	800 mg/SF

RCRA

The basic federal law governing waste disposal is the Resource Conservation and Recovery Act (RCRA) of 1976. RCRA governs federal hazardous waste and defines hazardous waste and hazardous waste generators. It provides information on required procedures to be followed before, during, and after disposal.

Lead is considered a hazardous material and therefore falls under RCRA. Lead-based paint abatement projects can produce potentially large quantities of solid or hazardous waste such as building components, sludges from paint stripping, lead paint chips and dust, waste water from cleanup, etc.; thus it is important to properly determine what is hazardous waste. A Toxicity Characteristic Leachate Procedure (TCLP) sample is necessary if there is likelihood that lead or other materials will be classified as hazardous and be disposed of as such.

Metal components which will be recycled are exempt from RCRA regulations (40 CFR Part 261.6) provided the metals meet the definition of scrap metal.

OREGON DEQ

Disposal of building demolition waste coated with lead-based paint will generally not require a hazardous waste determinations (i.e., TCLP testing) if demolition debris is disposed of at a solid waste landfill that is permitted by DEQ and which meets the current design standards for municipal solid waste disposal facilities of 40 CFR Part 258. Reference **TAB 8** DEQ Hazardous waste reduction policy and follow all requirements under the Oregon DEQ, Management of Building Demolition Waste, number 97-002 for proper disposal of lead-based painted demolition waste.

PENCE CONSTRUCTION**REGULATORY OVERVIEW**

OSHA

Although the Occupational Safety and Health Administration (OSHA) regulations for lead exposure have been in effect for 23 years, OSHA has only recently (May 1993) revised the regulation to provide better protection for general industry and the construction industry. Oregon OSHA adopted this federal standard (29 CFR 1926.62) in November of 1993. Oregon OSHA has adopted the standard under OAR 437 Division 3-001.

The OR-OSHA standards outline worker exposure limits, personal protection requirements, and employer responsibility for exposure assessment, training, housekeeping and recordkeeping. OSHA's lead standard applies to all construction work where employees may be exposed to lead. All work related to construction, alteration, or repair. This includes but is not limited to the following:

- Demolition of structures where lead-containing materials are present;
- Removal or encapsulation of materials containing lead;
- New construction, alteration, repair, or renovation of structures or materials containing lead;
- Installation of materials or products containing lead;
- Lead contamination cleanup activities;
- Transportation, disposal, storage or containment of lead or lead-containing materials on the site or a location at which construction activities are performed; and
- Maintenance operations associated with construction activities.

OSHA EXPOSURE LIMITS

The Action Level (AL) is the level at which an employer must begin certain compliance activities outlined in the OSHA standard. The AL for lead in the construction standard is an airborne concentration of 30 mg/m³ calculated as an 8-hour time weighted average (TWA).

OSHA has set the level of 50 micrograms/cubic meter (mg/m³) over an 8-hour period as the Permissible Exposure Limit (PEL) for lead exposure. The PEL is the uppermost limit at which an employee can be exposed to over an 8-hour period.

Reference: the EPA Lead Exposure Associated with Renovation and Remodeling Activities Summary report in **TAB 8** for additional information on the likelihood of lead exposure above the PEL during a renovation activities.

MEDICAL SURVEILLANCE (Blood Lead Level)

Employers associated with this project will make available initial blood monitoring for employees who are occupationally exposed to lead at or above the action level for more than 1 day per year. Employees with exposure for more than 30 days per year and who have a blood lead level over 40 mg/dl will require full medical surveillance. See discussion, **page 4.8** for details concerning blood monitoring and medical surveillance.

PENCE CONSTRUCTION

REGULATORY OVERVIEW

OSHA Instruction CPL 2-2.58
Office of Health Compliance Assistance

Applicable Paragraphs of 1926.62

The following table summarizes actions triggered when AL or PEL are exceeded.

For Specific Air Lead Levels					
Regardless Of Level	>AL (30 mg/m3) 1-30 Days	>PEL >30 Days	(50 mg/m3)	During >4 x PEL	Assessment of Trigger Tasks
Exposure Assessment and Interim Protection	Monitoring Representative of Exposure for Each Exposed Employee	Medical Surveillance Program	Engineering and Work Practice Controls	Clean Protective Clothing Daily	Appropriate Respiratory Protection
Housekeeping	Initial Medical Surveillance	Medical Exams and Consultation (if required)	Respiratory Protection		Protective Clothing and Equip.
Handwashing Facilities	Follow-up Blood Sampling		Protective Clothing and Equipment		Change Areas
Hazcom Training (and/or Safety Training and Education)	Temporary Removal Due to Elevated Blood Lead		Hygiene Facilities and Practices		Handwashing Facilities
	Information and Training		Signs		Biological Monitoring
					Hazcom Training
					Respirator Training
					Safety Training and Education

PENCE CONSTRUCTION

BUILDING CHARACTERIZATION

BUILDING AND SITE CHARACTERIZATION

SAMPLE COLLECTION

Paint chip sample collection and lead paint identification have been performed on selected building components. This section summarizes the results of this testing. Laboratory reports are included under **Tab 2**.

Laboratory results indicate that lead is present in virtually all tested paint. (See: laboratory report in Tab 2)

This report should not be considered an exhaustive inspection of all painted components. However, it is intended to convey sample results of significant building components being impacted by the renovation.

A chip of paint was removed with a sharp tool and placed in a clean, individually numbered container. Where various paint layers were encountered, all layers present were sampled, down to the underlying substrate. Sampling equipment was wet-wiped between each sample to avoid cross-contamination of samples.

All samples were analyzed using AAS (Atomic Absorption Spectroscopy), with results reported in parts per million (ppm) of total lead. Analysis was performed by an agency under contract with Portland Public Schools.

FOR THIS PROJECT

If work is being performed that will disturb a painted surface that is not identified in this report, **you must test or presume the painted surface contains lead.**

PENCE CONSTRUCTIONPROJECT ACTIVITIES IMPACTING
LEAD-BASED PAINT**PROJECT ACTIVITIES IMPACTING LEAD-BASED PAINT****KNOWN LBP AREAS TO BE IMPACTED**

The following activities within the Lent Project that are likely to impact known LBP. Additional sampling performed following the development of this Compliance Plan may alter this listing.

- Demolition of interior walls, doors, ceilings, etc,
- Penetrations
- Architectural, structural, mechanical and electrical anchorage

ADMINISTRATIVE CONTROLS:

Employee job rotation is not expected to be necessary to reduce employee exposure on this project.

CONTRACTOR/TASK SPECIFIC ACTIVITY LOG

The purpose is to gather specific information on tasks that impact lead-based paint. **A completed task specific activity log must be completely filled out by the contractor or subcontractors whom are working under this compliance plan.** Completed activity log must be submitted and approved by the general contractor prior to commencement of any work. Copies will be inserted into **TAB 6** as that become available.

“COMPETENT PERSON”

A competent person means one who is capable of identifying existing and predictable lead hazards in the surroundings or work conditions and who has the authority to take prompt corrective measures to eliminate them. The competent person’s duties shall include:

1. Determination prior to the performance of the job, whether lead is present in the workplace.
2. Ensure the adequacy of any employee monitoring data and exposure assessments.
3. Ensure that all employees wear required protective work clothing and personal protective equipment and are trained in and use appropriate exposure control methods.
4. Ensure that engineering controls are designed, operated and maintained properly.
5. Demarcate lead work areas.
6. Take effective measures to reduce lead hazards.

The competent person shall also make inspections of equipment, engineering controls, and work practices, log such inspections and take corrective measures if needed.

PENCE CONSTRUCTION**PROJECT ACTIVITIES IMPACTING
LEAD-BASED PAINT****ENGINEERING CONTROLS**

Water will be utilized during procedures that impact lead-based paint whenever possible to accomplish dust suppression. Waste material will be collected and disposed of as soon as it is practical. At a minimum waste will be containerized at the end of each work day.

Negative air exhaust machines equipped with HEPA filtration or local exhaust ventilation fans will be utilized in the immediate work areas to move and filter air. HEPA vacuums will be on site and available to all trained personnel to collect lead dust and/or paint chips as needed.

WORK PRACTICES

Normal demolition and renovation practices will be employed which include but are not limited to: manual and mechanical means (saws-alls, jackhammers, drills, sanders). The following activities are prohibited work practices unless it has been determined that lead is not present:

- A. Open flame (torch) burning of lead-based paint
- B. Silica sandblasting of lead-based paint

LBP component removal and waste collection will be handled in ways that minimize worker contact with the LBP (i.e., use of tools, conveyors and other equipment to gather waste material, establishment of separate locations in the work area for disposal of waste).

HYGIENE

The employer will provide the following when workers are exposed to lead above the PEL or are doing any of the “lead-related tasks”:

1. A clean change area will be designated separate from the work area. The Clean Change Area will be kept free of lead dust, fume, contaminated materials and other lead-related hazards.
2. Clean break and eating areas. Food, beverages, and tobacco products may not be present, used, or consumed, and cosmetics may not be applied in areas where employees are exposed to lead above the PEL.
3. Hand washing facilities, which are required at any exposure level, must be provided in accordance with 29 CFR 1926.51 (f). The hygiene facility will be equipped with a hand/face washing station. Workers will be required to use the wash facilities to cleanse hands and face at breaks and before leaving the site at the end of the work shift.
4. Showers, if feasible. Where exposures exceed the PEL (50 mg/m³, - 8 hr TWA) showers will be provided.

PENCE CONSTRUCTION**PROJECT ACTIVITIES IMPACTING
LEAD-BASED PAINT****HOUSEKEEPING**

The following housekeeping procedures will be followed on this work site:

1. Maintain surfaces as free of lead and lead-contaminated dust as is practical.
2. Clean surfaces with a vacuum equipped with HEPA filters, or other methods that minimize the likelihood of lead becoming airborne.
3. Shoveling, dry or wet sweeping, and brushing can be used only where vacuuming or other equally effective methods have been tried and found not to be effective.
4. Compressed air must not be used to remove lead from any surface unless it is used in conjunction with a ventilation system that captures the airborne dust created by the compressed air.

RESPIRATORY PROTECTION

Respirators are required for employees in the following situations:

1. When an employee's exposure exceeds the PEL.
2. Whenever an employee requests a respirator.
3. As an interim protection for employees performing one of the "lead-related task."

Respiratory Protection Program

Employers must have a written respiratory protection program in accordance with 29 CFR 1910.134. The written program will be available at each worksite.

A respiratory protection program includes, at a minimum:

1. Procedures for selecting respirators.
2. Medical evaluation of employees required to wear respirators.
3. Fit test procedures
4. Routine procedures and emergency respirator use procedures.
5. Procedures and schedules for cleaning, disinfecting, storing, inspecting, discarding, and maintaining respirators.
6. Procedures for ensuring adequate air quality for supplied air respirators.
7. Training in respiratory hazards.
8. Training in proper use and maintenance of respirators.
9. Program evaluation procedures.
10. Procedures for ensuring that workers who voluntarily wear respirators (excluding filter facepieces) comply with the medical evaluation, and cleaning, storing and maintenance requirements of the standard.
11. A designated program administrator who is qualified to administer the program.
12. Procedures for evaluating and updating the program as necessary to account for changes in the workplace affecting respirator use.

PENCE CONSTRUCTIONPROJECT ACTIVITIES IMPACTING
LEAD-BASED PAINT**Respirators**

The lead standard includes a table specifying which respirators should be used when exposures are above the PEL or when performing one of the “lead-related tasks.” Any air-purifying respirator used for lead work must be equipped with high efficiency particulate air (HEPA) filter cartridges.

A half-face (half-mask) respirator with HEPA filters is the minimum respirator required for lead-contaminated dust exposures above the PEL. A full-face (full-facepiece) respirator with HEPA filters is required if the airborne lead particles cause eye or skin irritation at the concentrations occurring during the work and may be used whenever a half-face respirator is allowed for lead work, such as if it may increase work efficiency. An employer shall provide a powered, air-purifying respirator with HEPA filters in place of a half-face respirator whenever it will provide adequate protection to the employee.

At a minimum, half-face negative pressure respirators with HEPA cartridges will be provided to the workers to wear within the work area. **Workers will be required to wear respirators until an initial determination has been made that activities are not creating exposures above the action level.** Pence will review the adequacy of the respirators provided after initial air sample results are obtained.

Fit-testing

Fit-testing of all negative pressure respirators will be conducted in accordance with 29 CFR 1910.134, (f), prior to their first use by employees and every six months thereafter. Half-face APR will be tested using qualitative methods.

All equipment, training, and medical evaluations must be provided at no cost to employees.

PROTECTIVE CLOTHING/EQUIPMENT

Employers must provide protective clothing to employees:

1. When an employee’s exposure exceeds the PEL.
2. When employees are exposed to lead or other compounds that may irritate the skin and eyes.
3. When an employee is performing any of the “lead-related tasks.”

Protective clothing must be appropriate for the work, for example:

1. Coveralls or full body work clothes.
2. Gloves, hats, and shoes or disposable shoe coverlets.
3. Face shields, vented goggles, hard hats, vented goggles and hearing protection.

Washable coveralls, disposable clothing and other protective equipment will be provided to the workers. Work clothing will be removed and kept or disposed of before leaving the project site and before breaks (lunch, etc.).

PENCE CONSTRUCTION**PROJECT ACTIVITIES IMPACTING
LEAD-BASED PAINT**

Waterproof disposable clothing will be provided whenever tasks are being done where exposure to contaminated water is anticipated (i.e. water blasting, wet cleanup).

AIR MONITORING

OSHA'S lead standard sets limits for the amount of lead in the air and in the blood of exposed workers. Certain actions must be taken in work areas where these limits have been exceeded. The Permissible Exposure Limit (PEL) is the highest amount of lead in air to which employees may be exposed.

The Action Level (AL) is an amount of lead in air at or above which employers must perform certain actions in addition to those they perform for any work involving occupational exposure of employees to lead. The following limits are set by the standard:

- AL = 30 micrograms (mg) of lead per cubic meter (m³) (30 mg/m³) of air
- PEL = 50 micrograms of lead per cubic meter (50 mg/m³) of air*

*For shifts greater than 8 hours in any work day use: PEL = 400 divided by number of hours worked in a day.

Exposure assessment

Employers must determine if any of their employees are exposed to lead at or above the Action Level. One method is to collect air samples from the worker's breathing zone and have them analyzed by a laboratory. The samples should represent the worker's regular, daily exposure to lead. The samples should be taken for the full work shift. At least one sample for each job classification in each work area must be obtained. The results should be compared to the PEL and AL. The workers' exposure is the exposure that would occur if they were not wearing respirators.

When lead is present, some work tasks generate high levels of lead. OSHA has identified a group of "lead related tasks" that are presumed to generate lead levels in excess of the PELs, and that require interim protection until air monitoring determines the actual lead exposures. Until then, employers must provide workers with respirators, protective clothing, equipment, change areas, hand washing facilities, biological monitoring and training required for an assumed level for these tasks. When the actual level of exposure for the job has been measured, the requirements for the level of exposure can be used. In addition, if an employer has reason to believe a worker's exposure in a job not listed by OSHA may be above the PEL, that employee must be protected as required for exposures above the PEL until monitoring is performed. The "lead related tasks" are listed below in three groups with their assumed lead levels.

PENCE CONSTRUCTIONPROJECT ACTIVITIES IMPACTING
LEAD-BASED PAINT**Lead-Related Tasks**

Employers must assume an exposure over 50 and up to 500 mg/m³ for the following tasks:

- Manual demolition of structures (e.g., drywall)
- Dry manual scraping
- Dry manual sanding
- Using a heat gun
- Power tool cleaning with dust collection systems
- Spray painting with lead-based paint

Employers must assume exposure over 500 and up to 2500 mg/m³ for the following tasks:

- Using lead containing mortar
- Burning lead
- Rivet busting on lead paint
- Power tool cleaning without dust collection systems
- Clean up activities where dry expendable abrasives are used
- Abrasive blasting enclosure movement and removal

Employers must assume exposure over 2,500 mg/m³ for the following tasks:

- Abrasive blasting
- Cutting
- Welding
- Torch burning

In certain cases, the employer may use existing air monitoring results, instead of taking new air samples, to make the initial determination of whether the worker's exposure exceeds the PEL or AL. The existing results must be personal air samples that are less than 12 months old. The work that was monitored must closely resemble the processes, material types, control methods, work practices, and environmental conditions of the current operation. The sampling and analytical methods used must meet the standards' technical accuracy requirements. Air monitoring results meeting these requirements are known as "historical data."

If the initial air monitoring shows that employee exposure is below the Action Level, further air monitoring is not required unless there is a change in equipment, processes, controls or personnel, or a new task is added that may result in new or additional exposures to lead.

If the initial air monitoring shows that employee exposure is at or above the AL, but at or below the PEL, the employer must perform additional air monitoring every 6 months. The air monitoring must continue until two consecutive measurements, taken at least 7 days apart, are below the AL. The air monitoring can then be stopped. If the initial air monitoring shows that employee exposure is above the PEL, the employer must repeat the air monitoring quarterly. The air monitoring must continue until two consecutive measurements, taken at least 7 days apart, are at or below the PEL. If the results are at or above the AL then air monitoring must continue every 6 months. If the results are below the AL, then no further air monitoring is required unless changes occur that may result in new or additional exposures to lead.

PENCE CONSTRUCTION**PROJECT ACTIVITIES IMPACTING
LEAD-BASED PAINT**

Employees must be notified in writing of the results of their air monitoring. This report must be given within 5 working days after completion of the exposure assessment. Employees must also be told in writing when their exposure is at or above the PEL. This notice must include what actions are being taken to reduce lead exposures below the PEL. Employees also have the right to observe the air monitoring.

A qualified testing firm will perform initial air monitoring to determine representative exposures for each task that may result in exposures exceeding the PEL. Measured exposures that exceed the OSHA Action Level (30 mg/cubic meter TWA) or the Permissible Exposure Level (50 mg/cubic meter TWA) shall trigger a review and possible changes to this compliance plan and work procedures. Samples will be taken and analyzed using NIOSH 7082 method. Air monitoring results will be made available to the workers within 5 working days of the sample time. When new equipment, processes or personnel are used on a project, air monitoring will be conducted if there is a possibility of exposure. All air monitoring results will be inserted under **TAB 5** as they become available.

TRAINING

Employers must provide hazard communication training for all employees exposed to lead at any level before they start their job assignment.

For employees exposed **below the Action Level**, basic training is required, including instruction in:

- The hazards of lead
- Warning signs, labels, and material safety data sheets (SDSs)
- The requirements of the OSHA lead in construction standard

For employees exposed to lead **at or above the Action Level** on any day, a broader training program must be provided initially and at least annually afterward. The same training must also be provided initially to any employees subject to exposure to lead compounds that could irritate the skin or eyes. The training program for these employees must include:

- The basic training topics listed above
- The contents of the lead in construction standard and its appendices
- The nature of tasks that could lead to exposures at or above the Action Level
- The purpose, proper selection, fitting, use, and limitations of respirators
- The purpose and description of the medical surveillance program and medical removal program
- The engineering and work practice controls associated with an employee's job assignment(s)
- The contents of the employer's written compliance program
- Instructions to employees prohibiting use of chelating agents except under medical supervision and removal from lead exposure
- The right of employees to access their exposure and medical records

For employees performing work in any of OSHA's "lead related tasks," as described above, or where an employer has reason to believe that the exposure is above the PEL, and until the employer performs an exposure assessment that documents that employee exposure is below the PEL, the employer shall train the employees in:

- The basic training topics listed above
- The purpose, proper selection, fitting, use, and limitations of respirators
- Safety issues related to the work

PENCE CONSTRUCTION**PROJECT ACTIVITIES IMPACTING
LEAD-BASED PAINT****MEDICAL SURVEILLANCE**

A medical surveillance program must be provided for employees exposed at or above the action level for more than 30 days in any consecutive 12 months. This program will include biological monitoring and medical examinations and consultations. Blood sampling and analysis for lead and zinc protoporphyrin must be made available:

- At least every 2 months for the first 6 months and every 6 months thereafter, for employees exposed at or above the Action Level (AL) for more than 30 days in any consecutive 12 months
- At least every 2 months when blood lead level is at or above 40 mg/dl, and for employees exposed above the AL. Testing should continue at this rate until 2 consecutive blood sample results are below 40 mg/dl
- At least monthly during a period when an employee has been removed from work because of high blood lead levels
- If an employee's blood sample results exceed the criterion level for removal, another blood sampling test should be provided within 2 weeks

Medical exams and consultations must be made available on the following schedule:

- At least annually for an employee whose blood lead level was 40 mg/dl or greater in the last 12 months
- As soon as possible for any employee who has developed signs and symptoms commonly associated with lead poisoning or who desires medical advice concerning the effects of current or past exposure to lead on the ability to have a healthy child
- As soon as possible upon learning an employee is pregnant
- As soon as possible after an employee has shown difficulty in breathing during a respirator fit test or use
- As medically appropriate for each employee removed from lead exposure due to a risk of sustaining material impairment to health

BLOOD MONITORING

Employers shall make initial blood monitoring available to any employee exposed at or above the action level on any day. This initial surveillance must include sampling for blood lead and zinc protoporphyrin levels.

Employers must also provide biological monitoring for all employees performing lead-related tasks presumed to create employee exposures above the PEL.

PENCE CONSTRUCTION

LEAD COMPLIANCE PLAN ACTIVITY LOG

**TASK SPECIFIC ACTIVITY LOG
LENT ELEMENTARY, SALEM, OREGON**

This activity log complies with the OSHA Construction Lead Standard, 29 CFR 1926.62, and includes all of the information required in section (e) (2) (i-v). Copies of the completed activity logs shall be submitted for review by General Contractors Superintendent. Completed activity logs must be inserted in **Tab 6** of the Lead Compliance Plan **prior to commencement of work.**

Date: _____

Contractor Name: _____

Address: _____

Phone: _____ Fax: _____

Site Supervisor: _____ Phone: _____

Activity Start Date: _____ Activity Completion Date: _____

- 1. **Competent Person:** *The contractor shall comply with all the provisions of the "Competent Person" outlined in tab 1, page 4.1 of the lead compliance plan.*

Who is the "competent person" for this activity:

Name: _____

What specific duties will this person perform:

- 1. **Crew:**

What specific tasks will each of them be performing:

Name: _____ SS#: _____ Task: _____

2. Location of the project:

Where is the work taking place? Interior? Exterior? First floor? Second floor? Room #? (Be specific)

3. Known areas of lead hazards:

Has the Building and site characterization testing & inspection data been reviewed by the “competent person” prior to beginning of work? Yes _____ No _____

Has this information been communicated to the crew? Yes ____ No ____

4. Description of the work tasks which will impact lead paint:

Selective demolition, cutting, drilling, component removal, anchorage, paint preparation, etc.

5. Equipment and materials:

List equipment being used like wrecking bars, sledge hammers, drills, saws, power tools, pumps, cutting equipment, etc.

List materials including; plastic sheeting, rubber gloves, cleaning detergents, personal protective equipment etc:

6. Control Measures: *The contractor shall comply with all the provisions of the “engineering controls” outlined in tab 1, page 4.2 of the lead compliance plan.*

When applicable, describe work practices/control methods. Be specific to the tasks being performed. List good work practices that apply to this job. For example, how are wet methods to be used in controlling lead dust. Merely mentioning wet method will be employed is not enough (Be Specific):

Wet methods: _____

Local exhaust ventilation fans: _____

Enclosures or barriers: _____

HEPA vacuums: _____

Disposal Methods: _____

Other: _____

- 7. **Hygiene facilities and practices to be used on the project:** *The contractor shall comply with all the provisions of the "Hygiene" as outlined in tab 1, page 4.2 of the lead compliance plan.*

Location of hand washing facilities: _____

Location of clean changing area: _____

Is hot water, soap and towels to be provided? Yes _____ No _____

Are hygiene facilities being cleaned up at the end of each shift? Yes _____ No _____

Location of clean eating area: _____

- 8. **Housekeeping:** *The contractor shall comply with all the provisions of "Housekeeping" as outlined in tab 1, page 4.3 of the lead compliance plan.*

Describe housekeeping procedures to be followed on site: _____

- 9. **Respiratory protection program:** *The contractor shall comply with all the provisions of the "respiratory protection" outlined in tab 1, page 4.3 of the lead compliance plan.*

Prior to beginning work, submit your respiratory protection program to Pence for inclusion into the lead compliance plan under **tab 3**.

Have you submitted your respiratory protection program? Yes _____ No _____

Include a description of the respirators (type & manufacturer) and filters _____

What parts of the job will require respirators? (link the respiratory protection to specific tasks)

10. **Protective clothing:** *The Contractor shall comply with all provisions of “protective clothing” as outlined in tab 1, page 4.4 of the lead compliance plan.*

Disposable clothing _____ Launderable clothing _____ Other _____

11. **Air monitoring:** *The contractor shall comply with all provisions of “Air Monitoring” as outlined in tab 1, page 4.5 of the lead compliance plan. As results become available, submit for inclusion into tab 5.*

Will Initial exposure assessment monitoring be performed in conjunction with this activity or task?

Yes: _____ No: _____

If YES, Who is responsible for this task? _____

Name and address of consultant, and name of field technician who will conduct monitoring:

Name and address of laboratory that will perform analysis:

IF NO, Do you have historic data from work which is similar? **Remember to link the exposure to task.** Attach historic air monitoring data to this activity log for inclusion into the lead compliance plan.

12. **Training:** *The Contractor shall comply with all the provisions of the “Training” as outlined in tab 1, page 4.7 of the lead compliance plan.*

Prior to beginning work, submit all training records for all personnel working on the specific task or activity outlined above for inclusion into the lead compliance plan under **tab 4.**

Have you submitted your training records? Yes _____ No _____

13. **Medical Surveillance Program:** *The Contractor shall comply with all the provisions of the "Medical Surveillance" as outlined in tab 1, page 4.7 of the lead compliance plan.*

Prior to beginning work, if applicable, submit your medical surveillance program to Pence for inclusion into the lead compliance plan under **tab 7**.

Have you submitted your Medical Surveillance Program? Yes _____ No _____ N/A _____

Have you submitted blood monitoring results? Yes _____ No _____ N/A _____

14. Multi-contractor work sites:

Have you communicated with other contractors in or in adjacent to the work area about the potential for lead exposure: Yes _____ No _____

Describe any arrangements made with these contractors to reduce secondary exposure:

I understand that I will adhere to the requirements of the Contract Specification with regards to the Lead Handling Procedures and the Lead in Construction Industry Standards OAR 437, Div. 3, 1926.62., I have read and will comply with the provisions of the Pence Lead Compliance Plan for the Lent Elementary Fire Restoration Project. I will provide all required submittals for this plan and will comply all applicable OR-OSHA regulations.

Signature: _____ Title: _____ Date: _____

BLOODBORNE PATHOGEN SAFETY POLICY

2.30

PURPOSE

Various microorganisms may be present in human blood and bodily fluid that can cause disease. These include, but are not limited to, Hepatitis and HIV. The purpose of this policy is to prevent the spread of these diseases in the workplace.

SCOPE AND APPLICATION

- Contact with human blood at the workplace will likely be limited to the application of first aid.
- Ensure you take the following steps when administering first aid.
 - Always wear rubber or latex gloves when administering first aid, regardless of whether or not blood is visible.
 - Gloves will be readily available on every jobsite.
 - Used gloves should be disposed of properly.
 - Dispose of used gloves in sealed, bagged, garbage containers.
 - If there is any possibility of body fluids coming into contact with the face, “eye and mouth” protection must be used.
 - Eye and mouth protection will be readily available on every jobsite.
 - If mouth to mouth resuscitation is required, use a proper dam or mouthpiece.
 - These devices will be readily available on every jobsite.
 - Do not clean-up areas that are contaminated by human blood
 - Contact your jobsite Superintendent or Project Manager to coordinate clean-up of blood contaminated areas
 - Immediately barricade off the contaminated areas
 - Always wash your hands and then your face with antibacterial soap immediately after the administration of first aid.
- The use of needles at the workplace is prohibited, with the following exception.
 - Needles may be used in conjunction with the treatment of doctor approved medical conditions such as insulin dependent (type I) diabetes.
 - Needles brought to or used at the project site, must be safely stored, and disposed of offsite.
- If you come in contact with human blood, notify your Superintendent or Project Manager immediately.
 - Medical treatment may be available to reduce the risk of infection.
- If you discover blood waste or used needles, contact your Superintendent or Project Manager immediately. Do not touch blood waste or hypodermic needles.

A copy of this policy shall be made available to all employees and concerned parties.

HAZARD COMMUNICATION PROGRAM

2.31

WRITTEN HAZARD COMMUNICATION PROGRAM

The OR-OSHA regulations on **Hazard Communication** Division 2, Subdivision Z rule [1910.1200](#), requires an employer to provide information to its employees as to the hazardous chemicals/agents that they may be exposed to in the work place. Therefore, the following written Hazard Communication Program has been established.

DEFINITIONS

Hazard Class – describes the nature of the physical or health hazard(s) e.g. flammable solid, carcinogen, oral toxicity.

Hazard Statement – a statement assigned to a hazard class and category that describes the nature of the hazard(s).

Immediate Use – means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

Pictogram – a symbol plus other graphic elements that convey specific information about a hazard.

Precautionary Statement – a phrase that describes recommended measures to minimize or prevent adverse effects resulting from exposure to the hazardous chemical.

Product Identifier – unique name or number used for a hazardous chemical on a label by which the user can identify the chemical.

Signal Word – a word used to indicate the relative level of severity of the hazard related to the chemical you are using. They are “Danger” which is used for more severe hazard and “Warning” which is used for less severe hazard.

CONTAINER LABELING

All containers of hazardous chemicals will be labeled to ensure that employees have a means to identify the hazards involved.

- Each container of hazardous chemicals coming into the workplace must have the following on the label: (5 Label Elements)
 - Product Identifier(s)
 - Signal Word(s)
 - Hazard Statement(s)
 - Pictograms(s)

- Precautionary Statement(s)
 - Name, Address and Telephone Number of the chemical manufacturer
- The foreman will verify that all hazardous chemical containers received will:
 - Arrive with the SDS or verify the SDS is already onsite
 - Be clearly labeled as per indicated above
 - Ensure the five label elements are legible.
- It is company policy that no incoming container will be released for use until the above data is verified
- Do not deface original labels on incoming containers.
- The Employee is responsible to know how to identify the hazards of a material from the label and to ensure it is handled in a safe manner

WORKPLACE LABELING

Ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with either:

- The Five Label Elements or
- The product identifier and words, pictures, symbols or a combination of, which will provide at least general information regarding the hazards of the chemical and which in conjunction with other information immediately available to employees, will provide employees with the specific information regarding the hazards of the chemical
 - Signal word(s), hazard statement(s) and pictogram(s) must be located together on the label

SECONDARY CONTAINER LABELING

- Secondary container labeling must be:
 - In English
 - On all secondary containers at all times
- Labels are not required on secondary containers into which hazardous chemicals are transferred from labeled containers, and which are intended only for the immediate use of the employee who performs the transfer
- The foreman will ensure that all secondary containers meet this standard
- If there is any question as to the safe handling of any material covered by this program, do not handle until the safe handling procedures have been reviewed
- Please contact the Foreman, the Project Superintendent, or the Safety Department for help labeling

SAFETY DATA SHEETS (SDS)

- All SDS's must be in English and must include at least the following section numbers and headings, and associated information under each heading, in the order listed:
 - Section 1, Identification
 - Section 2, Hazard(s) identification

- Section 3, Composition/information on ingredients
- Section 4, First-aid measures
- Section 5, Fire-fighting measures
- Section 6, Accidental release measures
- Section 7, Handling and storage
- Section 8, Exposure controls/personal protection
- Section 9, Physical and chemical properties
- Section 10, Stability and reactivity
- Section 11, Toxicological information
- Section 12, Ecological information
- Section 13, Disposal considerations
- Section 14, Transport information
- Section 15, Regulatory information
- Section 16, Other information, including date of preparation or last revision
- The chemical manufacturer must provide Safety Data Sheets which include the five label elements for each hazard class associated hazard category in the product
- Electronic access and other alternatives to maintaining paper copies of the SDS's are permitted as long as no barriers to immediate employee access are created by such options
- Copies of the SDS's for the hazardous chemicals to which company employees or subcontractors or other's employees may be exposed will be kept at the appropriate work site with the written Hazard Communication Program
- SDS's will be available to all employees in their work area for review during each work shift
- If the SDS's are not available or new chemicals in use do not have SDS's immediately contact the Project Superintendent.
- All SDS's will be readily available during non-emergency situations and immediately available in emergency situations
- Please call the Safety Department in any emergency pertaining to hazardous chemicals

EMPLOYEE TRAINING AND INFORMATION

- Employees will receive effective information and training on:
 - An overview of the requirements in OSHA's hazard communication rules
 - Hazardous chemicals in the workplace
 - Location of the hazardous communication program and the SDS's
 - How to read, understand and use the information on labels and in safety data sheets
 - Physical and health hazards of the chemicals in their work areas
 - Methods used to detect the presence or release of hazardous chemicals in the work area
 - Steps we have taken to prevent or reduce exposure to these chemicals

- How employees can protect themselves from exposure to these hazardous chemicals through use of engineering controls/work practices and personal protective equipment
 - An explanation of any special labeling present in the workplace
 - Emergency procedures to follow if an employee is exposed to these chemicals
- Employees will receive training at the time of their initial assignment, and whenever a new chemical hazard the employees have not previously been trained about is introduced
- Every new employee will receive an overview of the Hazardous Communication requirements during new employee orientation
- After attending the training class, each employee will be required to sign a form to verify that they have attended the training, received the written material, and understand the Company's policies on Hazard Communications.
- Prior to a new and different chemical being introduced into the work site, each employee involved in the use of the material will be given the information outlined above
- Training will be tracked on the [Required Safety – Equipment Training List \(2.07A\)](#)

LIST OF HAZARDOUS CHEMICALS

- A list of all hazardous chemicals onsite will be posted on safety bulletin board
- A list of hazardous chemicals onsite will be kept current at all times
- As each project will have a different list of hazardous chemicals, the list for the project will be accessible on site only

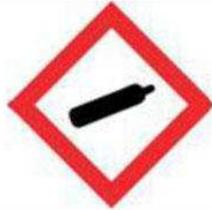
HAZARDOUS NON-ROUTINE TASKS

- Periodically, employees may perform hazardous non-routine tasks
- Before starting work on such a project, any affected employee will be given specific instruction as to the hazards involved by the foreman or superintendent
- This information will include:
 - The specific chemical hazards involved
 - Protective / safety measures employees are to take
 - Measures taken to lessen the hazards, including ventilation, personal protective equipment, hygiene practices, and other emergency procedures

CHEMICAL IN PIPES

- Work activities are often performed by employees in areas where chemicals are transferred through pipes
- Prior to starting work in these areas, the employee shall contact the foreman for information regarding:
 - The chemical in the pipes, or the insulation material on the pipe
 - The potential chemical hazards
 - The safety precautions which should be taken

PICTOGRAMS

Hazard Symbols (to be used in pictograms for substances of the particular class)		
		
FLAME OVER CIRCLE—USED FOR THESE CLASSES : <ul style="list-style-type: none"> ▪ Oxidizers 	FLAME—USED FOR THESE CLASSES: <ul style="list-style-type: none"> ▪ Flammables ▪ Self Reactives ▪ Pyrophorics ▪ Self-Heating ▪ Emits Flammable Gas ▪ Organic Peroxides 	EXPLODING BOMB—USED FOR THESE CLASSES: <ul style="list-style-type: none"> ▪ Explosives ▪ Self Reactives ▪ Organic Peroxides
		
SKULL & CROSSBONES—USED FOR THESE CLASSES: <ul style="list-style-type: none"> ▪ Acute toxicity (severe) 	CORROSION—USED FOR THESE CLASSES: <ul style="list-style-type: none"> ▪ Corrosives 	GAS CYLINDER—USED FOR THESE CLASSES: <ul style="list-style-type: none"> ▪ Gases Under Pressure
		
HEALTH HAZARD—USED FOR THESE CLASSES: <ul style="list-style-type: none"> ▪ Carcinogen ▪ Respiratory Sensitizer ▪ Reproductive Toxicity ▪ Target Organ Toxicity ▪ Mutagenicity ▪ Aspiration Toxicity 	ENVIRONMENTAL HAZARD—USED FOR THESE CLASSES: <ul style="list-style-type: none"> ▪ Environmental Toxicity 	EXCLAMATION MARK—USED FOR THESE CLASSES: <ul style="list-style-type: none"> ▪ Irritant ▪ Dermal Sensitizer ▪ Acute toxicity (harmful) ▪ Narcotic Effects ▪ Respiratory Tract Irritation

PENCE CONSTRUCTION

Listing of Hazardous Chemicals/Materials on this Jobsite

Job: _____

Superintendent: _____

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	
17.	
18.	
19.	
20.	

CHEMICAL MANAGEMENT PROCEDURES

2.32

SAFETY DATA SHEET (SDS) AND CONTAINER LABELING

- All hazardous chemicals brought onto the job site must have an SDS on file at the job site
- All hazardous chemicals delivered to site must have label from manufacture on container that meets the GHS
- All hazardous chemicals that are put into a secondary container must be properly labeled per GHS guidelines or per client mandate

CHEMICAL HANDLING PROCEDURE

- Do not dump or drain any chemicals (this includes oils) into a process sewer, storm drain, sanitary sewer, sump, pond, stream, on the ground, or into any scrap or waste dumpster
- Secure chemical container lids and caps at all times except when adding, withdrawing, or using chemical
- Chemical containers shall be stored to prevent rainwater from entering container either by covering container or tipping container to allow water to run off
- Have spill control materials available. i.e.: Spill kit(s), kitty litter, sawdust, absorbent pads, brooms, drain covers, etc.

SPECIAL PROCEDURES

- Empty Chemical Containers
 - Never dump or drain chemicals to empty containers. Use the chemical up
 - Reusable containers should be returned to the supplier
 - All non-reusable containers are to be completely emptied before disposal
 - Containers in poor condition are to be emptied, crushed and placed in a dumpster
- Paints, Thinners, and Solvents
 - Open paint, thinner, or solvent cans only as needed
 - Use proper secondary label and also label as “Hazardous Waste”, unless chemical is not listed and does not meet any Hazardous Waste characteristics. Do not date the container!
 - All chlorinated solvents must be approved for use by the Safety Department, and also per client mandate
 - Dispose of per client contact or Safety Department
- Other Special Chemicals
 - If project requires work with other special chemicals, check with the Safety Department for special handling requirements

PURCHASING HAZARDOUS MATERIALS

- Purchase only the amount of material necessary to complete the project at hand
 - If less than 55 Gallons of product is needed, purchase only 5 Gallon cans
 - If less than 110 Gallons of product is needed, purchase one 55 Gallon Drum and the remainder in 5 Gallon cans etc.
- Many clients require advanced SDS review/approval prior to delivery of hazardous materials to the project
 - Check with the project manager prior to purchasing hazardous materials
 - Leave ample time for client review
- Substitutions can often be made with materials that do not create hazardous waste
 - Many clients require that alternative materials be used whenever possible

CONTAINMENT AND CLEAN-UP OF A SUDDEN OR ACCIDENTAL RELEASE

- Notification
 - If anyone is injured, seek medical help
 - Inform foreman immediately of any spill or release
 - As soon as possible notify the Safety Department or project superintendent
 - Any spill with potential to affect human health or the environment (except when occurring in secondary containment) must be reported to local authorities in accordance with the local emergency plan
 - Also contact client site safety representative
- Protection
 - Get personal protective equipment as required by HMIS label or SDS
- Liquid Spills
 - Immediately confine liquid spills to the smallest possible area using dams, dikes, and/or absorbent
 - In case of a large liquid spill, contact client site safety representative for instructions for disposal. Contain spill as above where possible
- Gaseous Release
 - Evacuate area in case of a gaseous release. Contact superintendent and Safety Department immediately
- Disposal
 - Consult warning labels on container and/or SDS's for procedures and precautions necessary for safe and proper disposal of the hazardous waste
 - Use Personal Protective Equipment (PPE) as required
 - Dispose of small quantities of oil soaked absorbent material as solid waste
 - Place contaminated materials inside an approved container, dispose of in accordance with all Federal, State and Local Regulations

2.33

PURPOSE AND SCOPE

The Lock Out/Tag Out program has been developed to establish the procedures for the control of potentially hazardous energy sources. This program has been put in place to ensure that machines, equipment or fixtures are isolated from all potentially hazardous energy sources, *before* employees perform any service, maintenance, demolition or installation activities on them. The Lockout/Tagout protocol should apply to all permanently wired machines and equipment. Cord and plug connected equipment should be exempt, provided that the cord is unplugged *and* under the direct control of the employee performing the service or maintenance.

Energized electrical work will not be allowed unless work is infeasible to perform de-energized. Furthermore, all energized electrical work will require an [Electrical “Hot Work” Permit Form \(2.33A\)](#) to be fully completed prior to work commencing. “Energy source” is defined to include electricity, compressed air (pneumatic systems), fluid systems, steam, gases, corrosive, flammable, gravity or toxic substances.

All subcontractors must provide a Lock Out/Tag Out Program prior to performing working on equipment with potentially hazardous energy sources.

CONCRETE CUTTING

Prior to any concrete cutting activities whether on a wall, PT slab on deck, slab on deck or slab on grade, where unknown electrical lines maybe present, the following procedures will be followed.

- Area of cut will be laid out and marked
- A GPR unit will be used to located obstructions or hazards in the cut area
- An electronic pulse detector will also be used to locate live electrical lines in the cut area
- If live electrical lines are discovered in the cut area the following procedures apply:
 - Electrical subcontractor will shut down and Lockout/Tagout the electrical circuits in the cut area
 - The electronic pulse detector will be used in the cut area a second time to verify the electrical lines are shut off
 - If the power is still on the first two steps will be performed again until it is verified that all electrical lines in the cut area are shut down and locked out

Electrical Hot Work Permit

#1 Project Information	
Date:	Project:
Facility Name:	
Address:	
Subcontractor Name:	

#2 “Hot Work” Classification		
<i>What “Hot Work” classification does this work fall under?</i>		
<input type="checkbox"/>	Supports Life Sustaining Equipment	
<input type="checkbox"/>	Severe Economic Impact (<i>example: shutting down major operational systems, disrupting R&D prototypes, etc.</i>)	
<input type="checkbox"/>	Emergency Event	
<i>Can the equipment be shut down?</i>	<input type="radio"/> Yes	<input type="radio"/> No
If NO, why?		
<i>Does this equipment have a disconnect?</i>	<input type="radio"/> Yes	<input type="radio"/> No
If YES, is it close enough to work being performed that it can be turned off in case of an emergency?	<input type="radio"/> Yes	<input type="radio"/> No
If NO, or if the disconnect is not close, what steps will be taken to remove an employee from energized circuits?		

#3 Personal Protective Equipment

Personal protective equipment required:

#4 Emergency Procedures

Names of individuals who have a valid first-aid and CPR card and are present while working is being performed:

Emergency contact numbers:

#5 Site Specific Safety Planning

Are the detailed, step-by-step pre-task plan – completed by Foreman and crew -- and any special protocols for electrical hot work attached to this permit?

Yes

No

#6 Names of Qualified Persons who will perform this work:

Contractor Name	Print Name	Signature

#7 Owner/Customer Agreement:

Has the Owner/Customer been notified and is in agreement with the need for this Hot Work?

Yes

No

Owner Representative Printed Name:

Owner Representative Signature:

#8 Signatures:**Pence Construction**

Pence Superintended Printed Name:

Pence Superintendent Signature:

Subcontractor

Pence Superintended Printed Name:

Pence Superintendent Signature:

Safety Officer Printed Name:

Safety Officer Signature:

CONFINED SPACE ENTRY PROGRAM

2.34

PURPOSE

This program applies to all activities in confined spaces and provides requirements to protect employees from the hazards of entering and working in and around confined spaces.

The intent of this program is to comply with the complex rules and regulations of OSHA, DOSH, and OR-OSHA. THIS POLICY IS, BY NO MEANS, INTENDED TO REPLACE THESE STANDARDS.

By following this program, Pence Construction (Pence) will help ensure a safe entry, stay and exit of confined spaces by reducing the likelihood of any injuries or accidents associated with confined space work. If any questions arise prior to or during confined space operations, contact the Safety Department for specific answers to your questions before proceeding with the confined space operation. The risks are too high to proceed with any unanswered questions.

This program and any associated permits will be made available to all employees and their representatives.

EXCEPTIONS

The following activities do not automatically fall under the OSHA confined space regulations. Each activity has its own regulations concerning entry procedures. Please follow those procedures instead. If questions arise concerning what is and is not regulated by these standards, please call the Safety Department.

- Construction work regulated by Division 3, [Subdivision P](#), **Excavations**, except for entry into sanitary sewer spaces that are large enough to bodily enter
- Construction work regulated by Division 3, [Subdivision S](#), **Underground Construction, Caissons, Cofferdams, and Compressed Air**, except for sewers
- Enclosed spaces regulated by Division 2, [Subdivision RR](#), **Electric Power Generation, Transmission, and Distribution**, except when that standard requires compliance with this rule.
- Enclosed spaces regulated by rule [1926.953](#), except when that standard requires compliance with this rule.
- Manholes and vaults regulated by rule [1910.268\(o\)](#) **Telecommunications**, except when those provisions are insufficient to render the space safe to enter.
- Welding in confined spaces regulated by Division 2, [Subdivision Q](#), **Welding, Cutting, and Brazing**, when the only hazards are related to the welding process.

DEFINITIONS

- Acceptable Entry Conditions - The conditions that must exist in a permit-required confined space to allow safe entry and work
- Alternate Entry - An alternative process for entering a permit space under very specific conditions. The space remains a permit space even when entered using alternate entry and even though no entry permit is required in those circumstances.
- Attendant – An individual stationed outside one or more permit spaces to monitor the authorized entrants and who performs all attendant’s duties assigned in the employer's permit space program
- Authorized – Approved by the employer or controlling contractor
- Authorized Entrant – An employee who is authorized by the employer to enter a permit space
- Barrier - A physical obstruction that blocks or limits access.
- Blanking or Blinding – The absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.
- Calibration – The checking of a direct-reading instrument against an accurate standard (such as a calibration gas) to determine any deviation and correct for errors.
 - Note: A similar process may also be referred to as a “bump test” in which an instrument is tested with an accurate standard to ensure it is still reading correctly. For the purposes of this rule, a “bump test” performed in accordance with the manufacturer’s instructions can be used to verify calibration
- Confined Space – A space that meets all the following:
 - Large enough and so configured that an employee can fully enter the space and perform work
 - Has limited or restricted means for entry and/or exit
 - Is not designed for continuous human occupancy
- Continuous system – A confined space that meets all the following:
 - Part of, and contiguous with, a larger confined space (for example, storm sewers, sanitary sewers, or steam tunnels)
 - Subject to a potential release from the larger confined space that can overwhelm control measures and/or personal protective equipment, resulting in a hazard that is immediately dangerous to life and health
- Control or Controlling - Authority to regulate, direct or influence
- Controlling Contractor – The employer that has overall responsibility for construction at a worksite
 - Note: A controlling contractor who owns or manages a property is both a controlling contractor and a host employer
- Double Block and Bleed – The closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves

- Emergency - Any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants
- Engulfment Hazard - A physical hazard consisting of a liquid or flowable solid substance that can surround and capture an individual. Engulfment hazards may cause death or serious physical harm if: the individual inhales the engulfing substance into the respiratory system (drowning, for example); the substance exerts excessive force on the individual's body resulting in strangulation, constriction, or crushing; or the substance suffocates the individual
- Entry – The action by which any part of an employee's body breaks the plane of an opening into a confined space. Entry (or entry operations) also refers to the period during which an employee occupies a confined space
- Entry Permit – Written authorization from the employer, controlling contractor, or host employer to enter a permit-required confined space and perform work
- Entry Supervisor – The person (such as the employer, foreman, or crew chief, or any other designated employee) responsible for:
 - Determining if acceptable entry conditions are present at a permit space where entry is planned
 - Authorizing entry and overseeing entry operations
 - Terminating entry as required
- Hazard – For the purpose of this rule, hazard means a physical hazard or hazardous atmosphere
- Hazard control – The action taken to reduce the level of any hazard inside a confined space using engineering methods (for example, by isolation or ventilation), and then using these methods to maintain the reduced hazard level. Hazard control also refers to the engineering methods used for this purpose. Personal protective equipment is not a hazard control
- Hazard Elimination – The action taken to remove a hazard from the work environment. For confined spaces, this includes isolation. For a hazard to be eliminated, the conditions that create or cause the hazard no longer exist within the confined space
- Hazardous Atmosphere – An existing or potential atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to escape unaided from a permit space, injury, or acute illness from one or more of the following:
 - A flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit
 - An airborne combustible dust at a concentration that meets or exceeds its lower explosive limit
 - This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less
 - An atmospheric oxygen concentration below 19.5 percent (oxygen deficient) or above 23.5 percent (oxygen enriched)
 - An airborne concentration of a substance that exceeds the dose or exposure limit specified by an Oregon OSHA requirement
 - An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to escape unaided,

injury, or acute illness due to its health effects is not covered by this provision

- An atmosphere that presents an immediate danger to life or health (IDLH)
- Host Employer – An employer who owns or manages the property on which confined space work is taking place
- Immediately Dangerous to Life or Health (IDLH) – Means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual’s ability to escape unaided from a permit space
- Inerting - The displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible
 - Note: This procedure produces an IDLH oxygen-deficient atmosphere
- Isolate or Isolation - The elimination or removal of a physical or atmospheric hazard by preventing its release into a confined space
 - Isolation includes, but is not limited to, the following methods:
 - Blanking or blinding
 - Misaligning or removing sections of lines, pipes, or ducts
 - Double block-and-bleed system
 - Machine guarding
 - Blocking or disconnecting all mechanical linkages
 - Lockout or tagout of all sources of energy
 - Note: When using lockout/tagout, you must follow all of the requirements of rule [1910.147](#).
- Mobile Worker – An employee who performs their work in multiple locations such as customer sites, company offices, private homes, vendor offices, or construction sites
- Monitor or Monitoring – The process used to identify and evaluate the atmosphere in a permit space after an authorized entrant enters the space
 - This is a process of checking for changes in the atmospheric conditions within a permit space and is performed in a periodic or continuous manner after the completion of the initial testing of that space
- Non-Entry Rescue – Retrieval of entrants from a permit space without entering the permit space
- Permit-Required Confined Space (PRCS or Permit 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 that has the potential to engulf an entrant
 - Has an internal configuration such that an entrant could become trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section
 - Contains any other recognized serious safety or health hazard that can inhibit an entrant’s ability to escape unaided
- Physical Hazard – An existing or potential hazard that can cause death or serious physical harm in or near a confined space, or a hazard that has a reasonable probability of occurring in or near a confined space, and includes, but is not limited to:

- Explosives; mechanical, electrical, hydraulic, and pneumatic energy; radiation; temperature extremes; engulfment; noise; and inwardly converging surfaces
- Chemicals that can cause death or serious physical harm through skin or eye contact (rather than through inhalation)
- Potential Hazards – All reasonably anticipated conditions within the space and outside the space that can adversely affect conditions within the space
- Rescue - Retrieving employees who are unable to remove themselves from a permit space
 - Rescue can be entry or non-entry, and can be conducted by the employer's employees or a third-party
- Rescue Service – The onsite or offsite personnel who the employer designates to engage in non-entry and/or entry rescue of employees from a permit space
- Retrieval system - The equipment, including mechanical retrieval devices, used for non-entry rescue of authorized entrants from a permit space
- Serious Physical Harm – An impairment in which a body part is made functionally useless or is substantially reduced in efficiency
 - Such impairment may include loss of consciousness or disorientation, and may be permanent or temporary, or chronic or acute
 - Injuries involving such impairment would usually require treatment by a physician or other licensed health-care professional while an illness resulting in serious physical harm could shorten life or substantially reduce physical or mental efficiency by impairing a normal bodily function or body part
- Testing - The process of identifying and evaluating the atmospheric hazards that entrants may be exposed to in a permit-required confined space
 - Testing includes specifying the initial tests that are to be performed in the permit space
 - Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to and during entry
- Ventilate or Ventilation - Controlling an actual or potentially hazardous atmosphere using either powered equipment, such as fans and blowers, or reliable natural air flow, or a combination of the two, to reduce an otherwise hazardous atmosphere below the level that makes it a hazardous atmosphere
 - Ventilation is a method of hazard control, not hazard elimination

EVALUATION OF WORKSITES

All worksites must be evaluated to determine if there are confined spaces on/in the worksite. You then must evaluate your confined spaces to determine if they are Permit Required Confined Spaces (PRCS).

- Evaluations must include:
 - Any known or anticipated hazard
 - If the only hazard associated with a confined space is a fall hazard, it is not covered by the Confined Space rule
 - If the space contains other hazards that make it a permit space, the fall hazard must be addressed on the permit
 - The determination from any previous evaluation of that space
 - Any precautions and procedures previously implemented for entering the space
- Employers of mobile workers (for example, contractors, electricians, plumbers) where they are not the property owner or controlling contractor are not required to perform this evaluation for the entire site
- Controlling contractors on sites with existing confined spaces are responsible for performing this determination only for the area under their control
- On sites where confined spaces are being built, the host employer or controlling contractor is responsible for ensuring this determination is accomplished only when:
 - Any of their employees enter that space
 - An agent of the employer enters that space
 - Employees of an employer accountable to that controlling contractor or host employer enter that space
 - They assume control over that space
- Controlling contractors must share all their evaluation information about confined spaces under their control with subcontractors who have employees who will be required to enter those confined spaces
 - This information must be shared prior to subcontractor employees enter the confined space
- Prevent all employees or subcontractor employees from entering a confined space until it is fully evaluated
- When a confined space is evaluated and deemed to be a permit required confined space the following must take place:
 - Develop and implement a means so all workers can identify the permit required confined space
 - Signs, labels or tags are acceptable means
 - Allow the workers or their representatives to observe the evaluation or re-evaluation of the space
 - When conditions within the confined space or permit space change re-evaluate the space
 - Take all necessary measures to prevent unauthorized workers from entering a permitted space.
- When your employees are considered mobile, you must determine if they will be exposed to permit-required confined spaces at their assigned work locations

- This determination must include information, if any, from the host employer or controlling contractor
 - Identify any physical and atmospheric hazards that make the space a permit-required confined space
 - Allow employees or their representatives to observe the evaluation or re-evaluation of the space
 - When conditions within a confined space or a permit space change, re-evaluate it
 - Take all necessary measures to prevent unauthorized employees from entering permit spaces
 - Prevent employees from entering any unevaluated confined space until it is fully evaluated
- When Pence is required to evaluate the spaces, the [Confined Space Initial Evaluation Form \(2.34A\)](#) will be used.

MULTI-EMPLOYER WORKSITES

- If Pence is the controlling employer, before employees of a subcontractor enter permit spaces under Pence control, Pence must:
 - Inform the subcontractor and their employees:
 - That the workspace contains PRCS and can only be entered when the applicable regulations are met
 - Location of the spaces
 - Pence experience with the spaces, if any
 - Hazards of the spaces
 - Any procedures Pence requires
 - Coordinate entry operations when employees of more than one subcontractor are working in or near the same PRCS
 - Discuss entry operations with subcontractor after they are complete including”
 - The program followed during permit space entry
 - Any hazards confronted in the space
 - Any hazards created in the space
- When Pence employees enter a permit space under the control of another entity, at the conclusion of entry operations, inform the controlling contractor or host employer about the precautions and procedures you followed and any hazards that were present or that developed during entry operations

CONFINED SPACE ENTRY PROCEDURES

When workers are required to enter a permit space the following procedures must be adhered to.

- General Requirements
 - Entrants and/or their representatives shall have access to the following before entry into the PRCS:
 - Access to the written Confined Space Program
 - The completed permit
 - The results of the initial testing

- As long as the attendant is at the PRCS, they are in charge of the immediate vicinity outside the PRCS, as well as all persons entering and exiting the area
- If the attendant instructs everyone to exit the space, they must do so immediately
- Canceled entry permits must be kept on file for one year
- An effective means of communication shall be maintained between the attendant and each entrant at all times
 - This can be accomplished by sight, voice, or radio communications
- The attendant must also have in their possession a signaling device that is capable of producing an alarm sound of 110db such as a police whistle or an air horn in case of an emergency
- Should situations arise such as employee complaints, unauthorized entry, or discovery of additional hazards, the program shall be reviewed, and changes implemented as necessary
- Eliminating Potential Hazards
 - Prior to entering a confined space all existing or potential physical hazards in or near the confined space must be eliminated
 - Prior to entering a confined space all existing or potential atmospheric hazards in or near a confined space must be eliminated or controlled
 - Existing or potential physical and atmospheric hazards includes, but is not limited to:
 - Explosives or explosive atmospheres
 - Excessive oxygen
 - Lack of oxygen
 - Mechanical
 - Electrical
 - Hydraulic
 - Pneumatic energy
 - Radiation
 - Temperature extremes
 - Engulfment
 - Inwardly converging surfaces
 - Chemicals
 - Elimination of the hazards may include, but is not limited to
 - Shutting down of systems
 - This may require a complete system walk down
 - Introducing fresh air
 - De-energizing electrical components
 - Great care must be taken when working around electrical hazards
 - All electrical components that are present may pose a hazard and the hazard must be eliminated:
 - Locking out and tagging out the system
 - All lighting and power cords must also be protected from damage by power cords must also be protected from damage

- All portable tools shall be grounded or double-insulated, and used in conjunction with a GFCI
- Atmospheric Monitoring
 - Prior to entering a PRCS, PRELIMINARY atmospheric monitoring must be done
 - Atmospheric monitoring must be performed in three locations:
 - Top of the confined space
 - Mid way down the confined space
 - Bottom of the confined space
 - All monitoring results must be documented on the entry permit
 - Use only properly calibrated direct reading meters to test the atmosphere
 - Verify the meters are used according to the manufacturer's instructions
 - Test atmosphere before each entry into the space
 - Continuous air monitoring is required in the area where employees are working in all PRCS
 - When an entrant, their representative, attendant or entry supervisor has reason to believe that the testing or monitoring is/was inadequate, retest will be conducted
- Ventilation
 - If the atmosphere monitoring indicates a lack of oxygen, there must be at least 5 air exchanges completed by ventilating the confined space
 - If the atmosphere monitoring indicates a toxic, flammable or both, you will need to have a minimum of 10 air exchanges
 - To do this, you must know the approximate size of the confined space
 - *Example*
 - *The confined space is 20'W X 20'L X 10'H. This would give you an area of 4,000 cubic feet*
 - *If you ventilate the space with an 8" red box fan rated at 1,500 CUBIC FEET PER MINUTE, it would take just over 2 ½ minutes to make one air exchange*
 - *To make 5 air exchanges, it would take 12 ½ minutes*
 - *This would be the earliest time that anyone could enter the space*
 - *For toxic or flammable atmospheres, the 10 air exchanges needed prior to entering would increase the time to properly ventilate to 25 minutes*
 - Continuous ventilation must be maintained while workers are in the confined space, if there is any possibility that a hazardous atmosphere could develop, including by the work process, i.e. welding, grinding, etc., being performed in that space
 - If for some reason the ventilation stops, the workers must evacuate the space until it can be re-established, and the minimum per-entry air exchanges completed
 - All fans and other equipment used to remove flammable gases or vapors shall conform to NFPA requirements and not create an ignition hazard
- Maintain safe entry conditions for the duration of the entry

- When a space is too large to isolate, or part of a continuous system, such as a sewer. Continuous monitoring is required where entrants are working for the duration of the entry
- After work in the PRCS is complete, the confined space shall be secured by posting or closing the access
- The permit to enter is to be closed out by the Entry Supervisor and is to remain in file as a permanent job record
- All barriers are to be removed, and emergency services are to be contacted and informed of the job completion if, applicable

PERMIT REQUIRED CONFINED SPACE (PRCS)

- If the physical hazards cannot be eliminated and/or the atmospheric hazards cannot be controlled or eliminated, you must consider the space a PRCS
- Prior to entering a PRCS a permit must be issued by the Entry Supervisor
- Prior to issuing a permit, the Entry Supervisor must ensure:
 - The space has been evaluated for physical and atmospheric hazards as addressed above
 - The hazards of the work to be performed have been evaluated
 - Determine safe entry conditions and/or procedures
- Prior to entering a PRCS the following must be in place
 - Entry Permit
 - Documentation of the space evaluation
 - Documentation of pre-entry atmospheric monitoring
 - Documentation of training on use and maintenance of monitoring equipment
 - Documentation of hazard elimination
 - Documentation of employee training on specific duties
 - Documentation of employee training on the PRCS Program and entry permit
 - Rescue procedures
 - Procedures to eliminate unauthorized entry
- Barricades/Postings
 - During the initial set-up of the confined space, caution barriers are to be set-up around the entry of the confined space and barrier tags are to be filled out describing the work taking place
 - This area is to be maintained by the Attendant while any confined space work is in process
- This area should encompass an area large enough to prohibit the entry of any fuel burning equipment that could introduce “bad air” into the confined space through the ventilation system in use, or possibly block any exit or rescue of the confined space
- Permit must be maintained at the entry point until it is cancelled
- If conditions of the PRCS warrant an evacuation:
 - All entrants must evacuate immediately
 - Remain outside the space until Entry Supervisor gives approval to re-enter
 - Prior to re-entry the Entry Supervisor must
 - Re-assess the conditions of the space to ensure it is safe to reenter

- Verifies the reason for the evacuation has been eliminated
- Verify the permit reflects the reason for evacuation
- Verify all PRCS entry procedures, including initial air monitoring, have been performed
- Issue a new permit
- Entrants or their representative must have the opportunity to observe the re-evaluation process

ALTERNATE ENTRY CONFINED SPACE (AECS)

- Alternate entry cannot be used to enter a continuous system unless:
 - You can isolate the area to be entered from the rest of the space
 - Can demonstrate that the conditions that caused the hazard or potential hazard no longer exist within the system during the entry
 - Can demonstrate that engulfment cannot occur and continuous ventilation in the area to be entered is sufficient to control atmospheric hazards
- A permit required space maybe entered without a permit when:
 - All hazards have been eliminated; or
 - All physical hazards have been eliminated and all atmospheric hazards have been controlled with continuous forced-air ventilation
 - Tag out alone does not eliminate a hazard
 - Continuous forced-air ventilation does not eliminate atmospheric hazards it only controls them
- When employees enter permit spaces under “Alternate Entry” they do not need to meet the following sections:
 - Permit Required Confined Space
 - Entry Permit
 - Entry Supervisor or Attendant
 - Rescue Procedures
 - Keep Records
- Alternate entry procedures must be developed for each space
- Alternate Entry Procedures must address:
 - Who can authorize alternate entry procedure and is responsible for ensuring safe entry conditions?
 - The hazards of the space
 - When fall hazards (if any) have been addressed and all other physical hazards, if any, have been eliminated and all atmospheric hazards have been eliminated, or are controlled with continuous ventilation, alternate entry is allowed
 - The methods used to eliminate hazards
 - The methods used to ensure that the hazards have been eliminated
 - The methods used to test the atmosphere within the space, where applicable, for all atmospheric hazards
 - The methods used to determine if unsafe conditions arise before or during entry
 - The criteria and conditions for evacuating the space during entry
 - The methods for training employees in these procedures.
 - The methods for ensuring employees follow these procedures

- When using ventilation to control atmospheric hazards:
 - Use only properly calibrated direct-reading meters to test the atmosphere
 - Test the atmosphere for all identified atmospheric hazards before entering the space
 - Do not allow employees to enter until testing verifies that all identified atmospheric hazards are adequately controlled by the ventilation
 - Perform continuous monitoring for all atmospheric hazards during the entry
 - Immediately evacuate the space:
 - When monitoring indicates the return of atmospheric hazards
 - Upon any failure with the direct-reading instrument
 - Upon any failure with the ventilation.
 - When a new hazard is introduced or conditions within the space change
- Provide all employees who will conduct the entry or their representatives the opportunity to observe all activities used to comply with this program
- Provide all employees who conduct entry an effective means of communication, such as a two-way radio, cell phone, or voice if other employees are present, to summon help while within the space
- When a space is evacuated, it cannot be re-entered as an alternate entry unless:
 - The conditions that necessitated the evacuation are corrected; and
 - The re-entry is treated and documented as a new entry
- Document each entry.
- This documentation must include:
 - The location of the space
 - The hazards of the space
 - The measures taken to eliminate the hazards
 - When applicable, the measures used to control the atmospheric hazards
 - When applicable, the identity of the direct-reading instruments used to test the atmosphere
 - When applicable, the results of the atmospheric testing.
 - The date of the entry
 - The duration of the entry
 - When applicable, any and all conditions that required the evacuation of the space
 - The name, title, and signature of the person responsible for ensuring the safe entry conditions
- Maintain this documentation for the duration of the entry at the location of the entry

NO ENTRY REQUIREMENT SPACES (NERS)

- If by use of the Confined Space Evaluation Form, confined space is determined to be a “No Entry Requirement Space” the following procedures apply:
 - A hazard evaluation must be performed at least daily
 - Employee training on the confined space program
 - Initial monitoring may still be required, depending on the size and shape of the confined space, conditions of the soil, location of the space, etc.

- Situations where initial monitoring would be required include but are not limited to:
 - If when the employee stands up, their head is not above the space
 - Locations of contaminated soil are present or near
 - Locations in or near landfills
 - Locations in or near where sewer lines are known to be broken
 - Locations in or near fueling stations
- If for any reason the employees, their representative, the foreman or the superintendent feel that there is a hazard present, the space should be evacuated and re-evaluated

PROGRAM/ENTRY PROCEDURES REVIEW

- Review the entire permit program when there is any reason to believe the employees are not adequately protected
- Situations that would trigger this review would include but are not limited to:
 - Unauthorized entry into a PRCS
 - New hazard is discovered
 - A condition prohibited by the permit or the permit program is discovered
 - Any injury or near miss occurs related to the PRCS
 - An employee reports a concern
 - Any condition that affects employee safety
- At a minimum the entire permit program must be reviewed annually
- Review permits and permit procedures for effectiveness within one year of cancellation of the permit
- If a revision of the program/entry procedures is warranted, no PRCS entries will be allowed until the revisions have been made and implemented
- Employees or their representatives must have access to these revisions

SPECIFIC DUTIES

Note: The entry supervisor can also be either the attendant or entrant, but at no time can the attendant and the entrant be the same person.

- Entry Supervisors Must:
 - Know the hazards that may be faced during entry, including information on the type of hazard, as well as signs, symptoms, and consequences of exposure to those hazards
 - Understand the means and methods to control and/or eliminate the hazards of the permit space
 - Verify, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before signing the permit and allowing entry to begin
 - Inform entrants and attendants of the hazards and conditions associated with the space and the methods used to eliminate and/or control those hazards
 - Verify all entrants and their representative have reviewed and have access to all information concerning the PRCS including but not limited to:
 - The confined space program

- Space evaluations
 - Confined space procedures
 - PRCS Permits
 - Monitoring results
- Terminate the entry and cancel the permit as required by the permit entry program
- Verify that rescue services are available and that the means for summoning them are operable
- Remove unauthorized individuals who enter or who attempt to enter the permit space during entry operations
- Reevaluate the conditions within the space whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space
- Attendant Must:
 - Know the hazards that may be faced during entry, including information on the type of hazard, as well as signs, symptoms, and consequences of exposure to those hazards
 - Be aware of possible behavioral effects of hazard exposure in authorized entrants
 - Continuously maintain an accurate count of authorized entrants in the permit space and ensure that the means used to identify authorized entrants accurately identifies who is in the permit space
 - Remain outside the permit space during entry operations until relieved by another attendant
 - Ensure all actions and precautions identified on the permit are followed
 - Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space
 - Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and order the authorized entrants to evacuate the permit space immediately under any of the following conditions:
 - If the attendant detects a dangerous or hazardous condition
 - If the attendant detects the behavioral effects of hazard exposure in an authorized entrant
 - If the attendant detects a situation outside the space that could endanger the authorized entrants
 - If the attendant cannot effectively and safely perform all the duties required of the attendant
 - Summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards
 - Take the following actions when unauthorized persons approach or enter a permit space while entry is underway:
 - Warn the unauthorized persons that they must stay away from the permit space
 - Advise the unauthorized persons that they must exit immediately if they have entered the permit space

- Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space
 - Perform non-entry rescues as specified by the employer's rescue procedure
 - Perform no duties that might interfere with the attendant's primary duty to monitor and protect any authorized entrant
- Authorized Entrants Must:
 - Know the hazards that may be faced during entry, including information on the type of hazard, as well as signs, symptoms, and consequences of exposure to those hazards
 - Communicate with the attendant as necessary so the attendant can monitor the entrant's status and to enable the attendant to alert entrants of the need to evacuate the space
 - Alert the attendant whenever the entrant detects a dangerous or hazardous condition or warning sign or symptom of exposure to a dangerous situation
 - Exit from the permit space as quickly as possible whenever:
 - An order to evacuate is given by the attendant or the entry supervisor
 - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation
 - The entrant detects a dangerous or hazardous condition
 - An evacuation alarm is activated

RESCUE PROCEDURES

- Before entering a PRCS a means must be developed and implemented to rescue an entrant that is unable to evacuate without outside assistance
- These means must include:
 - The process for summoning rescue services
 - At a minimum, if an off-site rescue service is being considered, the employer must contact the service to plan and coordinate the evaluations required by the standard
 - Merely posting the service's number or planning to rely on the 911 emergency phone number to obtain these services at the time of a permit space emergency would not comply with the rescue requirements of the standard
 - The process for summoning emergency medical services or transporting injured entrants to a medical facility
 - If an injured entrant is exposed to a substance for which a Safety Data Sheet (SDS) or other similar written information is required to be kept at the worksite, that SDS or written information must be made available to the medical facility treating the exposed entrant
- Ensure rescue personnel can respond to a rescue call in a timely manner
 - Timeliness is based on the identified hazards of the space
 - Rescuers must be able to reach potential victims within an appropriate time frame based on the identified hazards of the permit space

- When there are multiple entrants in a permit space, the rescue plan needs to address how all entrants will be removed in a timely manner
- Ensure all rescuers, including non-entry, entry, and third-party, are knowledgeable in basic first aid and cardiopulmonary resuscitation (CPR)
- At least one member must be certified in first aid and CPR
- Additional medical training, such as oxygen administration, the use of automated external defibrillators (AEDs), and personnel decontamination should be considered
- Rescuers must practice performing permit space rescues prior to entry and no more than 12 months before an entry
- Reliance upon “self-rescue” does not constitute an acceptable rescue program
- Where feasible, use non-entry retrieval systems or methods whenever an authorized entrant enters a permit space, unless it would increase the overall risk to the entrant or would not contribute to the rescue of the entrant
- For a Non-Entry Rescue use a retrieval system that meets the following requirements:
 - Each authorized entrant must use a chest or full body harness, with a retrieval line attached at the center of the entrant’s back near shoulder level, above the entrant’s head, or at another point which you can establish presents a profile small enough for the successful removal of the entrant
 - Wristlets or ankle straps or other equally effective means may be used in lieu of the chest or full body harness if you can demonstrate that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of other methods are the safest and most effective alternative
 - Attach the other end of the retrieval line to a mechanical device or fixed point outside the permit space so that rescue can begin as soon as the attendant becomes aware that rescue is necessary
 - Ensure a mechanical device is available to retrieve personnel from vertical type permit spaces more than 5 feet (1.52 m) deep.
- Entry Rescue
 - Where non-entry rescue is not feasible or would increase the overall risk to the entrant, designate a rescue service before employees enter any permit space
 - Ensure the rescue service:
 - Can efficiently rescue employees from permit spaces
 - Has the appropriate equipment to rescue employees from all permit spaces employees enter
 - Inform the rescue service about the hazards they may confront when called to perform rescue
 - Provide the rescue service with access to all permit spaces from which rescue may be necessary
 - Is aware that they are so designated and agree to it prior to entry
 - Capable of performing all required rescue operations
 - Knowledgeable in first aid and CPR, and at least one member is certified in first aid and CPR

EQUIPMENT

- When employees are required to enter a PRCS the following equipment will be provided as necessary at no cost to the employee:
 - Testing and monitoring equipment
 - Ventilation equipment
 - Communication equipment
 - Lighting equipment
 - Barriers to protect entrants from external hazards
 - Ladders or other means of safe entry
 - Rescue or emergency equipment
 - PPE
- All equipment must be maintained in accordance to the manufacturer's recommendations
- All employee must be trained in the use of the equipment
- All equipment will be at no cost to the employees

HOT WORK

- Any hot work inside a confined space requires the use of an approved **Hot Work Permit** prior to entry (See section [2.33](#) or [2.36](#)).
- All combustible materials shall be protected from ignition at all times, and all flammable atmospheres shall be controlled
- If the hot work produces any toxic gases, fumes or vapors, ventilation shall be required to extract these contaminants, and/or the use of the proper respiratory protection shall be implemented
- Testing of the atmosphere inside the confined space shall be continuous as long as these conditions exist
- Compressed gas cylinders are **NOT** allowed inside any confined space
- They are to be located outside and monitored while in use so that they can be shut down if an emergency arises
- Any time an oxy acetylene cutting, or brazing outfit is not in use, it is to be removed from the confined space and shut down to prevent any accidental release of gases inside the confined space
- Also, any arc welding power must be shut down if an emergency develops

TRAINING PROGRAM

- Employee Training:
 - All employees who are involved with activities in a PRCS or an AECS, must be trained so they acquire the understanding, knowledge and skills necessary to safely perform their duties, according to their assigned responsibilities
 - Training must be provided:
 - For all new employees
 - Before an employee is assigned PRCS duties
 - Before there is a change in their assigned duties
 - When a new hazard is identified
 - When there are changes in the permit program
 - When the permit evaluations indicate a deficiency

- When there is a deviation from procedures
 - When an employee's knowledge of a procedure is inadequate
 - All employee training documents shall be made available for the employees and their representatives
 - Ensure each employee is proficient in their assigned duties
 - Employee training must include:
 - The written confined space program
 - The entry permit procedures
 - Alternate entry procedures
 - How to recognize permit spaces in their work area
 - Their designated roles
 - How to identify and evaluate hazards
 - Methods to eliminate or control hazards
 - Instruction on how to use equipment associated with the space
 - Instructions on the maintenance of the same equipment
 - Instructions on how to coordinate entry with another employer
 - Understand the hazards associated with confined spaces
 - General hazards and the specific hazards for each confined space that will be entered
 - Recognition of the signs and symptoms of exposure to a hazard, and the consequences of the exposure
 - How the communications will be maintained between the attendant and the workers in the confined space
 - Emergency entry and exit procedures
 - Use of respirators and other protective equipment
 - Rescue procedures.
 - Work practices required under the permit
- Training Documentation shall contain:
 - Employees name
 - Name and signature of the trainer
 - Date of training
 - States the responsibilities for which they were trained

Any questions regarding to Permit Confined Spaces (PRCS), Alternate Entry Confined Space (AECS) or No Entry Requirement Spaces (NERS) should be directed to the Safety Department.

CONFINED SPACE INITIAL EVALUATION

Please Note: Each space on the worksite must be evaluated by the use of this form. One form needs to be filled out for each space being evaluated as a confined space.

Project Name: _____

Project Address: _____

Specific location of the evaluated space: _____

Unique identifier for this space: (if more than one is onsite) _____

Does the Host Employer have a presence on the worksite? Yes No

Is the Host Employer in control of the space? Yes No

Is the Controlling Contractor in control of the space? Yes No

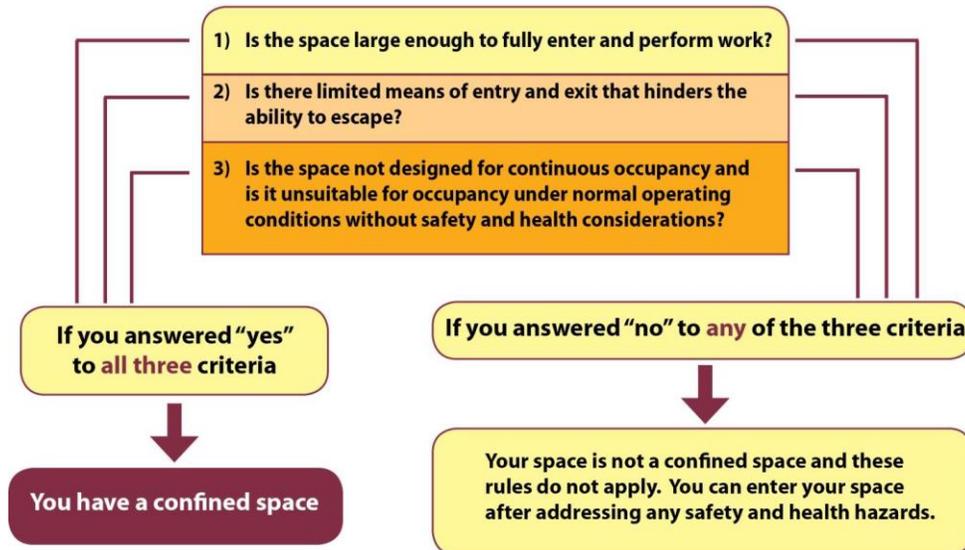
Has this space been previously evaluated? Yes No

Are you the Controlling Contractor? Yes No

Are your employees expected to enter the space? Yes No

Note: If the answer to the last two questions are no, then you are not required to go any further. If the answer to either one is yes then proceed to the next step.

Evaluate the Space



If this evaluation indicates you have a confined space at the worksite, you will need to complete the Permit Required Confined Space Evaluation portion below.

Is the Evaluated Space Considered a Confined Space? _____

Evaluator's Name: (Print) _____

Evaluator's Signature: _____

Evaluator's Title: _____ **Date of Evaluation:** _____

PERMIT REQUIRED CONFINED SPACE EVALUATION

Has the Host Employer established any entry procedures? Yes No

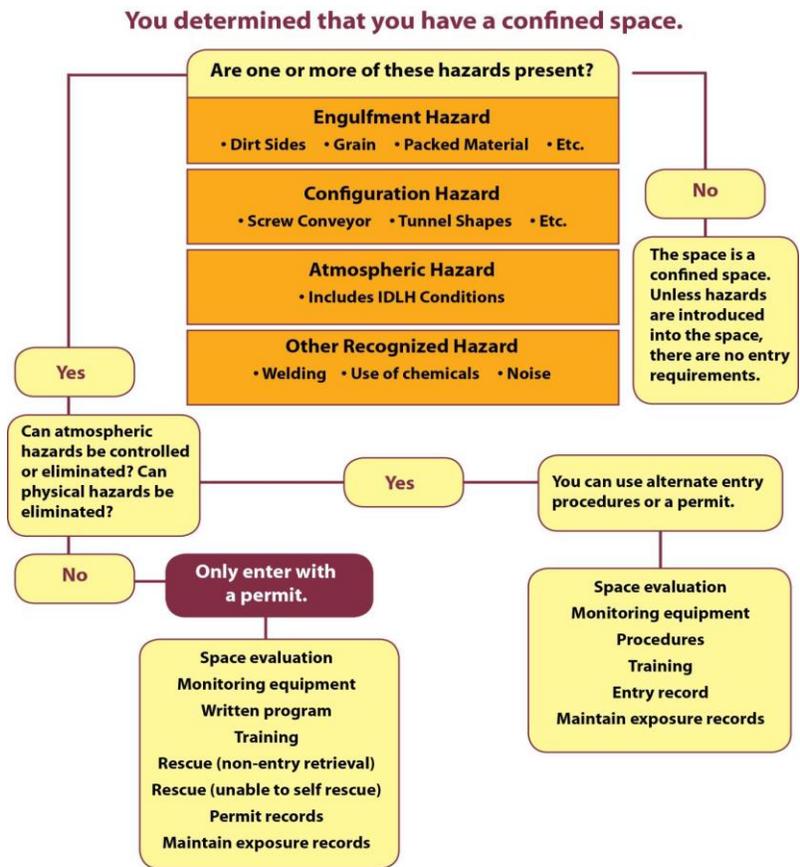
Has the Controlling Contractor established entry procedures? Yes No

Are there any known or anticipated hazards? Yes No

Are there Physical Hazards present in the space? (List below) Yes No

Are there Atmospheric Hazards present in the space? (List below) Yes No

Physical Hazards	Atmospheric Hazards



If this evaluation indicates you have a PRCS at the worksite, you will need to determine proper entry procedures for that space.

Is the Evaluated Space Considered a Permit Required Confined Space? _____

Evaluator's Name: (Print) _____

Evaluator's Signature: _____

Evaluator's Title: _____ **Date of Evaluation:** _____

CONFINED SPACE ENTRY PERMIT

<u>Date of Issue:</u>	<u>Time of Issue:</u>
<u>Date of Expiration:</u>	<u>Time of Expiration:</u>
<u>Project Name:</u>	
<u>Project Address:</u>	
<u>Specific Location of the Space:</u>	
<u>Unique Identifier of the Space:</u>	
<u>Purpose for Entry:</u>	
<u>Entry Supervisor's Printed Name:</u>	
<u>Attendant's Printed Name:</u>	
<u>Standby Personnel's Printed Name:</u>	
<u>Entrant's Printed Name(s):</u>	
<u>Means of communication with Entrants:</u>	
<u>Physical Hazards Identified:</u>	
<u>Steps taken to eliminate physical hazards (ie: De-energizing, LO/TO, purging, etc.):</u>	

Atmospheric Hazards Identified (ie: Ventilating, flushing the space, etc.):

Steps taken to eliminate/control atmospheric hazards:

Acceptable conditions to enter:

Additional permits required for entry:

Rescue Services Available:

How to Contact Them:

Other Information/Problems Encountered:

Equipment Used for Confined Space Evaluation, Hazard Elimination and Control Entry:

<u>Equipment Used:</u>	<u>Model # or Type</u>	<u>Serial #</u>	<u>Calibrated/Tested</u>
Direct read gas monitor			
Ventilation Fan			
Tripod/Retractable			
Harness			
Communications			

Respirator			
Explosion Proof Electrical			
Specialized PPE			
Fire Extinguisher			

Initial Atmospheric Test:

Time:		
Oxygen:		% (must be between 19.5 and 23.5)
Explosive:		% LFL
Toxic:		PPM

Name of Tester:

Signature of Tester:

Periodic Atmospheric Tests: (must be at least every 2 hours)

Oxygen		%	Time		Oxygen		%	Time	
Explosive		%	Time		Explosive		%	Time	
Toxic		PPM	Time		Toxic		PPM	Time	
Oxygen		%	Time		Oxygen		%	Time	
Explosive		%	Time		Explosive		%	Time	
Toxic		PPM	Time		Toxic		PPM	Time	

Name of Tester:

Signature of Tester:

Signature of Entry Supervisor Approving Entry Permit:

Signature of Attendant:

Signature of Entry Supervisor Canceling/Terminating Entry Permit:

CONFINED SPACE ALTERNATE ENTRY PERMIT

<u>Date of Entry:</u>	<u>Time of Entry:</u>
<u>Date of Exit:</u>	<u>Time of Exit:</u>
<u>Project Name:</u>	
<u>Project Address:</u>	
<u>Specific Location of the Space:</u>	
<u>Unique Identifier of the Space:</u>	
<u>Purpose for Entry:</u>	
<u>Entrant's Printed Name(s):</u>	
<u>Means of communication with Entrants:</u>	
<u>Physical Hazards Identified:</u>	
<u>Steps taken to eliminate physical hazards (ie: De-energizing, LO/TO, purging, etc.):</u>	

Atmospheric Hazards Identified (ie: Ventilating, flushing the space, etc.):

Steps taken to eliminate/control atmospheric hazards:

Acceptable conditions to enter:

Conditions that would require Evacuation:

Equipment Used for Confined Space Evaluation, Hazard Elimination and Control, Entry:

<u>Equipment Used:</u>	<u>Model # or Type</u>	<u>Serial #</u>	<u>Calibrated/Tested</u>
Direct read gas monitor			
Ventilation Fan			
Communications			
Respirator			
Fire Extinguisher			

Initial Atmospheric Test:									
Time:									
Oxygen:		% (must be between 19.5 and 23.5)							
Explosive:		% LFL							
Toxic:		PPM							
Name of Tester:									
Signature of Tester:									
Periodic Atmospheric Tests: (must be at least every 2 hours)									
Oxygen		%	Time		Oxygen		%	Time	
Explosive		%	Time		Explosive		%	Time	
Toxic		PPM	Time		Toxic		PPM	Time	
Oxygen		%	Time		Oxygen		%	Time	
Explosive		%	Time		Explosive		%	Time	
Toxic		PPM	Time		Toxic		PPM	Time	
Name of Tester:									
Signature of Tester:									
Name of Person Approving Entry:									
Title of Person Approving Entry:									
Signature of Person Approving Entry:									

FIRE PREVENTION PLAN

2.35

PURPOSE

The plan is intended to establish guidelines to reduce the number and severity of construction/maintenance related fires, prevent injury to Pence Construction (Pence) and client personnel, and eliminate losses associated with fire to Pence and client property and equipment.

SCOPE

- This plan will encompass all temporary offices, trailers, storage sheds and structures during construction/alteration, and all demolition work on client property.

FIRE EXITS

- Exits must remain clear and free of obstructions and no doors are to be locked while the building is occupied.
- Exits are to be clearly marked with signs designating them as such.

HALOGEN LIGHTS

- Due to the extremely high temperatures that are created and the high potential for fire, the use of halogen lights will only be allowed under certain conditions and with certain restrictions in place.
- Conditions of use should be determined by the project team at the time of the pre-con meeting.
- If the use of halogen lights is permitted, the following is the minimum restrictions that must be in place
 - Use of handheld/carried halogen lights that are designed to set on a floor or stack of material are prohibited
 - Only halogen lights that are part of a light stand system can be used
 - Halogen lights are not to be left on when unattended even for breaks or lunch
 - Halogen lights are not to be left on overnight
 - A task fire extinguisher must be present when halogen lights are in use

PORTABLE FIRE EXTINGUISHERS

- Each workplace building must be equipped with at least one portable fire extinguisher rated at not less than **2A10BC** for each 3,000 square feet of the protected building area, or 100 feet of travel

- All firefighting equipment provided by Pence shall be conspicuously located.
- Access to all available firefighting equipment shall be maintained at all times.
- Fire extinguishers must be visually inspected and monthly documented on job site inspection check list, in addition, an annual inspection tag or log must be kept.
- Defective equipment should be replaced immediately.
- One or more fire extinguishers rated at not less than **2A10BC** shall be provided on each floor.
- In multistory buildings, at least one fire extinguisher shall be located adjacent to the stairway.
- A fire extinguisher rated not less than 10B, shall be provided within 50 feet of wherever more than five gallons of flammable or combustible liquids or 5 pounds of flammable gas are being used on the job site.
- Only those fire extinguishers listed or approved by a nationally recognized testing laboratory (Underwriters Laboratories) may be used.
- Fire extinguishers with capacity of 10 gallons or more are to be placed at or within 25 ft. of any fuel using equipment.
- Anyone performing a task involving flammable liquids, open flames or spark generating tools or equipment, must have a “Task Fire Extinguisher” within easy reach of the work activity.
- Anyone performing a task near flammable liquids or combustible material must have a “Task Fire Extinguisher” within easy reach of the work activity.

EMPLOYEE TRAINING

- Employees expected to use fire extinguishers must be trained in the following:
 - Hazards of fighting fires in the incipient stage.
 - Proper operation of fire extinguishers.
 - Procedures to alert others.
 - Evacuation routes and procedures.
- Training is required before performing assigned job duties, and at least annually thereafter.

FIRE PREVENTION

- The key to a successful fire protection program is prevention.
- The following elements can serve as a basis for successful fire prevention on the average construction site.
 - Housekeeping
 - Construction debris, rubbish and trash shall not be allowed to accumulate throughout the site.
 - Appropriate receptacles shall be provided for the collection of rubbish and debris.
 - Containers shall be placed in lunch trailers for scraps, empty food containers, and wrappers.

- Refuse containers shall be emptied on a regular basis.
- Storage
 - Materials and supplies shall be stored in an orderly manner.
 - Material stored in tiers shall be stacked and blocked to prevent sliding, falling, or collapse.
 - Aisles and passageways shall be kept clear to provide free to firefighting equipment and personnel.
 - Flammable/combustible materials shall be stored separate from materials that would accelerate combustion or add to the fire load.
 - No more than 25 gallons of flammable or combustible liquids shall be stored in a room or storage “shed” unless the materials are stored in an approved cabinet meeting the requirements of rules [1926.152\(b\)\(1\) through \(5\)](#).
 - Flammable gases shall be stored separately and secured in an upright position out of doors, under cover out of direct sunlight.
 - **STORAGE OF LPG INDOORS IS PROHIBITED.**
- Welding/Burning
 - As a minimum the attached guidelines shall be followed when any welding or burning operations take place.
 - In certain circumstances (refineries, chemical plants) client mandate will dictate procedures used.
- Dispensing of Flammable and Combustible Liquids
 - Approved metal safety cans or Department of Transportation approved containers shall be used for the handling and use of flammable liquids in quantities of 5 gallons or less.
 - All containers of flammable and combustible liquids shall be labeled, identifying the contents and the appropriate hazard warnings.
 - Flammable liquids shall be kept in closed containers when not actually in use.
 - Transfer of flammable liquids from one container to another shall be done only when containers are electrically bonded.
 - Flammable liquids may be used only where there are no open flames or other sources of ignition within 50 feet of the operation, unless conditions warrant greater clearance.
 - At least one portable fire extinguisher having a rating of not less than 20 shall be provided on all vehicles used for transportation and/or dispensing flammable and combustible liquids.

CLASSES OF FIRES

- Fires are identified as one of four classes and various extinguishing methods are appropriate for each.
 - Class “A” – wood, paper, etc. (common combustibles)
 - Class “B” – flammable liquids, gasoline, fuel oil etc.
 - Class “C” – electrical equipment

- Class “D” – flammable metals, magnesium, sodium etc.
- The extinguishing media for each type of fire include:
 - Water – recommended for class “A” fires and is used conjunction with foam to control class “B” fires.
 - Dry Chemical – depending on the chemical, may be used to extinguish class “A”, “B”, and “C” fires.
 - Carbon Dioxide – recommended for class “C” fires.
 - Dry Powder – used for class “D” fires and is usually supplied in a bucket with a scoop.
 - Dry Powder is specifically formulated for use on burning metals.
 - Dry Chemical extinguishers must not be substituted for Dry Powder.

This plan is not all inclusive but is intended to be a guide for Pence Project Managers and Superintendents to develop a “site specific” fire protection plan. The plan should be developed and implemented as soon as practical after mobilization. For complete information on fire prevention and protection requirements refer to OR-OSHA [Subdivision F](#), **Fire Protection and Prevention** rules 1926.150 through 1926.155.

WELDING, CUTTING AND BRAZING FIRE EXPOSURE CONTROL

2.36

PURPOSE

Pence Construction (Pence) has adopted its Welding, Cutting, and Brazing Fire Exposure Control Program to ensure that Pence and Subcontractor employees are aware of the hazards associated with welding and ensuring proper fire protection. Welding is a hazardous operation which must be performed in accordance with safety standards and by qualified trained employees. This program is to ensure workplace safety and compliance with Oregon OSHA and Washington DOSH standards.

POLICY

The following precautions are required to be taken by Pence and Subcontractor employees who perform welding and brazing operations.

GENERAL RESPONSIBILITIES

- **Management:**
 - Is required to see that adequate maintenance services are provided and used to ensure safe operating conditions
 - That all Energy Control Procedures are followed as they relate to maintenance welding on equipment
- **Superintendents/Foremen:**
 - Are responsible to see that only trained employees are authorized to weld
 - Fire watch personnel will be trained in their duties
- **Authorized Employees:**
 - Must follow all safety procedures as outlined in this program, by OSHA rules and manufacturer's recommendations
 - Are required to inspect their equipment daily, prior to operation, to ensure that all safeguards are on the equipment
 - Any defect or safety hazards shall be reported, and the equipment taken out of service until repairs can be made by qualified personnel
 - Report all accidents immediately to the superintendent/foremen
- **Fire Watches:**
 - Must be trained in the use of fire extinguishing equipment
 - Must be familiar with procedures for sounding and responding to an alarm

WELDING HAZARDS

Safety in the many processes of welding and cutting requires certain precautions and standardized operating procedures. Welding is associated with four principle hazards. It is the responsibility of the Pence or Subcontractor superintendent/foremen to ensure that all welders and fire watch personnel understand these four hazards. They are:

- **Electric Shock and Burn Hazards:**
 - Must be guarded against when using welding equipment
 - The degree of risk depends on the type of welding process
- **Fire and Compressed Gas Hazards:**
 - Flying sparks are the source of many industrial fires
 - In areas where flammable gases, vapors, and dusts are present, only a tiny spark is needed to set off a fire or explosion
 - Flying pieces of molten metal can fall through cracks and openings as small as nail holes and ignite combustibles that are beyond the welder's visual range
 - Hot metal that is being welded or cut can cause fires if allowed to contact flammable or combustible material such as drip pans, oily rags, or combustible materials
 - The torch flame used by the welder is another source of ignition and must be handled carefully
 - Compressed oxygen gas used in welding is a fire hazard because it supports and intensifies the rate of combustion of other materials
- **Radiant Energy Hazards:**
 - Which in welding include:
 - Ultraviolet light
 - Infrared light
 - Visible light
 - Exposure to the welding arc (ultraviolet rays) may result in very painful irritation of the eyes and skin
 - Infrared rays act upon the eyes simply as heat and can cause a burn or irritation of the tissue affected
 - The glare of excessive visible radiation can cause headaches, eye fatigue, and loss of visual efficiency
 - Protective eyewear must be worn during welding to prevent harm to the eyes from light energy
- **Inhalation Exposure Hazards to Gases, Fumes and Mists:**
 - Welding produces airborne exposures to a variety of potentially harmful gases and fumes
 - Fumes are generated from both the base metal and the wire or rod used in the welding process
 - The hazard level from metal fumes depends on the type of metal
 - In steel, welding exposures include iron oxides, chromium, manganese, and nickel
 - The gases also vary with the type of shield gases used in arc welding, type of rods and fluxes used
 - Proper ventilation is required

WELDING SAFEGUARDS – SAFE WORK PROCEDURES

- **Fire Protection Requirements:**

- Welding or grinding operations that contain or create open flames or generate sparks, need to be performed away from flammable materials or special precautions are necessary
- If this cannot be done;
 - A [Pence Hot Work Permit Form \(2.36A\)](#) will need to be completed by the superintendent/foremen responsible for the scope of work
 - The permit will describe the welding zone controls such as enclosing in fireproof blankets or other protective shields when materials in nearby areas can be affected by welding arcs, flames, sparks, spatters, slag, or heat
 - The superintendent/foreman completing the [Pence Hot Work Permit Form \(2.36A\)](#) will return Page #1 to the Pence Superintendent and post page #2 in the work area where the hot work is taking place
- Regardless of whether a [Pence Hot Work Permit Form \(2.36A\)](#) is required or not, a task fire extinguisher will be required anytime the task creates an open flame or sparks
- Task fire extinguishers shall:
 - Be in addition to the area fire extinguishers placed for general use
 - Be kept immediately at hand and ready for use
 - Where at all possible be kept within reach of the person performing the task
 - If the task is being performed from a scissor or boom lift the extinguisher is required to be in the basket
- In critical areas, the fire extinguisher should be manned while welding operations are being conducted
- When the welding, cutting, or heating operations is such that normal fire prevention precautions are not sufficient, the following shall apply:
 - Additional personnel shall be assigned to guard against fire while the actual welding, cutting, or heating operation is being performed
 - A fire watch shall be in place for one half hour after completion of the work to ensure that no possibility of fire exists
 - Such personnel shall be instructed as to the specific anticipated fire hazards
- When welding, cutting, or heating is performed on walls, floors, and ceilings, since direct penetration of sparks or heat transfer may introduce fire hazard to an adjacent area, the same precautions shall be taken on the opposite side as are taken on the side on which the welding is being performed
- For the elimination of possible fire in enclosed spaces as a result of gas escaping through leaking or improperly closed torch valves, the gas supply to the torch shall be positively shut off at some point outside the enclosed space whenever the torch is not to be used or whenever the torch is left unattended for a substantial period of time, such as during the lunch period
- Overnight and at the change of shifts, the torch and hose shall be removed from the confined space

- Open end fuel gas and oxygen hoses shall be immediately removed from enclosed spaces when they are disconnected from the torch or other gas-consuming device
- No welding, cutting, or similar work should be undertaken on tanks, barrels, drums or other containers which have been contaminated with flammable materials unless the contamination is first removed so that there is no possibility of fire or emission of toxic vapors
- Drums containers, or hollow structures which have contained toxic flammable substances shall, before welding, cutting, or heating is undertaken on them, either be filled with water or thoroughly cleaned of such substances and ventilated and tested
- Before heat is applied to a drum, container, or hollow structure, a vent or opening shall be provided for the release of any built-up pressure during the application of heat
- Flammable and other potentially hazardous materials should be cleaned from surfaces before welding is started
- No welding, cutting, or heating shall be done where the application of flammable paints or the presence of other flammable compounds, or heavy concentrations creates a hazard
- Should the elimination of fire hazards not be possible the area will be restricted and no welding or cutting shall be performed
- **Personal Protective Equipment**
 - The face, body and hands should be covered to prevent burns from splatter, slag, sparks, or hot metal
 - Flameproof, heat-insulating gloves should be worn during welding operations
 - Wet or excessively worn gloves should not be used
 - The eyes and skin should be protected against the flare and radiation from a welding arc or flame
 - Helpers and attendants should also be provided with proper eye protection
 - Other personnel in the vicinity of welding operations should be protected from reflections by suitable shields and barriers
 - Respiratory equipment may be necessary if ventilation is not sufficient

OXYGEN/GAS CUTTING/WELDING SAFEGUARDS

- **Definitions**
 - Crack (Cracking) – Opening a cylinder valve slightly and immediately closing it prior to attaching a pressure reducing regulator.
 - This is an approved process that applies only to oxygen cylinders
 - Drop Test – A method using compressed gas cylinder (container) pressure to test connected regulators, hoses, torch and connections for leaks
 - Fuel Gas – A flammable product or mixture of products used in welding, cutting and heating processes.
 - Commonly used fuel gases are available in compressed gases, liquefied and liquefied mixtures, acetylene dissolved, and gasoline
 - Leak test – The application of a liquid solution, or the use of other methods, to verify that oxygen and fuel gas cylinders and apparatus do not leak.

- Solutions must be compatible with the gas being used
 - Manifold – An apparatus designed to connect two or more cylinders for use.
 - In construction this may mean that two cylinders or more are connected by pigtails to form a manifold
 - Moving cylinders – The movement of a cylinder(s) from one location to another at the worksite or place of business
 - Periodic Inspection – An inspection that is made at least once per quarter
 - Portable Cylinder Banks – Multiple cylinders manifolded together on a portable frame
 - Special truck – A vehicle or cart that is designed for the specific purpose of moving compressed, dissolved and liquefied gas cylinders in a stable manner
 - Stored – Cylinders without attached regulators, cylinders not secured to a workstation, or cylinders that have not been used for 24 hours or more will be considered stored
 - This does not include cylinders secured on a cart
 - No more than one additional set of cylinders may be secured to a workstation.
 - Cylinders, with or without regulators, kept in or on vehicles due to their frequency of use will not be considered as stored when a leak test is performed at the end of the day.
 - When cylinders are used during multiple shifts, they must be leak tested at the end of each shift.
 - Transporting cylinders – Any cylinder movement by a vehicle to a worksite or place of business
 - A cylinder(s) loaded into a vehicle for movement to a worksite or place of business is not in storage
 - Requirements for the separation of oxidizers and fuel gases do not apply when cylinders are being transported to a work site or place of business
- General Requirements
 - You must guard against mixtures of fuel gases and air or oxygen that may be explosive
 - Use approved apparatus such as torches, regulators, or pressure reducing valves, hoses and connections, protective equipment, and manifolds
 - Install and use reverse flow check valves and flashback arrestors according to torch manufacturers' recommendations
 - Unless they are not required by the manufacturer
 - It is assumed that the manufacturer requires the use of these devices unless it is proven otherwise
 - Use compressed gas cylinders whose contents are legibly marked with:
 - The chemical or trade name of the gas in conformance with Compressed Gas Association, and
 - Stenciling, stamping, or labeling that is not readily removable
 - Protect against oil and grease hazards
 - Keep cylinders, cylinder valves, couplings, regulators, hose, and apparatus free from oily or greasy substances

- Keep oxygen cylinders away from contacting oil and grease
 - Make readily available the rules and instructions covering the operation and maintenance of oxygen or fuel-gas supply equipment
 - You must not:
 - Remove any product or shipping hazard labels
 - Deface any product or shipping hazard labels
 - Use liquid acetylene
 - Generate acetylene at a pressure in excess of 15 psig (30 psia)
 - Pipe or use acetylene at a pressure in excess of 15 psig unless it is in an approved manifold
 - Use any device or attachment facilitating or permitting mixtures of air or oxygen with flammable gases prior to consumption, except at the burner or in a standard torch, unless approved for the purpose
 - Attempt to mix gases in a cylinder
 - Use a cylinder's contents for purposes other than those intended by the supplier
 - Use a damaged cylinder
 - Repair or alter cylinders or valves
 - Tamper with the numbers and markings stamped into cylinders
 - Handle oxygen cylinders, cylinder caps and valves, couplings, regulators, hoses, and apparatus with oily hands or gloves
 - Permit a jet of oxygen to:
 - Strike an oily surface
 - Strike greasy clothes
 - Enter a fuel oil or other storage tank
 - Blow off clothing with oxygen
 - Use oxygen in pneumatic tools, in oil preheating burners, to start internal-combustion engines, to blow out pipelines, to create pressure, or for ventilation
- Transporting, moving, and sorting compressed gas cylinders
 - When transporting cylinders in vehicles:
 - Secure cylinders from moving
 - Valve protection caps shall be in place and secured
 - Keep Acetylene gas cylinders with valve end up
 - Keep liquid cylinder valves vertical
 - When transporting cylinders in enclosed vehicle(s) you must:
 - Ensure that cylinders are leak checked prior to each placement into the vehicle
 - Cylinders left in vehicles overnight must be leak checked at the end of the day and again prior to transporting
 - Cap cylinders
 - Secure cylinders from movement
 - Isolate fuel gas cylinders from sources of ignition
 - Maintain vehicle temperatures below 125 degrees
 - Remove cylinders from the “inside vehicle compartment” to the outside of the vehicle prior to use

- Ensure the interior of any cylinder compartment containing oxidizers does not contain petroleum products or materials that have contacted petroleum products
 - When transporting cylinders in vehicles you must not put them in the trunks of passenger vehicles
- Storage of Oxygen and Fuel Gas Cylinders
 - Store oxygen and fuel gas cylinders in locations:
 - Specifically assigned
 - Well ventilated
 - That avoids prolonged exposure to damp environments
 - Away from heat sources
 - Posted with signs prohibiting smoking and open flame within 20 feet
 - Where the temperature does not exceed 125°F (52°C)
 - Where sparks, hot slag, or flame will not reach them
 - Where they will not contact electrical welding equipment or electrical circuits
 - Where they are protected from corrosion
 - Where they cannot be knocked over
 - Where they cannot be damaged by passing or falling objects
 - Where they will not be struck by heavy objects
 - Away from inside or outside exit routes or other areas normally used or intended for safe travel of personnel
 - Where they will not be subject to unventilated enclosed spaces
 - That are not identified as confined spaces
 - With prominent signs posted identifying the names of the gasses stored
 - Store cylinders in the following manner:
 - With valve caps in place
 - Valve end up and secured from movement
 - Liquefied gas cylinders and acetylene cylinders with valve end up
 - Liquefied petroleum gas cylinders used on forklifts may be stored either horizontally or vertically
 - With all individual oxygen and flammable gas cylinder valves on portable cylinder banks closed
 - Separate oxygen cylinders from fuel-gas cylinders or combustible materials (especially oil or grease) and any other substance likely to cause or accelerate fire by:
 - A minimum distance of 20 feet, or
 - A noncombustible barrier that:
 - Vertically extends 18 inches above the tallest cylinder(s) and is at least 5 feet high
 - Laterally extends 18 inches beyond the sides of the cylinders
 - Has a fire-resistance rating of at least one-half hour

- Separate oxygen and fuel gas cylinders secured on a cart from assigned cylinder storage areas by a minimum of 20 feet or a non-combustible barrier
 - Single cylinders of oxygen and fuel gas can be secured on a cart or used adjacent to each other without being separated by a partition
- Limit cylinders, except those in actual use or attached ready for use, stored inside buildings to a total gas capacity of 2,000 cubic feet or 300 pounds of liquefied petroleum gas
- Handling of Oxygen and Fuel Gas Cylinders
 - When handling or moving cylinders you must:
 - Provide adequate access for cylinder handling
 - Remove regulators and ensure any required valve protection is in place before moving unsecured cylinders
 - Leave the valve protection cap and valve seal outlet in place until the cylinder has been secured in place and is ready to be connected to a regulator
 - Use warm, not boiling, water to thaw frozen cylinders loose from the ground or if otherwise fixed
 - When moving cylinders by a crane or derrick you must:
 - Use a cradle, boat, or suitable platform that secures cylinders
 - Install valve-protection caps on cylinders
 - Not use slings or electric magnets for this purpose
 - Before moving a portable bank or cylinder cradles you must:
 - Close all individual oxygen and flammable gas cylinder valves on portable cylinder banks when in storage
 - When moving a portable bank or cylinder cradles with a forklift you must secure them to the forklift
 - When moving a portable bank or cylinder cradles with a crane you must use the lifting hook attached to the cradles or other appropriate moving equipment
 - Before moving cylinders to storage, you must:
 - Close the cylinder valve
 - Replace and secure any valve outlet seals
 - Properly install the cylinder cap
 - When handling or moving cylinders you must not:
 - Repair or alter cylinders or valves
 - Place bars under valves or valve protection caps to pry cylinders loose when frozen to the ground or otherwise fixed
 - Use valve protection caps for lifting or lowering cylinders manually or with a crane from one position or location to another
 - Drag or slide cylinders
 - Lift liquid cylinders by the cylinder grab ring
 - Drop cylinders or permit them to strike each other violently
 - Subject any cylinder to mechanical shocks that may damage the valve
 - Use cylinders as rollers for moving material or other equipment
 - Permit oil, grease or other combustible substances to contact cylinders, valves, or other apparatus

- Attempt to catch a falling cylinder
 - Place cylinders where they can become part of an electrical circuit
- When connecting cylinders for use you must:
 - Use a pressure-reducing regulator or separate control valve to discharge gas from a cylinder
 - Use regulators approved for the specific gas
 - Loosen the valve outlet seal slowly when preparing to connect a cylinder
 - Back out the regulator adjusting screws before opening cylinder valves
 - Open oxygen cylinder valves slowly and slightly (called cracking) for an instant and then close before attaching a regulator
 - Stand with the cylinder valve between you and the valve outlet connection so the outlet connection is facing away from your body when cracking an oxygen cylinder
 - Cracking is an approved process that applies only to oxygen cylinders
 - Open acetylene cylinder valves no more than one- and one-half turns
 - It is preferable to open the acetylene valve no more than three-fourths of a turn
 - Return cylinders with contaminated valves (mud, oil, grease, and similar material) to the supplier
 - Use acetylene tank keys or wrenches designed to open acetylene stem type valves
 - Notify the supplier if cylinder valves cannot be opened by hand
 - Stand with the cylinder valve between you and the regulator so your body, the cylinder valve, and regulator form a straight line when opening the cylinder valve
 - Ensure that cylinder valves, pressure-reducing regulators, hoses, torches and all connections do not leak by performing a drop test
 - Drop test
 - Ensure that both the oxygen and fuel control valves on the torch handle are closed
 - With the oxygen cylinder valve open, adjust the oxygen regulator to deliver a minimum of 20 PSIG (140kPa)
 - With the fuel cylinder valve open, adjust the fuel regulator to deliver a minimum of 10 PSIG (70kPa)
 - Close both the oxygen and fuel cylinder valves
 - Turn the adjusting screws counterclockwise to relieve regulator pressure
 - Observe the gauges on both regulators for a minimum of five minutes
 - If the gauge readings do not change, then the system is leak tight. If there is a leak, use an approved leak detection method to locate it

- If the pressure drops during the drop test, perform a leak test to identify all leaks
 - Use industry approved oil free leak detection solution
 - Perform a leak test on cylinder pressure relief and safety devices, valves and regulator connections after the cylinder valve is open and connected to the pressure reducing regulator
 - Remove from service any cylinder that leaks at the valve, safety device or fittings that cannot be stopped by closing the valve
 - Isolate the cylinder away from ignition sources
 - Remove leaking cylinders to a safe outside location whenever possible
 - A warning should be placed near cylinders with leaking fuse plugs or other leaking safety devices not to approach them with a lighted cigarette or other source of ignition
 - Promptly notify the supplier of any leaking cylinder or trouble with any cylinder valve and follow their instructions
 - Tag cylinders having leaking fuse plugs or other leaking safety devices
- Keep the cylinder key used for opening stem type cylinder valves on the valve spindle
- Allow each gas to flow through its respective hose for a few seconds to purge the hose of any mixture of gases:
 - After connecting welding, cutting or heating apparatus to oxygen and fuel-gas cylinders
 - When starting to reuse the apparatus after an interval of a half hour or more
- When connecting cylinders, you must not:
 - Open cylinder valves (other than cracking oxygen) until a regulator has been attached
 - Stand or have any body part in front or behind the pressure reducing regulator when opening cylinder valves
 - Use a hammer or wrench to open hand wheel cylinder valves
- When removing regulators from cylinders you must:
 - Ensure that oxygen and fuel gas cylinder valves are closed
 - Visually check the low-pressure delivery gauges and high-pressure supply gauge to ensure there is no pressure remaining in the system
 - Use the appropriate wrench to disconnect the regulator
 - Place disconnected regulators, hoses, and torches where they will not come into contact with dust and oily or greasy substances
- Use of Oxygen and Fuel Gas Cylinders
 - When using cylinders, you must:
 - Secure from movement with valve end up

- Perform a drop test at the beginning of each shift to verify no leaks exist
- Close cylinder or manifold valves:
 - Before moving cylinders
 - At the end of the shift or when work is finished
 - When cylinders are empty
- Place cylinders far enough away from the actual welding or cutting operation to:
 - Ensure sparks, hot slag, or flame will not reach them, or
 - Protect them with fire resistant shields
- Keep cylinders away from radiators, piping systems, layout tables, etc., that may be used for grounding electric circuits such as for arc welding machines
- Keep keys, handles or nonadjustable wrenches on valve stems of cylinders not having fixed hand wheel while these cylinders are in service
- Keep one key or handle on valve stems for each in service manifold in multiple cylinder installations
- Allow each gas to flow through its respective hose for a few seconds to purge the hose of any mixture of gases before using a torch assembly that has been shut down for an interval of one-half hour or more
- Follow the apparatus manufacturer's operating sequence when lighting, adjusting, and extinguishing torch flames
- Close the torch handle valves on oxygen and/or fuel gas when the welding and cutting equipment is unattended for only a few minutes
- Completely shut down a torch system in the following order:
 - Close and drain the oxygen system before the closing and draining of the fuel gas system
 - Open the torch valves momentarily after closing the cylinder valves to release all gas pressure from the hoses and regulators; then close the torch valves
 - Turn the regulator pressure adjusting screws counterclockwise to release all spring pressure
 - Visually check the low-pressure delivery gauge and high-pressure supply gauge to ensure there is no pressure remaining in the system
- When using cylinders, you must not:
 - Place a cylinder where it might become part of an electric circuit
 - Tap an electrode against a cylinder to strike an arc
 - Use a cylinder as a roller or support
 - Attempt to mix gases in a cylinder unless you are the gas supplier
 - Refill a cylinder unless you are the owner of the cylinder or a person authorized by the owner
 - Use a cylinder's contents for purposes other than those intended by the supplier

- Tamper with safety devices on cylinders or valves
 - Drop or handle cylinders roughly
 - Put down a lighted torch unless the torch or torch assembly is placed in a holder and secured from unintended movement
 - Use the regulator adjusting screw as a shut-off mechanism
 - Place anything on top of any cylinder when in use which may damage the safety device or interfere with the quick closing of the valve
 - Take cylinders containing oxygen or acetylene or other fuel gas into confined spaces
- Pressure Reducing Regulators
 - When using pressure reducing regulators you must:
 - Use them with cylinder and piping outlets to ensure suitable working pressure for fuel gas and oxygen-fuel gas applications
 - Use them for the gas and pressures for which they are intended
 - Ensure that regulator inlet connections are marked with an identifying Compressed Gas Association (CGA) number
 - Ensure that regulators or parts of regulators, including gauges, are repaired only by skilled mechanics who have been properly instructed
 - Use oxygen regulators that are marked with “USE NO OIL.”
 - Use acetylene regulator with a delivery pressure gauge that graphically indicates the maximum 15 psig working pressure
 - Inspect regulator union nuts and connections to detect faulty seats before the regulators are attached to the cylinder valves
 - Fully turn the regulator pressure-adjusting screw counterclockwise before slowly opening the cylinder valve
 - Keep pressure-reducing regulators in good repair
 - Replace cracked, broken or otherwise defective parts (including gauge glasses)
 - When using pressure reducing regulators you must not:
 - Use the regulator adjusting screw as a “shut-off” mechanism
 - Use oxygen and/or fuel gases from cylinders, piping, or manifolds through torches or other devices equipped with shutoff valves without using a pressure reducing regulator
- Hose and Hose Connections
 - When using fuel gas and oxygen hoses you must:
 - Use hoses that comply with the Compressed Gas Association (CGA)
 - Use fuel gas and oxygen hoses that are easily distinguishable from each other
 - Use oil free air or an oil free inert gas to test hoses
 - Keep hoses and couplings (connectors) free from oily or greasy substances
 - Visually inspect each hose for leaks, burns, worn places, bulges, cracks, crimps, multiple splices, cuts, oil and grease, damaged or worn fittings, and other defects rendering it unfit for service:

- At the beginning of each task, the portion of hose intended for use
 - At the end of each working shift, the portion of hose used before storing it on a cart or hose reel
 - Perform inspections on hoses and hose connections following any failed drop test to determine the cause of the failure
 - Test hose to twice the normal pressure it will be subjected to but in no case less than 300 psi when it:
 - Has been subject to flashback
 - Shows evidence of severe wear or damage
 - Repair or replace hoses that have defects rendering them unfit for service
 - Protect hoses from damage by physical hazards, hot objects, or kinking
 - Keep hoses, cables, and other equipment clear of passageways, ladders and stairs
 - Store gas hoses in ventilated boxes
 - When using fuel gas and oxygen hoses you must not:
 - Route in such a manner that severely bends the hose at the hose coupling (connector)
 - Pull or drag welding equipment with the hose assembly
 - Drag or rest hoses on materials that are not fully cooled
 - Drag hoses across potential puncture or abrading points
 - Handle oxygen hoses with oily hands or oily glove
 - Tape together more than 4 inches out of 12 inches of parallel sections of oxygen and fuel gas hose
 - Use a single hose having more than one gas passage
 - Repair damaged hoses with tape
 - Use a defective hose
 - Hose connections must:
 - Comply with Compressed Gas Association (CGA)
 - Use oxygen and fuel gas connection fittings that are different in size and prevent the intermixing of connections
 - Be marked in a manner to identify the oxygen and fuel gas hose
 - Use hose couplings that cannot be unlocked or disconnected by means of a straight pull without rotary motion
 - When using hose connections, you must not use adaptors that permit the interchange of manifold hose connections
- Torches used with Oxygen and Fuel Gas
 - When using oxygen and fuel gas torches you must:
 - Follow the manufacturer's recommendation for the use of torch handles with internal check valves and flashback arrestors
 - Keep torches free from oily or greasy substances
 - Clean clogged torch tip openings with suitable:
 - Cleaning wires
 - Drills
 - Devices designed for such purposes

- Hot electrode holders shall not be dipped in water; to do so may expose the arc welder or cutter to electric shock
- When the arc welder or cutter has occasion to leave his work or to stop work for any appreciable length of time, or when the arc welding or cutting machine is to be moved, the power supply switch to the equipment shall be opened
- Welding cables and connectors
 - All arc welding and cutting cables shall be of the completely insulated, flexible type, capable of handling the maximum current requirements of the work in progress, taking into account the duty cycle under which the arc welder or cutter is working
 - Only cable free from repair or splices for a minimum distance of 10 feet from the cable to which the electrode holder is connected shall be used, except that cables with standard insulated connectors or with splices whose insulating quality is equal to that of the cable are permitted
- Ground returns and machine grounding
 - A ground return cable shall have a safe current carrying capacity equal to or exceeding the specified maximum output capacity of the arc welding or cutting unit which is services
 - The frames of all arc welding and cutting machines shall be grounded either through a third wire in the cable containing the circuit conductor or through a separate wire which is grounded at the source of the current
 - Grounding circuits, other than be means of the structure; shall be checked to ensure that the circuit between the ground and the grounded power conductor has resistance low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current
 - All ground connections shall be inspected to ensure that they are mechanically strong and electrically adequate for the required current

SHIELDING

- Whenever practicable, all arc welding and cutting operations shall be shielded by noncombustible or flameproof screens which will protect employees and other persons working in the vicinity from the direct rays of the arc

VENTILATION AND PROTECTION IN WELDING, CUTTING, AND HEATING

- General mechanical ventilation shall be of sufficient capacity and so arranged as to produce the number of air changes necessary to maintain welding fumes and smoke within safe limits
- Local exhaust ventilation shall consist of freely movable hoods intended to be placed by the welder or burner as close as practicable to the work
 - This system shall be of sufficient capacity and be arranged as to remove fumes and smoke at the source and keep the concentration of them in the breathing zone within safe limits
- Contaminated air exhausted from a working space shall be discharged into the open air or otherwise clear the source of intake air
- All air replacing that withdrawn shall be clean and reparable

- Oxygen shall not be used for ventilation purposes, comfort cooling, blowing dust from clothing, or for cleaning the work area

WELDING, CUTTING, OR HEATING OF METALS OF TOXIC SIGNIFICANCE

- Zinc-bearing base or filler metals or metals coated with zinc-bearing materials
- Lead base metals ([See Lead Compliance Plan \(2.29\)](#))
- Cadmium-bearing filler materials
- Chromium-bearing metals or metals coated with chromium-bearing materials
 - Employees performing such operations **in the open air without exhaust ventilation** shall be protected by filter-typed respirators.
 - **Other employees** exposed to the same atmosphere as the welders or burners shall be protected in the same manner as the welder or burner

WELDING, CUTTING, AND HEATING IN THE WAY OF PRESERVATIVE COATING

- Before welding, cutting, or heating is commenced on any surface covered by a preservative coating whose flammability is known, a test shall be made by a competent person to determine its flammability
- Preservative coatings shall be considered to be highly flammable when scrapings burn with extreme rapidity
- Precautions shall be taken to prevent ignition of highly flammable hardened preservative coatings
- When coatings are determined to be highly flammable, they shall be chipped from the area to be heated to prevent ignition
- Protection against toxic preservative coatings shall be through ventilation and/or respiratory protection
- The preservative coatings shall be removed to sufficient distance from the area to be heated to ensure that the temperature of the unstirred metal will not be appreciably raised
- Artificial cooling of the metals surrounding the heating area maybe used to limit the size of the area required to be cleaned

WELDING, CUTTING, AND HEATING IN CONFINED SPACES

- Procedures need to meet confined space entry requirements

PENCE CONSTRUCTION HOT WORK PERMIT

BEFORE INITIATING HOT WORK, CAN COLD METHODS BE USED? IS THERE A SAFER WAY?

This Hot Work Permit is required for any operation involving open flames or producing heat and/or sparks in an area where flammable material is present. This includes, but is not limited to: Brazing, Cutting, Grinding, Soldering, Thawing Pipe, Torch Applied Roofing and Welding.

INSTRUCTIONS

1. Superintendent
 - A. Verify precautions listed at right (or do not proceed with the work).
 - B. Complete and retain PART 1.
 - C. Issue PART 2 to person doing job.

HOT WORK BEING DONE BY:

EMPLOYEE CONTRACTOR:

DATE:

PROJECT:

LOCATION/BUILDING AND FLOOR:

NATURE OF JOB:

NAME OF PERSON DOING HOT WORK:

I verify the above location has been examined, the precautions checked on the Required Precautions Checklist have been taken to prevent fire, and the permission is authorized for this work.

SIGNED (FIRE SAFETY SUPERVISOR):

PERMIT EXPIRES DATE:

TIME:

AM

PM

NOTE EMERGENCY NOTIFICATION ON BACK OF FORM.

USE AS APPROPRIATE FOR YOUR FACILITY.

PART 1

Required Precautions Checklist

MUST BE RETAINED AS RECORD OF HOT WORK ACTIVITY.

- Available sprinklers, hose streams, and extinguishers are in Service/operable.
- Hot Work equipment in good repair.

Requirements within 35 ft (10m) of work:

- Flammable liquids, dust, lint and oily deposits removed.
- Explosive atmosphere in area eliminated.
- Floors swept clean. Combustible floors wet down, covered with damp sand or fire-resistive sheets.
- Remove other combustibles where possible. Otherwise, protect with fire-resistive tarpaulins or metal shields.
- All wall and floor openings covered.
- Fire-resistive tarpaulins suspended beneath work.

Work on walls, floors, or ceilings:

- Construction is noncombustible and without combustible covering/insulation.
- Combustible on other side of walls moved away.

Work on enclosed equipment:

- Enclosed equipment cleaned of all combustibles.

Fire watch/Hot Work area monitoring:

- Fire watch will be provided during and for 30 minutes after work, including any coffee or lunch breaks.
- Fire watch is supplied with suitable extinguishers, charged small hose.
- Fire watch is trained in use of this equipment and in sounding alarm.
- Fire watch may be required for adjoining areas, above and below.

Other Precautions Taken:

WARNING!

HOT WORK IN PROGRESS

WATCH FOR FIRES!

INSTRUCTIONS

1. Person doing Hot Work: indicate time started and post permit at Hot Work location. After Hot Work, indicated time completed and leave permit posted for Fire Watch.
2. Fire Watch: Prior to leaving area, do final inspection, sign, leave permit posted and notify Fire Safety Supervisor.

HOT WORK BEING DONE BY:

EMPLOYEE CONTRACTOR:

DATE:

PROJECT:

LOCATION/BUILDING AND FLOOR:

NATURE OF JOB:

NAME OF PERSON DOING HOT WORK:

I verify the above location has been examined, the precautions checked on the Required Precautions Checklist have been taken to prevent fire, and the permission is authorized for this work.

SIGNED (FIRE SAFETY SUPERVISOR):

TIME STARTED: AM PM

TIME FINISHED: AM PM

PERMIT EXPIRES DATE:

TIME: AM PM

FIRE WATCH SIGN OFF:

Work area and all adjacent areas to which sparks and heat might have spread were inspected during the fire watch period and were found fire safe.

Signed:

PART 2

Required Precautions Checklist

MUST BE RETAINED AS RECORD OF HOT WORK ACTIVITY.

- Available sprinklers, hose streams, and extinguishers are in Service/operable.
- Hot Work equipment in good repair.

Requirements within 35 ft (10m) of work:

- Flammable liquids, dust, lint and oily deposits removed.
- Explosive atmosphere in area eliminated.
- Floors swept clean. Combustible floors wet down, covered with damp sand or fire-resistive sheets.
- Remove other combustibles where possible. Otherwise, protect with fire-resistive tarpaulins or metal shields.
- All wall and floor openings covered.
- Fire-resistive tarpaulins suspended beneath work.

Work on walls, floors, or ceilings:

- Construction is noncombustible and without combustible covering/insulation.
- Combustible on other side of walls moved away.

Work on enclosed equipment:

- Enclosed equipment cleaned of all combustibles.

Fire watch/Hot Work area monitoring:

- Fire watch will be provided during and for 30 minutes after work, including any coffee or lunch breaks.
- Fire watch is supplied with suitable extinguishers, charged small hose.
- Fire watch is trained in use of this equipment and in sounding alarm.
- Fire watch may be required for adjoining areas, above and below.

Other Precautions Taken:

PREPLANNING

- **General Requirements**
 - The nature of tilt-up construction dictates the need for thorough preplanning. The economy and success of tilt-up construction is realized by efficient on-site production operation and careful planning with each step of the construction sequence building on the previous step. The erection of the wall panels is the most important phase of tilt-up construction. It is critical for the engineers and contractors to plan and review this process completely and thoroughly. Effort must be directed to ensure that the tilting phase of the job is done safely and efficiently.
- **Site Access and Job Conditions**
 - It is advisable to investigate regulations on daily start up times, noise and dust control and job site perimeter fencing. Also, check job site restriction on tonnage or limitations on access to the site.
- **Slab as a Work Platform**
 - Initial grading of the site should include completion of all sub-grade work for the building floor, and parking and truck areas. A roadbed and an accessibility ramp to the sub-grade should also be completed at this time. Emphasis must be placed on having a strong, well compacted sub-grade. Regardless of how much effort goes into producing a good slab, the slab will only be as good as its sub-base.
 - Plans should be made for stubbing all electrical and plumbing items below the finished floor level. This provides additional space for casting panels and provides an obstacle free area for crane movement.
 - The quality of the floor slab in a tilt-up constructed building is extremely important. The tilt-up panels are normally cast on the floor slab of the building and any imperfection in the floor slab will be mirrored in the panel. For best results, the floor slab should have a hard, dense, steel trowel surface. Slab thickness and compressive strength must meet bracing designs. You may have to pour a thickened slab at brace locations.
- **Bondbreaker and Curing Compounds**
 - Bondbreakers and curing compounds are among the most critical materials used on a tilt-up project. These products should have their performance criteria carefully evaluated. The application of the curing compound on the floor slab is the most critical step in the preparation process. The application should begin immediately after the hard steel troweling and the dissipation of the excess bleed water. A cure coat applied too late may render the slab highly permeable, leading to bondbreaker absorption and poor parting characteristics.
 - Check the slab and bondbreaker before pouring any concrete. The slab should have a slightly tacky, soapy feeling. Bondbreaker can be tested by dropping a small amount of water on the casting bed, from two feet above

to allow it to splatter. If the bondbreaker is applied correctly, the water will bead into small droplets as it would on a freshly waxed automobile. If the water does not bead, re-spray all the suspected areas of the casting slab. A final note: whenever there is doubt about sufficient bondbreaker on the casting slab, always apply more. It is the cheapest insurance available for a successful tilt-up job.

- **Panel Casting Layout**

- The panel contractor should consult with the erection contractor in the development of a good casting layout. For a smooth construction sequence, two important criteria must be met:
 - The panels must be located for efficient casting.
 - The panels must be located for safe and efficient erection.
- Tilt-up panels should be cast as near as possible to their final location in the structure. An effort should be made to place as many side by side as possible. If a panel must be "walked" to its final position, try to keep the distance as short as possible. "Walking" the panels should be avoided, if possible.

ERECTION

- **Preparation for Lifting**

- Clean the panel and the surrounding floor slab area. Locate and prepare all pertinent embedded devices that are accessible. Do any dressing or patching that can be accomplished on the ground. Attach all pipe braces and strong backs as required.
- Each panel should be numbered and clearly identified according to the panel layout/erection sequence plan. Place the identifying mark in a position that will not be exposed when the structure is completed. Mark locations and heights of all shims in case they are displaced. The structure footing should also be marked with the corresponding identifying numbers to give the erection crew clear indication where each panel goes. The footing should be appropriately marked to show the proper position of each panel on the footing.
- All lifting inserts should be uncovered, cleaned out and tested with a hardware unit several days prior to erection day. Rotary hammers, drills, leveling shims, cutting torch, steel wedges, pry bars, level and plumb bob and a full set of hand tools should be available at the job site. Have back up tools onsite. For larger panels, you may need a port-a-power for alignment.
- Verify concrete compressive strength (f_c) at time of initial lift is at least the strength listed in the insert selection chart for the insert being used. Have additional cylinders cast on your last tilt panel pour.

- **Equipment and Crew**

- The panel contractor and erection contractor must itemize the rigging and equipment required for a proper and safe lift. The erection details supplied by Tilt-up Technical Services Department will specify all rigging configurations and cable lengths required for the project. These details are

an integral part of the erection stress calculations and should be strictly adhered to. The erection details do not specify the diameter or safe working load of the rigging cables; this is the crane contractor's responsibility.

- **Day of Erection Safety Meeting**

- A full crew safety meeting should be held each day prior to lifting, where all pertinent safety details are discussed, and all questions answered. Reinforce the need for all concerned to be alert during lifting. Safety is everyone's responsibility and each crew member's safety depends on each other's safety practices. See attached safety check list and have all crew members go over it and sign it at the end of the safety meeting. Only members of the erection crew will be allowed in area. All members of the erection crew will wear safety vests.
- The rigger should be identified at the safety meeting. This individual will be the one the crane operator looks to for all signals during the lifting process. The rigger foreman must be experienced with handling panels and be familiar with the precise set of hand and arm signals to communicate with the crane operator.
- During the safety meeting, the rigger should demonstrate the proper use of the lifting hardware and bracing hardware, and how to use any necessary tools or equipment. If the crane is to use rolling outriggers, a warning to stay clear is in order.

- **Prior to Lifting**

- Check wind conditions prior to lifting a panel. Make sure the area is clear of spectators. Inspect all panels for projections (such as rebar) that may interfere with the process. Inspect all rigging and hardware for alignment and be sure that the rigging is free of snags. If non-swivel sheaves are being used, make certain the sheaves are properly aligned. Braces are usually attached to the panels prior to lifting; be sure that the braces will not be trapped by the rigging during the lift. Be alert for panels sticking to the casting bed. Carefully positioned pry bars and/or wedges at the insert lines can often help the crane successfully release the panel from the casting bed.

- **During the Lift**

- As the cables are being tensioned, they invariably tend to twist and rotate the hardware. Twisting the hardware can cause side loading. The rigging crew needs to be alert for this condition and halt the lift to realign the hardware. It is the rigger foreman's responsibility to be alert to any obstacles in the path of the panel and crew.

- **Plumbing the Panels**

- Make certain that the panel being plumbed does not strike a previously erected panel or panel bracing. Keep the area surrounding the panel clear of workers until the panel is firmly braced. If the panel being plumbed is a closure panel, take exact measurements prior to lifting to be sure the panel will fit.
- Tilt-up panels should be as plumb as possible prior to attaching the bracing to the floor slab. Temporary out-of-plumb should not exceed 4" at

the top of the panel. Fine tuning of the panel plumb can be accomplished with the pipe braces.

- There are two common conditions that require a panel to be plumb before releasing the crane:
 - When the panel is going to support an adjacent spandrel or lintel panel. The supporting panels need to be accurately placed in their exact position to prevent the need of adjusting them after placement of the spandrel or lintel panel.
 - When the bracing design specifies a subsequent system of knee, lateral, and end or cross bracing. Attempts to adjust a panel after subsequent bracing is in place would necessitate loosening or removing the bracing, putting the panel and workers in a dangerous position.
- **Bracing Panels**
 - All bracing should be in place and complete before relaxing the crane load. The crane load should be released slowly. Do not release the crane load if for any reason, the bracing does not appear adequate. Bracing anchors must be installed per manufacturers instructions, **do not use wedge anchors for braces**. After winds of more than 35 mph or more have been experienced, tightness of bolts must be checked. Bolted hardware must have full bearing on the concrete surface, and attachment bolts bear fully on the hardware. Caution must be taken so that the hardware is not subjected to a side loading that will cause an additional, unintended loading. Coil bolts must have a minimum coil penetration through the insert coil but must not be bearing on concrete at the bottom of the void.
 - There are instances when the crane's position will prevent the lateral bracing to be completed. Once the crane has cleared the area, the lateral and end bracing can be completed. This should be accomplished as soon as possible, no more than one panel behind the erection crew. Bracing on erected panels must be completed at the end of the workday.

AFTER THE LIFT

- When constructing the floor slab, a perimeter strip, generally three to five feet wide is often open to facilitate the footing excavation. This excavated area can be up to five or six feet deep, depending on the building design, and won't be backfilled until after the wall panels have been erected. The perimeter strip must be backfilled and compacted very carefully to avoid movement or bending of the panels.
- Wall braces should never be removed until all structural connections are complete. Note that the perimeter strip between the floor slab and the wall panels is considered a structural connection.
- If the building's structural drawings do not indicate when the braces can be removed, the engineer of record should be consulted.

DAILY TILT-UP ERECTION SAFETY MEETING

JOB NAME: _____

DATE: _____

DISCUSSION TOPICS AND TRAINING

- Verify concrete meets minimum compressive strength required for erection.
- Only erection crew allowed in the work zone.
- Work zone boundaries must be demarked with flags and danger tape.
- Crane operator is prohibited from exceeding these boundaries.
- Erection crew must wear proper PPE (safety vests, hardhats, safety glasses, Kevlar work gloves)
- The signalman will be the ONLY one the crane operator looks to for all signals.
- The foreman will designate who is authorized to tell the rigging crew to release panel.
- Review locations of overhead obstructions, and slab block outs and any other danger locations.
- Review each member of tilt crew's role. Place experienced crew members with inexperienced members.
- Review proper use of rigging and brace hardware. Verify correct bolts and torque required.
- The foreman will provide training to all crew members attaching the clutches to the panels.
- When panel is traveling, crew is often required to support braces. Braces must never be held by the foot because a sudden movement of the panel will push the brace into the body. Brace should be passed under an arm to allow freedom of movement. More than one person may be required to support heavy braces.
- Review panel erection sequence and location for man- lifts and equipment
- If wedges are used to break the bond, worker using hammers should stand on the ground and not on the panel.
- Watch panel inserts during lift. If cracks appear set panel down and consult with the Engineer
- Never allow heads, hands or feet on the underside of a panel for any reason.
- During placement crew should never get behind a panel (on the underside of tilt).
- Do not use a burke bar until panel is set down. Use wood to guide panel in.
- Fingers must never be placed between footing and a panel being places. (Use a tool to reposition shims).
- Tilt-up panels should be as plumb as possible prior to attaching the bracing to floor slab.
- Temporary out-of-plumb should not exceed 4" at the top of the panel
- Bracing on erected panels must be completed before end of shift
- Stay alert at all times, watch out for pinch points.
- If the crane is to use rolling outriggers, a warning to stay clear is in order.
- Ensure area is kept clean. Designate cleanup crew.
- Precautions must be taken during adverse weather conditions. Crew and the crane may slip on wet or icy slabs.
- Verify maximum wind speed for safe tilt erection.
- Have proper back up equipment and tools available
- Check all bolts/braces daily. Recheck if winds are in excess of 35mph
- Install panel clamps before end of shift
- Review Emergency Response Plan and Rally Point location
- You cannot stop a moving panel
- Results of the Work Zone Hazard Assessment
 - Ground Conditions (underground utilities, tanks, soil analysis, compaction, etc)
- Hazard posed by the rotating superstructure
- Barricading the swing area of the crane.
- Fall Zone: Means the area (including but not limited to the area directly beneath the load) in which it is reasonably foreseeable that partially or completely suspended materials could fall in the event of an accident
 - Only person(s) considered essential to the lift are permitted in the fall zone (tilt-up lifts)
 - Person(s) consider essential during a tilt-up
 - Person(s) guiding the panel
 - Person(s) directing the movement of the panel
 - Person(s) attaching, detaching or guiding braces or other support material or equipment
- Location of the power lines and the voltage of those lines (if any)
- Determine who has authority to call off the lift
- Additional topic for discussion

GENERAL REQUIREMENTS

- **Construction Loads**
 - No construction loads shall be placed on a concrete structure or portion of a concrete structure unless the employer determines, based on information received from a person who is qualified in structural design, that the structure or portion of the structure can support the loads.
- **Reinforcing Steel**
 - All protruding reinforcing steel, onto and into which employees could fall shall be guarded to eliminate the hazard of impalement.
- **Post-Tensioning Operations.**
 - No employee (except those essential to the post-tensioning operations) shall be permitted to be behind the jack during tensioning operations.
 - Signs, concrete safety and barriers shall be erected to limit employee access to the post-tensioning area during tensioning operations.
- **Riding Concrete Buckets**
 - No employee shall be permitted to ride concrete buckets.
- **Working Under Loads**
 - No employee shall be permitted to work under concrete buckets while buckets are being elevated or lowered into position.
 - To the extent practical, elevated concrete buckets shall be routed so that no employee, or the fewest number of employees are exposed to the hazards associated with falling concrete buckets.
- **Personal Protective Equipment**
 - Rubber gloves and eye protection shall be worn to protect employee from cement burns. Immediately rinse with clean water eyes, skin, or clothing that comes in contact with concrete. Employees with a cement burn should immediately seek medical treatment. By the time an employee becomes aware of a cement burn, the damage has been done, and the burn can continue to get worse even after the cement has been rinsed off.

CONCRETE PUMPING

- **Concrete Pump Setup**
 - Before using a concrete boom pump, the Pence Construction (Pence) superintendent/foreman must determine the size of the outrigger stabilizer pads/cribbing required for the boom pump size, manufacturer and the soil type and conditions onsite.
 - To determine the size of the stabilizer pads/cribbing, the superintendent/foreman shall use the Concrete Boom Pump Outrigger Stabilizer Pad Decision Matrix, at the end of this section.
 - Once the pad size has been determined, the superintendent/foreman must use that size of pad for all concrete pours.

- If the superintendent/foreman feels the pad size is larger than what is really needed, and he wants to reduce the size of the pad he must get approval from the General Superintendent before he reduces the size.
- If the concrete boom pump is controlled by a subcontractor, the Pence superintendent/foreman is still required to determine the size of the outrigger stabilizer pads/cribbing.
- The Stabilizer Decision Matrix calculations shall be performed for each soil type and condition encountered onsite.
- The Stabilizer Pad Decision Matrix calculations shall be performed for each size and manufacturer of boom pump used. (As an example, a Putzmeister 52-meter boom pump has different load specifications (76,875 lbs.) than a Schwing 52-meter boom pump. (60,000 lbs.))
- When the size and/or manufacturer of the boom pump that shows up onsite is different than the size and/or manufacturer of the boom pump ordered, the Stabilizer Pad Decision Matrix calculations shall be recalculated for the boom pump used.
- For the Stabilizer Pad Decision Matrix calculations to be accurate the following must be in place.
 - All outriggers must be fully extended.
 - All outriggers must have the proper size stabilizer pads/cribbing.
 - Outrigger pads/cribbing must be level and have 100% bearing on the soil. (No voids under the pads/cribbing)
 - Outrigger pads/cribbing must be made of a substantial material.
 - Outrigger pads/cribbing must be full and continuous. (No spaces between components)
- In order for the Stabilizer Pad Decision Matrix calculations to be accurate the follow must be known.
 - Bearing capacity of the soil type(s) onsite. This can be taken from a soils report generated by a soil engineer or the structural drawings of the blueprints generated by a structural engineer.
 - The size and manufacturer of the boom pump used for the pour.
 - You must determine the maximum outrigger load for the size and manufacturer of the boom pump used for the pour.
 - When the front and back outrigger maximum load pressures are dissimilar in the Stabilizer Pad Decision Matrix you must use the highest load in your calculations.
- Avoid hazardous proximity or contact with electric lines. Position the pump so a minimum safety distance of 20 feet is maintained in all the boom positions needed to do the job.
- Consider the safe approach and departure of the ready-mix trucks.
- Never hang more than one pipe or hose from the boom.
- Maintain a safe distance between the concrete and the edge of a cliff or excavation.
- Have the pump operator test soil bearing capacity by slowly moving empty boom over each outrigger.

- **Safety Rules for the Placing Crew**
 - Assure there is a safety sling from the boom to the first section of pipe.
 - Do not look into the end of a plugged hose or pipe
 - Stay away from the point of discharge when starting or restarting, or when there's air in the pipe.
 - Never open a pressurized pipeline
 - Do not hug the boom hose, hold it with both hands to allow the hose to move freely.
 - Never hold the hose with your shoulder. Do not walk backwards, stay out of the path of the boom.
 - Never kink the hose.
 - Watch out for pinch points.
 - Never straddle or sit on a pressurized pipeline.
 - Only one person should signal the pump operator. Before the pour begins, the hose man, the operator and the spotter should agree on hand signals.

CAST IN-PLACE CONCRETE

- **General Requirements for Formwork**
 - Formwork must be designed, fabricated, erected, supported, braced, and maintained so that it will be capable of supporting without failure all vertical and lateral loads that might be applied to the formwork. Concrete pour rates for wall forms must not be exceeded. Lateral concrete pressure on forms is affected by the following:
 - Height of pour
 - Pour rate
 - Unit weight of concrete
 - Temperature
 - Type of cement
 - Vibration
 - Concrete slump
 - Chemical Additives
- **Shoring and Re-shoring**
 - All shoring equipment must be inspected prior to erection to determine that the equipment meets requirements specified in the formwork drawings.
 - Damaged shoring equipment must not be used for shoring.
 - Erected shoring equipment must be inspected immediately prior to, during, and immediately after concrete placement.
 - Shoring equipment that is found to be damaged or weakened after erection must be immediately reinforced.
- **Reinforcing Steel**
 - Reinforcing steel for walls, piers, columns, and similar vertical structures must be adequately supported to prevent overturning and collapse.
 - Measures must be taken to prevent unrolled wire mesh from recoiling.
 - Such measures may include, but are not limited to, securing each end of the roll or turning over the roll.

- **Removal of Formwork**
 - Forms and shores (except those used for slabs on grade and slip forms) must not be removed until it is determined that the concrete has gained sufficient strength to support its weight and superimposed loads.
 - Such determination shall be based on compliance with one of the following:
 - The plans and specifications stipulate conditions for removal of forms and shores, and such conditions have been followed, or
 - The concrete has been properly tested with an appropriate ASTM standard test method designed to indicate the concrete compressive strength, and the test results indicate that the concrete has gained sufficient strength to support its weight and superimposed loads.
 - Re-shoring shall not be removed until the concrete being supported has attained adequate strength to support its weight and all loads in place upon it.

SILICA SAFETY PROGRAM

The purpose of this program is to provide Pence personnel with summarized information and guidelines for the protection of Pence employees and subcontracted employees against hazardous occupational exposures to respirable crystalline silica in the construction industry.

It is the intent of Pence to never place our employees in a position where the medical surveillance portion of this program is ever required. To that end, all silica related tasks shall be performed in strict accordance to OR-OSHA's [Table 1 Exposure Control Methods \(2.38B\)](#), Pence's [Table 2 Exposure Control Methods \(2.38C\)](#), and the [Site Specific Silica Exposure Control Plan Form \(2.38D\)](#).

This program has been developed in accordance with the requirements contained in the FED-OSHA **Respirable Crystalline Silica** rule [1926.1153](#), OR-OSHA Division 2, [Subdivision Z Silica](#), and [DOSH 296-840-095](#)

Note: The Silica Safety Program does not just relate to concrete work activities. It relates to any products or work activities that contains silica, including but not limited to:

- Earth or excavation work
- Rock or asphalt crushing
- Cutting of cementitious siding
- Cutting of cementitious tile board,
- Drywall joint compound,
- Bricks

Definitions

- **Action level:** means a concentration of airborne respirable crystalline silica of 25 $\mu\text{g}/\text{m}^3$ calculated as an 8-hour TWA.
- **Competent Person:** means an individual who is capable of identifying existing and foreseeable respirable crystalline silica hazards in the workplace and who has

authorization to take prompt corrective measures to eliminate or minimize them. The competent person must have the knowledge and ability necessary to implement the written exposure control plan required under the standard.

- **Employee exposure:** means the exposure to airborne respirable crystalline silica that would occur if the employee were not using a respirator.
- **HEPA:** High-efficiency particulate air filter means a filter that is at least 99.97 percent efficient in removing monodispersed particles of 0.3 micrometers in diameter.
- **Objective Data:** means information, such as air monitoring data from industry-wide surveys or calculations based on the composition of a substance, demonstrating employee exposure to respirable crystalline silica associated with a particular product or material or a specific process, task, or activity. The data must reflect workplace conditions closely resembling or with a higher exposure potential than the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.
- **Permissible Exposure Limit:** (PEL) means a concentration of airborne respirable crystalline silica of 50 µg/m³, calculated as an 8-hour TWA.
- **Regulated Area:** means an area, demarcated by the employer, where an employee's exposure to airborne concentrations of respirable crystalline silica exceeds, or can reasonably be expected to exceed, the PEL.
- **Respirable crystalline silica** means quartz, cristobalite, and/or tridymite contained in airborne particles that are determined to be respirable by a sampling device designed to meet the characteristics for respirable-particle size-selective samplers specified in the International Organization for Standardization (ISO) 7708:1995: Air Quality-Particle Size Fraction Definitions for Health-Related Sampling.

General Requirements

The general requirements listed below will apply to all Pence employees and subcontractors who may potentially expose one or more employee to airborne respirable crystalline silica while performing work on the project site, except where employee exposure will remain below OSHA's Action Level:

- **Exposure Control Methods** – When construction employees engage in a task identified in "[Table 1](#)", an exposure assessment is not required if
 - Use engineering and work practice controls to reduce and maintain employee exposure to or below the PEL
 - The engineering controls, work practices, and respiratory protection specified in the table must be fully and properly implemented for the task
 - When using wet methods, water is applied at flow rates sufficient to minimize the release of visible dust
 - Where an employee performs more than one task in "[Table 1](#)" during the course of a shift, and the total duration of all tasks combined is more than four hours, the cumulative respiratory protection time requirements for those tasks in "[Table 1](#)" cannot be exceeded
- **Exposure Assessment** – Unless OSHA's "[Table 1](#)" engineering controls, work practices, and respiratory protection procedures are fully and properly

implemented for the specified task or if the task is not listed in “[Table 1](#)” then an exposure assessment is required for that task. The Exposure Assessment will include:

- An evaluation of employee exposure to silica using air monitoring or objective data
- Each employee who is or may reasonably be expected to be exposed to respirable crystalline silica at or above the action level must be assessed in accordance with either the performance option or the scheduled monitoring option
 - **Performance Option** - Assess the 8-hour TWA exposure for each employee based on any combination of air monitoring data or objective data sufficient to accurately characterize employee exposures
 - **Scheduled Monitoring Option** - Perform initial monitoring to assess the 8-hour TWA exposure for each employee based on one or more personal breathing zone air samples that reflect the exposures of employees, for each job task
 - Where several employees perform the same task, a representative fraction of employees shall be monitored
 - Representative sampling must be on employee(s) who are expected to have the highest exposure
 - If initial monitoring indicates exposure below the action level, you may discontinue monitoring
 - Where exposure monitoring indicates exposures at or above the action level but at or below the PEL, repeat such monitoring within six months
 - Where exposure monitoring indicates exposures above the PEL, repeat monitoring within three months
 - Where exposure monitoring (non-initial) indicates exposures are below the action level, repeat monitoring within six months until two consecutive measurements, taken 7 or more days apart, are below the action level, at which time you may discontinue monitoring
 - Reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the action level, or when there is any reason to believe that new or additional exposures at or above the action level have occurred
- Employee Notification
 - Notify each affected employee in writing of the results of the assessment or
 - Post the results in an appropriate location accessible to all affected employees in accordance with the following
 - Within 5 working days after receiving any results of an exposure assessment

- When an exposure assessment indicates the exposure is above the PEL, describe in the written notification the corrective action being taken to reduce employee exposure to or below the PEL
- **Restricted Access Zones** – When Pence or subcontractor employees are engaged in construction activities involving silica that require the use of a respirator then a restricted access zone shall be established
 - Written procedures shall be developed and implemented to restrict access to the silica work area, as necessary, to minimize the number of exposed employees
 - Written procedures shall be part of a written ECP
 - A competent person must be designated to ensure written procedures are followed
 - Restricted access zones will be required for “[Table 1](#)” activities only when a respirator is required as part of “[Table 1](#)” procedures
- **Written Site-Specific Exposure Control Plan (ECP)** – Any work activity onsite that potentially will involve silica must have a written ECP. It the responsibility of the Competent Person to establish and implement a written Site Specific ECP that:
 - Identifies task(s) in the workplace that involve potential exposure to Silica
 - Identifies the engineering controls, work practices and the PPE required to limit employee exposure
 - Identifies the housekeeping procedures used to limit employee exposure
 - Identifies Restricted Access procedures to be used to limit the number of exposed workers
 - Identifies the competent person in charge of the ECP and all related work activity
 - A copy of the ECP must be onsite and available for anyone to review during the work activity
 - All employees working in the Restricted Access area must be trained to the procedures of the ECP
 - An ECP must be developed even if the task is fully under “[Table 1](#)” procedures

Responsibilities

It is critical that all Pence and Subcontractor personnel involved in construction activities that could potentially create silica dust use engineering and work practice controls to reduce and maintain employee exposure to respirable crystalline silica to or below the PEL. Wherever such feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, use them to reduce employee exposure to the lowest feasible level.

- **Safety Department**
 - Develop and maintain the Silica Safety Program
 - Develop all related training programs and assure all Superintendents/Foreman/Competent Persons are trained to a level that they can train the workers in the field

- Annually review and evaluate the silica program and the effectiveness of the ECP
- Assist the Superintendent/Competent Person in preplanning the construction activities related to silica including the development of the ECP
- When necessary establish the procedures for the exposure assessment
- Perform all required record keeping procedures
- **Superintendent/Foremen/Competent Person**
 - Preplan all construction activities that have the potential to generate silica dust
 - Develop and maintain the Site-Specific ECP for the silica related activities on the project
 - Implement effective means of controlling and mitigating silica dust
 - Ensure the materials (e.g., tools, equipment, personal protective equipment) and other resources (i.e., worker training materials) required to implement the ECP
 - Ensure workers are educated and trained to an acceptable level of competency
 - Coordinate the work with the all contractors working at the project to ensure a safe work environment
 - Enforce the procedures that are implemented to control and mitigate silica dust
 - Ensure that workers are using the proper respirators if required
 - Direct the work in a manner that ensures the risk to workers is minimized and adequately controlled
 - Communicate with the prime contractor and other sub-contractors to ensure a safe work environment
- **Worker**
 - Use effective means for controlling and mitigating silica dust
 - Know the hazards of silica dust exposure
 - Use the assigned personal protective equipment in an effective and safe manner
 - Set up the operation in accordance with the site-specific ECP
 - Follow established work procedures as directed by the Competent Person
 - Leave immediate area if exposed to silica containing dust

Respiratory Protection

Where respiratory protection is required by this program, [Table 1 Exposure Control Methods](#) or by the [Site Specific ECP \(2.38D\)](#) all the policies and procedures laid out in [Section 2.26 Respiratory Protection Program](#) of the Pence Safety Manual shall be followed.

- In addition to the respiratory protection program the follow:
 - Where exposures may exceed the PEL during tasks, which engineering, and work practice controls are not feasible

- During tasks for which all feasible engineering and work practice controls have been implemented and such controls are not sufficient to reduce exposures to or below the PEL
- During periods when the employee is required to work in a regulated area of another employer
- Until the exposure assessment results have determined that use of a respirator is not required for the task
- All respirators used for this program shall meet NIOSH and OSHA requirements and at least meet the Assigned Protection Factor (APF) as described in Table#1
- All respirators are required to have fit testing performed before usage.

Type of Respirator	Assigned Protection Factor (APF)
NIOSH N95 Filtering Facepiece	10
Half Mask Air-Purifying Respirator	10
Full Face Air-Purifying Respirator	50
Powered Air-Purifying Respirator	25 – 1,000 (depending on type)

Protective Clothing

Where protective clothing is required by the [Site Specific ECP \(2.38D\)](#) the employees shall remove all protective clothing in a manner that minimizes the amount of dust coming off the clothing

Housekeeping

Due to the hazardous nature of airborne silica dust the following housekeeping procedures will be utilized whenever feasible

- Never allow dry sweeping or dry brushing where activities involving materials that potential contain silica have occurred
- Never allow the use of leaf blowers where activities involving materials that potential contain silica have occurred
 - In these areas the use of an approved sweeping compound, HEPA-filtered vacuuming or wet method cleaning is required
- Never allow compressed air to be used to clean clothing
- Never allow compressed air to be used to clean surfaces where activities involving materials that potential contain silica have occurred unless
 - The compressed air is used in conjunction with a HEPA-filtered vacuum or a ventilation system that effectively captures the dust cloud created by the compressed air
 - No alternative method is feasible
- In areas where wet methods are used, due to the residue that remains, the use of a wet vacuum to clean up is not sufficient for this program
- In addition to wet vacuuming you will also need to:
 - Continuously wash the area with clean water until no residue remains

- Wash all residue to an area where it can be collected
- Wash all residue to an area that can be buried or covered in a way as to not cause a hazard at a later time

Medical Surveillance

The medical surveillance requirements for the silica safety program are in addition to the respiratory protection program. All medical evaluations requirements that are part of the respiratory protection program still apply for employees wearing respiratory protection

- Medical Surveillance shall be provided for all employees who:
 - Will be exposed to respirable crystalline silica at or above the action level for 30 or more days per year
 - Will be required under the silica subdivision to use a respirator for 30 or more days per year
- Medical Surveillance shall:
 - Provided at no cost to the employee and at a reasonable time and place
 - Be performed by a Professional Licensed Health Care Professional (PLHCP)
 - The initial (baseline) medical examination shall be completed within 30 days after initial assignment when the worker is expected to meet the surveillance criteria
 - Medical examinations shall be performed following the procedures described in OR-OSHA Regulations including:
 - A medical and work history
 - A physical examination including emphasis on the respiratory system
 - A chest X-ray
 - A pulmonary function test
 - Testing for latent tuberculosis infection
 - Any other tests deemed appropriate by the PLHCP
 - For the medical exam the PLHCP shall be provided with the following:
 - A description of the employee's former, current, and anticipated duties as they relate to silica
 - The employee's former, current, and anticipated levels of occupational exposure to respirable crystalline silica
 - A description of any personal protective equipment used or to be used by the employee, including when and for how long the employee has used or will use that equipment
 - Information from records of employment-related medical examinations previously provided to the employee and currently within the control of the employer
 - Medical exams shall be performed at least every three years, or more frequently if recommended by the PLHCP
 - Ensure the PLHCP explains the results of the medical examination to the employee
 - Ensure the PLHCP provides each employee with a written medical report within 30 days

- The written medical report must include:
 - A statement indicating the results of the medical examination
 - Including any medical condition(s) that would place the employee at increased risk
 - Any medical conditions that require further evaluation or treatment
 - Any recommended limitations on the employee's use of respirator
 - Any recommended limitations on the employee's exposure to silica
 - A statement that the employee should be examined by a specialist if the chest X-ray provided in accordance with this program is:
 - Classified as 1/0 or higher by the B Reader
 - Otherwise deemed appropriate by the PLHCP
- If the PLHCP's indicates an employee should be examined by a specialist, make the examination available within 30 days after receiving the PLHCP's written opinion
- The specialist's report carries the same reporting criteria as the LPHCP
- Ensure the PLHCP provides Pence with a written medical report within 30 days
- Pence report must only contain the following:
 - The date of the examination
 - A statement that the examination has met the requirements of OR-OSHA
 - Any recommended limitations on the employee's use of respirators

Training

Training on silica hazards, silica safety program and the ECP will be required and provided for all employees engaging in or exposed to any potential silica dust generating task(s).

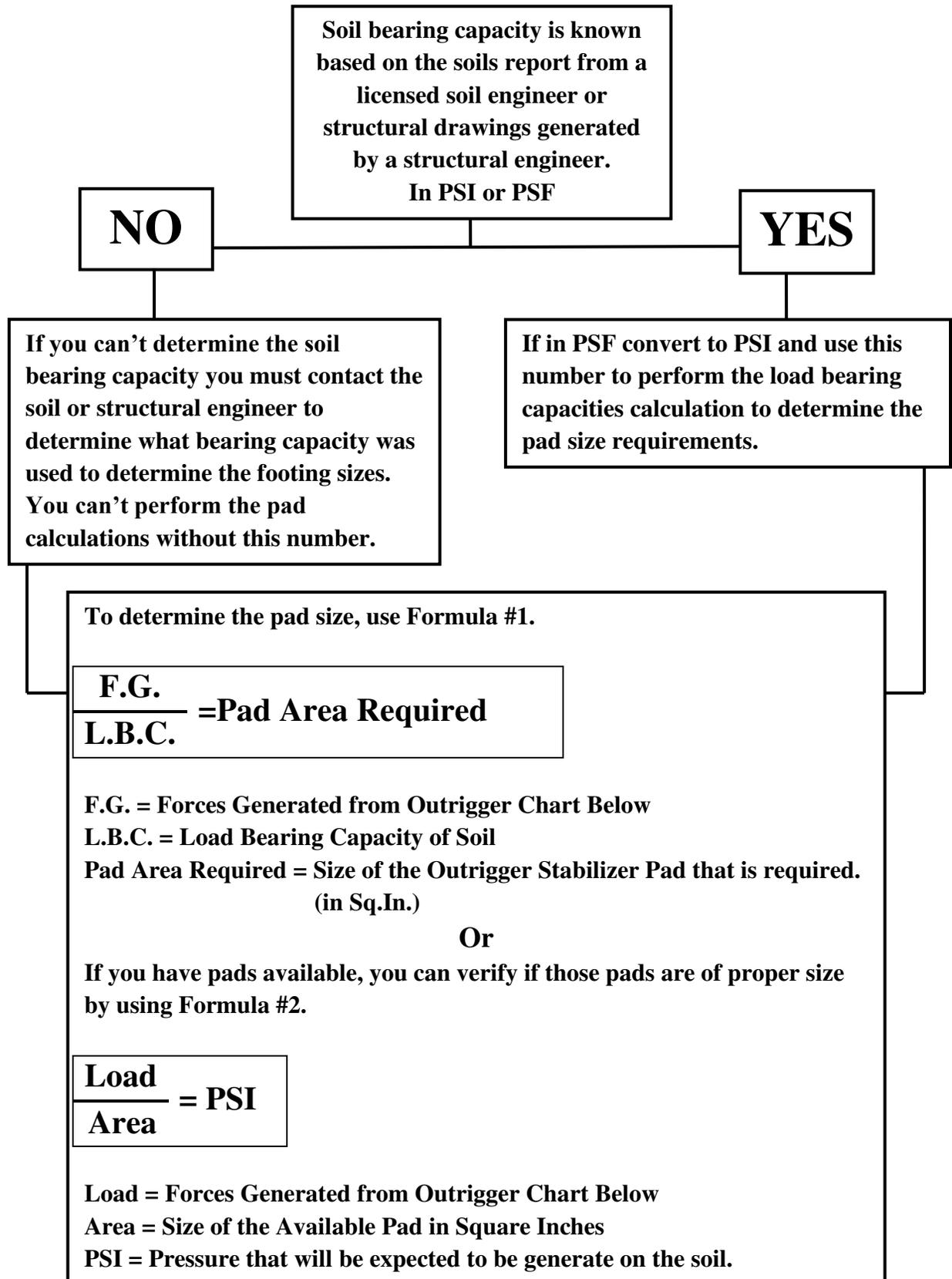
- The training will cover at least the following topics:
 - To the written site specific ECP
 - Hazards associated with exposure to silica dust
 - The risks of exposure to silica
 - Signs and symptoms of silicosis disease
 - Safe work procedures to be followed
 - Use of respirators and other personal protective equipment
 - Use of control systems
 - How to seek first aid
 - How to report an exposure to silica dust
- Training shall be documented, and records kept on file

Table 1 Tasks

- Below is a list of tasks covered in [Table 1](#)
 - Stationary masonry saws
 - Handheld power saws (any blade diameter)
 - Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)

- Walk-behind saws
- Drivable saws
- Rig-mounted core saws or drills
- Handheld and stand-mounted drills (including impact and rotary hammer drills)
- Dowel drilling rigs for concrete
- Vehicle-mounted drilling rigs for rock and concrete
- Jackhammers and handheld powered chipping tools
- Handheld grinders for mortar removal (*i.e.*, tuckpointing)
- Handheld grinders for uses other than mortar removal
- Walk-behind milling machines and floor grinders
- Small drivable milling machines (less than half-lane)
- Large drivable milling machines (half-lane and larger)
- Crushing machines
- Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (*e.g.*, hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials
- Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: Demolishing, abrading, or fracturing silica-containing materials
- Below are examples of tasks not covered in [Table 1](#). Note: The list includes examples but is not limited to those listed:
 - Abrasive blasting of concrete surfaces
 - Sweeping concrete surfaces (housekeeping / clean-up)
 - Cleaning concrete surfaces
 - Cleaning formwork / formwork preparation
 - Maintenance of construction equipment / tools and discarding HEPA filters
 - Sanding of joint compound
 - Sweeping of joint compound
 - Mixing of grout by hand for under steel columns or tilt panels

Concrete Boom Pump Outrigger Stabilizer Pad Decision Matrix



Example #1

You have a soils report from the soil engineer indicating the soil in the area will take a 5,000 PSF load. The pump you are using is a Schwing KVM 52. What size of outrigger pads will be required? (You are trying to determine the pad size you will use Formula #1)

First convert the PSF from the soils report to PSI. ($5000 \div 144 = 34.72$ or 35 PSI) (L.B.C = 35)

Look at the Schwing chart below and determine the forces generated by the outriggers of a KVM 52 Pump. (F.G. = 60,000 Pounds) Now do the calculation.

$$\frac{\text{F.G}}{\text{L.B.C}} = \text{Pad Area Required} \quad \text{or} \quad \frac{60,000}{35} = 1714 \text{ Sq. In}$$

Convert Sq.In. to Sq.Ft. ($1714 \div 144 = 11.90$ Sq.Ft.) Your outrigger pad should have 12 square feet of soil contact.

Example #2

The structural engineer has indicated on the structural drawings the allowable soil bearing pressure in the area is 5,000 PSF. The pump you are using is a Schwing KVM 52. You already have 4 foot by 4-foot pads onsite from another pour. Are these pads large enough to support this pump? (You are trying to determine if the pad size is large enough so you will use Formula #2)

Convert 16 Sq.Ft. to Sq.In. ($16 \times 144 = 2304$)

Look at the Schwing chart below and determine the forces generated by the outriggers of a KVM 52 Pump. (F.G. = 60,000 Pounds) Now do the calculation.

$$\frac{\text{Load}}{\text{Area}} = \text{PSI} \quad \text{or} \quad \frac{60,000}{2304} = 26.04 \text{ PSI}$$

Convert the PSF from the soils report to PSI. ($5000 \div 144 = 34.72$ or 35 PSI)

Load bearing capacity (LBC) of the soil is 35 PSI.

The load you will exert on the soil with a 4 foot by 4-foot plate is 26 PSI.

Load Bearing Capacity of the soil is greater than the Load being exerted on the soil $35 \geq 26$.

Therefore, your plates are more than adequate to handle the pump.

Conversion Table	
Pounds per Square Foot to Pounds per Square Inches	PSF \div 144 = PSI
Square Feet to Square Inches	Sq.Ft. \times 144 = Sq.In.

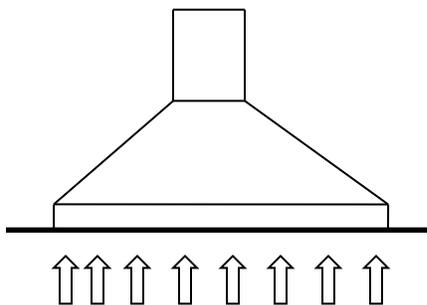
Concrete Boom Pump Outrigger Spreads and Loads

Putzmeister Pumps					
Model	Front Outrigger Spread in Ft. & In. L-R	Rear Outrigger Spread in Ft. & In. L-R	Front to Rear Outrigger Spread In Ft. & In.	Front Outrigger Load in Lbs. L-R	Rear Outrigger Load in Lbs. L-R
20Z – Meter	11-2	8-6	16-3	23,605	38,220
36Z – Meter	20-7	21-8	22-11	43,850	43,850
40Z – Meter	20-7	21-8	22-11	41,350	43,850
47Z – Meter	26-1	29-6	28-6	60,700	60,700
57Z – Meter				80,932	80,932
63Z – Meter	37-9	42-1	40-9	97,800	92,200

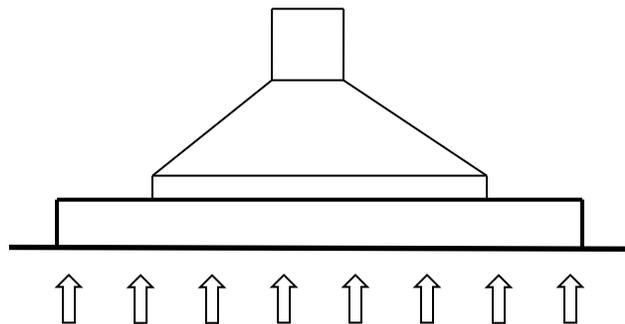
Schwing Pumps					
Model	Front Outrigger Spread in Ft. & In.	Rear Outrigger Spread in Ft. & In.	Front to Rear Outrigger Length in Ft & In.	Maximum Front Outrigger Load in Lbs.	Maximum Rear Outrigger Load in Lbs.
KVM 17	11-9	7-2	14-2	16,860	11,240
S 31 HT/EZ				39,700	30,900
KVM 32XL	19-8	17-2	24-4	32,600	27,000
KVM 34X	20-5	18-8	24-5	39,500	31,000
KVM 39X				42,000	35,200
S 41 SX				40,464	40,464
KVM 42LW	27-11	27-7	27-9	43,400	45,400
S 47 SX				58,500	56,200
S 58 SX				78,680	83,176
S 61 SX				78,680	83,176

TO REDUCE GROUND PRESSURE

**Without Blocking,
Ground Pressure is High**

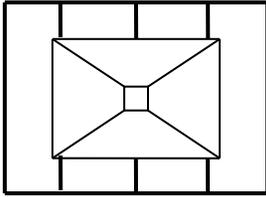


**With Blocking,
Ground Pressure Reduced**

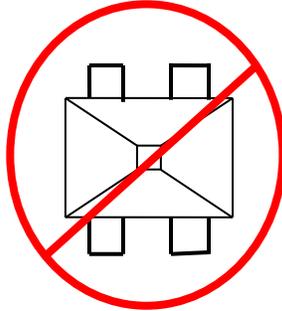


TEST OF TYPES OF BLOCKING

**Properly
Blocked**

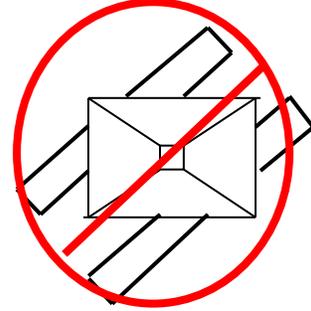


**Span
Blocking**



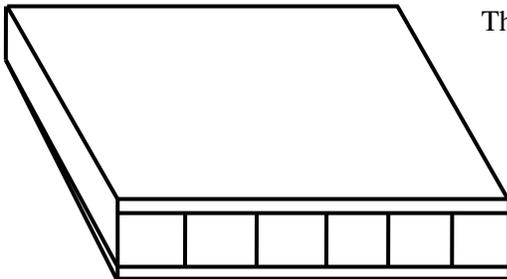
**Approx. 70% of
proper blocking**

**Corner
Blocking**

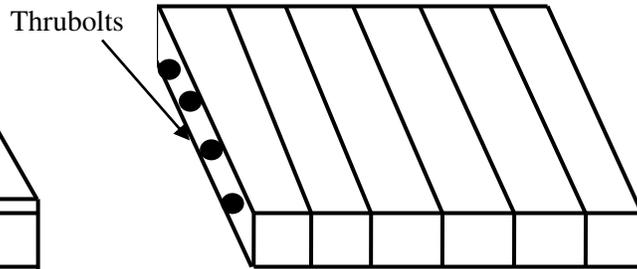


**Approx. 50% of
proper blocking**

APPROVED CRIBBING



**4X4 or 4X6 with plywood top and
bottom to stiffen enough to span
soft spots**



**4X4 or 4X6 with thrubolts to stiffen
enough to span soft spots**

TABLE 1 – EXPOSURE CONTROL METHODS

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
(i) Stationary masonry saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions	None	None
(ii) Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions:		
	-When used outdoors	None	APF 10
	-When used indoors or in an enclosed area	APF 10	APF 10
(iii) Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)	For tasks performed outdoors only: Use saw equipped with commercially available dust collection system Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency	None	None
(iv) Walk-behind saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions:		
	-When used outdoors	None	None
	-When used indoors or in an enclosed area	APF 10	APF 10
(v) Drivable saws	For tasks performed outdoors only:		
	Use saw equipped with integrated water delivery system that continuously feeds water to the blade Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions	None	None
(vi) Rig-mounted core saws or drills	Use tool equipped with integrated water delivery system that supplies water to cutting surface	None	None

TABLE 1 – EXPOSURE CONTROL METHODS

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions		
(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowling with dust collection system Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism Use a HEPA-filtered vacuum when cleaning holes	None	None
(viii) Dowel drilling rigs for concrete	For tasks performed outdoors only:		
	Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter cleaning mechanism Use a HEPA-filtered vacuum when cleaning holes	APF 10	APF 10
(ix) Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector	None	None
	OR		
	Operate from within an enclosed cab and use water for dust suppression on drill bit	None	None
(x) Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact:		
	-When used outdoors	None	APF 10
	-When used indoors or in an enclosed area	APF 10	APF 10
	OR		
	Use tool equipped with commercially available shroud and dust collection system		
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust		

TABLE 1 – EXPOSURE CONTROL METHODS

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
	emissions		
	Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism:		
	-When used outdoors	None	APF 10
	-When used indoors or in an enclosed area	APF 10	APF 10
(xi) Handheld grinders for mortar removal (<i>i.e.</i> , tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system	APF 10	APF 25
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions		
	Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism		
(xii) Handheld grinders for uses other than mortar removal	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface	None	None
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions		
	OR		
	Use grinder equipped with commercially available shroud and dust collection system		
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions		
	Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism:		
	-When used outdoors	None	None
	-When used indoors or in an enclosed area	None	APF 10

TABLE 1 – EXPOSURE CONTROL METHODS

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
(xiii) Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface	None	None
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions		
	OR		
	Use machine equipped with dust collection system recommended by the manufacturer	None	None
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions		
	Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism		
	When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes		
(xiv) Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant	None	None
	Operate and maintain machine to minimize dust emissions		
(xv) Large drivable milling machines (half-lane and larger)	For cuts of any depth on asphalt only: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust	None	None
	Operate and maintain machine to minimize dust emissions		
	For cuts of four inches in depth or less on any substrate:		
	Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust	None	None

TABLE 1 – EXPOSURE CONTROL METHODS

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
	Operate and maintain machine to minimize dust emissions		
	OR		
	Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant	None	None
	Operate and maintain machine to minimize dust emissions		
(xvi) Crushing machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points)	None	None
	Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions		
	Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote-control station		
(xvii) Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab	None	None
	When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions	None	None
(xviii) Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: Demolishing, abrading, or fracturing silica-containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions	None	None
	OR		
	When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab	None	None

TABLE 2 – EXPOSURE CONTROL METHODS

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
<p>(1) Mixing Grout with a mobile concrete mixer</p> <p>(Results are documented in the BSI Silica assessment dated 6/18/2018) (Results are valid for other grouting products that contain similar or less silica content as Euclid -E3 Deep Pour & Xtreme Part C Aggregate)</p>	<ul style="list-style-type: none"> • This operation should always be done outdoors • Set up the work station in a way where the employee is upwind of the concrete mixer so when the bags are opened the dust will be carried away from the worker. • If the wind conditions are calm, use of a fan is required to create the same effect. • Immediately add water to minimize the amount of dust that is generated. • Voluntary use of a respirator with an APF 10 or above is encouraged. • Housekeeping - Clean all tool, equipment, work area and personnel by using water. (Do not use compressed air or dry sweeping) • Set up a 10 ft. regulated area on the downwind side of the work station. 	None	None
<p>(2) Scraping concrete formwork prior to reuse</p>	<ul style="list-style-type: none"> • This operation should always be done outdoors. • When possible, set up the work station in a way where all employees are upwind of scraping operation. • Housekeeping - Clean all tool, equipment, work area and personnel by using water or a heap filtered vacuum. (Do not use compressed air or dry sweeping) • No special regulated area is required with this task 	None	None
<p>(3) Stripping and scraping grout formwork prior to reuse</p>	<ul style="list-style-type: none"> • This operation should always be done outdoors. • When possible set up the work station in a way where all employees are upwind of scraping operation. • Housekeeping - Clean all tool, equipment, work area and personnel by using water or a heap filtered vacuum. (Do not use compressed air or dry sweeping) • No special regulated area is required with this task 	None	None

TABLE 2 – EXPOSURE CONTROL METHODS

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
<p>(4) Sanding of skim coat or sack and patch products on concrete surfaces</p> <p>(Results are documented in the AGC Silica assessment dated 9/27/2017) (Results are valid for other patching products that contain similar of less silica content as Raeco Skimwall)</p>	<ul style="list-style-type: none"> • This operation should be performed in an open area, either outside or in an area that is mostly exposed to the outside, similar to an open top tunnel. • Use an orbital sander equipped with a commercially available shroud with dust collection system • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions • Since the debris from this process is collected into the vacuum no special housekeeping procedures are require • No special regulated area is required with this task 	None	None
<p>(5) Drilling 3/4 inch holes in a concrete slab with no shrouds or cowling dust collection system</p> <p>(Results are documented in the BSI Silica assessment dated 10/31/2018)</p>	<ul style="list-style-type: none"> • This operation should be performed in an open area, either outside or in an area that is mostly exposed to the outside • The dust collected by the hole can be slowly kicked out of the way with the boot • The hole can be drilled to a 5-inch depth, reinsert the bit to the bottom of the hole and then remove the bit to clear the hole • The number of holes drilled must be limited to no more than 6 holes per hour and not exceed 48 holes in an eight-hour shift • Shifts performing this task cannot exceed eight-hours • Housekeeping requires the use of a HEPA-filtered vacuum, by use of a broom and sweeping compound or by washing the dust away with water 	None	None
<p>(6) Drilling 3/16 inch holes through 1½ inch lumber (Sleeper) into a concrete slab with no shrouds or cowling dust collection system</p>	<ul style="list-style-type: none"> • This operation should be performed in an open area, either outside or in an area that is mostly exposed to the outside • The task must include measuring, cutting, transporting and placing of the lumber material and cannot just include the drilling operation • If the controls are followed there is no limit to the 	None	None

TABLE 2 – EXPOSURE CONTROL METHODS

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤ 4 hours/shift	>4 hours/shift
(Results are documented in the BSI Silica assessment dated 10/31/2018)	number of holes that can be drilled in an eight-hour shift • Shifts performing this task cannot exceed eight-hours • Housekeeping requires the use of a HEPA-filtered vacuum, by use of a broom and sweeping compound or by washing the dust away with water		

SITE SPECIFIC SILICA EXPOSURE CONTROL PLAN (ECP)

Project Name:		Competent Person:	
Contractor Name:		Date of Activity:	
Task involving silica exposure	Engineering controls, work practices and PPE	Housekeeping procedures for the task	Restricted access procedures required
Signature of the Crew working on the task: ↓		Signature of Competent Person: →	

SITE SPECIFIC SILICA EXPOSURE CONTROL PLAN (ECP)

Project Name:	Vancouver GW	Competent Person:	Tim Fasching
Contractor Name:	Pence Construction	Date of Activity:	6/28/2018
Task involving silica exposure	Engineering controls, work practices and PPE	Housekeeping procedures for the task	Restricted access procedures required
Stripping and scraping formwork	This operation should always be done outdoors. When possible, set up the work station in a way where all employees are upwind of scraping operation.	Clean all tool, equipment, work area and personnel by using water or a hepa filtered vacuum. (Do not use compressed air, leaf blowers or dry sweeping)	No special regulated area is required with this task
Drilling holes in concrete floor to attach braces	Table #1 Activity – Use drill equipped with commercially available shroud or cowling with dust collection system Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism Use a HEPA-filtered vacuum when cleaning holes	Vacuum up all drilling debris with a hepa filtered vacuum. This includes blowing out the holes.	No special regulated area is required with this task
Mixing and placing of grout under the tilt panels. (Using power mixer)	This operation should always be done outdoors. Set up the work station in a way where the employee is upwind of the concrete mixer so when the bags are opened the dust will be carried away from the	Clean all tool, equipment, work area and personnel by using water. (Do not use compressed air, leaf blowers or dry sweeping)	Set up a 10 ft. regulated area on the downwind side of the work station.

	worker. If the wind conditions are calm, use of a fan is required to create the same effect. Immediately add water to minimize the amount of dust that is generated. Voluntary use of a respirator with an APF 10 or above is encouraged.		
Stripping and scraping of grout forms	This operation should always be done outdoors. When possible set up the work station in a way where all employees are upwind of scraping operation.	Clean all tool, equipment, work area and personnel by using water or a hepa filtered vacuum. (Do not use compressed air, leaf blowers or dry sweeping)	No special regulated area is required with this task
Sweeping of concrete slab	No dry sweeping is allowed. Any sweeping activity is not allowed to raise visible dust.	The use of a sweeping compound, water and/or hepa filter vacuum is required	No special regulated area is required with this task
Handheld powered chipping tools	Table #1 Activity - Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact: -When used outdoors ≤ 4 HRS No Respirator required >4 HRS APF10 Respirator required -When used indoors or in an enclosed area ≤ 4 HRS or >4 HRS APF10 Respirator required	The use of a sweeping compound, water and/or hepa filter vacuum is required	10 to 20 feet depending on the situation and conditions
Signature of the Crew working on the task: ↓		Signature of Competent Person: → <i>Timothy L Fasching</i>	

SILICA TRAINING

The items below are the minimum that employees should be trained on as related to the Silica Program.

- Review the procedures of the [Site-Specific Exposure Control Plan \(2.38D\)](#)
- Hazards associated with exposure to silica dust
 - Dust created from silica containing material may contain silica
 - The large particulates of silica will get trapped in the mucus membranes and the body will expel them
 - Very small particulates of silica can work their way into the lower sections of the lungs
 - Those particulates are very sharp and will start irritating the lungs
- The risks of exposure to silica
 - Overtime the irritation will start causing scar tissue to develop which will eventually clog the lungs preventing air from entering the lungs
 - This is called silicosis
 - There is no cure for silicosis and there is no surgery to fix the lungs
 - Exposure to silica can also cause
 - Cancer
 - Immune system effects
 - Kidney effects
- Signs and symptoms of silicosis disease
 - Symptoms of silicosis can appear from a few weeks to many years after exposure to silica dust
 - Symptoms typically worsen over time as scarring in the lungs occurs
 - Cough is an early symptom and develops over time
 - In acute silicosis, you may experience fever and sharp chest pain along with breathing difficulty. These symptoms can come on suddenly.
 - In chronic silicosis, you may only have an abnormal chest X-ray in the beginning and then slowly develop a cough and breathing difficulty over time
- Safe work procedures to be followed
 - Procedures associated with Table #1
 - Eliminate dust
 - Use hepa filtered vacuums
 - Use water to control the dust
 - Ventilation (Manmade or natural)
- Use of respirators and other personal protective equipment
 - Does not eliminate the hazard
 - Not considered 100% effective because of user error
- Use of control systems
 - See the ECP
- How to seek first aid
 - Contact the Competent Person
- How to report an exposure to silica dust
 - Contact the Competent person

REQUIREMENTS FOR MASONRY CONSTRUCTION

2.39

LIMITED ACCESS ZONE

- A. **A limited access zone shall be established whenever a masonry wall is being constructed.** The limited access zone shall be established prior to the start of construction of the wall.
- B. **Non-reinforced Masonry Walls.** The limited access zone for a masonry wall that is not reinforced and braced in accordance with requirements must run the entire length of the wall and extend away from the wall a distance equal to the height of the wall plus four feet.
- a. The limited access zone shall be established on the side of the wall which will be un-scaffolded.
 - b. The limited access zone shall be restricted to entry by employees actively engaged in constructing the wall. No other employees shall be permitted to enter the zone.
 - c. The limited access zone shall remain in place until the wall is adequately supported to prevent overturning and to prevent collapse unless the height of wall is over eight feet, in which case, the limited access zone shall remain in place until the bracing requirements have been met.
- C. **Reinforced Masonry Walls.** A limited access zone must be established when constructing a reinforced wall.
- a. A limited access zone must be established before construction of the wall begins.
 - b. A limited access zone must run the entire length of the wall and extend away from the wall a distance equal to the **height of the grout pour** plus four feet.
 - A limited access zone must be located on the side of the wall not scaffolded.
 - All activity within the limited access zone is under the direction and control of a competent person.
 - Entry into the limited access zone is limited to employees actively engaged in construction of the wall. No other employees are allowed to enter the zone without permission from a competent person.

- A competent person is responsible for monitoring wind speed. When speeds reach 25mph all braces must be examined, and the site made secure.
- When wind speeds reach 35mph, all employees in the limited access zone and in proximity to the wall under construction must move to a safe location.
- The limited access zone must remain in place until any wall over eight feet in height is adequately braced or supported to prevent overturning and to prevent collapse.

BRACING FOR MASONRY WALLS

All masonry walls over eight feet in height must be adequately braced to prevent overturning and collapse unless the wall is adequately supported. Bracing must remain in place until permanent supporting elements of the structure are in place. The bracing system must be designed by a registered professional engineer or follow the following requirements.

- A. During construction of a masonry wall, adequate bracing must be in place to prevent the wall from overturning or collapse. If any of these conditions exist, the bracing is not needed:
- a. The wall is eight feet or less in height.
 - b. A qualified person demonstrates that modifications per (B.)(c.) listed below are adequate when addressing these or other inherently more stable conditions:
 - Shafts;
 - Infills in existing walls;
 - Construction in protected areas;
 - Change in wall thickness;
 - Masonry pilasters; or
 - Corner returns, intersecting walls.
- B. Permanent supporting elements of the structure are in place
- a. Design bracing systems according to (d) and (e) below install them under the direction of a competent person.
 - b. A registered professional engineer **must** design bracing when there is one or more of the following:
 - The wall is **more than 24 feet in height**;
 - The minimum requirements of this section are not met,
 - Stack bond
 - Or high wind areas.

c. A structural masonry wall bracing system must be designed by a qualified person. The design and installation of the bracing system must comply with the following requirements:

- Minimum design requirements, including minimum requirements per chapter 26 of the Uniform Building Code, for use in Options 1 or 2:

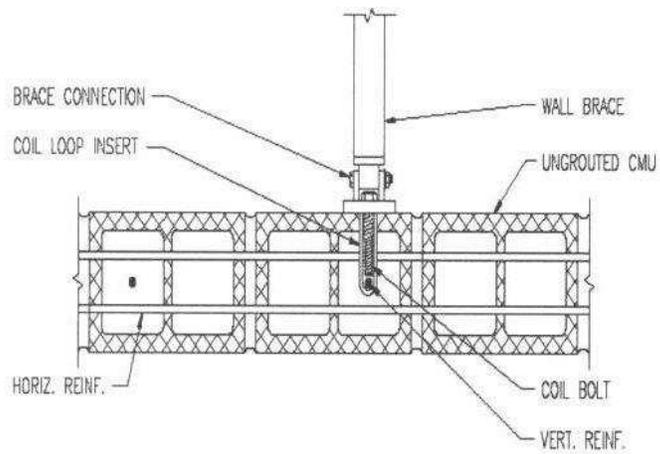
Note: This information may be included in the blueprints.

- F'm 1500psi, concrete block laid in running bond pattern
 - Type S mortar.
 - 60ksi rebar, with minimum placement of 2 - #4 horizontally and 1 - #5 vertically at 48" on center.
 - 2000psi grout required at reinforced areas.
 - Straight coil loop insert with coil bolts (safe working load = 2,250 lb.)
 - Metal concrete tilt braces.
 - Wall height not to exceed 24'.
- Minimum field requirements for use in Options 1 or 2:
 - The horizontal spacing distance between two or more braces must not exceed 20'.
 - The horizontal bracing distance from an end of wall or control joint must not exceed 10'.
 - A qualified person must determine if walls less than 20' in length require two braces.
 - The connection of the brace to the masonry wall must consist of a minimum ¾" straight coil loop insert, placed around a structural rebar located at an un-grouted bond beam;
 - At least one structural rebar must be located between the attached bar and face shell that receives brace (see figure 1);
 - The base connection of brace must consist of a minimum ¾" anchor attached to either a 4" minimum thick slab or deadman;
 - The brace angle must not be greater than 60 degrees from the horizontal;
 - The slab or deadman connection must resist a minimum 3400lbs. pullout force.

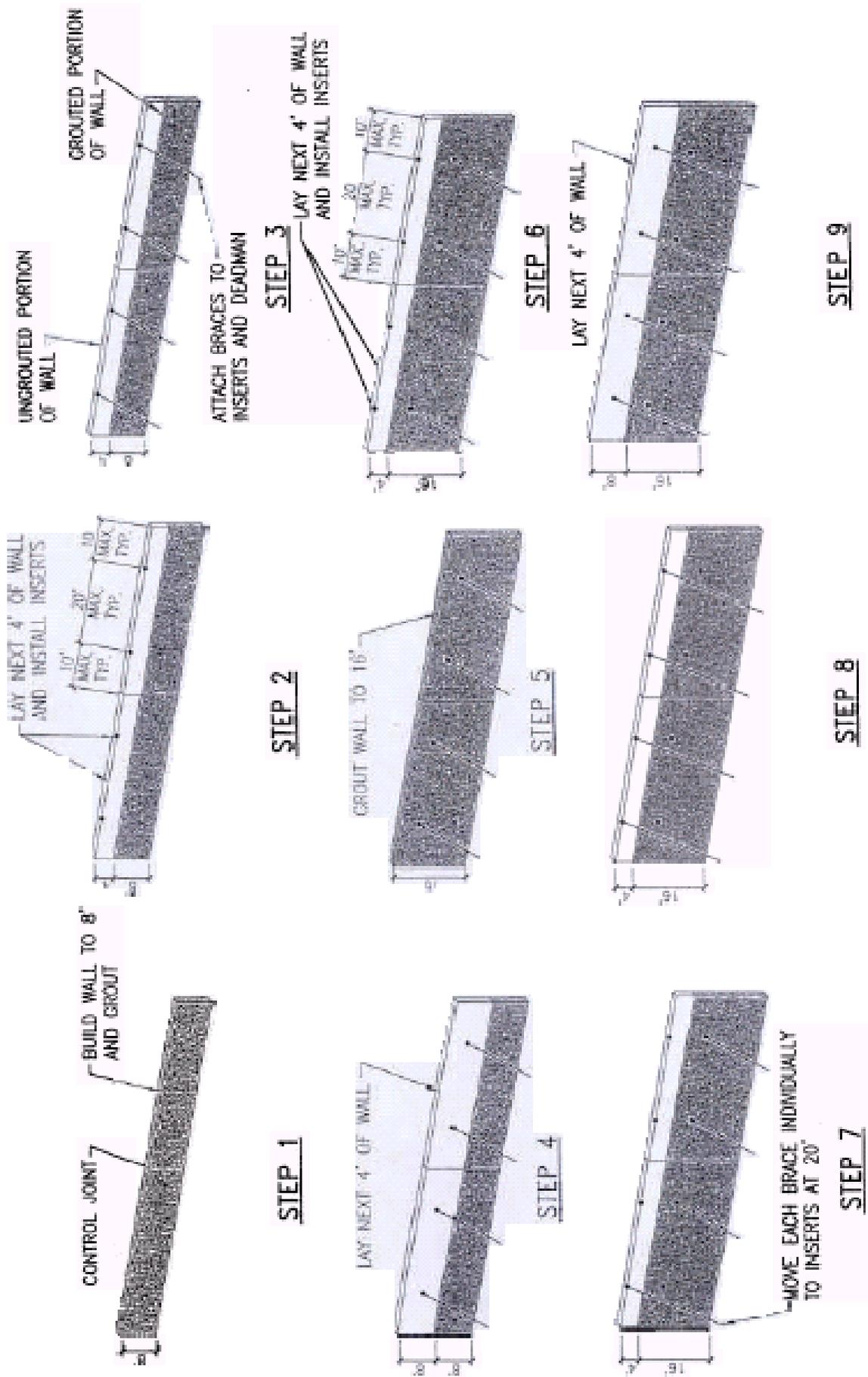
d. **Option 1 – Low Lift Grout Walls-**Bracing structural masonry walls when grout pours are limited to 5'-4" or less in height.

- A maximum of 8' of initial wall height may be laid with minimum reinforcement and then grouted.
 - A maximum 5'-4" of additional wall may be laid with reinforcement located to receive straight coil loop inserts at the bond beam location.
 - The first brace must be connected to the wall insert and attached to slab or deadman at base of wall.
 - The reinforced section must be grouted.
 - Additional wall may be constructed following the steps above.
 - See attached diagram of High Lift Grout sequence of construction. Low Lift is similar.
- e. **Option 2 – High Lift Grout Walls-Bracing structural masonry walls with grout pours up to 8' in height.**
- A maximum 8' of the initial wall height may be laid with minimum reinforcement and then grouted.
 - A maximum 5'-4" of additional wall may be laid with reinforcement located to receive straight coil loop inserts at a bond beam location.
 - Braces must be connected to coil loop inserts in the wall and attached at the base to either a slab or deadman.
 - The wall may be laid and reinforced up to the grout pour.
 - No more than 4' of un-grouted wall above the brace point is permitted.
 - Grouting may be done after each section of wall is adequately braced.
 - A maximum of 8' of additional wall height may be constructed and braced following steps above.
 - See attached diagram for sequence of construction.

Figure 1.



Straight coil loop insert attached to rebar with perpendicular rebar between it and face shell to receive brace.



NOTES:
1. PERFORM STEPS 2,3, AND 4 ON THE SAME DAY.
2. PERFORM STEPS 6,7,8, AND 9 ON THE SAME DAY.

Figure 1 CMU wall bracing example

PENCE CONSTRUCTION WEEKLY SAFETY MEETINGS

When working as the General Contractor or working for a General Contractor that does not hold weekly safety meetings, Pence Construction (Pence) Superintendents will hold weekly Tool Box Safety Meetings and require all Pence and Subcontractor jobsite employees to attend. The meeting shall be documented, and a copy sent to Pence Safety and to the General Superintendent. You may use the topics from “Weekly Safety Meetings for the Construction Industry”, www.toolboxtalk.com, Safety Notes developed by Pence Safety or other topics which are site specific. Any hazards noted at Safety Meeting must be investigated immediately and corrective action must be taken to preclude potential hazards. See attached form for documentation of meetings.

At a minimum the following topic should be discussed:

- Required PPE
- Job Specific Safety Requirements
- Upcoming tasks and conditions onsite
- Employee Orientation
- Equipment training requirements
- Safety concerns and questions
- Any Accidents/Incidents/Near Misses

SUBCONTRACTOR SAFETY MEETINGS

When working as the General Contractor, Pence Superintendents will hold weekly safety meetings with subcontractors at the foreman’s meeting. You should discuss site specific concerns.

GENERAL CONTRACTOR WEEKLY SAFETY MEETINGS

When working as a Subcontractor for a General Contractor other than Pence Construction, Pence Superintendents will document Pence employee’s attendance to the General Contractors weekly safety meeting. A copy of the documentation shall be sent to Pence Safety and to the General Superintendent. Documentation can be accomplished by means of one of the three options below:

- Acquire a copy of the GC’s topic list and sign-in sheets
- Use the form below to list the topics discussed by the GC and have the Pence employees sign the sheet
- Attend the GC’s meeting and hold a separate meeting and use the form below to document the meeting and have the Pence employees sign the sheet

HAND, POWER, AND POWDER-ACTUATED TOOLS

2.41

Pence Construction (Pence) requires all employees and Subcontractors working on a Pence project to comply with OR-OSHA rules in [Subdivision I, Tools – Hand and Power](#), in addition to the following:

HAND AND POWER TOOLS

General Requirements

- Additional personal protective equipment (PPE), such as a face shield, Kevlar gloves, metatarsal protection, chaps, respirator or hearing protection, may be required while operating a tool.

Abrasive Wheels and Tools

- All workers using hot saw or chop saw type tools are required to wear goggles or a face shield/safety glass combination.
- All workers using handheld, bench mount or floor mount grind wheels on metal surfaces are required to wear Kevlar gloves, goggles or a face shield/safety glass combination.
- The RPM rating on all grinding machine motors must not exceed the speed rating of the grinding wheel attachment.

Backpack Type Gas Powered Leaf Blowers and Similar Tools

- All workers are required to place both arms through the shoulder straps when operating this tool.

Chainsaws

- Persons using chainsaws must wear chaps or leg protectors that cover the leg from the upper thigh to mid-calf.
- The chaps must be made of a material designed to resist cuts from the chainsaw.

Powder Actuated Tools

- Permit only trained, competent and authorized personnel to use powder actuated tools.
- These tools operate like loaded guns, so handle them with the same respect and safety precautions.
- Operators must have an operator's card supplied by the manufacture.
- Safety rules for operation
 - The tool should NEVER be pointed at anyone.
 - Before use, the tool should be checked to see that it is clean, that all moving parts operate freely, and that the barrel is free of obstructions.
 - All body parts should be kept clear of the barrel end.
 - These tools should not be used in an explosive or flammable environment.
 - Safety shield or glasses, and hearing protection must be worn during operation.

- The muzzle end of the tool must have a protective shield or guard centered perpendicularly on the barrel to confine any flying fragments or particles the tool might create when it is fired.
- Load powder-actuated tools just before use.
- Do not carry loaded tools job to job.
- Do not leave powder-actuated tools unattended.
- Warning signs must be posted in the area of use, stating “POWDER-ACTUATED TOOLS IN USE”
- Clean and maintain tools according to manufactures recommendations.
- If the tool develops a defect, it should be tagged and removed from use immediately.
- Fasteners
 - Use only fasteners recommended by the manufacturer.
 - Make sure to use the correct loads for the job.
 - Fasteners must not be driven into material that would let them pass through the other side.
 - The fastener must not be driven into materials like brick or concrete close to an edge or corner.
 - In steel, the fastener must not come any closer than ½” from a corner or edge.
 - Fasteners must not be driven into very hard or brittle materials that might, chip, splatter, or make the fastener ricochet.
 - Use the tool at a right angle to the work surface.
 - If the tool should misfire, you should hold the tool in the fixed position for at least 30 seconds and then unload with extreme caution.
 - Misfired loads should be placed in water.
 - Store tools and cartridges in a locked container.
 - Do not attempt to force a cartridge in a tool.
 - Do not carry cartridges loose or in a pocket.
 - Provide adequate ventilation in confined spaces where powder-actuated tools may be used.

WEEKLY JOBSITE SAFETY INSPECTION CHECKLIST

Job Name:	Job #:
Date:	
Inspection performed by:	
Signature of Person Performing Inspection: (If not Superintendent, OSHA 10 cert. minimum)	
Superintendent's Signature:	

*Pence Safety Pact:	Required field: This section cannot be left blank	Mark the box with a <input checked="" type="checkbox"/>
I engaged the project team in the Pence Safety Pact this week. <input type="checkbox"/> Pass <input type="checkbox"/> Needs Improv. <input type="checkbox"/> N/A		
How did you engage the project team in the Pence Safety Pact? Explain:		

*Incidents and Accidents	Required field: This section cannot be left blank	Mark the box with a <input checked="" type="checkbox"/>
Were there any employee incidents, accidents, or close calls? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If yes, explain or provide notes:		
Was an incident report completed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		

Pence Emphasis Program:	Mark the box with a <input checked="" type="checkbox"/>
Pence Emphasis Program signage in place for the quarter. <input type="checkbox"/> Pass <input type="checkbox"/> Needs Improv. <input type="checkbox"/> N/A	
Project team striving for excellence as it relates to the PEP. <input type="checkbox"/> Pass <input type="checkbox"/> Needs Improv. <input type="checkbox"/> N/A	
How did your project team strive for excellence as it relates to PEP? Explain:	

FIRST AID:	Mark the box with a <input checked="" type="checkbox"/>
First Aid Kit onsite and well stocked. <input type="checkbox"/> Pass <input type="checkbox"/> Needs Improv. <input type="checkbox"/> N/A	
Safety equipment box is onsite and well stocked. <input type="checkbox"/> Pass <input type="checkbox"/> Needs Improv. <input type="checkbox"/> N/A	

FIRE:	Mark the box with a <input checked="" type="checkbox"/>
Fire extinguishers every 3,000 sf of area or 100 ft of travel. <input type="checkbox"/> Pass <input type="checkbox"/> Needs Improv. <input type="checkbox"/> N/A	
No smoking signs present. <input type="checkbox"/> Pass <input type="checkbox"/> Needs Improv. <input type="checkbox"/> N/A	
Locations:	
Fire extinguishers inspections documented. <input type="checkbox"/> Pass <input type="checkbox"/> Needs Improv. <input type="checkbox"/> N/A	
Hot work permits in place. <input type="checkbox"/> Pass <input type="checkbox"/> Needs Improv. <input type="checkbox"/> N/A	
Task specific fire extinguishers in place. <input type="checkbox"/> Pass <input type="checkbox"/> Needs Improv. <input type="checkbox"/> N/A	

<u>PPE:</u>	<u>Mark the box with a ☒</u>		
All workers are wearing required PPE.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Visitor PPE available onsite.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Task specific PPE available and in use.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A

<u>ELECTRICAL:</u>	<u>Mark the box with a ☒</u>		
Extension and baloney cords properly inspected, tested, and labeled for quarter.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Temporary power cords are protected from vehicle traffic and doorways.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Ground fault circuit interrupters (GFCI) in use.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Proper temporary lighting. (Bulbs in place)	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A

<u>FUELS:</u>	<u>Mark the box with a ☒</u>		
Fuels stored properly.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Fuels stored in proper container. (DOT Approved)	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Fire extinguisher in fuel storage area.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A

<u>SCAFFOLDING:</u>	<u>Mark the box with a ☒</u>		
Scaffold being inspected daily.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Whose Initials:			
Baker type scaffolding, wheels are locked while in use.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Safe access.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Guardrails in place at 6 ft.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A

<u>LADDERS:</u>	<u>Mark the box with a ☒</u>		
Extension " 3 feet " above landing.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Labels present and legible.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Proper use of ladder.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Haul lines present when needed.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Safety rail/ gate at top of access ladder.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A

<u>FALL PROTECTION:</u>	<u>Mark the box with a ☒</u>		
Fall protection provided at 6 ft OR/ 4 ft WA.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Guardrails in place.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Equipment inspected.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Proper anchorage point.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Quarterly inspection performed.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Floor openings are protected and properly labeled.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A

CONCRETE:	Mark the box with a ☒		
Rebar protection is in place where required.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
ECP training performed.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Eye wash station present.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Type:			

MATERIAL HANDLING:	Mark the box with a ☒		
Proper lifting equipment used.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Lifting equipment inspected.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Proper rigging technique.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Personnel in fall zone protected.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
If tag line is needed, it is present.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A

EXCAVATION:	Mark the box with a ☒		
More than 4 ft deep, access within 25 ft present.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Type:			
Shoring/ benching present 5 ft OR/ 4 ft WA.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Excavation inspected daily.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Locates performed prior to digging.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Excavations in public area protected.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A

EQUIPMENT:	Mark the box with a ☒		
Backup alarms on moving equipment are in working order.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Operator appears competent.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Work area inspected for hazards or obstructions.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A

PUBLIC PROTECTION:	Mark the box with a ☒		
Site fenced with proper signage in place.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Proper separation between public areas and work areas.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Hard barriers in place when needed.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
What areas are protected?			

HOUSEKEEPING	Mark the box with a ☒		
Work areas are clean and free of debris.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A
Slipping and tripping hazards are promptly cleaned up.	<input type="checkbox"/> Pass	<input type="checkbox"/> Needs Improv.	<input type="checkbox"/> N/A

Please add any notes from the above items or any additional items not on the list in this space.

2.42B

Section NOT

In Use

2.07A and 2.42B have been combined.

Please refer to section [2.07A](#) for combined form.

Project Orientation Checklist

Your Job Name: _____

Worker Section (Pence Employee to Review with All Workers onsite)	
	Pence Safety Pact: Our Commitment <ul style="list-style-type: none"> • You have a Right to work safely • You have the opportunity to Plan your work • You have the Time to work safely • You have the Authority to stop the work if unsafe • You have the Expectation of clear instructions
	Pence Safety Pact: Your commitment <ul style="list-style-type: none"> • You will work safely • You will plan the task • You will not work distracted • You will stay out of harm's way • You will do something if you see something • You will care about people • You will not rush the task
	Written Pre-Task Plan is required. No PTP / No Work
	Proof of Training for Equipment <ul style="list-style-type: none"> • Forklifts • Boom and Scissor Lifts • ATV's
	Proof of Safety Training <ul style="list-style-type: none"> • Exposure Control Plan (ECP) • Rigging/Signalman • HazCom • Trenching and Excavations • Ladder Use • Fall Protection Training • Scaffolding User Training • Confined Spaces • Required PPE • OXY/Fuel Gas Welding and Cutting
	Daily Inspections for: <ul style="list-style-type: none"> • Scaffolding • Forklifts • Aerial Work Platforms • Excavations
	Hazardous Material on site - Asbestos
	Hazardous Material onsite - Lead
	Project PPE Requirements
	Weekly All Hands Safety Meetings Attendance Required: Date and Time: _____
	Confined Spaces on the Project

Report ALL Accidents/Incidents
Appropriate Behavior and Clothing – Zero Tolerance to Horse Play
Project Rally Point Location
Emergency Response Plan
Fire Extinguishers and Hot Work Permits
First Aid Kits
Assured Grounding Program – Used to document cord inspections
Red Danger Tape/Rope – Extreme Danger, DO NOT ENTER – Signs required
Yellow Caution Tape/Rope – Caution, Enter with care only after you know the hazard
Plastic Gas Cans are not allowed onsite
No Free Rigging on Forklifts
Badging Requirements
Parking Area
Jobsite Work Hours
No Radios, MP# Players or Cell Phones Playing Music -
Prevailing Wage Job
Tool/Material Storage and Staging Area
Project Team Phone Numbers
Subcontractor Foreman Section (Project Super to Review with Foreman)
Pence takes safety seriously – You and your crews are expected to take it just as seriously as we do
Site Specific Safety Plan, Fall Protection Plan, Silica Exposure Control Plan, SDS's and Chemical Inventory List, Competent Person List, Etc.
Subcontractor Must - Document a weekly safety inspection for their area of work
Composite Clean up (I.E.) Friday at 8:00 A.M.
Subcontract Signed and Returned
Insurance Certifications Submitted
Weekly Foreman's Meetings – (I.E.) Tuesdays at 10:00 A.M.
Subcontractor Mailboxes
Daily Reports Due – Daily at 8:00 A.M.
As-Builts updated Weekly
Building inspections – Site protocol
All Subs Must Check-in with Project Superintendent
Do not deviate from plans/specs without approval. If it looks wrong, write an RFI
Extra Stock requirements
Pence and PK Employees (project Superintendent to Review with Pence & PK employees only)
Who We Are
Pence Safety Pact Training 10-30-60
Employee Safety Walkthrough

Pence Companies



WHO WE ARE

Pence Companies is a deeply-rooted community of individuals who believe in:

RELATIONSHIPS

The strength of the relationships we forge with our customers, our vendors, and each other forms the strength of our company.

SAFETY

We care enough about each other and our community of tradespeople to prioritize their safety over all other obligations.

PEOPLE

The foundation of our success is rooted in the skills and talents of our employees and their commitment to "who we are".

HUMILITY

In success, we are anchored in humility.

PARTNERS

When our values align with our customers and vendors, successes are amplified. We strive to find these partnerships.

GROWTH

We desire growth, to further our abilities to serve our customers, our communities, and each other.

HARD WORK

The Company's profits are earned through our collective hard work.

GENEROSITY

We embrace the obligation that success brings to be generous in all aspects of our lives.

DEPENDABILITY

We keep our promises, even when no one's looking.

UNDERSTANDING

We seek to understand our clients and their goals, providing services tailored to achieve them.

BUILDING

Building is our passion, and we share that enthusiasm with our customers and the communities we serve.

**EQUIPMENT USER RENTAL AGREEMENT,
INDEMNIFICATION AND RELEASE**

Job #:	Owner:	
Project:	Prime Contractor: Pence Construction	
Equipment Type ("Equipment"):	<input type="checkbox"/> Scaffold	<input type="checkbox"/> Forklift
Company Using/Operating Equipment:		
Person Using/Operating Equipment:		

Use of Equipment; Waiver of Rights, Release of Rights, and Indemnity by the Equipment User. Pence Construction ("Pence") is using Equipment on this project. Pence is willing to rent the non-exclusive use of the Equipment to certain others at the **above referenced project site** without monetary consideration to Pence. However, Pence will allow such non-exclusive rental usage of the Equipment **only if** any such person or entity using the Equipment (the "Equipment User" or "Lessee") agrees by signing this document (a) that Pence shall have no liability to the Equipment User relating to such use, (b) that the Equipment User expressly waives and releases all rights against Pence (as more fully set forth below) arising out of or in any way relating to such use, (c) that Equipment User shall to the fullest extent permitted by law defend, indemnify, and hold Pence harmless from all loss, cost, damage or expense (including without limitation attorneys' and expert witness fees) arising out of or relating to such use by Equipment User (including without limitation use by Equipment User's agents, employees, and those for whose conduct Equipment User is legally responsible), and (d) Equipment user agrees that scheduling for use of the Equipment shall be at the sole discretion of the Pence Project Superintendent. **By signing this Rental Agreement, the undersigned Equipment User hereby agrees to the foregoing.**

Equipment User further agrees that this Rental Agreement is not intended by the parties to be a construction agreement within the meaning of any rules and statutes of the state in which the Equipment is being used or operated, but instead is a personal property rental agreement for the use of the Equipment without monetary consideration, but with consideration in the form of Equipment User's promises herein.

Equipment User Bears the Risk of Use; No Representations or Warranties by Pence; Disclaimer of Warranty. Equipment User agrees that it is renting the Equipment on a non-exclusive basis, and without any right to priority with regard to the time(s) it may use the Equipment, and on the basis that the Equipment is being so rented to Equipment User AS IS, WHERE IS. Further, Pence makes no promises, representations or warranties, express or implied, about the quality of, maintenance of, safe use of, inspection of, or operation of the Equipment, ALL OF WHICH PROMISES, REPRESENTATIONS AND WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED. Pence shall have no duty to Equipment User to inspect, maintain or safely operate the Equipment.

Pence MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. UNDER NO CIRCUMSTANCES SHALL PENCE BE LIABLE TO EQUIPMENT USER FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO DAMAGES FOR DELAY, DISRUPTION, LOSS OF USE, OR DOWN TIME. Lessee acknowledges that in deciding to use the Equipment, it did not rely on Pence's expertise, nor on any representations of Pence regarding the Equipment's general condition or its fitness for this use.

Safety Instruction. The Equipment User acknowledges that he (or his agents, employees and any others who Equipment User allows to use the Equipment with his express or implied approval) has been trained by a person qualified in the subject matter to recognize the hazards associated with the type of equipment being used and to understand the procedures to control or minimize those hazards per the rules and regulations of the state in which the Equipment is being used or operated.

Duty to Indemnify and Defend. Equipment User shall defend and indemnify Pence (including without limitation all its officers, agents and employees) from and against any and all loss, cost, claim, damage penalty or liability of any kind, including without limitation attorney fees, actual or alleged, arising out of or relating in any way to use of the Equipment by Equipment User (including without limitation its agents, employees, any others who Equipment User allows to use the Equipment with his express or implied approval, and all others for whose acts or omissions Equipment User is legally responsible), including without limitation injury to or death sustained by any person (including without limitation Equipment User's employees) or damage to property of any kind (including loss of use), or contamination of or adverse affects on the environment and any clean-up costs in connection therewith, or any 2.42E.1

violation of law, governmental regulation, rules or orders, and whether or not contributed to by any wrongful or negligent act or omission, whether active or passive, of Pence (including without limitation all its officers, agents and employees). This obligation to defend and indemnify shall be enforced to the fullest extent allowed under applicable law. If this obligation is limited in part, then this provision shall nevertheless be enforceable to the greatest extent permitted.

Equipment User's duty to provide defense will continue until there is a determination by a court of competent jurisdiction that Pence was negligent in whole or in part, at which time such duty will cease to the extent that a party being defended is found to have been negligent. Once a court of competent jurisdiction has determined that Pence was negligent in whole (100%) or in part (less than 100%) (the "Percentage of Own Fault"), Pence will promptly reimburse Equipment User for the attorneys fees and costs incurred by the Equipment User in defending Pence to said tender of defense multiplied by the Percentage of Own Fault, and each party will be responsible for its proportionate share of any damages awarded, as well as for 100% of its further attorneys fees or costs incurred thereafter in defending the claim.

Nothing in this Rental Agreement shall be construed to negate, or abridge, or otherwise reduce any other right or obligation of indemnity that would otherwise exist as to any party or person. The indemnification shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Equipment User under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.

COMPLIANCE WITH LAWS and STANDARDS. The Equipment User agrees to be bound by, and at its own cost, assure that its conduct and that of its agents or employees (a) complies at all times with all federal, state and local laws, ordinances and regulations applicable to safety, (b) complies at all times with all Pence Construction safety standards, procedures and rules applicable to this project, (c) complies at all times with the Safety Procedures, and (d) at all times is safe while using the Equipment. The Equipment User shall be liable to Pence Construction for all loss, cost and expense attributable to any acts of commission or omission by the Equipment User, resulting from the failure to comply therewith, including, but not limited to, any fines, penalties, damages or corrective measures.

Savings Clause. If any provision of this Rental Agreement or any portion of a provision shall at any time be held to be invalid in whole or in part under any applicable federal or state law, ruling or regulation, or be unenforceable in whole or in part for any reason, then such provision shall remain in effect and enforceable to the fullest extent it can be validly construed under applicable law, and the remaining provisions hereof shall remain in full force and effect. In the event any provision or portion thereof of this Rental Agreement becomes less than fully operative, the parties expressly agree that the court or arbiter shall construe such provision to the fullest extent it can be enforced under applicable law.

Final Agreement; No Oral Modification; Successors. This Rental Agreement is the final and entire agreement of the parties and supersedes all prior and contemporaneous oral or written communications or agreements between the parties relating to the Equipment. There are no promises, terms, conditions or obligations other than those contained herein. This Rental Agreement shall not be supplemented or modified in any way except in a writing signed by the party against whom the modification is asserted and stating that it modifies or amends this Rental Agreement.

I, the Equipment User, agree to the above.

Equipment User Signature:

Date:

Printed Name:

Pence Construction

By:

Title:

Date:

EMPLOYEE WALK THROUGH FORM



Project: _____ Date: _____ Employee: _____

General Site Inspection	Safe	Unsafe	NA	Comment	Excavation and Trenching	Safe	Unsafe	NA	Comment	Pence Safety Pact	Safe	Unsafe	NA	Comment
First aid supplies adequate for job manpower?					Excavations 5' or deeper shored, sloped, or boxed?					Is the work being done safely?				
Head/Eye/Face protection worn as required?					Workers stay within shored area?					Has the crew been given the opportunity to plan their work?				
Hearing protection worn as required?					Excavated spoils stored at safe distance from work?					Does the crew know who has the authority to stop work?				
Fall protection harnesses properly worn/inspected?					Barricades placed on all open sides at end of shift?					Has the crew received clear instructions for the day?				
Walkways and stairs kept clear of material and debris?					Ladders placed within 25' for entry and egress?					Is anyone working distracted?				
Cords and hoses strung to prevent trip and fall hazard?					Backfill placed as soon as possible?					Is the task being rushed?				
Are liquid spills cleaned up immediately?					Electrical	Safe	Unsafe	NA	Comment	Are the crews using good body positioning to avoid crush hazards?				
Restrooms and eating areas clean?					Extension cords heavy duty, 3-wire type, and color coded?					Has anyone on the crew removed potential hazards from the work area?				
Site trailers and gang boxes clean and orderly?					Temporary lights equipped with bulb guards?					Additional Comments/Positive Recognition				
Trash, scrap, and debris picked up and disposed of?					Sufficient lighting to work and move safely?									
Workers move from under suspended loads?					Employee Communications	Safe	Unsafe	NA	Comment					
Workers know and use proper crane signals?					Do foremen communicate with their crews on job methods?									
Workers attach tag lines to loads?					Do foremen react to employee safety recommendations?									
Welding/Cutting	Safe	Unsafe	NA	Comment	Do foremen address unsafe actions and conditions?									
Fire extinguishers well marked, accessible, and inspected?					Are safety meetings held weekly with all employees?									
Temp. heaters kept 20' away from combustible materials?					Elevated Work	Safe	Unsafe	NA	Comment					
Oxygen and fuel cylinders separated, secured, and capped?					Straight ladders extend 36" above top landing and secured?									
Welding leads in good condition?					Top step of stepladders not used as a step?									
Handrails and Hole Covers	Safe	Unsafe	NA	Comment	Scaffolds have guardrails, midrails, and toe boards?									
Railings sturdy, continuous, and have midrails?					Wheels on rolling scaffolds locked during scaffold use?									
Floor holes protected by railings or hole covers?					Workers prohibited from riding rolling scaffolds?									
Hole covers marked and secured to prevent movement?					Only trained employees allowed to operate our manlifts?									
Tools	Safe	Unsafe	NA	Comment	Workers only allowed to work from floor of basket?									
Power tools have guards in place?					Only company employees allowed to operate manlifts?									
Power tool cords and plugs in good condition?					Perimeter protection adequate for MEWPs?									

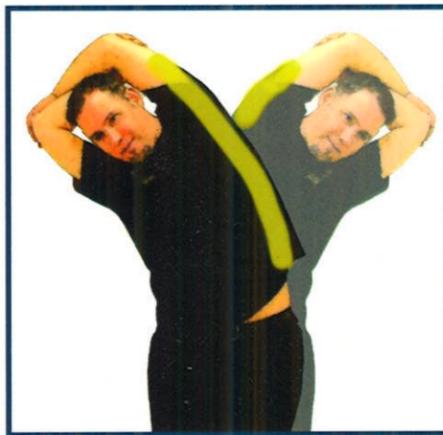
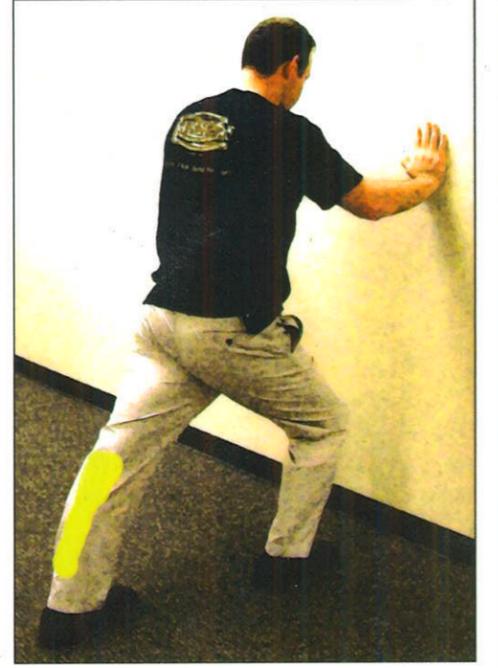
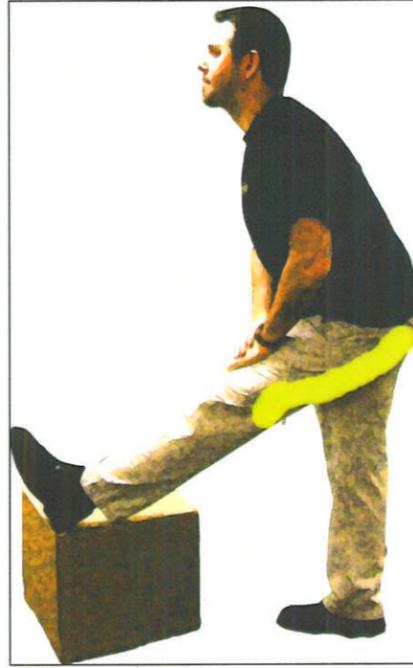
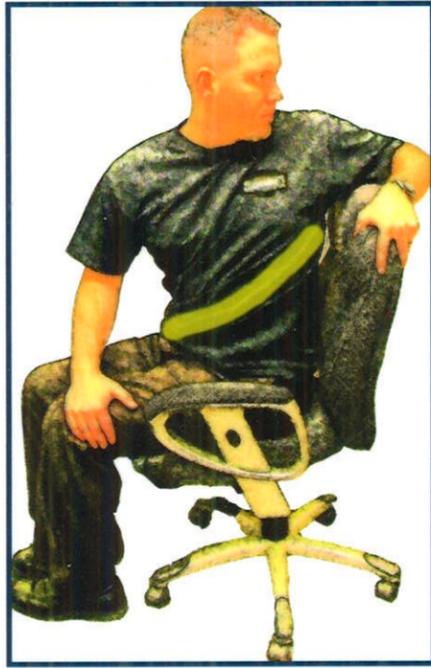
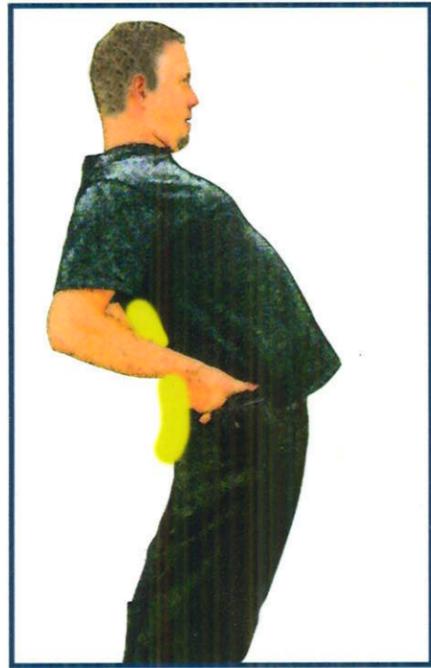
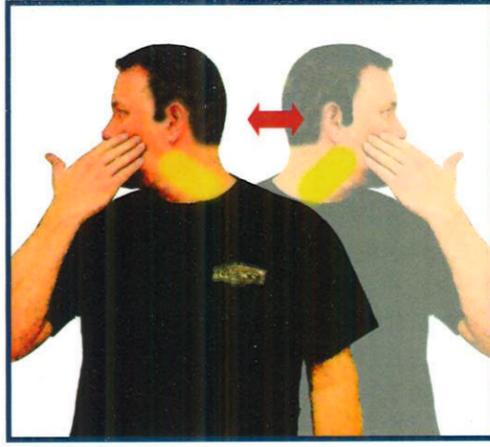
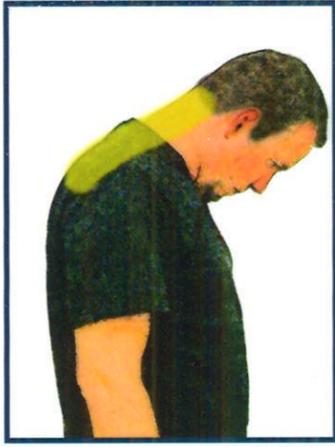
Stretch and Flex Program

2.43

PURPOSE AND SCOPE

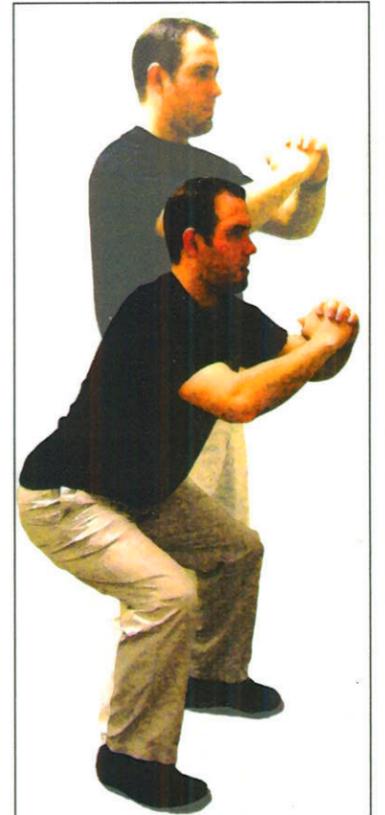
- A. Back strains and other related injuries account for more than half of all work-related incidents. Unfortunately, many workers only learn how to lift safely after already hurting their back.
- B. Employees at Pence Construction (Pence) perform physical activities while at work. Some of these activities can be physically demanding on an employee so it is important for employees to maintain physical health and condition in order to provide their best work effort.
- C. Over time, the exercises have been shown to raise workers' energy levels and to improve flexibility, strength and range of motion-all of which enhances a person's capacity to do physical work without injury. Stretch and flex also helps employees prepare themselves mentally for the tasks they are about to perform-another important factor in reducing the potential for a work-related injury.
- D. At Pence, the safety of our workforce is our number one priority. The company has an outstanding safety record and believes that all accidents are preventable.
- E. Stretch and Flex, a 5-10-minute program designed to prepare personnel for work and conditioning. This shall be done at least at the start of every shift for all Pence Employees. Performing this program as a group helps create a team atmosphere and helps build employee morale. Employees taking part in Stretch and Flex should recognize improvements in their flexibility and energy levels and, as a result, may stretch more regularly on their own. (see [Stretch and Flex Poster \(2.43A\)](#) for examples)
- The basic rules for safe lifting: (see [Safe Lifting Poster \(2.43B\)](#) for techniques)
 - Plan the lift.
 - Move close to the load.
 - Keep your back straight.
 - Bend your knees and lift with your legs.
 - Do not lift and twist in the same motion.
 - If the load is too heavy, get help.
- F. Use material handling equipment as much as possible to do the heavy lifting. This means pre-planning and scheduling large equipment such as cranes and forklifts.

STRETCH & FLEX PROGRAM



Stretches:
 Hold **5-6** seconds.
 Repeat **2** times each side.
Warm up Squats — 10 repetitions

While stretching, a mild discomfort is expected in the musculature being stretched. **Never** push through sharp pain.



In Portland: 503-635-1960
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SAFE LIFTING TECHNIQUES: ON THE JOB



DO: Lift With Your Legs;
Keep Chest Up & Back Straight



**Another Safe Option Is To Lift
From A Lunge Position**

LIFTING FROM THE FLOOR



DON'T: Bend Forward
With Your Back

TURNING WHILE LIFTING



DO: Stand Up Straight & Pivot Your Feet While
Moving A Box From One Surface To Another

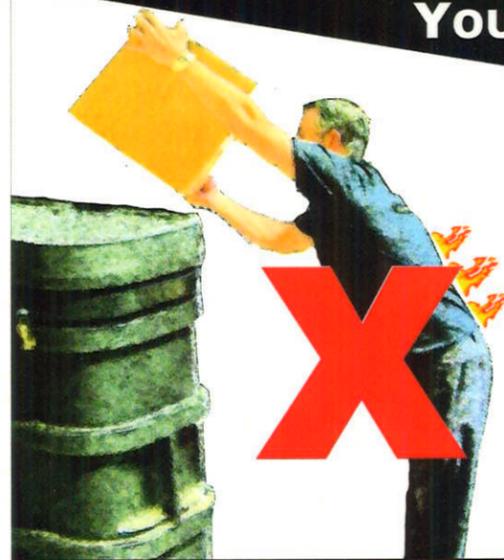


DON'T: Twist Your Back When Moving A
Box From One Surface To Another



DO: Keep The Load Close To Your Body
And Don't Arch Backward

LIFTING OVER YOUR HEAD



DON'T: Reach Out Away When
Placing A Box On A Shelf

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