SAFETY & HEALTH MANUAL

Allied Concrete Systems, LLC

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Allied Concrete Systems,LLC

Company Safety Policy

The Occupational Safety and Health Act of 1970 clearly states our common goal of safe and healthful working conditions. The safety and health of our employees continues to be the first consideration in the operation of our business.

Safety and health in our business must be a part of every operation. Without question it is every employee's responsibility at all levels.

It is the intent of this company to comply with all laws. To do this we must constantly be aware of conditions in all work areas that can produce injuries. No employee is required to work at a job he or she knows is not safe or healthful. Your cooperation in detecting hazards and, in turn, controlling them is a condition of your employment. Inform your supervisor immediately of any situation beyond your ability or authority to correct.

The personal safety and health of each employee of this company is of primary importance. The prevention of injuries and illnesses is of such consequence that it will be given precedence over operating productivity whenever necessary. To the greatest degree possible, management will provide all mechanical and physical facilities required for personal safety and health in keeping with the highest standards.

Our objective is a safety and health program that will reduce the number of injuries and illnesses to an absolute minimum. Our goal is nothing less than zero accidents and injuries.

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1. PROGRAM REQUIREMENTS.

Allied Concrete Systems will ensure that the hazards at its jobsites are evaluated and communicated to its employees and that proper protective measures are provided. The company Safety Coordinator is solely responsible for all managerial facets of this program and has full authority to make necessary decisions to ensure the success of the program. Safety is also the responsibility of every employee of this company. The Safety Coordinator is the sole person authorized to amend these instructions. This program will be maintained in accordance with OSHA Regulations 29 CFR 1910 and 29 CFR 1926. In addition, Allied Concrete Systems will review and evaluate this program on an annual basis or when operational changes occur that require a revision of this document.

2. WRITTEN INDIVIDUAL PROGRAMS.

Allied Concrete Systems will maintain written individual programs for the types of hazards/issues that our employees will or could potentially be exposed to. Each program will be reviewed/revised on an annual basis or as required by the respective governing OSHA Standard. Each written program will be communicated to all personnel that are affected by it. Each will encompass the total workplace, regardless of number of workers employed or the number of work shifts. They will be designed to establish clear goals, and objectives.

3. SAFETY TRAINING ORIENTATION PROCEDURES.

3.1. Employees will be given instruction on the hazards associated with their jobs and with their equipment. This will include information on the varieties of hazards associated with the job,

what risk factors cause or contribute to them, how to recognize and report hazardous conditions, and how to prevent accident with their respective jobs. This training will be conducted on an annual basis.

3.2. Each employee will be required to attend a safety orientation meeting which will cover these topics.

3.2.1. General workplace hazards

3.2.2. Required personal protective equipment

3.2.3. Emergency procedures and accident reporting

3.2.4. General safety rules

3.2.5. HazCom orientation training

3.2.6. Lockout / Tag-out procedures

3.2.7. Fall Protection

3.3. Employees will be issued an orientation package that includes:

3.3.1. Company Safety Policy

3.3.2. Drug/Alcohol Abuse Policy

3.3.3. Return to Work Policy

3.3.4. General Safety Rules

3.3.5. Disciplinary Policy for Unsafe Acts

3.3.6. Safety Meeting Record

4. SAFETY TRAINING DOCUMENTATION.

All safety meetings, internal training, or certification training will be documented using sign in sheets or copies of the actual certificates or training cards. A copy of the documentation will be maintained at the company's main office.

5. SAFETY MEETINGS PROCEDURES.

A well-ordered flow of information is essential to a good safety program. The company, through a program of safety meetings at all levels, intends to accomplish the goals of safety awareness, education, and participation.

5.1. We are committed to efficient and quality training that increases safety awareness amongst all employees.

5.2. Safety meetings for employees will be held on a regular basis to demonstrate management's commitment to accident prevention. Possible agenda items include but are not limited to the review of accidents, safety education, safety inspections, elimination of workplace hazards, new methods of improving job performance, employee training, personal protective equipment, safety incentives, Hazard Communication, Lockout/Tagout, Respiratory Protection, fall protection, and other safety policies.

5.3. It is vital to this Workplace Safety Program that all safety training and meetings are carefully documented. Written records of all safety meetings are the responsibility of the Supervisor(s). Training activities are the responsibility of the Safety Coordinator.

5.4. Each employee will be required to attend weekly safety meetings held by the Project Superintendent or his designated representative. Attendance is mandatory for all personnel; there will be no exception. Each employee will be required to sign an attendance record which will be retained by Allied Concrete Systems The topic for each meeting will be pertinent to the work in progress and to any potential hazards which could arise in the course of operations.

6. SAFETY AND HEALTH INSPECTION PROCEDURES.

Routine safety and health inspections of all job sites will be conducted as necessary by the Safety Coordinator or designated individual. The inspection will be conducted to discover conditions and work practices that lead to job accidents and industrial illnesses.

6.1. Inspection elements. Inspection elements such as the following will be checked during safety inspections.

- Floors — Condition, slip, trip, falls
- Aisles — Marking, obstructions
- Stairs — Condition, railings, obstructions
- Ladders — Condition, Metal in electrical areas
- Exits — Obstructions, locked?, lighted?
- Ventilation — Adequate, fans guarded?, maintained
- Hand tools — Grounded, guarded, pressure switches
- Chemicals — MSDS's, labels, storage, separated
- Compressed gas — Storage, heat sources, labels, training
- Guarding — Installed, over, under, around, between
- Lockout tagout — Procedures, training, devices, tags
- Eye protection — Used, training, Z-87 rated protectors
- Fire protection — Extinguishers, training, locations
- First Aid — Kits, OSHA 300 logs, training
- Confined Spaces — Marked, training, ventilation, equipment
- Work practices — Unsafe work practices observed? (list)

6.2. Inspection report. The Safety Coordinator will provide a safety report based on the inspection items noted during the inspection to the appropriate supervisor.

7. HAZARD REPORTING POLICY.

All employees are required to report potential or known hazards immediately upon identification. If possible, the hazard should be eliminated immediately when found. Otherwise, the immediate supervisor must be notified and all work where employees are exposed to the hazard must be discontinued until the hazard has been removed.

8. FIRST AID PROCEDURES.

8.1. First Aid Information. Supervisors will ensure that employees are aware of the medical emergency telephone numbers (physicians, hospitals, or ambulances, etc.) and post this information where appropriate.

8.2. First Aid Training. The Safety Coordinator will coordinate with Supervisor to ensure that all Supervisors and at least one employee on each work crew is trained in First Aid and CPR procedures according to American Red Cross, American Heart Association, National Safety Council or equivalent standards. The training will occur before employees are required to render First Aid or CPR.

First Aid Kits. First aid kits will be maintained at each jobsite by the Supervisor. Supervisors will ensure that First Aid Kits are stocked and check the kit at least weekly. All employees will be made aware of the location and availability of the first aid kit. The first aid kit will regularly be stored in either the Supervisors Company Vehicle, Job Tool Box, or Job trailer. The type of first aid kit to be maintained will be for minor emergencies such as cuts and skin abrasions.

8.3. Minor injuries. Minor injuries, such as cuts, scratches, bruises, and burns that do not require a doctor's treatment, may be handled by the employee at the jobsite. Recurring First aid injuries will be reported to the Safety Coordinator to ensure they do not become serious.

8.4. Serious Injuries. If a Serious or Life Threatening Injury/Accident occurs the Supervisor will notify Emergency Services by dialing 911 immediately. Where a customer or client has an established Emergency Response Team Allied Concrete Systems will utilize the emergency response team as directed by the customer or client safety personnel.

8.4.1. Supervisors will be responsible to ensure all employees report serious accidents or injuries immediately to the Safety Coordinator. Where employees require professional medical attention the Supervisor will transport the individual to the hospital if the type and extent of injury(s) permits. The Supervisor will accompany the employee to the hospital or clinic and observe the employees condition and status. The supervisor will report directly to the Safety Coordinator the condition of the employee and ensure that proper accident investigation procedures are followed.

9. FIRE EXTINGUISHERS AND FIRE PROTECTION

9.1. General Requirements: Portable fire extinguishers will be provided in all company vehicles for employee use in the event of an incipient (minor) fire. All fire extinguishers will be stored inside the cab of the vehicle or mounted on the vehicle where they will not be harmed. The Safety Coordinator will ensure that fire extinguishers are available in sufficient quantity and have been initially inspected and are ready for use. Supervisors will ensure fire extinguishers are available at each jobsite and additional fire extinguishers are available where welding or cutting is taking place. Supervisors will replace damaged or used fire extinguishers as soon as possible. Supervisors will also visually inspect fire extinguishers on a monthly basis and record this inspection on a monthly inspection tag on each fire extinguisher.

9.2. Training. All employees expected to use fire extinguishers will receive training in the various classes of fires, the proper use and types of fire extinguishers, the hazards involved in fighting an incipient fire, and in the prevention of fires. Training will be conducted before the employees are expected to use the fire extinguisher and annually thereafter.

10. EMPLOYEE OWNED EQUIPMENT POLICY.

Supervisors will be responsible to ensure that all employee owned equipment such as but not limited to personal protective equipment, hand tools, or electric tools, are suitable for the work being performed and meet the requirements of the Allied Concrete Systems Health and Safety Program. Employee owned equipment must not introduce additional hazards to employee or others individuals in the affected area. Employees will be responsible for maintenance and repair of personal equipment unless prior arrangements are made with the Safety Coordinator and approved by the Company Owner.

11. POSTED INFORMATION.

The following items will be posted at the Main Office and Temporary Job Trailers where applicable.

11.1. OSHA Inspections

11.2. OSHA 300A Log - Summarizing accidents for the previous year

11.3. A listing of emergency telephone numbers

11.4. Employee access to exposure and medical records.

11.5. Posting of a hazard rating index (if applicable)

11.6. Posting of a Hazard Communication Program location

11.7. Notification of Worker's Compensation Coverage

11.8. Safety Signs

11.9. Building Permit (If Required)

11.10. Other Required documents in accordance with city, state requirements.

12. GENERAL SAFETY RULES FOR ALL EMPLOYEES.

The following safety rules are established by this company as general safety rules for all Employees.

12.1. Never operate any machine or equipment unless you are authorized and trained to do so.

12.2. Do not operate defective equipment. Do not use broken hand tools. Report them to your supervisor immediately.

12.3. Obtain full instructions for your supervisor before operating a machine with which you are familiar.

12.4. Never start on any hazardous job without being completely familiar with the safety techniques which apply to it. Check with your supervisor if in doubt.

12.5. Make sure all safety attachments are in place and properly adjusted before operating any machine.

12.6. Do not operate any machine or equipment at unsafe speeds. Shut off equipment which is not in use.

12.7. Wear all protective garments and equipment necessary to be safe on the job. Wear proper shoes; sandals or other open-toed or thin-soled shoes should not be worn.

12.8. Do not wear loose, flowing clothing or long hair while operating moving machinery.

12.9. Never repair or adjust any machine or equipment unless you are specifically authorized to do so by your foreman.

12.10. Never oil, clean, repair, or adjust any machine while it is in motion.

12.11. Never repair or adjust any electrically driven machine without opening and properly tagging the main switch.

12.12. Put tools and equipment away when they are not in use.

12.13. Do not lift items which are too bulky or too heavy to be handled by one person. Ask for assistance.

12.14. Keep all aisles, stairways, and exits clear of skids, boxes, air hoses, equipment, and spillage.

12.15. Do not place equipment and materials so as to block emergency exit routes, fire boxes, sprinkler shutoffs, machine or electrical control panels, or fire extinguishers.

12.16. Stack all materials neatly and make sure piles are stable.

12.17. Keep your work area, machinery and all company facilities which you use clean and neat.

12.18. Do not participate in horseplay, or tease or otherwise distract fellow workers.

12.19. Power-truck operators must safeguard other workers at all times; workers must show courtesy to power-truck operators.

12.20. Floor mounted extension cords should be placed so that they are flush to the ground at all times.

12.21. Frayed or damaged electrical cords should be replaced.

12.22. Never take chances. If you're unsure, your unsafe!

12.23. Ask for help.

13. RECORDKEEPING PROCEDURES.

This employer fully understands that companies with eleven (11) or more employees at any time during the calendar year immediately preceding the current calendar year must comply with the provisions of 29 CFR 1904. This section provides for recordkeeping and reporting by Allied Concrete Systems covered under 29 CFR 1904 as necessary or appropriate for developing information regarding the causes and prevention of occupational accidents and illnesses, and for maintaining a program of collection, compilation, and analysis of occupational safety and health statistics both for this company and as part of the national system for analysis of occupational safety and health. Records will be established on a calendar year basis.

13.1. This employer will report under 29 CFR 1904.8 concerning fatalities or multiple hospitalization accidents.

13.2. His employer will maintain a log of occupational injuries and illnesses under 29 CFR 1904.2 and to make reports under 29 CFR 1904.21 upon being notified in writing by the Bureau of Labor Statistics that the employer has been selected to participate in a statistical survey of occupational injuries and illnesses.

13.3. Log and summary of occupational injuries and illnesses. This employer will:

13.3.1. Maintain a log and summary of all recordable occupational injuries and illnesses by calendar year.

13.3.2. Enter each recordable injury and illness on the log and summary as early as practicable but no later than 6 working days after receiving information that a recordable injury or illness has occurred. For this purpose form OSHA No. 300 or an equivalent which is as readable and comprehensible to a person not familiar with it will be used. The log and summary will be completed in the detail provided in the form and instructions on form OSHA No. 300.

13.4. Supplementary record. In addition to the log of occupational injuries and illnesses (OSHA 300) this employer will have available for inspection at each of our facilities within 6 working days after receiving information that a recordable case has occurred, a supplementary record for each occupational injury or illness for that establishment. The record will be completed in the detail prescribed in the instructions accompanying Occupational Safety and Health Administration Form OSHA No. 301. Workmen's compensation, insurance, or other reports are acceptable alternative records if they contain the information required by Form OSHA No. 301 (according to OSHA). If no acceptable alternative record is maintained for other purposes, Form OSHA No. 301 will be used or the necessary information will be otherwise maintained.

13.5. Annual summary. This employer will post an annual summary of occupational injuries and illnesses for each facility under our control. This summary will consist of a copy of the year's totals from the form OSHA No. 300A and the following information from that form:

13.5.1. Calendar year covered.

13.5.2. Company Name and establishment address.

13.5.3. Certification signature, title, and date.

13.5.4. A form OSHA No. 300A will be used in presenting the summary. If no injuries or illnesses occurred in the year, zeros will be entered on the totals line, and the form posted.

13.5.5. The summary will be completed by February 1 of each calendar year. This company, or the officer or employee of the employer who supervises the preparation of the log and summary of occupational injuries and illnesses, will certify that the annual summary of occupational injuries and illnesses is true and complete. The certification will be accomplished by affixing the signature of the employer, or the officer or employer who supervises the preparation of the annual summary of occupational injuries and illnesses, at the bottom of the last page of the log and summary or by appending a separate statement to the log and summary certifying that the summary is true and complete.

13.5.6. This Each employer will post a copy of the establishment's summary in each facility in the same manner required under 29 CFR 1903.2 The summary covering the previous calendar year will be posted no later than February 1, and will remain in place until March 1. For employees who do not primarily report or work at a fixed site belonging to this company, or who do not report to any fixed site on a regular basis, we will satisfy this posting requirement by presenting or mailing a copy of the summary during the month of February of the following year to each such employee who receives pay

during that month. (NOTE: For multi-establishment employers where operations have closed down in some establishments during the calendar year, it will not be necessary to post summaries for those establishments).

13.6. Records retention. Records provided for in 29 CFR 1904.2, 1904.4, and 1904.5 (including form OSHA No. 300) will be retained for 5 years following the end of the year to which they relate.

13.7. Access to records. This employer will provide, upon request, records provided for in 29 CFR 1904.2, 1904.4, and 1904.5, for inspection and copying by any representative of the Secretary of Labor for the purpose of carrying out the provisions of the OSHA act, and by representatives of the Secretary of Health, Education, and Welfare, or by any representative of a State accorded jurisdiction for occupational safety and health inspections or for statistical compilation.

13.7.1. The log and summary of all recordable occupational injuries and illnesses (OSHA No. 300A) will, upon request, be made available to any employee, former employee, and to their representatives for examination and copying in a reasonable manner and at reasonable times. The employee, former employee, and their representatives will have access to the log for any establishment in which the employee is or has been employed.

13.7.2. Reporting of fatality or multiple hospitalization accidents. Within 8 hours after the occurrence of an employment accident which is fatal to one or more employees or which results in hospitalization of three or more employees, this employer will report the accident either orally or in writing to the nearest office of the Area Director of the Occupational Safety and Health Administration, U.S. Department of Labor. The reporting may be by telephone or telegraph. The report will relate the circumstances of the accident, the number of fatalities, and the extent of any injuries. It is understood that the Area Director may require such additional reports, in writing or otherwise, as he deems necessary, concerning the accident.

13.8. Change of ownership. Should this company change ownership, the company will preserve those records, if any, of the prior ownership which are required to be kept.

13.9. Petitions for recordkeeping exceptions. Should this wish to maintain records in a manner different from that required the company will submit a petition containing the information specified by the Regional Commissioner of the Bureau of Labor Statistics in our region.

14. DISCIPLINARY POLICY FOR WILLFUL UNSAFE ACTS.

Employee safety is paramount at this company. The willful commitment of an unsafe act cannot be condoned. Employees who willfully jeopardize their own coworkers safety will be disciplined. The type of discipline can range from a verbal warning to dismissal. The company Safety Coordinator and supervisory personnel in the administrative chain of any employee may give employees a verbal warning for a known unsafe act or procedural, or operational infraction.

14.1. Minor Infraction Discipline (Non-Life threatening).

14.1.1. Retraining. It must be considered that the possibility exists that lack of proper training may be a cause of the unsafe act. Supervisors will review the need for employee remedial training in their job skill to enable them to better accomplish their jobs.

14.1.2. First-time: Verbal warning. The company Safety Coordinator, and supervisory personnel in the administrative chain of any employee may give employees a verbal warning for a known first-time unsafe act or procedural, or operational infraction.

14.1.3. Second-Time: Written warning. A written warning will be issued automatically for a second verbal warning for an unsafe act. The written warning will become part of the employees permanent personnel record.

14.1.4. Third-Time: Three (3) Day Supspension and Written warning. A three-day suspension and written warning will be issued automatically for a third unsafe act. The written warning will become part of the employee's permanent personnel record.

14.1.5. Fourth-Time: One (1) Year Termination. The fourth minor infraction within one year will result in termination.

14.2. Major Infraction Discipline (Life threatening).

14.2.1. First-time: Three (3) Day Supspension and Written warning. A first time major infraction will result in a written warning and a three-day suspension from work.

14.2.2. Second-Time: One (1) Year Termination. A second major infraction within one year will result in termination of employment.

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1. PROGRAM REQUIREMENTS.

This program is intended to address the issues of evaluating the hazards which have lead or potentially would lead up to an accident, communicating information concerning these hazards, and establishing appropriate protective measures for employees. Allied Concrete Systems will review and evaluate this program on an annual basis, or when operational changes occur that require a revision of this document.

2. RESPONSIBILITY.

The Safety Coordinator the program coordinator, acting as the representative of Allied Concrete Systemsowners, who have the ultimate responsibility for all facets of this program. The Safety Coordinator the sole person authorized to amend these instructions. Allied Concrete Systems has authorized the Safety Coordinator and any Supervisor or Employee to halt any operation of Allied Concrete Systems where there is danger of serious personal injury. Supervisors are required to ensure their employees are aware of the contents of this program and have received awareness training before assignment.

3. TRAINING REQUIREMENTS.

The purpose of accident investigation training and education is to ensure that all of our employees that are required to investigate accidents are sufficiently informed about the program.

3.1. Employees will be adequately trained about the Allied Concrete Systems accident investigation program. Proper training will allow designated individuals to understand the procedures to follow to report an accident, hazards associated with a job or production process, their prevention and control, and their medical consequences.

3.2. Training for affected employees will consist of both general and specific job training:

3.2.1. General Training. Employees will be given either on-the-job training or formal instruction on the hazards associated with their jobs and with their equipment. This will include information on the varieties of hazards associated with the job, what risk factors cause or contribute to them, how to recognize and report hazardous conditions, and how to prevent accident with their respective jobs. This instruction will be repeated for each employee as necessary. This training will be conducted on an annual basis.

3.2.2. Job-Specific Training. All employees will be trained in specific procedures associated with their jobs based on current JSA's and other specific procedures contained in the Allied Concrete Systems safety program.

3.3. Training for Supervisors. Supervisors are responsible for ensuring that employees follow safe work practices and receive appropriate training to enable them to do this. Supervisors therefore will undergo training comparable to that of the employees, and such additional training as will enable them to recognize hazardous work practices, to correct such practices, accident reporting/investigation requirements, and to reinforce the Allied Concrete Systems safety program.

4. ACCIDENT PREVENTION.

Preventing accidents is the purpose of the Allied Concrete Systems Safety Program. Preventing future workplace injuries in our company is the principle purpose of accident investigation. This document will provide a basis for studying and recording the reasons an accident occurred, identifying existing or potential job hazards (both safety and health), and determining the best course of action to take, reduce, or eliminate these hazards.

4.1. Employee Responsibilities. Employees are expected to abide by all of the safety policies and procedures in the company safety program. They will be held responsible for their own safety and are expected to report unsafe conditions to their Supervisors immediately. If the Supervisor is unavailable they will report safety violations or concerns to the Safety Coordinator. Employees, if feasible, are expected to correct safety violations within their immediate area. They will ensure they report to work in a state of readiness, with the appropriate clothing, and with all issued personal protective equipment. Employees will only operate equipment on which they have been trained and authorized to use. They will report accidents, injuries, and near misses immediately to their Supervisor.

4.2. Supervisor Responsibilities. Company Supervisors are responsible for the daily enforcement of the policies and procedures in the Allied Concrete Systems safety program. Supervisors will monitor the safety of employees on a daily basis and take the appropriate actions to correct any deviations or deficiencies relating to safety on the job. Supervisors will be attentive to employee safety concerns and report them to the Safety Coordinator. Supervisors will assist the Safety Coordinator in conducting accident investigations or conduct the investigation under his supervision. Supervisors will use the Hazard Report (See Appendix to this program) to document and report any hazards, which cannot be immediately eliminated.

5. HAZARD REPORTING.

The Allied Concrete Systems, LLC Hazard Report will be used by all employees to report potential or known hazards. The following procedures apply:

5.1. Person reporting hazard:

5.1.1. Notify supervisor of the hazard.

5.1.2. Fill out required sections of the hazard report, if applicable.

5.2. Supervisor:

5.2.1. Notify all affected workers of hazard.

5.2.2. Notify subcontractor of hazard, if applicable.

5.2.3. Ensure hazard is properly marked and controlled.

5.2.4. Fill out required sections of the hazard report.

5.2.5. Forward report immediately to the Safety Coordinator.

6. ACCIDENT INVESTIGATION.

Accident investigation is primarily a fact-finding procedure; the facts revealed are used to prevent recurrences of similar accidents. The focus of accident investigation will be to prevent future accidents and injuries to increase the safety and health of all our employees.

6.1. Immediate concerns.

6.1.1. Ensure any injured person receives proper care.

6.1.2. Ensure co-workers and personnel working with similar equipment or in similar jobs are aware of the situation. This is to ensure that procedural problems or defects in certain models of equipment do not exist.

6.1.3. Start the investigation promptly.

6.2. Accident investigation report. The Allied Concrete Systems, LLC investigation report or similar form which details specific company requirements for investigation will be used to gather data to determine causes and corrective actions. As a minimum the form will contain the following areas of concern.

6.2.1. Accident investigation form data. (See Appendix to this program)

- Injured employee's name
- Date and time of injury
- Occupation or task being performed when injured
- Shift and department
- Company ID number
- Employee's address
- Sex/age/DOB
- Social security number
- Length of service
- Length of time at specific job
- Time shift started
- Overtime length when injury occurred
- Physician's and hospital name (if transported)
- Type of injury

- Resulting fatalities
- Description and analysis of accident
- Complete accident tree
- Action taken to prevent recurrence and person
- Employee's statement
- Witnesses' statement
- Employer's statement
- Person completing form and date
- Person(s) reviewing form and date

6.3. Reviewers. All accident investigation reports will be reviewed by the Safety Coordinator and Project Manager involved to ensure pertinent information is transmitted to all concerned and remedial action(s) are taken.

6.4. Accident investigation final report. The final report will be numbered in the upper right hand corner of pages. The report will include but is not limited to the following.

6.4.1. Investigation report form and pertinent data

6.4.2. Photographs/drawings/exhibits of scene

6.4.3. Narrative of accident

6.4.4. Contributing information

6.4.5. Findings and recommendations of review team

6.4.6. Action items and completion dates

6.4.7. Responsible persons

7. SEQUENCE OF STEPS.

7.1. Once the injured employees have been treated and cared for Supervisors must ensure that they, the Safety Coordinator, or other designated individual accompany the injured employee to the hospital or health care provider.

7.2. Supervisors will ensure that the area where the accident occurred is secured to avoid further injuries and allow opportunity for investigation.

7.3. Photographs of the site should be taken from different angles.

7.4. The employee involved in the accident and any witnesses in separate interviews, will be asked to explain in their own words what happened. The witness statement will be read back to them and they must sign it. It is important to document what the employee says and not influence them in any way.

7.5. The Accident Report form must be filled out completely. Ensure the directions for filling out the forms are followed. Supervisors must submit completed forms to the Safety Coordinator for review.

7.6. Ensure that immediate hazards have been addressed and proceed with any follow-up actions identified in the Accident Report.

7.7. Follow-Up Procedures. It is the policy of Allied Concrete Systems, LLC that if one of our employees is hurt on one of our construction sites, the Superintendent will follow up with that employee. Our reasons for doing this are simple. A sincere caring attitude on our behalf quickens the recovery period. Follow-up procedures include:

7.7.1. Accompany individual to doctor or hospital depending on the severity of the injury.

7.7.2. Calling or visiting him/her in the hospital or at home to inquire when they will return to work.

7.7.3. Offering light duty to the individual when he/she has returned to work.

7.7.4. Making sure they go to their scheduled check-ups or physical therapy.

7.7.5. Working towards a full release from the doctor and clear return to work

7.7.6. Assuring all bills are paid and all paperwork is completed by the doctor or individual.

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1. PROGRAM REQUIREMENTS.

The purpose of this plan is to describe the specific actions required of Allied Concrete Systems, LLC employees and Subcontractor employees upon the arrival of a Compliance Officer at Allied Concrete Systems, LLC workplace or jobsite to inspect facilities or equipment or to investigate matters related thereof. It is the responsibility of the Department of Labor, Division of Occupational Safety and Health Administration to carry out the compliance in the State of Texas for Occupational Safety and Health. In this regard, Federal OSHA Compliance Safety and Health Officers carry out the enforcement and monitoring aspects of the Act. The OSHA Act is applicable to all Contractor organizations (including Subcontractor activities/operations). Allied Concrete Systems, LLC will review and evaluate this program on an annual basis, or when changes occur to the regulations, when operational changes occur that require a revision of this document, when there is an accident or near miss that relates to this area of safety, or any time fall protection procedures fail.

2. RESPONSIBILITY.

The Safety Coordinator is the program coordinator, acting as the representative of Allied Concrete Systems, LLC owners, who have the ultimate responsibility for all facets of the company. The Safety Coordinator is the sole person authorized to amend these instructions. Allied Concrete Systems, LLC has authorized the Safety Coordinator and any Supervisor or Employee to halt any operation of Allied Concrete Systems, LLC where there is danger of serious personal injury.

3. TRAINING REQUIREMENTS.

Allied Concrete Systems, LLC will provide training to all supervisors ensure that they understand the importance and the necessary procedures which must be taken in the event of an OSHA inspection. Training will be conducted by the Safety Coordinator or other designated competent personnel. The training will include the information contained in this procedure and other applicable information as deemed necessary by the Safety Coordinator.

4. RECEIVING THE COMPLIANCE OFFICER.

Upon arrival of a Compliance Officer, the Supervisor, Foreman or the Safety Coordinator will immediately notify the Main Office. If the Safety Coordinator is not at the site the Supervisor or Foreman will greet the individual and verify the Compliance Officer's credentials and request that additional time be given for the Safety Coordinator to arrive before continuing further. Please note it is up to the discretion of the Compliance Officer whether to allow for additional time. All personnel are expected to be courteous and professional during any OSHA inspection.

4.1. Subcontractor's representative(s) should participate in the inspection process. The Contractor may request time for their Safety Coordinator and/or Insurance Administrator Safety Representative to get to the job site. Ask if the inspection can take place at a time when the company representative can be there.

5. OPENING CONFERENCE.

An opening conference will be conducted by the Compliance Officer. It will normally be held at the job site and must include representatives of all companies affected by the Compliance Officer's visit.

5.1. The Compliance Officer will usually cover the following topics during the opening conference:

5.1.1. Nature and Purpose of Visit - Focused inspection, employee complaint, etc.

5.1.2. Scope of Inspection - Areas to be inspected, employee interviews, etc.

5.1.3. Equipment to be Used – Camera, Sound level meter, Air monitor, etc.

5.1.4. Records to be reviewed.

5.2. Invitation to Participate in the Inspection - Contractor and Subcontractor personnel.

5.2.1. Distribution of OSHA Materials - Copies of the Act, Standards, promotional materials, etc.

6. WALK AROUND INSPECTION.

The inspection shall be conducted within reasonable limits and in a reasonable manner during regular working hours except when mutually agreed upon by parties concerned.

6.1. The Compliance Officer shall comply with all the safety and health rules during the inspection, including the wearing of required personal protective equipment.

6.2. During the course of the inspection, the Compliance Officer may:

6.2.1. Agree to the participation of more than one employer representative and one employee representative in the walk around;

6.2.2. Interview, question, or invite comments from a reasonable number of employees. If consultation unduly hinders work activity, he/she may arrange for off-duty interviews at a location other than the workplace. Written statements may be taken under certain conditions;

6.2.3. Receive complaints from employees regarding possible violation(s) of the standards, provided there is no interference with the inspection.

6.3. The Compliance Officer shall be permitted to take photographs.

6.4. During the course of the inspection, the Allied Concrete Systems, LLC and subcontractor designated job site representative(s) will:

6.4.1. Accompany the Compliance Officer at all times during the inspection;

6.4.2. Take detailed notes of inspection activities (comments, samples/tests taken, records given/reviewed, location of photos taken, etc.);

6.4.3. Photograph anything that the Compliance Officer photographs (if a camera is available);

6.4.4. If requested, ensure that the Compliance Officer is permitted interviews with job site employees. Employees do not have to allow themselves to be interviewed, and may insist that interviews be accompanied by other person(s).

6.5. At the conclusion of the walk around, the Compliance Officer will ensure that employee representatives are informed of the apparent violations(s), if any, found during the inspection. Make careful notes about Compliance Officer's questions concerning training and understanding by employees.

7. CLOSING CONFERENCE.

At completion of the inspection, a closing conference will be arranged to permit the Compliance Officer to advise both Contractor and/or any Subcontractor representatives of any alleged violation(s) observed during the inspection. The Compliance Officer should indicate the applicable section(s) of the standards which are alleged to have been violated and provide the following:

7.1. Alleged violation(s), which may be the basis of a citation;

7.2. Methods used to establish abatement period(s);

7.3. Penalty determination procedures;

7.4. Appeal and contest procedures;

7.5. Abatement details and follow-up inspection;

7.6. Variance procedures;

7.7. Availability of an informal conference with the area director;

7.8. Distribution of OSHA material (if not done at the opening conference).

NOTE: As with the opening conference and walkaround inspection, detailed notes shall be taken by the Safety Coordinator.

8. FOLLOW-UP ACTIONS.

After (if not during) the inspection process has been completed and the Compliance Officer has left the site, the Contractor will immediately correct any violations, which can be abated "on-the-spot."

8.1. The Supervisor must direct any cited Subcontractor to correct/abate those violations for which the Subcontractor has control and which might expose employees to injury or illness.

CONTENTS

1. PROGRAM REQUIREMENTS.

This plan is intended to address the issue of providing for the orderly evacuation of the a jobsite during emergency situations. The main goal of any evacuation is the rapid, systematic removal of all persons from potentially hazardous areas, to a safe muster point, to account for all employees, and to assure an all-clear of the evacuated area. Allied Concrete Systems, LLC will review and evaluate this program on an annual basis, or when changes occur to the regulation, appears to be out of place, or when operational changes occur that require a revision of this document.

2. RESPONSIBILITY.

The Safety Coordinator is the program coordinator, acting as the representative of Allied Concrete Systems, LLC owners, who have the ultimate responsibility for all facets of this program. The Safety Coordinator is the sole person authorized to amend these instructions. Allied Concrete Systems, LLC has authorized the Safety Coordinator and any Supervisor or Employee to halt any operation of Allied Concrete Systems, LLC where there is danger of serious personal injury. Supervisors are required to ensure their employees are aware of the contents of this program and have received awareness training before assignment to work.

3. EVACUATION NOTIFICATION.

3.1. Evacuation notification may be received in the form of alarms, sirens, strobe lights or verbal notifications depending on the location of the work. It is extremely important that Supervisors brief their employees on the type of evacuation notification they may receive at the beginning of every job.

3.2. Employees must remain attentive to all evacuation orders as they may include specific information such as:

3.2.1. The reason for the evacuation.

3.2.2. The area or areas involved in the evacuation.

3.2.3. Any area or areas to be avoided in the evacuation.

3.2.4. Any muster points that must be avoided.

4. EMPLOYEE RESPONSIBILITY.

4.1. All employees upon receipt of an evacuation order will exit the work area via the Nearest Unaffected Exit. They will proceed to the designated muster point for the area they were in at the time of the evacuation order, quickly and quietly. They will also upon request, aid their supervisor in taking role.

4.2. Egress Routes. All employees will become familiar with the location of all posted egress routes of the facility areas that they frequent and will know the primary and secondary egress routes of their work area.

4.3. Muster Points. All employees will become familiar with the designated muster points and will know the primary muster point of the facility or areas that they frequent and for their work area. **NO ONE WILL LEAVE A MUSTER POINT WITHOUT THE EXPRESS PERMISSION OF THE SUPERVISOR PRESENT.**

4.4. Severe Weather Safe Spots. All employees will become familiar with posted or designated Severe Weather Safe Spots, and will know the location of the nearest Severe Weather Safe Spot for the areas that they frequent and their work area. Upon the announcement of a “take-cover” order proceed to the designated safe spot.

4.5. Arrival Actions. Upon arrival at a muster point, each employee will seek out the Supervisor present to assure that they have been accounted for. They will also upon request, aid area supervisors or managers in taking role.

4.6. Visitor Escorts. Each visitor to the facility or jobsite must be escorted at all times by a company employee. The escort will ensure their visitor is escorted to a muster point or safe spot as required. Upon arrival at a muster point, the visitor's name will be forwarded to the employee in charge at the muster point. Where badging is required the escort may need specific escort privileges.

5. SUPERVISOR RESPONSIBILITY.

5.1. If time permits, supervisors will determine what machines or processes should be shut down. Hazardous process shut-down will done in accordance with established procedures.

5.2. Supervisors will assist employees in making a quick egress of the area and direct them to the assigned muster point.

5.3. Supervisors will take role to assure all their employees are accounted for and will submit a list of any employees missing and/or additional persons located at their muster point to senior management and/or the responding fire department.

6. VISITOR RESPONSIBILITY.

6.1. Company Escorts. The evacuation of a visitor is the responsibility of the company escort. All visitors will be briefed that they must be escorted at all times in the facility by a company employee.

6.2. Muster Points. All visitors will be briefed prior to entering, on the safety rules and regulations at the facility. Upon notification of an evacuation the escort will ensure that they immediately exit the building or jobsite via the nearest exit, report to the nearest muster point, and give their name to the Supervisor in that muster area. **NO ONE WILL LEAVE MUSTER POINTS WITHOUT THE EXPRESS PERMISSION OF THE SUPERVISOR IN CHARGE.**

6.3. Severe Weather Safe Spots. Visitors will be escorted to the nearest Severe Weather Safe Spot upon notification to take-cover and give their name to the Supervisor present in the Safe Spot.

7. SUBCONTRACTOR RESPONSIBILITY.

7.1. The evacuation of an employee of a subcontractor is the responsibility of that contractor.

7.2. Muster Points. All contractor employees will be briefed by the contractor's management before entering the site, as part of any required OSHA training. Upon notification of an evacuation they will immediately exit the building or jobsite via the nearest exit and report to the nearest muster point and give their name to the Supervisor present. **NO ONE WILL LEAVE MUSTER POINTS WITHOUT THE EXPRESS PERMISSION OF THE SUPERVISOR IN CHARGE.**

7.3. Severe Weather Safe Spots. All subcontractor employees will be briefed by the subcontractor's management before entering the site, as part of any required OSHA training, the location of severe weather safe spots in the event of an emergency. Upon notification to take-cover they will proceed to the nearest severe weather safe spot and give their name to the Supervisor present.

7.4. Temporary Work Structures. The evacuation of a temporary structure brought onto company property will be the responsibility of the contractor. Once evacuated, all personnel will report to the nearest muster point and give their name to the Supervisor present.

8. PROCEDURES FOR FIRE & EXPLOSIONS.

8.1. Upon notification of a fire or explosion all employees should evacuate the building or jobsite immediately in accordance with the posted or designated evacuation routes and report to the assigned (or) nearest muster point or location designated at the time.

8.2. Supervisor Responsibilities. Supervisors will provide guidance and instructions as needed. Evacuation should be done in a calm and orderly manner. **NO ONE WILL LEAVE MUSTER POINTS WITHOUT THE EXPRESS PERMISSION OF THE SUPERVISOR IN CHARGE**.

8.3. Employee Responsibilities. Once you leave the building or jobsite, NEVER RE-ENTER until instructed to do so by management!

8.4. Difficulties in Evacuation. If smoke and/or heat conditions are encountered while evacuating, remember to stay low to the floor and exit by the nearest door or window. In the event of a major fire, evacuation may have to be delayed until the fire is actually put under control and/or extinguished. If this situation exists, remain calm and shield yourself from the fire. If you are unable to escape, stuff clothing, rags, etc., in or around all cracks to help keep the smoke from entering your location. It is most important to try and notify someone of your location. If the

telephone is out of service, try to get someone's attention by yelling or making noises. ABOVE ALL, remain calm until help arrives.

9. PROCEDURES FOR SEVERE WEATHER.

9.1. Upon notification of impending severe weather, i.e., a Tornado Warning or severe Thunder Storm Warning, and where immediate danger poses a threat to the building or jobsite, employees must report to a designated muster point in the building or at the jobsite.

9.2. Where no muster point has been designated or if you are unable to get to the severe weather muster point locate a point inside the building away from chemicals, furnaces, piping, and windows or a low point outside of the immediate area.

9.3. Remain in the area until an all clear announcement has been made.

10. PROCEDURES TO RETURN TO WORK.

10.1. Evacuation. After a survey of the facility has been conducted by emergency responders, and/or personnel designated by management, the decision for return to work will be made. If the area is declared hazard free personnel may return to work once the order is given. If hazards are detected personnel will be released to go home. **ALL PERSONNEL WILL REMAIN ON AT THE JOBSITE, UNLESS OTHERWISE DIRECTED BY MANAGEMENT.**

10.2. Severe Weather. After the take-cover order, all personnel will proceed to their safe spot and remain there until the all-clear announcement is made.

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Occupational Health & Safety System: OH&S Program And Procedure – Housekeeping & Sanitation

1.0 PURPOSE

The purpose of this program is to outline requirements for housekeeping, sanitation, and waste disposal to meet OSHA and EPA requirements. These requirements improve the overall safety and health conditions of the facility as well as the efficiency of the project environment.

2.0 SCOPE

This written program establishes the housekeeping guidelines to be followed by all Allied Concrete Systems, LLC employees.

3.0 DEFINITIONS

3.1 **PPE:** Personal protective equipment, commonly referred to as "PPE", is equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. These injuries and illnesses may result from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards.

4.0 GENERAL STATEMENTS

4.1 Allied Concrete Systems, LLC believes that maintaining a clean and organized workplace creates a safer and more healthful work environment.

4.2 All Allied Concrete Systems, LLC employees are responsible for correcting and or eliminating unsafe or unhealthy workplace conditions.

5.0 ROLES AND RESPONSIBILITIES

5.1 Safety Director

5.1.1 Make changes, amend, and update this program as necessary.

5.1.2 Provide Support to Supervisor as needed.

5.1.3 Conduct follow up investigations, as necessary for related incidents.

5.2 Supervisors

5.2.1 Ensures all Allied Concrete Systems, LLC employees are trained on housekeeping and sanitation at their facility.

5.2.2 Ensures frequent and effective housekeeping and sanitation practices are carried throughout the facility.

5.2.3 Provides the tools and accessories necessary for employees to maintain proper housekeeping and sanitation practices.

5.2.4 Retrains any Allied Concrete Systems, LLC employee who shows lack of understanding in housekeeping or sanitation practices.

5.2.5 Conducts frequent audits of facility to ensure compliance of this program and procedures.

5.2.6 Investigates all housekeeping or sanitation incidents and implements proper corrective action measures.

5.2.7 Retains documentation of training for all Allied Concrete Systems, LLC employees.

5.2.8 Retains all supporting documentation used to comply with this program.

5.3 Employees

5.3.1 Employees will be responsible for overseeing the housekeeping in every area of the facility.

5.3.2 Employees will be responsible for ensuring proper sanitation practices are being implemented in required areas.

5.3.3 Allied Concrete Systems, LLC employees are expected to correct or eliminate any work area out of compliance with this program.

5.3.4 Allied Concrete Systems, LLC employees will ensure that proper tools and practices are used to eliminate all housekeeping or sanitation hazards.

5.3.5 Employees will be responsible for bringing housekeeping or sanitation concerns to management.

6.0 GENERAL REQUIREMENTS

6.1 Housekeeping Requirements

6.1.1 All facility areas of Allied Concrete Systems, LLC will be kept clean to the extent that the nature of the work allows.

6.1.2 The floor of every work area will be maintained, so far as practicable, in a dry condition. In areas where wet processes are used, proper drainage will be maintained and false floors, platforms, mats, or other dry standing places will be provided, where practicable.

6.1.3 To facilitate cleaning, every floor, working place, and passageway will be kept free from large obstructions, wet conditions, and barricaded from pedestrian travel.

6.1.4 The storage of Allied Concrete Systems, LLC material will not create hazards to it's employees or customers.

6.1.5 Bags, bundles, and other containers or materials must be stacked, blocked,

interlocked, and limited in height so that they do not slide or collapse.

6.1.6 Storage areas must be kept free from the accumulation of materials that may cause tripping, fire, explosion, or harboring of rats and other pests. Keep storage areas clean, neat, and organized with storage racks and carts.

6.1.7 Containers will be provided for the collection and separation of waste, trash, oily and used rags, and other materials that require separation. Containers used for garbage and other oily, flammable, or hazardous wastes, such as caustics, acids, harmful dusts, etc. will be equipped with covers.

6.1.8 Garbage and other waste will be disposed of at frequent and regular intervals to prevent waste build up.

6.1.9 Combustible scrap and debris will be removed at regular intervals during the course of work. Safe means will be provided to facilitate such removal.

6.1.10 Scrap materials and rubbish are fire and accident hazards. If an excess of these materials exists in work areas, the supervisor must arrange for their removal.

6.1.11 Trash receptacles will be located throughout the facility and must be used.

6.1.12 Tools and materials will not be left where they create a hazard for others employees in the facility.

6.1.13 Oily rags must be placed in approved containers.

6.1.14 Spilled liquids must be cleaned up whenever identified to remove any slip hazards.

6.1.15 Do not let soiled clothes, food scraps, bottles and cans to accumulate.

6.1.16 Trash bags must be available near drinking water for disposal of cups.

6.2 Waste Disposal

6.2.1 Any receptacle used for putrescible solid or liquid waste or refuse must be so constructed that it does not leak and may be thoroughly cleaned and maintained in a sanitary condition. Such a receptacle must be equipped with a solid tight-fitting cover, unless it can be maintained in a sanitary condition without a cover.

6.2.2 All sweepings, solid or liquid wastes, refuse, and garbage must be removed in such a manner as to avoid creating a menace to health and as often as necessary or appropriate to maintain the facility in a sanitary condition.

6.3 Vermin Control

6.3.1 Every enclosed work station will be so constructed, equipped, and maintained, so far as reasonably practicable, as to prevent the entrance or harborage of rodents, insects, and other vermin.

6.3.2 A continuing and effective extermination program will be instituted where their presence is detected.

6.4 Non-potable Water

6.4.1 Outlets for non-potable water, such as water for industrial or firefighting purposes, will be posted or otherwise marked in a manner that will indicate clearly that the water is unsafe and is not to be used for drinking, washing of the person, cooking, washing of food, washing of cooking or eating utensils, washing of food preparation or processing premises, or personal service rooms, or for washing clothes.

6.4.2 Construction of non-potable water systems or systems carrying any other non-potable substance will be such as to prevent backflow or backsiphonage into a potable water system. Non-potable water will not be used for washing any portion of the person, cooking or eating utensils, or clothing. Non-potable water may be used for cleaning work premises, other than food processing and preparation premises and personal service rooms: Provided, That this non-potable water does not contain concentrations of chemicals, fecal coliform, or other substances which could create unsanitary conditions or be harmful to employees.

7.0 PROCEDURES & JOB INSTRUCTIONS

7.1 Consumption of Food and Beverages on the Premises

7.1.1 Eating and Drinking Areas

7.1.1.1 No Allied Concrete Systems, LLC employee will be allowed to consume food or beverages in a toilet room nor in any area exposed to a toxic material.

7.1.1.2 Allied Concrete Systems, LLC employees shall only consume food or beverage in designated areas such as break areas.

7.1.2 Waste disposal containers

7.1.2.1 Receptacles of smooth, corrosion resistant, easily cleanable, or disposable materials, will be provided and used for the disposal of waste food. The number, size, and location of such receptacles will encourage their use and not result in overfilling. They will be emptied not less frequently than once each working day, unless unused, and will be maintained in a clean and sanitary condition. Receptacles will be provided with a solid tight-fitting cover unless sanitary conditions can be maintained without use of a cover.

7.2 Environmental Protection

7.2.1 Do not allow any oils, fuels, lubricants, paints, solvents, acid or alkali's, chemicals, or contaminated waste waters to be discharged on to the ground.

7.2.2 Spills of petroleum products, chemicals or other materials must be reported immediately to the project Supervisor and immediate spill containment and clean up actions taken.

7.2.3 Washing and maintenance of vehicles and equipment may only be done in contained and approved areas.

7.2.4 All tankage, storage, and loading/unloading of chemicals, fuels and similar bulk materials (except refueling of equipment from motorized fuel tankers) must be in curbed or diked areas.

7.2.5 There will be no open burning of materials, brush, tires, construction materials, oils, etc.

7.2.6 Nontoxic waste such as office trash, construction materials, concrete rubble and scrap metal generated from a project will be properly disposed of on a regular basis.

8.0 TRAINING REQUIREMENTS

8.1 Training for Allied Concrete Systems, LLC employees will cover the following but is limited to:

- Recognizing Good and Bad Housekeeping Practices

- Proper sanitation practices
- Personal Protective Equipment needed
- Proper waste and garbage disposal
- Identifying and reported housekeeping concerns

8.2 Supervisor will retrain an employee when he/she has reason to believe the employee does not have the understanding and skill required in this program and procedure.

9.0 CONFORMANCE & COMPLIANCE REFERENCES

9.1 29 CFR § 1910 Subpart J, 29

9.2 CFR § 1910.144, 39

9.3 FR 23502, June 27, 1974, as amended at 40 FR 18446, April 28, 1975; 40

9.4 FR 23073, May 28, 1975; 43

9.5 FR 49748, Oct. 24, 1978; 63 FR 33450, June 18, 1998; 76 FR 33607, June 8, 2011

10.0 PROGRAM & PROCEDURE REVIEW PROCESS

10.1 Reserved

11.0 SUPPORTING DOCUMENTS – APPENDICES SECTION

11.1 Reserved.

12.0 REVISION HISTORY

Date	Version	Nature of Revision	Author/Editor	
01.19.18	1	Original Document	Safety Director	
02.01.18	2	Updates based on feedback from ACS Safety Director.	Safety Director	

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Occupational Health & Safety System: OH&S Program & Procedure – Hazard Communication

1.0 PURPOSE

The policy of Allied Concrete Systems, LLC is that every employee is entitled to work under the safest conditions possible. This Hazard Communication Program is to ensure that all employees are aware of the health hazards associated with chemicals used at our project sites and that all employees have been trained in procedures for safely working with chemicals.

2.0 SCOPE

This program applies to all Allied Concrete Systems, LLC employees. Each employee is responsible to review the Hazardous Communication Program prior to handling hazardous chemicals.

3.0 DEFINITIONS

Article: means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.

Chemical: means any substance, or mixture of substances.

Chemical manufacturer: means an employer with a workplace where chemical(s) are produced for use or distribution.

Chemical name: means the scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name that will clearly identify the chemical for the purpose of conducting a hazard classification.

Classification: means to identify the relevant data regarding the hazards of a chemical; review those data to ascertain the hazards associated with the chemical; and decide whether the chemical will be classified as hazardous according to the definition of

hazardous chemical in this section. In addition, classification for health and physical hazards includes the determination of the degree of hazard, where appropriate, by comparing the data with the criteria for health and physical hazards.

Commercial account: means an arrangement whereby a retail distributor sells hazardous chemicals to an employer, generally in large quantities over time and/or at costs that are below the regular retail price.

Common name: means any designation or identification such as code name, code number, trade name, brand name or generic name used to identify a chemical other than by its chemical name.

Container: means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this section, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

Designated representative: means any individual or organization to whom an employee gives written authorization to exercise such employee's rights under this section. A recognized or certified collective bargaining agent shall be treated automatically as a designated representative without regard to written employee authorization.

Distributor: means a business, other than a chemical manufacturer or importer, which supplies hazardous chemicals to other distributors or to employers.

Exposure or exposed: means that an employee is subjected in the course of employment to a chemical that is a physical or health hazard and includes potential (e.g. accidental or possible) exposure. "Subjected" in terms of health hazards includes any route of entry (e.g. inhalation, ingestion, skin contact or absorption.)

Foreseeable emergency: means any potential occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which could result in an uncontrolled release of a hazardous chemical into the workplace.

HazCom: Hazardous Communications abbreviated.

Hazard category: means the division of criteria within each hazard class, e.g., oral acute toxicity and flammable liquids include four hazard categories. These categories compare hazard severity within a hazard class and should not be taken as a comparison of hazard categories more generally.

Hazard class: - means the nature of the physical or health hazards, e.g., flammable solid, carcinogen, oral acute toxicity.

HCPC: Hazard Communication Program Coordinator

Hazard not otherwise classified (HNOC): means an adverse physical or health effect identified through evaluation of scientific evidence during the classification process that does not meet the specified criteria for the physical and health hazard classes addressed in this section. This does not extend coverage to adverse physical and health effects for which there is a hazard class addressed in this section, but the effect either falls below the cut-off value/concentration limit of the hazard class or is under a GHS hazard category that has not been adopted by OSHA (e.g., acute toxicity Category 5).

Hazard statement: means a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

Hazardous chemical: means any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiate, combustible dust, pyrophoric gas, or hazard not otherwise classified.

Health hazard: means a chemical which is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard.

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.

Label: means an appropriate group of written, printed or graphic information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.

Label elements: means the specified pictogram, hazard statement, signal word and precautionary statement for each hazard class and category.

Mixture: means a combination or a solution composed of two or more substances in which they do not react.

Physical hazard: means a chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas.

Pictogram: means a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under this standard for application to a hazard category.

PPE: Personal Protective Equipment.

Precautionary: statement means a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling.

Produce: means to manufacture, process, formulate, blend, extract, generate, emit, or repackage.

Product identifier: means the name or number used for a hazardous chemical on a label or in the SDS. It provides a unique means by which the user can identify the chemical. The product identifier used shall permit cross-references to be made among the list of hazardous chemicals required in the written hazard communication program, the label and the SDS.

Pyrophoric gas: means a chemical in a gaseous state that will ignite spontaneously in air at a temperature of 130 degrees F (54.4 degrees C) or below.

Responsible party: means someone who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.

Safety data sheet (SDS): means written or printed material concerning a hazardous chemical that is prepared in accordance with paragraph (g) of this section.

Signal word: means a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in this section are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for the less severe.

Simple asphyxiate: means a substance or mixture that displaces oxygen in the ambient atmosphere and can thus cause oxygen deprivation in those who are exposed, leading to unconsciousness and death.

Specific chemical identity: means the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.

Substance: means chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

4.0 GENERAL STATEMENTS

4.1 This Program and Procedure is aligned with the United Nations Global Harmonized System (GHS) version 3 has been updated to comply with the OSHA CFR §1910.1200 requirements.

4.2 A copy of the **Allied Concrete Systems, LLC** Hazardous Communication Program will be available at every facility and project site.

5.0 ROLES AND RESPONSIBILITIES

5.1 Safety Director

5.1.1 The Safety Director has been designated as Allied Concrete Systems, LLC Hazard Communication Program Coordinator (HCPC). The HCPC will be responsible for:

5.1.1.1 Ensure Supervisors are trained and understand the function of the Project Site Coordinator

5.2 Project Site Coordinator Responsibilities

5.2.1 Allied Concrete Systems, LLC has designated Supervisors as the Project Site Coordinator (PSC).

5.3 Supervisors

5.3.1 Ensuring Safety Data Sheets (SDS) readily accessible to employees.

5.3.2 Ensuring that employees have been trained in the proper use of hazardous substances and chemicals during project tasks.

5.3.3 Verifying that all employees under his or her supervision have been informed of the hazards prior to working with hazardous substances or chemicals.

5.3.4 Verifying that containers are clearly labeled as to contents, appropriate warnings are noted, and the names and addresses of manufacturers are identified.

5.3.5 Conduct workplace hazard assessment and identify existing hazards.

5.3.6 Determine PPE appropriate for employees to wear.

5.3.7 Ensures that adequate protection equipment is available on site.

5.3.8 Ensures compliance with this program.

5.3.9 Maintains replacement equipment for employees

5.4 Employees

5.4.1 Read all labels and understand the chemical(s) you will be working with.

5.4.2 Never dump chemicals down the drain.

5.4.3 Remove "unlabeled" chemicals from service and inform your supervisor.

5.4.4 Wear all required PPE according to the SDS and Label.

5.4.5 Report any safety concerns to you supervisor immediately.

6.0 GENERAL REQUIREMENTS

6.1 Inventory of Hazardous Chemicals & Substances

A list of hazardous chemicals and substances used at the facility or project site will be maintained and updated as new chemicals are introduced. The project Site Coordinator will request and maintain copies of all subcontractors' SDS, which will be immediately available to any site personnel.

7.0 PROCEDURES & JOB INSTRUCTIONS

7.1 Hazard Classification Procedure

Allied Concrete Systems, LLC will rely on manufacturers' labels or SDS to classify the various hazards of chemicals used on the project site. The PSC will accept the information provided on the SDS. If information is missing or the manufacturer fails to supply an SDS, the Project Site Coordinator (PSC) will request it from the supplier in writing.

7.2 Labels & Other Forms of Warning

7.2.1 Since chemical manufacturers are required to label their containers of hazardous chemicals, we will use these labels as our primary means of warning employees about the products. All containers received for use shall be clearly labeled with the following information:

- Product identifier;
- Signal word;
- Hazard statement(s);
- Pictogram(s) *See addendum 1 for the chart of accepted pictograms;
- Precautionary statement(s); and,
- Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party.

7.2.2 The project site coordinator is responsible for ensuring that all containers are labeled. Labels are not to be removed from any container or defaced in any manner. If a label is missing or illegible, notify the project site coordinator immediately. The SDS can serve as a temporary label that will assist employees in identifying the chemical involved with the least chance of error. Labels shall be legible, in English.

However, for non-English speaking employees, information may be presented in their language as well. Please refer to section 10.0 for detailed requirements for on-site labeling. See addendum 2 for sample labels.

7.3 Safety Data Sheets (SDSs)

7.3.1 The original copies of the SDSs will be retained by the HCPC at the corporate office. Copies of the SDSs for hazardous chemicals used on a specific project site may be obtained by requesting them from the HCPC or the manufacturer.

7.3.2 Each project site coordinator will monitor employees under his or her direct supervision for proper training and proper precautions prior to introducing any hazardous chemical to the project site. The SDS will be the primary source of information. All SDSs must contain the following 16 sections:

- 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; and
- Section 16, Other information, including date of preparation or last revision.
- *See addendum 2 for detailed descriptions of each section.

7.3.3 Subcontractors must provide an SDS to Allied Concrete Systems, LLC project site coordinator before introducing hazardous chemical to a project site. If a subcontractor fails to do so, management will require the SDS immediately or stop work.

7.4 Personal Protective Equipment (PPE)

7.4.1 Personal protective equipment suitable for the chemical hazards will be maintained on the project site if the hazard exists. If respirators are required, refer to the "Respiratory Protection Program" section of this manual that addresses the use of respirators. Ensure employees have received a pulmonary fit test within the past year prior to performing tasks with potential respiratory hazards. Other PPE will be available, at no cost, to any employee exposed to hazardous materials. Other PPE may include, but will not be limited to:

7.4.1.1 Tyvek suits

7.4.1.2 Chemical resistant gloves

7.4.1.3 Chemical resistant boots

7.4.1.4 Face shields

7.4.1.5 Goggles with a protective seal

7.4.2 All subcontractors are required to provide their employees with the required PPE. Allied Concrete Systems, LLC will not provide PPE to subcontractors.

7.5 Emergency Response

7.5.1 An emergency response plan with necessary provisions will be prepared if hazardous materials are on site in quantities that require a plan. The plan will be prepared before the materials arrive on site and will be communicated to all affected employees. The plan will be updated as needed to ensure it is current.

7.5.2 All incidents of overexposure, spills or leaks of any hazardous material will be reported immediately. Proper spill containment and emergency care for those exposed must be provided immediately. Spill kits must be capable of cleaning up the worst-case scenario in regard to the amount of hazardous chemicals on site. Provisions must also be in place to keep chemicals that have a volatile reaction from contacting each other. SDSs are to be reviewed by the project manager and the project site coordinator prior to the start of a job to ensure appropriate emergency procedures are in place.

7.5.3 In work locations where hazardous chemicals are being handled, employees must be instructed in specific steps to minimize exposure, should an accidental release occur. The following list will be addressed but is not exclusive of items to be discussed:

7.5.3.1 Personal protective equipment for the individual employee, such as air-supplied respirator or other PPE

7.5.3.2 Alarm to be sounded - how, when

7.5.3.3 Procedures to halt the release, such as block valves, pump shutdown controls and so on

7.5.3.4 Procedures to confine or neutralize the release, curbing or diking liquids, covering spill with firefighting foam to control vapors, and so forth

7.5.3.5 Evacuation - when, where

7.5.3.6 Warning signs or barriers to prevent inadvertent entry by persons unaware of the situation

7.5.3.7 When re-entry is permitted

7.5.3.8 Clean-up procedures

7.5.3.9 Each employee must understand his role in handling the emergency release and restoring the process to normal operation.

7.6 Safety Data Sheets (SDS) & Labels

7.6.1 The project site coordinator is responsible for having an SDS accessible at the work site for each hazardous chemical to which an employee may be exposed. All SDSs and lists of hazardous materials will be available to all employees in their workplace.

7.6.2 SDSs for products are on file and will be used.

7.6.3 The project site coordinator has a responsibility to note on any requisition for chemicals whether SDSs are already on file.

7.6.4 SDSs received with a chemical shipment or separately are to be forwarded to the project site coordinator for review prior to use of the substance.

7.6.5 The project site coordinator will file approved SDSs on site and review them with all affected employees.

7.6.6 The project site coordinator is responsible for ensuring that the appropriate SDSs has been properly stored on site with easy access to employees before any hazardous chemical is used at the project site.

7.6.7 When new and significant health information is found concerning a hazardous chemical at the facility or project site, the SDS will be revised by the project site coordinator. Revised copies will be distributed immediately to the project site coordinator for inclusion in the binder. Affected employees will be made aware of the significant change as soon as possible.

7.7 Location & Availability of Hazardous Communication Program

7.7.1 This file is to be accessible during working hours to all affected employees.

7.8 Special Precautions

7.8.1 Whenever a new hazardous substance is introduced into the workplace, the project site coordinator will ensure that:

7.8.1.1 Prior to introduction of such a substance, the employees assigned to work in the area have been advised of the new substance, have been trained in the proper handling procedures and are aware of emergency procedures.

7.8.1.2 Safety Data Sheets have been added to the information binder and reviewed with affected employees.

7.8.1.3 Containers of the new substance are properly labeled in accordance with the most recent OSHA regulations.

7.8.1.4 All work place signs will be updated in response to this program and the Hazard Communication Standard by June 1, 2015.

7.9 Labeling at the Project Site

7.9.1 The following procedures will ensure that employees are aware of hazardous chemicals that are contained in storage containers at the project site.

7.9.2 Each container of hazardous materials must be labeled, tagged or marked with the identity, appropriate hazard warning, and name and address of manufacturer or other responsible party. The project site coordinator is responsible for ensuring that all containers of hazardous chemicals within their respective project site are adequately labeled or placarded.

7.9.3 The labels on containers of hazardous substances that come into the project site must be checked for legibility by the project site coordinator. The labels shall include:

- Product identifier;
- Signal word;
- Hazard statement(s);

- Pictogram(s); *See addendum 1 for chart of accepted pictograms
- Precautionary statement(s); and,
- Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party.
- The information shall be in English.
- This exception to requiring labels on every container of hazardous chemicals is only for the solid material itself and does not apply to hazardous chemicals used in conjunction with, or known to be present with, the material and to which employees handling the items in transit may be exposed (for example, cutting fluids or pesticides in grains).
- Chemical manufacturers, importers, or distributors are required to ensure that each container of hazardous chemicals leaving the workplace is labeled, tagged, or marked in accordance with the Hazard Communication Standard in a manner which does not conflict with the requirements of the Hazardous Materials Transportation Act (49 U.S.C. 1801 et seq.) and regulations issued under that Act by the Department of Transportation. The project coordinator will ensure materials are labeled properly.
- If a label is missing or illegible, the project site coordinator is responsible for obtaining and affixing a replacement label in accordance with the Hazard Communication Standard.
- If no label, temporary or permanent, can be affixed within three days, the hazardous chemical will be removed from the project site and stored in a safe place.
- Subcontractors are responsible for maintaining and replacing labels on chemicals they have brought onto the site.
- Portable containers need not be labeled if the chemicals are transferred from labeled containers and remain in the custody of the person who performs the transfer. Individual sample bottles need not be labeled provided the rack or carrier is labeled and the hazards associated with all containers are essentially the same.
- Where the project site coordinator needs warning labels on containers of hazardous materials not previously labeled, he or she shall request a label from the manufacturer or distributor or shall seek the assistance of the Safety Department in generating such a label.

8.0 TRAINING REQUIREMENTS

8.1 Employee Information & Training

Training relating to the Hazard Communication Standard is the responsibility of the Safety Department. At no time will any of our employees be expected to perform non-routine tasks involving exposure to hazardous chemicals without proper instruction and protection.

8.2 Annual Training

The annual training will be conducted and documented consistently. Weekly Toolbox Talks may be used to provide additional training and review the dangers of working with hazardous chemicals.

8.3 Hazard Communication Training Program

8.3.1 The following training will be implemented by Allied Concrete Systems, LLC to ensure that employees handling hazardous chemicals are aware of the nature of the materials and are trained in procedures to minimize exposure to such substances.

8.3.2 Instructional programs presented to all affected employees by the Safety Department or project site coordinator shall address the following issues:

- Requirements of the Federal Hazard Communication 29 CFR §1910.1200 (General Industry) and 29 CFR §1926.59 (Construction); both standards are identical. This requirement may be met by presentations based on SDS videotape, formal classroom training, onsite training, or similar material.
- All employees shall be trained on SDS sheets and how to read them by December 1, 2013 and annually thereafter.
- All employees shall be trained on labels and pictograms by December 1, 2013 and annually thereafter.
- Monitoring and sampling to detect the presence of hazardous chemicals in quantities that could affect employees' health.
- Proper handling and protection from hazardous chemicals.
- Location of hazardous chemicals in the employees' work location.
- Employees must be properly trained on how to read SDSs and labels and use this information to protect against injury, illness, and contamination from the respective chemical.
- SDSs must be explained as a method of conveying information about the chemicals being used. The Safety Department or instructor will present the SDS form in detail. This may be done in the form of a toolbox talk. Supplemental information may be used as needed. Provisions must be made to answer questions about the form itself.
- All 16 sections of the SDS will be reviewed in detail. Employees must be capable of meeting all criteria listed in the 16 sections of the SDS prior working with any chemical.
- Pictograms will be reviewed with employees in detail.
- Physical and chemical hazards of the specific substances found in the employees' workplace.
- The hazardous chemicals list, SDS and labels may be used to call attention to the various hazards. Provisions must be made to answer questions about chemical properties and toxic effects.
- Measures employees can take to protect themselves.
- The instructor will discuss the work procedures designed to minimize exposure to hazardous chemicals.
- Protective clothes, if provided, must be discussed in connection with specific exposures. (It is assumed that appropriate training has been given previously for any protective equipment provided; if not, this training must be included as well.)
- Emergency procedures in event of a spill or release of specific chemicals.

9.0 CONFORMANCE & COMPLIANCE REFERENCES

9.1 29 CFR §1910.1200 – Hazard Communications

9.2 29 CFR §1926.59 – Hazard Communications

10.0 PROGRAM & PROCEDURE REVIEW PROCESS

10.1 Reserved

11.0 SUPPORTING DOCUMENTS – APPENDICES SECTION

11.1 Addendum 1- Pictograms

11.2 Addendum 2- Sample Labels

11.3 Addendum 3- Sample Labels

Addendum 1- Pictograms

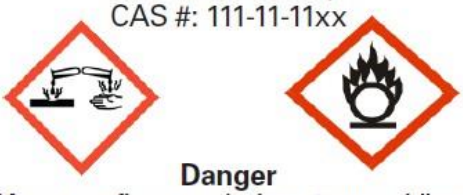
HCS Pictograms and Hazards

Health Hazard	**Flame**	**Exclamation Mark**
		
▪ Carcinogen ▪ Mutagenicity ▪ Reproductive Toxicity ▪ Respiratory Sensitizer ▪ Target Organ Toxicity ▪ Aspiration Toxicity	▪ Flammables ▪ Pyrophorics ▪ Self-Heating ▪ Emits Flammable Gas ▪ Self-Reactive ▪ Organic Peroxides	▪ Irritant (skin and eye) ▪ Skin Sensitizer ▪ Acute Toxicity ▪ Narcotic Effects ▪ Respiratory Tract Irritant ▪ Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder	**Corrosion**	**Exploding Bomb**
		
▪ Gases Under Pressure	▪ Skin Corrosion/Burns ▪ Eye Damage ▪ Corrosive to Metals	▪ Explosives ▪ Self-Reactive ▪ Organic Peroxides
Flame Over Circle	**Environment** **(Non-Mandatory)**	**Skull and Crossbones**
		
▪ Oxidizers	▪ Aquatic Toxicity	▪ Acute Toxicity (fatal or toxic)

Addendum 2- Sample Labels

***Label demonstrating OSHA Requirements**

OXI252
(disodiumflammy)
CAS #: 111-11-11xx



Danger
May cause fire or explosion; strong oxidizer
Causes severe skin burns and eye damage

Keep away from heat. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Wear protective neoprene gloves, safety goggles and face shield with chin guard. Wear fire/flame resistant clothing. Do not breathe dust or mists. Wash arms, hands and face thoroughly after handling. Store locked up. Dispose of contents and container in accordance with local, state and federal regulations.

First aid:
IF ON SKIN (or hair) or clothing[6]: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash contaminated clothing before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Immediately call poison center.
Specific Treatment: Treat with doctor-prescribed burn cream.

Fire:
In case of fire: Use water spray. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Great Chemical Company, 55 Main Street, Anywhere, CT 064XX Telephone (888) 777-8888

Addendum 3- Sample Labels

***Label Demonstrating DOT Requirements**

OXI252
(disodiumflammy)
CAS #: 111-11-11xx

Danger
May cause fire or explosion; strong oxidizer
Causes severe skin burns and eye damage

Keep away from heat. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Wear protective neoprene gloves, safety goggles and face shield with chin guard. Wear fire/flame resistant clothing. Do not breathe dust or mists. Wash arms, hands and face thoroughly after handling. Store locked up. Dispose of contents and container in accordance with local, state and federal regulations.

First aid:
IF ON SKIN (or hair) or clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash contaminated clothing before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a doctor.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Immediately call poison center.
Specific Treatment: Treat with doctor-prescribed burn cream.

Fire:
In case of fire: Use water spray. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Great Chemical Company, 55 Main Street, Anywhere, CT 064XX Telephone (888) 777-8888

Should there be any questions regarding the Hazard Communication (GHS) policy, SDS sheets, or work with working with chemicals please contact your supervisor or safety department.

12.0 REVISION HISTORY

Date	Version	Nature of Revision	Author/Editor	
08.02.18	1	Original Document	Safety Director	

Table of Contents

OCCUPATIONAL HEALTH & SAFETY SYSTEM: OH&S PROGRAM AND PROCEDURE – PPE

1.0 PURPOSE

This procedure establishes minimum guidelines for the selection, procurement, use, training and hazard assessment for Personal Protective Equipment (PPE).

2.0 SCOPE

This program applies to all Allied Concrete Systems, LLC personnel, vendors and subcontractors when construction activities are present.

3.0 STATEMENT

PPE should always be considered a last resort when evaluating risk after it has been decided that elimination, substitution, isolation, engineering controls and or administrative controls are not practical.

4.0 DEFINITIONS

Employee-owned Equipment: Where employees desire to provide their own protective equipment, the employee shall be responsible to notify Allied Concrete Systems, LLC Management so they may assure its adequacy, including proper maintenance, and sanitation of such equipment.

Demarcated Areas: Areas delineated within a shop, yard or construction site where PPE requirements have been exempted; e.g. striped walk areas in shops, project trailers, etc.

Production Area: defined as areas where "construction work" as construction, alteration, maintenance, refurbishment and/or repair, including painting and decorating is performed/designated. Areas may include; storage yards, maintenance vehicles and jobsites.

5.0 GENERAL REQUIREMENTS

5.1 PPE shall be provided to all Allied Concrete Systems, LLC employees whenever hazards exist or have the potential to exist within the employee's task assignment.

5.2 Equipment shall be maintained in a reliable and sanitary manner per these guidelines.

5.3 It is the responsibility of the employee to notify Allied Concrete Systems, LLC if the employee wishes to use “employee-owned PPE”. Such equipment shall be maintained in the same reliable and sanitary manner as to comply with company-owned equipment.

5.4 PPE must be fitted appropriately to each affected employee. Proper fitting, including proper donning, doffing, cleaning, maintenance and equipment storage must be discussed with each employee.

5.5 Under no circumstance shall defective, modified or damaged equipment be used.

5.6 All subcontractors and vendors are responsible for evaluating the hazards to which they are exposed and for the purchasing and distribution of PPE for their own employees.

6.0 PAYMENT FOR PERSONAL PROTECTIVE EQUIPMENT

6.1 PPE shall be provided to all Allied Concrete Systems, LLC employees at no cost, unless specifically exempted by OSHA. Per § 29 CFR 1926.95, the following exceptions to the PPE employer payment criteria exist:

6.1.1 Allied Concrete Systems, LLC is not required to pay for non-specialty safety-toe protective footwear (including steel-toe shoes, steel-toe boots or general construction work boots) and non-specialty prescription safety eyewear, provided that the company permits such items to be worn off the job-site. Rubber boots shall be considered to be specialty footwear, unless they are being used to protect the worker from hazard exposure during an assigned task.

6.1.2 When the company provides metatarsal foot guards and allows the employee, at his/her request, to use shoes or boots with built-in metatarsal protection, the company is not required to reimburse the employee for the shoes or boots.

6.2 Allied Concrete Systems, LLC is not required to pay for:

6.2.1 Everyday clothing, such as long-sleeve shirts, long pants, street shoes, and normal work boots.

6.2.2 Skin creams, or other items, used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary non-safety rated sunglasses, and sunscreen.

6.2.3 Replacement PPE outside of normal wear and tear, or when lost or intentionally damaged by the employee.

6.2.4 Employee owned equipment.

7.0 HAZARD ASSESSMENT

7.1 When work place hazards exist or, are likely to exist, supervisors shall perform a risk assessment of work areas to determine if elimination, substitution, isolation, engineering controls, administrative controls or PPE will eliminate or reduce the hazard. Hazard assessments may consist of, but are not limited to:

7.1.1 Task identification

7.1.2 Type of equipment required

7.1.3 Proper control method for the existing hazard(s) if present.

7.1.4 Determine demarcated areas where PPE requirements may be suspended.

8.0 EYE & FACE PROTECTION

8.1 Eye and face protection meeting the ANSI Z87.1 standards (appropriate for the hazard or potential hazard) shall be worn as required by task (where the hazards of flying or falling debris exist). There are numerous types of eye and face protectors to be selected from and used by affected employees:

Safety Glasses: Safety Glasses are protective devices intended to shield the wearer's eyes

from a variety of hazards. While they are primary protectors and may be used alone, they may also be used in conjunction with other protectors.

Face shields: Face shields are protective devices intended to shield the wearers face, or portions thereof, in addition to the eyes from certain hazards.

NOTE: Face shields are secondary protectors and shall be used with primary protectors.

Goggles: Goggles are protective devices intended to fit the immediate surrounding area of the eyes, and to protect the eyes from a variety of hazards. While they are primary protectors and may be used alone, they may be used in conjunction with other protectors

Employees who wear prescription lenses while engaged in operations where a potential for eye hazards exist shall wear eye protection that incorporates the prescription in its design, or shall wear eye protection that can be worn over the prescription without disturbing the proper fit or position of the lenses.

8.2 Safety glasses lenses shall be distinctly marked in a permanent and legible manner with the manufactures monogram. All major goggle components shall be marked "Z87" to indicate compliance with the ANSI Z87.1 standard.

9.0 HEAD PROTECTION

9.1 Hard hats shall be worn at all times while on Allied Concrete Systems, LLC projects where construction activities are present.

9.2 The hard hat should be adjusted to fit properly at all times and be worn in accordance to manufacture's recommendations; no alterations are permitted.

9.3 Hardhats shall meet ANSI Z89.1 standards.

9.4 Hardhats should be inspected for signs of cracks, dents, penetration, and any damage to the shell and liner due to abuse or misuse. Any helmet found defective shall be replaced immediately.

10.0 FOOT PROTECTION

10.1 Approved boots that are rugged, above the ankle and guard against punctures shall be worn, while in the construction area. Canvas type shoes, e.g. tennis shoes, are not permitted.

10.2 Protective footwear shall meet ANSI Z41.1, and be the appropriate protection for the hazard.

11.0 HAND PROTECTION

11.1 Employees, within construction areas, shall wear the proper hand protection when hazards exist from skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical or thermal burns, and harmful temperature extremes.

11.2 Hand protection shall be selected on the basis of the tasks to be performed, conditions present, duration of use, the hazards and potential hazards identified.

11.3 Selection of appropriate hand/arm protection shall be based upon an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed.

11.4 Suitable gloves shall be worn when handling rough material, debris, lumber, sharp edged material, chemical or hot/cold objects to protect hands from splinters, cuts, abrasions and

burns. Be alert for sharp edges and burrs or material that may be hot from burning, welding, grinding, etc.

12.0 HIGH VISIBILITY GARMENTS

12.1 High visibility clothing/vests shall be worn at all times while in construction areas. The supervisor shall determine the level of high visibility garments necessary for each project. Class II garments are appropriate for the following:

12.1.1 Most daytime activities

12.1.2 Working off the roadway

12.1.3 Where there is a physical barrier between workers and traffic

12.1.4 On lower speed or low volume roads and secondary road environments

12.1.5 Speed exceeds 25-50 mph.

12.2 Class III garments allows workers to be seen at a minimum of a ¼ mile (1,280 feet). These garments have sleeves and pants, therefore they have a larger amount of both background and reflective materials. Class III garments may be required in the following areas:

12.2.1 High speed roadways (in excess of 50 mph)

12.2.2 Highly congested areas

12.2.3 Complex lane changes

12.2.4 Night-time operations

13.0 PERSONAL FALL ARREST EQUIPMENT

(See Fall Protection Program)

14.0 HEARING PROTECTION

(See General Corporate Safety Policy)

15.0 RESPIRATORY PROTECTION

(See General Corporate Safety Policy)

16.0 MISCELLANEOUS PPE

16.1 Employees working over or near water where danger of drowning exists shall wear U.S. Coast Guard approved life jackets or buoyant work vests.

16.2 The following general guidelines apply to protective clothing:

16.2.1 Full or partial chemical suits should be worn for exposure to irritants or hazardous chemicals.

16.2.2 Nomex, Tyvek, blast suits and other similar types of suits should be worn as appropriate e.g. energized electrical work, hazardous substances, infectious materials, blood borne pathogens, etc.

16.2.3 Knee pads should be worn when kneeling or crawling for extended periods of time

16.2.4 Chaps, aprons or other similar protective clothing shall be worn when operating chain saws and during welding activities.

16.2.5 Fire Resistance (FR) clothing or overalls may be required where fire hazards exists.

17.0 CLEANING & MAINTENANCE

It is important that all PPE be kept clean and properly maintained. Cleaning is particularly important for eye and face protection where dirty or fogged lenses could impair vision. PPE should be inspected, cleaned, and maintained at regular intervals to ensure that the PPE provides the requisite protection. PPE that is contaminated and cannot be decontaminated shall be disposed of in a manner that protects employees from exposure to hazards.

18.0 TRAINING

18.1 Southwestern Construction Services shall provide training to all affected employees whose project assignment requires them to utilize PPE. The training may be administered during the New Hire Orientation or onsite as directed by management. Training will contain, but will not be limited to, the following:

18.1.1 When PPE is required and what type.

18.1.2 How to properly don, doff, adjust and wear PPE.

18.1.3 The limitations of the PPE.

18.1.4 The proper care, maintenance, usage life, and disposal of the PPE.

18.2 Affected employees shall demonstrate an understanding of the training, and the ability to properly and effectively use the required equipment before performing work requiring its use.

18.3 If Management has reason to believe an affected employee, who has received training, does not have a proper understanding and/or skills required to use, maintain and/or know the limitations of the PPE required, the employee must receive further training.

18.4 Circumstances where retraining is required include, but are not limited to:

18.4.1 Changes in the work place render previous training obsolete.

18.4.2 Changes in the type(s) of PPE.

18.4.3 Inadequacies in the affected employee's knowledge, or improper use of assigned PPE.

19.0 REFERENCES

19.1 § 29 CFR 1926 Subpart E – Personal Protective and Life Saving Equipment

20.0 SUMMARY OF REVISIONS AND CHANGES

Date	Version	Nature of Revision	Author/Editor	
04.27.18	1	Original Document	Safety Director	

CONTENTS

1. PROGRAM REQUIREMENTS.

Allied Concrete Systems, LLC has implemented this program to address the issue of preventing injuries resulting from occupational noise. This program will be maintained in accordance with OSHA Regulations OSHA 29 CFR 1926.52 and 1910.95. In addition, COMPANY NAMESouthwest Construction Services will review and evaluate this program on an annual basis or when operational changes occur that require a revision of this document.

2. RESPONSIBILITY.

The Safety Coordinator is the program coordinator, acting as the representative of the company owners, who have the ultimate responsibility for all facets of this program. The Safety Coordinator has full authority to make necessary decisions to ensure success of the program. Allied Concrete Systems, LLC will submit a copy of this program to any Prime or General Contractor upon request. Allied Concrete Systems, LLC has authorized all Supervisors or any Employee to halt any operation of Allied Concrete Systems, LLC where there is danger of serious personal injury. Supervisors are required to ensure their employees are aware of the contents of this program, provide their subordinates with the necessary personal protective equipment and notify the Safety Coordinator if there is a potential of exposure to occupational noise.

3. TRAINING REQUIREMENTS.

All of our employees, including contractor employees, need to understand the health and safety hazards associated with workplace noise. This company will institute a training program for all employees who are exposed to noise at or above an 8 hour time weighted average of 85 decibels, and will ensure employee participation in such program.

3.1. The training program will be repeated annually for each employee included in the hearing conservation program. Information provided in the training program will be updated to be consistent with changes in protective equipment and work processes. Each employee will be informed of the following:

3.1.1. The effects of noise on hearing.

3.1.2. The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care.

3.1.3. The purpose of audiometric testing, and an explanation of the test procedures.

3.2. Access to information and training materials. This employer will make available to affected employees copies of this program.

3.3. Certification. Allied Concrete Systems, LLC will certify that employee training has been accomplished and is being kept up to date. The certification will contain each employee's name and dates of training.

3.4. Retraining. The training content will be identical to initial training. Refresher training will be conducted on an annual basis.

4. HEARING CONSERVATION PROGRAM.

Allied Concrete Systems, LLC is dedicated to providing a safe and healthful working environment. We believe that safety in all operations and activities is of primary importance. Ultimately however, it is the employee's responsibility to seek assistance when required, and to carry out the job in a safe manner. Allied Concrete Systems, LLC will administer a continuing, effective hearing conservation program, as described in the following paragraphs, whenever employee noise exposures equal or exceed an 8 hour time weighted average sound level (TWA) of 85 decibels measured on the A scale (slow response). For purposes of the hearing conservation program, employee noise exposures will be computed without regard to any attenuation provided by the use of personal protective equipment.

4.1. An 8 hour time weighted average of 85 decibels or a dose of fifty percent will also be referred to as the action level.

4.2. Monitoring. When information indicates that any employee's exposure may equal or exceed an 8 hour time weighted average of 85 decibels, this company will implement this monitoring program.

4.2.1. The company will conduct sampling to identify employees for inclusion in the hearing conservation program and to enable the proper selection of hearing protectors.

4.2.2. All continuous, intermittent and impulsive sound levels from 80 decibels to 130 decibels will be integrated into the noise measurements.

4.2.3. Instruments used to measure employee noise exposure will have been calibrated to ensure measurement accuracy.

4.2.4. Monitoring will be repeated whenever a change in production, process, equipment or controls increases noise exposures to the extent that:

4.2.4.1. Additional employees may be exposed at or above the action level.

4.2.4.2. The attenuation provided by hearing protectors being used by employees may be rendered inadequate to meet the requirements of paragraph (j) of 29 CFR 1910.95.

4.2.5. This company will notify each employee exposed at or above an 8 hour time weighted average of 85 decibels of the results of the monitoring.

4.2.6. Observation of monitoring. This company will provide affected employees or their representatives with an opportunity to observe any noise measurements conducted.

4.2.7. Baseline audiogram. Within 6 months of an employee's first exposure at or above the action level, this company will establish a valid baseline audiogram against which subsequent audiograms can

be compared. The company will obtain a valid baseline audiogram within 1 year of an employee's first exposure at or above the action level. Where baseline audiograms are obtained more than 6 months after the employee's first exposure at or above the action level, employees will wear hearing protectors for any period exceeding six months after first exposure until the baseline audiogram is obtained.

4.2.8. Annual audiogram. At least annually after obtaining the baseline audiogram, this employer will obtain a new audiogram for each employee exposed at or above an 8 hour time weighted average of 85 decibels.

4.2.9. Evaluation of audiogram. Each employee's annual audiogram will be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred. This comparison may be done by an individual trained to technician level. If the annual audiogram shows that an employee has suffered a standard threshold shift, a retest will be accomplished within 30 days and the results considered as the annual audiogram.

4.2.9.1. Problem audiograms. This employer will ensure that an audiologist, otolaryngologist, or physician review problem audiograms and determine whether there is a need for further evaluation.

4.2.9.2. Records of audiometer calibrations, (if the testing was not conducted at the reviewers facility).

4.2.10. Follow-up procedures. If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift has occurred, the employee will be informed of this fact in writing, within 21 days of the determination.

4.2.11. Standard threshold shift. A standard threshold shift is a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear. In determining whether a standard threshold shift has occurred, allowance may be made for the contribution of aging (presbycusis) to the change in hearing level by correcting the annual audiogram according to the procedure described in Appendix F, 29 CFR 1910.95: Calculation and Application of Age Correction to Audiograms. Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, this employer will ensure that the following steps are taken when a standard threshold shift occurs:

4.2.11.1. Employees exposed or potentially exposed to high noise will be fitted with hearing protectors, trained in their use and care, and required to use them. For known high noise job assignments employees will be fitted and trained prior to job assignment.

4.2.11.2. Employees already using hearing protectors will be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.

4.2.11.3. Employees will be referred for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if it is suspected that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.

4.2.11.4. Employees will be informed of the need for an otological examination if a medical pathology of the ear that is unrelated to the use of hearing protectors is suspected.

4.2.12. If subsequent audiometric testing of an employee whose exposure to noise is less than an 8 hour TWA of 90 decibels indicates that a standard threshold shift is not persistent, this employer:

4.2.12.1. Will inform the employee of the new audiometric interpretation.

4.2.12.2. May discontinue the required use of hearing protectors for that employee.

4.3. Hearing protectors. This employer will make hearing protectors available to all employees exposed to an 8 hour time weighted average of 85 decibels or greater at no cost to the employees. Hearing protectors will be replaced at no cost as necessary.

4.3.1. This employer will ensure that hearing protectors are worn:

4.3.1.1. By any employee who is required by previous testing to wear personal protective equipment.

4.3.1.2. By any employee who is exposed to an 8 hour time weighted average of 85 decibels or greater, and who has not yet had a baseline audiogram established, or has experienced a standard threshold shift.

4.3.2. Employees will be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided.

4.3.3. This employer will provide training in the use and care of all hearing protectors provided to employees.

4.3.4. This employer will ensure proper initial fitting and supervise the correct use of all hearing protectors.

4.4. Hearing protector attenuation. This employer will evaluate hearing protector attenuation for the specific noise environments in which the protector will be used.

4.4.1. Selected hearing protectors will attenuate employee exposure at least to an 8 hour time weighted average of 90 decibels.

4.4.2. The adequacy of hearing protector attenuation will be re-evaluated whenever employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation. More effective hearing protectors will be provided where necessary.

5. AUDIOMETRIC TESTING PROGRAM.

This company will maintain an audiometric testing program in accordance with the following guidelines. 5.1.

Allied Concrete Systems, LLC will establish and maintain an audiometric testing program free of charge for employees whose exposures equal or exceed an 8-hour time-weighted average of 85 decibels.

52. Audio metric tests will be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist or physician.

5.3. All audiograms obtained pursuant to this Program will meet the requirements of 29 CFR 1910.95, Appendix C: Audiometric Measuring Instruments.

5.4. Allied Concrete Systems, LLC will provide protection against the effects of noise exposure when the sound levels within our facility exceed those shown in Table G-16 of 29 CFR 1910.95 when measured on the A scale of a standard sound level meter at slow response.

5.5. When employees are subjected to sound exceeding those listed in Table G-16 of 29 CFR 1910.95, this company will administer or have administered by qualified personnel, audiometric examinations, obtain valid audiograms, and ensure proper controls are reviewed and implemented where feasible. If such controls fail to reduce sound levels within the acceptable levels, personal protective equipment will be provided and used to reduce sound levels within the levels of the table.

6. RECORDKEEPING.

Exposure measurements. This employer will maintain an accurate record of all employee exposure measurements.

6.1. Audiometric tests. This employer will retain all employee audiometric test records. This record will include as a minimum:

6.1.1. Name and job classification of the employee.

6.1.2. Date of the audiogram.

6.1.3. The examiner's name.

6.1.4. Date of the last acoustic or exhaustive calibration of the audiometer.

6.1.5. Employee's most recent noise exposure assessment.

6.1.6. This employer will maintain accurate records of the measurements of the background sound pressure levels in audiometric test rooms.

6.2. Record retention. This employer will retain audiometric and related records for at least the following periods.

6.2.1. Noise exposure measurement records will be retained for two years.

6.2.2. Audiometric test records will be retained for the duration of the affected employee's employment.

6.3. Access to records. All records cited in this Program will be provided upon request to employees, former employees, representatives designated by the individual employee, and representatives of OSHA. The provisions of 29 CFR 1910.20 apply to access to records under this section.

6.4. Transfer of records. If this employer ceases to do business, the records will be transferred to the successor employer and maintained by the successor employer. Should the company cease to function entirely the records will be provided to the respective employees, or as required by current law.

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OCCUPATIONAL HEALTH & SAFETY SYSTEM: OH&S PROGRAM AND PROCEDURE – FALL PROTECTION

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1.0 PURPOSE

This program establishes fall protection guidelines to be followed whenever Allied Concrete Systems, LLC employees are self-performing work or otherwise find themselves exposed to fall hazards while on the job. The regulations found in this program are:

- Designed to provide a safe working environment.
- Used to govern the implementation of any Allied Concrete Systems, LLC Site Specific Fall Protection Plan.
- Used as a point of reference to OSHA's minimum standards.

2.0 SCOPE

This program applies to all Allied Concrete Systems, LLC employees and subcontractors.

3.0 GENERAL STATEMENTS

3.1 Falls are the leading cause of all fatalities and serious injuries in the construction industry. For this reason, Allied Concrete Systems, LLC is committed to ensuring all its employees are protected from falls greater than 6ft.

3.2 Fall protection is required whenever employees are potentially exposed to falls from heights of (6) six feet or greater to lower levels. This includes work near and around excavations. Use of guard rails, or personal fall arrest systems should be used when applicable. Fall hazards less than (6) feet should be evaluated by a competent person.

3.3 Allied Concrete Systems, LLC subcontractors shall evaluate their work areas prior to work for existing fall hazards and provide protection for their employees who are exposed to these hazards. And proof of training.

3.4 Where employees desire to provide their own protective equipment, the employee shall be responsible to notify the Safety Director so they may assure its adequacy, including proper maintenance, and sanitation of such equipment.

3.5 Fall protection systems shall be determined and erected under the supervision of a competent person and/or a qualified person as directed by OSHA standards.

3.6 Should there be any questions regarding fall protection, please contact your supervisor or Safety Manager with any questions.

4.0 DEFINITIONS

Competent Person: One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them [29 CFR §1926.32(f)]. By way of training and/or experience, a competent person is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation, and has the authority to correct them. Some standards add additional specific requirements which must be met by the competent person.

Primary Fall Prevention Systems: Primary fall prevention systems are the preferred choice for performing work in elevated areas. Primary Systems provide walking and working surfaces that are free from floor/wall openings and are equipped with standard guardrail systems on all open sides eliminating hazards. In most cases, primary fall prevention systems are sufficient fall prevention methods in themselves and may not require the use of additional (secondary) fall protection systems such as personal fall arrest systems (PFAS).

Secondary Fall Protection Systems: Secondary fall protection systems should only be utilized after all efforts to employ primary fall prevention systems have been exhausted or when being used in concert with primary systems. Secondary fall protection systems must be worn and used in the absence of Primary Fall Prevention Systems. Fall arrest equipment shall meet the requirements of applicable ANSI, ASTM, or OSHA requirements.

Controlled Access Zone (CAZ): A work area designated and clearly marked in which certain types of work (such as overhand bricklaying and roof decking) may take place without the use of conventional fall protection systems—guardrail, personal arrest or safety net—to protect the employees working in the zone.

5.0 RESPONSIBILTIES

5.1 Supervisors

5.1.1 Conduct workplace hazard assessment and identify existing hazards

5.1.2 Identify, select and designate a competent person

5.1.3 Determine PPE appropriate for employees to wear

5.1.4 Ensures that adequate protection equipment is available on site

5.1.5 Ensures compliance with this program

5.1.6 Maintains replacement equipment for employees

5.2 Employees

5.2.1 Conduct operations in a safe manner and wear assigned PPE

5.2.2 Use “Stop Work Authority” if you recognize hazards in your workplace

5.2.3 Do not alter equipment

5.2.4 Keep PPE and equipment clean

5.2.5 Inspect equipment daily and before each use

5.2.6 Report damaged PPE to your supervisor and discontinue use immediately

6.0 GENERAL REQUIREMENTS

6.1 Guard Rail Systems

Guardrail systems are an integral part of many primary fall prevention systems and whenever used, must be constructed with absolute certainty of integrity and structural soundness. According to OSHA, Guardrail systems must meet the following minimum requirements:

6.1.1 Top rail must be 42 inches, (+/-) 3 inches, above the walking/working surface.

6.1.2 Midrails must be installed at a height midway between the top edge of the guardrail system and the walking/working level, approximately 21 inches.

6.1.3 Guardrail systems shall be capable of withstanding, without failure, a force of at least 200 pounds applied within 2 inches of the top edge, in any outward or downward direction at any point along the top edge.

6.1.4 Midrails must be capable of withstanding, without failure, a force of at least 150 pounds applied in any downward or outward direction at any point along the midrail.

6.1.5 If wire rope is used for top rails, it must be flagged at not more than 6-foot intervals with high visibility material.

6.1.6 For wood railings, the posts shall be of at least 2x4 inch stock spaced not to exceed 8 feet; the top rail shall be of at least 2x4 inch stock; the intermediate rail shall be of at least 1x6 inch stock.

6.1.7 For pipe railing, posts and top and intermediate railings shall be at least 1-1/2 inches nominal diameter with posts spaced not more than 8 feet on centers.

6.1.8 For structural steel railings, posts and top and intermediate rails shall be of 2- by 2- by 3/8-inch angles or other metal shapes of equivalent bending strength, with posts spaced not more than 8 feet on centers.

6.1.9 A standard toeboard shall be 3½ inches minimum in vertical height from its top edge to the level of the floor, platform, runway or ramp. It shall be surely fastened in place and have not more than 1/4-inch clearance above a floor level. It may be made of any substantial material, either solid or with openings not over 1 inch in greatest dimension.

6.2 Hole Covers

Covers for holes in floors, roofs (including skylights), and other walking/working surfaces shall meet the following requirements:

6.2.1 Covers located in roadways and vehicular aisles shall be capable of supporting, without failure, at least twice the maximum axle load of the largest vehicle or piece of equipment expected to cross over the cover.

6.2.2 All other covers shall be capable of supporting, without failure, at least twice

the weight of employees, equipment, and materials that may be imposed on the cover at any one time.

6.2.3 All covers shall be secured when installed to prevent accidental displacement by the wind, equipment, or employees.

6.2.4 All covers shall be marked with the words "HOLE COVER - DO NOT REMOVE" to provide adequate warning of the hazard.

6.2.5 Only authorized personnel shall be permitted to remove the hole cover. It is recommended and in some cases required that employees involved in removing hole covers wear personal fall protection. If the employee is not protected from the fall hazard, other methods shall be used in order for the employee to maintain a safe distance from the open hole.

6.3 Personal Fall Restraint Systems

6.3.1 Restraint systems are designed to restrain movement so that a fall is **not** possible. This system should never be confused with personal fall arrest systems. The system must have the capacity to withstand at least 3,000 pounds, or twice the maximum expected force that is needed to restrain the person from exposure to the fall hazard.

6.3.2 In determining this force, consideration should be given to site specific factors such as, but not limited to, the force generated by a person walking, leaning, or even sliding down a steep incline.

6.4 Personal Fall Arrest System

6.4.1 Where primary fall protection methods are infeasible or impractical, and adequate anchorage is available, a full body harness and shock absorbing lanyard system shall be worn and secured where there is a fall exposure of six feet (6') or more.

6.4.2 Fall distance calculations should be made for fall hazards less than 18ft, or where the competent person deems necessary to ensure the type of equipment selected will deploy and be effective before the person is able to strike any objects or the ground.

NOTE: If at any time an employee is forced to reach or position any part of their body beyond the plane of the structure's boundaries (i.e., guardrail system, ladders, scaffolding or the alike), full body harnesses with appropriate anchorage shall be worn and secured to ensure 100% fall protection. Do not tie-off to any equipment unless manufacturer approves in writing.

6.4.3 To ensure the integrity of the equipment being used and success of the Fall Protection Program, the following shall be strictly adhered to:

6.4.3.1 Only full body harnesses, shock absorbing lanyard systems or retractable devices approved by competent person for its application may be used. Shock absorbing lanyards shall only be used for fall protection and are never to be used for positioning or material transport (rigging).

6.4.3.2 The shock absorbing lanyard shall be secured to the D-ring located on the back of the harness between the shoulder blades or as per the manufacturer.

6.4.3.3 Full body harnesses/shock absorbing lanyards shall be attached to an anchorage point capable of supporting an impact load of 5,000 pounds or twice the potential impact load of the engineered fall protection system.

6.4.3.4 Full body harnesses and shock absorbing lanyards shall be secured to limit potential free fall distance to six feet (6') or less.

6.4.3.5 Snaphooks attached to shock absorbing lanyards shall be of the double action/locking type design. Simple spring resistant snaphooks shall not be used for fall protection.

6.4.4 Employees using a full body harness and shock absorbing lanyards shall inspect them for wear, damage and other deterioration prior to each use.

6.4.4.1 Full body harnesses and shock absorbing lanyards subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection.

6.5 Anchorage Points

An anchorage point must be capable of supporting 5,000 pounds per worker. OSHA regulations state that a single anchorage connector can be used only for one fall arrest system, unless the anchorage connector is certified for multiples of the 5,000 pounds rating by an engineer or as required by OSHA or manufacturers regulations. The strength of a personnel fall arrest system is based on its being attached to an anchorage system that does not reduce the strength of the system.

6.5.1 Unless you have locking hooks designed for the following connections, do not attach your hook in any of these ways:

- Directly to a horizontal lifeline.
- Directly to webbing, rope or wire rope.
- Back onto its own lanyard.
- To a D-ring that has another snap hook or other connector attached to it.
- To any object whose size or shape would allow it to depress the snap-hook keeper.
- Do not attach two snaphooks to each other.

6.6 Warning Line Systems

6.6.1 Warning line systems consist of ropes, wires, or chains, and supporting stanchions and are set up as follows:

6.6.1.1 Flagged at not more than 6-foot intervals with high-visibility material;

6.6.1.2 Rigged and supported so that the lowest point (including sag) is no less than 34 inches from the walking/working surface and its highest point is no more than 39 inches from the walking/working surface.

6.6.1.3 Stanchions, after being rigged with warning lines, shall be capable of resisting, without tipping over, a force of at least 16 pounds applied horizontally against the stanchion, 30 inches above the walking/working surface, perpendicular to the warning line and in the direction of the floor, roof, or platform edge;

6.6.1.4 The rope, wire, or chain shall have a minimum tensile strength of 500 pounds and after being attached to the stanchions, must support without breaking, the load applied to the stanchions as prescribed above.

6.6.1.5 Shall be attached to each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in the adjacent section before the stanchion tips over.

6.6.1.6 Warning lines shall be erected around all sides of roof work areas. When mechanical equipment is being used, the warning line shall be erected not less than 6 feet from the roof edge parallel to the direction of mechanical equipment operation, and not less than 10 feet from the roof edge perpendicular to the direction of mechanical equipment operation.

6.6.1.7 When mechanical equipment is not being used, the warning line must be erected not less than 6 feet from the roof edge.

6.7 Safety Monitoring Systems

6.7.1 When no other alternative fall protection has been implemented for roofing operations, the employer may implement a safety monitoring system. Allied Concrete Systems, LLC must appoint a competent person to monitor the safety of workers and the employer shall ensure that the safety monitor:

6.7.1.1 Is competent in the recognition of fall hazards;

6.7.1.2 Is capable of warning workers of fall hazard dangers and in detecting unsafe work practices;

6.7.1.3 Is operating on the same walking/working surfaces of the workers and can see them;

6.7.1.4 Is close enough to work operations to communicate orally with workers and has no other duties to distract from the monitoring function.

6.7.2 Mechanical equipment shall not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations on low-sloped roofs.

6.7.3 No worker, other than one engaged in roofing work (on low-sloped roofs) or one covered by a fall protection plan, shall be allowed in an area where an employee is being protected by a safety monitoring system.

6.7.4 All workers in a controlled access zone shall be instructed to promptly comply with fall hazard warnings issued by safety monitors.

6.8 Controlled Access Zones

6.8.1 Controlled access zones are used to keep out workers other than those authorized to enter work areas from which guardrails have been removed. Where there are no guardrails, masons are the only workers allowed in controlled access zones.

6.8.1.1 Controlled access zones, when created to limit entrance to areas where leading edge work and other operations are taking place, must be defined by a control line or by any other means that restrict access. Control lines shall consist of ropes, wires, tapes or equivalent materials, and supporting stanchions, and each must be:

6.8.1.2 Flagged or otherwise clearly marked at not more than 6-foot (1.8 meters) intervals with high-visibility material;

6.8.1.3 Rigged and supported in such a way that the lowest point (including sag) is not less than 39 inches (1 meter) from the walking/working surface and the highest point is not more than 45 inches (1.3 meters)—nor more than 50 inches (1.3 meters) when overhand bricklaying operations are being performed—from the walking/working surface;

6.8.1.4 Strong enough to sustain stress of not less than 200 pounds (0.88 kilonewtons). Control lines shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge.

6.8.1.5 Control lines also must be connected on each side to a guardrail system or wall.

6.8.2 When control lines are used, they shall be erected not less than 6 feet (1.8 meters) nor more than 25 feet (7.6 meters) from the unprotected or leading edge, except when precast concrete members are being erected. In the latter case, the control line is to be erected not less than 6 feet (1.8 meters) nor more than 60 feet (18 meters) or half the length of the member being erected, whichever is less, from the leading edge.

6.8.3 Controlled access zones when used to determine access to areas where overhand bricklaying and related work are taking place are to be defined by a control line erected not less than 10 feet (3 meters) nor more than 15 feet (4.6 meters) from the working edge. Additional control lines must be erected at each end to enclose the controlled access zone. Only employees engaged in overhand bricklaying or related work are permitted in the controlled access zones.

6.8.4 On floors and roofs where guardrail systems are not in place prior to the beginning of overhand bricklaying operations, controlled access zones will be enlarged as necessary to enclose all points of access, material handling areas, and storage areas. On floors and roofs where guardrail systems are in place, but need to be removed to allow overhand bricklaying work or leading edge work to take place, only that portion of the guardrail necessary to accomplish that day's work shall be removed.

6.9 Protection from Falling Objects

6.9.1 Falling object protection complies with the following provisions:

- Hardhats shall be worn.
- Toeboards, when used, should be erected along the edge of the overhead walking or working surface for a distance sufficient to protect workers below.
- Toeboards should be a minimum of 3½ inches in vertical height.
- Toeboards should be solid or have openings not over 1 inch at their greatest dimension.

6.9.2 Where tools, equipment or materials are piled higher than the top edge of a toeboard, paneling or screening should be erected to the top of a guardrail system's top rail or midrail, for a distance sufficient to protect workers below.

6.9.3 Guardrail systems, used as falling object protection, should have openings small enough to prevent passage of potential falling objects.

6.9.4 Canopies, when used as falling object protection, should be strong enough to

prevent collapse and prevent penetration by any objects that may fall onto the canopy.

6.10 Temporary Work Platforms / Scaffolds

6.10.1 Personnel working or traveling on aerial lifts shall wear an approved safety harness/lanyard system at all times.

6.10.2 Personnel working/traveling on temporary platforms with fall exposure shall secure their lanyards to an anchorage point capable of supporting 5,000 pounds or designed as part of a complete personal fall arrest system that maintains a safety factor of at least two (2).

6.10.3 Scaffolding (See Scaffolding & Aerial Lifts Program).

7.0 TRAINING REQUIREMENTS

7.1 Employees must be trained in the following areas:

7.1.1 Nature of fall hazards in the work area;

7.1.2 Correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems;

7.1.3 Use and operation of controlled access zones and guardrail, personal fall arrest, safety net, warning line, and safety monitoring systems;

7.1.4 Role of each employee in the safety monitoring system when the system is in use;

7.1.5 Limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs;

7.1.6 Correct procedures for equipment and materials handling and storage and the erection of overhead protection; and,

7.1.7 Employees' role in fall protection plans.

7.2 Training must be completed before the employee is assigned to work that requires the use of fall protection.

7.3 Sub-contractors are shall train any employees who are to engage in work exposing employees to falls greater than 6ft, or where the use of fall protection systems area required.

8.0 REFERENCES

8.1 29 CFR §1926 Subpart M – Fall Protection.

8.2 Scaffolding & Aerial Lifts Program

9.0 SUMMARY OF REVISIONS AND CHANGES

Date	Version	Nature of Revision	Author/Editor	
3.19.18	1	Original Document	Safety Director	

Ladder & Stairways Program
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1.0 PURPOSE

This purpose of the Ladder Safety Program is to complement the Allied Concrete Systems, LLC Fall Protection Program by setting proper procedures that all employees must follow when working with ladders and stairs. In order to prevent accidents from occurring at Allied Concrete Systems, LLC jobsites, each employee will receive the appropriate training in these procedures and strictly adhere to them; except when doing so would expose the employee to a greater hazard.

2.0 SCOPE

This procedure is designed to protect all Allied Concrete Systems, LLC employees from hazards associated with the installment, care and use of portable as well as fixed ladders and stairs in order to ensure a safe working environment at Allied Concrete Systems, LLCs jobsites.

3.0 DEFINITIONS

"A" Frame ladder: Also Known as a "Step Ladder"

Cleats: Ladder crosspieces of rectangular cross section placed on edge upon which a person may step while ascending or descending. Also known as ladder "rungs".

Double-cleat ladder: means a ladder similar in construction to a single-cleat ladder, but with a center rail to allow simultaneous two-way traffic for employees ascending or descending.

Extension trestle ladder: a self-supporting portable ladder, adjustable in length consisting of a trestle ladder base and a vertically adjustable extension section, with a suitable means for locking the ladders together.

Feet: The component of the ladder that is in contact with the lower supporting surface.

Fixed Ladder: a ladder that is permanently attached to a structure, building, or equipment.

Grab bars: are individual handholds placed adjacent to or as an extension above ladders for the purpose of providing safe hand-hold above the "top" of the ladder.

Individual-Rung Ladder: a fixed ladder, each rung of which is individually attached to a structure, building or equipment

Job-made ladder: means a ladder that is fabricated by employees, typically at the construction site, and is not commercially manufactured. This definition does not apply to any individual-rung/step ladders.

Maximum intended load: the total load of all employees, equipment, tools, materials, transmitted loads, and other loads anticipated to be applied to a ladder component at any one time.

Portable ladder; means a ladder that can be readily moved or carried.

Riser height: means the vertical distance from the top of a tread to the top of the next higher tread or platform/landing or the distance from the top of a platform/landing to the top of the next higher tread or platform/landing.

Rungs: Ladder crosspieces upon which a person may step while ascending or descending. Rungs are usually "round" in cross-section while "cleats" are usually rectangular in cross-section. See definition of "Cleats" above.

Stair-rail system: means a vertical barrier erected along the unprotected sides and edges of a stairway to prevent employees from falling to lower levels. The top surface of a stair-rail system may also be a "handrail."

Single Ladder: A non-self-supporting portable ladder, nonadjustable in length, consisting of one section.

Side Rails: The side members joined at intervals by rungs, steps, cleats or rear braces.

Step Stool (ladder type): a self-supporting, foldable, portable ladder, non-adjustable in length, 32 inches or less in size, with flat steps and without a pail shelf designed so that the ladder top cap as well as all steps can be climbed upon. The side rails may continue above the top cap.

Step Ladder: A self-supporting portable ladder, non-adjustable in length, with flat steps and a hinged base. Also known as an "A"-Frame ladder.

Tread depth: The horizontal distance from front to back of a tread (excluding nosing, ifany).

Top Cap: The uppermost horizontal member of a portable step ladder or step stool.

Working Load: The maximum applied load, including the weight of the user, materials, and tools, which the ladder is to support for the intended use.

4.0 GENERAL STATEMENTS

Implementing a Ladder & Stairway Program at Allied Concrete Systems, LLC is a very important element in the occupational health and safety of its employees. If the precautions necessary are identified and corrective action is immediately implemented, this program will aid all Allied Concrete Systems, LLC employees in reducing the risk of injuries.

5.0 ROLES AND RESPONSIBILITIES

5.1 Safety Director

5.1.1 Develop and coordinate the implementation of the overall Ladder Safety Program;

5.1.2 Provide training and written instructions for the installment, inspection, care and use of ladders and stairs;

5.1.3 Conduct periodic inspections and evaluations to determine the continued effectiveness of the program.

5.1.4 Review the Ladder Safety Program annually for compliancy with all applicable regulatory requirements.

5.2 Supervisors

5.2.1 Implementation of the Ladder Safety Program;

5.2.2 Coordinate employee training schedules with the Safety Department; and

5.2.3 Enforce the care, use and storage procedures of ladders and stairs as outlined in this program.

5.3 Employees

5.3.1 Comply with the procedures outline within the Ladder Safety Program;

5.3.2 Properly select, use, handle, and store ladders in accordance with the instructions and training received.

5.3.3 Thoroughly inspect and maintain ladders before and after use.

5.3.4 Report any hazards observed, which could compromise personal safety or the safety of others to his or her supervisor immediately.

6.0 GENERAL REQUIREMENTS

6.1 Portable Ladders

6.1.1 ACS Employees are not permitted to repair ladders. All damaged ladders should be tagged out and returned to the shop to be repaired by a qualified person.

6.1.2 All manufacture labels shall be legible. Never remove or cover warning labels required by manufacturer. If ladders are missing labels, please discontinue use, tag out and remove from service until repaired.

6.1.3 Ladders shall be utilized only on stable, level surfaces.

6.1.4 Ladders should be maintained free of oil, grease and other slipping hazards.

6.1.5 Ladders should not be loaded beyond the maximum intended load. Ladders should be used only for the purpose for which they are designed.

6.1.6 Non-self-supporting ladders should be set at a 4:1 angle.

6.1.7 Ladders should not be used on slippery surfaces unless secured or provided with slip-resistant feet.

6.1.8 Ladders that can be displaced by project site activities or traffic should be secured to prevent accidental movement, or a barricade should be used to keep traffic or activities away from the ladder.

6.1.9 The area around the top and bottom of the ladders should be kept clear and free of debris.

6.1.10 Ladders should not be moved, shifted or extended while in use.

6.1.11 Ladders should have nonconductive side rails where exposed to energized electrical sources.

6.1.12 The top and first step of a stepladder should not be used as steps.

6.1.13 Cross bracing on the rear section of stepladders should not be used for climbing.

6.1.14 Ladders should be inspected for visible defects before each use and after any incident that could affect safe use.

6.1.15 When ascending or descending a ladder, the worker should face the ladder. Each worker should use at least one hand to grasp the ladder when moving up or down the ladder. Avoid carrying materials and equipment while ascending and descending a ladder.

6.1.16 Ladders should not be placed in front of doors that open toward the ladder unless the door is safely locked or otherwise guarded.

6.1.17 A double-cleated ladder or two or more ladders should be provided for 25 or more workers,

or when a ladder serves simultaneous two-way traffic.

6.1.18 Ladders should not be tied or fastened together to create longer sections unless they are designed for such configurations.

6.1.19 A metal spreader or locking device should be provided on each stepladder to hold the front and back sections in an open position.

6.1.20 Ladder components should be surfaced/smooth to prevent injury.

6.1.21 Wood ladders should not be coated with any opaque covering, except for identification or warning labels that may be placed only on one face of a side rail.

6.1.22 Ladders should not be:

6.1.22.1 Used in a horizontal position as platforms, runways, or scaffolds.

6.1.22.2 Placed in front of doors, opening toward the ladders unless the door is blocked open, locked, or guarded.

6.1.22.3 Placed on boxes, barrels, or other unstable bases to obtain additional height.

6.1.22.4 Tied or fastened together to provide longer sections. They must be equipped with the hardware fittings necessary if the manufacturer endorses extended uses.

6.1.22.5 Used to gain access to a roof unless the top of the ladder extends at least 3 feet above the point of support, gutter, or roofline.

6.1.22.6 Used as a brace, skid, guy or gin pole, gangway, or for other uses than that for which they are intended, unless specifically recommended for use by the manufacturer.

6.2 Fixed Ladders

6.2.1 All fixed ladders should be designed to withstand a single concentrated load of at least 200 lbs. If necessary, they should be painted or treated to prevent rust and deterioration depending on their location. The following rules apply to fixed ladders:

- Rungs of metal ladders must have minimal diameter of three quarters inch. Rungs must be at least 16 inches wide, be spaced 12 inches apart.
- The preferred pitch for a safe descent is 75 to 90 degrees. Ladders with a 90-degree pitch must have 2 ½ feet of clearance on the climbing side. There must be a 3 ft clearance on ladders with a 75-degree pitch.
- There must be at least a 7-inch clearance in back of the ladder to provide adequate toe space.
- There must be a clear width of 15 inches on each side of the center line of the ladder, unless the ladder is equipped with a cage or well.
- Fixed ladders must have cages if they are longer than 20 feet. Landing platforms must be provided on ladders greater than 20 feet long. A platform is required every 30 feet for caged ladders and every 20 feet for unprotected ladders.
- Side rails must extend at least 42 inches above the landing.

6.3 Inspection

6.3.1 Prior to use of any ladder, an inspection must be performed. Never use a defective ladder. If the ladder is found to be defective, tag or mark it so that it will be repaired or destroyed. Always refer to the manufacturer's specifications for further details on inspecting and maintaining ladders.

6.3.2 The following items should always be observed during visual inspections:

- Carefully examine the ladder for broken or missing rungs or cleats, broken side rails, and other damaged parts.
- All cleats, rungs, and side rails must be free of grease, oil, paint, or other slippery substances.
- The ladder should be equipped with feet that are secured in place.
- The joint between steps and side rails must be tight, and all hardware and fittings should be attached firmly. Movable parts should operate freely without binding.
- All wood parts must be free of sharp edges and splinters.
- Visually inspect the ladder to be free of warpage, decay or other irregularities.
- Metal ladders must be free of sharp edges, burrs and corrosion.
- Inspect for dents or bends in side rails, rungs or cleats.
- Check step to side rail connections, hardware connections and rivets.
- If a ladder tips over, inspect the ladder for damage before continuing work.

6.4 Maintenance

6.4.1 Damaged ladders must be tagged or marked and withdrawn from service and either repaired or destroyed. Notify the supervisor immediately.

6.4.2 Fiberglas ladders should have a surface coat of lacquer maintained. If it is scratched beyond normal wear, it should be lightly sanded before applying a coat of lacquer.

6.4.3 Field repairs and the fabrication of improvised ladders are not permitted.

6.4.4 Never use or try to straighten a bent or bowed ladder.

6.4.5 Remove it from service immediately.

6.4.6 Wood ladders should be protected with a clear sealer varnish, shellac, linseed oil or wood preservative.

6.4.7 Wood ladders should not be painted because the paint could hide defects.

6.4.8 If exposed to greases, oils or other slippery substances, the ladder must be cleaned. If the substance is cannot be completely removed, the ladder must be removed from service.

6.5 Storage

6.5.1 Ladders should be stored in areas free of known hazards, where they can be inspected easily and can be reached without causing accidents.

6.6 Stairways

6.6.1 Where doors or gates open directly onto a stairway, a platform should be provided that extends at least 20 inches beyond the swing of the door.

6.6.2 Metal pan landings and metal pan treads should be secured in place before filling.

6.6.3 All stairway parts should be free of dangerous projections, such as protruding nails.

6.6.4 Slippery conditions on stairways should be corrected before the stairs are used.

6.6.5 Stairways having (4) four or more risers or rising more than 30 inches should have at least one handrail. A stair rail should also be installed along each unprotected side or edge. When the top edge of a stair rail system also serves as a handrail, the height of the top edge should not be more than 37 inches, or less than 36 inches, from the upper surface of the stair rail to the surface of the tread.

6.6.6 Stair rails should not be less than 36 inches in height.

6.6.7 Mid-rails or equivalent intermediate, structural members should be provided between the top rail and stairway steps.

6.6.8 Mid-rails should be located midway between the top of the stair rail and the stairway steps.

6.6.9 Handrails and top rails should be capable of withstanding at least 200 pounds of weight applied within two inches of the top edge in any downward or outward direction.

6.6.10 The height of handrails should not be more than 37 inches or less than 30 inches from the upper surface of the handrail to the surface of the tread.

6.6.11 Stair rail systems and handrails should be surfaced to prevent injuries.

6.6.12 Handrails should provide an adequate handhold.

6.6.13 The ends of stair rail systems and handrails should be constructed to prevent dangerous projections, such as rails protruding beyond the end posts of the system.

6.6.14 Temporary handrails should have a minimum clearance of three inches between the handrail and walls, and other objects.

6.6.15 Unprotected sides and edges of stairway landings should be protected with standard 42-inch guardrails.

6.6.16 When stairs are installed and before concrete is placed on the steps, the offset in the stair tread should be filled in with lumber to eliminate the offset at the nosing.

6.7 Job Built Ladders

6.7.1 All wood parts should be seasoned, smoothly machined and dressed on all sides. Fasteners should be driven their full length and countersunk not more than 1/8 of an inch. Fasteners for constructing job-built ladders can include nails, staples, or screws. The fastener should be of the appropriate strength for the load.

6.7.2 Lumber for side rails should be of the appropriate strength, species, group and grade. See ANSI A14.4.

6.7.3 Job-built ladders should be tailored for their intended use.

6.7.4 Single-cleat and double-cleat ladders should not exceed 24 feet in working length.

6.7.5 Ladder width of single-cleat ladders should be between 16 and 20 inches. The width of double-cleat ladders should be between 18 and 22 inches.

6.7.6 Cleats should be continuous and extend the full width of double-cleat ladders. Cleats should be level and parallel when positioned for use. The cleats should be spaced evenly between 8 inches and 12 inches from the tops of the cleats.

7.0 TRAINING

7.1 [Company Name] will provide training for each worker using ladders and stairways. The program should enable each worker to recognize hazards related to ladders and stairways and to use proper procedures to minimize these hazards.

- 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.

8.0 REFERENCES

8.1 ANSI A14.4 - 1979 - Safety Requirements for Job Made Ladders Federal OSHA §1926.1053 - Ladders (All Types)

8.2 29 CFR §1926 Subpart X

9.0 REVISION HISTORY

Date	Version	Nature of Revision	Author/Editor	
08.02.18	1	Original Document	Safety Director	

Scaffolding Program
Table of Contents

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1.0 PURPOSE

The purpose of this program is to outline the general guidelines for the safe construction, operation and maintenance of scaffolds. This program also outlines the safety guidelines while personnel are working on and around scaffolds.

2.0 SCOPE

This program applies to all Allied Concrete Systems, LLC employees. Subcontractors performing work involving scaffolds are required to comply with all OSHA requirements per the 29 CFR §1926.450 - Scaffolds.

3.0 GENERAL STATEMENTS

3.1 **Allied Concrete Systems, LLC** employees should be trained, alert to conditions in the work areas and use this program as a reference.

3.2 Trained employees must make safety conscious decision and never put themselves in unsafe conditions.

4.0 DEFINITIONS

Access Ladder: A separate attachable or built-in means of access to and from a scaffold work platform, with regularly spaced steps or rungs, having a maximum variation between adjacent rungs of two inches. Spacing between rungs may be up to 16½ inches if such spacing is necessitated by practical limitations of the equipment where the ladder is being used.

Bearer: A horizontal member of a scaffold upon which the platform rests and which may be supported by ledgers.

Boatswains Chair: A suspended seat designed to accommodate one worker in a sitting position.

Brace: A tie that holds one scaffold member in a fixed position with respect to another.

Competent Person: Competent person means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Coupler: A device for locking together component parts of tube and coupler scaffold (angle clamp).

Double pole or independent pole scaffold: A scaffold supported from the base by a double row of uprights, independent of support from the walls, and constructed of uprights, ledgers, horizontal platform bearers and diagonal braces.

Fabricated plank or platform: Built-up platform designed to support workers on a scaffold, manufactured using metal or non-metal structural members with solid slat, or open mesh decking, such as pencil boards.

Fabricated tubular frame scaffolding: A sectional, panel or frame metal scaffold substantially built-up with pre-fabricated tubular sections, consisting of posts and horizontal bearers with intermediate members. Panels or frames are braced with diagonal or cross braces.

Interior hung scaffold: A scaffold suspended from the ceiling or platform of a structure.

Maximum intended load: The total of all loads, including the working load, the weight of the scaffold and other loads as may be reasonably anticipated.

Mid rail: A rail approximately midway between the guardrail and platform secured to the uprights erected along the exposed sides and ends of platforms.

Outrigger scaffold: A scaffold consisting of a work platform supported by outriggers. It projects beyond the wall or face of the structure, the inboard ends of which are secured inside of such structure or platform.

Put-log: A scaffold member upon which the platform rests.

Runner: The lengthwise horizontal bracing or bearing members or both.

Scaffold: Any temporary elevated or suspended platform and its supporting structure for workers, or materials, or both.

Scaffold load ratings: Minimum loading for these categories:

- Heavy-duty loading: For scaffolding designed and constructed to carry a working load of 74 lb/ft.2.
- Medium-duty loading: For scaffolding designed and constructed to carry a working load of 50 lb/ft.2.
- For scaffold designed and constructed to carry weights of specified nature (i.e., materials on a pallet). Planks, scaffold and accessories shall be designed based on these loads if they exceed the standard loading.

Single-point adjustable suspension scaffold: A manually or power operated unit designed for light-duty use, supported by a single wire rope from an overhead support, arranged and operated to permit raising/lowering the platform to the desired working position (sky climber and painter's basket).

Toe board: A barrier secured along the sides and ends of a platform, to guard against materials, tools and other loose objects falling.

Tube and coupler scaffold: An assembly consisting of tubing which serves as posts, bearers, braces, ties, runners, a base supporting the posts, and special couplers which serve to connect the uprights and join the various members.

Two-point suspension scaffold (or swinging scaffold): A scaffold, the platform of which is supported by hangers or stirrups at two points, suspended from overhead supports to permit rising or lowering the platform to the desired working position by tackle or hoisting machines.

Working load: Load imposed by men, materials and equipment combined.

5.0 RESPONSIBILITIES

5.1 Supervisor

5.1.1 Supervisor is responsible for the implementation, maintenance and compliance with this program.

5.1.2 Ensure compliance with the provisions of this written program for scaffold erection, use and dismantling.

5.1.3 Ensure all inspections and documentation take place and are filed as specified in this program and that deficiencies are identified and corrected.

5.1.4 Ensure a scaffold competent person is on site during erection, alteration, design and disassembly.

5.2 Employees

5.2.1 Ensure all personnel comply with all sections of this program.

5.3 Competent Person

5.3.1 A competent person is a person who is trained and capable to identify and properly correct hazards associated to scaffolds. This includes:

- Proper erection procedures.
- Determining safe working loads.
- Proper inspections for specific types of scaffolds.
- Proper disassembly procedures.

5.3.2 The competent person will have the authority to approve, inspect and enforce all modifications, corrective measures and safe work practices associated with scaffolds

6.0 GENERAL REQUIREMENTS

Scaffolds and other elevated work platforms can expose workers to falls and failing objects if appropriate safety measures are not implemented. Scaffolds should be designed, built and inspected by competent persons. There are several types of scaffolds that are addressed specifically in the OSHA standards. All scaffolding is required to be designed by a qualified person and must be erected in accordance with that design. The following general rules are suggested for maintaining all types of scaffolds in safe working condition.

6.1 All Scaffolds

6.1.1 Scaffolds shall be erected in accordance with this standard for employees engaged in work that cannot be done safely from the ground or from solid construction.

6.1.2 The footing or anchorage for scaffolds shall be sound, rigid and capable of carrying the maximum intended load without settling or displacement. Unstable objects, such as barrels, boxes, loose brick or concrete blocks may not be used to support scaffolds or planks. Unstable objects, such as barrels, boxes, loose brick or concrete blocks may not be used to support scaffolds or planks.

6.1.3 Guard rails, mid rails and toe boards shall be installed on all open sides and ends of platforms four feet or more above ground.

6.1.4 Guard rails shall be installed no less than 36 inches or more than 45 inches high with a mid rail.

6.1.5 Guard rail and mid rail supports shall be at intervals not to exceed 10 feet.

6.1.6 Toe boards shall be 1 inch x 4 inch lumber, or the equivalent. Toe boards will be a minimum height of four inches above the working surface with no more than a ¼ inch gap.

6.1.7 Top rails shall support a force of 200 pounds applied in any direction, 150 pounds for mid rails and 50 pounds for toe boards. Acceptable guard rail material shall be as follows, or the equivalent:

- 1-1/4" x 1-1/4" x 1/8" in structural angle iron
- 1" x .07" wall steel tubing
- 1.99" x .058" wall steel tubing
- 2" x 4" lumber

6.1.8 Scaffolds and their components shall be capable of supporting without failure at least four times the maximum intended load.

6.1.9 Scaffolds shall not be altered or moved horizontally while in use or occupied except when a scaffold has been specifically designed for such use.

6.1.10 Any scaffold damaged or weakened for any reason shall be immediately removed from service and shall not be used until repairs have been completed and approved by a competent person.

6.1.11 Scaffold shall not be loaded in excess of the working load for which it is intended. Manufactured scaffolds must be used in accordance with the manufacturer's recommendations.

6.1.12 All load-carrying timber members of scaffold framing shall be a minimum of 1,599 lb/ft.2 (stress grade) construction grade lumber. All dimensions are normal sizes as provided in the American Lumber Standards, except where rough sizes are noted. Only rough or undressed lumber of the size specified will satisfy minimum requirements.

6.1.13 All planking shall be two inches (nominal) chosen for scaffold plant use as recognized by grading rules approved by the Board of Review of the American Lumber Standards Committee for the type of wood used. The maximum permissible spans for 2 x 10" (nominal) or 2 x 9" (rough) planks shall be:

Working Load lb/ft2	Permissible Span (ft)
25	10
50	8
75	7

6.1.14 Platform planks shall be laid with openings no more than one inch between planks or scaffold members.

6.1.15 Bolts used in the construction of scaffolds shall be of adequate size and in sufficient numbers at each connection to develop the desired strength of the scaffold. Do not use nails.

6.1.16 Planks or platforms in a continuous run shall be overlapped (minimum 12 inches) and secured.

6.1.17 An access ladder or equivalent safe access shall be provided to work platforms on all types of scaffolds. The ladder and platform shall be secured. On welding jobs and especially hazardous jobs, two accesses are recommended.

6.1.18 Wood scaffold planks, unless cleated or otherwise restrained at both ends, shall extend over their supports not less than six inches, nor more than 12 inches. Fabricated scaffold planks and platforms, unless cleated or otherwise restrained by hooks or equivalent means at both ends, shall extend over their end supports not less than six inches, nor more than 12 inches.

6.1.19 The poles, legs or uprights of scaffolds shall be plumb, and securely and rigidly braced to prevent swaying and displacement.

6.1.20 Materials being hoisted onto a scaffold will have a tag line.

6.1.21 Overhead protection shall be provided for workers on a scaffold exposed to overhead hazards.

6.1.22 Scaffolds in areas where persons are required to work or pass under the scaffolds will be taped off with yellow caution tape, and signs stating "Danger Overhead Work" will be posted at the boundaries. Orange netting will be erected on any scaffold more than one tier high where other people have to pass underneath or nearby.

6.1.23 Employees will not work on scaffolds during storms or high winds (i.e., 35 mph).

6.1.24 Employees will not work on scaffolds covered with ice, unless all ice is removed and planking is sanded to prevent slipping.

6.1.25 Tools, materials and debris are not allowed to accumulate on scaffold platforms

6.1.26 Treat or protect fiber or synthetic rope used in work involving corrosive substances.

6.1.27 All rope used for scaffold suspension shall be capable of supporting at least six times the intended load.

6.1.28 Special precautions shall be taken to protect scaffold members, including wires, fiber, or synthetic rope, when using a heat producing process, such as cutting or welding.

6.1.29 Lumber sizes refer to nominal sizes unless otherwise stated.

6.1.30 Scaffolds shall be secured to permanent structures through use of anchor bolts, wire, cable or other equivalent means.

6.1.31 When scaffolds are to be enclosed with tarps or such, take special precautions to allow for effects of wind loading and weather.

6.1.32 Ladders or makeshift devices shall not be used to increase height of scaffold.

6.1.33 Free-standing scaffolds with height-to-base ratio more than 4:1 must be restrained from tipping by guying or other means.

6.1.34 Any changes or alterations to the manner in which a scaffold is built, including dismantling any segment of the scaffold, will be referred to the erecting group.

6.2 Tube and Coupler Scaffold (Tube Lock Scaffolding)

6.2.1 Medium-duty tube and coupler scaffold shall have all posts, runners and bracing of

nominal two-inch (1.9") OD steel tube. Posts spaced not more than six feet apart by eight feet along the length of the scaffold shall have bearers of nominal 2-1/2 inch (2.375") OD steel tube or pipe. Posts spaced not more than five feet apart by eight feet along the length of the scaffold shall have bearers of nominal two-inch (1.90") OD steel tube.

6.2.2 Couplers shall be of a structural type, such as a drop-forged steel, or malleable iron. Gray cast iron is prohibited.

Heights and working levels for medium duty tube and coupler scaffold are listed below. Drawings and specifications of all tube and coupler scaffolds outside the limitations listed shall be designed by a licensed professional engineer, and a copy shall be available at the job site for inspection purposes.

Tube and Coupler Scaffolds

(Medium Duty)

Uniformly distributed load	Not to exceed 50 lb/ft2
Post spacing (longitudinal)	8 feet
Post spacing (transverse)	6 feet

Working Levels	Add. Planked Levels	Maximum Height (ft)
1	11	125
2	1	125

6.2.3 Competent and experienced personnel shall erect all tube and coupler scaffolds.

6.2.4 Posts shall be accurately spaced, erected on suitable bases and kept plumb.

6.2.5 Runners shall be erected along the length of the scaffold, located on the inside and outside posts at even heights. When tube and coupler guard rails and mid rails are used on outside posts, they shall be used in lieu of outside runners. Runners shall be interlocked to form continuous lengths and coupled to each post. The bottom runners shall be located as close to the base as possible. Runners shall be placed not more than four feet six inches (4'6") on centers.

6.2.6 Bearers shall be installed transversely between posts and shall be securely coupled to the posts with the inboard coupler bearing on the runner coupler. Where guard rail and mid rail are required, no outboard runner is required.

6.2.7 The length of the bearer shall exceed the post spacing of the width of the scaffold by the amount necessary to have full contact with the coupler.

6.2.8 Bearers used to provide a cantilever support for use as brackets for light and medium duty scaffolds shall not carry more than two 10-inch planks unless knee braced.

6.2.9 Bracing across the width of the scaffold shall be installed at the ends of the scaffold at least at every fourth level. Such bracing shall extend diagonally from the outer post or runner at the next level.

6.2.10 Longitudinal diagonal bracing shall be installed on the outer rows of poles at approximately 40° to 50° from the base of the first outer post to the last post,

alternating directions to the top of the scaffold. When conditions preclude the attachment of this bracing to the post, it may be attached to the runners.

6.2.11 Large scaffolds shall be tied and securely braced at intervals not to exceed 30 feet horizontally and 26 feet vertically.

6.2.12 Guard rails, mid rails and toe boards shall be installed as required in the General Requirements portion of this procedure. Caution tape and signs shall be installed as required in the General Requirements portion of this procedure.

6.2.13 Access to all built-up scaffolds must be by one or more of these means:

- Portable wood or metal ladders must be manufactured and used in accordance with American National Standards for wood and metal ladders.
- Access ladders must be positioned so their use will not have a tendency to tip the scaffold. Maximum spacing between rungs of such ladders shall not exceed 16½ inches, provided the ladder part was designed for climbing.
- Employees can use hook-on or attachable metal ladders specifically designed for use with the type of scaffold used.
- Do not use cross braces as a means of access.

6.3 Fabricated Tubular Frame Scaffold (Stack-up Scaffold)

6.3.1 Tubular frame scaffolds, including accessories such as braces, brackets, trusses, screw legs, ladders, etc., shall be designed and proved to safely support four times the maximum intended load.

6.3.2 Spacing of panels or frames shall be consistent with the loads imposed. Frames or panels shall be properly braced by cross bracing or diagonal braces, or both, for securing vertical members together laterally. The cross braces shall be of such lengths to automatically square and align vertical members so the erected scaffold is always plumb, level, square and rigid. All brace connections shall be made secure.

6.3.3 Panel or frame legs shall be set on adjustable bases or plain bases on mudsills or other foundations adequate to support the maximum intended load.

6.3.4 The panels or frames shall be placed on top of the other with coupling or tacking pins to provide proper vertical alignment of the legs.

6.3.5 Where uplift may occur, panels shall be locked together vertically by pins or equivalent methods.

6.3.6 Guard rails, mid rails and toe boards shall be installed as required in the General Requirements portion of this procedure. Personal protection of people at ground level shall be provided as required in the General Requirements portion of this procedure. Cross braces shall be considered equivalent to guard rails when workers are required to work on intermediate levels.

6.3.7 Access to all built-up scaffolds must be provided as required in the Tube and Coupler Scaffold portion of this procedure.

6.3.8 Where applicable the scaffold must be secured as required in the Tube and Coupler Scaffold portion of this procedure.

6.3.9 Maximum permissible spans of planking shall conform to the General Requirements portion of this procedure.

6.3.10 Tubular frame scaffolds more than 125 feet above the base plates shall be designed

by a licensed professional engineer, and copies of the drawings and specifications shall be made available at the job site for inspection purposes.

6.3.11 Competent and experienced personnel shall erect all fabricated tubular frame scaffolds.

6.3.12 Do not mix different manufacturers' scaffold frames and their respective components.

6.4 Two-Point Suspension Scaffolds (Swinging Scaffold)

6.4.1 Two-point suspension scaffold platforms shall not be less than 20 inches or more than 36 inches wide overall. U-bolts or other equivalent means shall securely fasten the platform to the hangers.

6.4.2 Two-point suspension scaffold hangers shall be made of wrought iron, mild steel or equivalent material having a cross-section capable of sustaining four times the maximum load, and be designed with a guard rail, intermediate rail and toe board.

6.4.3 Hoisting machines (manual or power driven) shall be of a tested design when used on two-point suspension scaffolds.

6.4.4 All power operated gears and brakes shall be enclosed.

6.4.5 In addition to normal operating brakes, all power-driven units must have an emergency brake, which engages automatically when the normal speed of descent is exceeded.

6.4.6 When roof irons or hooks are used for the support of two-point suspension scaffolds, they shall be of wrought iron, mild steel or other equivalent material of size and design to support the imposed loads.

6.4.7 Guard rails and mid rails shall be installed as required in the General Requirements portion of this procedure. The hoisting machine and stirrup shall be considered equivalent to an end guard rail unless located more than 18 inches from the end of the platform.

6.4.8 Each worker shall have a lifeline, which shall extend to the ground, suspended from a substantial structural member other than the scaffold, or from suspension equipment that will safely support the worker's weight. Each worker shall wear fall protection tied to the lifeline by a lanyard, and to a fall prevention device that will limit the fall to no more than two feet.

6.4.9 Two-point suspension scaffolds shall be suspended by wire ropes. All wire ropes, slings, hangers, platforms and other supporting parts shall be inspected before each installation. Periodic inspections shall be made while the scaffold is in use.

6.4.10 On suspension scaffolds designed for a working load of 500 pounds, no more than two employees shall be permitted to work at one time. On suspension scaffolds with a working load of 750 pounds, no more than three employees shall be permitted to work at one time.

6.4.11 All two-point suspension scaffold platforms shall be of a light metal type of tested design and manufacture, commonly referred to as "pencil boards".

6.5 Single-Point Adjustable Suspension Scaffold

6.5.1 The scaffolding power units shall be of a tested design.

6.5.2 All power-operated gears and brakes shall be enclosed.

6.5.3 In addition to normal operating brakes, all power-driven units must have an emergency brake, which engages automatically when the normal speed of descent is exceeded.

6.5.4 Guard rails, mid rails and toe boards shall be installed as required in the General Requirements portion of this procedure.

6.5.5 Each worker will have a lifeline, which shall extend to the ground, suspended from a substantial structural member other than the scaffold, or from suspension equipment that will safely support the worker's weight. Each worker shall wear fall protection tied to the lifeline by a lanyard, and to a fall prevention device that will limit the fall to no more than two feet.

6.5.6 The hoisting machines, wire ropes and other equipment shall be maintained and used in accordance with the manufacturer's instructions.

6.5.7 The wire rope used for hoisting should be changed each 12 months under normal use, and earlier if there are signs of deterioration.

7.0 INSPECTIONS

7.1 A competent person before each work shift shall inspect scaffolds and scaffold components for visible defects and after any occurrence which could affect a scaffold's structural integrity. Repairs shall be made before being allowed to access scaffold, and scaffold tag shall be red.

7.2 A scaffold tag signed and dated by the competent person shall be affixed to the scaffold ladder. The tag shall indicate whether the scaffold is complete or incomplete. If incomplete, the tag tells why, (missing handrail, plank missing, etc.). Fall protection is required to be worn, with lanyards secured, by employees working from incomplete scaffolds. The tag must be annotated, "Fall Protection Required" when scaffold is incomplete. A scaffold sign saying "Fall Protection Required" shall not be used in lieu of a scaffold tag.

7.3 The scaffold tag shall be placed adjacent to the access ladder on the lowest or ground level. The color scheme of the scaffold tag system shall be green, yellow and red. Any additional information shall be noted on the tag.

Green	Scaffold is complete and available for use
Yellow	Scaffold is either not complete or problems exist that shall cause the user to use additional equipment and/or caution.
Red	Scaffold is not available for use

7.4 Each person using the scaffold shall visually check the scaffold tag and scaffold before accessing the scaffold.

8.0 TRAINING

8.1 Competent persons shall be trained according to the OSHA standards and requirements. This training shall instruct the competent persons to be:

- Knowledgeable about structural integrity of scaffolds and the degree of maintenance needed to maintain them.
- Able to evaluate the effects of occurrences such as a dropped load, or a truck backing into a support leg.
- Knowledgeable about the requirements of the applicable OSHA standard and this program.
- Knowledgeable in how to identify and correct hazards encountered in scaffold work.

8.2 All scaffold users shall be trained by a competent person in these:

- The hazards associated with the type of scaffold being used and the procedures to control or minimize those hazards.
- The nature of any electrical hazards, fall hazards and falling object hazards.
- The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection and falling object protection systems being used.
- The proper use of the scaffold, and the proper handling of materials on the scaffold.
- The maximum intended load and the load-carrying capacity of the scaffold being used.

8.3 People involved in erecting, disassembling, moving, operating, repairing, maintaining or inspecting a scaffold shall be trained by a competent person to recognize:

- Any hazards associated with scaffold work.
- The nature of scaffold hazards.
- The correct procedures for performing the above activities.
- The design criteria, maximum intended load-carrying capacity and intended use.

8.4 Retraining shall be undertaken whenever any of these occur:

- The employee lacks the skill or understanding needed for safe work involving the erection, use or dismantling of scaffolds.
- Changes at the worksite present a hazard about which a person has not been trained.
- Where changes in the type of scaffolds, fall protection, falling object protection, or other equipment present a hazard which a person has not been previously trained.
- Where inadequacies in the affected person's work involving scaffolds indicate the worker has not retained requisite proficiency.

9.0 REFERENCES

9.1 29 CFR §1926.450 – Scaffolds

10.0 REVISION HISTORY

Date	Version	Nature of Revision	Author/Editor	
07.31.18	1	Original Document	Safety Director	

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OCCUPATIONAL HEALTH & SAFETY SYSTEM: OH&S PROGRAM AND PROCEDURE – AERIAL LIFTS AND PLATFORMS

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1.0 PURPOSE

The purpose of the program is to provide Allied Concrete Systems, LLC employees and contractors guidance in the safe and proper use of aerial lifts. The program will also cover responsibilities, training, inspection, maintenance, standard operating procedures and recordkeeping for Allied Concrete Systems, LLC facilities.

2.0 SCOPE

This program applies to all Allied Concrete Systems, LLC owned or rented aerial lifts designed to elevate personnel on a platform that is propelled by a powered lifting device with the controls located on the platform itself. Allied Concrete Systems, LLC recognizes that there are potential hazards associated with the use of these lifts. The following safety program is based on ANSI/SIA A92.6-2006 Self-Propelled Elevating Work Platform and ANSI/SIA A92.5-2006 (Boom-Supported Elevating Work Platforms. This safety program is designed to ensure that aerial lifts are operated in a consistent and safe manner. The program also follows OSHA 1926.451 which regulates aerial lifts as mobile scaffolds and 1910.29, Subpart D, which addresses walking and working surfaces.

3.0 DEFINITIONS

Aerial platform: A mobile device that has an adjustable position platform supported from ground level by a structure.

Anchorage(s): A secure point of attachment to be used with personal fall protection equipment (PFPE).

Authorized personnel (authorized person): Personnel approved or assigned to perform a specific type of duty or duties at a specific location or locations at a work site.

Base: The relevant contact points of the aerial platform that form the stability fulcrum (e.g. wheels, casters, outriggers, stabilizers).

Dealer: A person or entity who buys from a manufacturer or distributor and who generally sells, rents and services aerial platforms.

Guardrail system: A vertical barrier primarily intended to protect against personnel falling to lower levels.

Instability: A condition of an aerial platform in which the sum of the moments that tend to overturn the unit exceeds the sum of the moments tending to resist overturning.

Maintenance: The act of upkeep, such as inspection, lubrication, refueling, cleaning, adjustment and scheduled part(s) replacement.

Manufacturer: A person or entity who makes, builds or produces an aerial platform.

Operator: A qualified person who controls the movement of an aerial platform.

Owner: A person or entity who has possession of an aerial platform by virtue of proof of purchase.

Qualified person: One who, by possession of a recognized degree, certificate or professional standing, or by extensive knowledge, training and experience, has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, the work or the project.

Rated work load: The designed carrying capacity of the aerial platform as specified by the manufacturer.

Stability/Stable: A condition of an aerial platform in which the sum of the moments that tend to overturn the unit is less than or equal to the sum of the moments tending to resist overturning.

User: A person(s) or entity who has care, control and custody of the aerial platform. This person or entity may also be the employer of the operator, a dealer, owner, lessor, lessee or operator.

4.0 GENERAL STATEMENTS

4.1 This program is designed to aid all Allied Concrete Systems, LLC employees in the safe operating procedures of aerial lifts to prevent accidents and personal injuries.

4.2 Allied Concrete Systems, LLC has established criteria in this program for proper inspection, training, maintenance and operation of aerial lifts in its facilities.

5.0 ROLES AND RESPONSIBILITIES

5.1 Safety Department

5.1.1 Develop an aerial lift standard operating procedure and revise as necessary.

5.1.2 Conduct periodic audits of operator training records.

5.1.3 Provide technical support to supervisors and employees when questions or concerns arise regarding aerial lift safety.

5.1.4 Conduct periodic audits to ensure that the annual, periodic and pre-operation inspections are being completed appropriately.

5.1.5 Make changes, amend and update this program as necessary.

5.1.6 Provide support to Supervisor as needed.

5.1.7 Conduct follow up investigations as necessary for related incidents.

5.2 Supervisor

5.2.1 Contact Safety Department prior to the purchase or rental of an aerial lift so that inventory information can be updated.

5.2.2 Ensure that the operating and maintenance manuals have been received and placed in an accessible location.

5.2.3 If buying used equipment, ensure that an inspection is done on the lift prior to placing the unit in service.

5.2.4 When renting a lift initially, facilities shall require that the rental agency provide specific lift familiarization training for the particular lift that they are renting prior to lift use.

5.2.5 Ensure that operators receive specific lift training from competent trainers, or the manufacturer, vendor or an approved contracted trainer.

5.2.6 Ensure that no Allied Concrete Systems, LLC employee operates an aerial lift if they have not been trained in both the classroom safety training and the specific lift training on the lift that they will operate.

5.2.7 When lifts are used outdoors, the supervisor must ensure that weather conditions are continuously monitored throughout the use of the lift. Vertical aerial platform and aerial lifts may not be used when wind speeds reach 28 mph or more; when there is a weather warning in effect for winds in excess of 28 mph; when lightning is observed; or when thunderstorm warnings are in effect.

5.2.8 Provide and encourage flexibility for the users of the lifts by giving them discretion of lowering the lift at any time they have concerns for their safety.

5.3 Employees

5.3.1 Review the operator's manual for all lifts that they use prior to the initial lift use.

5.3.2 Know and understand the following about the lift that they operate prior to the initial operation of the lift:

- Safe operation
- Hazardous conditions which jeopardize safety
- All control features of the lift
- All placard warnings
- All safety devices on the lift
- Where to locate the user manual
- Who is permitted to operate or ride on the lift

5.3.3 Perform a pre-operation inspection of the aerial lift prior to each day's (or shift's) use of the lift. Documentation of the pre-operation inspections shall be performed by completing a Pre-Operation Inspection Form. Aerial lifts that are not in proper operating condition shall be immediately removed from service and reported to the appropriate departmental supervisor.

5.3.4 Prior to setting up the lift at each new location the operator shall conduct a work zone inspection to identify potential workplace hazards. Weather conditions must be continuously monitored on all vertical aerial platform lifts through the duration of the use of the lift outdoors.

5.3.5 If at any time the operators are concerned for their safety, they may, at their discretion, lower the lift and stop their work activities.

6.0 GENERAL REQUIREMENTS

6.1 Training

6.1.1 Only trained and authorized operators may operate an aerial lift at Allied Concrete .Systems, LLC

6.1.2 To become authorized, Allied Concrete Systems, LLC employees must successfully complete an initial two-part training program: a classroom session and a specific lift familiarization session. Operators must demonstrate proficiency in the actual operation of all functions of the equipment. Each certificate will indicate the specific lift(s) the training participant is approved to operate based on the make and model.

6.1.3 Allied Concrete Systems, LLC employees who have no need to operate a lift but do have a need to ride on a lift with an authorized operator may attend the classroom training session only and will be issued a certificate that allows them to be a "passenger only".

6.2 Pre-Operation Inspections

6.2.1 Before each day's use or at the beginning of each work shift that the lift is to be used, it must be given a pre-operation inspection. This inspection involves a visual inspection and functional test that includes the following criteria:

- Operating and emergency controls (ground & platform controls)
- Personal protective devices
- Air, hydraulic and fuel system leaks
- Mechanical fasteners and locking pins
- Loose or missing parts
- Tires and wheels
- Placards, warnings and control markings
- Guardrail system
- Other items specified by manufacturer

6.2.2 Because each make and model is different, the inspection criteria may differ. Please refer to the operator's manual for the specific criteria required for each particular lift that needs to be inspected. Each facility shall identify a storage location for the completed pre-operation inspection forms. However, at a minimum, the last completed inspection shall be stored in a compartment or pouch on the lift. Additional inspections must be conducted after any occurrence that could affect the structural integrity of the equipment.

6.3 Work Zone Inspections

6.3.1 Before an aerial lift is used, the operator must visually check the work zone area where the lift is to be used, identifying potential hazards such as, but not limited to:

- Drop-offs, holes and unstable surfaces
- Slopes, ditches or bumps

- Debris and floor obstructions
- Overhead obstructions and power lines
- Hazardous locations and atmospheres
- Inadequate surface and support to withstand all load forces imposed by the lift
- Wind and weather conditions
- Presence of unauthorized people
- Other possible unsafe conditions

6.3.2 Depending on the nature of the workplace and the type of work being performed, additional items may be added to this list of criteria.

6.4 Lift Markings

6.4.1 In addition to any other markings or decals that are placed on the lift by the manufacturer, the following information shall be displayed on all aerial lifts in a clearly visible, accessible area and in a durable manner:

- The make, model, serial number and manufacturer's name and address
- The rated workload, including rated number of occupants
- The maximum platform height

6.5 Maintenance

6.5.1 All maintenance that is performed on aerial lifts shall be performed by trained and experienced professionals. The owning or renting facility shall make arrangements with an approved vendor/contractor, or have personnel trained to perform the required maintenance. All equipment should be serviced in accordance with the manufacturer's recommendations. Prior to making any modifications to the lift, Allied Concrete Systems, LLC must obtain written permission from the manufacturer.

6.5.2 Battery charging of lifts should be done in an intrinsically safe environment with adequate ventilation. Where battery charging takes place, a 10 lb. ABC portable fire extinguisher must be available within 20 feet of the charging station.

7.0 PROCEDURES & JOB INSTRUCTIONS

7.1 Standard Operating Procedures

7.1.1 To ensure safe practices, the following standard operating procedures shall be used when an authorized employee operates a lift:

- Obtain authorization to use or operate the lift from your immediate supervisor
- Do not work on aerial lift covered with snow, ice or other slippery material except as necessary for removal of such material.
- Check the last pre-operation inspection for any comments or notes and perform a new pre-operation inspection on the lift. Document the inspection and place it in its designated storage location.
- Perform a work zone inspection in the area that the lift will be used.
- Ensure the brakes are set before raising the lift.
- Ensure that the guardrails are installed and are in place, and that the load being

placed on the lift is within the rated capacity of the lift.

- Do Not stand on guardrails for extra height.
- Do not carry objects larger than the platform.
- Do not exceed vertical reach limits.
- Ensure that wind conditions and other horizontal (side) forces are within acceptable limits per the operator's manual and this policy.
- Do not place or attach fixed or overhanging loads to any part of the machine or push or pull toward any object outside the platform. Do not use the aerial lift as a crane.
- Treat all overhead power lines and communication cables as energized, and stay at least ten feet away from them.
- Ensure that all personnel on the lift have been trained and authorized to operate or ride on the platform.
- Do NOT drive with the lift platform raised (unless the manufacturer's instructions allow this).

7.1.2 Fall Protection

- Stand firmly on the floor of the lift platform
- Do not climb on or lean over the guardrails or handrails
- Do not remove guardrails during operation
- Do not use planks, ladders or other devices as to increase working height
- Operator must wear appropriate fall protection PPE based on lift requirements
- Occupants shall comply with instructions provided by the aerial platform manufacturer (remanufacturer) regarding anchorage(s)
- Ensure that access gates or openings are closed

7.2 Records Retention

7.2.1 Maintenance, inspection and training records shall be maintained for equipment and its operators. The following records must be maintained for three years:

- Work zone inspection documents.
- Pre-operation inspection documents.
- All training records.

8.0 TRAINING REQUIREMENTS

8.1.1 The classroom safety training will be performed by a qualified trainer provided by the rental/leasing agent, safety consulting firm or by Allied Concrete Systems, LLC personnel who have been certified as aerial lift trainers. The contents of the training will include the following:

- Purpose and use of operator manuals and where they must be located.
- Pre-operation inspection process
- Identification of malfunctions and problems
- Factors affecting stability

- Purpose of placards and decals
- Work zone inspections
- Safety rules and regulations
- Operator warnings, load capacity and instructions

8.12 Re-training will be required of any operator that has been involved in an aerial lift incident; a different type of aerial lift is used; when the operator has been observed performing unsafe practices involving the lift; and every four years.

9.0 CONFORMANCE & COMPLIANCE REFERENCES

9.1 ANSI/SIA A92.6-2006 - Self-Propelled Elevating Work Platform

9.2 OSHA 29 CFR §1926.451

10.0 PROGRAM & PROCEDURE REVIEW PROCESS

10.1 Reserved

11.0 SUPPORTING DOCUMENTS – APPENDICES SECTION

11.1 Reserved

12.0 REVISION HISTORY

Date	Version	Nature of Revision	Author/Editor	
1.19.18	1	Original Document	Safety Director	
02.01.18	2	Updates based on feedback from ACS Safety Director.	Safety Director	

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OCCUPATIONAL HEALTH & SAFETY SYSTEM: OH&S PROGRAM AND PROCEDURE
HAND & PORTABLE POWERED TOOLS / OTHER HAND-HELD EQUIPMENT

1.0 PURPOSE

The purpose of this section is to promote the safe use of, and to reduce the likelihood of injuries involving the use of hand or power tools.

2.0 SCOPE

These requirements apply to all Allied Concrete Systems, LLC employees where the use of hand or power tools are in use or will be used.

3.0 DEFINITIONS

3.1 **Hand Tools** - Tools that are manually operated and powered by human force such as screw drivers, pliers, wrenches, hammers, and cutting shears, etc.

3.2 **Portable Power Tools** - Power tools that are hand held, manually operated, and powered by electricity, air, gasoline, diesel, or explosion, such as circular saws, sanders, drills, reciprocating saws, air wrenches, air grinders, air fasteners, chainsaws, "Hilti guns" or "Ramset guns" etc.

4.0 GENERAL STATEMENTS

4.1 Allied Concrete Systems, LLC employees will be responsible for the safe condition of tools and equipment used, including tools and equipment which may be furnished by employees.

4.2 Allied Concrete Systems, LLC employees will be responsible for the care and maintenance of all hand tools and portable power tools.

4.3 Only authorized and trained Allied Concrete Systems, LLC employees will operate hand and powered tools.

5.0 ROLES AND RESPONSIBILITIES

5.1 Safety Director

5.1.1 Make changes, amend, and update this program as necessary.

5.1.2 Provide Support to Supervisor as needed.

5.1.3 Conduct follow up investigations, as necessary for related incidents.

5.2 Supervisor

5.2.1 Will train Allied Concrete Systems, LLC employees who operate hand and portable power tools within their area of responsibility.

5.2.2 Ensures the proper use of PPE.

5.2.3 Ensures that guards and switches on portable power tools are in place and functioning.

5.2.4 Ensures unsafe hand or portable power tools are not issued for use.

5.2.5 Will determine the need for special tools that will do the work more safely than ordinary tools by identifying the hazards associated with the job and the appropriate tools that shall be used.

5.2.6 Tracks documentation of inspections, maintenance and care of hand and portable power tools.

5.2.7 Ensure tools will be inspected to make sure they are in good working order, suitable for the jobs they are used for, and do not pose a hazard to the operator.

5.3 Employees

5.3.1 Only trained, qualified, and authorized employees will be permitted to use hand and portable power tools. Employees are responsible for:

- Select the right tool for job.
- Ensuring that all safeguards are utilized.
- Utilizing appropriate PPE.
- Conducting routine inspections to ensure that tools are properly maintained.
- Removing damaged tools from service and reporting all tool damage to your supervisor.
- Following all safety guidelines for the use of hand/ portable power tools and per manufacturer's instructions.

6.0 GENERAL REQUIREMENTS

6.1 Safety Precautions

6.1.1 Hazards involved in the use of hand and portable power tools can be prevented by the following:

- Keep all tools in good function condition with regular maintenance;
- Use the right tool for the job;
- Examine each tool for damage before use;
- Operate per the manufacturer's instructions;
- Utilize the proper protective equipment; and

6.2 Personal Protective Equipment

6.2.1 Allied Concrete Systems, LLC Employees and who operate hand and portable

power tools and who are exposed to the hazards of falling, flying, abrasive and splashing objects, or exposed to harmful dusts, fumes, mists, vapors, or gases must be provided with the appropriate equipment needed, including Personal Protective Equipment (PPE), to protect them from the hazard.

6.2.2 The following are examples of appropriate Personal Protective Equipment (PPE) but are limited to:

- Safety Glasses (ANSI Z87.1 Rated)
- Safety Goggles
- Face Shields
- Gloves
- Dust Mask (N95 Recommended)

6.3 Guards

6.3.1 Guards shall be installed and operable at all times while tools are in use. Guards may not be manipulated in such way that will compromise its integrity or compromise the protection in which it is intended.

6.3.2 Hazardous moving parts of a portable power tool need to maintain safeguarded. For example, belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or moving parts of equipment shall be guarded if such parts are exposed to contact by the user.

6.3.3 Guards, as necessary, shall be provided to protect the user and others from the following:

- Point of operation;
- In-running nip points;
- Rotating parts;
- Flying chips; and
- Sparks.

6.3.4 Safety guards shall never be removed when a tool is being operated.

6.4 Switches and Controls

6.4.1.1 The following portable power tools shall be equipped with a momentary contact “on-off” control switch powered drills, tappers, fastener drivers, horizontal, vertical, and angle grinders with wheels greater than 2 inches in diameter, disc sanders with discs greater than 2 inches in diameter, belt sanders, reciprocating saws, saber, scroll, and jig saws with blade shanks greater than a nominal one-fourth inch, and other similarly operating powered tools shall be equipped with a constant pressure switch or control, and may have a lock-on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

6.4.1.2 All other hand-held powered tools, such as, but not limited to, platen sanders, grinders with wheels 2 inches in diameter or less, disc sanders with discs 2 inches in diameter or less, routers, planers, laminate trimmers, nibblers, shears, saber, scroll, and jig saws with blade shanks a nominal one-fourth of an inch wide or less, may be equipped with either a positive "on-off" control, or other controls.

6.5 Operating requirements

6.5.1 The following contains requirements for the proper use of various types of hand

and portable power tools. Most tools have similar hazards however, if there are questions as to the proper and safe use of a tool, consult the manufacturer's tool manual, your supervisor and/or the Safety Director. Do not use a tool if you are unsure how to use it in a safe manner.

6.5.2 Hand Tools

6.5.2.1 Hand tools are non-powered. They include anything from axes to wrenches. The greatest hazards posed by hand tools result from misuse and improper maintenance. Some examples of misuse include the following:

- Using a screwdriver as a chisel may cause the tip of the screwdriver to break and fly, hitting the user or bystanders;
- Using a tool with a wooden handle (e.g., hammer) if the handle is loose, splintered, or cracked, the head of the tool may fly off and strike the user or bystander;
- Using a wrench if its jaws are sprung, because it might slip; and
- Using impact tools (e.g., chisels, wedges) if they have mushroomed heads since the heads might shatter on impact, sending sharp fragments flying.

6.5.3 Hand Tool Precautions

6.5.3.1 Employees have the responsibility of using and maintaining tools;

- Supervisors shall caution users that saw blades, knives or other tools be directed away from aisle areas and others working in close proximity. Knives and scissors shall be sharp. Dull tools can be more hazardous than sharp ones;
- Floors shall be kept as clean and dry as possible to prevent accidental slips with or around dangerous hand tools; and
- Around flammable substances, sparks produced by iron and steel hand tools can be a dangerous ignition source. Where this hazard exists, spark-resistant tools made from brass, plastic, aluminum or wood must be used.

6.5.4 The primary hazards encountered when using hand tools include striking or contacting parts of the body with the hand tool or the work piece and projectiles flying off the tool. The most common injuries from the use of hand tools are:

- Laceration or cut;
- Contusion or bruise; and
- Eye injury

6.5.4.1 These injuries are generally caused by:

- Not wearing appropriate PPE;
- Using the wrong tool for the job;
- Improper use of the tool;
- Failure to inspect the tool;
- Improper storage and transportation of the tool; and
- Defective tools.

6.5.5 Best work practices

6.5.5.1 Portable Power Tools

- Portable power tools can be hazardous when improperly used. There are several types of portable power tools, based on the power source they use: electric, pneumatic, liquid fuel, hydraulic and powder-actuated.

6.5.5.2 The following general precautions shall be observed by portable power tool users:

- Read the owner's manual to understand the tool's proper applications, limitations, operation, and hazards;
- Select tool based on the task it is designed for. Only use attachments specifically recommended for the portable power tool and ensure they are properly installed;
- Inspect the tool for damage including the cord, guards, alignment, binding of components or any condition that would affect the tools safe operation;
- Avoid excessive force trying to make cutting tools cut faster;
- Use the tool at the rate for which it is designed to prevent excessive wear and maintain control;
- Maintain tool control by keeping a tight grip on the tool and using the tool's safe handle;
- Do no operate a portable power tool under the influence of medications and/or alcohol or if you are tired or distracted;
- Never carry a tool by the cord or hose;
- Never remove prongs from any cords;
- Never stand in or near water when using tools;
- Never "yank" the cord or the hose to disconnect it from the receptacle;
- Keep cords and hoses away from heat, oil and sharp edges;
- Replace all frayed and/or damaged extension cords. Do not try to tape cords;
- Use Ground Fault Circuit Interrupter (GFCI) for corded tools;
- Always check for hidden wires that may contact bladed tools;
- Disconnect tools when not in use, before servicing and when changing accessories such as blades, bits and cutters;
- All observers shall be kept at a safe distance away from the work area;
- Secure work with clamps or a vise, freeing both hands to operate the tool;
- Avoid accidental starting. The worker shall not hold a finger on the switch button while carrying a plugged-in tool;
- Tools shall be maintained with care. They shall be kept sharp and clean for the best performance. Follow instructions in the user's manual for maintenance, lubricating and changing accessories;
- Maintain good footing and balance;
- Avoid loose fitting clothes, ties or jewelry such as bracelets, watches or rings, which can become caught in moving parts. Long hair must be restrained;
- Use double insulated tools;
- Do not use electric portable power tools in the proximity of flammable vapors, dusts, or construction material;
- Keep work area well lighted when operating electric tools; and
- All portable electric tools that are damaged shall be removed from use and tagged "Do Not Use". This shall be done by Supervisors.

6.5.6 Electric Tools

6.5.6.1 The main hazard of electrical tools is electrocution. Electricity can cause burns, shocks, and death. The factors that increase the risk of electrocution while using electrical portable power tools are:

- Faulty power cords;

- Misuse of power cords;
- Failure to use GFCI;
- Improper grounding;
- Improperly insulated tools, and;
- Working around wet surfaces.

6.5.6.2 To protect Allied Concrete Systems, LLC employees from electrocution, tools must either have a three-wire cord or be double insulated. Three-wire cords contain two current carrying conductors and a grounding conductor. One end of the grounding conductor connects to the tool's metal housing. The other end is grounded through a prong on the plug. Whenever an adaptor is used to accommodate a two-hole receptacle, the adaptor wire must be attached to a known ground. The third prong shall never be removed from the plug. Double insulation is more convenient. The user and the tools are protected by normal insulation on the wires inside and by a housing that cannot conduct electricity to the user in event of a malfunction.

6.5.6.3 The following general practices shall be followed when using electric tools:

- Do Not:
  - Energize the tool until just before use;
  - Get near the moving parts of an electrical tool unless the power is off;
  - Lay electrical cords over sharp edges or through doorways or holes in walls;
  - Use an electric tool in an area where flammable gases or vapors may be present unless the tool is rated for that application;
  - Use any tool that is sparking or appears to have an electrical short;
  - Use any tool with a damaged cord or exposed wiring;
  - Use electric abrasive tools if the grinding wheel, buffer, or wire brush wobbles or vibrates excessively;
  - Use excessive force on saws or drills to cut through hard materials;
  - Use any tool unless the blade or bit is securely tightened; and
  - Use any tool with the blade guard removed or rendered inoperable.

6.5.7 Hydraulic Tools

6.5.7.1 The fluid used in hydraulic power tools shall be an approved fire-resistant fluid and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed. The manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters and other fittings shall not be exceeded. Hydraulic tools such as jacks operate under pressure and can cause injury if a hose burst or develops a pinhole leak. Manufacturer recommended hoses designed to withstand the pressure being applied shall be used. Armored hoses shall be used where physical damage to the hose may occur. Hoses shall be located such that they do not create a trip hazard.

6.5.8 Pneumatic Tools

6.5.8.1 Pneumatic tools are powered by compressed air. They include chippers, drills, hammers, and sanders. There are several dangers encountered in the use of pneumatic tools which are described below:

- Being struck by one of the tool's attachments or a fastener. Eye protection is required and face protection is recommended;
- Depending upon the noise decibel levels and duration hearing protection may be required;
- Disconnection of the tool from the air hose. The user must check to see that the tools are fastened securely to the hose by a means that prevents them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool will serve as an added safeguard;
- A safety clip or retainer must be installed to prevent attachments, such as chisels on a chipping hammer, from being unintentionally shot from the barrel;
- Screens must be set up to protect others from being struck by flying fragments around chippers, rivet guns, staplers, and air drills;
- Compressed air guns shall never be pointed toward anyone. The user shall never "dead-end" it against him or herself or anyone else;
- Airless spray guns which atomize paints and fluids at high pressure must be equipped with automatic or visual manual safety devices which will prevent pulling the trigger until the safety device is manually released;
- If an air hose is more than one-half inch in diameter, a safety excess flow valve must be installed at the source of the air supply to shut off air automatically in case the hose breaks; and
- The air-line hose used must be designed to withstand the pressure being applied.

6.5.8.2 The following precautions shall be followed when using pneumatic tools.

- Do Not:
  - Kink the hose or subject it to other physical damage;
  - Lay the air hose across aisles or walkways;
  - Squeeze the trigger on air hammers, impact wrenches, or other tools until the tool is in contact with the work;
  - Use an air-line if it has a leak; and
  - Use the air line for cleaning unless nozzle pressure is kept below 30 psi and effective chip protection is in place.

6.6 Carrying Tools

6.6.1 When transporting hand and portable power tools to and from the facility, observe the following safety guidelines:

- Do not carry portable power tools by their electric cord, airline, or hydraulic hose;
- Transport the tool in its carrying case if provided;
- Do not carry sharp or pointed tools with the edge or point upward and toward the body;
- Place all tools in a tool box if one is available;
- Never carry tools in a manner that obstructs vision;
- Never give sharp or pointed tools to another person with the sharp end toward the receiver;

- Never hand another person a portable power tool that is in motion or operation; and
- Never throw any tools at or toward another person.

7.0 PROCEDURES & JOB INSTRUCTIONS

7.1 Maintenance Requirements

7.1.1 Only Allied Concrete Systems, LLC employees that have been trained and authorized may repair tools.

7.2 Care and Use

7.2.1 Take the time to familiarize yourself with the tool by reading its provided manufacturer instructions before use. Unusual working conditions may require additional instructions from your supervisor and or Safety Director. Conduct a pre-use inspection of the tool. Modifications to a tool without the manufacturer's prior written approval are prohibited.

7.3 Tool Labels and Plates

7.3.1 A portable power tool's rating and capacity may be found on a tag affixed to the tool. If no tag is found, do not use and report it to the Supervisor. These tags contain important information such as UL testing, load, and operating specifications.

7.4 Storage

7.4.1 When tools are not in use or will not be used within a short period of time they shall be properly stored. Follow the guidelines below when storing tools.

- Store sharp tools in a specially designated cabinet or cupboard, with a blade guard in place;
- Drain gasoline or other flammable fuels from tools if they will be in storage for extended periods of time; and
- Prior to storage, de-energize tools such as removing air pressure, removing loads and de-pressurizing hydraulics.

7.5 Handling and Storage of Power Sources

7.5.1 Liquid fuels such as gasoline must be stored and handled in accordance with NFPA Flammable and combustible Liquids Code (NFPA No. 30-1969). Turn off engine or motor before filling fuel tanks.

7.5.2 For Pneumatic tools, make sure there are no loaded fasteners in place while changing the load, disconnecting/connecting an air-line, or storing.

7.5.3 Hydraulic fluid must not be added to jacks or other support tools while they are in use and under stress.

7.5.4 Keep batteries and battery chargers away from heat sources and potentially wet areas. Never throw a battery into a fire. Follow equipment manufacturer's safety tips when handling batteries.

7.6 Inspections

7.6.1 User Inspections

7.6.1.1 The user will visually inspect all hand and portable power tools before use to ensure that the tools are in safe and usable condition. All damaged and/or defective tools will be immediately reported to the Supervisor. Only Allied Concrete Systems, LLC authorized personnel will perform maintenance and repairs on hand and portable power tools.

7.6.2 New and Rented Equipment Inspections

7.6.2.1 Prior to use, all new or newly arrived rental tools will be inspected to ensure compliance with the provisions of this Program. For new tools, an initial inspection will verify that requirements of the purchase order (or rental agreement) have been met and the equipment is suitable for its intended use. For any newly purchased or rental tool, make sure the proper PPE is available for use.

7.6.3 Inspection Cycle

7.6.3.1 Allied Concrete Systems, LLC Authorized repair personnel will perform the following maintenance checks:

- Verify on an annual basis that the tool has been inspected and is operating properly and is consistent with manufacturer's specifications; and
- Remove equipment from use that is unsafe or not operating within manufacturer's specifications.

8.0 TRAINING REQUIREMENTS

8.1 Prior to using hand and portable power tools Allied Concrete Systems, LLC employees must be trained to use the correct tools for each job. No one will be permitted to use any portable power tools without receiving proper training.

8.2 Employees may receive tool safety training including but not limited to:

8.2.1 Select the right tool for the job;

8.2.2 Hazards and their controls;

8.2.3 Common causes of injury;

8.2.4 Safety precautions;

8.2.5 Personal Protective Equipment;

8.2.6 Inspection/Maintenance;

8.2.7 How to use tools the right way;

8.2.8 Place/keep/store tools in a safe & secure place; and

8.2.9 Safe operation of the tool.

9.0 CONFORMANCE & COMPLIANCE REFERENCES

9.1 29 CFR §1910 Subpart P - Tools - Hand and Power

10.0 PROGRAM & PROCEDURE REVIEW PROCESS

10.1 Reserved

11.0 SUPPORTING DOCUMENTS – APPENDICES SECTION

11.1 Reserved

12.0 REVISION HISTORY

Date	Version	Nature of Revision	Author/Editor	
04.26.18	1	Original Document	Safety Director	

CONTENTS

1. PROGRAM REQUIREMENTS.

This program is intended to address the issues of evaluating potential confined space hazards, communicating information concerning these hazards, and establishing appropriate protective measures for employees. In addition, Allied Concrete Systems, LLC has not designated any qualified or authorized employees to enter or work in confined spaces. In the event that individual employees are required to perform in confined spaces or be involved in an operation where confined space entry is being performed the following guidelines will be followed. Allied Concrete Systems, LLC will review and evaluate this program on an annual basis, or when changes occur to 29 CFR 1910.146 or 1926, that prompt revision of this document, or when operational changes occur that require a revision of this document.

2. RESPONSIBILITY.

The Safety Coordinator is the program coordinator, acting as the representative of Allied Concrete Systems, LLC owners, who have the ultimate responsibility for all facets of this program. The Safety Coordinator is the sole person authorized to amend these instructions. Allied Concrete Systems, LLC has authorized the Safety Coordinator and any Supervisor or Employee to halt any operation of Allied Concrete Systems, LLC where there is danger of serious personal injury. Supervisors are required to ensure their employees are aware of the contents of this program and have received the confined space entry or awareness training before working in any areas where confined spaces exist. Subcontractors will be required to provide a written Confined Space Entry program that describes the subcontractors policies and procedures when they will be working in confined spaces.

3. SPECIFIC RESPONSIBILITIES.

3.1. Safety Coordinator. The company Safety Coordinator will be responsible to ensure that all subcontractors performing confined space entry work have submitted a copy of their written confined space entry program and copies of documentation of training prior to beginning work. In addition, the Safety Coordinator will ensure that Allied Concrete Systems, LLC employees required to perform work in confined spaces are informed of any specific/special procedures required for work at a Prime/General Contractor site.

3.2. Supervisors. Company Supervisors are responsible to identify any confined spaces or potential confined spaces before assignment of employees to any work. Supervisors will notify the Safety Coordinator immediately if there is any doubt as to the designation of a work area as a confined space.

3.3. Entry Supervisors are responsible for all personnel who enter or work in confined spaces. In addition, they will do the following:

3.3.1. Knowledge of Hazards/Exposure Conditions: The entry supervisor will know and understand the unique hazards and exposure conditions associated with each confined space, and be aware of the effects of the exposure conditions.

3.3.2. Confined Space Entry Permit: The entry supervisor will ensure that the Confined Space Entry Permit is completed and must sign it before anyone enters a confined space.

3.3.3. Authority Assigned: Entry supervisor can authorize entry into designated confined spaces. The entry supervisor can also deny entry, terminate entry, remove unauthorized personnel, and cancel the permit at any point during the procedure.

3.3.4. Lockout/Tagout before anyone enters a confined space Lockout/Tagout procedure must be performed in accordance with the Allied Concrete Systems, LLC; Inc. Lockout/Tagout Program to ensure equipment is properly isolated.

3.3.5. Pre-entry Conditions: The entry supervisor will ensure that the pre-entry conditions are acceptable, and that conditions do not deteriorate during the entry. The entry supervisor will perform pre-entry review activities for confined spaces and discuss with entrants the potential hazards, the appropriate safeguards, and the personal protective equipment required.

3.3.6. Rescue Services Coordination/Notification: The entry supervisor will ensure that rescue services have been coordinated and notified of the pending entry.

3.3.7. Rescue Alarm and Communication System: The entry supervisor will functionally test the rescue alarm and communication system, verifying normal operation.

3.3.8. Maximum Residence Time: Based on work being performed, determine the maximum residence time for personnel in the confined space. The maximum continuous residence time should not exceed two hours per entrant.

3.3.9. Training Verification: Verify that each person who participates in any confined space entry has been trained.

3.3.10. Responsibility Transfer During Entry/Shift Change: When a transfer of responsibility occurs during an entry, the new entry supervisor will verify the entry conditions and initial the entry permit. During a shift change, the new entry supervisor will complete a new permit.

3.3.11. Emergency Medical Information: The entry supervisor will have access to material safety data sheets (MSDS) or equivalent information for use by all confined-space entry personnel, and will furnish the information to medical facilities that treat any exposed or injured member of the entry team.

3.3.12. Stationing Attendants: The entry supervisor will station an attendant at each permit-required confined space, and ensure that an attendant serves for the duration of the permit.

3.4. Attendant(s) is responsible to do the following:

3.4.1. Knowledge of Hazards/Exposure Conditions: Attendants will read and sign the entry permit, state their understanding of the unique hazards and exposure conditions in the confined space to the entry supervisor, and be aware of the effects of the exposure conditions.

3.4.2. Entry Conditions/Permit: The attendant will participate in the process of verifying entry conditions, and will sign the permit.

3.4.3. Service & Duty: An attendant will serve for the duration of the permit. The attendant will remain at his/her post and not leave for any reason, except self-preservation, unless replaced by an equally qualified individual while entry continues.

3.4.4. Continuous Communication: The attendant will maintain continuous communication with all entrants by voice, radio, telephone, visual observation, or any other equally effective means.

3.4.5. Monitoring Conditions. The attendant will:

3.4.5.1. Monitor conditions inside and outside of the confined space and determine whether or not it is safe for the entrants to remain in the confined space.

3.4.5.2. Perform field-testing of equipment before each use in accordance with the manufacturer's recommendations for that equipment to ensure that it functions properly.

3.4.5.3. Perform the tests indicated on the confined-space entry permit, including any additional tests that may be necessary. Record the results on the confined-space entry permit.

3.4.5.4. Ensure that the confined-space monitoring procedures test for atmospheric contaminants that are representative of all areas of confined spaces.

3.4.6. Authority: The attendant will have the authority to order entrants to exit the space, and perform a non-entry retrieval at the first indication of an increased exposure condition, an unexpected hazard/exposure condition, equipment malfunction, any unusual conduct by the entrants which could indicate a toxic reaction, or a situation occurring outside the confined space that could pose a hazard to the entrants.

3.4.7. Procedure for Emergency Assistance: The attendant will know the procedure and have the means to summon immediate emergency assistance.

3.4.8. Unauthorized Personnel: The attendant will keep all personnel not listed on the permit out of the area designated for confined space entry.

3.4.9. Lockout/Tagout: Before anyone enters a confined space Lockout/Tagout procedures must be performed in accordance with the Allied Concrete Systems, LLC Lockout/Tagout Program to ensure equipment is properly isolated.

3.5. Entrant. Individuals who work in confined spaces shall do the following before entering:

3.5.1. Knowledge of Hazards/Exposure Conditions: Entrants will read and sign the entry permit, state their understanding of the unique hazards and exposure conditions in the confined space to the entry supervisor, and be aware of the effects of the exposure conditions.

3.5.2. Continuous Communication: The entrant will maintain continuous communication with the attendant at the point of entry by voice, radio, telephone, visual observation, or any other equally effective means.

3.5.3. Use of Equipment: Entrants will know how to properly use all necessary entry and personal protective equipment.

3.5.4. Emergency Exits: Entrants will exit the confined space immediately when the attendant or entry supervisor orders an evacuation, or they perceive warning signs or symptoms due to exposure.

3.5.5. Lockout/Tagout: Before anyone enters a confined space Lockout/Tagout procedures must be performed in accordance with Allied Concrete Systems, LLC Lockout/Tagout Program to ensure equipment is properly isolated.

3.6. Emergency Rescue Services.

3.6.1. Allied Concrete Systems, LLC will establish a rescue plan for use throughout the duration of the entry. The designated Attendant or Entry Supervisor will be responsible to implement the rescue plan in the event that rescue or non-entry retrieval is being performed.

3.6.2. Response Time: A four-minute time limit on retrieving an entrant incapacitated by oxygen deficiency should be the goal of any rescue plan.

3.6.3. First Objective: The first objective of the rescue team is non-entry rescue (retrieval) and assistance. If this is not feasible the attendant will notify the rescue service team.

3.6.4. Lockout/Tagout: Before anyone enters a confined space Lockout/Tagout procedures must be performed in accordance with the Allied Concrete Systems, LLC Lockout/Tagout Program to ensure equipment is properly isolated.

4. TRAINING REQUIREMENTS.

4.1. Awareness Training:

4.1.1. All Allied Concrete Systems, LLC employees receive awareness training that will cover what a confined space is, what the hazards of confined spaces are, and identification of all confined spaces within the facility.

4.2. Entry Training

4.2.1. Entry training will be provided to Entry Supervisors, Authorized Attendants, and Authorized Entrants to ensure that they acquire the knowledge and skills necessary for safe entry into confined spaces.

4.2.2. Entry training will be provided before an employee is required to perform work in a confined space, before there is a change in assigned duties, whenever there is a change in permit space operations that presents a hazard to which employees have not previously been trained, and whenever there are deviations or inadequacies in permit space entry procedures.

4.2.3. All entry teams will be trained in confined space entry according to this document.

4.3. Type and Frequency of Training. All entry teams will receive refresher training annually.

4.4. Training Requirements:

4.4.1. Entry Permit: All entry teams will be taught how to complete the entry permit.

4.4.2. Hazard/Exposure Condition Requirements:

4.4.2.1. Atmospheric: All entry teams will be taught that even though human senses may be unable to detect an exposure conditions, breathing the atmosphere could be fatal. Only proper testing can be relied on to determine that the atmosphere is breathable. Warning characteristics of exposure such as odor, taste, feel, and symptoms caused by exposure, some of which may show up as long as 72 hours after exposure will be covered.

4.4.2.2. Lockout/Tagout: All entry teams will be trained in lockout/tagout procedures according to the Allied Concrete Systems, LLC Lockout/Tagout Program.

4.4.3. Improper Entrance: Attendants will receive training concerning the importance of not entering a confined space unless they are properly equipped and relieved of their duties by another qualified attendant. Attendants who make improper entries into confined spaces will very likely fall victim to the associated hazards.

4.4.4. Ventilation: All entry teams will be trained to ensure that the confined space has been adequately purged prior to entry, and that adequate ventilation is maintained.

4.4.5. Atmospheric Testing: Pre-entry testing of confined space atmospheres will be explained and demonstrated to all entry teams. Testing assures that adequate environmental controls are in place before entry.

4.4.6. Oxygen Enriched Environment: All entry teams will be trained in the hazards associated with working in an oxygen-enriched environment. Enriched oxygen levels present serious safety hazards because an entrant's clothing and hair may become extremely flammable due to excess oxygen, and absorbed oxygen desorbs slowly.

4.4.7. Respiratory Protective Equipment: All entry teams will be trained and certified in the use of respiratory protective equipment in accordance with 29 CFR 1910.134.

4.4.8. Personal Protective Equipment: All entry teams will be trained in the proper use of all applicable personal protective equipment (PPE) for eyes, face, head, body, and extremity protection. Training will include recognition of signs of equipment failure.

4.4.9. Physical Protective Equipment: All entry teams will be trained in the proper use of harnesses, hoists, fall arrestors, ropes, and rigging necessary to safely enter confined spaces.

4.4.10. Communication Equipment: All entry teams will be trained in the proper use of the communications equipment for people in a confined space, and communications equipment for summoning external emergency services.

4.4.11. Evacuation of a Confined Space: All entry teams will be taught the importance of immediate evacuation to a non-hazardous atmosphere to prevent serious or permanent injury. In order to minimize or prevent injury to themselves, they will leave the confined space/area for a safe atmosphere immediately on being ordered to do so, or when they recognize any sign of reaction to an exposure condition. Training seminars should address hazards inside and outside the confined space.

4.5. Documentation: The successful completion of training for all confined space entry personnel will be retained and made available for inspection for up to 3 years, minimum.

5. HAZARDS MOST COMMON TO CONFINED SPACES.

5.1. Hazardous Atmosphere:

5.1.1. Oxygen-deficient: Normal air contains approximately 20.9% oxygen; oxygen levels should remain between 19.5% and 23.5% within confined spaces. An atmosphere is defined as oxygen deficient if it contains less than 19.5% oxygen. The oxygen level in a confined space can decrease because of work being done, such as welding, cutting, or brazing or it can be decreased by certain chemical reactions. Total displacement of oxygen by another gas, such as carbon dioxide, will result in unconsciousness, followed by death.

- Atmospheric tests must be performed in the following order: oxygen deficiency, flammability, and toxicity.

5.1.2. Oxygen-enriched: Enriched oxygen atmospheres are defined as containing greater than 23.5% oxygen. These atmospheres may cause flammable materials, such as clothing to burn violently when ignited.

5.1.3. Flammable vapors and airborne combustible dust: An atmosphere which contains flammable gases, vapors, or mists in excess of 10% of their lower flammable limit (LFL) or airborne combustible dust which meets or exceeds its LFL has a greater potential for fire or explosion.

5.1.4. Toxic gases and vapors: Serious injury or death may result when the atmosphere contains even low concentrations of toxic gases (e.g., hydrogen sulfide, sulfur dioxide, or nitrogen dioxide).

5.1.5. Other: Any other atmospheric condition that is immediately dangerous to life or health (IDLH).

5.2. Electrical/Mechanical Hazards:

5.2.1. Injury can occur from the moving parts of equipment that is inadvertently activated or from electrical shock from energized circuits.

5.3. Physical Hazards

5.3.1. Injury can occur from physical hazards such as engulfment, falling objects, heat/cold stress, noise, and physical limitations of the employee, slipping, or falling.

6. GENERAL CONTROLS FOR CONFINED SPACE ENTRY.

6.1. Pre-Planning:

6.1.1. Entry will not be permitted into a confined space until all precautions noted on the permit have been taken. All spaces will be considered permit spaces until the pre-entry procedures demonstrate otherwise. Entry supervisors (i.e., the person who signs the permit and authorizes entry into a confined space) will brief entrants, supervisors, and team members on their responsibilities and the hazards and controls for safe entry.

6.1.2. Every effort will be made to avoid the need to enter a confined space. If possible, confined spaces will be cleaned and ventilated before entry.

6.2. Non-Permit Required Confined Spaces (Non-Permit Spaces). The following activities will be performed in order to ensure safe entry into non-permit spaces:

6.2.1. Where appropriate barricades will be utilized to ensure that inadvertent entry into a confined space occurs.

6.2.2. Electrical equipment (e.g., ground fault circuit interrupters (GFCI) on power hand tools and other electrical equipment) will be properly grounded and bonded.

6.2.3. In general, proposed activities must not introduce hazards to the area thereby converting it into a permit required confined space.

6.2.4. If unexpected hazards arise, all employees within a confined space must immediately exit the space. Re-entry will not occur until a re-evaluation of the space is made to determine if it must be re-classified as a permit required confined space.

6.3. Permit Required Confined Spaces (Permit Spaces). In addition to the those requirements for non-permit spaces, the following requirements are applicable to permit spaces:

6.3.1. All equipment at the confined space site will be set up and ready for entry before the issuance of the entry permit and actual entry.

6.3.2. A written permit will be completed and all applicable items annotated, marked, and checked. The Entry supervisor is responsible for ensuring that all items have been completed and signed.

6.3.3. Mechanical ventilation for actual or potential atmospheric hazards will be available or initiated where applicable.

6.3.4. Tests of the atmosphere before and during entry into a confined space will be performed by a trained person.

6.3.5. An attendant(s) will be stationed at the entry point of the confined space and two-way communication with entrants in confined spaces will be utilized.

6.3.6. A rescue service will be available throughout the duration of the entry that is capable on entering the confined space.

6.3.7. The proper personal protective equipment (PPE), as deemed necessary will be worn. The Entry Supervisor will ensure that PPE is appropriate and compatible with the permit space environment.

6.3.8. A harness retrieval system, unless it increases the risk of entry or will not contribute to rescue, will be utilized to assist with non-entry retrieval.

6.4. Controlling Ignition Sources:

6.4.1. All ignition sources are prohibited in confined spaces. Where operations such as welding or cutting equipment are required, a hot work permit must be obtained. When open flames must be used in confined spaces, additional precautions will be taken to ensure adequate ventilation. Where electrical hot work must be performed, it must be done in accordance with the proper hot work and fire safety procedures.

6.4.2. Isolating the Area:

6.4.2.1. Isolation is the process whereby a permit required confined space is removed from service and protected from the release of energy and material into that space.

6.4.2.2. Before anyone enters a confined space lockout/tagout procedures must be performed in accordance with the Allied Concrete Systems, LLC Lockout/Tagout Program to ensure equipment is properly isolated.

6.5. Purging and Ventilating Confined Spaces

6.5.1. Where a confined space contains sludge or other residue, tests positive for combustible or toxic elements, or indicates an oxygen deficiency or enrichment, the space must be purged with fresh air. In addition, positive ventilation will be provided both before and throughout entry into the space.

6.5.2. Residue will be removed using proper flushing techniques. Where appropriate, the space will be flushed with water or steam to ensure proper cleaning. All personnel must wear suitable PPE.

6.5.3. A continuous supply of fresh air (oxygen levels between 19.5% and 23.5%) will be provided in the work area before and while personnel are working in the confined space. Care must be taken to place the inlet upwind and away from the confined space and any other potential contaminant (e.g., vehicle exhaust).

6.5.4. The atmosphere must be re-tested for any hazard(s)in question upon completing the purging and ventilating procedures.

6.5.5. Subsequent tests will be continuously performed for oxygen deficiency, flammability, and/or toxicity during entry into the confined space or at intervals frequent enough to ensure a safe atmosphere.

6.6. Testing and Monitoring the Work Environment:

6.6.1. Tests for oxygen deficiency or enrichment, flammability, and toxicity must be conducted by a trained individual. These tests must be performed before entry, continuously during entry, or at intervals frequent enough to ensure a safe atmosphere.

6.6.2. Atmospheric tests must be performed in the following order: oxygen deficiency, flammability, and toxicity. Some flammability test instruments require an adequate amount of oxygen to work properly. Use of sampling lines or containers is required to avoid exposure to personnel during the initial testing operations. It is also important to ensure that sampling is representative of the total atmosphere in the space (e.g., sample at different levels within a deep tank).

6.6.3. Oxygen concentration must be maintained between 19.5 and 23.5 percent.

6.6.4. If a confined space is vacated for more than one hour before the job is completed, the air shall be re-tested to ensure that conditions have not changed since the original entry.

6.7. Completing Entry Permits

6.7.1. A confined Space-Entry Permit (see Appendix to this program) is required before entering a high-hazard confined space. A trained and authorized Entry Supervisor will complete the permit.

6.7.2. Once the Entry Supervisor has signed the permit, it should be posted in an easily visible location. The entry supervisor's signature on the permit is verification that the space is safe to enter. The Entry Supervisor must ensure that all appropriate information is provided on the permit, tests specified on the permit are conducted, and that all procedures and equipment specified on the permit are in place to permit safe entry into the confined space. In addition, the Entry supervisor must ensure that the third party rescue service team is readily available throughout the duration of the entry.

6.7.3. The Entry supervisor terminates permits upon completion of work, if conditions change, or at the end of one work shift. Entry permits will only be used for the duration of one work shift unless otherwise noted on the permit. Permits will be retained by the Manager.

6.7.4. Upon the termination of a confined space permit, the Entry supervisor will contact the Safety Coordinator to conduct a debriefing. The Entry supervisor will provide information on hazards encountered during the entry and hazards created by the work in the confined space.

7. ENTRY AND RESCUE EQUIPMENT.

7.1. Electrical: Ground-fault circuit interrupters will be used in the power supplies of portable electric equipment and with any portable tools and extension cords.

7.2. Personal Protective Equipment: Personal protective equipment for predicted exposures will be issued. Examples of such equipment are rubber gloves, face masks, goggles, and earplugs.

7.3. Respiratory Protection:

7.3.1. All respirators will be NIOSH approved. Respiratory protection will be worn in accordance with the Allied Concrete Systems, LLC Respiratory Protection Program. Potentially acceptable Types include:

7.3.1.1. Dust and Mist Respirators

7.3.1.2. Supplied-Air Respirators: All supplied-air respirators will be either positive-pressure or continuous-flow types attached by hose to Grade D certified breathing air cylinders. An escape pack, with a cylinder of breathing air, will also be worn with supplied- air respirators. The cylinder will contain a 5-minute supply of Grade D breathing air, minimum.

7.3.1.3. Self-Contained Breathing Apparatus (SCBA): SCBAs will have cylinders containing Grade D breathing air with a rated capacity of 30 minutes, minimum.

7.4. Ventilation: Ventilation will be provided by using a high-speed fan or blower to supply fresh air to a confined space. The volumetric flow rate and pressure will be specified to meet or exceed the maximum calculated requirements for air exchange in the confined space.

7.5. Air Sampling:

7.5.1. Oxygen/LEL Percent Analyzer: A portable, continuous-monitoring, oxygen and flammable-vapor analyzer is required. It will be intrinsically safe and equipped with an audible alarm set at oxygen parameters at 19.5 – 23.5% and 10% LEL. Atmospheric tests must be performed in the following order: oxygen deficiency, flammability, and toxicity. Readings from fixed %LEL indicators or measuring devices are not acceptable for confined space entry.

7.5.2. Direct Reading Toxic Gas Vapor Analyzer: A portable toxic gas/vapor analyzer such as a detector-tube instrument will be used when required.

7.6. Physical Protective Equipment:

7.6.1. Such equipment includes: mechanical devices for lowering and raising the entrant, mounting devices, anchor points, full body harnesses and retrieval lines, and communication systems and alarms.

7.6.2. Mechanical Device for Lowering and Raising the Entrant: Such a device, a rope/pulley system for example, will be designed to prevent free fall by using a ratchet, or equivalent device, and a brake. The retrieval line must remain taut to keep the entrant from falling while being lowered into the confined space.

- Note: Allied Concrete Systems, LLC will provide factory-terminated ropes and rigging for normal entries.

7.6.3. Mounting Device or Anchor Point: A mounting device or anchor point can be a tripod, wall-mounted bracket, or an existing overhead beam to which the retrieval line can be attached. All installations will be mounted, or be positioned, outside the confined space so the attendant can retrieve the worker without entering the space. Equipment-Lifting and personnel-lifting apparatus will not be fastened to the same mounting device or anchor point.

7.6.4. Full Body Harness and Retrieval Lines:

7.6.4.1. Entrants will wear a full body harness for vertical entries over five feet. A full body harness is required; safety belts are not acceptable. The harness rings

for attachment to the retrieval line should be located for maximum safety and comfort of the entrant.

7.6.4.2. Wristlets will be used for horizontal entries into confined spaces and may be considered in lieu of the body harness where the size of the confined space opening does not allow for a harness.

7.6.4.3. Retrieval lines, used for lowering or raising the entrant, will be attached to an anchor point outside the permit space in such a manner that retrieval can begin as soon as the attendant becomes aware of any problem.

7.6.5. Communication System Communication systems between the attendant and the entrant are of primary consideration. Line of sight between the attendant and the entrant will be maintained at all times when portable communication devices are not utilized. A two-way radio and/or telephone must be immediately available to the attendant for emergency situations. The attendant will not leave the point of entry to go for assistance unless relieved by another qualified attendant. The attendant will not in any case, enter the confined space.

7.6.6. Alarm: The alarm may be a portable gas operated horn, a battery operated alarm, or other device capable of immediately summoning the onsite third-party rescue team.

8. DEFINITIONS.

%LFL (percent Lower Flammable Limit): The ratio of the vapor concentration relative to the LFL concentration for a specific solvent or gas. See "Lower Flammable Limit"

Acceptable entry conditions: The conditions that must exist in a permit space to allow entry and ensure that employees involved with a high-hazard confined space entry can safely enter into and work within the space.

Air, Breathing: Air that is free of contaminants and conforms to ANSI Type 1, Grade D (A-1151
Atmosphere, acutely toxic: An atmospheric concentration of any substance which may result in employee exposure in excess of an OSHA Permissible Exposure Limit (PEL) or other exposure limit such as a Threshold Limit Value (TLV) which is capable of causing death, incapacitation, impairment of ability to self rescue, injury or acute illness. Refer to material safety data sheets (MSDS's) for specific chemical.

Atmosphere, chronically toxic: An atmospheric concentration of any substance which may result in employee exposure above the PEL or TL V which would cause injury or illness upon repeated or prolonged exposure. Refer to the MSDS or contact Industrial Hygiene.

Atmosphere, inert: An inert atmosphere exists when the atmosphere of a confined space is non-combustible, non-explosive and chemically non-reactive because of a deficiency of oxygen; it will not support life.
Attendant: An individual stationed outside one or more permit spaces to monitor authorized entrants. He/she performs all attendants' duties assigned in the employer's permit space program.

Authorized Entrant: An employee authorized by the employer to enter a permit space.

Blanking or Blinding: The absolute closure of a pipe, line, or duct by fastening a solid plate (e.g., A spectacle blind or skillet blind) that completely covers the bore and is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

Confined Space:
1. Is a space large enough and so configured that an employee can bodily enter and perform assigned work;
2. Has limited or restricted means for entry or exit (e.g., Tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and
3. Is not designed for continuous employee occupancy.

- Below are examples of confined spaces that may exist:
    1. Storm drain pipes
    2. Sewers
    3. Vaults
    4. Storage tank
    5. Utility pipelines
    6. Manholes
    7. Large vacuum vessels
    8. Transformer tanks

Confined Space Program (permit required confined space program): The overall program for controlling and, where appropriate, protecting employees from permit space hazards and for regulating employee entry into permit spaces.

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.

Egress, limited: Any configuration, which makes it difficult for an entrant to exit quickly, such as hatch location (ceiling, floor, wall) which requires ladders and hoists, interior construction (low overhead, crawl spaces, ductwork, closure devices which may be difficult to use), changing conditions (web paths or threadups, scrap buildup, open or closed doors).

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

Engulfment: The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Entry: The action by which a person passes through an opening into a high-hazard confined space. Entry includes conducting work activities in that space, and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry Permit: The written or printed document that is provided by the employer to allow and control entry into a permit space.

Entry Supervisor: The person (e.g., The employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present in a permit space where entry is planned, authorizing entry and overseeing entry operations, terminating entry. The duties of the entry supervisor may be passed from one individual to another during an entry operation if proper communication proper communication is observed.

Hazard: A possible hazard source of danger with the potential for personal injury.

Hazardous Atmosphere: An atmosphere that may expose employees to the risk of death, incapacitation, impairment of the ability to self-rescue (i.e., Escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

- Flammable gas, vapor, or mist exceeding 10% of its lower flammable limit (LFL).
- Airborne combustible dust at a concentration that meets or exceeds its LFL.
  NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 ft or less.
- Atmospheric oxygen concentration below 19.5% or above 23.5%. Atmospheric concentration of any substance for which a dose or permissible exposures limit is published in a DOE-mandated health and safety standard.
  NOTE: An atmospheric concentration of any substance that is noticeable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.
- 4. Any other atmospheric condition that is immediately dangerous to life or health. Other sources of information (e.g., Material safety data sheets that comply with the Hazard Communication Standard, 29 CFR 1910.1200, published information, and internal documents,) can provide guidance on establishing acceptable atmospheric conditions for air contaminants that OSHA has not yet determined a dose or the permissible exposure limit.

Permit-Required Confined Space: A confined space that has one or more of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere.
- Contains a material that has the potential to engulf an entrant.
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section.
- Contains any other recognized serious safety or health hazard.

Burn Permit: The employer's written authorization to perform operations capable of providing a source of ignition (e.g., riveting, welding, cutting, burning, and heating).

Immediately Dangerous to Life or Health: 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.

> NOTE: Some materials (e.g., Hydrogen fluoride gas and cadmium vapor) may produce immediate transient effects that, even if severe, may pass without medical attention but are followed by sudden, possibly fatal, collapse 12-72 hours after exposure. The victim "feels normal "from recovery from transient effects until he/she collapses. Such materials in hazardous quantities are considered "immediately" dangerous to life or health.

Inerting: Displacement of the atmosphere in a permit space by a noncombustible gas (e.g., Nitrogen) to such an extent that the resulting atmosphere is noncombustible.

NOTE: This procedure produces an oxygen-deficient atmosphere that is immediately dangerous to life or health.

Isolation: The process by which a permit space is removed from service and completely protected against the release of energy and material into that space by means such as

1. Blanking or blinding.
2. Misaligning or removing sections of lines, pipes, or duct.
3. Using a double-block-and-bleed system.
4. Locking or tagging out all sources of energy.
5. Blocking or disconnecting all mechanical linkages.

Liquid, Flammable: A Class I liquid, which is a liquid having a flash point below 100oF (37.8°C) and having a vapor pressure not exceeding 40 psi at 100°F. Class I liquids are subdivided into three classes: Class IA, Class IB, and Class IC. See NFPA 30.

Non-Permit Required Confined Space: A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

Oxygen-Deficient Atmosphere: An atmosphere containing less than 19.5% oxygen by volume. Lower Flammable Limit (LFL) -For combustible liquids, LFL is the minimum concentration of vapor in air, which will propagate a flame if ignited. Each flammable or combustible liquid has a range of concentration of its vapor in air within which it will bum or explode. Concentrations below the LFL are too lean to burn or explode, and those above the upper flammable limit (UFL) are too rich to burn or explode. Expressed in percentage by volume of vapor in air, the point at which a fire or explosion potential begins to exist is 100%LFL. See "%LFL." Also referred to as Lower Explosive Limit (LEL) or Upper Explosive Limit (UEL).

Maximum Residence Time: Maximum amount of time an entry team is allowed to work within the confined space.

NIOSH: The National Institute for Occupational Safety and Health (NIOSH) was formed in 1971 to conduct research, develop educational and training resources, and develop criteria for recommended standards in the area of occupational safety and health. NIOSH is part of the Centers for Disease Control (CDC) and the Public Health Service under the Department of Health and Human Services in the executive branch of the U.S. Federal Government.

Oxygen-Enriched Atmosphere: An atmosphere containing more than 23.5% oxygen by volume.

PEL (Permissible Exposure Unit), OSHA: Legal exposure limits established in U.S. Government regulations.

Rescue Service: Personnel designated to enter confined spaces to rescue employees from permit spaces.

Retrieval System: The equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

Trenching & Excavation Program
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1.0 PURPOSE

This program establishes minimum guidelines for trenching and excavation work being performs by Allied Concrete Systems, LLC and by subcontractors performing work for Allied Concrete Systems, LLC.

2.0 SCOPE

This program reflects the requirements, responsibilities set forth by OSHA 29 CFR §1926.650-652, Subpart P.

3.0 RESPONSIBLITIES

3.1 PRIOR TO EXCAVATING

3.1.1 The appropriate State One Call (8-1-1) service shall be called 48 hours before digging starts to identify and locate existing utilities in the proposed excavation site. Each Sub-Contractor is responsible for contacting State One Call services for their own excavations being performed. Regardless of the depth of the excavation

3.1.2 Identify any potential existing hazards in the area where excavation is to occur. (Such as unmarked utilities, unsupported structures, traffic exposure, hazardous atmosphere etc.).

3.1.3 Allied Concrete Systems, LLC is to be notified by subcontractors of who the appointed competent person is, that will be responsible for the excavation.

3.2 RESPONSIBILITY AND AUTHORITY

3.2.1 The Competent Person shall ensure that there is coordination and communication between work groups and individuals so that a complete understanding of planned work activities is known by each individual.

3.2.2 OSHA regulations for trenching and excavation work leave no room for risk-taking; they require that safe working conditions be provided for all employees working in excavations. Allied Concrete Systems, LLC agrees with this requirement and strongly enforces it.

3.2.3 Allied Concrete Systems, LLC and its subcontractors will maintain constant awareness of employees working in trenches or excavations and will account for all

personnel entering/leaving these areas. Concurrent with this policy, the responsibility of Allied Concrete Systems, LLC and its subcontractors is to assure that all requirements are implemented and followed.

3.3 COMPETENT PERSON RESPONSIBILITIES

A Competent Person as defined by OSHA's excavation standard, means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees and who has authorization to take prompts corrective measure to eliminate them. Competent person responsibilities include:

- Conducts test for soil classification
- Understands standards, and any data provided
- Determine proper sloping/shoring system
- Recognize and reclassify soil after changing conditions
- Determine if shoring/shielding equipment is adequate for employee protection
- Conduct air monitoring for hazardous atmosphere
- Design of structural ramps
- Locate underground installations/utilities
- Monitor daily inspection of excavation and adjacent areas for evidence of situations that could result in cave-ins, indications of failure of the protective system, or other hazardous situations.

4.0 DEFINITIONS

Benching means a method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near vertical surfaces between levels.

Cave-in means the separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

Competent person means one who is capable to identify existing and predictable hazards in the surroundings or working conditions that may affect employees and the general public, and who has authority to take prompt corrective measures to eliminate them.

Excavation means any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.

Registered professional engineer (RPE) means a person who is registered as a professional engineer.

Shield (shield system) means a structure that is able to withstand the forces imposed on it by a cave-in and thereby protect employees with the structure. Shields can be a permanent structure or can be designed to be portable and moved along as work progresses. Also known as trench boxes or trench shields.

Shoring (shoring system) means a structure such as a metal hydraulic, mechanical or timber shoring system that supports the sides of an excavation, and which is designed to prevent cave-ins.

Sloping (sloping system) means a method of protecting employees from cave-ins by excavating, to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The

angle of incline varies with differences in such factors as the soil type, environmental exposure conditions, and application of surcharge loads.

Soil Type A — Most stable; clay, silty clay, and hardpan (resists penetration). No soil is Type A if it is fissured, is subject to vibration of any type, has previously been disturbed, or has seeping water.

Soil Type B — Medium stability; silt, sandy loam, medium clay and unstable dry rock; previously disturbed soils unless otherwise classified as Type C.

Soil Type C — Least stable; gravel, loamy sand, soft clay, submerged soil or dense, heavy unstable rock and soil from which any water is seeping

Soil — Mixed Types (Layered Geological Strata) —The soil must be classified on the basis of the soil classification of the weakest soil layer. Each layer may be classified individually if a more stable layer lies below a less stable layer; i.e. where a Type C soil rests on top of stable rock.

Trench (trench excavation) means a narrow excavation (in relation to its length), made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench is not greater than fifteen (15) feet. If forms or other structures are installed or constructed in an excavation as to reduce the dimension measured from the forms or structure to the side of the excavation to fifteen (15) feet or less, the excavation is also considered to be a trench.

5.0 GENERAL REQUIREMENTS

5.1 General Safety

5.1.1 All departments or job sites having, or planning to have an excavation of twenty (20) feet deep or deeper, must notify the Safety Director. When designing a system for excavations meeting this requirement, you will need to have a Registered Professional Engineer (RPE) to design and sign off on the plans.

5.1.2 All excavations require the supervision of a competent person.

5.1.3 No employee shall enter any excavation four (4) feet deep or deeper, until it has been examined by a competent person and there is no indication of a potential cave-in.

5.1.4 All employees in an excavation five (5) feet deep or deeper, must be protected from cave-in by an adequate protective system designed in accordance with 29 CFR §1926.652.

5.1.5 All excavated or other materials and equipment shall be placed at least two (2) feet from the edge of the excavation, or they shall be prevented from falling or rolling into the excavation by the use of suitable retaining devices.

5.1.6 Employees shall not walk or jump across any excavation two (2) feet wide or wider without an approved walkway.

5.1.7 A stairway, ladder or ramp shall be provided within twenty-five (25) feet lateral travel distance, and located within the protected area of the excavation. Access and egress in excavations shall be provided when the depth of the excavation is four (4) deep or deeper.

5.2 COMPLIANCE METHODS

5.2.1 One method of ensuring the safety and health of workers in an excavation is to slope the sides to an angle no steeper than one and one-half horizontal to one vertical (34 degrees measured from the horizontal). These slopes must be excavated to form configurations that are in accordance with those for Type C soil. A slope of this gradation or less is considered safe for any type of soil.

5.2.2 Classification of an excavation soil type other than "C" may only be provided by the designated competent person. Soil type must be determined using at least one visual and one manual analysis method.

5.2.3 "Benching" shall not be used unless the soil has been evaluated and classified as Type B cohesive or Type A. Where such classifications have been made; "benching" will conform to applicable OSHA regulations. Under no circumstances will benching be permitted in Type C soils.

5.2.4 A second method of protection is shoring-sheeting, which can be tightly placed timber shores or lagging, bracing, trench jacks, piles, or other materials installed in a manner strong enough to resist the pressures surrounding the excavation.

5.2.5 A third method is to use a trench shield (a prefabricated frame). Timber, aluminum, or other suitable construction may also be used, but it must be either designed or approved by a registered professional engineer. Standards permit the use of a trench shield as long as the protection it provides is equal to or greater than the protection that would be provided by the appropriate shoring system.

5.3 DESIGNING ADEQUATE PROTECTION (SLOPING, SHEETING, BRACING)

Allied Concrete Systems, LLC Inc., and any subcontractors engaged in excavating shall take the following conditions into consideration when designing and building a protective system of anytype:

5.3.1 Soil Classification - The type(s) of soil must be identified to determine proper protective measures. Excavations in wet soil, sandy soil, or areas that have been backfilled are relatively unstable and must have strong support. Even hard rock sometimes can be hazardous; faults in the strata can make it unstable when cut. OSHA has classified soil into

5.3.1.1 Type A means: cohesive soils with an unconfined compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are; clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as hardpan are also considered Type A. No soil is Type A, however, if:

- The soil is fissured.
- The soil is subject to vibration from heavy traffic, pile driving or similar effects.
- The soil has been previously disturbed.
- The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater.
- The material is subjected to other factors that would require it to be classified as a less stable material.

5.3.1.2 Type B means: cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa). These include granular soils lacking cohesion including angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam.

- Previously disturbed soils except those that would otherwise be classed as Type C soil.
- Soil that meets the unconfined compressive strength or cementation

requirements for Type A but is fissured or subjected to vibration.

- Dry rock that is not stable.
- Material that is part of a sloped, layered system where the layers dip into the excavation of a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.

5.3.1.3 Type C means: Cohesive soil with an unconfined compressive strength of 0.5 tsf (48 kPa) or less.

- Previously disturbed soil.
- Granular soils including gravel, sand and loamy sand.
- Submerged soil or soil from which water is freely seeping.
- Submerged rock that is not stable.
- Material in a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or steeper.

5.3.2 Weather Conditions - Changing weather conditions and climate also greatly affect how strong a shoring system must be. Excess water from rain or melting snow loosens the soil, drastically increasing the pressure on the shoring system. A rainstorm can turn a stable trench side that requires only a light bracing into a mass of loose soil, posing an immediate threat to the employees working within. Even excessively dry conditions can reduce the cohesiveness of the soil.

5.3.3 Superimposed Loads - Superimposed loads in the vicinity of a trench or excavation increase the pressure on excavation faces. Heavy equipment and materials shall be kept as far back from the excavation as possible. When heavy loads must be located near an excavation, the walls shall be braced, sheet-piled, or shored to safely support the extra weight.

5.3.3.1 Buildings, curbs, trees, utility poles, and other structures adjoining the excavation area also can place more stress on a trench side than it can safely accommodate. In these instances, shoring, bracing, or underpinning shall be provided as necessary.

5.3.3.2 Spoil (the excavated material) can exert great pressure on the excavation walls. Spoil shall be stored two feet or more from the edge of the excavation and be retained in an effective manner. Two feet is the bare minimum. Place the spoils as far back as efficiently possible.

5.3.4 Vibrations - Vibrations or sudden shock from passing vehicles or railways, blasting, equipment such as trucks or pile drivers, and some tools can contribute to cave-ins by loosening the soil.

5.3.5 Other Considerations - Besides the four items above, the Competent Person shall also take into account the following:

- Depth of cut
- Water content of soil
- Other operations in the vicinity

5.3.6 Hazardous Atmospheres - The Competent person shall test the atmosphere in excavations greater than 5 feet in depth where oxygen deficiency or a hazardous atmosphere exists or could reasonably be expected to exist before any employee enters the excavation. If hazardous conditions exist, entry into the excavation will

not be permitted until the condition is corrected.

5.3.7 Special Precautions - OSHA standards require that diversion dikes and ditches or other suitable means be used to prevent surface water from entering an excavation and to provide adequate drainage of the area adjacent to the excavation. Water causes soil erosion and softening and shall not be allowed to accumulate in a trench or excavation.

5.4 PROTECTION OF THE PUBLIC

5.4.1 Excavations must be isolated from public access by a substantial physical barrier.

5.4.2 Barricades, lighting, and posting shall be installed as appropriate, prior to the start of excavation operations. All temporary excavations of this type shall be backfilled as soon as possible.

5.4.3 Guardrails, fences, or barricades shall be installed around excavations adjacent to walkways, roads, paths, or other traffic areas. Use of barricade tape alone is not considered a sufficient method of isolation when the excavation is unattended. Warning lights or other illumination shall be used as necessary for the safety of the public at night.

5.4.4 Wells, holes, pits, and similar excavations must be effectively barricaded or covered and posted.

5.4.5 Walkways or bridges used by the general public to cross excavations must be equipped with standard guardrails.

5.5 VEHICULAR TRAFFIC

5.5.1 If employees are exposed to vehicular traffic, either public traffic or traffic on the project site, they must be provided and required to wear, warning vests or other suitable garments made of highly visible material. If employees are required to act as flaggers, they should be trained in traffic control and provided with communication equipment, as needed.

5.6 EMERGENCY RESCUE EQUIPMENT

5.6.1 Emergency rescue equipment, such as breathing apparatus, safety harness and lanyard, and other equipment, should be readily available when hazardous atmospheres may occur suddenly. Employees entering bell-bottom pier holes and other confined spaces will comply with the confined space section of this manual.

5.6.2 Before entering excavations that have unique hazards, the local fire department or rescue service should be contacted to determine its response time and equipment it can provide for a rescue. Your good judgment is required and expected here. Contact the Safety Department if you have any questions.

5.7 FALL PROTECTION

5.7.1 Anytime employees are exposed to falls while working in excavations, the same fall protection requirements apply as if the work were performed any other place. Examples of the need for fall protection include working on platforms in the excavation, installation of a large diameter pipe, placement of concrete in forms, and so forth.

5.7.2 When employees are required to cross over excavations four feet or more in depth, walkways, or bridges with proper guardrails are required. Refer to the Fall

Management Program section.

5.7.3 Should there be any questions regarding the use or selection of PPE, please contact your supervisor or safety department with any questions.

6.0 EMPLOYEE TRAINING

6.1 The competent person must ensure that all existing and new employees are properly trained as to these excavation/trenching requirements.

6.2 Site specific excavation hazards should be discussed in the initial Project Excavation Safety Plan.

6.3 Subcontractors are responsible for ensuring that any employees involved in any trenching and excavation work has been trained in general excavation safety and are aware of potential hazards.

7.0 REFERENCES

7.1 29 CFR §1926 Subpart B

8.0 SUMMARY OF REVISIONS AND CHANGES

Date	Version	Nature of Revision	Author/Editor	
09.19.2018	1	Original Document	Safety Director	

Demolition Safety – Subpart T
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1.0 PURPOSE

Construction personnel performing demolition work are exposed to many hazardous conditions and materials. Although a contractor may be concerned about employee safety, there should also be heightened awareness for the safety of the general public and the property of others.

2.0 SCOPE

This program is ultimately designed for the safety and health of all our employees.

3.0 STATEMENT

3.1 We believe that employee involvement is essential to the success of all aspects of safety and health for the company.

3.2 One of the goals for our program is to eliminate injuries to employees and general public while performing demolition activities.

4.0 RESPONSIBILITES

4.1 Safety Director

4.1.1 Develops and maintains this written program.

4.1.2 Has full authority to make necessary decisions to ensure the success of this program.

4.1.3 All suggestions or improvements will be considered for the success of this program.

4.2 Employee

4.2.1 Follow all rules in the demolition safety program.

5.0 GENERAL REQUIREMENTS

5.1 Preparatory Operations

5.1.1 Prior to permitting employees to start demolition operations, an engineering survey shall be made, by a competent person, of the structure to determine the condition of the framing, floors, and walls, and possibility of unplanned collapse of any portion of the structure. Any adjacent structure where employees may

be exposed shall also be similarly checked. The employer shall have in writing evidence that such a survey has been performed.

5.1.2 When employees are required to work within a structure to be demolished which has been damaged by fire, flood, explosion, or other cause, the walls or floor shall be shored or braced.

5.1.3 All electric, gas, water, steam, sewer, and other service lines shall be shut off, capped, or otherwise controlled, outside the building line before demolition work is started. In each case, any utility company which is involved shall be notified in advance.

5.1.4 If it is necessary to maintain any power, water or other utilities during demolition, such lines shall be temporarily relocated, as necessary, and protected.

5.1.5 It shall also be determined if any type of hazardous chemicals, gases, explosives, flammable materials, or similarly dangerous substances have been used in any pipes, tanks, or other equipment on the property. When the presence of any such substances is apparent or suspected, testing and purging shall be performed and the hazard eliminated before demolition is started.

5.1.6 Where a hazard exists from fragmentation of glass, such hazards shall be removed.

5.1.7 Where a hazard exists to employees falling through wall openings, the opening shall be protected to a height of approximately 42 inches.

5.1.8 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.

5.1.9 All floor openings, not used as material drops, shall be covered over with material substantial enough to support the weight of any load which may be imposed. Such material shall be properly secured to prevent its accidental movement.

5.1.10 Except for the cutting of holes in floors for chutes, holes through which to drop materials, preparation of storage space, and similar necessary preparatory work, the demolition of exterior walls and floor construction shall begin at the top of the structure and proceed downward. Each story of exterior wall and floor construction shall be removed and dropped into the storage space before commencing the removal of exterior walls and floors in the story next below.

5.1.11 Employee entrances to multi-story structures being demolished shall be completely protected by sidewalk sheds or canopies, or both, providing protection from the face of the building for a minimum of 8 feet. All such canopies shall be at least 2 feet wider than the building entrances or openings (1 foot wider on each side thereof), and shall be capable of sustaining a load of 150 pounds per square foot.

5.2 Stairs, Passageways, and Ladders

5.2.1 Only those stairways, passageways, and ladders, designated as means of access to the structure of a building, shall be used. Other access ways shall be entirely closed at all times.

5.2.2 All stairs, passageways, ladders and incidental equipment thereto, which are covered by this section, shall be periodically inspected and maintained in a clean safe condition.

5.2.3 In a multistory building, when a stairwell is being used, it shall be properly illuminated by either natural or artificial means, and completely and substantially covered over at a point not less than two floors below the floor on which work is being performed, and access to the floor where the work is in progress shall be through a properly lighted, protected, and separate passageway.

5.3 Chutes

5.3.1 No material shall be dropped to any point lying outside the exterior walls of the structure unless the area is effectively protected.

5.3.2 All materials chutes, or sections thereof, at an angle of more than 45° from the horizontal, shall be entirely enclosed, except for openings equipped with closures at or about floor level for the insertion of materials. The openings shall not exceed 48 inches in height measured along the wall of the chute. At all stories below the top floor, such openings shall be kept closed when not in use.

5.3.3 A substantial gate shall be installed in each chute at or near the discharge end. A competent employee shall be assigned to control the operation of the gate, and the backing and loading of trucks.

5.3.4 When operations are not in progress, the area surrounding the discharge end of a chute shall be securely closed off.

5.3.5 Any chute opening, into which workmen dump debris, shall be protected by a substantial guardrail approximately 42 inches above the floor or other surface on which the men stand to dump the material. Any space between the chute and the edge of openings in the floors through which it passes shall be solidly covered over.

5.3.6 Where the material is dumped from mechanical equipment or wheelbarrows, a securely attached toe-board or bumper, not less than 4 inches thick and 6 inches high, shall be provided at each chute opening.

5.3.7 Chutes shall be designed and constructed of such strength as to eliminate failure due to impact of materials or debris loaded therein.

5.4 Removal of Materials

5.4.1 Removal of Materials through Floor Openings - Any openings cut in a floor for the disposal of materials shall be no larger in size than 25 percent of the aggregate of the total floor area, unless the lateral supports of the removed flooring remain in place. Floors weakened or otherwise made unsafe by demolition operations shall be shored to carry safely the intended imposed load from demolition operations.

5.4.2 Removal of walls, masonry sections, and chimneys - Masonry walls, or other sections of masonry, shall not be permitted to fall upon the floors of the building in such masses as to exceed the safe carrying capacities of the floors.

5.4.3 No wall section, which is more than one story in height, shall be permitted to stand alone without lateral bracing, unless such wall was originally designed and constructed to stand without such lateral support, and is in a condition safe enough to be self-supporting. All walls shall be left in a stable condition at the end of each shift.

5.4.4 Employees shall not be permitted to work on the top of a wall when weather conditions constitute a hazard.

5.4.5 Structural or load-supporting members on any floor shall not be cut or removed until all stories above such a floor have been demolished and removed. This

provision shall not prohibit the cutting of floor beams for the disposal of materials or for the installation of equipment, provided that the requirements of §§ 1926.853 and 1926.855 are met.

5.4.6 Floor openings within 10 feet of any wall being demolished shall be planked solid, except when employees are kept out of the area below.

5.4.7 In buildings of "skeleton-steel" construction, the steel framing may be left in place during the demolition of masonry. Where this is done, all steel beams, girders, and similar structural supports shall be cleared of all loose material as the masonry demolition progresses downward.

5.4.8 Walkways or ladders shall be provided to enable employees to safely reach or leave any scaffold or wall.

5.4.9 Walls, which serve as retaining walls to support earth or adjoining structures, shall not be demolished until such earth has been properly braced or adjoining structures have been properly underpinned.

5.4.10 Walls, which are to serve as retaining walls against which debris will be piled, shall not be so used unless capable of safely supporting the imposed load.

5.5 Manual Removal of Floors

5.5.1 Openings cut in a floor shall extend the full span of the arch between supports.

5.5.2 Before demolishing any floor arch, debris and other material shall be removed from such arch and other adjacent floor area. Planks not less than 2 inches by 10 inches in cross section, full size undressed, shall be provided for,
and shall be used by employees to stand on while breaking down floor arches between beams. Such planks shall be so located as to provide a safe support for the workmen should the arch between the beams collapse. The open space between planks shall not exceed 16 inches.

5.5.3 Safe walkways, not less than 18 inches wide, formed of planks not less than 2 inches thick if wood, or of equivalent strength if metal, shall be provided and used by workmen when necessary to enable them to reach any point without walking upon exposed beams.

5.5.4 Stringers of ample strength shall be installed to support the flooring planks, and the ends of such stringers shall be supported by floor beams or girders, and not by floor arches alone.

5.5.5 Planks shall be laid together over solid bearings with the ends overlapping at least 1 foot.

5.5.6 When floor arches are being removed, employees shall not be allowed in the area directly underneath, and such an area shall be barricaded to prevent access to it.

5.5.7 Demolition of floor arches shall not be started until they, and the surrounding floor area for a distance of 20 feet, have been cleared of debris and any other unnecessary materials.

5.6 Removal of Walls, Floors & Material with Equipment

5.6.1 Mechanical equipment shall not be used on floors or working surfaces unless such floors or surfaces are of sufficient strength to support the imposed load.

5.6.2 Floor openings shall have curbs or stop-logs to prevent equipment from running over

the edge.

5.6.3 Cranes, derricks, and other mechanical equipment. Employers must meet the requirements specified in subparts N, O, and CC of this part.

5.7 Storage

5.7.1 The storage of waste material and debris on any floor shall not exceed the allowable floor loads.

5.7.2 In buildings having wooden floor construction, the flooring boards may be removed from not more than one floor above grade to provide storage space for debris, provided falling material is not permitted to endanger the stability of the structure.

5.7.3 When wood floor beams serve to brace interior walls or free-standing exterior walls, such beams shall be left in place until other equivalent support can be installed to replace them.

5.7.4 Floor arches, to an elevation of not more than 25 feet above grade, may be removed to provide storage area for debris: **Provided,** That such removal does not endanger the stability of the structure.

5.7.5 Storage space into which material is dumped shall be blocked off, except for openings necessary for the removal of material. Such openings shall be kept closed at all times when material is not being removed.

5.8 Removal of Steel Construction

5.8.1 When floor arches have been removed, planking in accordance with § 1926.855(b) shall be provided for the workers engaged in razing the steel framing.

5.8.2 Cranes, derricks, and other hoisting equipment. Employers must meet the requirements specified in subparts N and CC of this part.

5.8.3 Steel construction shall be dismantled column length by column length, and tier by tier (columns may be in two-story lengths).

5.8.4 Any structural member being dismembered shall not be overstressed.

5.9 Mechanical Demolition

5.9.1 No workers shall be permitted in any area, which can be adversely affected by demolition operations, when balling or clamming is being performed. Only those workers necessary for the performance of the operations shall be permitted in this area at any other time.

5.9.2 The weight of the demolition ball shall not exceed 50 percent of the crane's rated load, based on the length of the boom and the maximum angle of operation at which the demolition ball will be used, or it shall not exceed 25 percent of the nominal breaking strength of the line by which it is suspended, whichever results in a lesser value.

5.9.3 The crane boom and load line shall be as short as possible.

5.9.4 The ball shall be attached to the load line with a swivel-type connection to prevent twisting of the load line, and shall be attached by positive means in such manner that the weight cannot become accidentally disconnected.

5.9.5 When pulling over walls or portions thereof, all steel members affected shall have been previously cut free.

5.9.6 All roof cornices or other such ornamental stonework shall be removed prior to pulling walls over.

5.9.7 During demolition, continuing inspections by a competent person shall be made as the work progresses to detect hazards resulting from weakened or deteriorated floors, or walls, or loosened material. No employee shall be permitted to work where such hazards exist until they are corrected by shoring, bracing, or other effective means.

6.0 TRAINING

Our employees are expected to understand our requirements contained within this program to ensure safe work practices are in place to prevent injury or property damage.

7.0 REFERENCE

7.1 29 CFR 1926 Subpart T

8.0 REVISION HISTORY

Date	Version	Nature of Revision	Author/Editor	
09.07.18	1	Original Document	Safety Director	