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PROJECT

Project Number: _____

Project Name: _____

Project Location: _____

Project Superintendent: _____

Project Manager: _____

Operation Manager: _____

This project safety manual is designed for use by Project Managers for the following purposes:

- **Planning for safety.**
- **Communicating to employees and workers on the project the need to make safety a top priority.**
- **Implementing methods and procedures for controlling potential safety hazards.**
- **Monitoring job operations to assure compliance with safety requirements.**

The manual designates specific individual "Responsibility" assignments to be made to key members of the Project Management staff for the purpose of monitoring compliance with safety requirements. Applicable pages from this manual should be given to those personnel who are assigned various responsibilities for inspecting and monitoring compliance. This should be done each time an inspection is to be made. The person making the inspection should use the page as a check list and return it to the superintendent with written notations as to conditions found and corrective actions taken or requires to be taken.

The Project Manager and Superintendent are encouraged to develop and implement additional controls and programs, as they deem desirable or necessary for the purpose of achieving top safety results on the project.

SAFETY ORIENTATION AND TRAINING

A. A discussion will be held with each new employee about safety to emphasize the following:

- **Perform work safely. Think safety on the job.**
- **Don't take unnecessary risks.**
- **Wear proper work clothes, shoes, etc.**
- **Use personal protective equipment. Hard hats always. Eye protection, steel toes, gloves, safety belts, boots as needed.**
- **Help keep job clean.**
- **Report unsafe conditions to foreman.**
- **Report injuries immediately.**

B. Provide employees with Safety Rules handout.

RESPONSIBILITY: _____

C. A schedule will be established for ToolBox Safety Meetings with employees at least weekly. Include subcontractor employees if size of job permits. The meetings should be held early in the week, preferably on Mondays. Topics discussed should relate to current job conditions and work to be performed during the week.

ToolBox Safety Meetings for employees will be held each week on _____ at _____.
(Day of Week) (Time)

RESPONSIBILITY FOR SAFETY MEETINGS:

Crew or Work Unit	**Discussion Leader**
_____	_____
_____	_____
_____	_____
_____	_____

( ) Subcontractor employees will be included.
( ) Subcontractors will hold a separate meeting for their employees.

_____ will be responsible for verifying that subcontractor safety meetings are being held on a regular basis.

RECORD KEEPING AND INSURANCE CLAIMS REPORTS

Assign responsibility for record keeping and claims reporting.

The person assigned shall be responsible for:

A. Maintenance of OSHA Injury and Illness Log Form (OSHA 200).

B. Prompt and accurate reporting of "First Report of Injury".

RESPONSIBILITY: _____

C. Initiate and maintain contact with the insurance company's Claims Representative who will be handling our claims.

RESPONSIBILITY: _____

D. Maintain information on status of claims to assure that they are receiving the necessary attention.

RESPONSIBILITY: _____

POSTERS AND SAFETY SIGNAGE

A. Display required safety and insurance posters on the job bulletin board. Also post copy of basic job safety rules.

RESPONSIBILITY: _____

B. Identify and obtain other safety signage as needed for job site conditions. The insurance company's Loss Prevention Representative will be able to provide safety signs for most basic needs, and this should be discussed at the first loss prevention visit to the job. Any other signage needed will have to be obtained through purchase from local sources by the job.

RESPONSIBILITY: _____

C. Planning for job operations shall include the identification of safety signage needed.

RESPONSIBILITY: _____

*** USE SPACE BELOW AND ON BACK FOR PLANNING NOTES ***

FIRST AID AND EMERGENCY PLANNING

A. Obtain appropriate first aid supplies to be maintained at the job office.

RESPONSIBILITY: _____

B. If professional medical treatment facilities are not available within 10 minutes of the job site, a person with a valid certificate of first-aid training shall be available at the job during all working hours.

TRAINED EMPLOYEE (S): _____

C. Contacts shall be made with the following emergency service agencies as soon as the job is started:

- **Doctor, clinic or hospital to handle injury cases,**
- **Ambulance service,**
- **Fire Department,**
- **Police Department.**

Telephone numbers for these services shall be conspicuously posted at the job office telephone.

RESPONSIBILITY: _____

*** USE SPACE BELOW AND ON BACK FOR PLANNING NOTES ***

INSURANCE COMPANY LOSS PREVENTATION SERVICES

A. The Superintendent and the Project Manager shall hold an initial meeting with the Loss Prevention Representative of the insurance company to review such items as:

- **Size, scope and duration of project,**
- **Site layout, access arrangements, storage areas and general logistics,**
- **Progress schedule,**
- **Specific immediate and short-term safety problems and plan of control.**

DATE OF INITIAL MEETING: _____

INSURANCE REPRESENTATIVE NAME: _____

B. Establish a schedule for future job safety inspections by the Loss Prevention Representative in accordance with the needs of the project. The interval between inspections should be not less than two months, and should be more frequent if the size and complexity of the job requires it.

SCHEDULE OF INSPECTIONS: _____

_____

C. The Superintendent shall personally accompany the Loss Prevention Representative during the job site inspection, along with other personnel who have been assigned safety coordination duties. These inspections shall also include the Project Manager whenever possible.

RESPONSIBILITY: _____
(Superintendent)

D. Safety violations noted by the Loss Prevention Representative shall be corrected immediately or as soon as physically possible. This includes violations relating to the work of subcontractors. The Superintendent will send a written notification to the insurance company of corrective actions taken with copies to the Project Manager and Vice President.

RESPONSIBILITY: _____
(Superintendent)

E. In the event of a condition that cannot be fully corrected, the written report shall explain why and shall note actions taken to improve the condition. The Project Manager shall review any such conditions with the Superintendent prior to submittal of the report.

SUBCONTRACTOR SAFETY PERFORMANCE

A. Safety shall be discussed and emphasized with each subcontractor prior to an in connection with the award of any subcontract. Each subcontractor shall specifically acknowledge its responsibility and commitment to maintaining safe working conditions and compliance with applicable regulations.

B. Safety shall be discussed in each meeting with subcontractors held for the purpose of evaluating work performance and/or planning.

C. Whenever hazards are noted with regard to a subcontractor's operations, whether through inspections conducted by us or outside persons, (such as our insurance company's representative or state or federal inspectors) the superintendent will give notice in writing to the subcontractor's field supervisor which will specify the corrective action required and the time by which it must be accomplished. A copy of the notice should be kept in the appropriate subcontractor's correspondence file.

RESPONSIBILITY: _____

SAFETY PLANNING AND HAZARD CONTROL

The identification and control of potential hazards shall be an essential part of the planning of job operations. Specific assignments will be made to Southern Mechanical field personnel for responsibility with respect to implementation and maintenance of hazard control.

Important safety requirements as well as procedures for inspection and control of potential hazards related to the subjects listed below are described on the following pages. The safety requirements are based on OSHA regulations, but have been abbreviated to cover the most common and essential needs relative to effective hazard control.

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1. General Requirements 20
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OSHA:
1926.100-107

PERSONAL PROTECTIVE EQUIPMENT

1. **Identify type and quantity of equipment needed, such as:**

   - **Hard Hats**
   - **Gloves**
   - **Eye Protection**
   - **Steel Toes**
   - **_____**
   - **_____**
   - **_____**
   - **_____**

2. **Procure necessary supplies and develop inventory control system as needed.**

3. **Assign to each foreman the responsibility for making sure that employees in his crew are provided with and use personal protective equipment as needed.**

   RESPONSIBILITY: _____
   (Superintendent)

*** USE SPACE BELOW AND ON BACK FOR PLANNING NOTES ***

OSHA:
1926.650-653

EXCAVATIONS AND TRENCHING

1. **Excavations and trenching operations will be planned to conform to OSHA regulations with specific regard to:**

   - **Shoring or sloping sides,**
   - **Safe access by ladders, stairs or ramps,**
   - **Installation of barricades where employees or vehicles are exposed,**
   - **Location of excavation spoils away from sides,**
   - **Impact of weather conditions.**

2. **A supervisory employee shall make a daily check of excavations for evidence of potential slides or cave-ins. If conditions warrant, all work in the excavation shall be discontinued until corrective measures have been taken.**

   RESPONSIBILITY: _____

OSHA:
1926.300-305

POWER TOOLS

1. **Each foreman shall be responsible for checking the safety condition of all power tools used by the company employees. This shall be done not less than once a week. Specific attention shall be paid to:**

   - **Condition of electrical cords including ground wires.**
   - **Safety guards.**

   RESPONSIBILITY: _____

2. **Any tools found to be in an unsafe condition shall be immediately taken out of service and tagged to assure they will not be used until repairs are made.**

OSHA:
1926.302 (e)

POWDER ACTUATED TOOLS

1. **Only low velocity or captive stud drives will be permitted on the project.**

2. **Powder actuated tools shall not be overloaded.**

3. **Only employees trained in proper use of the make and model of tool to be used are permitted to use powder-actuated tools. The manufacturer's representative will conduct training classes at the job site upon request.**

4. **Any tool found not in proper working order, or that develops a defect during use, shall be immediately removed from service and not used until properly repaired.**

5. **Tools shall not be loaded until just prior to the intended firing time. Neither loaded nor empty tools are to be pointed at any employee. Hands shall be kept clear of the open barrel end. Loaded tools shall not be left unattended.**

6. **Fasteners shall not be driven into very hard or brittle materials including, but not limited to, cast iron, glazed tile, surface-hardened steel, glass block, live rock, face brick or hollow tile.**

7. **Driving into materials easily penetrated shall be avoided unless such materials are backed by a substance that will prevent the pin or fastener from passing completely through; and create a flying missile hazard on the other side.**

8. **Tools shall not be used in an explosive or flammable atmosphere.**

RESPONSIBILTY: _____

OSHA:
1926.600-606

MOBILE EQUIPMENT

1. TRUCKS AND CARS

A. Only properly licensed drivers shall be allowed to operate company trucks or cars. The Superintendent must authorize drivers of company vehicles. No person who displays characteristics of carelessness or disregard for safety may be authorized.

B. Vehicles shall be equipped with proper seat belts for driver and passengers. All persons riding in vehicles shall be advised of the company requirement that seat belts are to be used whenever the vehicles are being operated. This rule is to be strictly enforced.

C. The Superintendent shall be responsible for assuring the proper maintenance of company vehicles assigned to his project with particular emphasis on safety equipment including the following:

- **Brakes, including hand brake**
- **Steering mechanism**
- **Condition of tires**
- **Headlights, taillights and signal lights**
- **Horn**
- **Seat Belts**
- **Windshield Wipers**
- **Fire extinguisher, where necessary**

D. Whenever vehicles are being backed up with an obstructed view of the rear in the absence of signalman, the driver shall be required to sound the horn repeatedly during the backing operation. However, a signalman must be used whenever backing is done in congested areas or where obstacles or special hazards are present. Drivers shall be instructed with regard to these requirements.

RESPONSIBILITY: _____
(Superintendent)

OSHA:
1926.150-155

FIRE PROTECTION AND PREVENTION

1. **Warning signs prohibiting smoking and open flames shall be posted, maintained and enforced around storage areas for fuel and other flammable and combustible materials.**

2. **Only approved containers and portable tanks shall be used for the storage and handling of flammable and combustible liquids. Containers shall be labeled as to contents.**

3. **Fuel and oil spills shall be promptly cleaned up.**

4. **All gas or petroleum powered equipment shall be provided with a 5 lb. "ABC" rated fire extinguisher.**

5. **At least a 10 lb. "ABC" rated fire extinguisher shall be readily accessible to all welding or similar operations.**

6. **All offices shall be equipped with at least one 10 lb. "ABC" rated fire extinguisher.**

7. **Inspection shall be made at least weekly to assure that all equipment and signage is in place and that procedures are being followed.**

   RESPONSIBILITY: _____

8. **Weekly safety meetings shall include periodic instruction in the use of fire extinguisher and familiarization with emergency exit routes.**

   RESPONSIBILITY: _____

OSHA:
1926.550

CRANE OPERATIONS

1. **Generally, cranes will be leased along with an operator. In the event that an operator is employed by the company, the Superintendent will be responsible for hiring, and only after he has:**

   - **Satisfied himself that the operator is experienced on the type of equipment to be operated for the type of work being performed.**

   - **Satisfied himself that the operator knows and understands maintenance and operating procedures necessary for safety.**

   - **Has obtained satisfactory references (3 preferred) of recent work experience (through company sources, other employers, manufacturer reps, etc.) if the operator has not previously worked for the Superintendent.**

   RESPONSIBILITY: _____
   (Superintendent)

2. **The Superintendent shall, to whatever extent required, personally observe the work of any and all crane operators on the job to assure that they are capable and are operating the equipment safely.**

   RESPONSIBILITY: _____
   (Superintendent)

3. **Each crane operator will be specifically assigned the responsibility for safe operations and shall be given written instructions as applicable. These shall include:**

   - **Verification of current "annual inspection" certification for the crane.**

   - **Verification that manufacturer's rated load capacities, recommended operating speeds and special warnings or instructions are posted on the crane and are visible from the operator's station.**

- **Daily inspection of:**

    - **Condition of brakes under no-load conditions**
    - **Functioning of various safety devices and limiting devices fitted to the hoisting apparatus**
    - **The electric power installation**
    - **The overload controls**
    - **Condition of structural members for cracks, bends, misalignment, etc.**
    - **Fire extinguisher in cab**

- **Weekly inspection of:**

    - **Wire ropes, guys, hoist and trolley cables**
    - **Jib and counterweight jib guidelines**
    - **Hoist rope anchorage on winding drum**
    - **Foundations, bolts and pins**

- **Assuring that routine maintenance is performed as well as necessary repairs.**

- **Responsibility for assuring that signaling and communications are adequate. This includes making sure that personnel at materials loading and receiving areas use correct hand signals. Where conditions require, radio communications will be used with a clear channel for crane operations.**

- **Making sure that rigging equipment is in good condition and provided with safety devices as applicable. This includes such things as:**

    - **Safety latches on hoisting hooks**
    - **Chains, wire rope, slings, etc. are free from defects and conform to standard load ratings for work being done.**
    - **Eye splices conform to safety standards.**

- **Refusing to lift any loads that are not safely rigged.**

- **Making sure that adequate clearances exist between operating areas and nearby structures, especially power lines.**

- **Taglines or guide ropes are used when needed to control swinging loads.**

- **Barricades for employee safety are maintained around the wing radius of the crane cab.**

- **Permit no one to ride crane load.**

CRANE OPERATION RESPONSIBILITIES:

Crane	**Operator**
_____	_____

4. **The Superintendent shall periodically verify that crane operators are carrying out their safety responsibilities:**

   RESPONSIBILITY: _____
   (Superintendent)

OSHA:
1926.450

LADDERS

1. **Designated persons for compliance with OSHA requirements shall inspect all ladders being used by company employees. The following key safety points shall be checked:**

    - **Structural damage or deterioration of side rails, rungs, cleats, fillers, safety fleet, etc., as applicable.**
    - **Loose or missing nails or fastening safety devices.**
    - **Ladders used for access to work areas shall be checked for:**
        - **Pitch (1/4 of the working length)**
        - **Secured against displacement (tied off at top or blocked)**
        - **Extension of side rails 36 inches above landing or the provision of grab rails at landing.**

Any safety problems shall be corrected immediately or the ladder shall be removed from service and tagged "Do Not Use".

RESPONSIBILITY: _____

2. **Job made ladders shall be built in accordance with OSHA requirements. Persons building ladders shall be provided with necessary information and supervised by a responsible member of the management staff who is knowledgeable of OSHA standards.**

3. **Employees shall be periodically instructed in the proper use of ladders and reminded to report any that are defective.**

4. **Subcontractors shall be reminded to inspect their ladders regularly and to discuss ladder safety with their employees. Their specific attention will be called to any unsafe ladder noticed by company supervisory personnel.**

OSHA:
1926.350-354

WELDING AND CUTTING

1. **General Requirements for Welding and Cutting Operations**

   A. **Suitable fire extinguishing equipment shall be maintained immediately available in the work area.**

   B. **Welders and their assistants shall use suitable eye or face protection. Proper clothing such as long sleeves or welder's sleeves, gloves, etc. shall be worn.**

   C. **Precautions shall be taken with respect to locations where operations are performed to assure the following:**

      - **Adequate ventilation or use of respirators in poorly ventilated areas. Especially important when heating zinc, brass, galvanized or lead-coated material.**

      - **Flammable and combustible materials are removed from area whenever possible.**

      - **No operations to be performed in the presence of flammable paints or compounds or in heavy dust concentrations. Do not conduct operations in areas with strong odor of paints, thinners, etc.**

      - **The area of operations shall be inspected and monitored to assure that sparks or molten materials will not fall on personnel or combustible materials.**

   D. **The opposite sides of walls, floors and ceilings on which operations are performed shall be checked after each operation to assure that sparks have not penetrated to the other side.**

   E. **Heat shall not be applied to drums, containers, or hollow structures which have contained toxic or flammable substances unless they are either filled with water or have been thoroughly cleaned, ventilated and tested. Operators of heating equipment shall never stand on or work in the vicinity of such drums or containers, even when they are empty.**

   F. **Only qualified personnel who are familiar with proper safety procedures and precautions shall perform welding and cutting operations.**

2. Gas Welding and Cutting

A. Compressed Gas Cylinder shall be used, handled and stored in accordance with the following safety requirements:

- **Valve protection caps in place and secured when cylinder not in use.**
- **When hoisted, cylinders shall be secured on a cradle, slingboard or pallet. No choker slings or magnets.**
- **Never lift cylinders by their valves or valve caps.**
- **Valves shall be closed when cylinders are empty, are being transported or when work is discontinued.**
- **Cylinders shall be kept secured in an upright position except when being hoisted or carried in circumstances where they cannot be maintained, secured and upright, regardless of whether they are full or empty.**
- **Cylinders shall be placed where sparks from operations cannot reach them and where they cannot become a part of an electrical circuit.**
- **Cylinders shall not be taken into confined spaces unless they are empty.**
- **Cylinders shall be chained in an upright position to a cylinder truck or structural member while in use.**
- **Cylinders containing different types of substance shall be separated in storage by at least 20 feet or by a 5-foot high, one-hour fire rated barrier, and away from sources of heat or ignition.**
- **No damaged or defective cylinders shall be used.**

B. Manifolds shall be labeled with the name of the substance they contain. Connections shall not be interchanged and must be kept free of grease and oil. When not in use, hose connections shall be capped.

C. Hoses used for different substances shall be easily distinguishable from each other and shall not be interchangeable. No more than 4 inches out of 12 inches of hose length may be covered by tape or other substance. The operator shall inspect hose at the beginning of each shift. Couplings must be of a type that cannot be disconnected by means of a straight pull. They shall be kept clear of traffic area.

D. Torches shall be inspected at the beginning of each shift for leaking shutoff valves, hose couplings and tip connections. Friction lighters shall light them or other approved devices and not by matches or from hot work. Cylinders shall not be used for striking an arc.

E. Regulators and Gauges shall be in proper working order while in use.

3. Arc Welding and Cutting

A. Manual Electrode Holders shall be of a type and capacity designed for the equipment being used. The outer surfaces of the jaws of the holder as well as the grip shall be fully insulated against maximum voltage.

B. Cables shall be of a flexible type and fully insulated. Cables in need of repair shall be removed from service. Connectors and splices shall be fully insulated and shall have a current-carrying capacity equal to the cable.

C. Ground Return Cables shall have a current-carrying capacity at least equal to the unit it serves. Grounds shall not be connected to pipelines containing gases or flammable liquids or to electrical conduits. Grounding circuits shall be by means of the building structure whenever possible.

D. Equipment shall not be left unattended unless electrodes have been removed from holders and the holders are placed or protected so they cannot make contact with employees or conductive objects. If the equipment is to be unattended for any appreciable length of time, the power supply switch shall be opened.

RESPONSIBILITY: _____

FALL PROTECTION PROGRAM

We recognize the fact that falls are the leading cause of worker fatalities in the construction industry with between 150 and 200 workers killed and another 100,000 injured annually each year, according to U.S. Department of Labor records.

With these statistics in mind we have designed the Fall Protection Program to protect our employees, subcontractors, customers, and generally anyone else that may enter our workplace, from the inherent dangers associated with working at specific elevations.

This program will stress employee awareness through training each and every employee on the use of fall protection equipment such as, harness and lanyard as well as how to and when it becomes necessary to erect handrail systems.

In addition to the hazards of employees falling, the "Program" also deals with the dangers of objects falling onto workers, by training employees how and when to cover openings such as sleeves and shaft openings, the use of nets as well as other acceptable methods.

The Fall Protection Program will enforce compliance of all federal regulations, and in many cases will exceed these regulations.

One hundred percent (100%) compliance with this program is mandatory for all employees of Southern Mechanical Contractors, Inc., and its subcontractors.

FALL PROTECTION PROGRAM FOR FIELD PERSONNEL
(A TRAINING GUIDE)

There are two types of systems used to prevent falls on our jobsites. During this instruction you will be trained in determining when and where to use each of them.

The systems are:

Primary System:	**Eliminates fall exposure by blanketing, covering, guarding, netting, or other means.**
Secondary System:	**Provides protection through fall arrest systems/ equipment such as harness and lanyard.**

*** Primary Systems are always preferable to Secondary Systems ***

A Closer Look: Primary Fall Protection Systems

This system provides a working surface in an elevated area free from floor openings, with a three-rail guardrail system on all open sides and around any shafts that cannot be covered.

- **Floor penetrations or holes, or nay opening greater that 2" in diameter in the walking surface. These must be covered at all times unless the actual process of placing pipe, conduit, duct, etc. in the opening is occurring. The material covering the hole (usually plywood) should be marked "Hole Cover – Do Not Remove".**
  You will be trained at this time to choose a suitable thickness for each hole and the proper way to attach the cover using a power activated tool.

- **A guard rail system consists of four components:**

  1) **Toprails**
  2) **Midrails**
  3) **Toeboards**
  4) **Intermediate Vertical Members**

- **The toprail shall be 42" +/- 3" above the walking/working surface.**
- **The midrail shall be installed at height midway between the top of the toprail and the walking/working surface.**
- **The toeboard shall be placed along the walking/working surface directly below the midrail.**
- **The intermediate vertical members must be used when no other means such as walks, columns, etc., at least 21" high are available.**

The toprail portion of the guardrail system must be capable of withstanding at least 200 pounds applied within 2" of the top without deflecting to a height of less than 39".

The midrail must withstand 150 pounds in any direction.

Placement of intermediate vertical members is the primary tool for adjusting these capacities.

You will be trained in the construction of a guard rail system using two types of material (steel cable and wood 2x4).

Note: While in most cases the General Contractor is responsible for building and maintaining guardrail systems, each employee is responsible for assessing the quality of the system and shall not work in any area where these guidelines are not met, unless he/she is using a secondary system.

A Closer Look: Secondary Fall Protection System

- **Full body harnesses with shock absorbing lanyards shall always be used wherever a Secondary System is in use.**
  These harness systems spread the pressure shock throughout the body much better than the old body belts, which are now band from use by our employees.
  - **The lanyards shall have double action spring loaded hooks.**
  - **Two lanyards shall not be connected together.**
  - **D-rings at the waist or chest should only be used for positioning (as described later).**
  - **In the event a shock absorbing lanyard experiences a load, it must be taken out of service and tagged "DO NOT USE".**

- **Another integral component of a Secondary System may be the lifeline.**
  Lifeline systems are points of attachment for fall protection lanyards and must be capable of supporting at least 5,000 pounds.
  Lifelines must be made of at least ½" IPS IWRC or equivalent wire rope cable properly supported to withstand at least 5,000 pounds.

Note: Much more information is available to you, should the above-described components not be sufficient for your particular application. Request information through your Superintendent.

With a basic understanding of the two systems we will take a look at when you should implement each system.

*** Federal regulations state that any worker who is working at an elevation of six feet above another level must be protected.**

- **We will always use a Primary Fall Protection System when possible. However, even with the Primary System at times it is required that you also use the Secondary System.**
  - **One example of this is when a worker is on a ladder at an elevation higher than the guardrail system and within a distance of twice your ladder height.**

  In other words, if a worker is on an eight-foot ladder within sixteen feet of an edge or uncovered opening he/she must use a secondary system.

  - **Another example is when a worker is using an articulated lift, or a lift in which the work platform is not in a stationary position parallel to the surface below.**

  Although the lift may have a guardrail system, the Secondary System is required.

- **A Secondary System will be used without a Primary System only when a Primary System is not feasible.**
  - **In some extreme cases workers may be allowed to work with body harnesses tied off with positioning lanyards. This system does not allow the worker to access the area of potential fall.**

  Prior to the use of this system, employees should notify his/her superintendent so that another means can be researched.

Using these systems, we know all accidental falls can be avoided.

U.S. Department of Labor Bulletin #OSHA 3146 entitled "Fall Protection in Construction" is added to this program by attachment.

In some cases contractual agreement may mandate more stringent policies.

EYE AND FACE PROTECTION PROGRAM

Your eyes are the most vulnerable and easily injured part of your body. They are also probably the most valuable asset you have as a construction worker. The quality of life without the miracle of sight is greatly diminished. Eye injuries are among the easiest types of injuries to avoid.

With these facts in mind, we have designed a mandatory program to assure that none of our employees are needlessly subjected to eye injuries.

The Occupational Safety and Health Administration (OSHA) requires eye and face protection to be used "where there is a reasonable probability of preventing injury when such equipment is used".

While this statement may leave a little room for interpretation, our program does not allow for any discernment by our employees.

Given the nature of our industry we know that the potential for eye and facial injuries, while more prevalent at certain times, is ever present. We also know that a vast majority of these risks can be abated by the use of simple, economical devices such as safety glasses, goggles and face shields.

Therefore, all employees (mechanics, helpers, presidents, clerks, superintendents, technicians, etc,) that are at any location where any type of construction, industrial, service or repair work is being performed, shall wear safety glasses. The only exception to this shall be in the event that another type of device is required for a specific task (i.e., face shield for grinding).

The company will furnish the first pair of safety glasses to each employee and it will be the employees' responsibility to maintain them. The company will replace scratched or clouded glasses. However, the employee must replace glasses that he/she has misplaced. The company will provide these at cost.

Employees who wear corrective lenses will be issued slip on side shields to be used as minimum. However, it is recommended that the goggles are used, or corrective safety glasses may be purchased by the employee.

While safety glasses are sufficient to protect the employee in most cases, there are times when various other devices are required. It is the duty of each employee to be familiar with these situations and supervisors must include this as a topic periodically during the weekly safety meetings.

While performing an activity that produces flying particles, (such as grinding) or when handling potentially caustic liquids, employees should wear full face shields. Each jobsite will have a suitable quantity of these devices for the activities occurring at that location.

While performing an activity that produces radiant energy (excessive light) safety glasses, goggles or a hood with the proper filter lens must be worn. See the attached chart for proper shade for various operations.

U.S. Department of Labor Bulletin # OSHA 3077 entitles "Personal Protective Equipment" is added to this program by attachment.

In some cases contractual agreement may mandate more stringent policies.

Filter Lenses for Protection Against Radiant Energy

Operation	Electrode Size (1/32 inch diameter standard)	Arc Current (Amps)	Minimum* Protective Shade
Shielded metal arc welding	Less than 3/32 3/32 – 5/32 5/32 – 8/32 More than 8/32	Less than 60 60 – 160 160 – 250 250 – 550	7 8 10 11
Gas metal arc welding & flux cored arc welding		Less than 60 60 – 160 160 – 250 250 – 500	7 10 10 10
Gas tungsten arc welding		Less than 50 50 – 150 150 – 500	8 8 10
Air carbon arc cutting	(Light) (Heavy)	Less than 500 500-1000	10 11
Plasma arc welding		Less than 20 20 – 100 100 – 400 400 – 800	6 8 10 11
Plasma arc cutting	(Light) ** (Medium) ** (Heavy) **	Less than 300 300 – 400 400 – 800	8 9 10
Torch brazing		-	3
Torch soldering		-	2
Carbon arc welding		-	14

*As a rule of thumb, start with a shade that is too dark to see the weld zone (the darkest lens carries a value of 10). Then go to a lighter shade that gives sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.

**These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the workplace.

Forklift Operation Plan

SOUTHERN MECHANICAL CONTRACTORS, INC.

4880 Hammermill Road
Tucker, GA 30084

(678) 382-0600

Main Office & All Jobsites

4880 Hammermill Road
Tucker, GA 30084

(678) 382-0600

Forklift Operation Plan

It's hard to imagine any tool more important to materials handling than the powered industrial truck-the forklift. Like many companies, SOUTHERN MECHANICAL CONTRACTORS, INC. relies on these versatile vehicles to load, unload, and move stock and other materials.
This written Forklift Operation Program establishes guidelines to be followed whenever any of our employees work with powered industrial trucks at this company. The rules established are to be followed to:

· Provide a safe working environment,
· Govern operator use of powered industrial trucks, and
· Ensure proper care and maintenance of powered industrial trucks.

The procedures here establish uniform requirements designed to ensure that powered industrial truck safety training, operation, and maintenance practices are communicated to and understood by the affected employees. These requirements also are designed to ensure that procedures are in place to safeguard the health and safety of all employees.

It is our intent to comply with the requirements of OSHA's 29 CFR 1926.600, 1926.602(c), and 1926.441 for construction activities. These regulations have requirements for powered industrial truck operations, including that for battery care and charging. We also comply with applicable requirements of design, construction, stability, inspection, testing, maintenance, and operation of ASME/ANSI B56.1-1969, Safety Standard for Low Lift and High Lift Trucks. However, the powered industrial trucks we operate in our storage and maintenance yards and warehouses comply with 29 CFR 1910.176 and 1910.178.

Administrative Duties

Jeff Young is our Forklift Operation Program Coordinator, acting as the representative of the plant manager, Lance Rucker, who has overall responsibility for the plan. Copies of this written program may be obtained from Jeff Young.

Powered Industrial Trucks at our Workplace

SOUTHERN MECHANICAL CONTRACTORS, INC. uses these powered industrial trucks as follows:

Make and model:	Class and Designation:	Quantity:	Purpose and location:
Toyota 423FGC15	3 Ton	1	Jobsite / Warehouse
Nissan CR6H02F35V	3 Ton	1	Warehouse / Jobsite
Rental	Various Types But Lull is Common		Jobsite

Training

Each Superintendent will identify all new employees in the employee orientation program and make arrangements with department management to schedule training.

Before we begin training a new employee, our Forklift Operation Program Administrator, Jeff Young; Safety Manager, determines if the potential powered industrial truck operator is capable of performing the duties necessary to be a competent and safe driver. This is based upon his/her physical and mental abilities to perform job functions that are essential to the operation of the vehicle.

These capabilities include the level at which the operator must:

· See and hear within reasonably acceptable limits. This includes the ability to see at distance and peripherally. In certain instances, it is also necessary for the driver to discern different colors, primarily red, yellow and green;
· Endure the physical demands of the job; and
· Endure the environmental extremes of the, such as the ability of the person to work in areas of excessive cold or heat. An operator must be able to climb onto and off of a truck, to sit in the vehicle for extended periods of time, and to turn his/her body to look in the direction of travel when driving in reverse.

Once our Administrator determines that a potential operator is capable of performing powered industrial truck duties, the following person(s) will conduct initial training and evaluation: Superintendent. This/These instructor(s) has the necessary knowledge, training, and experience to train new powered industrial truck operators. His/Her/Their qualifications include: Instructors have demonstrated that through training, as well as on the job experience, that they are knowledgeable and capable of training others in the safe and proper use of forklifts.

Initial Training

During an operator's initial training, the instructor(s) combine(s) both classroom instruction and practical training.

Our classroom instruction includes the following formats: The instructor will instruct the trainee through lecture at the jobsite. In the event the trainer should determine that additional training is required for specific trainee or for unique circumstances, other materials such as pamphlets and instructional videos may be obtained from the safety manager. Classroom instruction, itself, covers the following topics: instrumentation, controls (brakes, steering, accelerator etc.), proper maintenance of batteries, fuel and hydraulic systems, proper loading and weight limits, traffic procedures, line of sight requirements, overhead obstructions, and pedestrian awareness. In addition to these standard topics, the trainer shall identify any concerns which are unique to his / her jobsite.

Our practical training includes these formats: Instructors shall demonstrate for the trainee the proper techneques for operating the forklift and the trainee shall repeat the demonstration.. All powered industrial truck operators are trained and tested on the equipment they will be driving before they begin their job. Our practical training covers the following:

Starting the forklift engine, checking gauges, location of batteries, fuel tanks, oil and hydraulic fluid reservoirs, use of all controls such as brakes, steering, accelerator, lift and tilt controls, etc.

Each type of powered industrial truck has a different "feel" to it, and that makes operating it slightly different from operating other industrial trucks. The work areas where these trucks are being used also present particular hazards. For these reasons, it is impractical to develop a single "generic" training program which fits all of our powered industrial trucks. Accordingly, during training, SOUTHERN MECHANICAL CONTRACTORS, INC. covers the operational hazards of our powered industrial trucks, including:

· Hazards associated with the particular make and model of the truck;
· Hazards of the workplace; and
· General hazards that apply to the operation of all or most powered industrial trucks.

See Appendix A for company-specific hazards of both our powered industrial trucks and our workplace.

Each potential operator who has received training in any of the elements of our training program for the types of trucks which that employee will be authorized to operate and for the type of workplace in which the trucks will be operated need not be retrained in those elements before initial assignment in our

workplace if SOUTHERN MECHANICAL CONTRACTORS, INC. has written documentation of the training and if the employee is evaluated to be competent.

Training Certification

After an employee has completed the training program, the instructor will determine whether the potential driver can safely perform the job. At this point, the trainee will take a performance test or practical exercise through which the instructor(s) will decide if the training has been adequate. All powered industrial truck trainees are tested on the equipment they will be driving.

Renee Poston / Office Manager is responsible for keeping records certifying that each employee who has successfully completed operator training and testing. Each certificate includes the name of the driver, the date(s) of the training, and the signature of the person who did the training and evaluation.

Training is done in house. See the attached current copy of the training material and the course outline.

Performance Evaluation

Each certified powered industrial truck operator is evaluated once each year to verify that the operator has retained and uses the knowledge and skills needed to drive safely. This evaluation is done by Superintendents. If the evaluation shows that the operator is lacking the appropriate skills and knowledge, the operator is retrained by our instructor(s). When an operator has an accident, near miss, or some unsafe operating procedure is identified, we do retraining.

Current Certified Truck Operators

Under no circumstances shall an employee operate a powered industrial truck until he/she has successfully completed this company's powered industrial truck training program. This includes all new operators regardless of claimed previous experience. The following table lists employees by department who are currently authorized operators of our powered industrial trucks at this company:

Department:	Employee Name:	Make and Model:
(enter your own text)		

Inspections

Pre-Operational Inspection Procedures

The company requires operators to perform pre-operational equipment checks on powered industrial trucks prior to the beginning of each shift in which those trucks will be utilized, to ensure the safe operating condition of the vehicle. The pre-operational check is performed by completing a daily truck inspection checklist.

See an attached sample form. A supply of these forms is provided in each charging and parking area within user departments.

No blank spaces are allowed on the form. If an item does not apply, we use the code N/A. We also require that operators fill out the comment section thoroughly and accurately if there are any operational or visual defects.

That way our Maintenance Department can pinpoint and repair the problem before the truck becomes unsafe to operate.

Our pre-operational inspection procedures used by operators include:

Leak detection of all systems, tire wear, belt / chain alignment.

Renee Poston / Office Manager is responsible for retaining all daily truck inspection checklist forms for each vehicle for six months.

Periodic Inspection Procedures

Periodic inspections are in conjunction with the particular powered industrial truck's maintenance or service schedule. Maintenance schedules are normally expressed in days and operating or running hours. Superintendents perform(s) inspection and maintenance every 5 working days. Most manufacturers' operator instruction manuals contain the recommended maintenance schedule. Inspections and maintenance or repair beyond the recommended service schedules are done by authorized workshops and/or service technicians.

Operating Procedures
Powered industrial trucks can create certain hazards that only safe operation can prevent. That's why we have created sets of operating procedures. Our operating procedures follow.

Driving

Driving a powered industrial truck is fundamentally different than driving a car or other trucks. In fact, powered industrial trucks:

- Are usually steered by the rear wheels,
- Steer more easily loaded than empty,
- Are driven in reverse as often as forward,
- Are often steered with one hand, and
- Have a center of gravity towards the rear, shifting to the front as forks are raised.

Unlike cars, some powered industrial trucks have a greater chance of tipping over when suddenly turned. Because of the design of powered industrial trucks, they have a very short rear wheel swing. This means that, at high speeds, sudden turns can tip them and could result in serious injury and damage. Speed can cause the center of gravity to shift dramatically. Similarly, speeding over rough surfaces can cause tipping.

Although structurally different than cars, powered industrial trucks, like cars, can collide with property and people. Therefore it is our policy for all operators to follow these driving procedures:

Do not move the forklift in any direction or operate the lift if your line of sight is obstructed or if there is the slightest possibility of causing damage to pedestrians or property.

Load Lifting and Carrying

Powered industrial trucks can lift only so much. Each truck has its own load capacity that is indicated on the rating plate. Powered industrial trucks also have three-point suspension that forms an imaginary triangle from the left front wheel to the right front wheel to the point between the two back wheels. The center of gravity for a powered industrial truck must lie somewhere within this triangle or else the truck will tip over. The load and its position on the forks, as well as traveling speed and slopes, all affect the center of gravity. Loads, themselves, have gravity with which to contend. Loads need special care so that they do not fall. In order to prevent tipping and load falling hazards, we have established the following load lifting and carrying procedures:

The weight of a load must be determined prior to making any lift. If the load exceeds the limit for the forklift do not make the lift. Check the load a few inches from the ground or floor for balance prior to further elevating the load.

Fuel Handling and Storage

Some of our powered industrial trucks operate with highly flammable and combustible fuels.

The storage and handling of liquid fuels such as gasoline and diesel fuel are done in accordance with NFPA Flammable and Combustible Liquids Code (NFPA 30-1969).

The storage and handling of liquefied petroleum gas fuel is done in accordance with NFPA Storage and Handling of Liquefied Petroleum Gases (NFPA 58-1969).

All employees who handle or use flammable liquids are instructed by Superintendent in their safe handling and use and made aware of the specific OSHA requirements for what they are doing with the liquids. More specifically, employees are instructed in the following procedures:

Fuels will be dispensed only from containers approved for that fuel, any spillage will be promptly abated and containers will be stored in an appropriate area designated for that purpose.

Carbon Monoxide Awareness

Powered industrial trucks with internal combustion engines produce carbon monoxide (CO), an odorless, colorless, and deadly gas produced by the incomplete burning of any material that contains carbon. These materials include gasoline, natural gas, propane, coal, and wood. The most common source of CO is the internal combustion engine. Trucks, cars, forklifts, floor polishers, pressure washers, or any other machine powered by fossil fuels generates CO.

If inhaled, CO restricts the ability of your blood system to carry oxygen to the body tissues that need it. Overexposure combined with less oxygen results in carbon monoxide poisoning. Mild poisoning can result in headaches, tightness in the chest, dizziness, drowsiness, inattention, fatigue, flushed face, or nausea. If you continue exposure lack of coordination, confusion, weakness, or loss of consciousness may result. A heart condition, smoking, taking drugs or alcohol, and pregnancy can aggravate CO poisoning. Physical activity, too, can make a situation worse. That's because your body needs more oxygen to exert itself. Severe poisoning can kill you within minutes, sometimes without warning symptoms. The more CO there is in the air and the longer the exposure, the greater the danger.

We use these procedures to spread carbon monoxide awareness, reduce CO levels, and prevent CO illness:

Ventilation fans will be used when forklifts are operated in confined areas. Superintendents will make CO awareness a regular topic in weekly safety meetings.

Personal Protective Equipment (PPE)

We have assessed our workplace and determined that the hazards which threaten our operators include:

This must be determined at each specific jobsite.

For this reason, we require that our powered industrial truck operators wear the following PPE and equipment:

As required by above.

All operators required to wear this equipment are trained:

- When PPE is necessary;
- What PPE is necessary;
- How to properly put on, take off, adjust, and wear PPE;
- Limitations of the PPE; and
- Proper care, maintenance, useful life, and disposal of PPE.

See the Written Personal Protective Equipment Program for more details.

Pedestrians

Because powered industrial trucks are typically used near pedestrians, we require both pedestrians and powered industrial truck operators to watch out for each other.

All powered industrial truck operators must:

Be aware at all times that pedestrians may come into your area without being seen and without authorization. Never move the forklift in any manner without being 100% certain that no harm may come to any pedestrian.

All pedestrians must:

Be aware that an operator may not be able to see or hear you due to obstructions that are natural to the forklift as well as the fact that they may be focused on their task. Make your presence in the area known to the operator.

Maintenance

Investing time and effort into the proper upkeep of our equipment results in day to day reliability. Keeping up with the manufacturer's recommended maintenance and lubrication schedules, and completing the proper records, will also increase our trucks' longevity and enhance its resale value.

Superintendents complete(s) a receiving or delivery inspection whenever our company purchases powered industrial trucks, and he/she/they perform the recommended "breaking in" inspections and maintenance.

Superintendents follow(s) the manufacturer's operator instruction manual for daily or weekly maintenance.

Periodic maintenance (those completed monthly, every six months, or annually) is done by a factory-trained-expert, or a dealer. Superintendents retain all maintenance records.

Appendices

Appendix A-Hazards of Powered Industrial Trucks and our Workplace

Hazards associated with our particular truck makes and models:

Make and model: Hazards:
(enter your own text)

Hazards associated with the locations where our powered industrial trucks are used:

Make and Model: Purpose and Location: Location Hazards:
(enter your own text)

General hazards that apply to the operation of all or most of our powered industrial trucks:

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Appendix B-Attachments

The following documents have been attached to this written program:

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