



SAFETY AND HEALTH PROGRAM MANUAL FOR G&M SERVICES LLC



CORPORATE SAFETY AND HEALTH PROGRAM MANUAL

TABLE OF CONTENTS

1. Registration
2. Safety Commitment Policy
3. Assigned Responsibility
4. Audit/Inspection Procedures
5. Bloodborne Pathogens
6. Concrete And Masonry
7. Confined Spaces
8. Cranes, Hoists, and Rigging
9. Compressed Gas Cylinders, Welding, and Cutting
10. Disciplinary Program
11. Documented Safety Meetings/Training
12. Electrical Safety
13. Emergency Action Plan
14. Equipment Maintenance/Inspection
15. Fall Protection
16. Fire Protection And Prevention
17. First Aid and Medical Services
18. Floors, Wall Openings, and Stairways
19. General Safety Rules
20. Hand And Power Tools
21. Hazard Communications
22. Hearing Conservation Program
23. Housekeeping
24. Incident Investigation
25. Job Safety And Health Analysis
26. Lockout Tagout
27. New Employee Orientation
28. Office Safety
29. Personal Protective Equipment
30. Recordkeeping
31. Respiratory Protection
32. Scaffolding
33. Stairways and Ladders
34. Vehicle Operating Policy
35. Sawing Safety Program
36. Transitional Work / Return to Work Policy
37. Drug and Alcohol Policy
38. Silica Control Plan
39. Heat and Cold Stress Program
40. Compressed Air and Gases

SAFETY AND HEALTH

Every employee is entitled to a work place that is free of unsafe conditions, unsafe acts, and health hazards. If total elimination of these three factors is not possible, then the employer has the responsibility to provide the proper safeguards. When unsafe conditions, unsafe acts, and health hazards are allowed to exist and result in employee injury--everyone loses.

The employee loses because of the injury, pain suffered, lost wages and limited social activity. The employer loses because the services of an experienced employee must be hired as a replacement and damaged equipment must be repaired or replaced. The loss total for accidents seems endless and in most cases is never fully defined. Accidents produce a "lose-lose" situation for everyone involved.

Safety and Health is not automatic, nor is it a function that can be superimposed at our facility. Safety and Health is a program that must be preplanned, implemented, enforced and provided with a feedback system.

Management must define the Safety and Health program goals during the preplanning stage. Unless this is done, the program will most likely result in an action-reaction type program. If the goals are only to prevent injuries and satisfy OSHA regulations, then management will never maximize its return on investment. A complete Safety and Health program or loss control program will address all loss areas that include:

- | | | |
|---------------------|-----------------------|--------------------|
| * employee injuries | * untrained employees | * equipment damage |
| * health claims | * disaster situations | * material damage |
| * fire protection | * job security | |

The high cost of accidents makes it a necessity for all employers to maintain an effective Safety and Health program.

SAFETY COMMITMENT POLICY



1.0 SAFETY COMMITMENT POLICY

- 1.1. In the efforts of G & M Services to establish and maintain a safe and healthful workplace for all employees, the following safety program with all set forth policies have been established.
- 1.2. Safety is not only a company goal, but also a requirement of G & M Services. Management will be held responsible and accountable to establish and maintain all company safety rules and policies that shall meet all Federal, State, and Local standards that apply to G & M Services.
- 1.3. It is a condition of employment with G & M Services that all employees abide by all safety rules and policies, instructions, and procedures set forth. Failure to abide by these safety rules and policies shall result in disciplinary action as stated in the company reprimand section of this manual.
- 1.4. All contractors and/or suppliers working for or with G & M Services, shall abide by the same company safety rules and policies as all employees of G & M Services. Failure to follow any part of the safety rules or policies shall be considered a breach of contract terms.
- 1.5. ALL visitors or guests shall be required to follow all policies, safety rules, and procedures of G & M Services. It shall be the responsibility of all supervisors to implement and enforce all safety rules, policies, and programs. Supervisory personnel shall have the full support in enforcing all provisions of the company policy and procedure manual.

A handwritten signature in black ink, appearing to read 'Andrew Tomlinson', is written over a faint, circular, dotted background.

Andrew Tomlinson
Company President / Manager

ASSIGNED RESPONSIBILITIES



1.0 INTRODUCTION

- 1.1. It is the purpose of this manual to state company policy, fix responsibility, and adopt procedures concerning safety and insurance.
- 1.2. Although sections of this manual are devoted to certain areas of safety, they are mainly digested from the Safety and Health Regulations. These regulations should be consulted for the exact and detailed requirements.
- 1.3. It is very important that accidents of all kinds be reported promptly and in detail. A section of this manual is devoted to the explanation of insurance coverage and the proper method of investigating and reporting all types of incidents.
- 1.4. **Safety is everyone's responsibility! Experience has shown that virtually all hazards can be overcome by practical safety measures.**

2.0 RESPONSIBILITIES OF COMPANY SAFETY DIRECTOR

- 2.1. It shall be the Company Safety Director's responsibility to oversee all facets of safety with G & M Services. The Safety Director for G & M Services is Anthony Manning. These responsibilities shall include but are not limited to the following:
 - 2.1.1. Formulate company safety goals.
 - 2.1.2. Accident prevention.
 - 2.1.3. Lead all accident investigations.
 - 2.1.4. Direct and assist all supervisors and all other employees with safety training and provide assistance for any safety related matters.

3.0 RESPONSIBILITIES OF SITE SAFETY REPRESENTATIVE

- 3.1. The Site Safety Representative has the responsibility as an advisor/consultant to management and employees for the coordination and implementation of the company and site-specific safety and health policies and procedures. In addition, this individual is responsible for assurance of compliance with the governing Federal, State, Local, and Client Safety and Health Regulations.
- 3.2. The Site Safety Representative will interface directly with management personnel, subcontractors, and any plant or facility/client Safety Coordinator.

ASSIGNED RESPONSIBILITIES

The Site Safety Representative shall have the authority to correct any hazard or unsafe work practice even if a work stoppage is required. He or she will be expected to continuously monitor the company's or contractor's personnel and equipment as well as subcontractor's personnel and equipment.

- 3.3. If violations are discovered, they shall be immediately corrected (if at all possible) by educating the worker as to the unsafe work practice and any applicable standards that are relative to the specific type of activity, tagging and removing the damaged tools or equipment from the work area, repairing the damaged tools or equipment, identifying defective materials, or correcting the hazard.
- 3.4. The Site Safety Representative shall encourage employees to identify and eliminate all observed and known hazards of unsafe work practices.
- 3.5. The Site Supervisor shall be held accountable and responsible for the Company Accident Prevention Program, Hazard Communication/Employee Right to Know Program, and all training programs required at his or her work site. He or she shall work with the Company Safety Director and Supervisors to ensure that all phases of the company and client's procedures are being followed and enforced.
- 3.6. He or she will also perform periodic safety inspections to affirm the effectiveness of these procedures. If progress is determined to be unsatisfactory, he or she must take any necessary steps to ensure that improvements are brought about. The Site Supervisor and Company Safety Director or designee shall see that all Company Safety and Health Programs and policies are enforced.
- 3.7. The Site Supervisor must review the safety program during his or her various plant or facility visits. He or she must also audit to ensure that weekly safety meetings are being conducted and that corrective action is taken by reviewing any meeting notes and meeting documentation.
- 3.8. The Site Supervisor shall inform the Company Safety Director of the following items:
 - 3.8.1. The start and finish dates of his or her jobs.
 - 3.8.2. The total manpower for the job.
 - 3.8.3. Any future safety requirements that may include unique safety problems.
 - 3.8.4. Review job requirements for specialized safety equipment for the job.

ASSIGNED RESPONSIBILITIES

4.0 RESPONSIBILITIES OF COMPANY EMPLOYEES

- 4.1. Employees shall follow safe procedures and shall take an active part in protecting themselves and their fellow workers.
- 4.2. Employees are expected to report any hazardous conditions, unsafe work practices, and behavior in their work areas to their supervisors, and are encouraged to make suggestions for their correction.
- 4.3. Employees shall make safety a part of their job by following any and all Safety and Health Standards as given in their Safety Training Program and by using all safeguards and safety equipment provided.
- 4.4. Employees are expected to participate in the weekly Safety Meetings and properly sign all attendance rosters.
- 4.5. Employees shall report promptly to their supervisors any injury for first aid or medical help. All injuries, no matter how minor, are to be reported immediately. Not reporting an injury can immediately cancel an employee's right to receive Workers' Compensation benefits. All injuries, accidents, and near misses must be reported no matter how minor. Failure to do so will result in disciplinary action and could lead to dismissal.

AUDIT/INSPECTION PROCEDURES



1.0 PURPOSE

- 1.1. The purpose of this procedure is to ensure daily and monthly inspections/audits of job sites and equipment. The reason for these inspections/audits is to assure safe working conditions and meet additional inspection/audit requirements.

2.0 RESPONSIBILITIES

- 2.1. Safety inspections will be conducted by competent company personnel as defined by OSHA or by an approved outside consultant acquired by the Company.
- 2.2. The Company Safety Director shall be responsible for ensuring that an effective safety inspection/audit program is implemented and that guidelines are set to assure compliance to OSHA guidelines.
- 2.3. The Site Managers/Supervisors will be held responsible for the completion of all inspections/audits. He must also maintain on file a copy of any inspections/audits and turn these over with all other documents to the Company Safety Director to be kept on file.

3.0 INSPECTIONS

- 3.1. A formal jobsite inspection/audit is to be performed as least once per month. A jobsite inspection/audit form shall be utilized. This form will serve as a consistent checklist. It may also be utilized as a tool for safety meetings and safety communication on the job.
- 3.2. A daily pre-operation checklist shall be filled out for the following equipment:
 - 3.2.1. Articulating Boom Platform
 - 3.2.2. Forklifts/Fork Trucks/Attachments
 - 3.2.3. Scissors Lift
 - 3.2.4. Boom trucks
 - 3.2.5. Cranes
- 3.3. Each piece of equipment will have its own inspection checklist and must be completed daily prior to being operated. Any deficiencies found during the daily inspection shall be repaired prior to its being used.

AUDIT/INSPECTION PROCEDURES

- 3.4. The Site Superintendent shall be responsible for ensuring that all employees have been properly and adequately trained to operate any and all equipment. Furthermore, the Site Manager must maintain records for all equipment inspections and employee training. All records must be turned over to the Company Safety Director at the completion of the project.

INSPECTION CHECK LIST

These checklists are by no means all-inclusive. Items should be added, or items deleted that do not apply to the operations of the company. However, carefully consider each item as encountered and then make a decision.

EMPLOYER POSTING

YES	NO	N/A	ITEM
			Is the required OSHA workplace poster displayed in a prominent location where all employees are likely to see it?
			Are emergency telephone numbers posted where they can be readily found in case of emergency?
			Where employees may be exposed to any toxic substances or harmful physical agents, has the appropriate information concerning employee access to medical and exposure records, and "Material Safety Data Sheets," etc. been posted or otherwise made readily available to affected employees?
			Are signs concerning "Exiting from buildings," room capacities, floor loading, exposures to x-ray, microwave, or other harmful radiation or substances posted where appropriate?

RECORDKEEPING

YES	NO	N/A	ITEM
			Are all occupational injury or illnesses, except minor injuries requiring only first aid, being recorded as required on the OSHA 200 log?
			Are employee medical records and records of employee exposure to hazardous substances or harmful physical agents up to date?
			Have arrangements been made to maintain required records for the legal period of time for each specific type of record? (Some records must be maintained for at least 40 years.)
			Are operating permits and records up to date for such items as elevators, air pressure tanks, liquefied petroleum gas tanks, etc.?
			Is the Summary of Occupational Illnesses and Injuries posted during the month of February?

SAFETY AND HEALTH PROGRAM

YES	NO	N/A	ITEM
			Is an active safety and health program in operation?
			Is one person clearly responsible for the overall activities of the safety and health program?
			Is a safety committee or group made up of management and labor representatives in place that meets regularly and report in writing on its activities?
			Is there a working procedure for handling in-house employee complaints regarding safety and health?
			Are employees advised of the successful effort and accomplishments the company and/or safety committees have made in assuring they will have a workplace that is safe and healthful?

MEDICAL SERVICES AND FIRST AID

YES	NO	N/A	ITEM
			Are employees required to have a preemployment physical examination?
			Is there a hospital, clinic, or infirmary for medical care in the proximity of the workplace?
			If medical and first aid facilities are not in the proximity of the workplace, is at least one employee on each shift currently qualified to render first aid?
			Are medical personnel readily available for advice and consultation on matters of employees' health?
			Are first aid kits easily accessible to each work area, with necessary supplies available, periodically inspected and replenished as needed?
			Have first aid kit supplies been approved by a physician, indicating that they are adequate for a particular area or operation?
			Are means provided for quick drenching or flushing of the eyes and body in areas where corrosive liquids or materials are handled?

FIRE PROTECTION

YES	NO	N/A	ITEM
			Is the local fire department well acquainted with the facilities, its location and specific hazards?
			Is the fire alarm system certified as required?
			Is the fire alarm system tested at least annually?
			Are interior stand pipes and valves inspected regularly?
			Are outside private fire hydrants flushed at least once a year and on a routine preventive maintenance schedule?
			Are fire doors and shutters in good operating condition, unobstructed and protected against obstructions?
			Are fire doors and shutter fusible links in place?
			Are automatic sprinkler system water control valves, air and water pressure checked weekly/periodically as required?
			Is the maintenance of automatic sprinkler systems assigned to responsible persons or to a sprinkler contractor to ensure adequate clearance and proper guarding from physical damage?
			Is an adequate number and type of portable fire extinguishers provided and are they readily accessible?
			Are fire extinguishers recharged regularly and noted on the inspection tag?
			Are employees periodically instructed in the use of extinguishers and fire protection procedures?
			Where sprinkler systems are permanently installed, are the nozzle heads so directed or arranged that water will not be sprayed into operating electrical switchboards and equipment?

PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING

YES	NO	N/A	ITEM
			Are protective goggles or face shields provided and worn where there is any danger of flying particles or corrosive materials?
			Are approved safety glasses required to be worn at all times in areas where there is a risk of eye injuries such as punctures, abrasions, contusions or burns?
			Are employees who need corrective lenses (glasses or contacts) in working environments having harmful exposures, required to wear <i>only</i> approved safety glasses, protective goggles, or use other medically approved precautionary procedures?
			Are protective gloves, aprons, shields, or other means provided against cuts, corrosive liquids and chemicals?
			Are hard hats provided and worn where danger of falling objects exists?
			Is appropriate foot protection required where there is the risk of foot injuries from hot, corrosive, poisonous substances, falling objects, crushing or penetrating actions?
			Are approved respirators provided for regular or emergency use where needed?
			Is all protective equipment maintained in a sanitary condition and ready for use?
			Are there eye wash facilities and a quick drench shower within the work area where employees are exposed to injurious corrosive materials?
			Where special equipment is needed for electrical workers, is it available?
			Is protection against the effects of occupational noise exposure provided when sound levels exceed those of the OSHA noise standard?
			Are adequate work procedures, protective clothing and equipment provided and used when cleaning up spilled toxic or otherwise hazardous materials or liquids?
			Are employees instructed on the correct usage and limitations of the respirators under the respiratory program?

GENERAL WORK ENVIRONMENT

YES	NO	N/A	ITEM
			Are all worksites clean and orderly?
			Are all spilled materials or liquids cleaned up immediately?
			Is combustible scrap, debris and waste stored safely and removed from the worksite promptly?
			Are accumulations of combustible dust routinely removed from elevated surfaces including the overhead structure of buildings, etc.?
			Is combustible dust cleaned up with a vacuum system to prevent the dust going into suspension?
			Is metallic or conductive dust prevented from entering or accumulating on or around electrical enclosures or equipment?

GENERAL WORK ENVIRONMENT, CONTINUED

YES	NO	N/A	ITEM
			Are covered metal waste cans used for oily and paintsoaked waste?
			Are all oil and gas fired devices equipped with flame failure controls that will prevent flow of fuel if pilots or main burners are not working?
			Are paint spray booths, dip tanks, etc. cleaned regularly?
			Are the minimum number of toilets and washing facilities provided and kept in clean and sanitary conditions?
			Are all work areas adequately illuminated?
			Are pits and floor openings covered or otherwise guarded?

WALKWAYS

YES	NO	N/A	ITEM
			Are aisles and walkways marked as appropriate and kept clear at all times?
			Are work surfaces kept dry, or appropriate means taken to assure the surfaces are slip-resistant?
			Are holes in the floor, sidewalk or other walking surface repaired properly, covered or otherwise made safe?
			Is safe clearance available for walking in aisles where motorized or mechanical handling equipment is operating?
			Are materials or equipment stored in such a way that sharp projectives will not interfere with the walkway?
			Are changes of direction or elevations readily identifiable?
			Are aisles or walkways that pass near moving or operating machinery, welding operations or similar operations arranged so employees will not be subjected to potential hazards?
			Is adequate headroom provided for the entire length of any aisle or walkway?
			Are standard guardrails provided wherever aisle or walkway surfaces are elevated more than four feet above any lower surface, or when located by hazardous equipment?
			Are bridges provided over conveyors and similar hazards?

FLOOR AND WALL OPENINGS

YES	NO	N/A	ITEM
			Are floor openings guarded by a cover, a guardrail, or equivalent, on all sides (except at entrance to stairways or ladders)?
			Are toeboards installed around the edges of a permanent floor opening (where persons may pass below the opening)?
			Are skylight screens of such construction and mounting that they will withstand a load of at least 200 pounds?
			Is the glass in the windows, doors, glass walls, etc., which are subject to human impact, of sufficient thickness and type for the condition of use?
			Are grates or similar type covers over floor openings such as floor drains, of such design that foot traffic or rolling equipment will not be affected by the grate spacing?
			Are unused portions of service pits and pits not actually in use either covered or protected by guardrails or the equivalent?
			Are manhole covers, trench covers and similar covers, plus their supports designed to carry a truck rear axle load of at least 200 pounds when located in roadways and subject to vehicle traffic?
			Are floor or wall openings in fire resistive construction provided with doors or covers compatible with the fire rating of the structure and provided with a self closing feature when appropriate?

STAIRS AND STAIRWAYS

YES	NO	N/A	ITEM
			Are standard stair rails or handrails installed on all stairways four feet or higher?
			Are all stairways at least 22 inches wide?
			Do stairs have at least a seven feet overhead clearance?
			Do stairs angle no more than 50 degrees and no less than 30 degrees?
			Are stairs of hollow-pan type treads and landings filled to the top edge with solid material?
			Are step risers on stairs uniform from top to bottom, with no riser spacing greater than 7½ inches?
			Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant?
			Do stairway handrails have at least 1½ inches of clearance between the handrails and the wall or surface they are mounted on?

STAIRS AND STAIRWAYS, CONTINUED

YES	NO	N/A	ITEM
			Are stairway handrails located between 30 and 34 inches above the leading edge of stair treads and are they capable of withstanding 200 pounds of load applied in any direction?
			Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warning provided to prevent employees from stepping into the path of traffic?
			Do stairway landings have a dimension measured in the direction of travel, at least equal to the width of the stairway?
			Is the vertical distance between stairway landings limited to 12 feet or less?

ELEVATED SURFACES

YES	NO	N/A	ITEM
			Are signs posted, when appropriate, showing the elevated surface load capacity?
			Are surfaces elevated more than four feet above the floor or ground provided with standard guardrails?
			Are all elevated surfaces (beneath which people or machinery could be exposed to falling objects) provided with standard 4-inch toeboards?
			Is a permanent means of access and egress provided to elevated storage and work surfaces?
			Is required headroom provided when necessary?
			Is material on elevated surfaces piled, stacked or racked in a manner to prevent it from tipping, falling, rolling or spreading?

EXITING OR EGRESS

YES	NO	N/A	ITEM
			Are all exits marked with an exit sign and illuminated by a reliable light source?
			Are the directions to exits, when not immediately apparent, marked with visible signs?
			Are doors, passageways or stairways, that are neither exits nor access to exits and which could be mistaken for exits, appropriately marked "NOT AN EXIT," "TO BASEMENT," "STOREROOM," etc.?
			Are exit signs provided with the word "EXIT" in lettering at least six inches high and the stroke of the lettering at least ½-inch wide?
			Are exit doors side-hinged and kept free of obstructions?
			Are at least two means of egress provided from elevated platforms, pits or rooms where the absence of a second exit would increase the risk of injury from hot, poisonous, corrosive, suffocating, flammable, or explosive substances?
			Are special precautions taken to protect employees during construction and repair operations?
			Is the number of exits from each floor of a building and the number of exits from the building itself, appropriate for the building occupancy load?
			Are exit stairways which are required to be separated from other parts of a building, enclosed by at least two-hour fire-resistive construction in buildings more than four stories in height, and not less than one-hour fire-resistive construction elsewhere?
			Where ramps are used as part of required exiting from a building, is the ramp slope limited to one-foot vertical and twelve feet horizontal?
			Where exiting will be through frameless glass doors, glass exit doors, storm doors, etc., are the doors fully tempered and meet the safety requirements for human impact?
			Are doors that swing in both directions and are located between rooms where there is frequent traffic, provided with viewing panels in each door?

EXIT DOORS

YES	NO	N/A	ITEM
			Are doors, which are required to serve as exits, designed and constructed so that the way of exit travel is obvious and direct?
			Are windows, which could be mistaken for exit doors, made inaccessible by means of barriers or railings?
			Are exit doors openable from the direction of exit travel without the use of a key or any special knowledge or effort when the building is occupied?
			Where panic hardware is installed on a required exit door, will it allow the door to open by applying a force of 15 pounds or less in the direction of the exit traffic?
			Are doors on cold storage rooms provided with an inside release mechanism, which will release the latch and open the door even if it's padlocked or otherwise locked on the outside?
			Where exit doors open directly onto any street, alley or other area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees from stepping into the path of traffic?

PORTABLE LADDERS

YES	NO	N/A	ITEM
			Are all ladders maintained in good condition; equipped with non-slip safety feet and rungs; joints between steps and side rails tight; all hardware and fitting securely attached; and moveable parts operating freely without binding or undue play?
			Are ladder rungs and steps uniformly spaced and free of grease and oil?
			Is it prohibited to place a ladder in front of doors except when the door is blocked open, locked or guarded?
			Is it prohibited to place ladders on boxes, barrels, or other unstable bases to obtain additional height?
			Are employees instructed to face the ladder when ascending or descending?
			Are employees prohibited from using ladders that are broken, or have missing steps, rungs, or cleats, broken side rails or other faulty equipment?
			Are employees instructed not to use the top step of ordinary stepladders as a step?
			When portable rung ladders are used to gain access to elevated platforms, roofs, etc., does the ladder always extend at least three feet above the elevated surface?
			Is it required that when portable rung or cleat type ladders are used, the base is so placed that slipping will not occur, and is it lashed or otherwise held in place?
			Are portable metal ladders legibly marked with signs reading "CAUTION – Do Not Use Around Electrical Equipment" or equivalent wording?
			Are employees prohibited from using ladders for uses other than their intended purposes?
			Are employees instructed to only adjust extension ladders while standing at a base (not while standing on the ladder or from a position above the ladder)?

HAND TOOLS AND EQUIPMENT

YES	NO	N/A	ITEM
			Are all tools and equipment (both company and employee-owned) used by employees at their workplace in good condition?
			Are hand tools such as chisels, punches, etc., which develop mushroomed heads during use, reconditioned or replaced as necessary?
			Are broken or fractured handles on hammers, axes and similar equipment replaced promptly?
			Are worn or bent wrenches replaced regularly?
			Are appropriate handles used on files and similar tools?
			Are employees made aware of the hazards caused by faulty or improperly used hand tools?
			Are appropriate safety glasses, faceshields, etc., used while using hand tools or equipment that might produce flying materials or be subject to breakage?
			Are jacks checked periodically to assure they are in good operating condition?
			Are tool cutting edges kept sharp so the tools will move smoothly without binding or skipping?
			Are tools stored in dry, secure locations where they won't be tampered with?

PORTABLE (POWER OPERATED) TOOLS AND EQUIPMENT

YES	NO	N/A	ITEM
			Are grinders, saws and similar equipment provided with appropriate safety guards?
			Are power tools used with the correct shield, guard, or attachment, recommended by the manufacturer?
			Are all guards routinely inspected to ensure proper function?
			Are all cord-connected, electrically-operated tools and equipment effectively grounded or of the approved double-insulated type?
			Are effective guards in place over belts, pulleys, chains, sprockets and all rotating and moving parts on equipment?
			Are portable fans provided with full guards or screens having openings of ½" or less?
			Is hoisting equipment available and used for lifting heavy objects, and are hoist ratings and characteristics appropriate for the task?
			Are ground-fault circuit interrupters provided on all temporary electrical 15 and 20 ampere circuits, used during periods of construction or in wet locations?
			Are pneumatic and hydraulic hoses on power-operated tools checked regularly for deterioration or damage?

ABRASIVE WHEEL EQUIPMENT – GRINDERS

YES	NO	N/A	ITEM
			Is the work rest used and kept adjusted to within 1/8" of the wheel?
			Is the adjustable tongue guard on the top side of the grinder used and kept adjusted to within 1/4" of the wheel?
			Do side guards cover the spindle, nut, and flange and 75 percent of the wheel diameter?
			Are bench and pedestal grinders permanently mounted?
			Are goggles or faceshields always worn when grinding?
			Is the maximum RPM rating of each abrasive wheel compatible with the RPM rating of the grinder motor?
			Are fixed or permanently mounted grinders connected to their electrical supply system with metallic conduit or other permanent wiring method?
			Does each grinder have an individual on and off control switch?
			Before new abrasive wheels are mounted, are they visually inspected and ring tested?
			Are dust collectors and powered exhausts provided on grinders used in operations that produce large amounts of dust?
			Are splash guards mounted on grinders that use coolant to prevent the coolant from reaching employees?

MACHINE GUARDING

YES	NO	N/A	ITEM
			Is there a training program to instruct employees on safe methods of machine operation?
			Is there adequate supervision to ensure that employees are following safe machine operating procedures?
			Is there a regular program of safety inspection of machinery and equipment?
			Is all machinery and equipment kept clean and properly maintained?
			Is sufficient clearance provided around and between machines to allow for safe operations, set up and servicing, material handling and waste removal?
			Is equipment and machinery securely placed and anchored when necessary to prevent tipping or other movement that could result in personal injury?
			Is there a power shut-off switch within reach of the operator's position at each machine?
			Can electrical power to each machine be locked out for maintenance, repair, or security?
			Are the noncurrent-carrying metal parts of electrically operated machines bonded and grounded?
			Are foot-operated-switches guarded or arranged to prevent accidental actuation by personnel or falling objects?
			Are manually operated valves and switches controlling the operation of equipment and machines clearly identified and readily accessible?
			Are all emergency stop buttons colored red?
			Are all pulleys, belts, chains, and gears that are within seven feet of the floor or working level properly guarded?
			Are splash guards mounted on machines that use coolant to prevent the coolant from reaching employees?
			Are methods provided to protect the operator and other employees in the machine area from hazards created at the point of operation, ingoing nip points, rotating parts, flying chips, and sparks?
			Are machinery guards secure and so arranged that they do not offer a hazard in their use?
			If special handtools are used for placing and removing material, do they protect the operator's hands?
			Are revolving drums, barrels, and containers required to be guarded by an enclosure that is interlocked with the drive mechanism, so that revolution cannot occur unless the guard enclosures are in place, so guarded?
			Do arbors and mandrels have firm and secure bearings and are they free from play?
			Are provisions made to prevent machines from automatically starting when power is restored after a power failure or shutdown?
			Are machines constructed so as to be free from excessive vibration when the largest size tool is mounted and run at full speed?
			If machinery is cleaned with compressed air, is air pressure controlled and personal protective equipment or other safeguards utilized to protect operators and other workers from eye and body injury?
			Are fan blades protected with a guard having openings no larger than 1/2", when operating within seven feet of the floor?
			Are saws used for ripping equipped with anti-kick back devices and spreaders?
			Are radial arm saws so arranged that the cutting head will gently return to the back of the table when released?

LOCKOUT/TAGOUT PROCEDURES

YES	NO	N/A	ITEM
			Is all machinery or equipment capable of movement required to be deenergized or disengaged and tagged or locked out during cleaning, servicing, adjusting or setting up operations, whenever required?
			Where the power disconnecting means for equipment does not also disconnect the electrical control circuit: Are the appropriate electrical enclosures identified and can they be disconnected and locked out?
			Is the locking out of control circuits in lieu of locking out main power disconnects prohibited?
			Are all equipment control valve handles provided with a means for locking out?
			Does the lockout procedure require that stored energy (mechanical, hydraulic, air, etc.) be released or blocked before equipment is locked out for repairs?
			Are appropriate employees provided with individually keyed personal safety locks?
			Are employees required to keep personal control of their key(s) while they have safety locks in use?
			Is it required that only the employee exposed to the hazard, place or remove the safety lock?
			Is it required that employees check the safety of the lockout by attempting to start up after making sure no one is exposed?
			Are employees instructed to always push the control circuit stop button before reenergizing the main power switch?
			Is there a means provided to identify any or all employees who are working on locked out equipment by their locks or accompanying tags?
			Are a sufficient number of accident preventive signs or tags and safety padlocks provided for any reasonably foreseeable repair emergency?
			When machine operations, configurations or size requires the operator to leave his or her control station to install tools or perform other operations, and that part of the machine could move if accidentally activated, is such element required to be separately locked out?
			In the event that equipment or lines cannot be shut down, locked out and tagged, is a safe job procedure established and rigidly followed?

WELDING, CUTTING AND BRAZING

YES	NO	N/A	ITEM
			Are only authorized and trained personnel permitted to use welding, cutting or brazing equipment?
			Does each operator have a copy of the appropriate operating instructions and are they directed to follow them?
			Are compressed gas cylinders regularly examined for obvious signs of defects, deep rusting, or leakage?
			Is care used in handling and storing of cylinders, safety valves, relief valves, etc., to prevent damage?
			Are precautions taken to prevent the mixture of air or oxygen with flammable gases, except at a burner or in a standard torch?
			Are cylinders kept away from sources of heat, elevators, stairs and gangways?
			Are only approved apparatus (torches, regulators, pressure-reducing valves, manifolds) used?
			Is it prohibited to use cylinders as rollers or supports, and to drop or strike cylinders?
			Are empty cylinders appropriately marked and their valves closed?
			Are signs reading: "DANGER—NO SMOKING, MATCHES OR OPEN LIGHTS," or the equivalent posted?
			Are cylinders, cylinder valves, couplings, regulators, hoses, and apparatus kept free of oily or greasy substances?
			Unless secured on special trucks, are regulators removed and valve protection caps put in place before moving cylinders?
			Do cylinders without fixed hand wheels have keys, handles, or non-adjustable wrenches on stem valves when in service?
			Are liquefied gases stored and shipped valve-end up with valve covers in place?
			Are provisions made to never crack a fuel-gas cylinder valve near sources of ignition?
			Before a regulator is removed, is the valve closed and gas near sources of ignition?
			Is red used to identify the acetylene (and other fuel gas) hose, green for oxygen hose, and black for inert gas and air hose?
			Are pressure-reducing regulators used only for the gas and pressures for which they are intended?
			Is open circuit (No Load) voltage of arc welding and cutting machines as low as possible and not in excess of the recommended limits?
			Is grounding of the machine frame and safety ground connections of portable machines checked periodically?
			Are electrodes removed from the holders when not in use?

WELDING, CUTTING AND BRAZING, CONTINUED

YES	NO	N/A	ITEM
			Is it required that electric power to the welder be shut off when no one is in attendance?
			Is suitable fire extinguishing equipment available for immediate use?
			Is the welder forbidden to coil or loop welding electrode cable around his body?
			Are wet machines thoroughly dried and tested before being used?
			Are work and electrode lead cables frequently inspected for wear and damage, and replaced when needed?
			Do means for connecting cable lengths have adequate insulation?
			When the object to be welded cannot be moved and fire hazards cannot be removed, are screens used to confine heat, sparks, and slag?
			Are fire watchers assigned when welding or cutting is performed in locations where a serious fire might develop?
			Are combustible floors kept wet, covered by damp sand, or protected by fire-resistant shields?
			When floors are wet down, are personnel protected from possible electrical shock?
			When welding is done on metal walls, are precautions taken to protect combustibles on the other side?
			Before hot work is begun, are used drums, barrels, tanks, and other containers so thoroughly cleaned that no substances remain that could explode, ignite, or produce toxic vapors?
			Are employees exposed to the hazards created by welding, cutting, or brazing operations protected with appropriate personal protective equipment and clothing?
			Is a check made for adequate ventilation in and where welding or cutting is performed?

COMPRESSORS AND COMPRESSED AIR

YES	NO	N/A	ITEM
			Are compressors equipped with pressure relief valves and pressure gauges and are they checked frequently?
			Are compressor air intakes installed and equipped so as to ensure that only clean uncontaminated air enters the compressor?
			Are air filters installed on the compressor intake?
			Are compressors operated and lubricated in accordance with the manufacturer's recommendations?
			Before any repair work is done on the pressure system of a compressor, is the pressure bled off and the system locked out?
			Are signs posted to warn of the automatic starting feature of the compressors?
			Is the belt drive system totally enclosed to provide protection for the front, back, top and sides?
			Is it strictly prohibited to direct compressed air toward a person?
			Are employees prohibited from using highly compressed air for cleaning purposes?
			When using compressed air for cleaning, do employees wear protective chip guarding and personal protective equipment?
			Are safety chains or other suitable locking devices used at couplings of high pressure hose lines where a connection failure would create a hazard?
			Before compressed air is used to empty containers of liquid, is the safe working pressure of the container checked?

COMPRESSED AIR RECEIVERS

YES	NO	N/A	ITEM
			Is every receiver equipped with a pressure gauge and with one or more automatic, spring-loaded safety valves?
			Is the total relieving capacity of the safety valve capable of preventing pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10 percent?
			Is every air receiver provided with a drain pipe and valve at the lowest point for the removal of accumulated oil and water?
			Are compressed air receivers periodically drained of moisture and oil?
			Are all safety valves tested frequently and at regular intervals to determine whether they are in good condition?
			Is the inlet of air receivers and piping systems kept free of accumulated oil and carbonaceous materials?

COMPRESSED GAS CYLINDERS

YES	NO	N/A	ITEM
			Are cylinders with a water weight capacity over 30 pounds equipped with means for connecting a valve protector device, or with a collar or recess to protect the valve?
			Are cylinders legibly marked to clearly identify the gas contained?
			Are compressed gas cylinders stored in areas which are protected from external heat sources such as flame impingement, intense radiant heat, electric arcs, or high temperature lines?
			Are cylinders located or stored in areas where they will not be damaged by passing or falling objects or subject to tampering by unauthorized persons?
			Are cylinders stored or transported in a manner to prevent them from creating a hazard by tipping, falling or rolling?
			Are cylinders containing liquefied fuel gas stored or transported in a position so that the safety relief device is always in direct contact with the vapor space in the cylinder?
			Are valve protectors always placed on cylinders when the cylinders are not in use or connected for use?
			Are all valves closed off before a cylinder is moved, when the cylinder is empty, and at the completion of each job?
			Are low pressure fuel gas cylinders checked periodically for corrosivity, general distortion, cracks, or any other defect that might indicate a weakness or render it unfit for service?
			Does the periodic check of low pressure fuel gas cylinders include a close inspection of the cylinders' bottom?
			Are fuel gas cylinders and oxygen cylinders separated by distance, fire resistant barriers, etc. while in storage?

HOISTS AND AUXILLARY EQUIPMENT

YES	NO	N/A	ITEM
			Is each overhead electric hoist equipped with a limit device to stop the hook travel at its highest and lowest point of safe travel?
			Will each hoist automatically stop and hold any load up to 125 percent of its rated load, if its actuating force is removed?
			Is the rated load of each hoist legibly marked and visible to the operator?
			Are stops provided at the safe limits of travel for trolley hoists?
			Are the controls of hoists plainly marked to indicate the direction of travel or motion?
			Is each cage-controlled hoist equipped with an effective warning device?
			Are close-fitting guards or other suitable devices installed on hoists to assure hoist ropes will be maintained in the sheave grooves?
			Are all hoist chains or ropes of sufficient length to handle the full range of movement of the application while still maintaining two full wraps on the drum at all times?
			Are nip points or contact points between hoist ropes and sheaves which are permanently located within seven feet of the floor, ground or working platform guarded?
			Is it prohibited to use chains or rope slings that are kinked or twisted?
			Is it prohibited to use the hoist rope or chain wrapped around a load as a substitute for a sling?
			Is the operator instructed to avoid carrying loads over people?
			Are only employees who have been trained in the proper use of hoists allowed to use them?
			Are hooks with safety latches or other arrangements used when hoisting materials so that slings or load attachments won't accidentally slip off the hoist hooks?
			Are securing chains, ropes, chokers or slings adequate for the job to be performed?

INDUSTRIAL TRUCKS – FORKLIFTS

YES	NO	N/A	ITEM
			Are only trained personnel allowed to operate industrial trucks?
			Is substantial overhead protective equipment provided on high rider equipment?
			Are the required lift truck operating rules posted and enforced?
			Is directional lighting provided on each industrial truck that operates in an area with less than 2 foot candles per square feet of general lighting?
			Does each industrial truck have a warning horn, whistle, gong or other device which can be clearly heard above the normal noise in the area where operated?
			Are the brakes on each industrial truck capable of bringing the vehicle to a complete and safe stop when fully loaded?

INDUSTRIAL TRUCKS – FORKLIFTS, CONTINUED

YES	NO	N/A	ITEM
			Will the industrial truck's parking brake effectively prevent the vehicle from moving when unattended?
			Are industrial trucks approved for use in designated areas?
			Are motorized hand/rider trucks so designed that the brakes are applied, and power to the drive motor shuts off when the operator releases his or her grip on the device that controls the travel?
			Are industrial trucks with an internal combustion engine operated in buildings or enclosed areas carefully checked to ensure such operations do not cause harmful concentration of dangerous gases or fumes?
			Are dockboards (bridgeplates) used when loading or unloading operations are taking place between vehicles and docks?
			Are trucks and trailers secured from movement during loading and unloading operations?
			Are dockplates and loading ramps constructed and maintained with sufficient strength to support imposed loading?

SPRAYING OPERATIONS

YES	NO	N/A	ITEM
			Is adequate ventilation assured before spray operations are started?
			Is mechanical ventilation provided when spraying operations are done in enclosed areas?
			When mechanical ventilation is provided during spraying operations, is it so arranged that it will not circulate the contaminated air?
			Is the spray area free of hot surfaces and at least 20 feet from flames, sparks, operating electrical motors and other ignition sources?
			Are portable lamps used to illuminate spray areas suitable for use in a hazardous location?
			Is approved respiratory equipment provided and used when appropriate during spraying operations?
			Do solvents used for cleaning have a flash point to 100°F or more?
			Are fire control sprinkler heads kept clean?
			Are "NO SMOKING" signs posted in spray areas, paint rooms, paint booths, and paint storage areas?
			Is the spray area kept clean of combustible residue?
			Are spray booths constructed of metal, masonry, or other substantial noncombustible material?
			Are spray booth floors and baffles noncombustible and easily cleaned?
			Is infrared drying apparatus kept out of the spray area during spraying operations?
			Is the spray booth completely ventilated before using the drying apparatus?
			Is the electric drying apparatus properly grounded?
			Are lighting fixtures for spray booths located outside of the booth and the interior lighted through sealed clear panels?
			Are the electric motors for exhaust fans placed outside booths or ducts?
			Are belts and pulleys inside the booth fully enclosed?
			Do ducts have access doors to allow cleaning?
			Do all drying spaces have adequate ventilation?

ENTERING CONFINED SPACES

YES	NO	N/A	ITEM
			Are confined spaces thoroughly cleaned of hazardous substances, such as acids or caustics, before entry?
			Are all lines to a confined space, containing inert, toxic, flammable, or corrosive materials valved off and blanked or disconnected and separated before entry?
			Is it required that all impellers, agitators, or other moving equipment inside confined spaces be locked out if they present a hazard?
			Is either natural or mechanical ventilation provided before confined space entry?
			Are appropriate atmospheric tests performed to check for oxygen deficiency, toxic substances and explosive gas concentrations in the confined space before entry?
			Is adequate illumination provided for the work to be performed in the confined space?
			Is the atmosphere inside the confined space frequently tested or continuously monitored during work?
			Is there an assigned safety standby employee outside of the confined space, when required, whose sole responsibility is to watch the work in progress, sound an alarm if necessary, and render assistance?
			Is the standby employee appropriately trained and equipped to handle an emergency?
			Are the standby employee or other employees prohibited from entering the confined space if there is an emergency?

ENTERING CONFINED SPACES, CONTINUED

YES	NO	N/A	ITEM
			Is approved respiratory equipment required if the atmosphere inside the confined space cannot be made acceptable?
			Is all portable electrical equipment used inside confined spaces either grounded and insulated, or equipped with ground fault protection?
			Before gas welding or burning is started in a confined space, are hoses checked for leaks, compressed gas bottles forbidden inside of the confined space, torches lighted only outside of the confined area and the confined area tested for an explosive atmosphere each time before a lighted torch is to be taken into the confined space?
			If employees will be using oxygen-consuming equipment such as torches in a confined space, is sufficient air provided to assure combustion without reducing the oxygen concentration of the atmosphere below 19.5 percent by volume? <u>Note:</u> 2000 CFM of ventilation is required per welder.
			Whenever combustion-type equipment is used in a confined space, are provisions made to ensure the exhaust gases are vented outside of the enclosure?

ENVIRONMENTAL CONTROLS

YES	NO	N/A	ITEM
			Are all work areas properly illuminated?
			Are employees aware of the hazards involved with the various chemicals and substances they may be exposed to in their work environment, such as ammonia, chlorine, epoxies, caustics, etc.?
			Is employee exposure to chemicals in the workplace kept within acceptable levels?
			Can a less harmful method or process be used?
			Is the work area's ventilation system appropriate for the work being performed?
			Is employee exposure to welding fumes controlled by ventilation, use of respirators, exposure time, or other?
			Are welders and other workers nearby provided with flash shields during welding operations?
			If forklifts and other vehicles are used in buildings or other enclosed areas, are the carbon monoxide levels kept below maximum acceptable concentration?
			Has there been a determination that noise levels in the facilities are within acceptable levels?
			Are caution labels and signs used to warn of asbestos?
			Are wet methods used, when practical, to prevent the emission of airborne fibers, silica dust and similar hazardous materials?
			Is vacuuming with appropriate equipment used whenever possible rather than blowing or sweeping dust?
			Are all local exhaust ventilation systems designed and operating properly such as air flow and volume necessary for the application, ducts not plugged or belts slipping?
			Are restrooms and washrooms kept clean and sanitary?
			Is all water provided for drinking, washing and cooking potable?
			Are all outlets for water not suitable for drinking clearly identified?
			Are employees' physical capacities assessed before being assigned to jobs requiring heavy work?
			Are employees instructed in the proper manner of lifting heavy objects?
			Are employees screened before assignment to areas of high heat to determine if their health condition might make them more susceptible to having an adverse reaction?
			Are employees working on streets and roadways where they are exposed to the hazards of traffic required to wear bright colored (traffic orange) warning vests?
			Are exhaust stacks and air intakes so located that contaminated air will not be recirculated within a building or other enclosed area?
			Is equipment producing ultra-violet radiation properly shielded?
			Is the volume of velocity of air in each exhaust system sufficient to gather the dusts, fumes, mists, vapors or gases to be controlled, and to convey them to a suitable point of disposal?
			Are exhaust inlets, ducts and plenums designed, constructed, and supported to prevent collapse or failure of any part of the system?
			Are clean out ports or doors provided at intervals not to exceed 12 feet in all horizontal runs of exhaust ducts?
			Where two or more different type of operations are being controlled through the same exhaust system, will the combination of substances constitute a fire, explosion or chemical reaction hazard in the duct?
			Is adequate makeup air provided to areas where exhaust systems are operating?
			Where two or more ventilation systems are serving a work area, is their operation such that one will not offset the functions of the other?

FLAMMABLE AND COMBUSTIBLE MATERIALS

YES	NO	N/A	ITEM
			Are combustible scrap, debris and waste materials (oily rags, etc.) stored in covered metal receptacles and removed from the worksite promptly?
			Are approved containers and tanks used for the storage and handling of flammable and combustible liquids?
			Are all connections on drums and combustible liquid piping, vapor and liquid tight?
			Are all flammable liquids kept in closed containers when not using (e.g., parts cleaning tanks, pans, etc.)?
			Are all drums of flammable liquids grounded and bonded to containers during dispensing?
			Do storage rooms for flammable and combustible liquids have explosion-proof lights?
			Do storage rooms for flammable and combustible liquids have adequate ventilation?
			Are liquefied petroleum storage tanks guarded to prevent damage from vehicles?
			Are all solvent wastes and flammable liquids kept in fire-resistant, covered containers until they are removed from the worksite?
			Is vacuuming used whenever possible rather than blowing or sweeping combustible dust?
			Are firm separators placed between containers of combustibles or flammables, when stacked one upon another, to assure their support and stability?
			Are fire extinguishers selected and provided for the types of materials in areas where they are to be used? Class A Ordinary combustible material fires. Class B Flammable liquid, gas or grease fires. Class C Energized-electrical equipment fires.
			Are appropriate fire extinguishers mounted within fifty feet of outside areas containing flammable liquids and within 10 feet of any inside storage area for such materials?
			Are "NO SMOKING" signs posted where appropriate in areas where flammable or combustible materials are used or stored?
			Are storage tanks adequately vented to prevent the development of excessive vacuum or pressure as a result of filling, emptying, atmosphere temperature changes, or fire exposure?

HAZARDOUS CHEMICAL EXPOSURE

YES	NO	N/A	ITEM
			Are employees trained in the safe handling practices of hazardous chemicals such as acids, caustics, etc.?
			Is employee exposure to chemicals kept within acceptable levels?
			Are eye wash fountains and safety showers provided in areas where corrosive chemicals are handled?
			Are all containers, such as vats, storage tanks, etc., labeled as to their contents, e.g., "CAUSTICS?"
			Are all employees required to use personal protective clothing and equipment when handling chemicals (gloves, eye protection, respirators, etc.)?
			Are chemical piping systems clearly marked as to their content?
			Where corrosive liquids are frequently handled in open containers or drawn from storage vessels or pipe lines, is an adequate means available for neutralizing or disposing of spills or overflows properly and safely?
			Have standard operating procedures been established and are they being followed when cleaning up chemical spills?
			Are respirators intended for emergency use adequate for the various uses for which they may be needed?
			Are employees prohibited from eating in areas where hazardous chemicals are present?
			Is personal protective equipment provided, used and maintained whenever necessary?
			Are there written standard operating procedures for the selection and use of respirators where needed?
			If hazardous substances are used in processes, is a medical or biological monitoring system in operation?
			Is the company familiar with the Threshold Limit Values or Permissible Exposure Limits of airborne contaminants and physical agents used in the workplace?
			Have control procedures been instituted for hazardous materials, where appropriate, such as respirators, ventilation systems, handling practices, etc.?
			Whenever possible are hazardous substances handled in properly designed and exhausted booths?
			Are general dilution or local exhaust ventilation systems used to control dusts, vapors, gases, fumes, smoke, solvents or mists that may be generated in the workplace?
			Do employees complain about dizziness, headaches, nausea, irritation, or other factors of discomfort when they use solvents or other chemicals?
			Is there a dermatitis problem? Do employees complain about dryness, irritation, or sensitization of the skin?
			Has the evaluation by an industrial hygienist-environmental health specialist been considered?
			Are materials that give off toxic asphyxiant, suffocating or anesthetic fumes stored in remote or isolated locations when not in use?

HAZARDOUS SUBSTANCES COMMUNICATION

YES	NO	N/A	ITEM
			Is there a list of hazardous substances used in the workplace?
			Is there a written hazard communication program dealing with Material Safety Data Sheets (MSDS's), labeling, and employee training?
			Is each container for a hazardous substance (i.e., vats, bottles, storage tanks, etc.) labeled with product identity and a hazard warning (communication of the specific health hazards and physical hazards)?
			Is there a Material Safety Data Sheet readily available for each hazardous substance used?
			Does the program include an explanation of what an MSDS is and how to use and obtain one?
			Does the program include MSDS contents for each hazardous substance or class of substances?
			Does the program include an explanation of "Right to Know?"
			Does the program include the identification of where an employee can see the employer's written hazard communication program and where hazardous substances are present in their work areas?
			Does the program include the physical and health hazards of substances in the work area, and specific protective measures to be used?
			Does the program include details of the hazard communication program, including how to use the labeling system and MSDS's?

ELECTRICAL

YES	NO	N/A	ITEM
			Is compliance with OSHA specified for all contract electrical workers?
			Are all employees required to report as soon as practical any obvious hazard to life or property observed in connection with electrical equipment or lines?
			Are employees instructed to make preliminary inspections and/or appropriate tests to determine what conditions exist before starting work on electrical equipment or lines?
			When electrical equipment or lines are to be serviced, maintained or adjusted, are necessary switches opened, locked out and tagged whenever possible?
			Do extension cords being used have a grounding conductor?
			Are multiple plug adaptors prohibited?
			Are ground-fault circuit interrupters installed on each temporary 15 or 20 ampere 120 volt AC circuit at wet locations or where construction, alterations or excavations are being performed?
			Are all temporary circuits protected by suitable disconnecting wiring or plug connectors at the junction with permanent wiring?
			Are there electrical installations in hazardous dust or vapor areas? If so, do they meet the National Electric Code (NEC) for hazardous locations?
			Are exposed wiring and cords with frayed or deteriorated insulation repaired or replaced promptly?
			Are flexible cords and cables free of splices or taps?
			Are clamps or other securing means provided on flexible cords or cables at plugs, receptacles, tools, equipment, etc., and is the cord jacket securely held in place?
			Are all cord, cable and raceway connections intact and secure?
			Is the location of electrical power lines and cables (overhead, underground, underfloor, other side of walls, etc.) determined before digging, drilling or similar work is begun?
			Are metal devices prohibited where they could come in contact with energized parts of equipment or circuit conductors?
			Are all disconnecting switches and circuit breakers labeled to indicate their use or equipment served?
			Are disconnecting means always opened before fuses are replaced?
			Do all interior wiring systems include provisions for grounding metal parts of electrical raceways, equipment and enclosures?
			Are all energized parts of electrical circuits and equipment guarded against accidental contact by approved cabinets or enclosures?
			Is sufficient access and working space provided and maintained about all electrical equipment to permit ready and safe operations and maintenance?
			Are all unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs or plates?
			Are electrical enclosures such as switches, receptacles, junction boxes, etc. provided with tight-fitting covers or plates?
			Are disconnecting switches for electrical motors in excess of two horsepower capable of opening the circuit when the motor is in a stalled condition, without exploding? (Switches must be horsepower rated equal to or in excess of the motor hp rating.)

ELECTRICAL, CONTINUED

YES	NO	N/A	ITEM
			Is low voltage protection provided in the control device of motors driving machines or equipment that could cause probable injury from inadvertent starting?
			Is each motor disconnecting switch or circuit breaker located within sight of the motor control device?
			Is each motor located within sight of its controller; or is the controller disconnecting means capable of being locked in the open position; or is a separate disconnecting means installed in the circuit within sight of the motor?
			Is the controller for each motor in excess of two horsepower, rated in horsepower equal to or in excess of the rating of the motor it serves?
			Are employees who regularly work on or around energized electrical equipment or lines instructed in the cardio-pulmonary resuscitation (CPR) methods?
			Are employees prohibited from working alone on energized lines or equipment over 600 volts?

NOISE

YES	NO	N/A	ITEM
			Are there areas in the workplace where continuous noise levels exceed 85 dBA?
			Is there an ongoing preventive health program to educate employees in: Safe levels of noise, exposures, audiometric testing, effects of noise on their health, and the use of personal protection?
			Have work areas where noise levels make voice communication between employees difficult been identified and posted?
			Are noise levels being measured using a sound level meter or an octave band analyzer and records being kept?
			Have engineering controls been used to reduce excessive noise levels?
			Where engineering controls are determined to not be feasible, are administrative controls (i.e., worker rotation) being used to minimize individual employee exposure to noise?
			Is approved hearing protective equipment (noise attenuating devices) available to every employee working in noisy areas?
			Has the company attempted to isolate noisy machinery from the rest of the operation?

FUELING

YES	NO	N/A	ITEM
			Is it prohibited to fuel an internal combustion engine with a flammable liquid while the engine is running?
			When spillage occurs during fueling operations, is the spilled fuel washed away completely, evaporated, or other measures taken to control vapors before restarting the engine?
			Are fuel tank caps replaced and secured before starting the engine?
			In fueling operations, is there always metal contact between the container and the fuel tank?
			Are fueling hoses of a type designated to handle the specific type of fuel?
			Is it prohibited to handle or transfer gasoline in an open container?
			Are open lights, smoking, open flames, or sparking or arcing equipment prohibited near fueling or transfer of fuel operations and is it posted as such?
			Are fueling operators prohibited in buildings or other enclosed areas that are not specifically ventilated for this purpose?
			Where fueling or transfer of fuel is done through a gravity flow system, are the nozzles of the self-closing type?

IDENTIFICATION OF PIPING SYSTEMS

YES	NO	N/A	ITEM
			When nonpotable water is piped through a facility, are outlets or taps posted to alert employees that it is unsafe and not to be used for drinking, washing or other personal use?
			When hazardous substances are transported through above ground piping, is each pipeline identified at points where confusion could introduce hazards to employees?
			When pipelines are identified by color painting, are all visible parts of the line so identified?
			When pipelines are identified by color painted bands or tapes, are the bands or tapes located at reasonable intervals and at each outlet, valve or connection?
			When pipelines are identified by color, is the color code posted at all locations where confusion could introduce hazards to employees?
			When the contents of pipelines are identified by name or name abbreviation, is the information readily visible on the pipe near each valve or outlet?

IDENTIFICATION OF PIPING SYSTEMS, CONTINUED

YES	NO	N/A	ITEM
			When pipelines carrying hazardous substances are identified by tags, are the tags constructed of durable materials, the message carried clearly and permanently distinguishable and are tags installed at each valve or outlet?
			When pipelines are heated by electricity, steam or other external source, are suitable warning signs or tags placed at unions, valves, or other serviceable parts of the systems?

MATERIAL HANDLING

YES	NO	N/A	ITEM
			Are there safe clearances for equipment through aisles and doorways?
			Are aisle ways designated, permanently marked, and kept clear to allow unhindered passage?
			Are motorized vehicles and mechanized equipment inspected daily or before use?
			Are vehicles shut off and brakes set before loading or unloading?
			Are hand trucks maintained in safe operating condition?
			Are chutes equipped with sideboards of sufficient height to prevent the materials being handled from falling off?
			Are chutes and gravity roller sections firmly placed or secured to prevent displacement?
			At the delivery end of the rollers or chutes, are provisions made to brake the movement of the handled materials?
			Are pallets usually inspected before being loaded or moved?

TRANSPORTING EMPLOYEES AND MATERIALS

YES	NO	N/A	ITEM
			Do employees who operate vehicles on public thoroughfares have valid operator's licenses?
			When seven or more employees are regularly transported in a van, bus or truck, is the operator's license appropriate for the class of vehicle being driven?
			Is each van, bus or truck used regularly to transport employees equipped with an adequate number of seats?
			When employees are transported by truck, are provisions provided to prevent their falling from the vehicle?
			Are vehicles used to transport employees equipped with lamps, brakes, horns, mirrors, windshields and turn signals in good repair?
			Are transport vehicles provided with handrails, steps, stirrups or similar devices, so placed and arranged that employees can safely mount or dismount?
			Are employee transport vehicles equipped at all times with at least two reflective type flares?
			Is a fully charged fire extinguisher, in good condition, with at least 4 B:C rating maintained in each employee transport vehicle?
			When cutting tools or tools with sharp edges are carried in passenger compartments of employee transport vehicles, are they placed in closed boxes or containers that are secured in place?
			Are employees prohibited from riding on top of any load that can shift, topple or otherwise become unstable?

SANITIZING EQUIPMENT AND CLOTHING

YES	NO	N/A	ITEM
			Is personal protective clothing or equipment that employees are required to wear or use, of a type capable of being cleaned easily and disinfected?
			Are employees prohibited from interchanging personal protective clothing or equipment, unless it has been properly cleaned?
			Are machines and equipment, which process, handle or apply materials that could be injurious to employees cleaned and/or decontaminated before being overhauled or placed in storage?
			Are employees prohibited from smoking or eating in any area where contaminants that could be injurious if ingested are present?
			When employees are required to change from street clothing into protective clothing, is a clean change room with separate storage facility for street and protective clothing provided?
			Are employees required to shower and wash their hair as soon as possible after a known contact has occurred with a carcinogen?
			When equipment, materials, or other items are taken into or removed from a carcinogen-regulated area, is it done in a manner that will contaminate non-regulated areas or the external environment?

BLOODBORNE PATHOGENS

G & M Services EXPOSURE CONTROL PLAN TABLE OF CONTENTS

1.0 PURPOSE OF THE PLAN

2.0 DEFINITIONS

3.0 GENERAL PROGRAM MANAGEMENT

4.0 EXPOSURE DETERMINATION

5.0 METHODS OF COMPLIANCE

6.0 HEPATITIS B VACCINATION, POST-EXPOSURE EVALUATION AND FOLLOW-UP

7.0 MEDICAL RECORDKEEPING

8.0 LABELS AND SIGNS

9.0 INFORMATION AND TRAINING

APPENDIX A –

Consent Form: Hepatitis B Vaccine
Vaccination Decline Form

APPENDIX B –

Exposure Incident Investigation Form
Post Exposure Evaluation and Follow-up Checklist

BLOODBORNE PATHOGENS

1.0 PURPOSE OF THE PLAN

- 1.1. The purpose of this Bloodborne Pathogens Program is to “reduce occupational exposure to Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV) and other bloodborne pathogens” that employees may encounter in their workplace.
- 1.2. G & M Services believes that there are several general principles that should be followed when dealing with bloodborne pathogens. These include that:
 - 1.2.1. It is logical to minimize all exposure to bloodborne pathogens.
 - 1.2.2. The risk of exposure to bloodborne pathogens must not be underrated.
 - 1.2.3. Our company needs to institute as many work practice and engineering controls as feasible to rid or reduce employee exposure.
- 1.3. The objective of this plan is to meet the OSHA Bloodborne Pathogens Standard by:
 - 1.3.1. Protecting our employees from the health hazards associated with bloodborne pathogens.
 - 1.3.2. Providing appropriate treatment and counseling, should an employee be exposed.

2.0 DEFINITIONS

- 2.1. To fully understand the Bloodborne Pathogens Standard and thus, comply with it, a thorough knowledge of all key words is needed. Listed below are some of the most important words found in the standard.
 - 2.1.1. ***Blood*** - Human blood, human blood components, and products made from human blood.
 - 2.1.2. ***Bloodborne Pathogens*** - Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).
 - 2.1.3. ***Contaminated*** - The presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.
 - 2.1.4. ***Contaminated Sharps*** - Any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.
 - 2.1.5. ***Contaminated Laundry*** - Laundry soiled with blood or other potentially infectious materials, or may contain sharps.

BLOODBORNE PATHOGENS

- 2.1.6. ***Decontamination*** - The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles, and the surface or item is rendered safe for handling, use, or disposal.
- 2.1.7. ***Engineering Controls*** - Controls (e.g., sharps disposal containers, self-sheathing needles, etc.) that isolate or remove the bloodborne pathogens hazard from the workplace.
- 2.1.8. ***Exposure Incident*** - A specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that result from performance of an employee's duties.
- 2.1.9. ***Hand Washing Facilities*** - A facility providing an adequate supply of running potable water, soap, and single-use towels or hot air drying machines.
- 2.1.10. ***HBV*** - Hepatitis B Virus.
- 2.1.11. ***HIV*** - Human Immunodeficiency Virus.
- 2.1.12. ***Occupational Exposure*** - Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.
- 2.1.13. ***Other Potentially Infectious Materials*** –
 - 2.1.13.1. As they relate to G & M Services, this includes human body fluids, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.
 - 2.1.13.2. Any unfixed tissue or organ (other than intact skin) from a human (living or dead).
- 2.1.14. ***Personal Protective Equipment*** - Specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes not intended to function as protection against a hazard are not considered personal protective equipment.
- 2.1.15. ***Regulated Waste*** - Liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; or other potentially infectious materials.

BLOODBORNE PATHOGENS

- 2.1.16. ***Source Individual*** - Any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to an employee.
- 2.1.17. ***Universal Precautions*** - Treating all blood and certain human body fluids as if they are known to be infectious for HIV, HBV, and other bloodborne pathogens.
- 2.1.18. ***Work Practice Controls*** - Controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

3.0 GENERAL PROGRAM MANAGEMENT

- 3.1. The Categories of Responsibility that are essential to the Exposure Control Plan are:
 - 3.1.1. The Exposure Control Officer.
 - 3.1.2. Company Managers and Supervisors.
 - 3.1.3. Education/Training Instructors.
 - 3.1.4. Our Employees.
- 3.2. Each role will be explained in this section. If a new employee is designated to any of the above, records must be updated as soon as possible.
- 3.3. **The Exposure Control Officer** will be responsible for, but not limited to:
 - 3.3.1. The overall responsibility for implementing the Exposure Control Plan.
 - 3.3.2. Working with management and other employees to develop and administer any additional bloodborne pathogens related policies and practices needed to support the effective implementation of this plan.
 - 3.3.3. Searching for ways to improve the plan and revise and/or update the plan when necessary.
 - 3.3.4. Collecting and maintaining all materials on the Bloodborne Standard.
 - 3.3.5. Knowledge of current legal requirements concerning bloodborne pathogens.
 - 3.3.6. Acting as the company's liaison during inspections.
 - 3.3.7. Conducting periodic facility audits to maintain an up-to-date Exposure Control Plan.
- 3.4. The company's **Exposure Control Officer** is Anthony Manning, Safety Director or his designee.
- 3.5. The Exposure Control Officer may require help in fulfilling their responsibilities. To aid in carrying out these duties, an Exposure Control Committee may be formed.

BLOODBORNE PATHOGENS

- 3.6. **Company Managers and Supervisors** will be responsible for:
 - 3.6.1. The exposure control in their area or work site(s).
 - 3.6.2. Working closely with the Exposure Control Officer and the employees to ensure the appropriate procedures are followed.
- 3.7. The Education/Training Coordinator will be responsible for:
 - 3.7.1. Providing information and training to employees who have potential for exposure.
 - 3.7.2. Keeping an up-to-date list of personnel requiring training.
 - 3.7.3. Developing the proper education/training programs.
 - 3.7.4. Scheduling periodic training sessions for employees if needed.
 - 3.7.5. Maintaining the appropriate training documentation.
 - 3.7.6. A periodic review of the training programs to include any new information.
- 3.8. The facility's **Education/Training Coordinator** is Anthony Manning, Safety Director, or his designee.
- 3.9. **Employees** play a very important part in the Bloodborne Pathogens Compliance Program. The responsibilities of employees are:
 - 3.9.1. Know what tasks they perform that have occupational exposure.
 - 3.9.2. Attend the bloodborne pathogens training sessions.
 - 3.9.3. Plan and conduct all operations according to work practice controls.
 - 3.9.4. Form good personal hygiene habits.

BLOODBORNE PATHOGENS

- 3.10. At any time, the Exposure Control Plan must be made accessible to employees and employees should be informed of this during the education/training meetings.
The whereabouts of the Exposure Control Plans are:

Located at the corporate office – 7525 Connelley Drive, Hanover, MD 21076
- 3.11. Our company realizes the importance of a current Exposure Control Plan. To ensure the plan is current, it will be examined and revised:
 - 3.11.1. Annually.
 - 3.11.2. If new or altered jobs and/or methods are executed which have exposure to employees.
 - 3.11.3. If our employees' jobs are changed so that current exposure to bloodborne pathogens is possible.

4.0 EXPOSURE DETERMINATION

- 4.1. The following lists is to distinguish situations where employees may be exposed:
 - 4.1.1. All job classifications in which all employees in those job classifications have occupational exposure to bloodborne pathogens.
 - 4.1.2. Job classifications in which some employees have occupational exposure.
 - 4.1.3. All tasks and procedures or groups of closely related task and procedures in which occupational exposure occurs and performed by employees in job classifications listed in the job classifications shown on the two previous lists.
- 4.2. This determination will be made without regard to the use of personal protective equipment.
- 4.3. The Exposure Control Officer is responsible for updating these lists. The following forms shall be used and completed for such purposes as indicated in section 4.0 requirements.

BLOODBORNE PATHOGENS

JOB CLASSIFICATIONS IN WHICH ALL EMPLOYEES HAVE EXPOSURE TO BLOODBORNE PATHOGENS

A list of job classifications in our company where **all** employees may become exposed to human blood or other potentially infectious materials is indicated on this page.

<i>JOB TITLE</i>	<i>DEPARTMENT/LOCATION</i>

BLOODBORNE PATHOGENS

TASKS/PROCEDURES WHERE EMPLOYEES MAY HAVE CONTACT WITH EXPOSURE TO BLOODBORNE PATHOGENS

A list of tasks and procedures where exposure occurs follows. These tasks and procedures are performed by employees listed in the earlier job classifications.

<i>TASK/PROCEDURE</i>	<i>CLASSIFICATION</i>	<i>LOCATION</i>

BLOODBORNE PATHOGENS

5.0 METHODS OF COMPLIANCE

- 5.1. Universal precautions must be observed to prevent contact with blood or other potentially infectious materials. If there are any circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids must be considered potentially infectious materials.
- 5.2. G & M Services has begun the practice of “Universal Precautions” on 01/05/07.
- 5.3. The person responsible for managing the Universal Precautions Program in our company is the Corporate Safety Director or his/her authorized designee.
- 5.4. Engineering controls are used to eliminate or minimize employee exposure to bloodborne pathogens. If exposure is still present after institution of these controls, employees shall use personal protective equipment.
- 5.5. G & M Services has assigned the Corporate Safety Director or his/her designee to review tasks and procedures at our operations or work sites in which engineering controls can be executed and/or updated. These controls must be maintained or replaced regularly to ensure effectiveness.
- 5.6. To help with the above requirements, our company has compiled a survey on _____ (date) to identify the operations or sites that have or should have engineering control equipment. The survey shall be reviewed every twelve months.
- 5.7. There are additional engineering controls our company will follow:
 - 5.7.1. Provide hand-washing facilities that are readily accessible to employees.
 - 5.7.2. Provide antiseptic hand cleanser and clean cloth/paper towels or antiseptic towelettes, if a hand washing facility is not feasible.
 - 5.7.2.1. If this procedure is used, hands shall be washed with soap and water as soon as possible.
 - 5.7.3. Use containers for contaminated reusable sharps that are:
 - 5.7.3.1. Puncture-resistant.
 - 5.7.3.2. Color-coded or labeled with a biohazard warning label.
 - 5.7.3.3. Leak-proof on the sides and bottom.
 - 5.7.4. Use specimen containers that are:
 - 5.7.4.1. Leak-proof.
 - 5.7.4.2. Color-coded or labeled with a biohazard warning label.
 - 5.7.4.3. Puncture-resistant, if necessary.
 - 5.7.4.4. Closed before being stored, transported, or shipped.

BLOODBORNE PATHOGENS

- 5.7.5. Use secondary containers (if outside contamination of the primary container occurs) which are:
 - 5.7.5.1. Leak-proof.
 - 5.7.5.2. Color-coded or labeled with a biohazard warning label.
 - 5.7.5.3. Puncture-resistant, if necessary.
- 5.7.6. Examine equipment that may become contaminated with blood or other potentially infectious materials before servicing or shipping.
- 5.7.7. Decontaminate such equipment as described above, unless our company can demonstrate that decontamination of the equipment or portions of the equipment is not feasible.
- 5.7.8. A survey list is supplied on the following page.

ENGINEERING CONTROL EQUIPMENT

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BLOODBORNE PATHOGENS

- 5.8. To help eliminate or minimize employee exposure to bloodborne pathogens, work practice controls are also used.
- 5.9. The person responsible for managing the implementation of our Work Practice Controls is the Corporate Safety Director or his/her designee.
- 5.10. G & M Services has employed the following Work Practice Controls as part of our Compliance Program. Employer will ensure that:
 - 5.10.1. Employees wash their hands immediately or as soon as possible after they remove gloves or other personal protective equipment.
 - 5.10.2. Employees wash their hands and skin with soap and water, or flush mucous membranes with water immediately or as soon as possible following contact of such body areas with blood or other potentially infectious materials.
 - 5.10.3. Contaminated needles and other contaminated sharps are not bent, recapped, or removed unless:
 - 5.10.3.1. It can be demonstrated that there is no feasible alternative.
 - 5.10.3.2. The action is required by specific medical procedure.
 - 5.10.3.3. In the two situations above the recapping or needle removal is accomplished through the use of a medical device or a one-handed technique.
 - 5.10.4. Contaminated sharps are placed in appropriate containers immediately, or as soon as possible, after use.
 - 5.10.5. There is no eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses in work areas where there is potential for exposure to bloodborne pathogens.
 - 5.10.6. No food and drink is kept in refrigerators, freezers, on counter tops, or in other storage areas where blood or other potentially infectious materials are present.
 - 5.10.7. Mouth pipetting/suctioning of blood or other infectious materials is not allowed.
 - 5.10.8. All procedures involving blood or other infectious materials will be performed in such a manner as to minimize splashing, spraying, or other actions generating droplets of these materials.
 - 5.10.9. The employee is trained regarding any work practice controls that the employee is not experienced with.

BLOODBORNE PATHOGENS

- 5.11. Personal Protective Equipment. If there is occupational exposure to employees, we will provide, at no cost to the employee, the appropriate personal protective equipment. Such PPE may be, but not limited to:
 - 5.11.1. Gloves - We will provide hypo-allergenic gloves, glove liners, powderless gloves, or other equivalent means to those employees who are allergic to the gloves we normally provide.
 - 5.11.2. Safety glasses
 - 5.11.3. Goggles
 - 5.11.4. Face shields/masks
 - 5.11.5. Respirators
 - 5.11.6. Other ventilation devices
- 5.12. It is important to know that “appropriate” PPE is only personal protective equipment that does not permit blood or other potentially infectious materials to pass through to or reach the employee’s work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time that the PPE will be in use.
- 5.13. The person assigned to ensure that all operations and work areas have the appropriate PPE for our employees is the Corporate Safety Director working in conjunction with site location managers and supervisors.
- 5.14. We shall ensure that employees use the appropriate PPE, unless we can document proof that the employee temporarily and briefly declined to use the PPE because:
 - 5.14.1. The use of PPE would have posed an increased hazard to the safety of the worker or co-worker.
 - 5.14.2. If this occurs, the circumstances will be investigated and documented to determine whether changes can be made to prevent such an occurrence from happening again.
- 5.15. G & M Services trains each employee regarding the use of the appropriate personal protective equipment for their job classifications and tasks/ procedures they perform. Additional training will be provided when necessary, if an employee takes a new position, or new job functions are added to their current position. Additional training can be determined by comparing the employee’s previous job classification and tasks to these for any new job or function that they address. Their site manager or supervisor shall provide additional training.
- 5.16. G & M Services shall ensure that the appropriate PPE in the proper sizes is readily available at the work location or is issued to the employee.

BLOODBORNE PATHOGENS

- 5.17. To ensure that personal protective equipment is used as constructively as possible:
 - 5.17.1. All PPE is inspected regularly and repaired/replaced as needed to maintain its effectiveness.
 - 5.17.2. The employer will clean, launder, dispose of PPE as required by the Standard, at no cost to the employee.
 - 5.17.3. Clean, launder, and decontaminate used PPE as needed.
 - 5.17.4. Dispose of single-use PPE or equipment that cannot, for whatever reason, be decontaminated.
 - 5.17.5. Garments penetrated by blood or other infectious materials are to be removed immediately, or as soon as feasible.
 - 5.17.6. All PPE will be removed before leaving the work area and put in the appropriate designated area or container for storage, washing, decontamination or disposal.
 - 5.17.7. Gloves shall be worn:
 - 5.17.7.1. Whenever employees anticipate hand contact with blood or other potentially infectious materials.
 - 5.17.7.2. When handling or touching contaminated items or surfaces.
 - 5.17.8. Disposable (single-use) gloves will be replaced as soon as practical after contamination or if they are torn, punctured, or when their ability to function as a barrier is endangered. They will not be washed or decontaminated for re-use.
 - 5.17.9. Utility gloves can be decontaminated for reuse if the integrity of the glove is not comprised, unless they are cracked, peeling, torn, or exhibit other signs of deterioration, at which time they will be disposed of.
 - 5.17.10. Masks and eye protection will be used whenever splashes or sprays may generate droplets of infectious materials.
 - 5.17.11. Protective clothing (such as coats) will be worn whenever potential exposure to the body is anticipated.
- 5.18. Housekeeping. G & M Services will ensure that each worksite is kept in a clean and sanitary condition. We have implemented a written schedule for cleaning and method of decontamination for the appropriate areas of the facility. Our schedule will provide:
 - 5.18.1. The area to be cleaned/decontaminated.
 - 5.18.2. Date and time of cleaning.
 - 5.18.3. The appropriate disinfectant(s) used to clean the work surfaces.

BLOODBORNE PATHOGENS

- 5.18.4. Other instructions that are appropriate for that area cleaned.
- 5.19. The responsible person will follow the below when cleaning/decontaminating:
 - 5.19.1. All equipment and environmental and working areas will be cleaned and decontaminated with the appropriate disinfectant after contact with blood or other potentially infectious materials:
 - 5.19.1.1. After medical procedures are completed.
 - 5.19.1.2. Immediately (or as soon as feasible) when surfaces are clearly contaminated.
 - 5.19.1.3. After any spill of blood or infectious materials.
 - 5.19.1.4. At the end of the work shift, if the surface may have been contaminated during hat shift.
 - 5.19.2. Protective coverings, such as plastic wrap, aluminum foil, or absorbent paper used to cover equipment and environmental surfaces, are removed and replaced:
 - 5.19.2.1. As soon as it is feasible when clearly contaminated.
 - 5.19.2.2. At the end of the work shift, if they may have been contaminated during the work shift.
 - 5.19.3. All trash containers, pails, bins, and similar receptacles intended for reuse that have a reasonable likelihood for becoming contaminated with blood or other potentially infectious materials will be inspected, cleaned and decontaminated:
 - 5.19.3.1. On a regularly scheduled basis.
 - 5.19.3.2. Immediately or as soon as possible, if contamination is visible.
 - 5.19.4. Potentially contaminated broken glassware will be picked up using mechanical means such as, dustpan and brush, tongs forceps, etc.
 - 5.19.5. Reusable sharps that are contaminated shall be stored or processed in a way that does not require employees to reach by hand into the containers where the sharps are.
- 5.20. The responsible person(s) in charge of housekeeping is/are: Site Managers And Supervisors.
- 5.21. Regulated wastes. Contaminated sharps will be disposed of immediately or as soon as possible in containers that are:
 - 5.21.1. Closeable.
 - 5.21.2. Puncture-resistant.

BLOODBORNE PATHOGENS

- 5.21.3. Leak-proof on the sides and bottoms.
- 5.21.4. Red in color or labeled with the appropriate biohazard warning label.
- 5.22. Containers for this regulated waste (contaminated sharps) will be easily available to personnel and are located as close as possible to the immediate area where sharps are used or can be reasonably anticipated to be found, such as the laundry room.
- 5.23. Regulated waste containers will be maintained upright, replaced regularly, and not be allowed to overfill.
- 5.24. The contaminated sharps will be removed from the area of use by the following methods:
 - 5.24.1. Close the container immediately before removing or replacing to prevent spillage or protrusion of contents during handling storage, transport, or shipping.
 - 5.24.2. Place the container in a secondary container, if leakage is possible.
- 5.25. Containers for reuse will not be opened, emptied, or cleaned manually or in any other way that may expose an employee to the risk of injury.
- 5.26. Any other regulated waste containers will be placed in a container that is:
 - 5.26.1. Closeable.
 - 5.26.2. Constructed to contain all the contents and not leak.
 - 5.26.3. Red in color or labeled with the appropriate biohazard warning label.
 - 5.26.4. Closed before handling, storage or moving.
- 5.27. If outside contamination of the regulated waste container occurs, it will be put in a second container and the same procedures will be followed as above.
- 5.28. Contaminated laundry will be:
 - 5.28.1. Handled as little as possible with little commotion.
 - 5.28.2. Bagged or contained where it was used.
 - 5.28.3. Sorted or rinsed in a different location than where it was used.
 - 5.28.4. Put in and shipped in bags or containers with the appropriate label.
 - 5.28.4.1. If the facility exercises Universal Precautions in the handling of soiled laundry, a different labeling or color-coding is good enough, as long as it allows the employees to recognize the containers as requiring compliance with Universal Precaution.

BLOODBORNE PATHOGENS

- 5.28.5. Put in bags or containers that do not soak-through or leak fluids and then transported, if the contaminated laundry is wet and might soak-through or leak.
- 5.28.6. Handled by wearing protective gloves and other appropriate PPE.
- 5.28.7. The person responsible for regulated waste disposal oversight is the Corporate Safety Director.

CLEANING SCHEDULE

<i>EQUIPMENT/AREA</i>	<i>DAY/TIME</i>	<i>CLEANSER/ DISINFECTANTS</i>	<i>SPECIAL INSTRUCTIONS</i>
**Identify and specify on each job site.			

BLOODBORNE PATHOGENS

6.0 HEPATITIS B VACCINATION, POST-EXPOSURE EVALUATION AND FOLLOW-UP

- 6.1. The company will make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure. We will also make available post-exposure evaluation and follow-up to all employees who have had an exposure incident.
- 6.2. G & M Services will ensure all medical evaluations and procedures including the hepatitis B Vaccine and vaccinations series and post-exposure evaluation and follow-up, including prophylaxis, are:
 - 6.2.1. Available at no cost to the employee.
 - 6.2.2. Available to the employee at a reasonable time and place.
 - 6.2.3. Rendered by or under the supervision of a licensed physician or by or under the supervision of another licensed health care professional.
- 6.3. Our company will ensure that all lab tests are handled by an accredited laboratory at no cost to the employee.
- 6.4. The Hepatitis B vaccination must be made available after the employee has obtained the required training and within ten (10) working days of first assignment to all employees who have occupational exposure, unless the employee has already had the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons.
- 6.5. The person in charge of setting up and operating the vaccination program is the Corporate Safety Director or his/her designee.
- 6.6. This program has been in effect since 01/05/07.
- 6.7. We will not make participation in a pre-screening program a prerequisite for receiving the hepatitis B vaccination.
- 6.8. If the employee refuses the vaccination and at a later date (while still covered under the standard) decides he or she wants the vaccination, our company will make available the hepatitis B vaccination at that time. Employees who do refuse the vaccination offered by our company must sign a statement.
- 6.9. If in the case that a routine booster dose (s) of the hepatitis B vaccination is recommended by the U.S. Public Health Service in the future, the booster will be made available in accordance with the Bloodborne Pathogens Standard.

EMPLOYEES ELIGIBLE FOR HEPATITIS B VACCINATION

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BLOODBORNE PATHOGENS

- 6.10. After a report of an exposure incident, our company will immediately make available to the exposed employee a confidential medical evaluation and follow-up, which includes at least the following:
 - 6.10.1. Documenting the circumstances in which the exposure occurred.
 - 6.10.2. Recognizing and recording the source individual, unless our company can establish that identification is not possible or not allowed by state or local law.
- 6.11. The person designated to investigate the occurrence of each exposure incident in our company is the Corporate Safety Director working in conjunction with site managers/supervisors at the location of occurrence/s. This investigation will begin within 24 hours after the incident occurs and the designated person/s shall gather the following information:
 - 6.11.1. The date and time the incident occurred.
 - 6.11.2. The location where the incident occurred.
 - 6.11.3. The type of potentially infectious materials that were involved in the incident.
 - 6.11.4. The source of the material.
 - 6.11.5. The type of work that was being done when the incident occurred.
 - 6.11.6. How the incident occurred:
 - 6.11.6.1. Accident.
 - 6.11.6.2. Unusual circumstances.
 - 6.11.7. What personal protective equipment was being used at the time of the incident occurred.
 - 6.11.8. What actions were taken as because of the incident:
 - 6.11.8.1. Employee decontamination.
 - 6.11.8.2. Cleanup.
 - 6.11.8.3. Notifications made.
- 6.12. When this information is compiled, an evaluation is done by providing a written summary of the incident and its causes. Recommendations are then made to avoid the likelihood of similar incidents happening again.
- 6.13. We may use the Incident Investigation Form at the end of this section to help us with an investigation. Much of the information in this procedure must be kept confidential.

BLOODBORNE PATHOGENS

- 6.14. For our employees to obtain the best and most timely treatment, if an exposure to bloodborne pathogens should occur, our company has set up a thorough post-exposure evaluation and follow-up procedure. The checklist at the end of this section is used to help verify that all the correct steps have been taken.
- 6.15. The following people are responsible for overseeing this process:

The Corporate Safety Director or his/her authorized designee

- 6.16. Any exposed employee will be provided with the following confidential information:
 - 6.16.1. Documentation regarding the routes of exposure and circumstances under which the exposure incident occurred.
 - 6.16.2. Identification of the source individual (unless infeasible or prohibited by law).
- 6.17. After consent and if feasible, we will test the source individual's blood to determine HBV and HIV infectivity, and we will make available this information to the exposed employee, if it is obtained. At that time, the employee will be made aware of any applicable laws and regulations concerning disclosure of the identity and infectious status of a source individual.
- 6.18. If the source individual is already known to be infected with HBV or HIV, testing need not be repeated.
- 6.19. An appointment is then set up for the exposed employee with a qualified health care professional to review the employee's medical status.
- 6.20. To assist the health care professional we will forward documents and information to them, including the following:
 - 6.20.1. A copy of the Bloodborne Pathogens Standard.
 - 6.20.2. A description of the exposure incident.
 - 6.20.3. The exposed employee's relevant medical records.
 - 6.20.4. Other pertinent information.
 - 6.20.5. A description of the duties of the exposed employee as they related to the exposure incident;
 - 6.20.6. Documentation of how the exposure occurred and why;

BLOODBORNE PATHOGENS

- 6.20.7. If available, the results of the blood testing of the exposed employee;
- 6.20.8. All medical records pertinent to the correct treatment of the employee including the status of vaccinations.
- 6.21. The health care professional will provide our company with a written opinion of the findings within fifteen days of the conclusion of the evaluation. The written opinion for post-exposure evaluation and follow-up will include the following information:
 - 6.21.1. Whether Hepatitis B Vaccination is indicated for the employee.
 - 6.21.2. Whether the employee has received the Hepatitis B Vaccination.
 - 6.21.3. Confirmation that the employee has been informed of the results of the evaluation.
 - 6.21.4. Confirmation that the employee has been told about any medical conditions resulting from the exposure incident that require further evaluation or treatment.
 - 6.21.5. All other findings or diagnoses will remain confidential and will not be included in the written report.

7.0 *MEDICAL RECORDKEEPING*

- 7.1. G & M Services will maintain thorough medical records on every employee with occupational exposure. These records shall include the following:
 - 7.1.1. Name of the employee.
 - 7.1.2. Social Security number of the employee.
 - 7.1.3. A copy all the results of the employee's examinations, medical testing, and follow-up procedures as required.
 - 7.1.4. Our copy of the health care professional's written opinion is required.
 - 7.1.5. A copy of the information provided to the health care professional.
- 7.2. Our company recognizes the importance of keeping this information confidential. We ensure that each employee's medical records are:
 - 7.2.1. Kept confidential; and
 - 7.2.2. Not disclosed or reported without the employee's express written consent to anyone within or outside the workplace (except as required by this section or by law.)
 - 7.2.3. Kept for at least the duration of employment plus thirty years in accordance with the 29 CFR 1910.20.
- 7.3. The person responsible for medical recordkeeping is Anthony Manning.

BLOODBORNE PATHOGENS

8.0 LABELS AND SIGNS

- 8.1. One of the most conspicuous warnings of the possibility to exposure are biohazard labels. Warning labels will be attached to the following containers:
 - 8.1.1. Containers of regulated waste.
 - 8.1.2. Refrigerators/freezers containing blood or other potentially infectious materials.
 - 8.1.3. Sharps disposal containers.
 - 8.1.4. Other containers used to store, transport, or ship blood and other infectious materials.
 - 8.1.5. Laundry bags and containers.
 - 8.1.6. Contaminated equipment.
- 8.2. Required labels will:
 - 8.2.1. Be fluorescent orange or orange-red or significantly so, with contrasting letters of symbols.
 - 8.2.2. Red bags or red containers may be substituted for labels.
 - 8.2.3. Be attached as close as possible to the container by string, wire, adhesive, or other means that prevents loss or unintentional removal.
 - 8.2.4. Be exempted from the labeling requirements, if the containers are of blood, blood components, or blood products that are labeled as their contents and have been released for transfusion or other clinical use.
 - 8.2.5. Not be required for regulated waste that has been decontaminated.
- 8.3. Biohazard signs must be posted at entrances to HIV and HBV research laboratories and production facilities. If your facility has HIV and HBV research laboratory and production operations, see the Bloodborne Pathogens Standard, section (g)(1)(ii) for signage requirements.
- 8.4. The person responsible for setting up and maintaining the labels is Anthony Manning, Corporate Safety Director, or his authorized designee.

9.0 INFORMATION AND TRAINING

- 9.1. G & M Services ensures that all employees with occupational exposure take part in a training program that will be given by the company at no cost and during working hours.
- 9.2. Training will be given as follows:
 - 9.2.1. At the time of the first assignment to a task where occupational exposure

BLOODBORNE PATHOGENS

may occur.

- 9.2.2. Additional training will be required when the employer changes tasks or procedures or institutes a new task, which may affect the employee's occupational exposure. Then, the additional training can be limited to addressing the new exposures created.
- 9.2.3. At least annually thereafter and within one year of the employees' previous training.
- 9.2.4. Conducted in a manner in which employees can understand.
- 9.3. The training will contain, at a minimum, the following topics:
 - 9.3.1. The Bloodborne Pathogens Standard itself and an explanation of it.
 - 9.3.2. A general explanation of the epidemiology and symptoms of bloodborne diseases.
 - 9.3.3. An explanation of the modes of transmission of bloodborne pathogens.
 - 9.3.4. Our company's Exposure Control Plan or an explanation of it and where employees can obtain a copy.
 - 9.3.5. An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials.
 - 9.3.6. An explanation of the use and limitations of methods that will prevent or reduce exposure, including:
 - 9.3.6.1. Engineering controls.
 - 9.3.6.2. Work practice controls.
 - 9.3.6.3. Personal protective equipment.
 - 9.3.7. Information on personal protective equipment including:
 - 9.3.7.1. Types available and why selected.
 - 9.3.7.2. Proper use.
 - 9.3.7.3. Location within the facility.
 - 9.3.7.4. Removal and Disposal.
 - 9.3.7.5. Handling.
 - 9.3.7.6. Decontamination.
 - 9.3.8. Information on the Hepatitis B Vaccine, including its:
 - 9.3.8.1. Efficacy.
 - 9.3.8.2. Safety.

BLOODBORNE PATHOGENS

- 9.3.8.3. Method of administration.
 - 9.3.8.4. Benefits of vaccination.
 - 9.3.8.5. No cost to employees.
- 9.3.9. Information on the correct actions to take and persons to contact in an emergency involving blood or other potentially infectious materials.
- 9.3.10. An explanation of the procedures to follow if an exposure incident occurs, including what method is used to report the incident.
- 9.3.11. Information on the post-exposure evaluation and follow-up, medical consultation, which our company will provide to the employee after an exposure.
- 9.3.12. An explanation of the signs and labels and/or color coding that is required.
- 9.3.13. Open discussion.
- 9.4. The person conducting the training will be knowledgeable in this subject and how it relates to the workplace that the training will address.
- 9.5. Our company will keep and maintain records on training that will include:
 - 9.5.1. Dates of training sessions.
 - 9.5.2. Contents or summary of the training sessions.
 - 9.5.3. Names and qualifications of person(s) conducting the training sessions.
 - 9.5.4. Names and job titles of all persons attending the training sessions.
- 9.6. These training records shall be:
 - 9.6.1. Maintained for three years from the date on which the training occurred.
 - 9.6.2. Made available upon request to the Assistant Secretary and the Director (NIOSH) or their representatives for examination and copying.

BLOODBORNE PATHOGENS – APPENDIX A

CONSENT FORM: HEPATITIS B VACCINE

I have read the information on Hepatitis B vaccine. I understand the benefits, risks, and contraindications for Hepatitis B vaccination. I further understand that I must have multiple doses of the vaccine to make immunity possible. I also understand it is my responsibility to report to the first aid/company doctor to receive all required doses of the vaccine. I understand there is no guarantee that I will become immune, or that I will not experience any adverse effects from the vaccine.

_____ I request to receive the required doses of the vaccine.

_____ I elect not to receive the vaccinations.

_____ I have previously been vaccinated for Hepatitis B.

Date: _____

Reason for vaccination: _____

_____ I understand that I assume responsibility for returning to the first aid/company doctor at the appropriate times to complete the required series of injections.

_____ Date _____ Signature _____

_____ Date _____ Witness _____

_____ Name _____ Department _____

Hepatitis B Vaccination Record

#	DATE	DOST/RT	LOT#	INITIALS	ADMINISTERED BY:
1.					
2.					
3.					

BLOODBORNE PATHOGENS – APPENDIX A

VACCINATION DECLINATION FORM

Date: ____/____/____

Employee Name: _____

Social Security #: _____

Department: _____

Due to the occupational exposure to blood or other potential infectious materials, I may be at risk of obtaining the Hepatitis B virus (HBV) infection. My employer has given me the opportunity to be vaccinated with Hepatitis B vaccine, at no charge to myself; however, I decline the Hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If, in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with Hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Employee **Printed Name**

Employee **Signature**

____/____/____
Date

Company Representative Signature

____/____/____
Date

BLOODBORNE PATHOGENS – APPENDIX B

EXPOSURE INCIDENT INVESTIGATION FORM

Incident date: ____/____/____ Time incident occurred: _____ a.m. or p.m.

Location where the incident occurred: _____

Potentially infectious materials that were involved:

Type: _____ Source: _____

Type: _____ Source: _____

What work was being performed at the time of the incident: _____

Other: _____

How was the incident caused:

What personal protective equipment was being used:

What actions were taken after the incident:

What are the recommendations for avoiding a future incident:

BLOODBORNE PATHOGENS – APPENDIX B

POST-EXPOSURE EVALUATION AND FOLLOW-UP CHECKLIST

The following steps must be taken and information transmitted, in the case of an employee's exposure to Bloodborne Pathogens:

	<i>ACTIVITY</i>	<i>COMPLETION DATE</i>
1.	Employee furnished with documentation regarding exposure incident.	
2.	Source individual identified. _____ Source Individual	
3.	Source individual's blood tested and results given to exposed employee. _____ Consent has not been able to be obtained.	
4.	Exposed employee's blood collected and tested.	
5.	Appointment arranged for employee with health care professional. _____ Professional's Name	
6.	Documentation forwarded to health professional (check off): _____ Bloodborne Pathogens Standard _____ Description of exposed employee's duties _____ Description of exposure incident, including routes of exposure. _____ Result of source individual's blood testing. _____ Employee's medical records.	

CONCRETE AND MASONRY

G & M SERVICES

1.0 PURPOSE

- 1.1. This program sets forth requirements to protect employees of G & M Services from the hazards associated with concrete and masonry construction during the performance of their duties on jobsites.

2.0 GENERAL REQUIREMENTS

- 2.1. Employers must not place construction loads on a concrete structure or portion of a concrete structure unless the employer determines, based on information received from a person who is qualified in structural design, that the structure or portion of the structure is capable of supporting the intended loads.
- 2.2. All protruding reinforcing steel, onto and into which employees could fall, must be guarded to eliminate the hazard of impalement.
- 2.3. Employees (except those essential to the post-tensioning operations) must not be permitted to be behind the jack during tensioning operations.
- 2.4. Signs and barriers must be erected to limit employee access to the post-tensioning area during tensioning operations.
- 2.5. Employees must not be permitted to ride concrete buckets.
- 2.6. Employees shall not operate pumping systems without using discharge pipes, unless they are provided with pipe supports designed for 100 percent overload.
- 2.7. Compressed air hoses shall not be used on concrete pumping systems unless provided with positive Fail-Safe joint connectors to prevent separation of sections when pressurized.
- 2.8. Employees must not be permitted to work under concrete buckets while the buckets are being elevated or lowered into position.
- 2.9. To the extent practical, elevated concrete buckets must be routed so that no employee or the fewest employees possible are exposed to the hazards associated with falling concrete buckets.
- 2.10. Employees must not be permitted to apply a cement, sand, and water mixture through a pneumatic hose unless they are wearing protective head and face equipment.
- 2.11. Employees must not be permitted to place or tie reinforcing steel more than six feet above any adjacent working surfaces unless they are protected by using a safety belt or equivalent fall protection meeting the criteria in OSHA standards on Personal Protective and Life Saving Equipment (29 CFR 1926 Subpart E).

CONCRETE AND MASONRY

- 2.12. No employee shall be permitted to perform maintenance or repair activity on equipment (such as, compressors, mixers, screens or pumps used for concrete and masonry construction activities) where the inadvertent operation of the equipment could occur and cause injury, unless all potentially hazardous energy sources have been locked out and tagged.
- 2.13. Tags shall read “DO NOT START,” or similar language, to indicate that the equipment is not to be operated.
- 2.14. The standard also includes requirements for the following equipment and operations:
 - 2.14.1. Bulk cement storage
 - 2.14.2. Concrete mixers
 - 2.14.3. Power concrete trowels
 - 2.14.4. Concrete buggies
 - 2.14.5. Concrete pumping systems
 - 2.14.6. Concrete buckets
 - 2.14.7. Tremies
 - 2.14.8. Bull floats
 - 2.14.9. Masonry saws
 - 2.14.10. Lockout/tagout procedures

3.0 GENERAL REQUIREMENTS FOR CAST-IN-PLACE CONCRETE FORMWORK

- 3.1. Formwork must be designed, fabricated, erected, supported, braced, and maintained so that it will be capable of supporting without failure all vertical and lateral loads that might be applied to the formwork. As indicated in the Appendix to the standard, formwork designed, fabricated, erected, supported, braced and maintained in conformance with Sections 6 and 7 of the American National Standard for Construction and Demolition Operations -- Concrete and Masonry Work (ANSI A10.9 - 1983) also meets the requirements of this paragraph.
- 3.2. Drawings and plans, including all revisions for the jack layout, formwork (including shoring equipment), working decks and scaffolds, must be available at the jobsite.
- 3.3. All shoring equipment (including equipment used in reshoring operations) must be inspected before erection to determine that the equipment meets the requirements specified in the formwork drawings.

CONCRETE AND MASONRY

- 3.4. Shoring equipment found to be damaged must not be used for shoring. Erected shoring equipment must be inspected immediately before, during, and immediately after concrete placement. Shoring equipment that is found to be damaged or weakened after erection must be immediately reinforced.
- 3.5. If single-post shores are used one on top of another (tiered), then additional shoring requirements must be met. The shores must be:
 - 3.5.1. Designed by a qualified designer and the erected shoring must be inspected by an engineer qualified in structural design;
 - 3.5.2. Vertically aligned;
 - 3.5.3. Spliced to prevent misalignment; and
 - 3.5.4. Adequately braced in two mutually perpendicular directions at the splice level. Each tier also must be diagonally braced in the same two directions.
- 3.6. Adjustment of single-post shores to raise formwork must not be made after the placement of concrete.
- 3.7. Reshoring must be erected, as the original forms and shores are removed, whenever the concrete is required to support loads in excess of its capacity.
- 3.8. The steel rods or pipes on which jacks climb or by which the forms are lifted must be specifically designed for that purpose and adequately braced where not encased in concrete. Forms must be designed to prevent excessive distortion of the structure during the jacking operation.
- 3.9. Jacks and vertical supports must be positioned in such a manner that the loads do not exceed the rated capacity of the jacks. The jacks or other lifting devices must be provided with mechanical dogs or other automatic holding devices to support the slip forms whenever failure of the power supply or lifting mechanisms occurs.
- 3.10. The form structure must be maintained within all design tolerances specified for plumb during the jacking operation. The predetermined safe rate of lift must not be exceeded.
- 3.11. All vertical slip forms must be provided with scaffolds or work platforms where employees are required to work or pass.
- 3.12. Reinforcing steel for walls, piers, columns, and similar vertical structures must be adequately supported to prevent overturning and collapse.
- 3.13. Employers must take measures to prevent unrolled wire mesh from recoiling. Such measures may include, but are not limited to, securing each end of the roll or turning over the roll.

CONCRETE AND MASONRY

- 3.14. Forms and shores (except those used for slabs on grade and slip forms) must not be removed until the employer determines that the concrete has gained sufficient strength to support its weight and superimposed loads. Such determination must be based on compliance with one of the following:
 - 3.14.1. The plans and specifications stipulate conditions for removal of forms and shores, and such conditions have been followed; or
 - 3.14.2. The concrete has been properly tested with an appropriate American Society for Testing and Materials (ASTM) standard test method designed to indicate the concrete compressive strength, and the test results indicate that the concrete has gained sufficient strength to support its weight and superimposed loads.
- 3.15. Reshoring must not be removed until the concrete being supported has attained adequate strength to support its weight and all loads in place upon it.
- 3.16. Precast concrete wall units, structural framing, and tilt-up wall panels must be adequately supported to prevent overturning and to prevent collapse until permanent connections are completed.
- 3.17. Lifting inserts that are embedded or otherwise attached to tilt-up wall panels must be capable of supporting at least two times the maximum intended load applied or transmitted to them; lifting inserts for other precast members must be capable of supporting four times the load.
- 3.18. Only essential employees are permitted under precast concrete that is being lifted or tilted into position.
- 3.19. Employers engaged in lift-slab operations must comply with the existing general requirements of this Subpart; with the American National Standards Institute (ANSI) A10.9 - 1970, Section 11 (which is reprinted in the standard); and with OSHA 29 CFR 1926.305(a) and (b) "Jacks- lever and racket, screw, and hydraulic."
- 3.20. Whenever a masonry wall is being constructed, employers must establish a limited access zone before the start of construction. The limited access zone must meet the following requirements:
 - 3.20.1. Equal to the height of the wall to be constructed plus four feet, and shall run the entire length of the wall;
 - 3.20.2. On the side of the wall that will be unscaffolded;
 - 3.20.3. Restricted to entry only by employees actively engaged in constructing the wall; and

CONCRETE AND MASONRY

- 3.20.4. Remain in place until the wall is adequately supported to prevent overturning and collapse unless the height of the wall is more than eight feet and unsupported, in which case, it must be braced. The bracing must remain in place until permanent supporting elements of the structure are in place.

CONFINED SPACE PROGRAM

G & M SERVICES

1.0 PURPOSE AND SCOPE

- 1.1. This program establishes requirements for entry into confined spaces. It will be used to protect the health and safety of employees with job duties that require them to enter vessels and enclosures identified as confined spaces.

2.0 PROGRAM COMPLIANCE

- 2.1. All personnel are required to comply with the confined space entry procedures established by this program.
- 2.2. Failure to comply with the provisions of this program will result in disciplinary action and possible termination.

3.0 DEFINITIONS

- 3.1. ***Confined Space*** - Defined by OSHA in 29 CFR 1910.146 as an area which:
 - 3.1.1. Is large enough and so configured that an employee can bodily enter and perform assigned work; and
 - 3.1.2. Has limited or restricted means for entry or exit (For example, tanks, vessels, silos, storage bins, hoppers, vaults, pits, etc); and
 - 3.1.3. Is not designed for continuous human occupancy.
- 3.2. ***Permit Required Confined Space***
 - 3.2.1. Contains or has the potential to contain a hazardous atmospheres;
 - 3.2.2. Contains a material that has the potential for engulfing an entrant; or
 - 3.2.3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
 - 3.2.4. Contains any other recognized serious safety or health hazard.
- 3.3. ***Entry*** - Is said to occur when any part of the entrant's body breaks the plane of the entry access.
- 3.4. ***Confined Space Entrant*** - The person entering the confined space to perform an assigned task.
- 3.5. ***Standby Person or Attendant*** - An individual stationed outside one or more permit required confined spaces and monitors the entrants and conditions in the space.

CONFINED SPACE PROGRAM

- 3.6. ***Entry Supervisor*** - The person (such as the employer, foremen or crew chief) who authorizes and, in most instances, supervises entry into a permit-required confined space.
- 3.7. ***Confined Space Entry Permit*** - An authorization and approval in writing that specifies the location and type of work to be done, certifies that all existing hazards have been evaluated by the entry supervisor, and that necessary protective measures have been taken to ensure the safety of each worker entering the confined space.
- 3.8. ***Hazardous Atmosphere*** - An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to do self-rescue, injury, or acute illness from:
 - 3.8.1. Flammable gasses at concentrations greater than 10% of the lower flammability limit (LFL);
 - 3.8.2. Airborne combustible dust at concentration that meets or exceeds its lower explosive limit;
 - 3.8.3. An oxygen content less than 19.5% or greater than 23.5%;
 - 3.8.4. An airborne concentration of a substance that exceeds its permissible exposure limit; or
 - 3.8.5. Any other atmospheric condition that is immediately dangerous to life and health.
- 3.9. ***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.
- 3.10. ***Entrapment*** - A confined space that has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section.
- 3.11. ***Hazardous Energy*** - Any energy source, (i.e., electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or the sudden release of stored energy) that could cause injury or death to an employee while servicing or repairing a piece of machinery.
- 3.12. ***Serious Hazard*** - A recognized and dangerous condition that is reasonably capable of causing death or serious physical injury.
- 3.13. ***Potential Hazard*** - A dangerous condition that could possibly be present or develop.
- 3.14. ***Hot Work*** - Any assigned task that introduces an ignition source into a confined space, (i.e., welding, cutting, brazing or soldering).

CONFINED SPACE PROGRAM

- 3.15. ***Emergency*** - Any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

4.0 DUTIES AND RESPONSIBILITIES

- 4.1. Anthony Manning, Corporate Safety Director has been designated to coordinate the G & M Services Confined Entry Program. Those responsibilities will include:
- 4.1.1. Coordinate program administration.
 - 4.1.2. Coordinate program training and information.
 - 4.1.3. Maintain program documentation for regulatory compliance.
- 4.2. Managers and supervisors at all company work sites/locations will be the *principal confined space entry supervisors* within their respective sections and have the following duties within their respective areas:
- 4.2.1. Implement confined space entry procedures.
 - 4.2.2. Manage confined space entry program.
 - 4.2.3. Facilitate employee training.
 - 4.2.4. Designate entry supervisors.
 - 4.2.5. Ensure that all confined space entry equipment is inspected/calibrated.
 - 4.2.6. Enforce program compliance.
- 4.3. Each and every employee is responsible for observing the confined space entry procedures and duties established in this program.
- 4.4. Entry Supervisors have a duty to:
- 4.4.1. Preplan confined space entries.
 - 4.4.2. Conduct employee pre-job briefing and provide hazard awareness information.
 - 4.4.3. Obtain and inspect/calibrate necessary confined space entry equipment.
 - 4.4.4. Perform hazard evaluation and control.
 - 4.4.5. Verify that all hazards have been identified and eliminated/controlled.
 - 4.4.6. Authorize and cancel entry permits.
 - 4.4.7. Report program violations to their immediate supervisory personnel.

CONFINED SPACE PROGRAM

- 4.5. Authorized Entrants have a duty to:
 - 4.5.1. Observe all confined space entry procedures.
 - 4.5.2. Inspect and use confined space entry equipment according to the manufacturer's recommendations.
 - 4.5.3. Immediately exit the confined space whenever ordered to do so by the standby person (attendant) or whenever a hazardous condition is detected or perceived.
 - 4.5.4. Report program violations to their immediate supervisor.
- 4.6. Standby Persons (Attendants) - The main function of a standby person or attendant in a confined space emergency is to summon assistance. **The standby person must never enter the confined space to perform an internal rescue.** During their duties, the standby person or attendant:
 - 4.6.1. Must maintain verbal contact with (or have another suitable means of communication for high noise environments) and keep accurate count of confined space entrants.
 - 4.6.2. Must prevent unauthorized entry and ward off intruders.
 - 4.6.3. May (as appropriate and prudent) monitor multiple confined space entries so long as the openings are in close proximity and a high level of entrant safety can be maintained.
 - 4.6.4. Must remain in the immediate vicinity of the confined space opening(s) at all times.
 - 4.6.5. May (as appropriate and prudent) perform other duties in the immediate vicinity of the confined space (designated work area) so long as a high level of entrant safety can be maintained.
 - 4.6.6. Must order the entrants to evacuate the confined space if required to leave the immediate vicinity of the confined space (designated work area).
 - 4.6.7. Must remain alert for external and internal hazards.
 - 4.6.8. Must immediately order an evacuation of the confined space if a hazardous condition is detected or perceived and prevent reentry.
 - 4.6.9. Must have a positive means to summon emergency assistance to work area, and must provide emergency information to on-scene emergency response personnel.
 - 4.6.10. Must have suitable and appropriate rescue and extrication equipment available.
 - 4.6.11. Must report program violations to immediate supervisor.

CONFINED SPACE PROGRAM

5.0 *OUTSIDE CONTRACTORS*

- 5.1. Confined space entries involving an outside contractor will be preplanned and coordinated by the contractor's Jobsite Superintendent and the G & M Services Project Manager.
- 5.2. Before entry, the G & M Services Project Manager and the contractor's Jobsite Superintendent will exchange information and discuss the confined space entry. Information provided to the contractor's Jobsite Superintendent will include, but may not be limited to:
 - 5.2.1. A copy of the G & M Services Confined Space Entry Program.
 - 5.2.2. Specific information on the confined space to be entered, (i.e., material safety data sheets, potential hazards, and procedures and precautions followed by in-house personnel when entering the space).
 - 5.2.3. Information regarding G & M Services emergency procedures.
- 5.3. During pre-job planning, the contractor's Jobsite Superintendent and the G & M Services Project Manager will jointly identify the entry procedures to be followed (the contractor's program or the G & M Services program).
- 5.4. Upon completion, the project will be terminated jointly by the contractor's Jobsite Superintendent and the G & M Services Project Manager. At that time, the two parties will discuss any problems or other unusual situations that occurred regarding the project.

6.0 *TRAINING*

- 6.1. All existing, new and transferred employees will receive training and information before working in confined spaces that are commensurate with their assigned job duties.
- 6.2. Entry Supervisors must be knowledgeable and are responsible for the following:
 - 6.2.1. Review and explanation of OSHA regulations applicable to confined space entry.
 - 6.2.2. Duties and responsibilities of the entry supervisor, authorized entrant and attendant (standby person).
 - 6.2.3. Recognition of confined spaces, and the methods and means used to identify confined spaces in the work place.
 - 6.2.4. Hazards associated with confined spaces, including their consequences, recognition, evaluation and control.
 - 6.2.5. Conditions required for entry and prohibited conditions and work practices.

CONFINED SPACE PROGRAM

- 6.2.6. Completion of confined space entry permits, including job planning and employee briefings.
- 6.2.7. Procedures to prepare a confined space for entry, including isolation and lockout/tagout procedures, and the selection, use and care of air monitoring and ventilation equipment.
- 6.2.8. Confined space entry procedures, including the selection, use and care of any required personal protective equipment.
- 6.2.9. Confined space emergency procedures, including implementation of the emergency action plan (alert and notification procedures) and the selection, use and care of confined space emergency and extrication equipment.
- 6.2.10. Review and cancellation of confined space entry permits, including employee debriefings.
- 6.2.11. Duties and responsibilities to outside contractors, and established procedures for working with employees of an outside contractor.
- 6.2.12. Program administration and documentation.
- 6.3. Authorized Entrants must be knowledgeable and are responsible for the following:
 - 6.3.1. Review and explanation of OSHA regulations applicable to confined space entry.
 - 6.3.2. Duties and responsibilities of the entry supervisor, authorized entrant and attendant (standby person).
 - 6.3.3. Recognition of confined spaces, and the methods and means used to identify confined spaces in the work place.
 - 6.3.4. Hazards associated with confined spaces, including their consequences, recognition, evaluation and control.
 - 6.3.5. Conditions required for entry and prohibited conditions and work practice.
 - 6.3.6. Completion of confined space entry permits, including job planning.
 - 6.3.7. Procedures to prepare a confined space for entry, including isolation and lockout/tagout procedures, and the selection, use and care of air monitoring and ventilation equipment.
 - 6.3.8. Confined space entry procedures, including the selection, use and care of any required personal protective equipment.
 - 6.3.9. Confined space emergency procedures, including implementation of the emergency action plan (alert and notification procedures) and the selection, use and care of confined space emergency and extrication equipment.
 - 6.3.10. Termination of a confined space entry.

CONFINED SPACE PROGRAM

- 6.4. Attendants (Standby Persons) must be knowledgeable and are responsible for the following:
 - 6.4.1. Review and explanation of OSHA regulations applicable to confined space entry.
 - 6.4.2. Duties and responsibilities of the entry supervisor, authorized entrant and attendant (standby person).
 - 6.4.3. Recognition of confined spaces, and the methods and means used to identify confined spaces in the work place.
 - 6.4.4. Hazards associated with confined spaces, including their consequences, recognition, evaluation and control.
 - 6.4.5. Conditions required for entry and prohibited conditions and work practice.
 - 6.4.6. Completion of confined space entry permits, including job planning.
 - 6.4.7. Procedures to prepare a confined space for entry, including isolation and lockout/tagout procedures, and the selection, use and care of air monitoring and ventilation equipment.
 - 6.4.8. Confined space entry procedures, including the selection use and care of any required personal protective equipment.
 - 6.4.9. Confined space emergency procedures; including, implementation of the emergency action plan (alert and notification procedures) and the selection, use and care of confined space emergency and extrication equipment.
 - 6.4.10. Termination of a confined space entry.
- 6.5. Additional training and/or retraining will be provided whenever confined space entry procedures are changed or whenever a program review reveals a deficiency.
- 6.6. Records of the training will be maintained, including an outline of the topics addressed, the date the training was conducted, names and signatures of attendees and name of the trainer. (Refer to Forms CS4 and CS5). These records will be filed by the Coordinator in the office of G & M Services

7.0 IDENTIFICATION OF CONFINED SPACES

- 7.1. Several methods will be used to identify confined spaces for G & M Services employees. Appendix A of this program contains an inventory listing of all confined spaces identified in the G & M Services evaluation.
- 7.2. Where practical and feasible, signage will be used to identify permit-required confined spaces.
- 7.3. Training will enable employees to recognize confined spaces that have not been signed.

CONFINED SPACE PROGRAM

8.0 PREVENTION OF UNAUTHORIZED ENTRY

- 8.1. The following precautions will be taken to prevent unauthorized entry into confined spaces.
 - 8.1.1. Use of properly authorized permits are required for entry into permit-required confined spaces.
 - 8.1.2. Standby persons are instructed to ward off intruders.
 - 8.1.3. Training and signage are used to inform employees of confined spaces in their normal work areas.
 - 8.1.4. Outside contractors are informed of vessels or enclosures identified as confined spaces during preconstruction meetings.
 - 8.1.5. When appropriate and prudent, barricades and/or banner tape will be used to identify and isolate the work area.

9.0 HAZARD EVALUATION

- 9.1. A hazard evaluation of all confined spaces identified at G & M Services is tabulated in Appendix A using Form CS3. Potential atmospheric hazards, engulfment hazards, entrapment hazards, hazardous energies and other serious hazards are identified for each confined space listed.

10.0 CONFINED SPACE ENTRY EQUIPMENT

- 10.1. All equipment for confined space entry will be furnished by G & M Services. The equipment will be inspected frequently and maintained in good working condition by Anthony Manning, Corporate Safety Director or his authorized designee.
- 10.2. Each employee bears the primary responsibility for inspecting all equipment before each use to ensure it is in good working order.
- 10.3. The calibration of air testing devices will be checked (and recorded on the entry permit) before each use. Air testing devices will be inspected and calibrated according to the manufacturer's recommendations. Calibration records will be maintained for each device.
- 10.4. Respirators used for confined space entry will be selected, used and maintained according to procedures established in the G & M Services Respiratory Protection Program.

CONFINED SPACE PROGRAM

- 10.5. Equipment lockout/tagout will be accomplished according to procedures established in the G & M Services Lockout/Tagout Program.
- 10.6. Hot work (i.e., welding, cutting and brazing) will be authorized on confined space entry permits.

11.0 EMERGENCY RESPONSE AND RESCUE

- 11.1. A confined space emergency requiring extrication of the entrant might result from:
 - 11.1.1. An entrant overcome by the sudden development of a hazardous atmosphere.
 - 11.1.2. An entrant suddenly engulfed by free flowing solid or liquid material.
 - 11.1.3. An entrant injured and incapacitated by a mechanical or physical hazard.
 - 11.1.4. An entrant incapacitated by sudden illness.
- 11.2. A confined space rescue might require:
 - 11.2.1. An external rescue. (Entrant is wearing a safety harness/lifeline and is extricated without rescuers entering the confined space.)
 - 11.2.2. An internal rescue. (Rescuers must enter the confined space to extricate the entrant.)
- 11.3. Appropriate confined space emergency and rescue equipment will be available at all confined space entries.
- 11.4. To facilitate external rescue, each person entering a permit required confined space will wear a safety harness attached to a retrieval line secured to a point outside the confined space, unless the retrieval equipment would increase overall risk or would not contribute to the rescue of the entrant. (If retrieval equipment is not used, a justification must be made on the entry permit).
- 11.5. A mechanical device (i.e., a retrieval hoist) must be available to retrieve personnel from vertical type confined spaces that are more than five feet deep.

Note: 29 CFR 1910.146(k) requires that employees either establish an in-house rescue team or arrange for an outside rescue service. Samples are provided for both on the following pages.

CONFINED SPACE PROGRAM

In-House Rescue Team (see G&M SERVICE'S CONFINED SPACE RESCUE POLICY)

G & M Services has established an in-house confined space rescue team. Employees assigned to the rescue team are:

NAME	TITLE AND WORK LOCATION	DATE TRAINING COMPLETED AND ASSIGNED TO TEAM	DATE OF CURRENT CPR/FA CERTIFICATION

In the event of a confined space emergency, the attendant (standby person) will alert the rescue team by radio.

Initial training of employees assigned to the rescue team will include:

- 1. Confined space entry procedures. (Same as for confined space entrants).*
- 2. Basic emergency response training (ERT training), including alert and notification procedures, incident command system, emergency response procedures, selection, care and use of personal protective equipment, including self-contained breathing apparatus and post incident critical stress.*
- 3. Use of confined space entry and emergency equipment including, air monitoring devices, ventilation equipment, safety harnesses, retrieval lines and retrieval hoists.*
- 4. Hands-on practice with simulated confined space rescues.*

All employees assigned to the rescue team will be provided basic first aid and CPR training. The training will include instruction in bloodborne pathogens and the G & M Services Bloodborne Pathogens Exposure Control Plan.

CONFINED SPACE PROGRAM

Each member will be required to maintain a current certification in basic first aid and CPR.

Employees assigned to the confined space rescue team will practice simulated confined space rescues at least every twelve months.

A preplan has been developed for confined space emergencies on the following page.

Respirators used for emergency entry into confined spaces will be used according to procedures established in the G & M Services Respiratory Protection Program.

A post emergency debriefing will be conducted with all personnel (in-house employees and personnel from outside agencies) involved with a confined space emergency/rescue. The debriefing will include a discussion of post incident critical stress.

12.0 ANNUAL PROGRAM REVIEW

- 12.1. The effectiveness and proper application of the confined space entry program will be reviewed annually by the Corporate Safety Director and sectional managers of G & M Services. The review will include an audit of:
 - 12.1.1. Completed and canceled confined space entry permits.
 - 12.1.2. Results of confined space air testing.
 - 12.1.3. Equipment inspection and calibration logs.
 - 12.1.4. Employee training records.

13.0 PROGRAM DOCUMENTATION

- 13.1. All records concerning the Confined Space Entry Program will be maintained on file for one year. Records will include:
 - 13.1.1. Training session outlines and attendance sheets.
 - 13.1.2. Completed confined space entry permits.
 - 13.1.3. Completed pre-entry checklists.
 - 13.1.4. Equipment calibration and inspection logs.
- 13.2. The records will be maintained on file at the G & M Services office.

14.0 CONFINED SPACE ENTRY PROCEDURES

- 14.1. Before entry into any confined space, all potentially dangerous health and safety hazards must be identified, evaluated and eliminated/controlled.
- 14.2. Minimum acceptable conditions for entry are:

CONFINED SPACE PROGRAM

<i>ITEM</i>	<i>ACCEPTABLE CONDITION</i>
Oxygen	19.5% Minimum 23.5% Maximum
Flammable Gases	No greater than 10% of the Lower Flammability Limit (LFL)
Acutely Toxic Substances	Cannot exceed permissible exposure limit (PEL) for the substance as established by OSHA in Subpart Z of 29 CFR 1910
Engulfment Hazards	Must not be present
Hazardous Flows	Secured and locked out
Hazardous Energies	Identified and controlled
External Hazards	Identified and controlled
Other Hazards	Identified and controlled

- 14.3. If the conditions are not met, entry is prohibited, and if occupied, the space must be immediately evacuated.

15.0 PERMIT REQUIRED CONFINED SPACES ENTRY PROCEDURES

- 15.1. All vessels and enclosures will be considered as permit required confined spaces until pre-entry procedures demonstrate otherwise.
- 15.2. Permit required confined space entry procedures will be observed when all serious hazards (hazardous atmosphere, engulfment, entrapment or other recognizable serious hazards) cannot be eliminated before entry into the confined space.
- 15.3. General requirements include the following:
- 15.3.1. Entry will be accomplished by a properly completed confined space entry permit (Refer to Form CS1 in Appendix A).
 - 15.3.2. The completed permit must be present at the job site.
 - 15.3.3. Entry must be authorized by the entry supervisor.
 - 15.3.4. Any hot work must be authorized on the permit.
- 15.4. Work planning and completion of entry permit must include the following:

CONFINED SPACE PROGRAM

- 15.4.1. A pre-job briefing and completion of entry permit must be accomplished by the entry supervisor and all employees involved with the confined space entry.
- 15.4.2. Define scope of work to be done.
- 15.4.3. Identify and evaluate all potential hazards:
 - 15.4.3.1. Inherent to the confined space.
 - 15.4.3.2. Created by worker activity.
 - 15.4.3.3. Chemical products taken into the confined space.
 - 15.4.3.4. Hot work and other safety hazards.
- 15.4.4. Identify means and methods to control hazards:
 - 15.4.4.1. Engineering controls, ventilation, isolation of space and lockout/tagout.
 - 15.4.4.2. Modify work practices.
 - 15.4.4.3. Select and use of personal protective equipment.
- 15.4.5. Review emergency procedures.
- 15.5. Before entry:
 - 15.5.1. Isolate and identify work area:
 - 15.5.1.1. Barricade opening.

CONFINED SPACE PROGRAM

- 15.5.1.2. Identify and isolate work area with signage, barricades or banner tape.
- 15.5.2. Secure and isolate confined space as applicable:
 - 15.5.2.1. Secure and lock/tag all moving machinery in confined space.
 - 15.5.2.2. Secure, double block and bleed and lockout all hazardous inflows.
- 15.5.3. Drain, rinse and/or purge the confined space as applicable.
- 15.5.4. Test confined space atmosphere with a suitable instrument and record results on the entry permit.
- 15.5.5. Ventilate confined space with a suitable blower.
 - 15.5.5.1. Note: Each person entering the confined space has the right to see all air testing results to personally verify that all hazards have been eliminated/controlled.
- 15.6. During entry:
 - 15.6.1. Station standby person (attendant) at opening. Standby person maintains contact with entrants.
 - 15.6.2. All entrants must use extrication equipment, (i.e., safety harnesses attached to a retrieval line) unless the use of such equipment creates a significant hazard or inhibits self rescue.
 - 15.6.2.1. Note: If retrieval equipment is not used by all entrants, a written justification must be made on the entry permit by the entry supervisor.
 - 15.6.3. Monitor (continuous or periodically) atmosphere in confined space.
 - 15.6.4. Ventilate the confined space as applicable.
 - 15.6.4.1. Note: Provide for continuous monitoring and/or ventilation in situations where a hazardous atmosphere could unexpectedly and rapidly develop.
 - 15.6.5. All entrants must use personal protective equipment required for the assigned task.
 - 15.6.6. All entrants must remain alert for the sudden development of a hazardous condition, and immediately evacuate the confined space if a hazard is detected or perceived.

CONFINED SPACE PROGRAM

15.7. Emergency procedures:

- 15.7.1. All personnel will immediately evacuate the confined space if ordered out by the standby person or if a hazardous condition is detected or perceived. Contact immediate supervisor for assistance. No person will reenter the confined space until all hazards have been reevaluated and eliminated/controlled.
- 15.7.2. In the event of an emergency, use the nearest telephone (or two-way radio) to call 911 to summon emergency assistance.
- 15.7.3. If the entrant is attached to a lifeline, the standby person will attempt to extricate from the confined space. **The standby person may not enter the confined space to perform an unassisted confined space rescue.**

16.0 NON-PERMIT REQUIRED CONFINED SPACES PROCEDURES

- 16.1. All vessels and enclosures will be considered as permit-required confined spaces until pre-entry procedures demonstrate otherwise.
- 16.2. Permit required confined spaces may be reclassified as non-permit confined spaces and entered without an entry permit and standby person (attendant) provided that:
 - 16.2.1. The space does not contain a hazardous atmosphere that could cause death or serious acute health effects, *or* the hazardous atmosphere can be eliminated by pre-entry testing and mechanical ventilation.
 - 16.2.2. The space does not contain or have the potential to contain free flowing solids or liquids that could engulf a person.
 - 16.2.3. The space does not present a worker entrapment hazard because of converging walls or internal configuration.
 - 16.2.4. The space does not contain any other serious safety or health hazards, (i.e., hazardous energies or a fall hazard) which could cause death or serious injury.
- 16.3. All hazards must be eliminated before entry. If entry is required to perform tests, or to eliminate a hazard, then permit required entry procedures must be followed for the initial entry and continued until all hazards have been controlled.
- 16.4. General requirements for non-permit required confined spaces:
 - 16.4.1. Entry will be accomplished by a properly executed pre-entry checklist (Refer to Form CS2 in Appendix A).
 - 16.4.2. The completed checklist must be present at the job site.
 - 16.4.3. Immediate supervisor must be informed of the entry and its location.
 - 16.4.4. Must have a means of communication to summon assistance.

CONFINED SPACE PROGRAM

16.5. Before entry:

- 16.5.1. Inform immediate supervisor of the entry and location.
- 16.5.2. Identify work zone and barricade opening as required to protect workers, pedestrians and motorists.
- 16.5.3. Test the atmosphere in the confined space with a suitable device, and record results on pre-entry checklist.
- 16.5.4. Note: If a hazardous atmosphere is detected, provide mechanical ventilation and retest. If hazardous atmosphere cannot be eliminated by mechanical ventilation, then do not enter. Contact immediate supervisor for assistance.
- 16.5.5. Evaluate potential engulfment hazards. Potential engulfment hazards must be eliminated before entry. Verify hazard control on pre-entry checklist.
- 16.5.6. Evaluate potential entrapment hazards. Potential entrapment hazards must be eliminated before entry. Verify hazard control on pre-entry checklist.
- 16.5.7. Evaluate all hazardous energies and flows, (i.e., exposed energized electrical conductors, moving machinery and chemical lines that discharge into the confined space).
- 16.5.8. All hazardous energies and flows must be secured and locked/tagged out before entry. Verify hazard control on pre-entry checklist.
- 16.5.9. Evaluate all other recognizable serious hazards, (i.e., falling object hazards, worker fall hazards, hazards created by worker activities or any other dangerous condition). All serious hazards must be eliminated before entry. Verify hazard control on pre-entry checklist.
- 16.5.10. If all serious hazards have been evaluated and eliminated, one or more persons may enter the space without a confined space entry permit or a standby person (attendant).
 - 16.5.10.1. Note: Each person entering the confined space has the right to see all air testing results and to personally verify that all hazards have been eliminated.

16.6. During entry:

- 16.6.1. All entrants must use personal protective equipment required for the assigned task.
- 16.6.2. All entrants must remain alert for the sudden development of a hazardous condition, and immediately evacuate the confined space if a hazard is detected or perceived.

CONFINED SPACE PROGRAM

- 16.6.3. Provide for continuous monitoring and/or ventilation in situations where a hazardous atmosphere could unexpectedly and rapidly develop.
- 16.7. Emergency procedures:
 - 16.7.1. All personnel will immediately evacuate the confined space if ordered out by the standby person or if a hazardous condition is detected or perceived. Contact immediate supervisor for assistance. No person will reenter the confined space until all hazards have been reevaluated and eliminated/controlled.
 - 16.7.2. In the event of an emergency, use the nearest telephone (or two-way radio) to call 911 to summon emergency assistance.

CONFINED SPACE PROGRAM

APPENDIX A

INVENTORY OF CONFINED SPACES, HAZARD ASSESSMENT AND CONFINED SPACE FORMS

CONFINED SPACE PROGRAM

CONFINED SPACE ENTRY PERMIT

INSTRUCTIONS: Permit must be filled out before anyone enters a confined space.

Permit Begins: Date: _____ Time: _____ AM/PM Expires: Date: _____ Time: _____ AM/PM

Confined Space to be entered: _____

Reason for Entry: _____

Last Contents of Confined Space: _____

Potential Hazards: _____

<i>Pre-Entry Checklist</i>	YES	NO	N/A	<i>Initials/Comments</i>
1. Area secured				
2. Vehicular traffic re-directed or barricaded				
3. Equipment decontaminated/cleaned				
4. Energy lockout/tagout complete/lines blinded or disconnected and capped				
5. Proper ventilation supplied				
6. Specialized PPE or safety equipment required				
7. Adequate safety lighting provided				
8. Harness and retrieval line used				
9. Mechanical lifting device or retrieval system available for spaces over five feet in depth				
10. Communication methods used between attendant and entrants: Verbal, radio, visual, hand, other (specify)				
11. Rescue procedures in place or notified				
12. Acceptable entry conditions have been determined and verified (see back)				
13. Other hazards: Bacteria, rodents, insects, temperature				
14. Periodic testing required (specify frequency)				

Note: Marks in shaded areas require approval by Project Manager or Safety Representative (see back).

Required Signatures:

Entry Supervisor: _____

Project Mgr./Safety Rep.: _____

(Required for any exceptions)

Authorized Entrants

Attendants

(Print name)

(Print name)

CONFINED SPACE PROGRAM

<u>ACCEPTABLE ENTRY CONDITIONS</u> If unsure, contact Safety department.							
<u>OXYGEN</u> 19.5 - 23.5	<u>FLAMMABLES</u> <10% LEL	<u>CARBON MONOXIDE</u> < 35 PPM	<u>H2S</u> <15	<u>OTHER(specify)</u>			
Air Sampling Equipment #: _____							
Zero Calibration Results: O2 LEL CO H2S Other							
Testing Results: Any oxygen reading below 20.7 requires periodic testing.							
DATE	TIME	INITIALS	OXYGEN	FLAMMABLES	CO	H2S	OTHER

Entrants	Time in	Time out	Entrants	Time in	Time out

NOTICE

This permit becomes void under any of the following conditions:

- a) Hazardous conditions are detected which were not present at the time of permit issue.
- b) There is an emergency in the location of the Confined Space.
- c) Work has been suspended for one hour or more or has not begun within one hour of issue.
- e) At end of shift.

Permits are to be returned to the Entry Supervisor for evaluation when permit becomes void.

CONFINED SPACE PROGRAM

PRE-ENTRY CHECKLIST FOR NON PERMIT REQUIRED SPACES

NAME OF CONFINED SPACE: _____ DATE: _____

CHECKLIST COMPLETED BY: _____

MINIMUM CONDITIONS FOR ENTRY

If the specified conditions are met and hazard control is verified on this checklist, then one or more persons may enter the confined space without an entry permit, rescue equipment and a standby person (attendant). If the specified conditions cannot be met and/or hazard control cannot be verified, DO NOT ENTER. Contact immediate supervisor for assistance.

Oxygen	Minimum 20.6% and Maximum 21.5%	Flammable Dusts	Must not reduce visibility to <5 feet
Flammable Gases	0% of LEL	Engulfment Hazards	Engulfment hazards must be secured and locked out
Hydrogen Sulfide (H2S)	0 PPM	Hazardous Flows	Must be secured and locked out
Carbon Monoxide (CO)	0 PPM	Hazardous Energies	Must be secured and locked out
Other Toxic Substances	0 PPM or 0%	External Hazards	External hazards must be controlled

VERIFICATION OF HAZARD CONTROL

HAZARD	METHOD/MEANS OF HAZARD CONTROL	VERIFICATION OF HAZARD ELIMINATION	
Hazardous Atmosphere	Test atmosphere with suitable air testing device (record results below). Provide mechanical ventilation to a hazardous atmosphere. Hazardous atmosphere must be eliminated prior to entry.	YES	NO
Engulfment Hazards	All actual engulfment hazards must be eliminated prior to entry.	YES	NO
Entrapment Hazards	All actual entrapment hazards must be eliminated prior to entry.	YES	NO
Hazardous Energies	All actual hazardous energies (exposed electrical conductors and moving machinery) must be secured and locked/tagged out prior to entry.	YES	NO
Other Hazards		YES	NO

RECORD OF CONFINED SPACE AIR TESTING

DATE	NAME	MONITOR #	CONFINED SPACE	% OXYGEN	% LEL	PPM H2S	PPM CO
			Record Fresh Air Calibration				
			Check On This Line				

EMERGENCY PROCEDURE

If a hazardous condition is detected or perceived, immediately evacuate the confined space. Do not reenter. Contact immediate supervisor for assistance. No person will reenter the confined space until all hazards have been reevaluated and eliminated. In the event of an emergency, use nearest telephone or (two-way radio) to call _____ to summon emergency assistance.

CONFINED SPACE PROGRAM

TRAINING SESSION LESSON PLAN

<i>TITLE</i>	<i>CONFINED SPACE ENTRY</i>	
TOPIC		
MATERIAL REQUIRED		
TIME REQUIREMENT		
OBJECTIVE		
<i>PRESENTATION</i>		
PRESENTATION	INSTRUCTOR NOTES	
APPLICATION		
SUMMARY OF KEY POINTS		
EVALUATION		

Form CS4 Training Session Lesson Plan

CONFINED SPACE PROGRAM

TRAINING SESSION ATTENDANCE RECORD

<i>CONFINED SPACE ENTRY TRAINING</i>					
Location:		Date:			
Name of Facilitator:					
Length of Course or Training Session:		Total Employees in Attendance		Total Man-Hours for Training Session	
<i>SIGNATURES OF EMPLOYEES IN ATTENDANCE</i>					
	Employee's Signature			Department Division	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Form CS5 Training Session Attendance Record

CONFINED SPACE PROGRAM

RESULTS OF PRE-ENTRY AIR TESTING

Name of Confined Space:					
Date	Location	Results of	Pre-Entry	Air	Testing
		Percent Oxygen	Percent LEL	PPM Carbon Monoxide	PPM Hydrogen Sulfide
Totals					

Form CS6 Results of Pre Entry Air Testing

TABULATION OF PRE-ENTRY AIR TESTING

[illegible]

Form CS7 Tabulation of Pre-Entry Air Testing

CONFINED SPACE PROGRAM

PREPLAN AND SOP FOR CONFINED SPACE EMERGENCIES

COMMAND, CONTROL AND COORDINATION	
Alert and Notification	
Incident Commander	
PIO	
Fire Department	
Law Enforcement	
EMS	
Company Personnel	
ACTIONS TO BE TAKEN	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
OTHER INSTRUCTIONS/INFORMATION	

Form CS9 Preplan and SOP for Confined Space Emergencies

CONFINED SPACE PROGRAM

CONFINED SPACE ENTRY SAFETY PLAN

DESCRIPTION AND LOCATION

Description: _____ Location: _____
Contents: _____ NFPA Hazard Rating: _____
Comments: _____

POTENTIAL HAZARDS (CHECK ALL THAT APPLY)

Hazardous Residue: _____	Hazardous Atmosphere: _____	Engulfment: _____
Flash Fire: _____	Electrocution: _____	Poor Lighting: _____
Minimum Work Room: _____	Moving Machinery: _____	Poor Footing: _____
Solid Material In-Flow: _____	Injury/Sudden Illnesses: _____	Hot Surfaces: _____
Solid Material Out-Flow: _____	Respirable Dust: _____	Fall Hazard: _____
Steam/Hot Water In-Flow: _____	Other (Specify): _____	

REQUIRED PRECAUTIONS BEFORE ENTRY

Isolate and Lockout: _____
Test Space for: %O₂ _____ %LFL _____ ppm H₂S _____ ppm CO _____ Other _____
Barricade Opening: _____ Ventilation: _____
Other (Specify): _____

REQUIRED PRECAUTIONS DURING ENTRY

Surveillance Method: _____ Safety Hoist: _____
Ventilation: _____ Respirator: _____
Monitor Atmosphere: _____ Other PPE: _____
Safety Harness/Lifeline: _____ GFI/L.V. Equip: _____

EMERGENCY ACTION PLAN

Agency Designated to Respond to An Emergency: _____
Access to Confined Space: _____ Entry Point: _____ Depth at Entry Point: _____
Small Entry Opening: _____ (24% or less) Rescue Difficulty: _____
Most Likely Foreseeable Emergency: _____
Worst Case Scenario: _____

ENTRY PERMIT AND WORK AUTHORIZATION

Permit Issued by: _____ Date Issued: ____/____/____ Exp. Date: ____/____/____
Name of Confined Space: _____
Scope of Work: _____
Hot Work Authorized: No _____ Yes _____ Scope: _____
Comment: _____
Signatures of Authorized Entrants and Stand-by Person (May Alternate Yes _____ No _____)
1. _____ 2. _____ 3. _____
4. _____ 5. _____ 6. _____

Signatures verify that safety plan and applicable MSDSs have been reviewed

CS10 Confined Space Entry Safety Plan

CONFINED SPACE PROGRAM

INVENTORY AND HAZARD ASSESSMENT OF CONFINED SPACES (TO BE COMPLETED ON EACH SITE)

ORGANIZATION AND DEPT.	BUILDING AND LOCATION			DATE		PERFORMED BY	
NAME OF CONFINED SPACE	LOCATION	HAZARDOUS ATMOSPHERE	ENGULFMENT HAZARD	ENTRAPMENT HAZARD	HAZARDOUS ENERGIES	OTHER HAZARDS (Specify)	

RECORD OF AIR MONITORING DEVICE CALIBRATION

[illegible]

FORM CS8 Record Of Air Monitoring Device Calibration

CRANES, HOISTS, AND RIGGING

G & M SERVICES

1.0 PURPOSE

- 1.1. It is the requirement of G & M Services that employees comply with the manufacturers' specifications and limitations applicable to the operation of any and all cranes and derricks used on G & M Services job-sites. All recommendations by the manufacturers concerning attachments, ratings, capacity and scope of use shall not be exceeded.

2.0 CRANE SAFETY RULES

- 2.1. Inspect equipment and rigging before use each day. Any deficiencies shall be repaired, or any defective parts shall be replaced before use of equipment and/or rigging.
- 2.2. The crane operator shall not pick up a load that is improperly rigged.
- 2.3. Only one person should be designated to give signals to the crane operator. standard hand signals shall be used.
- 2.4. A ten-foot clearance must be maintained between power lines and crane booms, load lines, or loads. When a ten-foot clearance is impractical, power shall be shut off or conductors insulated by an authorized person. ASSUME THAT ALL POWER LINES ARE HOT.
- 2.5. Operators shall consult the load capacity chart and boom angle indicator before making a lift. Make certain you know the weight of the load to be lifted. Do not exceed capacity of any component of the equipment.
- 2.6. Outriggers must be fully EXTENDED WITH PADS ON FIRM GROUND OR MATS.
- 2.7. The operator shall always know the location of the oiler (personnel).
- 2.8. Be careful when traveling the crane near power lines. Uneven ground can cause the boom to weave or bob into the lines. A ten-foot clearance must be maintained between power lines and crane booms, load lines, or loads.
- 2.9. When working near power lines, slow down the operating cycle of the crane, thereby reducing the hoisting, booming, swinging and travel speeds to maintain ten-foot clearance.
- 2.10. Use of a signalman is mandatory if a power line is located within ten feet of the maximum reach of the crane.

CRANES, HOISTS, AND RIGGING

- 2.11. To assist in controlling a load outside of arm's reach, taglines should be used, unless it is possible for the load to spin into the power line. All ropes will conduct electricity to some extent. Dry polypropylene ropes provide better insulating properties than most other ropes.
- 2.12. Be careful when working near overhead lines having long spans as they tend to swing laterally in the wind and accidental contact can occur.
- 2.13. If a crane or any piece of equipment contacts a power line:
 - 2.13.1. DO NOT PANIC.
 - 2.13.2. Stay where you are.
 - 2.13.3. Keep everyone away.
 - 2.13.4. Move the crane off the wire if possible.
 - 2.13.5. DO NOT leave the machine unless it is absolutely necessary.
 - 2.13.6. If you have to get out -- **JUMP** -- DO NOT STEP DOWN.
- 2.14. When a crane is in contact with a high voltage line, electrical current flows down the boom and through the crane into the ground. The ground will then be energized with a high voltage near the crane. Because of the hazardous voltage differential in the ground, the operator should jump with his feet together, maintain balance and shuffle or hop slowly away from the crane. Remember, while jumping and landing, your body should not touch the ground and the crane at the same time. DO NOT take large steps because it is possible for one foot to be in a high voltage area and the other in a low voltage area. The difference between the two can kill.
- 2.15. After a crane has contacted a power line and the situation has been made safe, move the crane to a safe area away from the power line. A qualified person shall assess damage and inspect the rope for pits and burns at the contact point, all sheaves, at the drum and at any other location where the rope touches the crane's structure. All necessary repairs shall be made before returning the equipment to service.
- 2.16. Plan your picks. Before setting up to make a pick, LOOK FOR THE POWER LINE EXPOSURE. If it is present, take action to prevent contact.
- 2.17. Riding loads or crane hooks is prohibited.
- 2.18. All hoisting equipment shall be regularly inspected to assure that guards are on gears, belts, and shafts.
- 2.19. A fully charged fire extinguisher of 5BC rating or higher shall be in the crane cab and shall be accessible.
- 2.20. Broken or cracked glass in crane cabs shall be replaced.
- 2.21. Do not swing a load over workers.

CRANES, HOISTS, AND RIGGING

- 2.22. Guarding or barricading must be in place on the rear swing of cranes to prevent employees from being struck or crushed.
- 2.23. Do not perform maintenance on any conveyor until the starting switch has been locked or tagged out of service.
- 2.24. Backhoe operators - Use extra caution when digging around buried utilities. Make sure your foreman has made arrangements for utility location identification and all utility locations are known before digging.
- 2.25. The oiler shall never grease or oil while the crane is operating.
- 2.26. Backhoe operators shall maintain a distance of ten feet between the boom/bucket and electrical lines.

3.0 *CRANES (OVERHEAD AND MOBILE) AND HOISTS*

- 3.1. All functional operating mechanisms, air and hydraulic systems, chains, ropes, slings, hooks, and other lifting equipment shall be visually inspected daily, before use. Any deficiencies shall be repaired, or defective parts replaced, before the equipment is used.
- 3.2. Complete inspection of the crane shall be performed and documented at one-month intervals. The inspection shall include the following areas: Deformed, cracked, corroded, worn, or loose members or parts; the brake system; limit indicators (wind, load, etc.); power plant and electrical apparatus.
- 3.3. Overhead cranes shall have stops at the limit of travel of the trolley. Bridge and trolley bumpers or equivalent automatic devices shall be provided. Bridge trucks shall have rail sweeps.
- 3.4. The rated load of the crane shall be plainly marked on each side of the crane, and if the crane has more than one hoisting unit, each hoist shall have its rated load marked on it or its load block, and this marking shall be clearly legible from the ground or floor.

4.0 *CHAINS, CABLES, ROPES AND HOOKS, ETC.*

- 4.1. Chains, cables, ropes and hooks, etc. on overhead and gantry cranes shall be visually inspected daily for deformation, cracks, excessive wear, twists, stretch, etc., and defective gear. Any deficiencies shall be repaired, or defective parts replaced, before the equipment is used.

CRANES, HOISTS, AND RIGGING

- 4.2. Hooks and chains shall be visually inspected daily. Monthly inspections shall include a full, written, dated, and signed report of condition that shall be kept on file where readily available to appointed personnel. Running ropes shall be inspected monthly and written report of condition shall be kept on file where readily available to appointed personnel.
- 4.3. Hoist ropes on crawler, locomotive, and truck cranes shall be free from kinks or twists. Load lines shall not be wrapped around the load and used in lieu of slings or chains.
- 4.4. All U-bolt wire rope clips on hoist ropes on overhead and gantry cranes shall be installed so that the U-bolt is in contact with the dead end (short or nonload carrying end) of the rope. Clips shall be installed according to the clip manufacturer's recommendation. All nuts on newly installed clips shall be retightened after one hour of use.

5.0 POWER TRANSMISSION EQUIPMENT GUARDING

- 5.1. All belts, pulleys, sprockets and chains, flywheels, shafting and shaft projections, gears, and couplings, or other rotating or reciprocating parts, or any portion thereof, within seven feet of the floor or working platform shall be effectively guarded.
- 5.2. All guards for inclined belts shall conform to the standards for construction of horizontal belts, and shall be arranged so that a minimum clearance of seven feet is maintained between the belt and floor at any point outside the guard.
- 5.3. Flywheels protruding through a working floor shall be guarded.
- 5.4. Where both runs of horizontal belts are seven feet or less from the floor or working surface, the guard shall extend at least fifteen inches above the belt.
- 5.5. Where gears require a guard, the guard shall extend six inches above the mesh point by a band guard covering the face, or be completely enclosed.
- 5.6. Couplings with bolts, nuts, or set screws extending beyond the flange of the coupling shall be guarded by a safety sleeve.
- 5.7. Belts, pulleys, and shafting in rooms used exclusively for power transmission apparatus need not be guarded when the following requirements are met:
 - 5.7.1. The basement, tower, or room occupied by transmission equipment is locked against unauthorized entrance;
 - 5.7.2. The vertical clearance in passageways between the floor and power transmission beams, ceiling, or any other objects is not less than five feet six inches;
 - 5.7.3. The intensity of illumination conforms to the requirement of ANSI AA11.1 -- 1965 (R 1970);
 - 5.7.4. The route followed by the oiler is protected in a way that prevents

CRANES, HOISTS, AND RIGGING

accidents.

SUMMARY OF CRANE REQUIREMENTS

- All cranes shall meet the design specifications of the American National Standard Safety Code for Overhead and Gantry Cranes, ANSI B30.2.0 - 1967.
- All modifications to cranes must be checked thoroughly by a qualified engineer or the equipment manufacturer.
- The rated load of the crane shall be plainly marked on each side of the crane and be clearly legible from the floor.
- Only designated personnel shall be permitted to operate a crane.
- All exposed moving parts shall be guarded, such as gears, set screws, projecting keys, chains, chain sprockets and reciprocating components.
- Each hoisting unit shall have a self-setting brake.
- Suspended push button stations must be equipped with strain relief.
- Push buttons shall return to the Off position.
- Prior to initial use, all new or altered cranes shall be inspected.
- Frequent inspections range from daily to monthly intervals, depending on use of the crane.
- Periodic inspections range from monthly to yearly intervals, depending on use of the crane.
- Frequent inspections shall include:
 - All functional operating mechanisms for maladjustment interfering with proper operation.
 - Deterioration or leakage in lines, tanks, valves, drain pumps and other parts of air or hydraulic systems.

CRANES, HOISTS, AND RIGGING

- Hooks with deformation or cracks.
Hooks visually daily.
Hooks monthly certification recorded.
- Hoist chains visually daily.
Hoist chains monthly certification recorded.
- All functional operating mechanisms for excessive wear.
- Rope reeving.
- Periodic inspections shall include examination for:
 - Deformed, cracked or corroded members.
 - Loose bolts or rivets.
 - Cracked or worn sheaves and drums.
 - Worn, cracked or distorted parts such as pins, bearings, shafts, gears, rollers, locking and clamping devices.
 - Excessive wear of brake system.
 - Load, wind and other indicators.
 - Gasoline, diesel, electric or other power plants.
 - Excessive wear of chain drive sprockets and excessive chain stretch.
 - Electrical apparatus for signs of pitting or any determination of controller contactors, limit switches and push button stations.
- Prior to initial use, all new and altered cranes shall be tested for the following:
- Operational tests:
 - Hoisting and lowering
 - Trolley travel
 - Bridge travel

- Limit switches
- Rated load tests:
 - Test loads shall not exceed 125 percent of rated load capacity unless recommended by the manufacturer.
- A preventive maintenance program shall be established based on the manufacturer's recommendation.
- A maintenance procedure shall be used when working on a crane to include safe locations, use of lockout/tagout, warning signs and reenergizing methods.
- Adjustments and repairs shall only be done by designated persons.
- An inspection of ropes shall be made once a month and a certification record kept. Items to be inspected include:
 - Rope diameter
 - Number of broken wires
 - Internal or external corrosion
 - Corroded or broken wires at the end connections
 - Corroded, cracked, bent, worn or improperly applied end connections.
 - Severe kinking, crushing, cutting or unstranding.
- The crane shall not attempt to lift items above its load limit capacity, except during testing.
- The hoist chain or rope should be free of kinks and not be wrapped around the load.
- Cranes shall not be used for side pulls unless specifically authorized by a responsible person.
- There shall be no lowering, hoisting or traveling while an employee is on the load or the load hook.
- Operators should avoid carrying loads over personnel.

- The load shall not be lowered below the point where there is less than two full wraps on the drum.
- Operators shall not leave the controls while the load is suspended.
- The upper limit of the hoist limit switch shall be tried out, under no load, at the beginning of each operator's shift.

Common Citations and Abatement Guideline

Cranes

- 1) **No annual inspection records.** Records are necessary to track repairs and maintenance on cranes. They must be available to OSHA although it is not required to be located in the crane.
- 2) **No competent person inspecting the crane.** Some of the material needed to inspect a crane will be OSHA regulations, ANSI standards, and the manufacturer's instructions. The competent person must know the requirements of each, and most citations are issued for not inspecting parts of the crane per requirements.
- 3) **Operator cannot read load rating chart(s).** A problem with many new cranes is they have many load rating charts. Without prior training in reading them, most operators find it difficult to know exact crane capacity at a certain lifting angle.
- 4) **Competent person supervising the lift does not know crane capacity, rigging capacity, or weight of the load.** Without knowing all three items, a lift should never be performed. The capacity of the crane is its weakest component whether it be the jib, hook, lifting bar, or other components. If the load is unknown, a load moment indicator or a scale should be used to obtain the actual reading.
- 5) **Crane works next to powerlines.** This cannot be emphasized enough. This is the leading cause of all fatalities involving cranes for the past many years. The 10-foot safe distance is for voltages under 50,000 volts. For over 10 feet, increased distance is necessary. De-energizing the line is the first choice if possible. If it cannot be de-energized, insulating the line and ensuring safe distance is necessary. Requirements of the 416 standards apply.

SUBPART N - CRANES, DERRICKS, HOISTS, ELEVATOR & CONVEYORS

1926.556(b)(2)(v) - 131 - A body belt shall be worn and a lanyard attached to the boom or basket when working from an aerial lift.

1926.550(b) - 124 - All crawler, truck, or locomotive cranes in use shall meet applicable requirements for design, inspection, construction, testing, maintenance, and operation as prescribed in ANSI B30.5 - 1968, Safety Code for Crawler, Locomotive, and Truck Cranes.

The employer shall prepare a certification record which includes the date the crane items were inspected, the signature of the person who inspected the crane items, and a serial number or other identifier for the crane inspected. The most recent certification record shall be kept on file until a new one is prepared.

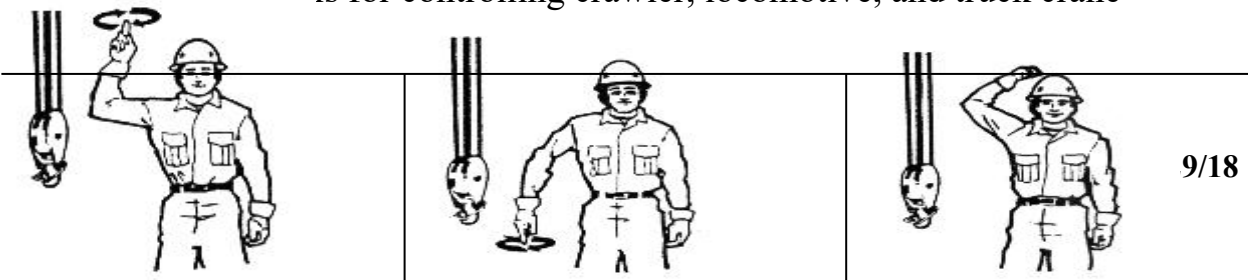
1926.550(a)(9) - 87 - Accessible areas within the swing radius of the rear of the rotating superstructure of the crane, either permanently or temporarily mounted, shall be barricaded in such a way as to prevent employees from being struck or crushed by the crane.

1926.550(a)(5) - 75 - The employer shall designate a competent person who shall inspect all machinery and equipment before each use, and during each use, to ensure that it is in safe operating condition. Any deficiencies shall be repaired or defective parts replaced before continued use.

1926.550(a)(6) - 48 - A thorough annual inspection of the hoisting machinery shall be done by a competent person, or by a government or private agency recognized by the U.S. Dept. of Labor. The employer shall keep a record of the dates and results of inspections for each hoisting machine and piece of equipment.

Hand Signals

Is for controlling crawler, locomotive, and truck crane



HOIST. With forearm vertical, forefinger pointing up, move hand in small horizontal circle.

LOWER. With arm extended downward, forefinger pointing down, move hand in small horizontal circle.

USE MAIN HOIST.
Tap fist on head, then use regular signals.



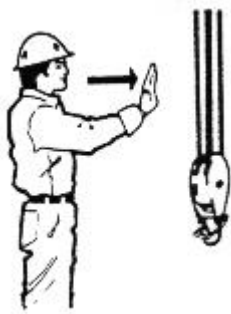
USE WHIPLINE
(Auxiliary Hoist). Tap elbow with one hand, then use regular signals.



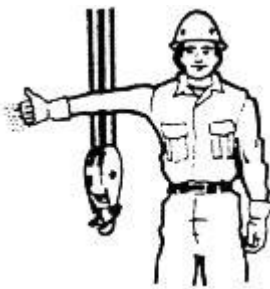
RAISE BOOM. Arm extended, fingers closed, thumb pointing upward.



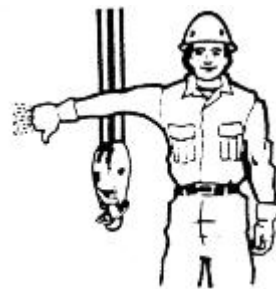
LOWER BOOM.
Arm extended, fingers closed, thumb pointing downward.



TRAVEL. Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel.



RAISE THE BOOM AND LOWER THE LOAD.
With arm extended, thumb pointing up, flex fingers in and out as long as load movement is desired.



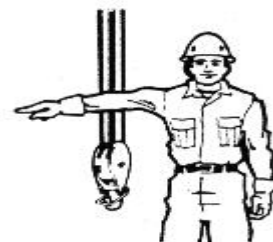
LOWER THE BOOM AND RAISE THE LOAD.
With arm extended, thumb pointing down, flex fingers in and out as long as load movement is desired.



TRAVEL. (One Track) Lock the track on side indicated by raised fist. Travel opposite track in direction indicated by circular motion of other fist, rotated vertically in front of body. (For crawler cranes).



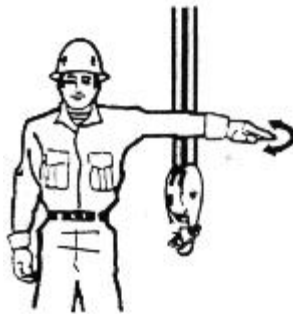
EXTEND BOOM.
(Telescoping Booms). Both fists in front of body with thumbs pointing outward.



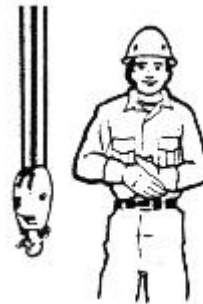
SWING. Arm extended point with finger in direction of swing of boom.



STOP. Arm extended, palm down, hold position rigidly.



EMERGENCY STOP. Arm extended, palm down, move hand rigidly right and left.



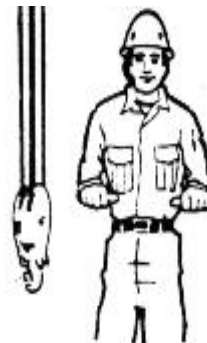
DOG EVERYTHING. Clasp hands in front of body.



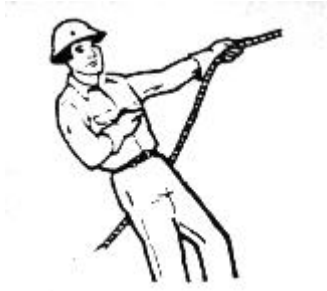
TRAVEL. (Both Tracks). Use both fists in front of body, making a circular motion about each other, indicating direction of travel, forward or backward (For crawler cranes only).



MOVE SLOWLY. Use one hand to give any motion signal and place other hand motionless in front of hand giving the motion signal. (Hoist slowly shown as example).

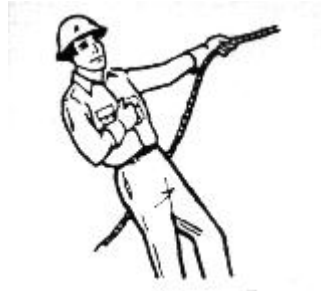


RETRACT BOOM. (Telescoping Booms). Both fists in front of body with thumbs pointing toward each other.



RETRACT BOOM.

(Telescoping Boom). One Hand Signal. One fist in front of chest, thumb pointing outward and heel of fist tapping chest.



EXTEND BOOM.

(Telescoping Boom). One Hand Signal. One fist in front of chest with thumb tapping chest.

RIGGING SAFETY RULES

- Know the weight of the load
- Know the center of gravity of the load
- Make load attachment above center of gravity or stabilize
- Select hitch that will hold and control load
- Know rated capacities of slings and rigging hardware
- Select sling best suited for load
- Inspect all rigging gear prior to use
- Protect sling from sharp surfaces
- Protect load from rigging if necessary
- Do not use hand-tucked slings on single leg or with swivel in system
- Allow for increased tension caused by sling angles
- Allow for low D/D ratios on wire rope
- Equalize loading on multiple leg slings
- Allow for reductions when using choker hitches
- Allow for sling angles when forcing choker
- Only use alloy chain when chain is used – Grade 8(1)
- Attach tag lines prior to lift if required
- Keep personnel clear of lift area
- Lift load a few inches and check rigging
- Know limitations of hoisting device
- Start and stop slowly
- Watch for obstructions and power lines
- Use proper hand signals
- Maintain load control
- Do not forget the law of gravity

TROUBLESHOOTING GUIDE FOR WIRE ROPE DAMAGE

<i>DAMAGE</i>	<i>6.0 PROBABLE CAUSE</i>
Birdcaging	Sudden release of load
Broken Rope	Damaged sheave flanges; kink; shock load or overload
Broken Strands	Shock load or overload; unequal loads on strands; severe spot wear
Broken wires soon after new installation	Rope too inflexible; drums or sheaves too small; load too heavy or shock load; severe rope vibration; excessive rope speed; straightened kinks; reverse bends; rope crushed or flattened
Broken wires or unusual wear on one side	Incorrect alignment; damaged sheave or drum flanges
Diameter reduced	Core damaged; overload; internal corrosion
Early Wear	Wires small or unsuitable rope construction for intended use; extreme abrasion from dragging over ground or equipment; sheaves unaligned; fleet angle too large; worn sheave; grooves of wrong size or with rough surfaces
High standing	Improper fitting and seizing; strand broken; kinks or dog legs
Kinks and other distortions	Carelessness in handling and installation
Protrusion of core	Spinning of load; rope lay disturbed or unlaid; shock loading
Rope chatters	Rollers too small
Rope crushed or flattened	Cross winding; loose drum bearing; overload or shock load; excessive rope layers on drum; uneven spooling
Rope lay distorted	Rope cut incorrectly; failure to core; sheave grooves too large
Rope pinched	Grooves in sheave too small
Rope stretched	Loads too heavy; lang lay ropes untwisted
Rope unlays	Improper fitting on lang lay ropes; rope dragging against obstacle
Unusual spot wear	Rope kinks or bends from careless handling; rope vibration on sheave or drum
Wires broken near fitting	Excessive rope vibration
Wire corrosion	Insufficient lubrication; wrong type of lubrication; exposure to corrosive materials; poor storage procedures

On Outriggers - 360°

Radius in Feet	Main Boom Length in Feet							
	28	34	40	46	52	58	64	70
10.0	56,000 (64)	36,000 (69)	36,000 (73)					
12.0	40,000 (59.5)	36,000 (65.5)	36,000 (70)	35,000 (73)				
15.0	31,000 (51.5)	31,000 (59.5)	30,950 (65)	30,300 (69)	29,750 (72)	29,150 (74.5)		
20.0	23,200 (36.5)	23,200 (49)	23,200 (57)	23,200 (62)	23,000 (66)	22,600 (69.5)	22,250 (72)	20,500 (74)
25.0	17,950 (6)	17,950 (36)	17,950 (47.5)	17,950 (54.5)	17,950 (60)	17,950 (64)	17,950 (67)	17,650 (69.5)
30.0		15,350 (15.5)	15,350 (36.5)	15,350 (46.5)	15,350 (53)	15,150 (58)	14,950 (62)	14,750 (65)
35.0	See Warnin g		12,850 (20)	12,850 (36.5)	12,850 (45.5)	12,800 (51.5)	12,650 (56.5)	12,500 (60)
40.0	Note 13			10,750 (23)	10,750 (36.5)	10,750 (45)	10,750 (50.5)	10,750 (55)
45.0					9,020 (25)	9,020 (37)	9,020 (44.5)	9,020 (49.5)
50.0						7,420 (26.5)	7,420 (37)	7,420 (43.5)
55.0						6,170 (3.5)	6,170 (28)	6,170 (37)
60.0							5,170 (13)	5,170 (28.5)
65.0								4,350 (15.5)
Minimum boom angle (deg.) for indicated length (no load)								0
Maximum boom length (ft.) at 0 deg. boom angle (no load)								70

Note: Boom angles are in degrees.

ON RUBBER CAPACITIES

20.5 x 25 TIRES

7.0 <i>RADIUS IN FEET</i>	Stationary Capacity Defined Arc (3) Over Front	Stationary Capacity 360 Degree Arc	Pick & Carry Cap Up to 2.5 MPH Boom Centered (7) Over Front
10.0	28,650	26,200	33,800
12.0	24,950	19,350	29,000
15.0	20,900	13,200	23,600
20.0	14,900	7,910	14,900
25.0	9,900	5,060	9,900
30.0	7,350	3,600	7,180
35.0	5,660	2,610	5,660
40.0	4,450	1,890	4,450
45.0	3,550	1,340	3,550
50.0	2,850	910	2,850
55.0	2,290		2,290
60.0	1,840		1,840
65.0	1,460		1,460

16.00 x 25 TIRES

Radius in Feet	Stationary Capacity Defined Arc (3) Over Front	Stationary Capacity 360 Degree Arc	Pick & Carry Cap Up to 2.5 MPH Boom Centered (7) Over Front
10.0	33,450	22,450	31,750
12.0	28,550	18,350	27,450
15.0	23,250	12,500	22,600
20.0	14,700	7,410	14,700
25.0	10,100	4,650	10,100
30.0	7,420	2,930	7,420
35.0	5,610	1,740	5,610
40.0	4,330	880	4,330
45.0	3,360		3,360
50.0	2,620		2,620
55.0	2,020		2,020
60.0	1,530		1,530
65.0	1,120		1,120

General:

G & M Services
05/29/18

1. Rated loads as shown on lift chart pertain to this crane as originally manufactured and equipped. Modifications to the crane or other equipment other than that specified can result in a reduction in capacity.
2. This chart is intended as a guide only. The individual cranes' load chart operating instructions and other instruction plates give operating conditions under which the crane may be operated safely. ALL OF THESE INSTRUCTIONS MUST BE READ AND UNDERSTOOD BEFORE OPERATING THE CRANE.

Setup:

1. The machine shall be leveled on a firm supporting surface.
2. For outrigger operation, outriggers shall be fully extended with tires raised free of crane weight before operating the boom or lifting material.
3. Do not transport crane with boom extension or jib erected.

Operation:

1. Rated loads at rated radius shall not be exceeded. Do not tip the machine to determine allowable loads. For clamshell operation, weight shall not exceed 80% of rated lifting capacities.
2. All rated loads have been tested to and meet minimum requirements of SAE J-1063 OCT80 – Cantilevered Boom Crane Structures and do not exceed 85% of the tipping load as determined by SAE J-765 OCT80 Crane Stability Test Code.
3. Rated loads include the weight of hookblock, slings and auxiliary lifting devices and their combined weights shall be subtracted from the allowable lifting weight.

**Capacities for 25 Feet – 43 Feet Tele. Offsettable Extension
(On Outriggers - 360°)**

Radius in Feet	25 Feet length						34 Feet Length						43 Feet Length					
	0' Offset		15' Offset		30' Offset		0' Offset		15' Offset		30' Offset		0' Offset		15' Offset		30' Offset	
	Boom Angle Ref. (Deg.)	Cap lbs.	Boom Angle Ref. (Deg.)	Cap lbs.	Boom Angle Ref. (Deg.)	Cap lbs.	Boom Angle Ref. (Deg.)	Cap lbs.	Boom Angle Ref. (Deg.)	Cap lbs.	Boom Angle Ref. (Deg.)	Cap lbs.	Boom Angle Ref. (Deg.)	Cap lbs.	Boom Angle Ref. (Deg.)	Cap lbs.	Boom Angle Ref. (Deg.)	Cap lbs.
25	75.0	*12,500	75.0	*7,300			75.0	*7,700					75.0	*4,500				
30	71.5	10,700	74.0	7,170	75.0	*5,250	73.0	7,180	75.0	*4,900			74.0	4,430				
35	68.0	9,230	70.5	6,490	73.0	5,080	70.0	6,110	73.5	4,790			71.5	3,960	75.0	*2,800		
40	65.0	8,280	67.5	5,900	69.5	4,730	67.0	5,370	70.5	4,360	75.0	*3,200	68.5	3,610	74.0	2,770		
45	61.5	7,340	64.0	5,460	66.0	4,440	63.5	4,870	67.5	4,020	71.5	2,900	68.0	3,360	71.0	2,640	75.0	*2,200
50	58.0	6,720	60.5	5,210	62.5	4,270	60.0	4,500	64.5	3,730	68.0	2,590	63.5	3,140	68.5	2,520	73.0	2,150
55	54.0	6,430	56.5	5,030	58.5	4,130	56.5	4,070	61.5	3,400	64.5	2,360	60.5	2,920	65.5	2,400	69.5	2,080
60	50.0	5,510	53.0	4,970	54.5	3,980	53.0	3,700	58.0	3,100	61.0	2,220	57.5	2,730	62.5	2,280	66.5	2,020
65	46.0	4,630	48.5	4,630	50.0	3,900	49.5	3,450	54.5	2,830	57.0	2,070	54.5	2,560	59.0	2,170	63.0	1,950
70	41.5	3,890	44.0	3,890	45.5	3,800	45.5	3,310	50.5	2,610	53.0	1,940	51.5	2,360	56.0	2,110	59.5	1,880
75	36.5	3,270	39.0	3,270	40.0	3,270	41.0	3,170	46.5	2,470	48.5	1,880	48.0	2,210	52.5	2,040	56.0	1,810
80	30.5	2,730	33.0	2,730	34.0	2,730	36.5	3,080	42.0	2,410	44.0	1,830	44.5	2,140	49.0	1,980	52.0	1,730
85	23.5	2,270	26.0	2,270			31.5	2,740	37.0	2,370	38.5	1,790	41.0	2,100	45.0	1,940	47.5	1,670
90	12.5	1,860					25.5	2,320	31.5	2,310	32.0	1,770	36.5	2,060	40.5	1,900	43.0	1,620
95							18.5	1,950	24.0	1,950			32.0	2,010	35.5	1,850	37.5	1,5
100													26.5	1,940	30.0	1,780	30.5	1,
105													19.0	1,690	22.0	1,690		

*This capacity is based upon maximum boom angle.

CRANES AND HOISTS SAFETY

Notes For Lifting with 25 Feet Fixed

Or 25 Feet – 43 Feet Tele. Offsettable Extension

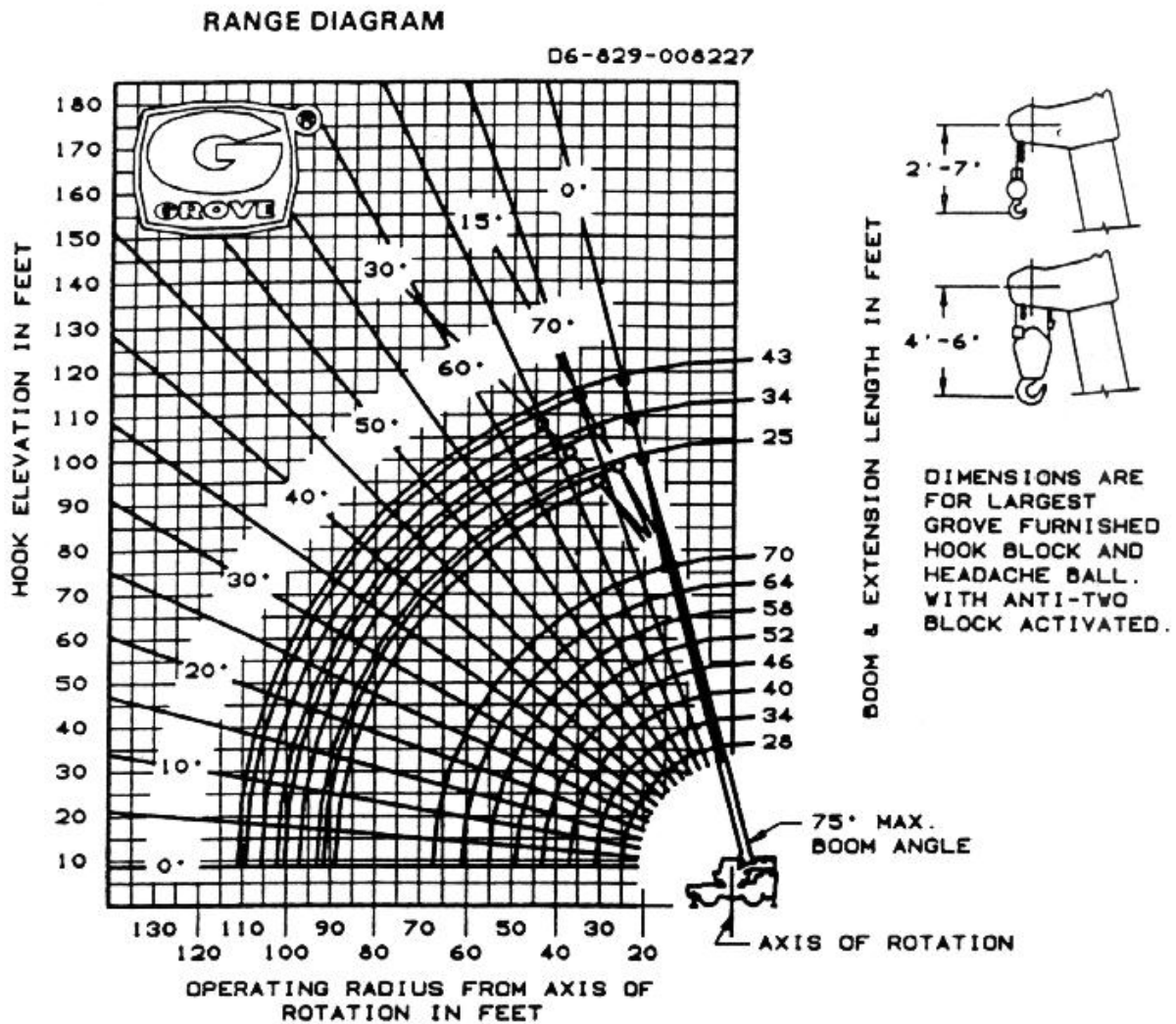
1. All capacities above the bold line are based on structural strength of boom extension and do not exceed 85% of tipping loads, in accordance with SAE J-765 OCT 80.
1. 25 feet, 34 feet and 43 feet boom extension lengths may be used for double or single line lifting service.
2. For main boom lengths less than fully extended with the boom extension erected, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is set up. For boom angles not shown, use rating of the next lower boom angle. **Warning:** Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advanced warning.
3. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
4. **Warning:** The LMI will not compensate for reeving/rigging accessories on the main boom nose or auxiliary boom nose when programmed to monitor the boom extension. Remove all reeving/rigging accessories from main boom when using boom extension.
5. Capacities listed are with fully extended and vertical jacks set only.
6. NO LOAD STABILITY – 25 feet or 25 feet – 43 feet BOOM EXTENSION ERECTED:
With no load, the length or angle of the main boom is not restricted.

25 Feet Fixed Extension

(On Outriggers - 360°)

8.0 RADIUS IN FEET	Boom Angle Ref.	Cap. (lbs.)
25	75.0	*12,500
30	71.5	10,700
35	68.0	9,230
40	65.0	8,280
45	61.5	7,340
50	58.0	6,720
55	54.0	6,430
60	50.0	6,070
65	46.0	5,180
70	41.5	4,440
75	36.5	3,820
80	30.5	3,280
85	23.5	2,810
90	12.5	2,400

CRANES AND HOISTS SAFETY



Weight Reductions for Load Handling Devices

9.0 23 FEET A-FRAME JIB

10.0 WITH 28 FEET - 70 FEET BOOM

*Stowed

381 lbs.

CRANES AND HOISTS SAFETY

*Erected	1,950 lbs.
25 Feet Fixed Length Extension with 28 Feet – 70 Feet Boom	
*Stowed	402 lbs.
*Erected	1,279 lbs.
25 Feet – 43 Feet Tele Offsettable Extension w/28 Feet – 70 Feet Boom	
*Stowed	725 lbs.
*Erected (Restricted)	3,350 lbs.
*Erected (Extended)	4,262 lbs.

Hookblocks

30 Ton 4 Sheave

.....600 lbs.

22 Ton 3 Sheave455 lbs.

12 Ton 1 Sheave360 lbs.

Auxiliary Boom Head112 lbs.

5 Ton Headache Ball172 lbs.

*Reduction of main boom capacities

Note: All load handling devices and boom attachments are considered part of the load and suitable allowances MUST BE MADE for their combined weights. Weights are for Grove furnished equipment.

CRANES AND HOISTS SAFETY

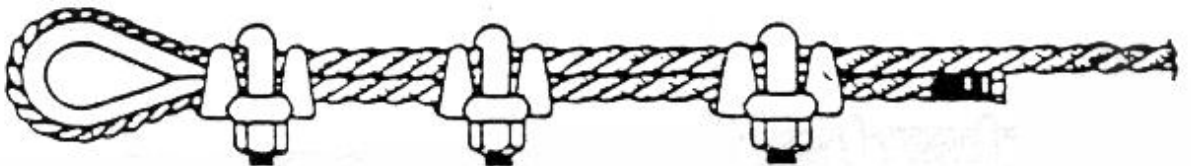
WIRE ROPE CLIPS



RIGHT WAY FOR MAXIMUM ROPE STRENGTH



WRONG WAY: CLIPS STAGGERED



WRONG WAY: CLIPS REVERSED

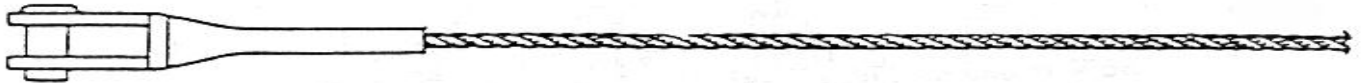
The correct way to attach U-bolts is shown at the top. The “U” section is in contact with the rope’s dead end.

END FITTING EFFICIENCY

CRANES AND HOISTS SAFETY



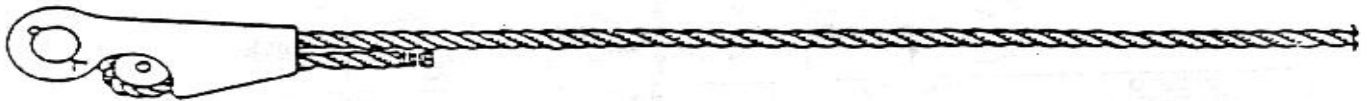
WIRE ROPE SOCKET – SPELTER OR RESIN ATTACHMENT
100%



WIRE ROPE SOCKET – SWAGED **100%**



MECHANICAL SPLICE – LOOP OR THIMBLE ATTACHMENT
90%100%



WEDGE SOCKET **70%**



CLIPS – NUMBER OF CLIPS VARIES WITH ROPE SIZE 70% - 80%



LOOP OR THIMBLE SPLICE – HAND TUCKED **80% - 90%**

Hydraulic Boom Daily Inspection

Company Name: _____

Unit: _____

CRANES AND HOISTS SAFETY

Date: _____ Insp. _____
 By _____ Hours _____ Mileage _____

Crane & Hydraulic System (Extend all powered sections of boom and drop ball or block until it touches the ground)

	Y	N	N/A		Y	N	N/A
Operators Manual	_____	_____	_____	Cable Hoops/Retaining Pin	_____	_____	_____
Safety Decals	_____	_____	_____	Boom Wear Pads	_____	_____	_____
Capacity Charts	_____	_____	_____	Jib Base Sections	_____	_____	_____
PTO Controls	_____	_____	_____	Jib Pullout Sections	_____	_____	_____
Foot Throttle Control	_____	_____	_____	Jib Sheave	_____	_____	_____
Level Bubbles	_____	_____	_____	Jib Stow Bracket & Pin	_____	_____	_____
Outriggers & Control	_____	_____	_____	Jib Pins (#)	_____	_____	_____
Stabilizers & Controls	_____	_____	_____	Load Block with Safety Latch	_____	_____	_____
Boom Up/Down Cntrl	_____	_____	_____	Ball with Safety Latch	_____	_____	_____
Boom Tele. & Control	_____	_____	_____	Accessory Hose Reel	_____	_____	_____
Boom Swing Controls	_____	_____	_____	Anti Two-Block Device	_____	_____	_____
Winch & Controls	_____	_____	_____	Hydraulic Oil Level	_____	_____	_____
Loadline Cable	_____	_____	_____	Hydraulic Hoses	_____	_____	_____
Boom Base Section	_____	_____	_____	Hydraulic Pumps	_____	_____	_____
Boom Second Section	_____	_____	_____	Hydraulic Valves	_____	_____	_____
Boom Third Section	_____	_____	_____	Extra Valve Function & Control	_____	_____	_____
Boom Fourth Section	_____	_____	_____	Capacity Alert Sys.Adjusted Prop	_____	_____	_____
Boom Sheaves	_____	_____	_____	Welds (Visual Only)	_____	_____	_____
Emergency Stop	_____	_____	_____	Retorque Rotation	_____	_____	_____
Swing Brake	_____	_____	_____	Bearing Bolts	_____	_____	_____
Boom Angle Indicator	_____	_____	_____	Electrical Connections	_____	_____	_____
Load Test	_____	_____	_____	All Cylinders	_____	_____	_____
Boom Ext/Ret Cables	_____	_____	_____				

This inspection meets MIOSHA Requirements as stated in Occupational Safety Standards – Construction Operations, Part #10, R408,41012a Rule 1012a.

CRANES AND HOISTS SAFETY – APPENIDIX A INSPECTION FORMS

DAILY CRANE INSPECTION LOG

MONTH: _____ DATE: _____	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
WIRE ROPE, HOISTING, MAIN LOAD & AUXILIARY																															
GUARDS IN PLACE FOR PULLEYS, BELTS																															
SWING RADIUS GUARDED																															
EXHAUST PIPES GUARDED																															
SAFETY GLASS																															
CLEAR ACCESS TO CAB																															
FIRE EXTINGUISHER ACCESSIBLE, GOOD CONDITION																															
FIRE EXTINGUISHER INSPECTION CURRENT																															
CLEARANCE TO ELECTRICAL WIRES 10' MINIMUM FOR 50 K.V. OR LESS																															
NO EXCESSIVE HYDRAULIC OIL LEAK																															
EQUIPMENT:					SERIAL #:												INSPECTOR:														

“X” MARK = NO DEFICIENCIES “O” MARK = DEFICIENCY; IF DEFICIENCY IS NOTED, DOCUMENT CORRECTIVE ACTION BELOW

“NA” MARK = NOT APPLICABLE

CORRECTIVE ACTION: _____

CRANES AND HOISTS SAFETY

APPENIDIX A INSPECTION FORMS

SAFETY INSPECTION CHECKLIST FOR PERSONNEL HOIST

Contractor	Project No.		
Type of Equipment	Number		
Date of Inspection			
Inspected by: (Signature)	Approved by: (Signature)		
ITEM	YES	NO	ACTION TAKEN
1. Hoist way doors and door locking devices operative			
2. Electrical wiring, fittings and fixtures in good condition			
3. Protection of, and access to, machinery and control equipment, and lighting of machinery spaces adequate			
4. Bottom and top clearances and runbys for personnel-hoist cars and counterweights adequate			
5. Car and counterweight guide members, guide-member supports, and fastenings secured and properly aligned			
6. Car and counterweight buffer clearance adequate			
7. Counterweights sufficient			
8. Car frames and platforms sufficient			
9. Car doors, gates, and electrical contacts in working conditions			
10. Car and counterweight safeties operative			
11. Driving machines, sheaves and drum in good condition			
12. Terminal stopping devices operative			
13. Operating devices and control equipment operative			
14. Hoisting and counterweight ropes and rope connections OK			
15. Maintenance current			

REMARKS: _____

HOT WORK PERMIT / WELDING AND CUTTING / COMPRESSED GAS PROGRAM

G & M SERVICES

HOT WORK PERMIT / WELDING AND CUTTING / COMPRESSED GAS PROGRAM

1.0 PURPOSE

1.0.1 Welding and cutting operations can present fire hazards, burns and many other dangers if not properly performed. This program establishes procedures to prevent and/or eliminate the potential for injuries and accidents associated with welding, cutting, brazing, soldering and other forms of hot work in areas that contain combustible/flammable materials that cannot be removed or effectively guarded.

2.0 POLICY

2.0.1 G & M Services employees who are required to utilize welding, brazing, soldering equipment and/or an oxygen acetylene cutting rig to perform hot work shall be adequately trained and authorized prior to the start of any welding or cutting operations. Employees shall be aware of and comply with all hot work, welding and cutting safety requirements, procedures and practices.

2.0.2 Any violation of this policy by G & M Services employees shall be reviewed and appropriately corrected as per the Disciplinary Policy section of this program.

3.0 HOT WORK PERMIT REQUIREMENTS

3.0.1 Obtaining a hot work permit prior to beginning any welding, cutting or other hot work ensures that authorization has been obtained from the Project Supervisor and ensures all areas for fire potential are addressed.

3.0.2 Hot work permit requirements include:

- An inspection the area where work is to be performed to determine the proximity to flammable/combustible materials.
- Readily ignitable materials, which are within thirty-five feet of the hot work operation, must be removed or covered to prevent possible ignition. If walls are combustible in nature and are within thirty-five feet of operation then they must be shielded. Openings in walls, floors, and ducts should be covered if they are within thirty-five feet of the

HOT WORK PERMIT / WELDING AND CUTTING / COMPRESSED GAS PROGRAM

welding or cutting process.

- If the area cannot be cleared of combustible material, then a fire watch is required.
- Suitable fire extinguishers shall be provided and maintained in a state of readiness for immediate use within twenty- five feet of the work being performed. If work is being done in a personnel lift then a fire extinguisher is required to be in the lift.
- All combustible materials must be isolated from possible ignition sources.
- Local exhaust or general ventilation systems shall be provided and arranged as needed to keep the amount of toxic fumes, gases or dusts below the maximum allowable concentration.
- Unauthorized use of flame or spark producing equipment shall be prohibited.

3.0.3 Welding, cutting, brazing and soldering shall not be permitted:

- In sprinkler buildings while such protection is impaired.
- In the presence of explosive atmospheres (mixtures of flammable gases, vapors, liquids or dusts in the air).
- Where adequate ventilation cannot be provided.
- On pipes, containers or ducts that contain or have contained combustibles or when the pipe or duct may permit sparks or fumes to be transferred to other areas. All such items shall be cleaned by a standard process and the air quality verified prior to welding or cutting.

4.0 DUTIES OF A FIRE WATCH

4.0.1 A fire watch will be required whenever tasks are performed in locations where appreciable combustible or flammable material is closer than 35 feet to the point of operation. The fire watch must remain in the area of operation and be alert to surroundings for at least 30 minutes after the completion of any hot work.

4.0.2 Specific duties include:

- Watch for fires in the exposed area.
- Ensure that adequate and proper fire extinguishing tools and shielding are present.
- Extinguish all fires resulting from the welding or cutting operation.
- Remain on duty through lunch, breaks, and for at least one-half hour after the job is completed.
- Ensure the Hot Work permit is filled out and available in the area during work.

HOT WORK PERMIT / WELDING AND CUTTING / COMPRESSED GAS PROGRAM

5.0 HOT WORK PERMIT CHECKLIST

- Employees needing to perform a welding or cutting operation must inform his/her immediate Supervisor and/or Project Supervisor.
- The Project Supervisor and employee shall inspect the area and complete a flame and weld survey form.
- If the area is determined to be unsafe for welding, cutting, brazing or soldering the Project Supervisor will ensure that the necessary steps are taken to eliminate all hazards. Examples of corrective action are as follows:
 - Eliminating the hazard by removing it or moving it to a safe distance, greater than 35 feet from the process.
 - Covering or shielding the hazard with a noncombustible material.
 - Utilizing a fire watch to prevent accidental ignition of combustible material.
- If the area is considered safe to perform hot work, the Project Supervisor will provide the employee with a hot work permit. The permit must be filled out, placed in the area of operation and returned to the Project Supervisor upon completion of the task.
- Upon completion of the hot work, the Project Supervisor must file the hot work permit and retain it for one year.

6.0 USE OF COMPRESSED AIR

- Compressed air used for cleaning purposes shall not exceed 30 PSI and then only with effective chip guarding and personal protective equipment. This requirement does not apply to concrete forms, mill scale and similar cleaning operations.

7.0 COMPRESSED GASES

- Valve protection caps shall be in place when compressed gas cylinders are transported, moved or stored.
- Cylinder valves shall be closed when work is finished and when cylinders are empty or are moved.
- Compressed gas cylinders shall be secured in an upright position at all times, except if necessary for short periods when cylinders are actually being hoisted or carried.
- Cylinders shall not be hoisted or transported by means of magnets or choker slings.
- Cylinders shall be kept at a safe distance or be shielded from welding or cutting operations. Cylinders shall be placed where they cannot become part of an electrical circuit.

HOT WORK PERMIT / WELDING AND CUTTING / COMPRESSED GAS PROGRAM

- Oxygen and fuel gas regulators shall be in proper working order while in use.

8.0 GAS WELDING AND CUTTING

- Inspect equipment, regulators, hoses, couplings and torch tips are in good condition before using, (no breaks, damaged, or cracked glass.)
- Do not hoist cylinders with chokers.
- All cylinders must have flashback restrictors attached.
- Always wear proper eye and face protection when engaged in welding, cutting, or heating.
- When leaving the torch unattended, turn off gases at the tank valves.
- Do not interchange hose connections between fuel, gas, and oxygen.
- Keep regulators, hoses, connections, valves, and cylinders free from oil and grease.
- Do not weld or cut in or near flammable or combustible materials, especially paint, dusts, gases, or vapors.
- Do not use matches, butane lighters, or hot work to light torches.
- Check area before and after welding for fire hazards.
- Always have a fully charged fire extinguisher on hand when cutting.
- Special precautions should be taken when cutting galvanized materials.
- Do not use oxygen for comfort cooling, blowing dust from clothing, or for cleaning off work areas.

9.0 ARC WELDING

- Always wear proper eye and face protection. (Gas welding goggles are not adequate to protect from arc welding rays.)
- Inspect cables and electrode holders for exposed conductors or cracked insulation. Repair as needed. No repairs shall be made to a welding lead within ten (10) feet of the electrode holder.
- Report faulty or defective equipment to your supervisor. Do not use equipment until repairs are made or equipment replaced.
- Know proper procedure before operating an arc welder.
- Make sure grounding is adequate.
- Use your safety harness when working in elevated locations over six (6) feet above ground or platform.
- Before making adjustments to any part of the electric welding equipment, be sure the current is off. Lockout/tagout procedures shall be followed.
- Do not look at welding operations without proper eye protection.

HOT WORK PERMIT / WELDING AND CUTTING / COMPRESSED GAS PROGRAM

- Never wrap leads around parts of your body.
- Do not suspend cables by metal parts or wire without appropriate guarding.

HOT WORK PERMIT / WELDING AND CUTTING / COMPRESSED GAS PROGRAM

HOT WORK PERMIT

PULL NEAREST FIRE ALARM IN CASE OF FIRE

This permit is to be filled out and signed for any operation involving electrical or gas welding, torch cutting, brazing, portable grinders where significant sparks are produced, propane torches, etc. or the use of open flame anywhere inside, on the roof, or within 35 feet of the facility.

BEFORE STARTING HOT WORK, CAN THIS JOB BE DONE IN A SAFER WAY OR IN A MAINTENANCE SHOP? Yes (or) No

REQUIRED PRECAUTIONS CHECKLIST

- ☐ Process equipment shut down where product contamination or fire hazard is possible.
 - ☐ Sprinkler system in service and operable.
 - ☐ Flammable or combustible materials within 35 feet of the work area are removed or isolated by welding curtains, wet blankets or other non-combustible shields, including floors swept clean.
 - ☐ Equipment in work area is cleaned of all accumulations of dust or other combustibles.
 - ☐ All walls / floor openings in the hot work area where sparks or slag could enter are closed or otherwise covered with non-combustible materials.
 - ☐ Fire Watch is provided continuously until 30 minutes after the hot work is completed including all breaks. Fire Watch is trained in the use of fire extinguishers, fire hose and proper emergency notification procedures.
 - ☐ Fire extinguishing equipment provided in a state of readiness within 25 feet of the work site before any work can be started.
 - ☐ Flammable vapor tests must be conducted prior to issuing permit if flammable liquids, vapors or gases may be, or may have been present near the hot work site. Hot work permit to be issued only if concentration is 0% of the Lower Explosive Limit (LEL). RECORD L.E.L HERE: _____ %
-

- Permit will be issued for a maximum period not to exceed one eight-hour working shift.

HOT WORK STARTED:

Time: _____ am/pm

Date: _____

Who is doing the Hot Work?

Employee(s) ☐

HOT WORK COMPLETED:

Time: _____ am/pm

Date: _____

Outside Contractor ☐

Name(s) (PRINT): _____

Designated Fire Watch

(PRINT): _____

Location (Building & floor): _____

Nature/Description of work: _____

I verify the above location has been personally examined by me and the above precautions have been taken to prevent a fire. I authorize this work.

(Permit Authorizer Signature) Date: _____

I verify the above location has been personally examined by me at least 30 minutes after hot work was completed and no sign of fire was present.

(Fire Watch Signature) Date: _____

G & M Services
05/29/18

DISCIPLINARY PROGRAM

G & M SERVICES

1.0 PURPOSE

- 1.1 The purpose of this program is to state the company policy for utilizing progressive disciplinary action and to ensure that the safety and health rules and practices of the company are being followed.
- 1.2 This policy applies to all employees of G & M Services and its contractors.
- 1.3 This policy is necessary for several reasons, not the least of which being:
 - 1.3.1 It is an OSHA requirement as an essential part of an effective safety program. If a company safety program does not have a disciplinary/reprimand policy, the program cannot be enforced. Therefore, OSHA views it as ineffective.
 - 1.3.2 Employees must be held accountable for their actions or inactions on the job.
 - 1.3.3 The accountability factor will help our company toward our goal of eliminating work related injuries/illnesses and reducing worker compensation insurance premiums.
 - 1.3.4 It is the company policy to treat employees in a fair and equitable manner regarding disciplinary action, and termination of employment. Supervisors will improve the performance of employees by utilizing the progressive discipline/reprimand procedures below.

2.0 RESPONSIBILITIES

- 2.1 Site Managers and Site Supervisors or the highest ranking supervisor on a job are responsible for administering and implementing this policy program and procedures.
- 2.2 The Supervisor is responsible for taking disciplinary actions to correct repeated safety violations as outlined in this policy program, by employees under his or her direct supervision. He or she is also responsible for taking disciplinary action to correct repeated safety violations by employees or contractors working for the company as well.
- 2.3 Those Supervisors who fail to correct safety violations or, who are guilty of safety violations as outlined in this policy/program, are subject to disciplinary action by their Department Vice President and ultimately the Company President.

DISCIPLINARY PROGRAM

- 2.4 Employees are responsible for complying with the company's safety policy rules, and OSHA standards, and for performing their work in a safe and healthful manner. Employees are subject to disciplinary action up to, and including discharge, for repeated safety violations.
- 2.5 The Site Supervisor or Safety Representative will be responsible for monitoring the implementation of this policy program and procedures.

3.0 PROGRESSIVE DISCIPLINE

- 3.1 Discipline will take place when a Supervisor observes an employee(s) willfully violating safety policy and/or Rules and regulations or, performing his or her job in an unsafe manner that can jeopardize the employee's own safety and/or the safety of co-workers and company/client property.
- 3.2 The Supervisor will inform the employee of the reason of the violation and will inform/counsel the employee of the policy, rule, and the ways/methods to perform the job, or proper safety procedures required. In addition, the Supervisor will warn the employee that failure to improve or follow policy and rules, may lead up to, and including discharge.
- 3.3 The emphasis of this process must be on improvement of performance to avoid termination. At each step of the process, the employee should be given specific information on the nature of the problem, how and when it is to be corrected, and what the next step will be if the Supervisor's expectations are not met.

4.0 DOCUMENTATION PROCEDURES

- 4.1 A log and file shall be maintained for all violation/reprimand slips issued.
- 4.2 Employees willfully violating company safety policies creating an imminently dangerous situation are subject to immediate dismissal.
- 4.3 This policy will be enforced by the Department Vice President.

5.0 DISCIPLINARY/REPRIMAND ENFORCEMENT ACTION

- 5.1 G & M Services is committed to providing a safe work environment for our most important resource, our employees. When an employee is lost to a work-related injury, everyone loses. Most incidents/injuries can be prevented if the proper procedures are followed and if the proper personal protective equipment is used.

DISCIPLINARY PROGRAM

- 5.2 Safety is the responsibility of each person on the job; it cannot and should not be monitored by one individual. The success of our safety effort depends, largely, on employees being held accountable for their actions at work.
- 5.3 Employees violating company safety policies (appropriate personal protective equipment not being used, operating equipment in an unsafe manner, horseplay on the job, violating safety rules, etc.) are subject to the following:
 - 5.3.1 **First Violation (Verbal Warning in Personnel File)**
 - 5.3.1.1 If the violation is the employee's first violation, he or she will be issued a verbal warning slip. The violations/reprimand slip (for documentation purposes only) will be marked/checked off as **verbal**. After the employee signs the slip, the Supervisor will sign and file, according to "Documentation Procedure."
 - 5.3.2 **Second Violation (Written Warning in Personnel File)**
 - 5.3.2.1 If the violation is the employee's second or more, he or she will be issued another warning slip. The violation/reprimand slip will be marked/check off as **written**. After the employee signs the slip, the Supervisor will sign and file, according to the "Documentation Procedures."
 - 5.3.3 **Third and Repeated Violation (Two Day Suspension Without Pay)**
 - 5.3.3.1 If the violation is the employee's third or more, he or she will be issued another warning slip. The violation/reprimand slip will be marked/checked off as **written and suspension**. After the employee signs the slip, the Supervisor will sign and file, according to the "Documentation Procedures."
 - 5.3.4 **Fourth Violation (Discharge/Termination)**
 - 5.3.4.1 An employee who has three (3) or more violation slips issued to him or her in a six (6) month period on record/file, and has failed to improve his or her safety performance, will be discharged for cause. (Refer to Violation of Company Safety Rules/Policies.)

Depending on the severity of the offense, an employee may be suspended or terminated at any time. At no time should this policy be construed to represent an employment contract between the Company and the employee.

DISCIPLINARY PROGRAM

SAFETY DISCIPLINARY/REPRIMAND ENFORCEMENT POLICY

Employees violating company safety policies (appropriate personal protective equipment not being used, operating equipment in an unsafe manner, horseplay on the job, disorderly conduct, violation of safety rules, use of or under the influence of intoxicating beverages and/or drugs during work hours, committing an unsafe act, etc.) are subject to the following in any **one calendar year**:

- First Offense - Verbal warning in personnel file
- Second Offense - Written warning in personnel file
- Third Offense - Two day suspension without pay, written and documented in personnel file
- Fourth Offense - Termination, written and documented in personnel file

This policy will be enforced by the Department Vice President and or Company President.

I have read the Safety Disciplinary/Reprimand Policy and understand its implications.

Employee _____
(Signature)

Date _____

DISCIPLINARY PROGRAM

SAFETY REPRIMAND

Employee _____ Date _____

Area or Project Where Violation Occurred _____

Comments _____

Employee _____
(Signature)

Supervisor _____
(Signature)

THIS SECTION FOR OFFICE USE ONLY

_____ FIRST OFFENSE (verbal)

_____ SECOND OFFENSE (written)

_____ THIRD OFFENSE (written two-day suspension)

_____ FOURTH OFFENSE (written discharge)

ACTION TAKEN:

DISCIPLINARY ACTION FORM

Employee Name _____ Date of Warning ____/____/____
Employee / Payroll Number _____ Department _____ Shift _____

TYPE OF VIOLATION

Attendance Lateness/Early Quit Rudeness to Employees/ Customers/Clients Unsatisfactory Work Quality	Carelessness Failure to Follow instructions Willful Damage to Material/Equipment Violation of Company Policies or Procedures	Insubordination Violation of Safety Rules Working on Personal Matters Other
---	--	--

PREVIOUS WARNINGS

	ORAL	WRITTEN	DATE	BY WHOM
1st Warning				
2nd Warning				
3rd Warning				
4th Warning				

EMPLOYER STATEMENT

Date of Incident ____/____/____ Time ____:____ am/pm

EMPLOYEE STATEMENT

_____ I Agree with Employer's statement.
_____ I Disagree with Employer's description of violation.

The reasons are:

_____/____/____
Employee Signature Date

ACTION TO BE TAKEN: ____ Warning ____ Probation ____ Suspension ____ Dismiss ____ Other

Consequence should incident occur again:

I HAVE READ THIS EMPLOYEE WARNING NOTICE AND UNDERSTAND IT.

_____/____/____
Signature of Employee Date

_____/____/____
Signature of Supervisor Who Issued Warning Date

NAME: _____

DATE: _____

BADGE NO: _____

Supervisor: _____

REPRIMAND NO: 1 2 3 (circle only one)

REASON FOR REPRIMAND: _____

ACTION TAKEN: _____

I acknowledge that a copy of this reprimand will be forwarded to my personnel file.

EMPLOYEE SIGNATURE _____

DISCIPLINARY PROGRAM

SECOND WARNING

TO: _____

IN ACCORDANCE WITH _____ STANDARDS AND POLICIES, YOU
ARE ISSUED A SECOND WARNING FOR:

CORRECTIVE ACTION IS EXPECTED IMMEDIATELY. FAILURE TO COMPLY WITH
THE STANDARDS AND POLICIES IN THE FUTURE MAY RESULT IN TERMINATION
OF EMPLOYMENT.

SUPERVISOR _____ DATE _____

I ACKNOWLEDGE RECEIPT OF A COPY OF THIS WARNING AND UNDERSTAND
THAT A COPY WILL BECOME PART OF MY PERMANENT FILE FOR A PERIOD NOT
TO EXCEED _____ IF I AM IN COMPLIANCE.

EMPLOYEE _____ DATE _____

DOCUMENTED SAFETY MEETINGS

G & M SERVICES

SITE SAFETY MEETINGS

The Site Manager should confirm the need to conduct these meetings monthly, or more often, as required. These meetings should relate to job conditions and not turn into gossip sessions. The role of the Site Manager is to choose materials and conduct proper safety meetings.

Listed below are the purposes of such meetings:

1. Notify employees of changing job conditions or new safety rules.
2. Discuss and review current safety problems.
3. Review recent accidents and their causes.
4. Reviews near miss incidents and their causes.

Near Miss Incident defined as: “No One Injured or No Property Damaged”

5. Resolve current safety problems.
6. Maintain a file on meeting minutes with appropriate documentation and employee signatures.

The Company Safety Manager shall periodically audit all site locations to ensure that safety meetings are being conducted by Site Supervisors.



SAFETY COMMITTEE MEETING ATTENDANCE ROSTER

[illegible]

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

G & M SERVICES

1.0. ELECTRICITY PRECAUTIONS

1.1. Listed below are basic precautions associated with the use of electricity.

The G & M Services Supervisor should observe that proper methods are being used, and if not, take corrective action.

- 1.1.1. Proper ground fault assurance program.
- 1.1.2. Use of ground fault interrupters (GFCIs).
- 1.1.3. Proper ground plug, frayed cords, unguarded bulbs, and broken bulbs.
- 1.1.4. Low voltage electrical requirements.
- 1.1.5. Inspection of electrical tools.
- 1.1.6. Test repaired tools and log inspection.
- 1.1.7. Proper lighting throughout jobsite.

2.0. ELECTRICAL REQUIREMENTS

2.1. Electrical current will flow to ground by the path of least resistance, whether it is through an employee or a wire. The following rules will keep employees from being a path of least resistance:

- 2.1.1. All temporary wiring and extension cords must be three wire conductors.
- 2.1.2. Extension cords must be checked and tested daily. Damaged cords are to be tagged, taken out of service and reported to a supervisor.
- 2.1.3. No employee may make electrical repairs, connections, or installations unless qualified to do so and employing G & M Services Lockout-Tagout program.
- 2.1.4. Extension cords and wiring must be protected from damage such as being run over sharp corners, and pinching through doorways, etc.
- 2.1.5. All temporary light wiring should be supported eight feet off the floor and must not be hung on nails or by any uninsulated wire.
- 2.1.6. All light bulbs exposed to contact are to be guarded against breakage.

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

3.0. ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM

- 3.1. The purpose of this procedure is to define the method of, and responsibilities for implementing the Assured Equipment Grounding Conductor (AEGC) program. This program is designed to provide frequent and regular inspections of all cord sets, receptacles that are not a permanent part of the building or structure (temporary power outlets), and the equipment or tools connected by cord and plug. The program's intent is to ensure that no external or internal damage might create a real or potential hazard due to the ungrounded conditions caused by any number or types of damage or malfunctions. This program is to be used with company policies concerning the use of GFCIs on all plug and cord connected equipment and tools.
- 3.2. G & M Services' designated Safety Director is responsible for the implementation and compliance with this program. He or she may designate one or more competent persons to implement the program. This person or persons should be capable of identifying the existing and predictable hazards and conditions, relative to temporary electrical systems and equipment, and should be responsible for taking corrective action or measures to eliminate them, as per OSHA.
- 3.3. The competent person's responsibilities for compliance with this program include:
 - 3.3.1. Designate/appoint an Electrical Inspector, to inspect and test electrical equipment and document results, according to the program.
 - 3.3.2. Review for compliance during routine inspections.
 - 3.3.3. Review problems and delays with Electrical Inspector.
 - 3.3.4. Periodically review records.
 - 3.3.5. Inform all personnel of the purpose of the program.
- 3.4. Site Supervisors are responsible for seeing that all electrical tools and cord sets are turned into the electrical area for testing, prior to the end of each month. The Site Supervisors must periodically review the electrical equipment being used by their employees, for compliance with this procedure.
- 3.5. Temporary electrical equipment, except cord sets and receptacles fixed and not exposed to damage, must be inspected for visible damage and defects before each day's use. Any equipment found defective shall be tagged and taken out of service until repaired and tested.
- 3.6. Two tests must be performed to assure the safe condition of the equipment grounding conductor.
 - 3.6.1. Continuity test - This test must be performed on all:

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

- 3.6.1.1. Cord sets.
- 3.6.1.2. Receptacles.
- 3.6.1.3. Cord and plug connection to equipment to establish electrical continuity.
- 3.6.2. Ground conductor test - This test must be performed on all:
 - 3.6.2.1. Receptacles.
 - 3.6.2.2. Plugs (male and female), to establish that the equipment grounding conductor is connected to its proper terminal.
- 3.6.3. These two tests must be performed:
 - 3.6.3.1. Before first use of new equipment.
 - 3.6.3.2. After any repair.
 - 3.6.3.3. After damage can be reasonably suspected.
 - 3.6.3.4. At quarterly intervals for cord sets (cord and plug connected equipment frequently used, subject to abuse and damage).
 - 3.6.3.5. At quarterly intervals on equipment and receptacles not exposed to rough handling or abuse.
- 3.7. The results of all tests, date performed, interval tests, and acceptability, must be recorded on the checklist (Appendix A).
- 3.8. Test results (log) shall be kept until completed. Log sheets will then be turned over to the competent person for review, and will be retained in a permanent file 12 months. Normally, the site designated Safety Director will control the log.
- 3.9. Electrical colored tape shall be used for indicating cord sets and receptacle tested. This tape should be placed (one wrap) on cord sets, near male plug and receptacle covers. The color of electrical tape to be used for designated quarter is as follows:

January	-through-	March	{White}
April	-through-	June	{Green}
July	-through-	September	{Red}
October	-through-	December	{Orange}

- 3.10. Only two types of flexible cords may be specified for use. These are:

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

3.10.1. Junior Hard Service Cords; or,

3.10.2. Hard Service Cords

3.11. These may be used as with specifications according to the following table (Table 400-4 National Electrical Code Handbook, 1993)

FLEXIBLE CORDS									
Trade Name	Type Letter	Size AWG	Number of Conductors	Insulation	Braid on Each Conductor	Outer Covering	Use	Use	Use
Junior Hard Service Cord	SJ	18-10	2, 3 4, or 5	Thermoset	None	Thermoset	Pendant or Portable	Damp Locations	Hard Usage
Junior Hard Service Cord	SJE	18-10	2, 3 4, or 5	Thermoplastic Elastomer	None	Thermoplastic Elastomer	Pendant or Portable	Damp Locations	Hard Usage
Junior Hard Service Cord	SJEO	18-10	2, 3 4, or 5	Thermoplastic Elastomer	None	Oil-Resistant Thermoplastic Elastomer	Pendant or Portable	Damp Locations	Hard Usage
Junior Hard Service Cord	SJEOO	18-10	2, 3 4, or 5	Oil-Resistant Thermoplastic Elastomer	None	Oil-Resistant Thermoplastic Elastomer	Pendant or Portable	Damp Locations	Hard Usage
Junior Hard Service Cord	SJO	18-10	2, 3 4, or 5	Thermoset	None	Oil-Resistant Thermoset	Pendant or Portable	Damp Locations	Hard Usage
Junior Hard Service Cord	SJOO	18-10	2, 3 4, or 5	Oil-Resistant Thermoset	None	Oil-Resistant Thermoset	Pendant or Portable	Damp Locations	Extra Hard Usage
Junior Hard Service Cord	SJT	18-10	2, 3 4, or 5	Thermoplastic or Thermoset	None	Thermoplastic	Pendant or Portable	Damp Locations	Extra Hard Usage
Junior Hard Service Cord	SJTO	18-10	2, 3 4, or 5	Thermoset or Thermoplastic	None	Oil-Resistant Thermoplastic	Pendant or Portable	Damp Locations	Extra Hard Usage
Hard Service Cord	S	18-2	2 or more	Thermoset	None	Thermoset	Pendant or Portable	Damp Locations	Extra Hard Usage
Hard Service Cord	SE	18-2	2 or more	Thermoplastic Elastomer	None	Thermoplastic Elastomer	Pendant or Portable	Damp Locations	Extra Hard Usage
Hard	SEO	18-2	2 or more	Thermoplastic	None	Oil-Resistant Thermoplastic	Pendant or	Damp	Extra Hard

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

FLEXIBLE CORDS									
Service Cord				Elastomer		Elastomer	Portable	Locations	Usage
Hard Service Cord	SEOO	18-2	2 or more	Oil-Resistant Thermoplastic Elastomer	None	Oil-Resistant Thermoplastic Elastomer	Pendant or Portable	Damp Locations	Extra Hard Usage
Trade Name	Type Letter	Size AWG	Number of Conductors	Insulation	Braid on Each Conductor	Outer Covering	Use	Use	Use
Hard Service Cord	SO	18-2	2 or more	Thermoset	None	Oil-Resistant Thermoset	Pendant or Portable	Damp Locations	Extra Hard Usage
Hard Service Cord	SOO	18-2	2 or more	Oil-Resistant Thermoset	None	Oil-Resistant Thermoset	Pendant or Portable	Damp Locations	Extra Hard Usage
Hard Service Cord	ST	18-2	2 or more	Thermoplastic or Thermoset	None	Thermoplastic	Pendant or Portable	Damp Locations	Extra Hard Usage
Hard Service Cord	STO	18-2	2 or more	Thermoplastic or Thermoset	None	Oil-Resistant Thermoplastic	Pendant or Portable	Damp Locations	Extra Hard Usage
Hard Service Cord	STOO	18-2	2 or more	Oil-Resistant Thermoplastic or Thermoset	None	Oil-Resistant Thermoplastic	Pendant or Portable	Damp Locations	Extra Hard Usage

4.0. *PURCHASED OR ISSUED ELECTRICAL EQUIPMENT*

- 4.1. All new or used electrical tools, appliances, and flexible cords, shall be inspected and tested, according to the Assured Equipment Grounding Program prior to usage

5.0. *USE OF GROUND FAULT CIRCUIT INTERRUPTERS (GFCI)*

- 5.1. Whenever employees are required to work with portable electrical tools or equipment in damp atmospheres, wet soil/ground conditions, on or inside metal covers or enclosures (confined spaces), the equipment (tool) should be connected to a GFCI.

6.0. *DOUBLE INSULATED TOOLS*

- 6.1. Double insulated tools may be used to protect employees working in hazardous

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

locations as outlined above, and need not be grounded. The tool shall be distinctly marked, to indicate that the tool or appliance utilizes a system of double insulation.

- 6.2. On double insulated tools/appliances, the cord's plug is a two-prong type with no ground prong. Nevertheless, double insulated tools/appliances shall be inspected and tested according to all company guidelines issued above.
- 6.3. This is an OSHA mandatory program, and must be implemented at all sites.

7.0. *ELECTRICAL SAFE WORK PRACTICES*

7.1. KEY POINTS - ELECTRICAL SAFETY

- 1. All employees will be trained as qualified or unqualified.
- 2. De-energize and lockout all live parts prior to working on or near electric circuit parts and equipment.
- 3. Vehicles and mechanical equipment with parts elevated near energized lines must ensure a clearance of ten feet.
- 4. Portable electric equipment with flexible cords will be inspected for defects before use.
- 5. Employees working around exposed energized parts will use electrical protective equipment and tools.
- 6. Rubber insulating blankets, covers, line hose, gloves and sleeves must be inspected prior to use and subjected to periodic electrical testing per code requirement.

- 7.2. **INTRODUCTION AND SCOPE:** OSHA Standard 29 CFR Subpart S - Electrical, requires this program. Subpart S covers electrical installations and utilization equipment including conductors that connect the installation to an electrical supply. It also regulates the safe work practices and use of personal protective equipment for working on or near this type of equipment. After careful assessment it is determined that G & M Services Employees are exposed to a maximum live voltage of 250v. PPE selection, Training and Procedures were designed with this assessment in mind.

7.3. TRAINING

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

1. General Requirements

The training required by this program are both classroom and on-the-job. Classroom training requirements are defined in this section. On-the-job training consists of job procedure review with the employee. The degree of training provided is determined by the degree of risk to the employee.

2. Unqualified Employees

These are employees whose occupations do not require them to work on or near exposed energized electric circuits operating at 50 volts or more. Unqualified employees must be instructed on:

1. Hazards of electricity.
2. The need for a qualified employee to de-energize and lockout electrical equipment prior to working on exposed circuits.
3. The safe distance required for working near energized equipment and lines and,
4. The safe use of electrical equipment such as extension cords.
5. Applicable safeguards for personal protection.

3. Qualified Employees

These are employees whose occupations require them to work on or near exposed energized parts operating at 50 volts or more. These employees must be trained in and familiar with the safety-related work practices, safe procedures, and other safety requirements that pertain to their respective job assignment. They must also be trained in and familiar with any other safe practice, including applicable emergency procedures, which are not specifically addressed by this program but that is related to their work and is necessary for their safety. Qualified employees must also be trained and competent in:

1. The skills and techniques necessary to distinguish exposed live parts for other parts of electric equipment.

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

2. The skills and techniques necessary to determine the nominal voltage of exposed live parts.
3. The minimum approach distances, corresponding to the voltages to which the qualified employees will be exposed.
4. The proper use of the special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools for working on or near exposed energized parts of electric equipment.
5. The minimum requirement for classroom training for qualified employees is the completion of the classroom training and on the job training which include the following:
 1. Subpart S, OSHA Electrical Safety - Related Work Practice.

7.4. DE-ENERGIZING EQUIPMENT

4. All live parts (operating at 50 volts or greater), to which an employee may be exposed, must be de-energized before the employee works on or near these parts. The only exceptions are if de-energizing increases the hazard or is infeasible such as when testing electric circuits that can only be performed with the circuit energized.
5. All live parts must be de-energized, locked out/tagged out and verified as de-energized by a qualified employee. A qualified employee must use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed. The test equipment must be checked for proper operation immediately before and immediately after this test.
6. Energy Isolation Lists (i.e., Lockout/Tagout Procedure) must be developed for all equipment; and systems. (Refer to the G & M SERVICES Lockout/Tagout Program).

7.5. WORKING ON OR NEAR EXPOSED ENERGIZED PARTS

1. General: Only qualified employees may work on electric circuit parts or equipment that has not been de-energized. They must be capable of working safely on energized circuits and familiar with the proper use of

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.

2. Overhead Lines: When working on overhead lines (any line carrying over 50 volts), the line will be de-energized and grounded or other protective measures taken. If the lines are to be de-energized, arrangements are to be made with the person or organization that operates or controls the electric circuits involved to de-energize and ground them. If protective measures are taken (i.e., guarding, isolating or insulating), they will prevent employees from contacting such lines directly with any part of their body or indirectly through any conductive materials, tools, or equipment.
 - a. Unqualified Employees - When an unqualified employee is working in an elevated position near overhead lines, the location will be such that the person and the longest conductive object he or she may contact cannot come closer to any unguarded, energized overhead line than the following distances:
 1. For voltages to ground 50kV or below - 10 ft. (305 cm);
 2. For voltages to ground over 50kV - 10 ft. (305 cm) plus 4 in. (10 cm) for every 10kV over 50kV.
 - (1) When an unqualified person is working on the ground in the vicinity of overhead lines, the person may not bring any conductive object closer to unguarded, energized overhead lines than the distances given above.

NOTE: For voltages normally encountered with electrical lines, objects, which do not have an insulating, rating for the voltage involved, and are considered to be conductive.

- b. Qualified employees - When a qualified employee is working in the vicinity of overhead lines, whether in an elevated position or on the ground, the person may not approach or take any conductive object without an approved insulating handle closer to exposed energized parts than shown in Table S-5 (below) unless:
 1. The person is insulated from the energized part (gloves, with sleeves if necessary, rated for the voltage involved are

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

considered to be insulation for the person from the energized part on which work is performed), or

2. The energized part is insulated both from all other conductive objects at a different potential and from the person, or
3. The person is insulated from all conductive objects at a potential different from that of the energized part.

**TABLE S-5 - APPROACH DISTANCES FOR QUALIFIED EMPLOYEES -
ALTERNATING CURRENT**

Voltage Range (Phase to Phase) Minimum Approach Distances	
300V and less	Avoid contact.
Over 300V, not over 750V	1 ft. 0 in. (30.5 cm)
Over 750V, not over 2kV	1 ft. 6 in. (46 cm)
Over 2kV, not over 15kV	2 ft. 0 in. (61 cm)
Over 15kV, not over 37kV	3 ft. 0 in. (91 cm)
Over 37kV, not over 87.5kV	3 ft. 6 in. (107 cm)
Over 87.5kV, not over 121kV	4 ft. 0 in. (122 cm)
Over 121kV, not over 140kV	4 ft. 6 in. (137 cm)

3. Vehicular and mechanical equipment
 1. Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized lines will be operated so that a clearance of 10 ft. (305 cm) is maintained. If the voltage is higher than 50kV, the clearance will be increased 4 in. (10 cm) for every 10kV over the voltage. However, under any of the following conditions, the clearance may be reduced:
 2. If the vehicle is in transit with its structure lowered, the clearance may be reduced to 4 ft. (122 cm). If the voltage is higher than 50kV, the clearance will be increased 4 in. (10 cm) for every 10kV over the voltage.
 3. If insulating barriers are installed to prevent contact with the lines, and if the barriers are rated for the voltage of the line being guarded and are not a part of, or an attachment to, the vehicle or its raised structure, the clearance may be reduced to a distance within the designed working dimensions of the insulating barrier.

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

4. If the equipment is an aerial lift insulated for the voltage involved, and if a qualified person performs the work, the clearance (between the un-insulated portion of the aerial lift and the power line) may be reduced to the distance given in Table S-5.
5. Employee's standing on the ground may not contact the vehicle or mechanical equipment or any of its attachments, unless:
 - a. The employee is using protective equipment rated for the voltage; or
 - b. The equipment is located so that no un-insulated part of its structure (that portion of the structure that provides a conductive path to employees on the ground) can come closer to the line than permitted in the first paragraph of this section.
6. If any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding may not stand at the grounding location whenever there is a possibility of overhead line contact. Additional precautions, such as the use of barricades or insulation, will be taken to protect associates from hazardous ground potentials, depending on earth resistance and fault currents, which can develop within the first few feet or more outward from the grounding point.

7.6. ILLUMINATION.

1. Employees may not enter spaces containing exposed energized parts, unless illumination is provided that enables the employees to perform the work safely.

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

2. Where lack of illumination or an obstruction precludes observation of the work to be performed, employees may not perform tasks near exposed energized parts. Employees may not reach blindly into areas that may contain energized parts.

7.8 CONFINED OR ENCLOSED WORK SPACES

1. When an employee works in a confined or enclosed space (such as a manhole or vault) that contains exposed energized parts, the employee will use protective shields, protective barriers, or insulating materials as necessary to avoid inadvertent contact with these parts.
 2. Doors, hinged panels, and the like will be secured to prevent their swinging into an employee and causing the employee to contact exposed energized parts.
 3. Only qualified employees are permitted to enter a confined space that contains unguarded, un-insulated energized lines or parts of electric equipment.
 4. While work is being performed in a confined space which contains energized equipment, an employee with first aid and CPR training must be available in the immediate vicinity to render emergency assistance.
 5. For additional information, refer to 29 CFR 1910.146 Permit-Required Confined Space Entry and/or G & M Services Confined Space Policy.
- 7.9. Conductive materials and equipment. Conductive materials and equipment that are in contact with any part of an employee's body will be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts. If an employee must handle long dimensional conductive objects (such as ducts and pipes) in areas with exposed live parts, then work practices (such as the use of insulation, guarding, and material handling techniques) must be instituted which will minimize the hazard.
- 7.10. Portable ladders: Portable ladders will have non-conductive side rails if they are used where the employee or the ladder could contact exposed energized parts.
- 7.11. Conductive apparel: Conductive articles of jewelry and clothing (such as watch bands, bracelets, rings, key chains, necklaces, conductive aprons, cloth with

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

conductive thread, or metal headgear) may not be worn if they might contact exposed energized parts.

- 7.12. Housekeeping duties: Where live parts present an electrical contact hazard, employees may not perform housekeeping duties at such close distances to the parts that there is a possibility to contact, unless adequate safeguards (such as insulating equipment or barriers) are provided. Electrically conductive cleaning materials (including conductive solids such as steel wool, conductive cloth, and silicon carbide, as well as conductive liquid solutions) may not be used in proximity to energized parts unless procedures are followed which will prevent electrical contact.
- 7.13. Interlocks: Only a qualified employee may defeat an electrical safety interlock, and then only temporarily while he or she is working on the equipment. The interlock system must be returned to its operable condition when this work is completed.

8.0. SAFEGUARDS FOR PERSONNEL PROTECTION

- 8.1. Selection of personal protective equipment.
 - a. Employees working in areas where there are potential electrical hazards will be provided with, and will use, electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed (i.e., gloves, sleeves, boots, etc.).
 - b. Employees must not wear clothing made of synthetic materials that would create a hazard when exposed to the high heat of electrical arc. 100 % Cotton are considered acceptable undergarments. With the applicable ATPV rated FR coveralls as an outer garment
 - c. Employees will wear non-conductive head protection (i.e., Class B hard hat) whenever there is a danger of head injury from electric shock or burns due to contact with exposed energized parts.
 - d. Employees will wear protective equipment for the eyes or face wherever there is danger of injury to the eyes or face from electric arcs or flashes or from flying objects resulting from electrical explosion.
- 8.2. General protective equipment and tools.

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

- a. When working near exposed energized conductors or circuit parts, each employee will use insulated tools or handling equipment if the tools or handling equipment might make contact with such conductors or parts. If the insulating capability of insulated tools or handling equipment is subject to damage, the insulating material will be protected. The insulated tool must be rated for 1000v minimum for any exposure greater than 50v.
- b. Fuse handling equipment, insulated for the circuit voltage, will be used to remove or install fuses when the fuse terminals are energized.
- c. Ropes and hand-lines used near exposed energized parts will be non-conductive.
- d. Protective shields, protective barriers, or insulating materials will be used to protect each employee from shock, burns, or other electrically related injuries while the employee is working near exposed energized parts which might be accidentally contacted or where dangerous electric heating or arcing might occur. When normally enclosed live parts are exposed for maintenance or repair, they will be guarded to protect unqualified persons from contact with live parts.
- e. Electrical protective equipment shall be maintained in a safe, reliable condition. The following specific requirements apply to insulating blankets, covers, line hose, gloves, and sleeves made of rubber.
 - 1. Maximum use voltages must conform to those listed in Appendix A.
 - 2. Insulating equipment must be inspected for damage before each day's use and immediately following any incident that can reasonably be suspected of having caused damage. Insulating gloves must be given an air test, along with the inspection.
 - 3. Insulating equipment with any of the following defects may not be used:
 - (1) A hole, tear, puncture, or cut;

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

- (2) Ozone cutting or ozone checking (the cutting action produced by ozone on rubber under mechanical stress into a series of interlacing cracks);
 - (3) An embedded foreign object;
 - (4) Any of the following texture changes: Swelling, softening, hardening, or becoming sticky or inelastic.
 - (5) Any other defect that damages the insulating properties.
- 4. Insulating equipment found to have other defects that might affect its insulating properties must be removed from service and returned for testing.
 - 5. Insulating equipment must be cleaned as needed to remove foreign substances.
 - 6. Insulating equipment must be stored in such a location and in such a manner as to protect it from light, temperature extremes, excessive humidity, ozone, and other injurious substances and conditions.
 - 7. Protector gloves must be worn over insulating gloves.
 - 8. Electrical protective equipment will be subjected to periodic electrical tests at the following intervals:

Type of Equipment	When to Test
Rubber Insulating line hose	indication that insulating value is suspect
Rubber insulating covers	indication that insulating value is suspect
Rubber insulating blankets	first issue and every 12 months thereafter
Rubber insulating gloves	first issue and every 6 months thereafter
Rubber insulating sleeves	first issue and every 12 months thereafter

- 9. If the insulating equipment has been electrically tested but not issued for service, it may not be placed into service unless it has been electrically tested within the previous 12 months.

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

10. The electrical protective equipment will be tested under contract with a qualified contractor. Other suppliers may be used only if the tests are conducted in compliance with approved ASTM methods.
 11. The Site Supervisor must maintain a log of test dates and results for all electrical protective equipment in use.
 12. Insulating equipment failing to pass inspections or electrical tests will be removed from service and not repaired for use by employees.
- f. Alerting techniques.
1. Safety signs and tags: Safety signs, symbols or accident prevention tags will be used where necessary to warn employees about electrical hazards, which may endanger them.
 2. Barricades: Barricades will be used in conjunction with safety signs where it is necessary to prevent or limit employee access to work areas exposing employees to un-insulated energized conductors or circuit parts. Conductive barricades may not be used where they might cause an electrical contact hazard.
 3. Attendants: If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant will be stationed to warn and protect employees.

9.0. *MEDICAL SERVICES AND FIRST AID*

When employees are performing work on or associated with exposed energized lines persons trained in cardiopulmonary resuscitation (CPR) must be available within 4 minutes. Arrangements for CPR services must be developed during the job briefing.

ELECTRICAL SAFETY & ELECTRICAL SAFE WORK PRACTICES

ELECTRICAL SAFETY

APPENDIX A - FORMS

RECEPTACLE TESTER-TESTED by designated competent person or persons as follows:

RECEPTACLE TESTER plugs in to show if terminals are correctly connected to ground, and if wire is continuous (without breaks).

CONTINUITY TESTER checks if ground is continuous from metal frame (a) through cord to third prong (b). Also touch tester contact to (c) then (d) prongs to detect possible ground fault.

TEST RECORD is maintained. **COLOR CODE** shows month tested.

Tests are made:

- before first use,
- after any repair or after a suspected-damage incident,
- Then tested within three month periods (except--within sixth monthly periods if in protected, fixed location).

INSPECTION: Before day of use, cord-supplied equipment shall be visually inspected for ground problems. Inspection reminders are shown in employees Health and Safety Program Manual. Defective equipment or practices shall NOT be used.

ELECTRICAL SAFETY

APPENDIX A - FORMS

ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM

(SEE OSHA STANDARD 1926.404(b)(1)(iii))

COMPANY NAME G & M Services

JOB OR SHOP ADDRESS _____

JOB NAME OR NUMBER _____

Description or Identification of Equipment Tested	Date Tested	Action, If Any	Reason for Test: A, B, C, D*	Tested by: Signature (Initials)

- * Reason
- A - Before first use.
 - B - Before equipment is returned to service following any repairs.
 - C - Before equipment is used after any incident that can be reasonably suspected to have caused damage.
 - D - At intervals not to exceed three months, except that cord sets and receptacles fixed and not exposed to damage shall be tested at intervals not exceeding six months.

G & M Services

EMERGENCY ACTION PLAN – G&M Services

PURPOSE

The purpose of the emergency action plan is to save lives when faced with unexpected emergencies and unforeseen circumstances. By developing procedures and training employees, it is our goal to reduce or eliminate the loss of life, injuries and confusion that sometimes surrounds a catastrophe. An emergency or catastrophe will be any of the following:

- a. Uncontrollable Fires
- b. Severe Weather/Tornado
- c. Earthquakes
- d. Employee Violence
- e. Bomb Threats/Terroristic Acts

EMERGENCY COORDINATOR

The Emergency Coordinator's responsibilities are wide and varied. They are responsible for the administration and maintenance of this program. This includes evaluation of egress routes, emergency warning systems, notification of emergency services, accounting for employees once they reach the assembly point, verifying employees are out of the building or hazard zone, identifying unaccounted employees and giving the accounting information to emergency services.

The Safety Director is the Emergency Coordinator.

A back-up coordinator shall be designated by G & M Services

WARNING SYSTEMS

Every company should develop a plan on how to warn employees of an emergency. This may be done through fire alarms, tornado sirens, intercom systems, horns, etc. The intent is to warn as many people as quickly and as accurately as possible. Typically, it will be the emergency coordinator who initiates the warning system. However, any employee who witnesses an emergency may sound the alarm. After sounding the alarm, the employee must contact their supervisor or the emergency coordinator to let them know what and where the emergency is located. The primary warning systems at G & M Services are **radio or voice communication**.

NOTIFICATION OF EMERGENCY SERVICES

Typically, the Emergency Coordinator or Field Supervisor will notify emergency services. However, employees may, in the absence of the aforementioned, or those who witness an emergency also notify emergency services. They must then inform the Emergency Coordinator to let them know what and where the emergency is located. Outside phone lines should be made accessible to employees, at least for emergency purposes, and emergency phone numbers should be clearly posted next to each telephone. This posting should contain concise information on how to reach the ambulance/medical services, police/sheriff department and fire department.

Other emergency services may include the area EPA office, Poison Control and Key Personnel.

ASSEMBLY POINTS

The emergency coordinator shall design, at a minimum, two assembly points; a primary (A) and a secondary (B). All employees will report to the primary assembly point for a head count. In case of adverse environmental conditions, the employees should report to the secondary assembly point, which should be separated from the primary by a reasonable physical distance. Both assembly points should be free from recognized hazards, i.e., away from propane tanks or chemical storage areas. The primary assembly point for G & M Services is located at the G&M Services Kitchen Area. The secondary assembly point is located at the Concrete Visions Kitchen Area (7526 Connelley Drive, Unit G, Hanover, MD 21076). Both areas shall be identified by signs.

EMERGENCIES/CATASTROPHES

Uncontrollable Fires

After notification, the Emergency Coordinator will evaluate the severity of the fire to determine its overall status. If the fire can easily be extinguished by trained personnel, it will be completed to reduce the chance of fire spreading to another area. The use of any extinguisher is entirely voluntary. If this is not feasible and outside help is needed, then the Emergency Coordinator will immediately call 911. If an evacuation is needed the Emergency Coordinator will inform all affected employees and evacuation procedures will commence.

Severe Weather/Tornado

In the event of Severe Weather (lightning, hail, high winds), all employees working outside shall report to the inside of the building. In the event of a Tornado, all employees shall report to designated safe locations for protection at each site. If an employee is caught outside and cannot reach a safe area, find the nearest low-lying area and crouch down with hands covering the head.

Earthquakes

If an earthquake occurs and you are indoors, stay there. Take cover under a sturdy piece of furniture or brace yourself against an inside wall. Protect your head and neck. If outdoors, move into the open, away from buildings, streetlights and utility lines. After the earthquake, report to the designated assembly point for a headcount.

Employee Violence

If an employee, contractor or any other person is engaged in committing a violent act, stay away from that person and contact the Emergency Coordinator or call 911 yourself to ask for police assistance. Do not combat or confront the offender. Run away if possible. After the event is resolved, report to the designated assembly point for a headcount.

Bomb Threats

If a bomb threat is called into G & M Services, the Emergency Coordinator will immediately be notified. Upon notification, the appropriate agencies will be informed of the situation. An evacuation will be ordered and orders will be followed based upon advice from law enforcement officials. A “Bomb Threat Phone Checklist” will be maintained and all employees shall document all pertinent information onto the checklist if possible to aid law enforcement officials.

TRAINING

Employees must be trained on how to react to different emergencies. Preplanning and training is imperative to ensure a safe and orderly evacuation. Employees must be trained before implementing an emergency action plan, whenever their responsibilities change and must be retrained whenever the plan is changed.

MAPS

The recommended procedure to convey egress routes to employees is by developing a map of the work area, which shows how to exit the building. It is also recommended that areas of importance be indicated on these maps, such as the location of main electrical shut offs, natural gas shut offs, fire extinguishers, exits, assembly points, tornado shelters, etc.

EVACUATION DRILLS

It is recommended that the emergency evacuation plan be tested for efficiency by conducting a drill, at least annually. The following items should be observed during the drill:

- a. How quickly did the employees evacuate?
- b. How accurate was the accounting for personnel?
- c. Was the alarm or warning system audible throughout the building?
- d. Were employees clear on the type of emergency?
- e. Were other facilities notified of the drill (if necessary)?
- f. Did employees know where the assembly points were and did they go directly to them?

After every evacuation drill, it is recommended that a short report or evaluation be made in writing. This will serve as part of the overall employees’ training documentation. A list of employees present for the drill should also be included w/ this documentation.

OTHER BUSINESSES AND THE COMMUNITY

One of the commonly overlooked areas of hazard recognition is what affects other industries in the area may have upon nearby businesses. If hazardous operations are in the vicinity, such as a petroleum refinery or chemical processing plant, then hazards of these industries may need to be taken into account when assessing potential catastrophes.

Under the same premise, operations that are potentially life threatening to other facilities in the nearby areas should be relayed to those facilities. The facilities should also be notified during actual emergencies and emergency evacuation drills.

EQUIPMENT MAINTENANCE/INSPECTION

G & M SERVICES

This program is designed to assure that daily and monthly inspections of equipment are being completed.

All safety inspections should be done before starting any piece of equipment.

The Company Safety Director is responsible for the implementation of the safety inspection program, and establishing guidelines for compliance to the OSHA guidelines.

The Site Manager is responsible for ensuring that these inspections are completed.

The Supervisor is responsible for maintaining all records of these inspections and seeing that such records are received by the Company Safety Director.

1. Fork truck pre-operation inspection:
A pre-operation inspection must be performed at the start of each shift before the fork truck is to be used. Records of inspection are to be maintained for each fork truck by the Supervisor.
* Note: All fork truck operators must be adequately trained before operation.
2. Scissors lift pre-operation inspection:
A pre-operation inspection must be performed at the start of each shift before the scissors lift is to be used. Records of inspection are to be maintained by the Supervisor.
* Note: All scissors lift operators must be adequately trained before operation.
3. Articulating boom platform pre-operation inspection:
A pre-operation inspection must be performed at the start of each shift before the articulating boom platform is to be used. Records of inspections are to be maintained for each articulating boom platform by the Supervisor.
* Note: All articulating boom platform operators must be adequately trained before operation.
4. Boomtruck pre-operation inspection:
A pre-operation inspection must be performed at the start of each shift before the boomtruck is to be used. Records of inspection are to be maintained for each boomtruck by the Supervisor.
* Note: All boomtruck operators must be adequately trained before operation.
5. Company vehicles' pre-operation inspection:
A pre-operation inspection must be performed at the start of each shift before a vehicle is to be used. Records of inspection are to be maintained for each vehicle by the Supervisor.
* Note: A valid driver's license must be in the operator's possession at all times. Any employee without a valid driver's license shall not operate any company vehicle. It is the Supervisor's responsibility to ensure that all drivers have a valid license.

EQUIPMENT MAINTENANCE/INSPECTION

MOTOR VEHICLES AND MECHANIZED EQUIPMENT

1. Be sure that the load you are carrying is secure.
2. Buckle your seat belt before operating.
3. Make sure that everyone is clear before dumping your load.
4. Do not operate near the edge of the banks.
5. Lockout the dump lever and adequately block dump bodies when inspecting or performing maintenance.
6. Make the Circle of Safety before starting equipment each day. Check the:
 - a. Tires, brake lines, dumping mechanisms.
 - b. Lights and backup alarms.
 - c. Steering, seat, and rear view mirrors.
 - d. Fire extinguisher, clean windshield, operation of wipers.
 - e. Air pressure, oil and fluid levels.
7. Adjust equipment speed, taking into consideration road conditions.
8. Make sure any parked equipment is properly braked, chocked, or the blade, bowl, or bucket is placed on the ground.
9. Do not transport other employees unless the vehicle is designed to do so.
10. At night, lights, reflectors, or barricades should be positioned to warn approaching motorists of equipment parked near a roadway or work area.
11. When equipment is being repaired, make sure the blades, buckets, dump bodies, or similar parts are lowered or blocked to prevent movement.
12. Do not put a spinner or steering knob on the steering wheel.
13. Do not inflate, mount or dismount tires with split rims or lock rings unless protected by a safety cage.
14. When site clearing, an approved overhead cab must be used--also, wear your hard hat.
15. Before working on air or hydraulic system, make sure they are properly bled.

FALL PROTECTION

G & M SERVICES

1.0 SCOPE AND APPLICATION

- 1.1. Fall protection requirements of Subpart M apply to all construction workplaces covered under 29 CFR 1926, except where another Subpart of part 1926 specifies what fall protection systems must be used and sets the criteria for those fall protection systems.
- 1.2. There are some activities that will be classified as either general industry or construction depending on other activities occurring at the same time or same site. For example, when surface preparation work and sandblasting work are being performed in connection with painting activities or other construction activities, then these two activities are considered construction work and employers engaged in these activities must follow the requirements of Subpart M as it pertains to fall hazards associated with surface preparation and sandblasting. On the other hand, when these activities are conducted as part of general maintenance work, the fall protection requirements of the general industry standards (1910) would apply.
- 1.3. The provisions of Subpart M do not apply when the employer establishes that employees are only inspecting, investigating, or assessing workplace conditions *before the actual start of the work or after work has been completed*. If inspections are made while construction operations are underway, all employees who are exposed to fall hazards while performing these inspections must be protected as required by this Subpart.
- 1.4. Some Subparts within part 1926, aside from Subpart M, contain fall protection requirements. Those other provisions, however, are not comprehensive. Therefore, when an employee is exposed to a falling hazard, such as that of falling more than 6' (six feet) to a lower level, which is not specifically addressed in another Subpart, OSHA intends that the general provisions of this Subpart apply.
- 1.5. If another Subpart requires the use of specified fall protection systems but does not set criteria that those systems must meet, the criteria set in this Subpart shall apply.

2.0 DEFINITIONS

- 2.1. ***Anchorage*** - A secure point of attachment for lifelines, lanyards, or deceleration devices.

FALL PROTECTION

- 2.2. ***Body harness*** - A design of straps that may be secured about the employee to distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.
- 2.3. ***Buckle*** - Any device for holding the body belt or body harness closed around the employee's body.
- 2.4. ***Connector*** - This term replaces the term "hardware." A device used to couple (connect) parts of the personal fall arrest system or positioning device system together. It may be an independent component of the system, such as a carabineer, or it may be an integral component of part of the system (such as a buckle or Dee-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self retracting lanyard).
- 2.5. ***Controlled access zone*** - This term is used to describe a work area designated and clearly marked in which certain types of work (such as overhand bricklaying work) may take place without the use of conventional fall protection systems-guardrail systems, personal fall arrest systems, or safety net systems-to protect the employees working in the zone. Access to the zone must be controlled to limit the number of workers exposed to fall hazards. OSHA notes that the use of a controlled access zone is permitted only in *Overhand bricklaying and related work*, and as part of a Fall Protection Plan for *Leading edge work*; *Precast concrete work*; or *residential construction work*.
- 2.6. ***Dangerous equipment*** – Equipment, (such as pickling or galvanizing tanks, degreasing units, machinery, electrical equipment, and other units), which because of form or function, may be hazardous to employees who fall onto or into such equipment.
- 2.7. ***Deceleration device*** - Any mechanism, such as a rope grab ripstitch lanyard, specially woven lanyard, tearing or deforming lanyard, or automatic self-retracting lifeline/lanyard, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.
- 2.8. ***Deceleration distance*** - The additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured as the distance between the location of an employee's body belt or body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.
- 2.9. ***Equivalent*** - Alternative designs, materials, or methods to protect against a hazard that the employer can demonstrate will provide an equal or greater degree of safety for employees than the methods, materials or designs specified in the standard.

FALL PROTECTION

- 2.10. ***Failure*** - This term describes load refusal, breakage, or separation of component parts where the ultimate strength has been exceeded.
- 2.11. ***Free fall*** - the act of falling before the personal fall arrest system begins to apply force to arrest the fall.
- 2.12. ***Free fall distance*** - The vertical distance an employee moves during a fall before a deceleration device is activated.
- 2.13. ***Guardrail system*** - A barrier erected to prevent employees from falling to lower levels
- 2.14. ***Hole*** - A void or gap 2 inches (5.1 cm) or more in its least dimension in a floor, roof, or other walking/working surface.
- 2.15. ***Infeasible*** - Means that it is impossible to perform the construction work while using a conventional fall protection system, or that it is technologically impossible to use a conventional system.
- 2.16. ***Lanyard*** - A flexible line of rope, wire rope, or strap that generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.
- 2.17. ***Leading edge*** - The edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed or constructed. A leading edge is considered an “unprotected side and edge” during periods when it is not actively and continuously under construction.
- 2.18. ***Lifeline*** - A component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), which serves as a means for connecting other components of a personal fall arrest system to the anchorage.
- 2.19. ***Low-slope roof*** - This term is used instead of “low-pitched roof” to ensure the clarity that we are describing the slope of the roof, not the pitch.
- 2.20. ***Lower levels*** - Those areas or surfaces to which an employee can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavation pits, tanks, material, water, equipment, structures, or portions thereof.
- 2.21. ***Opening*** - A gap or void 30 inches (76 cm) or more high and 18 inches (48 cm) or more wide, in a wall or partition, through which employees can fall to a lower level.

FALL PROTECTION

- 2.22. ***Overhand bricklaying and related work*** - The process of laying bricks and masonry units such that the surface of the wall to be jointed is on the opposite side of the wall from the mason, requiring the mason to lean over the wall to complete the work. Related work includes mason tending and electrical installation incorporated into the brick wall during the overhand bricklaying process.
- 2.23. ***Personal fall arrest system*** - A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.
- 2.24. ***Positioning device system*** - A body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.
- 2.25. ***Rope grab*** - A deceleration device that travels on a lifeline and automatically engages the lifelines and locks by friction to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.
- 2.26. ***Roof*** - The exterior surface on the top of a building. This does not include floors or formwork that, because a building has not been completed, temporarily become the top surface of a building.
- 2.27. ***Roofing work*** - The hoisting, storage, application and removal of roofing materials and equipment, including related insulation, sheet metal, and vapor barrier work, but not including the construction of the roof deck.
- 2.28. ***Self-monitoring system*** - A safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.
- 2.29. ***Self-retracting lifeline/lanyard*** - A deceleration device containing a drum-wound line that may be slowly extracted from or retracted onto the drum under slight tension during normal employee movement, and that, after onset of a fall, automatically locks the drum and arrests the fall.
- 2.30. ***Snap-hook*** - A connector comprised of a hook-shaped member with a keeper, which is normally closed or similar arrangement. The “keeper” opens to permit insertion of other hardware or of a like object and then, when released, automatically closes to retain the object. Snap-hooks are generally, either locking or non-locking.
- 2.31. ***Locking*** - Self-closing, self-locking keeper that remains closed and locked until unlocked and pressed open for connection or disconnection.
- 2.32. ***Non-locking*** - self-closing keeper that remains closed until pressed open for connection or disconnection.
- 2.33. ***Steep roof*** - A roof having a slope greater than four in twelve (vertical to horizontal).

FALL PROTECTION

- 2.34. ***Toeboard*** - A low protective barrier that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel.
- 2.35. ***Unprotected sides and edges*** - any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or guardrail system at least 39 inches (1.0m) high.
- 2.36. ***Walking/working surface*** - Any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, formwork and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which employees must be located to perform their job duties.
- 2.37. ***Warning line*** - A barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body belt, or safety net systems to protect employees in the area.
- 2.38. ***Work area*** - That portion of a walking/working surface where job duties are being performed.

3.0 DUTY TO HAVE FALL PROTECTION

- 3.1. This section covers the general requirements for employers to provide fall protection systems, the criteria to be met by fall protection systems, and the training necessary to use the systems properly.
- 3.2. The employer shall:
 - 3.2.1. Determine if the walking/working surfaces on which its employees are to work have the strength and structural integrity to support employees, tools, and materials safely. Employees will be allowed to work on those surfaces only when the surfaces have the requisite strength and structural integrity.
 - 3.2.2. Choose and use a fall protection system (or combination of systems) as provided below:
 - 3.2.2.1. ***Unprotected sides and edges*** - Each employee on a walking/working surface, horizontal and vertical surface, with an unprotected side or edge that is 6' or more above a lower level will be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.
 - 3.2.2.2. ***Leading edge*** - Each employee who is constructing a leading edge 6' or more above lower levels will be protected from falling by guardrail systems, safety net systems, or personal fall arrest systems.

FALL PROTECTION

- 3.2.2.2.1. *Exception:* When the employer can demonstrate that it is infeasible or creates a greater hazard to use these systems, the employer will develop and implement a fall protection plan that meets the requirements of 29 CFR 1926.502(k).
- 3.2.2.3. Each employee on a walking/working surface 6' or more above a lower level where leading edges are under construction, *but who is not* engaged in the leading edge work, will be protected from falling by a guardrail system, safety net system, or personal fall arrest system. If a guardrail system is chosen to provide the fall protection, and a controlled access zone has already been established for leading edge work, the control line may be used instead of a guardrail along the edge that parallels the leading edge.
- 3.2.2.4. **Hoist areas** - Each employee in a hoist area will be protected from falling 6' or more to lower levels by guardrail systems or personal fall arrest systems. If guardrail systems, [or chain, gate, or guardrail] or portions thereof, are removed to facilitate the hoisting operation (e.g., during landing of materials), and an employee must lean through the access opening or out over the edge of the access opening (to receive or guide equipment and materials, for example), that employee will be protected from fall hazards by a personal fall arrest system.
- 3.2.2.5. **Holes** - Each employee on walking/working surfaces will be protected from falling through holes (including skylights) more than 6' above lower levels, by personal fall arrest systems, covers, or guardrail systems erected around such holes.
 - 3.2.2.5.1. Employees on a walking/working surface will be protected from tripping in or stepping into or through holes by covers.
 - 3.2.2.5.2. Employees on a walking/working surface will be protected from objects falling through holes by covers.
- 3.2.2.6. **Formwork and reinforcing steel** - Each employee on the face of formwork or reinforcing steel will be protected from falling 6' or more to lower levels by personal fall arrest systems, safety net systems, or positioning device systems.

FALL PROTECTION

- 3.2.2.7. **Ramps, runways, and other walkways** - Each employee on will be protected from falling 6' or more to lower levels by guardrail systems.
- 3.2.2.8. **Excavations** - Each employee at the edge of an excavation 6' or more in depth will be protected from falling by guardrail systems, fences, or barricades when the excavations are not readily seen because of plant growth or other visual barrier.
- 3.2.2.9. Each employee at the edge of a well, pit, shaft, and similar excavation 6' or more in depth will be protected from falling by guardrail systems, fences, barricades, or covers.
- 3.2.2.10. **Dangerous equipment** - Each employee *less than* 6' above dangerous equipment will be protected from falling into or onto the dangerous equipment by guardrail systems or by equipment guards.
- 3.2.2.11. Each employee *6' or more* above dangerous equipment will be protected from fall hazards by guardrail systems, personal fall arrest systems, or safety net systems.
- 3.2.2.12. **Overhand bricklaying and related work** - Except as otherwise provided in these paragraphs, each employee performing overhand bricklaying and related work 6' or more above lower levels will be protected from falling by guardrail systems, safety net systems, personal fall arrest systems, or will work in a controlled access zone.
- 3.2.2.13. Employees reaching more than 10" below the level of the walking/working surface on which they are working will be protected from falling by a guardrail system, safety net system, or personal fall arrest system.
- 3.2.2.14. Note: Bricklaying operations performed on scaffolds are regulated by Subpart L-Scaffolds.
- 3.2.2.15. **Roofing work on Low-slope roof** - Except as otherwise provided in these paragraphs, each employee engaged in roofing activities on low-slope roofs, with unprotected sides and edges 6' or more above lower levels will be protected from falling by guardrail systems, safety net systems, personal fall arrest systems, or a combination of warning line system and guardrail system, warning line system and safety net system, or warning line system and personal fall arrest system, or warning line system and safety monitoring system.

FALL PROTECTION

- 3.2.2.16. On roofs 50' or less in width, the use of a safety-monitoring system alone is permitted.
- 3.2.2.17. **Steep roofs** - Each employee on a steep roof with unprotected sides and edges 6' or more above lower levels will be protected from falling by guardrail systems with toeboards, safety net systems, or personal fall arrest systems.
- 3.2.2.18. **Precast concrete erection** - Each employee engaged in the erection of precast concrete members (including but not limited to the erection of wall panels, columns, beams, and floor and roof “tees”) and related operations such as grouting or precast concrete members, which is 6' or more above lower levels will be protected from falling by guardrail systems, safety net systems, or personal fall arrest systems, unless another provision in these paragraphs provides for an alternative fall protection measure.
 - 3.2.2.18.1. *Exception:* When the employer can demonstrate that it is infeasible or creates a greater hazard to use these systems, the employer will develop and implement a fall protection plan.
- 3.2.2.19. **Residential construction** - Each employee engaged in residential construction activities 6' or more above lower levels will be protected by guardrail systems, safety net systems, or personal fall arrest system unless another provision in these paragraphs provides for an alternative fall protection measure.
 - 3.2.2.19.1. *Exception:* When the employer can demonstrate that it is infeasible or creates a greater hazard to use these systems, the employer will develop and implement a fall protection plan.
- 3.2.2.20. **Wall openings** - Each employee working on, at, or above, or near wall openings (including those with chutes attached) where the outside bottom edge of the wall opening is 6' or more above lower levels and the inside bottom edge of the wall opening is less than 39" above the walking/ working surface, will be protected from falling by the use of a guardrail system, a safety net system, or a personal fall arrest system.
- 3.2.2.21. **Walking/working surfaces not otherwise addressed** - Except as provided above, each employee on a walking/working surface 6' or more above lower levels will be protected from falling by guardrail system, safety net system, or personal fall arrest system.

FALL PROTECTION

- 3.2.3. Have each employee wear a hard hat when an employee is exposed to falling objects. The employer will also execute one of the following measures:
 - 3.2.3.1. Erect toeboards, screens, or guardrail systems to prevent objects from falling from higher levels; or
 - 3.2.3.2. Erect a canopy structure and keep potential fall objects far enough from the edge of the higher level so that those objects would not go over the edge if they were accidentally displaced; or
 - 3.2.3.3. Barricade the area to which objects could fall, prohibit employees from entering the barricaded area, and keep objects that may fall far enough away from the edge of a higher level so that those objects would not go over the edge if they were accidentally displaced.

4.0 FALL PROTECTION SYSTEMS MEASURES AND PRACTICES

- 4.1. All fall protection must conform to the criteria set forth below for the particular system being used and all fall protection equipment must be provided and installed before employees begin any other work on or from the surface on which they will be protected. To be fully effective, fall protection must be in place at the earliest possible time.
- 4.2. **Guardrail systems:**
 - 4.2.1. Top edge height of top rails, or equivalent guardrail system members, must be 42" plus or minus 3" above the walking/working level.
 - 4.2.2. Midrails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members must be installed between the top edge of the guardrail system and the walking/working surface when there is no wall or parapet wall at least 21" high.
 - 4.2.3. Midrails, when used, must be installed at a height midway between the top edge of the guardrail system and the walking/working level.
 - 4.2.4. Screens and mesh, when used, must extend from the top rail to the walking/working level and along the entire opening between top rail supports.
 - 4.2.5. Intermediate members (such as balusters), when used between posts, must be not more than 19" apart.
 - 4.2.6. Other structural members, such as additional midrails and architectural panels, must be installed such that there are no openings in the guardrail system that are more than 19" wide.

FALL PROTECTION

- 4.2.7. Guardrail systems must be capable of withstanding, without failure, a force of at least 200 pounds applied within 2" of the top edge, in any outward or downward direction, at any point along the top edge.
- 4.2.8. Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members 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 or other member.
- 4.2.9. Guardrail systems shall be surfaced as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.
- 4.2.10. The ends of all top rails and midrails must not overhang the terminal posts, except where such overhang does not constitute a projection hazard.
- 4.2.11. Steel banding and plastic banding must not be used as top rails or midrails.
- 4.2.12. If wire rope is used for top rails, it must be flagged at not more than 6' intervals with high-visibility material.
- 4.2.13. If guardrail systems are used at hoisting areas, a chain, gate or removable guardrail section will be placed across the access opening between guardrail sections when hoisting operations *are not* taking place.
- 4.2.14. When guardrail systems are used at holes, they will be erected on all unprotected sides or edges of the hole.
- 4.2.15. When guardrail systems are used around holes used for the passage of materials, the hole will not have more than two sides provided with removable guardrail sections to allow the passage of materials. If the hole is not in use, it will be closed over with a cover, or a guardrail system will be provided along the unprotected sides or edges.
- 4.2.16. If guardrail systems are used around holes used as points of access, such as ladder-ways, they will be provided with a gate, or be so offset that a person cannot walk directly into the hole.
- 4.2.17. Guardrail systems used on ramps and runways will be erected along each unprotected side or edge.
- 4.2.18. Manila, plastic or synthetic rope being used for top rails or midrails will be inspected as frequently as necessary to ensure that it continues to meet the strength requirements as indicated above.
- 4.3. **Safety nets:**
 - 4.3.1. Safety nets will be installed as close as practicable under the walking/working surface on which employees are working, but in no case more than 30' below such level. When nets are used on bridges, the potential fall area from the walking/working surface to the net must be unobstructed.

FALL PROTECTION

- 4.3.2. Safety nets will extend outward from the outermost projection of the work surface as follows:

Vertical distance from working level to horizontal plane of net	Minimum required horizontal distance of outer edge of net from the edge of the working surface
Up to 5 feet	8 feet
More than 5 feet up to 10 feet	10 feet
More than 10 feet	13 feet

- 4.3.3. Safety nets will be installed with sufficient clearance under them to prevent contact with the surface or structures below when subjected to an impact force equal to the drop test. Safety nets and their installations will be capable of absorbing an impact force equal to that produced by the drop test. DROP-TEST - Safety nets and safety net installations must be drop-tested at the jobsite after initial installation and before being used as a fall protection system, whenever relocated, after major repair, and at six-month intervals if left in one place. The drop-test will consist of a 400 pound (180 kg) bag of sand 30 ± 2 inches (76 ± 5 cm) in diameter dropped into the net from the highest walking/working surface at which employees are exposed to fall hazards, but not from less than 42" above that level.

4.3.3.1. *Exception:* When the employer can demonstrate that it is unreasonable to perform the drop-test required, the employer or designated competent person must certify that the net and the net installation is in compliance with these provisions by preparing a certification record before the net being used as a fall protection system.

- 4.3.4. Defective nets will not be used. Safety nets must be inspected at least once a week for wear, damage, and other deterioration. Defective components will be removed from service. Safety nets must also be inspected after any occurrence that could affect the integrity of the safety net system.
- 4.3.5. Materials, scrap pieces, equipment, and tools that have fallen into the safety net will be removed as soon as possible from the net and at least before the next work shift.
- 4.3.6. The maximum size of each safety net mesh will not exceed 36 square inches nor be longer than 6" on any side, and the opening, measured center-to-center or mesh ropes or webbing, will not be longer than 6". All mesh crossings will be secured to prevent enlargement of the mesh opening.
- 4.3.7. Each safety net, or section of it, will have a border rope for webbing with a

FALL PROTECTION

minimum breaking strength of 5,000 pounds.

4.3.8. Connections between safety net panels will be as strong as integral net components and will be spaced not more than 6" apart.

4.4. **Personal fall arrest systems:** Body belts are not acceptable as part of a personal fall arrest system. (Note: The use of a body belt in a positioning device system is acceptable.) Personal fall arrest systems and their use shall comply with the following:

4.4.1. Connectors will be drop-forged, pressed or formed steel, or made of equivalent materials.

4.4.2. Connectors will have a corrosion-resistant finish, and all surfaces and edges will be smooth to prevent damage to interfacing parts of the system.

4.4.3. Dee-rings and snaphooks will have a minimum tensile strength of 5,000 pounds.

4.4.4. Dee-rings and snaphooks will be proof-tested to a minimum tensile load of 3,600 pounds without cracking, breaking, or taking permanent deformation.

4.4.5. Snaphooks shall be sized to be compatible with the member of which they are connected to prevent unintentional disengagement of the snaphook by depression of the snaphook keeper by the connected member, or shall be a locking type snaphook designed and used to prevent disengagement of the snaphook by the contact of the snaphook keeper by the connected member. Only locking type snaphooks may be used.

4.4.6. Unless the snaphook is a locking type and designed for the following connections, snaphooks will not be engaged:

4.4.6.1. Directly to webbing, rope or wire rope;

4.4.6.2. To each other;

4.4.6.3. To a Dee-ring to which another snaphook or other connector is attached;

4.4.6.4. To a horizontal lifeline; or

4.4.6.5. To any object that is incompatibly shaped or dimensioned in relation to the snaphook such that unintentional disengagement could occur by the connected object being able to depress the snaphook keeper and release itself.

4.4.7. On suspended scaffolds or similar work platforms with horizontal lifelines that may become vertical lifelines, the devices used to connect to a horizontal lifeline will be capable of locking in both directions on the lifeline.

4.4.8. Horizontal lifelines will be designed, installed, and used, under the

FALL PROTECTION

supervision of a qualified person, as part of a complete personal fall arrest system, which maintains a safety factor of at least two.

- 4.4.9. Lanyards and vertical lifelines will have a minimum breaking strength of 5,000 pounds.
- 4.4.10. Except as provided in the following paragraph, when vertical lifelines are used, each employee shall be attached to a separate lifeline.
- 4.4.11. During the construction of elevator shafts, two employees may be attached to the same lifeline in the hoist way, provided both employees are working atop a false car equipped with a guardrail, the strength of the lifeline is 10,000 pounds and all other criteria for lifelines have been met.
- 4.4.12. Lifelines will be protected against being cut or abraded.
- 4.4.13. Self-retracting lifelines and lanyards that automatically limit free fall distance to 2' or less will be capable of sustaining a minimum tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.
- 4.4.14. Self-retracting lifelines and lanyards that do not limit free fall distance to 2' or less, ripstitch lanyards, and tearing and deforming lanyards must be capable of sustaining a minimum tensile load of 5,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.
- 4.4.15. Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body belts and body harnesses will be made from synthetic fibers. Body belts will be at least one and five-eighths inches wide.
- 4.4.16. Anchorages used for attachment or personal fall arrest equipment will be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached, or will be designed, installed, and used as follows:
 - 4.4.16.1. As part of a complete personal fall arrest system that maintains a safety factor of at least two; and
 - 4.4.16.2. Under the supervision of a qualified person.
- 4.4.17. Personal fall arrest systems, when stopping a fall, must:
 - 4.4.17.1. Limit maximum arresting force on an employee to 900 pounds when used with a body belt;
 - 4.4.17.2. Limit maximum arresting force on an employee to 1,800 pounds when used with a body harness;
 - 4.4.17.3. Be rigged such that an employee can neither free-fall more than 6' nor contact any lower level;

FALL PROTECTION

- 4.4.17.4. Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet; and,
- 4.4.17.5. Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6', or the free fall distance permitted by the system, whichever is less.
- 4.4.18. The attachment point of the body belt will be located in the center of the wearer's back. The attachment point of the body harness will be located in the center of the wearer's back near shoulder level, or above the wearer's head.
- 4.4.19. Body belts, harnesses, and components will be used only for employee protection and not to hoist materials. Personal fall arrest systems and components subjected to impact loading will be immediately removed from service and will not be used again for employee protection until inspected and determined by a competent person to be undamaged and suitable for reuse.
- 4.4.20. The employer will provide for prompt rescue of employees in the event of a fall or will assure that employees are able to rescue themselves.
- 4.4.21. Personal fall arrest systems will not be attached to guardrail systems, nor will they be attached to hoists except as otherwise specified.
- 4.4.22. Personal fall arrest systems will be inspected before each use for wear, damage and other deterioration, and defective components will be removed from service.
- 4.4.23. When a personal fall arrest system is used at hoist areas, it will be rigged to allow the movement of the employee only as far as the edge of the walking/working surface.
- 4.5. **Positioning devices systems:**
 - 4.5.1. Will be rigged such that an employee cannot free fall more than 2'.
 - 4.5.2. Will be secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or 3,000 pounds, whichever is greater.
 - 4.5.3. Connectors will be drop-forged, pressed or formed steel, or made of equivalent materials. They will have a corrosion-resistant finish, and all surfaces and edges will be smooth to prevent damage to interfacing parts of this system.

FALL PROTECTION

- 4.5.4. Connecting assemblies will have a minimum tensile strength of 5,000 pounds.
- 4.5.5. Dee-rings and snaphooks will be proof-tested to a minimum tensile load of 3,600 pounds without cracking, breaking, or taking permanent deformation.
- 4.5.6. Snaphooks will be sized to be compatible with the member to which they are connected, or be a locking type snaphook. Unless the snaphook is a locking type and designed for the following connections, snaphooks will not be engaged:
 - 4.5.6.1. Directly to webbing, rope or wire rope;
 - 4.5.6.2. To each other;
 - 4.5.6.3. To a Dee-ring to which another snaphook or other connector is attached;
 - 4.5.6.4. To a horizontal lifeline; or
 - 4.5.6.5. To any object that is incompatibly shaped or dimensioned in relation to the snaphook such that unintentional disengagement could occur by the connected object being able to depress the snaphook keeper and release itself.
- 4.5.7. Will be inspected before each use for wear, damage, and other deterioration, and defective components will be removed from service.
- 4.5.8. Body belts, harnesses, and components will be used only for employee protection and not to hoist materials.
- 4.6. **Warning line systems:**
 - 4.6.1. Will be erected around all sides of the roof work area.
 - 4.6.2. Will be erected not less than 6' from the roof edge, *when mechanical equipment is not being used*.
 - 4.6.3. Will be erected not less than 6' from the roof edge that is parallel to the direction of mechanical equipment operation, and not less than 10' from the roof edge that is perpendicular to the direction of mechanical equipment operation, *when mechanical equipment is being used*.
 - 4.6.4. Points of access, materials handling areas, storage areas, and hoisting areas will be connected to the work area by an access path formed by two warning lines. When the path is not in use, a rope, wire, chain, or other barricade, equivalent in strength and height to the warning line, will be placed across the path at the point where the path intersects the warning line erected around the work area, or the path will be offset such that a person cannot walk directly into the work area.

FALL PROTECTION

- 4.6.5. Shall consist of ropes, wires, or chains, and supporting stanchions erected as follows:
 - 4.6.5.1. The rope, wire, or chain will be flagged at not more than 6' intervals with high-visibility material;
 - 4.6.5.2. The rope, wire, or chain will be rigged and supported in such a way that its lowest point is no less than 34" from the walking/working surface and its highest point is no more than 39";
 - 4.6.5.3. After being erected, stanchions will be capable of resisting, without tipping over, a force of at least 16 pounds applied horizontally against the stanchion, 30" above the walking/working surface, perpendicular to the warning line, and in the direction of the floor, roof, or platform edge;
 - 4.6.5.4. The rope, wire, or chain will have a minimum tensile strength of 500 pounds; and
 - 4.6.5.5. The line will be attached at 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 adjacent sections before the stanchion tips over.
- 4.6.6. No employee is allowed in the area between a roof and a warning line unless the employee is performing roofing work in that area.
- 4.6.7. Mechanical equipment on roofs will be used or stored only in areas where employees are protected by a warning line system, guardrail system, or personal fall arrest system.
- 4.7. **Controlled access zones:**
 - 4.7.1. When used to control access to areas where leading edge and other operations are taking place, the controlled access zone will be defined by a control line or by any other means that restricts access. When control lines are used, they will be erected not less than 6' or more than 25' from the unprotected or leading edge, except when erecting precast concrete members.
 - 4.7.2. When erecting precast concrete member, the control line will be erected not less than 6' or more than 60' or half the length of the member being erected, whichever is less, from the leading edge.
 - 4.7.3. The control line will extend along the entire length of the unprotected or leading edge and will be approximately parallel to the unprotected or leading edge. The control line will be connected on each side to a guardrail system or wall.

FALL PROTECTION

- 4.7.4. When used to control access to areas where overhand bricklaying and related work are taking place, the controlled access zone will be defined by a control line erected not less than 10' or more than 15' from the working edge and shall extend a distance sufficient for the controlled access zone to enclose all employees performing overhand bricklaying and related work at the working edge and will be approximately parallel to the working edge. Additional control lines will be erected at each end to enclose the controlled access zone. Only employees engaged in overhand bricklaying or related work will be authorized in the controlled access zone.
- 4.7.5. Control lines will consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:
 - 4.7.5.1. Each line will be flagged or other wise clearly marked at not more than 6' intervals with high-visibility material.
 - 4.7.5.2. Each line will be rigged and supported in such a way that its lowest point is not less than 39" from the walking/working surface and its highest point is not more than 45" (50" when overhand bricklaying operations are being performed) from the walking/working surface.
 - 4.7.5.3. Each line will have a minimum breaking strength of 200 pounds.
- 4.7.6. On floors and roofs where guardrail systems are not in place before 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, 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 will be removed.
- 4.8. **Safety monitoring systems:**
 - 4.8.1. The employer will designate a competent person to monitor the safety of other employees and the employer will ensure that the safety monitor complies with the following requirements.
 - 4.8.1.1. The safety monitor will be competent to recognize fall hazards;
 - 4.8.1.2. The safety monitor will warn the employee when it appears that the employee is unaware of a fall hazard or is acting in an unsafe manner;
 - 4.8.1.3. The safety monitor will be on the same walking/working surface and within visual sighting distance of the employee being monitored;

FALL PROTECTION

- 4.8.1.4. The safety monitor will be close enough to communicate orally with the employee; and
 - 4.8.1.5. The safety monitor will not have other responsibilities that could take the monitor's attention from the monitoring function.
- 4.8.2. Mechanical equipment will not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations on low-slope roofs.
- 4.8.3. No employee, other than an employee engaged in roofing work (on low-sloped roofs) or an employee covered by a fall protection plan, will be allowed in an area where an employee is being protected by a safety monitoring system.
- 4.8.4. Each employee working in a controlled access zone shall be directed to comply promptly with fall hazard warnings from safety monitors.
- 4.9. **Covers:**
 - 4.9.1. Covers in roadways and vehicular aisles will be capable of supporting, without failure, at least twice the maximum axle load of the largest vehicle expected to cross over the cover. All other covers will be capable of supporting, without failure, at least twice the weight of employees, equipment, and materials that may be forced upon the cover at any one time.
 - 4.9.2. All covers will be secured when installed to prevent accidental displacement by the wind, equipment, or employees.
 - 4.9.3. All covers will be color coded or they will be marked with the word "HOLE" or "COVER" to provide warning of the hazard.
 - 4.9.3.1. Note: This does not apply to cast iron manhole covers or steel grates used on streets or roadways.
- 4.10. **Protection from falling objects:**
 - 4.10.1. Toeboards, when used as falling object protection, will be erected along the edge of the overhead walking/working surface for a distance sufficient to protect employees below.
 - 4.10.2. Toeboards will be capable of withstanding, without failure, a force of at least 50 pounds applied in any downward or outward direction at any point along the toeboard.
 - 4.10.3. Toeboards will be a minimum of 3 1/2" in vertical height from their top edge to the level of the walking/working surface. They will have not more than 1/4" clearance above the walking/working surface and be solid or have openings not over 1" in greatest dimension.

FALL PROTECTION

- 4.10.4. Where tools, equipment, or materials are piled higher than the top edge of a toeboard, paneling or screening will be erected from the walking/working surface or toeboard to the top of a guardrail system's top rail or midrail, for a distance sufficient to protect employees below.
- 4.10.5. Guardrail systems, when used as falling object protection, will have all openings small enough to prevent passage of potential falling objects.
- 4.10.6. During the performance of overhand bricklaying and related work:
 - 4.10.6.1. No materials or equipment except masonry and mortar will be stored within 4' of the working edge.
 - 4.10.6.2. Excess mortar, broken or scattered masonry units, and all other materials and debris shall be kept clear from the work area by removal at regular intervals. Materials piled, grouped, or stacked near a roof edge shall be stable and self-supporting.
- 4.10.7. Canopies, when used as falling object protection, will be strong enough to prevent collapse and to prevent penetration by any objects that may fall onto the canopy.

5.0 *FALL PROTECTION PLAN REQUIREMENTS*

- 5.1. This option is available only to employees engaged in leading edge work, precast concrete erection work, or residential construction work, and who can demonstrate that it is infeasible or it creates a greater hazard to use conventional fall protection equipment or if client facilities require it. The Plan must be developed by a qualified person and meet all ANSI and ASTM Standards.
- 5.2. The fall protection plan must adapt to the following requirements:
 - 5.2.1. The written fall protection plan must be prepared by a qualified person and developed specifically for the site where the work is being done (leading edge work, precast concrete work, or residential construction work) and the plan must be maintained up to date. The employer must review the plan as necessary to determine if it still fits the workplace situation. Employers have an ongoing responsibility to monitor their projects and to revise the fall protection plans to address changed conditions.
 - 5.2.2. Any changes must be approved by a qualified person. The qualified person may either sign or initial and date the changed portion of the plan.
 - 5.2.3. A copy of the plan, with all approved changes, must be maintained at the job site.
 - 5.2.4. The implementation of the fall protection plan must be supervised by a competent person.

FALL PROTECTION

- 5.2.5. Document the reasons why the use of conventional fall protection systems is infeasible or why their use would create a greater hazard.
- 5.2.6. Include a written discussion of other measures that will be taken by the employer to reduce or eliminate the fall hazard for workers who cannot be provided with the protection systems. For example, the employer shall discuss the extent to which scaffolds, ladders, or vehicle-mounted work platforms can be used to provide a safer working surface and thereby reduce the hazard of falling.
- 5.2.7. Identify each location where conventional fall protection methods cannot be used. These locations will then be classified as controlled access zones and the employer must comply with the requirements for controlled access zones.
- 5.2.8. A safety monitoring system must be implemented where no other alternative measures have been implemented which comply with the requirements for safety monitoring systems.
- 5.2.9. Include a statement that identifies the name or other method of identification for each employee who is designated to work in controlled access zones.
- 5.2.10. Provides that, if an employee falls while performing work covered by a fall protection plan or there is other reason to believe that the substance or implementation of the plan is deficient (e.g., a near miss), the employer must review the fall protection plan and make any changes in work practices, training, erection procedures, or construction practices needed to correct any deficiencies in the plan.

6.0 TRAINING REQUIREMENTS

- 6.1. Our company provides to all employees who might be exposed to fall hazards training to recognize the hazards of falling and how to minimize these hazards.
- 6.2. Our company assures that each employee will be trained, as necessary, by a competent person qualified in the following area:
 - 6.2.1. The nature of fall hazards in the work area;
 - 6.2.2. The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
 - 6.2.3. The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used;
 - 6.2.4. The role of each employee in the safety monitoring system when this system is used;

FALL PROTECTION

- 6.2.5. The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs;
- 6.2.6. The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection;
- 6.2.7. The role of employees in fall protection plans; and
- 6.2.8. The standards contained in Subpart M.
- 6.3. As an employer, we will verify compliance with the above by preparing a written certification record. This certification record will contain:
 - 6.3.1. The name or other identity of the employee trained;
 - 6.3.2. The date(s) of the training; and
 - 6.3.3. The signature of the person who conducted the training or the signature of company.
 - 6.3.4. Our company will retain the latest training certification.
- 6.4. If the company has reason to believe that any affected employee who has already been trained does not have the understanding and skill required, we will retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:
 - 6.4.1. Changes in workplace conditions render previous training obsolete; or
 - 6.4.2. Changes in the types of fall protection systems or equipment to be used render previous training obsolete; or
 - 6.4.3. Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

FIRE PROTECTION AND PREVENTION

G & M SERVICES

1.0 GENERAL RULES

- 1.1. There shall be consistency in the placement of fire extinguishers at every plant or site. By doing this, employees will have a general idea of where to find the fire extinguishers in the event of an emergency. This must occur before the first safety meeting at any given plant.
- 1.2. Fire extinguishers shall be located so that they are easily seen. Proper signs and markings shall be used to ensure identification.
- 1.3. Access to fire extinguisher locations shall not be blocked by materials or equipment.
- 1.4. All employees shall be properly trained to use fire extinguishers before assignment and annually thereafter.
- 1.5. The right type of extinguisher for different types of fires shall be understood:

EXTINGUISHER TYPE	CLASS OF FIRE	MATERIAL TO BE USED ON FIRE
A	Paper, wood, rubbish, cloth, rubber	Water Multipurpose Dry Halon B.C.F.
B	Flammable liquid, oils, greases	Foam Carbon Dioxide Dry Chemical Multipurpose Dry Chemical Halon B.C.F.
C	Energized electrical equipment, wiring, motors, electrical controls or panels	Carbon Dioxide Dry Chemical Multi-Purpose Dry Chemical
D	Combustible metals such as aluminum, magnesium, titanium, zirconium, sodium, potassium	Dry Powder (not dry chemical)

NOTE: WATER SHOULD NOT BE USED ON CLASS B, C, OR D FIRES.

FIRE PROTECTION AND PREVENTION

- 1.6. Defective equipment shall be reported to the Site Supervisor.
- 1.7. Smoking is not allowed within twenty-five feet of refueling equipment or when pouring flammable fluids.
- 1.8. All engines shall be shut off before refueling equipment. This is particularly important with gasoline engines. Flammable liquids being transferred from one container to another must be electrically bonded by a grounding wire.
- 1.9. All “NO SMOKING” signs shall be obeyed.
- 1.10. Direct exhaust from equipment shall be kept clear of combustible materials.
- 1.11. Only approved containers shall be used for storage of flammable liquids. Containers must be metal, self-closing, self-venting and have a spark arresting screen.
- 1.12. Parts shall only be washed in approved solvents -- NEVER with gasoline.
- 1.13. Flammable liquids shall not be stored in areas used as passageways, stairways, or exits.
- 1.14. All compressed gas cylinders shall be secured upright.
- 1.15. LPG heaters shall not be used unless there is sufficient ventilation.
- 1.16. Combustible materials (wood, paper, liquids) shall be stored at least ten feet from heaters.

2.0 FIRE PROTECTION TRAINING

- 2.1. Each site shall establish and implement a program for training employees in fire protection. Such training shall include, but not be limited to:
 - 2.1.1. Proper use of fire extinguishers and other fire fighting equipment available in the work area.
 - 2.1.2. Measures that should be taken to prevent fire or reduce the potential for fire in the area.
 - 2.1.3. Procedures to be followed in the event of a fire include:
 - 2.1.3.1. Notification of supervisions and authorities (Company, Owner and Fire Department);
 - 2.1.3.2. Evacuation routes and alternate routes;
 - 2.1.3.3. Responsibilities of employees, supervisors, etc.;
 - 2.1.3.4. Emergency shutdowns;
 - 2.1.3.5. Emergency handling of hazardous materials.

FIRE PROTECTION AND PREVENTION

- 2.1.4. The training program shall comply with applicable Federal, State and local codes, statutes, standards.

3.0 PORTABLE FIRE EXTINGUISHERS

- 3.1. Portable fire extinguishers are intended for use on small fires, or as interim measure to control a fire until automatic fire extinguishing equipment is functioning and/or arrival of professional or trained firefighter.
- 3.2. Each supervisor shall be responsible for ensuring employees are trained in:
 - 3.2.1. The various types of fire extinguishers available in their work areas and the location of the fire extinguishers.
 - 3.2.2. The class of fire that may occur in their work area.
 - 3.2.3. The type of fire extinguishers to use for each class of fire.
 - 3.2.4. The proper use of each type of fire extinguisher.
- 3.3. Fire extinguishers shall be placed in an area that is easily accessible. The area shall be conspicuously marked as containing firefighting equipment. In no case shall anything be placed in front of, or adjacent to, any fire extinguisher that would in any way impede access to, or removal of, the extinguishers. Where highly combustible material is located in small rooms, the fire extinguishers shall be located outside the entrance to the room.
- 3.4. Fire extinguishers shall be visually inspected monthly. The visual check shall ensure the extinguisher is in place, accessible and operable (e.g., seals are not broken, gauge indicates proper level or pressure, etc.). Such inspections shall be recorded on the “inspection tag” affixed to each extinguisher or on an “extinguisher log” kept in the main office.
- 3.5. Supervisors shall designate a qualified employee or employees to perform the monthly inspections. Inspections shall meet NFPA 10 requirements.
- 3.6. Each fire extinguisher shall undergo a thorough maintenance inspection:
 - 3.6.1. If it is used;
 - 3.6.2. If the monthly inspection indicates any defect that could cause a malfunction;
 - 3.6.3. Annually.

FIRE PROTECTION AND PREVENTION

4.0 FLAMMABLE/COMBUSTIBLE/VOLATILE LIQUIDS

- 4.1. Drums containing flammable, combustible or volatile (flammable) liquids should be stored in properly constructed rooms, or outdoors under a non-combustible canopy.
- 4.2. Before dispensing any flammable liquid taken from a drum, the following precautions should be taken:
 - 4.2.1. The drum shall be equipped with an automatic pressure and vacuum relief vent and self-closing safety faucet, or with a safety pump.
 - 4.2.2. The container shall be bonded to the drum.
 - 4.2.3. A drip pan with a perforated fire baffle shall be placed under the container to collect any spillage.
- 4.3. In all cases the drum shall be grounded to an earth-ground to prevent fire or explosion due to static electricity.
- 4.4. Drip pans with a perforated fire baffle shall be placed under each faucet to collect any leakage. These pans shall be routinely checked and emptied regularly.
- 4.5. Safety cans shall be used for transporting small volumes of flammable liquids to the area where they will be used.
- 4.6. Drums or cans used to store flammable liquids in production areas shall be stored in safety storage cabinets or in protected areas. Such areas shall be identified as containing flammable materials. Open flames, smoking, etc., shall be prohibited in, and near, such areas. Appropriate signs, i.e., “NO SMOKING,” “NO OPEN FLAMES,” “EXPLOSIVE,” etc. shall be posted. These areas shall also be equipped with adequate fire extinguishing facilities.
- 4.7. Flammable materials shall not be stored in open cans or placed under benches. When it is necessary to use open containers, such containers shall be kept in a well-ventilated place and shall be emptied and cleaned at the end of the workday. Smoking, open flames, welding, etc., shall be prohibited in areas where any flammable material is exposed. Appropriate signs, i.e., “NO SMOKING,” “NO OPEN FLAMES,” “EXPLOSIVE,” etc. shall be posted.
- 4.8. Any spillage of a flammable material shall be cleaned up immediately. Areas using flammable liquids should continuously be equipped with drains specifically designed and installed for such drainage, or “drain baskets” shall be placed under the equipment where the spillage occurs. Drain baskets should be emptied periodically and never allowed to overflow.
- 4.9. Waste flammable materials shall be placed in closed drums. Waste disposal drums shall be grounded to an earth-ground.
- 4.10. Rags, clothes, etc., which have been used with flammable liquids shall also be placed in closed, nonflammable containers, which shall be located outside of the

FIRE PROTECTION AND PREVENTION

facility.

- 4.11. Waste containers used to collect flammable materials shall be kept in safety storage containers or in an area similar to that discussed in number 2. above. The same precautions should be used, including the use of grounding devices and fire extinguishing equipment. Waste flammable materials should not be allowed to accumulate beyond reasonable levels. They should be disposed of according to applicable local codes, regulations and statutes.
- 4.12. Employees handling flammable materials shall be instructed in the safe handling, storage and disposal of such materials. Employees should also be knowledgeable in the proper selection and use of fire extinguishers required to extinguish flammable materials commonly used in the normal discharge of their responsibilities.
- 4.13. Supervisors and foremen are responsible for ensuring that flammable materials are being stored, used and disposed of according to local codes, regulations and statutes.
- 4.14. The Company Safety Director shall maintain a record of flammable materials used and stored in the facility and the locations of such materials. In the event of a fire, such records shall be made available to local firefighters as an aid to extinguishing the fire.

FIRST AID AND MEDICAL SERVICES

G & M SERVICES

1.0 FIRST AID AND MEDICAL SERVICES

- 1.1 G & M Services shall ensure the ready availability of medical personnel for advice and consultation on matters of work site or location employee health.
- 1.2 In the absence of an infirmary, clinic, or hospital in near proximity to the workplace used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid. First aid supplies approved by a consulting physician and meeting the minimum requirements under ANSI Z308.1-1998 shall be readily available.
- 1.3 Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.
- 1.4 In the need of emergency services the site supervisor shall be responsible for making notification for emergency services. This may require notifying client emergency services as well as outside services. Site supervisors shall follow the client rules regarding notification.

2.0 INTERPRETATION

- 2.1 **Purpose:** To clarify requirements for types of first aid kits that comply with subject section and others listed below.
- 2.2 **Background:** The section that specifies first aid kits states, “The first aid kit shall consist of a weatherproof container with individual sealed packages for each type of item.” Requests for clarification have been received whether the “commercial” or “cabinet-type” kit is as acceptable as the “unit-type” kit.
 - 2.2.1 “Unit-type” kits have all items in the first aid kit individually wrapped, sealed and packaged in comparable size packages. The “commercial” or “cabinet-type” kit does not require all items to be individually wrapped and sealed, but only those that must be kept sterile. The items in the “commercial” or “cabinet-type” kit are not necessarily of uniform size.
- 2.3 **Clarification:** Items such as scissors, tweezers or adhesive tape need not be individually wrapped, sealed or disposed of after a single application. Individual packaging and sealing should be required only for those items that must be kept sterile in a first aid kit recommended by a consulting physician.
- 2.4 **Action:** “Commercial” or “cabinet-type” first aid kits, as well as “unit-type” first aid kits, meet the requirements of compliance with regulations of the Occupational Safety and Health Administration.

FIRST AID AND MEDICAL SERVICES

3.0 MEDICAL SERVICES REQUIREMENTS

- 3.1 G & M Services shall ensure the availability of medical personnel for advice and consultation regarding matters of occupational safety and health.
- 3.2 Provisions must be made for prompt medical attention in case of serious injury.
 - 3.2.1 G & M Services shall develop written emergency procedures.
 - 3.2.2 A communication system for contacting the necessary medical assistance must be established.
 - 3.2.3 Proper equipment for prompt transportation of an injured person to a physician or hospital must be provided.
 - 3.2.3.1 In large plants, where employees are required to work in areas or locations that would be difficult for emergency personnel or equipment to reach, a litter or stretcher must be provided.
 - 3.2.3.2 It is recommended that the ambulance company be asked to review the plant to become familiar with routes and the specific nature of the job.

4.0 DETERMINING FIRST AID SUPPLIES FOR THE JOB

- 4.1 The first aid supplies must be those approved by a consulting physician. In order for the physician to approve or recommend first aid supplies, he/she will need to know the following information:
 - 4.1.1 Maximum number of employees for which first aid supplies are needed.
 - 4.1.2 The level of first aid training provided for the employees.
 - 4.1.3 The type or types of operations to be encountered.
- 4.2 Contact company physician. Note: It is recommended that the consulting physician place a letter with required supplies in each cabinet for each job site.
- 4.3 Several sources specialize in providing first aid supplies and service. These firms will periodically come to the plant to replenish first aid supplies.
- 4.4 Inspection of first aid kits - OSHA requirements:
 - 4.4.1 First aid supplies must be checked before being used.
 - 4.4.2 First aid supplies must be checked at least weekly while at the client facility.

FIRST AID AND MEDICAL SERVICES

5.0 FIRST AID CERTIFICATION AND UPDATES

- 5.1 The first aid training must at least meet requirements as specified by OSHA Directive CPL 2-2.53 dated January 7, 1991:
 - 5.1.1 Training must include standard first aid and adult CPR.
 - 5.1.2 The recipient of the training must be certified in writing as to having satisfactorily completed the training course or update.
 - 5.1.3 If the recipient of the training must be certified in writing as to having satisfactorily completed the training course or update.
 - 5.1.4 The site supervisor shall be required to verify assigned employees are appropriately trained pursuant to this policy.
- 5.2 OSHA Requirements:
 - 5.2.1 In the absence of an infirmary, clinic, hospital or physician in near proximity to the plant in terms of time and distance, (interpreted to mean four minutes emergency personnel response time), at least one employee trained to render first aid and possessing a valid certificate must be available to render first aid.
- 5.3 Where to obtain first aid training and updates:
 - 5.3.1 Several agencies can provide training meeting the minimum requirements. However, the update requirements to keep the certificate vary from agency to agency. G & M Services must be aware of the update requirements to keeping the training current.
- 5.4 First aid training and updates.
 - 5.4.1 Upon satisfactory completion of the American Red Cross “Standard First Aid Course,” the recipient will receive two certifications.
 - 5.4.1.1 The “Standard First Aid” Certification is valid for three years from date of issuance.
 - 5.4.1.2 The “Adult CPR” Certification is valid for one year from date of issuance.
 - 5.4.2 G & M Services shall copy the certifications for the Employee’s Personnel file and the company’s records. The employee should carry the Original Card with him or her.
 - 5.4.3 To maintain the Red Cross First Aid and CPR Certificates in a valid condition, period updates are required.
 - 5.4.3.1 The Adult CPR Certification requires a 4-hour update. This update is required each year.

FIRST AID AND MEDICAL SERVICES

5.4.3.2 The Standard First Aid Certification requires updating every three years.

5.4.4 A training schedule shall look like the following:

Original Training: 8-hour Standard First Aid Course
1st Year: 4-hour Adult CPR Update
2nd Year: 4-hour Adult CPR Update
3rd Year: Begin Repeating Sequence

6.0 ACCESS TO MEDICAL AND EXPOSURE RECORDS

- 6.1 More than thirty-two million workers may be exposed to toxic substances and harmful physical agents to an extent that may severely impair their health. Yet workers are often the least informed about the toxic exposures they face and their potential health effects.
- 6.2 In 1980, the Occupational Safety and Health Administration (OSHA) issued standard requiring employers to provide employees with information to assist in the management of their own safety and health. The standard, “Access to Employee Exposure and Medical Records” (29 CFR 1910.20), permits direct access by employees or their designated representatives and by OSHA to employer-maintained exposure and medical records. This access is designed to yield both direct and indirect improvements in the detection, treatment, and prevention of occupational disease. For example, access to these records will enable workers to determine patterns of health impairment and disease and to establish causal relationships between disease and exposure to particular hazards. Access to these records also should result in a decreased incidence of occupational exposure and should aid in designing and implementing new control measures. Note: The standard limits access only to those employees who are, have been (including former employees), or will be exposed to toxic substances or harmful physical agents.
- 6.3 Although OSHA revised the standard in 1988 to eliminate certain record keeping requirements and to provide additional protection for employer trade secrets, the standard still provides employees with the basic right to know the extent of their exposure to the harmful substances they work with and any associated health effects. This knowledge, in turn, allows them to detect, treat, and help prevent occupational disease.
- 6.4 The standard assures that an employee (or designated representative), as well as OSHA, can have access to analyses that were developed using information from exposure or medical records about the employee’s working conditions or workplaces. Personal identities, such as names, addresses, social security and payroll numbers, age, race, and sex, must be removed from the data analyses before access.

FIRST AID AND MEDICAL SERVICES

- 6.5 In providing access to records, an employer may withhold trade secret information but must provide information needed to protect employee health. Where it is necessary to protect employee health, G & M Services may be required to release trade secret information but may condition access on a written agreement not to abuse the trade secret or to disclose the chemical's identity.
- 6.6 An employer also may delete from records any trade secret that discloses manufacturing processes or the percentage of a chemical substance in a mixture. G & M Services shall state when such deletions are made. When the deletion impairs the evaluation of where or when exposure occurs, G & M Services shall provide alternative information that is sufficient to permit the requester to make such evaluations.
- 6.7 G & M Services may withhold a specific chemical identity when G & M Services can demonstrate it is a trade secret, G & M Services shall state this to the requester, and all other information on the properties and effects of the toxic substance is disclosed. The specific chemical identity, however, must be disclosed to a treating physician or nurse when that physician or nurse states that a medical emergency exists and the identity is necessary for treatment. When the emergency is over, G & M Services shall require the physician or nurse to sign a confidentiality agreement.
- 6.8 G & M Services must provide access to a specific chemical identity in non-emergency situations to an employee, an employee's designated representative or a health care professional if it will be used for one or more of the following activities:
 - 6.8.1 Assess the hazards of the chemicals to which employees will be exposed.
 - 6.8.2 Conduct or assess sampling of the workplace atmosphere to determine employee exposure levels.
 - 6.8.3 Conduct pre-assignment or periodic medical surveillance of exposed employees.
 - 6.8.4 Provide medical treatment to exposed employees.
 - 6.8.5 Select/assess appropriate PPE for exposed employees.
 - 6.8.6 Design or assess engineering controls or other protective measures for exposed employees.
 - 6.8.7 Conduct studies to determine the health effects of exposure.
- 6.9 In these instances, however, G & M Services may require the requester to submit a written statement of need, the reasons why alternative information will not suffice, and to sign a confidentiality agreement not to use the information for any purpose other than the need stated and not to release it under any circumstances, except to OSHA.
- 6.10 The standard further prescribes the steps employers must follow if they decide not to

FIRST AID AND MEDICAL SERVICES

disclose the specific chemical identity requested by the health professional, employee, or designated representative. Briefly, these steps are as follows:

- 6.10.1 Provide a written denial.
- 6.10.2 Provide the denial within thirty days of the request.
- 6.10.3 Provide evidence that the chemical identity is a trade secret.
- 6.10.4 Explain why alternative information is adequate.
- 6.10.5 Give specific reasons for the denial.
- 6.11 An employee, designated representative, or health professional may refer such a denial to OSHA for review and comment.
- 6.12 At the time of the initial employment and at least annually thereafter, employees must be told of the existence, location, and availability of their medical and exposure records. G & M Services must inform each employee of his or her rights under the access standard and make copies of the standard available. Employees also must be told who is responsible for maintaining and providing access to records.
- 6.13 When an employer ceases to do business, he or she is required to provide the successor employer with all employee medical and exposure records. When there is no successor to receive the records for the prescribed period, G & M Services must inform the current affected employees of their access rights at least three months before the cessation of business and must notify the Director of the National Institute for Occupational Safety and Health (NIOSH) in writing at least three months before the disposal of records.
- 6.14 Each employer must preserve and maintain accurate medical and exposure records for each employee. The access standard imposes no obligation to create records but does apply to any medical or exposure records created by G & M Services in compliance with other OSHA rules or at his or her own violation.
- 6.15 Exposure records and data analyses based on them are to be kept for thirty years. Medical records are to be kept for at least the duration of employment plus thirty years. Background data for exposure records such as laboratory reports and work sheets need be kept only for one year. Records of employees who have worked for less than one year need not be retained after employment, but G & M Services must provide these records to the employee upon termination of employment. First-aid records of one-time treatment need not be retained for any specific period.
- 6.16 OSHA does not mandate the form, manner, or process by which an employer preserves a record, except that chest X-ray films must be preserved in their original state.
- 6.17 Three months before disposing of records, employers must notify the Director of NIOSH.

FIRST AID AND MEDICAL SERVICES

APPENDIX A FORMS

AUTHORIZATION LETTER FOR THE RELEASE OF EMPLOYEE MEDICAL RECORD INFORMATION TO A DESIGNATED REPRESENTATIVE (NONMANDATORY)

I, _____, hereby authorize _____
(full name of worker/patient)

_____ to release to (organization holding the medical
records)

(individual or organization authorized to receive the personal information), the following medical information
from my medical records:

(Describe generally the information desired to be released)

I give my permission for this medical information to be used for
the following purpose: _____

_____, but I do not give permission for any other use or re-
disclosure of this information.

(Note: Several extra lines are provided below so that you can place additional restrictions on this authorization letter if you want to. You may, however, leave these lines blank. On the other hand, you may want to (1) specify a particular expiration date for this letter (if less than one year); (2) describe medical information to be created in the future that you intend to be covered by this authorization letter; or (3) describe portions of the medical information in your records that you do not intend to be released as a result of this letter.)

Full name of Employee or Legal Representative: _____

Signature of Employee or Legal Representative

Date

FIRST AID AND MEDICAL SERVICES
APPENDIX A FORMS

<i>FIRST AID LOG</i>				
DATE	NAME OF EMPLOYEE	DEPARTMENT	NATURE OF INJURY	TYPE OF TREATMENT PROVIDED

FLOORS, WALL OPENINGS, AND STAIRWAYS

G & M SERVICES

1. All floor openings shall be guarded with covers that cannot be displaced. These covers must be marked "HOLE COVER, DO NOT REMOVE," or have standard guardrails.
2. Every stairway floor opening shall be guarded by a standard railing. The railing shall be provided on all exposed sides except at entrance to the stairway.
3. For infrequently used stairways where traffic across the opening prevents the use of fixed standard railing, (as when located in aisle spaces, etc.), the guard shall consist of a hinged floor opening cover of standard strength and construction and removable standard railings on all exposed sides except at entrance to the stairway.
4. Every ladder way floor opening or platform shall be guarded by a standard railing with a standard toeboard on all exposed sides, except at entrance to the opening, with the passage through the railing either provided by a swinging gate or so offset that a person cannot walk directly into the opening.
5. Every hatchway and chute floor opening shall be guarded by one of the following:
 - a. A hinged floor opening cover of standard strength and construction equipped with standard railings or permanently attached, so as to leave only one exposed side. When the opening is not in use, the cover shall be closed or the exposed side shall be guarded at both the top and intermediate positions by removable standard railings.
 - b. A removable railing with toeboard on not more than two sides of the opening and fixed standard railings with toeboards on all other exposed sides. The removable railings shall be kept in place when the opening is not in use.
6. Every manhole floor opening shall be guarded by a standard manhole cover that need not be hinged in place. If the cover is not in place, the manhole shall be constantly attended by someone or shall be protected by removable standard railings.
7. Every temporary floor opening shall have standard railings, or shall be constantly attended by someone.
8. Every floor hole into which persons can accidentally walk shall be guarded by a standard railing with standard toeboard or a floor hole cover.
9. All exterior wall openings are to be guarded with standard railings where the bottom of the opening is less than three feet above the floor.

FLOORS, WALL OPENINGS, AND STAIRWAYS

10. A standard railing shall consist of a top rail, an intermediate rail, and posts, and shall have a vertical height of 42 inches. The intermediate rail shall be approximately halfway between the top rail and the floor, platform, runway or ramp. The ends of the rails shall not overhang the terminal posts except where such overhang does not constitute a projection hazard.
11. A stair railing shall be similar to a standard railing but the vertical height shall be not more than 34 inches nor less than 30 inches.
12. The construction of floor opening covers may be of any material that meets the strength requirements.
13. Guardrails should be constructed to withstand a side impact of 200 pounds.
14. When guardrails are removed for material handling, they shall be replaced immediately.
15. All flights of stairs with four or more risers should have well-braced handrails preferably on the right side.
16. Clear aisle ways must be maintained to exits on all floor levels.
17. Do not dispose of or store materials on stairways.
18. No materials should be dropped through a floor or wall opening.
19. Wall opening barriers shall be of such construction and mounting that, when in place at the opening, the barrier can withstand a load of at least 200 pounds applied in any direction.
20. Wall opening grab handles shall be not less than 12 inches in length and mounted as to give a three-inch clearance from the framing of the wall opening. The material must withstand a load of at least 200 pounds.
21. Wall opening screens must withstand a load of at least 200 pounds. They may be of solid construction, of grillwork with openings not more than eight inches long, or of slatwork with openings not more than four inches wide with unrestricted length.
22. Every wall opening from which there is a drop of more than four feet shall be guarded. Where there is exposure below to falling materials, a removable toe board or the equivalent shall also be provided. When the opening is not in use for handling materials, the guard shall be kept in position.
23. Where doors or gates open directly on a stairway, a platform shall be provided, and the swing of the door shall not reduce the effective width to less than 20 inches.
24. Elevator shafts and similar openings must be guarded.

GENERAL SAFETY RULES

G & M SERVICES

The following company safety rules are patterned after Federal OSHA requirements. Read and become familiar with the rules that apply to the job on which you are working.

1. You must report any injury to your supervisor immediately.
2. If you do not have current First Aid Training, do not move or treat an injured person unless there is an immediate peril, such as profuse bleeding or stoppage of breathing or unless the injured is subjected to further injury by remaining where he or she is.
3. It is a condition of employment that you wear a hard hat at all times in those areas where they are required.
4. Appropriate clothing and footwear must be worn on the job.
5. Safe work practices are to be used on all job operations.
6. Personal protective equipment must be used as directed by your supervisor.
7. Horseplay is specifically prohibited.
8. Drinking of alcohol beverages is not permitted on the job. Any person under the influence of alcohol or drugs on the job or on company property will not be permitted to work.
9. Riding on a crane hook is dangerous and is prohibited.
10. No employee shall ride on any hoist or equipment that is not designed for carrying passengers.
11. Never remove or bypass safety devices.
12. Do not approach operating machinery from the blind side.
13. **For liability purposes, all contractors should be required to have a written safety policy comparable to that of G & M Services, or should be required to follow the policies and procedures of G & M Services. They should also be required to hold monthly safety meetings or to attend those held by G & M Services.**
14. Learn where the fire extinguishers and first aid kits are located.

GENERAL SAFETY RULES

15. Maintain a general condition of good housekeeping in all work areas at all times.
16. Obey all traffic regulations when operating vehicles on a public highway.
17. Take extra safety precautions when working close to power lines.
18. Place “DO NOT USE” tags on all tools, machinery, equipment, and devices that are under repair or are unsafe.
19. Compressed gas cylinders shall be secured upright at all times.
20. Vehicles without signal devices and with obscured vision to the rear, shall not back in work areas, unless guided by a signalman.
21. Electrically driven power tools must be checked for proper grounding before using.
22. Faulty or damaged metal scaffold parts shall not be used.
23. **Remember** -- think safety -- then act safely. It is **your** responsibility.

Note: The general safety rules included in this program apply to all jobs. While moving from job to job, however, employees will naturally encounter new and different situations and varied safety conditions. These will be dealt with on an individual basis and will be discussed with you as they occur by your supervisor.

SAFETY TRAINING AND EDUCATION

1. Do not use machinery or tools unless you know how to operate them safely.
2. Learn the hazard properties and cautions of various chemicals you use.
3. Learn the safe use of emergency equipment.
4. Always lift correctly--use your legs--get a firm grip on the object. Get help when needed.
5. Learn the safe way to do all tasks.
6. Be alert to all hazards surrounding your operation; for example, floor openings, excessive noise, fumes, dust, eye hazards, electrical contacts, etc. Take precautionary measures.
7. Supervisors should include the material covered in this manual as topics in their weekly safety meetings and keep a record of such meetings in the Safety Meeting Log Diary furnished for that purpose.

GENERAL SAFETY RULES

BATTERY CHARGING

1. Double check that the connections are on the right terminals.
2. ABSOLUTELY no smoking or open flames near the battery charging operation.
3. Keep the battery charging area well ventilated.
4. Face shields, aprons, and rubber gloves should be worn when handling acids or batteries.
5. Know the location of the water flushing facility in case acid should be splashed on you.
6. Battery caps should be kept in place when charging.
7. Welding and cutting operations should not be allowed near battery charging.

GENERAL SAFETY RULES

CRANES, HOISTS, ELEVATORS AND CONVEYORS

1. Inspect equipment and rigging BEFORE USE each day.
2. The crane operator should not pick up a load that is improperly rigged.
3. Only one person should be designated to give signals to the crane operator. Standard hand signals should be used.
4. A ten-foot clearance must be maintained between power lines and crane booms, load lines, or loads. When impractical, power should be shut off or conductors insulated. ASSUME THAT ALL POWER LINES ARE HOT.
5. Operators should consult the load capacity chart and boom angle indicator before making a lift. Make certain you know the weight of the load to be lifted.
6. Outriggers must be fully EXTENDED WITH PADS ON FIRM GROUND OR MATS, to be effective.
7. The operator should always know where his oiler is located.
8. Exercise caution when traveling the crane near power lines; uneven ground can cause the boom to weave or bob into the lines.
9. When working near power lines, slow down the operating cycle of the crane, thereby reducing the hoisting, booming, swinging and travel speeds.
10. Use a signalman if a power line is located within ten feet of the maximum reach of the crane.
11. Avoid using taglines, except when it is possible for the load to spin into the power line, because all ropes will conduct electricity to some extent. Dry polypropylene ropes provide better insulating properties than most other ropes.
12. When working near power lines, do not allow anyone to contact the crane or the load until the pick is complete and you are sure the crane, rope, and load are at least ten feet away from the power line.
13. Exercise caution when working near overhead lines having long spans as they tend to swing laterally in the wind and accidental contact can occur.

GENERAL SAFETY RULES

14. If a crane or any piece of equipment contacts a power line:
DO NOT PANIC.
Stay where you are.
Keep everyone away.
Move the crane off the wire if possible.
DO NOT leave the machine unless it is absolutely necessary.
If you have to get out -- **JUMP** -- DO NOT STEP DOWN.
15. When a crane is in contact with a high voltage line, electrical current flows down the boom and through the crane into the ground. The ground will then be energized with a high voltage near the crane. Because of the hazardous voltage differential in the ground, the operator should jump with his feet together, maintain balance and shuffle or hop slowly away from the crane. Remember . . . while jumping and landing, your body should not touch the ground and the crane at the same time. DO NOT take large steps because it is possible for one foot to be in a high voltage area and the other in a low voltage area. The difference between the two can kill.
16. After a crane has contacted a power line, move it to a safe area away from the power line and inspect the rope for pits and burns at the contact point, all sheaves, at the drum and at any other location where the rope touches the crane's structure.
17. Plan your picks. Before setting up to make a pick, LOOK FOR THE POWER LINE EXPOSURE. If it is present, take action to prevent contact.
18. Riding loads or crane hooks is prohibited.
19. All hoisting equipment should be regularly inspected to assure that guards are on gears, belts, and shafts.
20. A fully charged fire extinguisher should be in the crane cab.
21. Broken or cracked glass in crane cabs should be replaced.
22. Do not swing a load over workers.
23. Guarding must be in place on the rear swing of cranes.
24. Do not perform maintenance on any conveyor until the starting switch has been locked or tagged out of service.
25. Backhoe operators - Use extra caution when digging around buried utilities. Make sure your foreman has contacted the utility company for location identification.

GENERAL SAFETY RULES

26. The oiler should never grease or oil while the crane is operating.
27. Backhoe operators should maintain a distance of ten feet between the boom/bucket and electrical lines.

ELECTRICAL

Electrical current will flow to ground by the path of least resistance, whether it is through YOU or a wire. The following rules are to keep you from being a path of least resistance:

1. All temporary wiring and extension cords must be three wire conductor.
2. Check and test extension cords daily. Damaged cords are to be reported to your supervisor.
3. Do not make electrical repairs, connections, or installations unless you are qualified to do so.
4. Protect extension cords and wiring from damage such as run over, sharp corners, and pinching.
5. All temporary light wiring should be supported eight feet off the floor and not be hung on nails or by noninsulated wire. All light bulbs exposed to contact are to be guarded.
6. Do not wear metal or conductive hard hats when working near electrical wiring.
7. Find out the location of electrical wiring before beginning such work as drilling, jack hammering, or excavating, to prevent accidental contact.

FIRE PROTECTION AND PREVENTION

1. **There shall be consistency in the placement of fire extinguishers at every plant. By doing this, employees will have a general idea of where to find the fire extinguishers in case of an emergency. This should occur before the first safety meeting at any given plant.**
2. Locate extinguishers so that they are easily seen. Use proper signs and markings.
3. Do not block access to fire extinguisher locations.
4. All employees shall be properly trained to use fire extinguishers annually.
5. Learn what is the right type of extinguisher for different types of fires:

GENERAL SAFETY RULES

EXTINGUISHER TYPE	CLASS OF FIRE	MATERIAL TO BE USED ON
Water under pressure	A	Wood, paper, rubbish
Dry Powdered Chemical	B	Flammable liquids, oil
Carbon Dioxide-Foam Halon		Gasoline, paint, grease
Dry Powdered Chemical Dioxide-Halon	C	Energized electrical equipment

6. Report defective equipment to your foreman.
7. Do not smoke when refueling or when pouring flammable fluids.
8. Obey all "NO SMOKING" signs.
9. Keep direct exhaust from equipment clear of combustible materials.
10. Use only OSHA approved containers for storage of flammable liquids.
11. Wash parts only in approved solvents -- NEVER use gasoline.
12. Do not store flammable liquids in areas used as passageways, stairways, or exits.
13. Do not use gas heaters unless there is sufficient ventilation.
14. Combustible materials (wood, paper, liquids) should be stored at least ten feet from heaters.

FIRST AID AND MEDICAL ATTENTION

1. **If possible, there should be consistency in the placement of first aid equipment at every plant. By doing this, employees will have a general idea of where to find these items in case of an emergency. This should occur before the first safety meeting on a given job.**
2. Know where immediate First Aid is available.
3. Know where emergency phone numbers are located.
4. Report all injuries and illnesses to your supervisor immediately.
5. We suggest that you obtain a regular physical checkup, including eye and ear examination.

GENERAL SAFETY RULES

FLAGGING PROCEDURE

1. Flagpersons should be properly dressed; i.e.:
 - a. Orange or red vest (reflective at night).
 - b. Hard hat.
 - c. Red flag (24" x 24").
2. Always stand on the shoulder next to the traffic you are controlling or in the barricaded lane. **UNDER NO CIRCUMSTANCES** stand in the lane being used by traffic. Stand sufficiently ahead of workers to warn them of approaching danger, such as out of control vehicles.
3. Always face the traffic you are controlling.
4. To STOP traffic, hold the flag straight out from the side of the body toward the lane to be controlled. Hold up the other hand in front of you to indicate STOP! Stand on the berm until the first vehicle is stopped; then move to a position so other drivers approaching can see you.
5. To START traffic, drop the flag to side, wave on traffic with other hand.
6. To slow down oncoming traffic, hold the flag straight out from the side of the body. Wave slowly with other hand, indicating traffic to proceed.
7. Take special steps to make yourself visible at night (reflective gear and/or lighting.)
8. Be sure advance warning signs are in place before starting to flag.
9. The use of several cones on the centerline ahead of flagperson's location keeps traffic in line.

TRAFFIC CONTROL

1. All vehicles that back into a work area shall have a backing signal in good operating condition.
 2. Signs should be placed to warn others of a hazardous condition.
 3. Barricades shall be erected to detour the passage of persons or vehicles from hazardous areas.
 4. If there are questions about which signs should be used, refer to the state traffic control
- G & M Services** **05/29/18**

GENERAL SAFETY RULES

manual for guidance.

5. Use properly located advance warning signs when flagpersons are used.

FLOORS, WALL OPENINGS, AND STAIRWAYS

1. All floor openings shall be protected with covers that cannot be displaced and these covers must be marked "HOLE COVER DO NOT REMOVE," or with standard guardrails.
2. All exterior wall openings are to be guarded with standard railings where the bottom of the opening is less than three feet above the floor.
3. Elevator shafts and similar openings must be guarded.
4. Guardrails should be constructed to withstand a side impact of 200 pounds.
5. All flights of stairs with four or more risers should have well-braced handrails preferably on the right side.
6. Clear aisle ways must be maintained to exits on all floor levels.
7. Do not dispose of or store materials on stairways.
8. No materials should be dropped through a floor or wall opening.
9. When guardrails are removed for material handling, they shall be replaced immediately.

HAND AND POWER TOOLS

1. Inspect all tools before using. DO NOT USE defective tools.
2. Store tools in bins or boxes to prevent damage.
3. Use tools only for their designated application. A wrench is not a hammer. A screwdriver is not a prybar.
4. Do not use tools with mushroomed heads, split or broken handles, or sloppy electrical connections.
5. Electric powered hand tools should be plugged into a circuit that is positively grounded or is protected by a ground fault circuit interrupter. A double insulated tool provides protection from shock or electrocution.

GENERAL SAFETY RULES

6. Disconnect tools and machines from their power source BEFORE making adjustments or attachment changes.
7. Air powered tools must have safety clips or retainers on all connections.
8. Under no circumstances should compressed air be used to clean clothing.
9. Explosive-actuated tools will be used ONLY by trained, certified employees.
10. Do not remove or deactivate guards or safety devices on tools.
11. When using woodworking machines and saws, USE GUARDS and/or push sticks when possible.
12. Before mounting abrasive wheels, inspect for cracks, chips, or other defects.
13. Know the lifting capacity of a jack before using it.
14. Support lifting jacks firmly and squarely to prevent slipping under loads.
15. Gasoline driven tools should not be refueled while the engine is hot. Fuel shall be stored in approved containers only.

HOUSEKEEPING

1. You are responsible for keeping your work area orderly and uncluttered.
2. Remove or bend over all exposed nails in the workplace.
3. Place all trash in proper container or location.
4. Return all tools to their proper storage locations.
5. Store hazardous materials away from other materials.
6. Eliminate or protect the cause of tripping hazards.

GENERAL SAFETY RULES

LADDERS

1. Before each use all ladders should be inspected for damage (rungs, split or cracked side rails).
2. All straight/extension ladders must have non-skid feet and be securely tied off.
3. Job built ladders shall be constructed using a minimum 2" x 4" lumber for side rails--cleats or rungs 3/4" x 3" lumber (no plywood) and 12 inches between the top of each rung/cleat. The rungs/cleats are to be recessed into the side rails or have blocking under each rung/cleat. The rung/cleats are to be secured by three 10d nails on each side.
4. The top of ladders must extend thirty-six inches above the landing and must be secured.
5. Metal ladders are not to be used where there is a possibility of electrical contact.
6. Ladders in doorways, walkways, or other congested areas must be barricaded or guarded.

MATERIAL HANDLING

1. Inspect all rigging equipment before use, (chains, ropes, slings, shackles, etc.).
2. Always block cylinder-shaped materials to prevent rolling.
3. Stack materials so they will not slide, roll, fall, or collapse.
4. Always allow clear access to stored materials.
5. Never store excess materials on scaffolds or walkways.
6. Do not stockpile materials near power lines.
7. Store flammable materials away from other materials.
8. Special care must be used when releasing landed loads.
9. Use tag lines on loads being moved by cranes.
10. Remove all projecting nails from lumber before stacking.
11. Never secure wire rope cable by tying knots in the rope.
12. Wire rope is to be spliced ONLY in accordance with applicable safety regulations and by qualified splicers.

GENERAL SAFETY RULES

13. Cable clamps are to be installed ONLY with the “U” part of the bolt on the dead or short end of the cable with the saddle on the long or line end of the wire rope.
14. Balance all loads being hoisted by crane.

MOTOR VEHICLES AND MECHANIZED EQUIPMENT

1. Be sure that the load you are carrying is secure.
2. Buckle your seat belt before operating.
3. Make sure that everyone is clear before dumping your load.
4. Do not operate near the edge of the banks.
5. Lock out the dump lever and adequately block dump bodies when inspecting or performing maintenance.
6. Make the Circle of Safety before starting equipment each day. Check the:
 - a. Tires, brake lines, dumping mechanisms.
 - b. Lights and back-up alarms.
 - c. Steering, seat, and rear view mirrors.
 - d. Fire extinguisher, windshield, operation of wipers.
 - e. Air pressure, oil and fluid levels.
7. Adjust equipment speed, taking into consideration road conditions.
8. Make sure any parked equipment is properly braked, choked, or the blade, bowl, or bucket is placed on the ground.
9. Do not transport other employees unless the vehicle is designed to do so.
10. At night, lights, reflectors, or barricades should be positioned to warn approaching motorists of equipment parked near a roadway or work area.
11. When equipment is being repaired, make sure the blades, buckets, dump bodies, or similar parts are lowered or blocked to prevent movement.
12. Do not put a spinner or steering knob on the steering wheel.
13. Do not inflate, mount or dismount tires with split rims or lock rings unless protected by a safety cage.

GENERAL SAFETY RULES

14. When site clearing, an approved overhead cab must be used--also, wear your hard hat.
15. Before working on air or hydraulic system, make sure they are properly bled.

PERSONAL PROTECTIVE EQUIPMENT

1. Wear your hard hat at all times when required! Plastic dielectric hard hats should be used if it is possible to contact electricity.
2. Bump caps are not a substitute for hard hats.
3. Appropriate clothing and footwear must be worn on the job, (i.e., no shorts, sandals, or tennis shoes.) Long pants, shirts, and six-inch high shoes are acceptable clothing.
4. Only approved hearing protection can be worn when exposed to noise hazards. Cotton is not acceptable as hearing protection.
5. Impact resistant eye protection must be worn when exposed to grinding, chipping, welding, sand blasting, cutting, drilling, using powder actuated tools, compressed air for cleaning, and any other operations creating an eye hazard.
6. Buoyant work vests shall be worn when working over or near water where depths create a danger of drowning.
7. An approved respirator must be worn in dusty conditions or when exposed to gases or fumes. Make sure it is the right type for the exposure.
8. Use only clean and approved personal protective equipment.
9. When there is a possibility of falling four feet or more, safety harness must be worn if guard rails or nets are not provided.
10. Make sure that drinking water containers are used only for that purpose--use of a common drinking cup is prohibited.
11. Do not dispose of any waste materials that will contaminate the ground or water.
12. Do not enter confined spaces unless the atmosphere has been tested and determined to be safe. When entering confined spaces, wear a life line, a safety harness, and an appropriate respirator.
13. Wear appropriate personal protective equipment when using chemicals and hazardous materials.

GENERAL SAFETY RULES

SAFE LIFTING

Avoid lifting where possible and practical by pushing, pulling, rolling or sliding the object to be moved. Use mechanical aids (hand trucks, carts, winches, forklifts, etc.) or request help from another employee when necessary, particularly when you find yourself in a difficult or awkward lifting situation. When lifting heavy objects from the floor/ground can't be avoided, here are some basic principles to prevent back pain and injury:

- Warm up before lifting. Stretch with side and back bends.
- Lift only loads you can safely handle.
- Establish good footing.
- Keep the load close to the body.
- Bend at the knees as you grasp it.
- Get a full handgrip and keep your body erect, keep spine in an upright position.
- Lift smoothly, strengthening the legs (avoid jerky or snatching lifts).
- Avoid the lift and twist action. When turning, shift the position of your feet rather than twisting your body at the waist.
- Reverse the procedure to set the object down.
- Wearing a protective belt is recommended when lifting.

SCAFFOLDS

1. Key points to employ in the safe erection of scaffolds are:
 - a. There must be a substantial level base.
 - b. Pin sections together.
 - c. Ensure the end frames are plumb, level, and not damaged.
 - d. All sections must be cross braced.
 - e. Tie to the structure every twenty-six feet in height.
 - f. Don't mix different manufacturers' sections.
 - g. Completely deck work platforms.
 - h. Erect guardrails.
2. All bracing must be in place BEFORE the scaffold is loaded.
3. All scaffold platforms are to be planked solid.
4. A standard guardrail is required on all scaffolds. It consists of a top rail, mid rail, and toeboard.
5. Scaffold parts that have been damaged must be repaired or replaced immediately.
6. Scaffolds twenty-six feet or more in height must be tied and braced against the structure.

GENERAL SAFETY RULES

7. Scaffold plank ends shall overlap a minimum of twelve inches and be secured from movement.
8. Do not use double headed nails to secure scaffold planking. This will create a tripping hazard. Common nails are to be fully driven.
9. Scaffold platform will be a minimum of twenty inches wide.
10. A ladder must be used to gain access to work platform unless the scaffold end frame has a built in ladder for this purpose. Do not climb the bracing.
11. Overhead protection should be erected on scaffolds when there is a possibility of objects being dropped from above.
12. When working on a suspended scaffold, you must at all times be wearing a safety harness attached to a life line, which is secured independently of the scaffold suspension.

MANUALLY PROPELLED MOBILE SCAFFOLDS

1. When free standing, the height of the work platform must not exceed three times the minimum base dimension.
2. Casters must be locked when a person is on the platform.
3. Scaffold platforms must be tightly planked the full width of the platform and secured in place.
4. A ladder must be provided for access to the work platform.
5. **Employees shall not ride on the scaffold while moving from one location to another, unless:**
 - a. The floor is level, free from pits, holes and obstructions.
 - b. The scaffold has wheels of rubber or similar resilient material.
 - c. The height does not exceed two times the narrowest dimension of the base.
 - d. All tools and materials are secured or removed before moving.

GENERAL SAFETY RULES

GAS WELDING AND CUTTING

1. Store, use and move all gas cylinders upright.
2. Never store or move gas cylinders unless valve protection caps are in place.
3. Make sure regulators, hoses, couplings and torch tips are in good condition before using (no breaks, damaged or cracked glass.)
4. Do not hoist cylinders with chokers.
5. All cylinders must have flashback restrictors attached.
6. ALWAYS WEAR proper eye and face protection when engaged in welding, cutting, or heating.
7. When leaving torch unattended, turn off gases at the tank valves.
8. Do not interchange hose connections between fuel, gas, and oxygen.
9. Keep regulators, hoses, connections, valves, and cylinders free from oil and grease.
10. Do not weld or cut in or near flammable or combustible materials, especially paint, dusts, gases, or vapors.
11. Do not use matches, butane lighters, or hot work to light torches.
12. Check area before and after welding for fire hazards.
13. Always have a fully charged fire extinguisher on hand when cutting.
14. Special precautions should be taken when cutting materials that have been galvanized.
15. Do not use oxygen for comfort cooling, blowing dust from clothing, or for cleaning off work areas.

GENERAL SAFETY RULES

ARC WELDING

1. ALWAYS WEAR proper eye and face protection. (Gas welding goggles are not adequate to protect from ARC welding rays.)
2. Inspect cables and electrode holders for exposed conductors or cracked insulation. Repair as needed. There shall not be any repairs to a welding lead within tenfeet of the electrode holder.
3. Report faulty or defective equipment to your supervisor.
4. Know proper procedure before operating an ARC welder.
5. Make sure grounding is adequate.
6. Use your safety harness when working in elevated locations over six feet above ground or platform.
7. Before making adjustments to any part of the electric welding equipment, be sure the current is off.
8. Do not look at welding operations without proper eye protection.
9. NEVER wrap leads around parts of your body.
10. Do not suspend cables by metal parts or wire without appropriate guarding.

HAND AND POWER TOOLS

G & M SERVICES

HAND TOOLS

A. INTRODUCTION

The number of differing types of hand tools used throughout G & M Services prohibits listing a description and safety procedure for using each type of hand tool.

The guidelines listed in this document generally apply to the safe use, storage and maintenance of all hand tools.

B. MAINTENANCE OF HAND TOOLS

Hand tools, whether furnished by G & M Services or the employee, shall be maintained in a safe condition. The use of unsafe tools is prohibited. Inspect all tools before using.

Note: Do not use defective tools!

The following examples are typical safety problems with hand tools:

1. **Screwdrivers** - Tips should not be rounded or broken. Do NOT use a screwdriver as a prybar.
2. **Hammers** - Striking surfaces should be flat, not rounded.
3. **Wooden Handles** - Should not have cracks or splinters and shall be kept tight in the tool.
4. **Saws** - Blades must be kept sharp and clean.
5. **Chisels** - Blades must be kept sharp. The striking end should not be mushroomed.
6. **Wrenches** - Jaws, box teeth, etc., must be sharp and clean. Do NOT use a wrench as a hammer.

All hand tools should be kept free from rust, corrosion, etc.

C. USE OF HAND TOOLS

HAND AND POWER TOOLS

1. Select the proper tool (type, size, etc.) for the job.
2. Wear protective clothing to prevent danger from flying chips, dust, etc. (e.g., gloves, eye protection, apron, etc.).
3. Obtain instruction or training before using an unfamiliar tool.
4. Use tools in the proper manner.
5. When working in the presence of flammable materials, explosive dusts, gasses or vapors, use tools that will not create a spark (e.g., hammers, made of non-sparking material).
6. Tools shall not be thrown or otherwise abused.

D. STORAGE OF TOOLS

1. Hand tools should be stored in tool boxes, racks, etc. Sharp blades (such as knives) should be kept in sheaths or other protective devices when not in use.
2. Tools should not be left unattended when not in use. At the end of each shift, tools should be placed in their proper storage place.

PORTABLE POWER TOOLS

A. GENERAL

1. Portable power tools may be powered by electricity, compressed air, hydraulic pressure, gasoline engine, explosives, etc. If such tools are not maintained and used in a proper and safe manner, they can cause severe personal injury and/or property damage.
2. It is important that each employee using a portable power tool be instructed in the proper use of such tool prior to using it. The employee should be capable of inspecting the tool to assure it is in a safe operating condition prior to its use. The employee should also be aware of the tool's limitations and potential hazards.
3. Portable power tools shall not be operated without the proper safeguards (guards, shields, dead man's switch etc.) properly attached.

HAND AND POWER TOOLS

Note: Do not remove or deactivate guards or safety devices on tools!

4. Any portable power tool that is not in proper working order, or that develops a defect during use, shall be immediately removed from service and not used until proper repairs have been completed.

B. USE OF PORTABLE POWER TOOLS

1. The following general guidelines apply to the use of all portable power tools:
 - a. Select the proper tool for the job.
 - b. Remove any adjusting tools (keys, wrenches, etc.) before starting the tool.
 - c. Be alert to any potential hazards in the area, such as:
 - (1) Flammable or explosive gasses, vapors, dusts, etc., which may ignite if a spark is made by the tool or from work being done with the tool.
 - (2) Debris that could cause tripping or slipping, etc., while using the tool.
 - (3) Be sure wires, hoses, etc., used to power the tool are not in position where the operator, or others, may trip or become entangled in them. A sudden, unexpected force caused by tripping or entanglement could easily cause the operator to lose control of the tool.
 - d. Avoid accidental start-up. Be sure the switch or other activating mechanism on the tool is in the “off” position before connecting to the power source.
 - e. Be sure all guards and/or protective devices are secured in place and functioning properly.
 - f. Make sure blades, bits, cutters, etc., are sharp, clean and properly installed in the tool.
 - g. Where required, protective clothing and/or equipment shall be worn.

HAND AND POWER TOOLS

- h. Do not force the tool. Work at the speed for which the tool is designed.
 - i. Do not leave tool running unattended.
 - j. Disconnect tools and machines from their power source BEFORE making adjustments or attachment changes.
 - k. Do not over reach (keep proper footing and balance at all times).
 - l. Do not brush away chips, sawdust, etc., while tool is operating.
 - m. Work should be secured (with a vise, clamps, etc.) so that both of the operator's hands are free to operate the tool.
2. The following guidelines apply to specific types of portable power tools:
- a. **Electric Power Tools**
 - (1) Frayed or otherwise defective cords shall not be used. They shall be repaired or replaced before use.
 - (2) Cords shall not be used to hoist or lower tools.
 - (3) Electric powered hand tools should be plugged into a circuit that is positively grounded or is protected by a ground fault circuit interrupter.
 - b. **Pneumatic Power Tools**
 - (1) Pneumatic tools shall be secured to the hose with safety lips or retainers to prevent accidental disconnection.
 - (2) Defective hoses shall be removed from service and repaired or replaced.
 - (3) High pressure (more than 100 psi) nailers, staplers, etc., should be equipped with a device that prevents the tool from ejecting the fasteners unless the muzzle is in contact with the work surface.
 - (4) Hoses shall not be used for hoisting or lowering tools.
 - (5) Pressures shall not exceed the manufacturer's stated safe operating

HAND AND POWER TOOLS

pressures.

Note: Under NO circumstances should compressed air be used to clean clothing.

c. Fuel Powered Tools

- (1) Fuel powered tools shall be stopped while being refueled.
- (2) When used in enclosed spaces, precautions shall be taken to exhaust toxic gasses. If necessary, protective equipment, such as respirators, shall be used.
- (3) Fuel powered tools shall not be used areas where flammable or explosive gasses, vapors, dusts, etc., could be ignited by the engine's exhaust, sparks, etc.
- (4) Fuel powered tools shall not be refueled while the engine is hot. Fuel shall be stored in approved containers only.

d. Explosive (Powder) Actuated Tools

- (1) Explosive-actuated tools will be used ONLY by trained, certified employees.
- (2) Prior to loading any explosive activated tool, the tool shall be inspected to assure the safety devices are in proper working condition.
- (3) Tools shall not be loaded until just prior to their intended use.
- (4) Neither loaded nor empty tools should be pointed at any person. Hands should be kept clear of the open barrel end at all times.
- (5) Loaded tools should not be left unattended.
- (6) No attempt shall be made to drive fasteners into very hard or brittle material including, but not limited to, cast iron, glazed tile, surface hardened steel, glass, live rock, face brick, or hollow tile.
- (7) Fasteners shall not be driven into easily penetrated materials where

HAND AND POWER TOOLS

they could pass completely through and create a hazard as a flying missile on the other side.

- (8) Tools shall not be used in an explosive or flammable atmosphere.
- (9) Tools shall be equipped with the manufacturers' recommended shields, guards or other safety attachments.
- (10) Employees using explosive powered tools shall wear appropriate protective clothing and equipment. In no case shall such tools be used unless eye protection is worn.

PORTABLE GRINDERS/ABRASIVE WHEELS

A. USE

- 1. Personnel shall wear required eye and face protection when using portable grinders/abrasive wheels. Safety glasses and a full-face shield are required.
- 2. Additional protective clothing/equipment should be worn as necessary (e.g., gloves, etc.)
- 3. All contact surfaces shall be flat and clean.
- 4. Grinding in an explosive or flammable atmosphere is prohibited.
- 5. Defective wheels shall be removed from service immediately.

B. STORAGE/HANDLING

Abrasive wheels shall be stored and handled appropriately to protect against cracking or other damage.

C. MOUNTING OF ABRASIVE WHEELS

- 1. Prior to mounting, abrasive wheels shall be closely inspected and ring-tested to ensure they are free from cracks, chips, or other defects.
- 2. The spindle speed of the machine shall be checked before mounting to assure it does not exceed the maximum operating speed marked on the wheel.

HAND AND POWER TOOLS

3. The wheel should fit freely, but not loosely, on the spindle. The spindle nut shall be tightened only enough to hold the wheel in place.

JACKS

Know the lifting capacity of a jack before using it. Support lifting jacks firmly and squarely to prevent slipping under loads.

HAZARD COMMUNICATION PROGRAM

G & M SERVICES

1.0 HAZARD COMMUNICATION POLICY

- 1.1 It is the policy of G & M Services to safeguard the people, property, and the environment within G & M Services worksites and the surrounding community from the physical and health hazards of the chemicals and materials we use.

2.0 PURPOSE

- 2.1 The purpose of the Hazard Communication Program is to comply with OSHA Hazard Communication Standard, Title 29 Code of Federal Regulations 1910.1200, and to describe in writing the Hazard Communication Program to our employees, community members, visitors, contractors, emergency responders and government officials.

3.0 OBJECTIVES

- 3.1 To reduce chemical/material source injuries and illnesses of our employees by providing appropriate information concerning the physical and health hazards of the substances used in our operations.
- 3.2 To reduce property or environmental damage caused by the operations or hazardous chemicals and materials we use.
- 3.3 To comply with the Occupational Safety and Health Administration's Hazard Communication Standard, 29 CFR 1910.1200, and The Environmental Protection Agency's SARA Title III.

4.0 SCOPE

- 4.1 G & M Services shall develop, implement, and maintain at the workplace a written Hazard Communication Program, which at least describes how criteria for 29 CFR 1910.1200 will be met and which includes the following:
 - 4.1.1 A list of the hazardous chemicals known to be present using an identity referenced on the appropriate SDS.
 - 4.1.2 The methods G & M Services will use to inform its employees of the hazards of non-routine tasks and the hazards associated with chemicals contained in unlabeled pipes in their work areas.

5.0 DEFINITIONS

- 5.1 ***Article*** - A manufactured item other than a fluid or particle: (i) which is formed to a

HAZARD COMMUNICATION PROGRAM

specific shape or design during manufacture; (ii) which has end use functions(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 1910.1200), and does not pose a physical hazard or health risk to employees.

- 5.2 ***Assistant Secretary*** - The Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor or designee.
- 5.3 ***Chemical*** - Any element, chemical compound, or mixture of elements and/or compounds.
- 5.4 ***Chemical Manufacturer*** - An employer with a workplace where a chemical or chemicals are produced for use or distribution.
- 5.5 ***Chemical Name*** - The scientific designation of a chemical according to the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstract Service (CAS) rules of nomenclature, or a name that will clearly identify the chemical for the purpose of conducting a hazard evaluation.
- 5.6 ***Combustible Liquid*** - Any liquid having a flash point at or above 100 degrees F but below 200 degrees F, except any mixture having components with flash points of 200 degrees F or higher, the total volume of which make up 99 percent or more of the percent of the total volume of the mixture.
- 5.7 ***Commercial Account*** - 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.
- 5.8 ***Common Name*** - 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.
- 5.9 ***Compressed Gas*** - A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 PSI at 70 degrees F; or a gas or mixture of gases having, in a container, an absolute pressure exceeding 104 PSI at 130 degrees F, regardless of the pressure at 70 degrees F; or a liquid having a vapor pressure exceeding 40 PSI at 100 degrees F as determined by ASTM D-323-72.
- 5.10 ***Container*** - Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For the purpose of 29 CFR 1910.1200, pipes or piping systems, and engines, fuel tanks or other operating systems in a vehicle, are not considered containers.

HAZARD COMMUNICATION PROGRAM

- 5.11 ***Designated Representative*** - Any individual or organization to which an employee gives written authorization to exercise such employee's rights under 29 CFR 1910.1200. A recognized or certified collective bargaining agent shall be treated automatically as a designated representative.
- 5.12 ***Director*** - The Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services or designee.
- 5.13 ***Distributor*** - A business, other than a chemical manufacturer or importer, which supplies hazardous chemicals to other distributors or to employers.
- 5.14 ***Employee*** - A worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.
- 5.15 ***Employer*** - A person engaged in a business where chemicals are either used, distributed, or are produced, including a contractor or subcontractor.
- 5.16 ***Explosive*** - A chemical that causes a sudden, almost instantaneous, release of pressure, gas and heat when subjected to sudden shock, pressure, or high temperature.
- 5.17 ***Exposure or Exposed*** - 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, etc.).
- 5.18 ***Flammable*** - A chemical that falls into one of the following categories:
 - 5.18.1 "Aerosol, flammable" means an aerosol that meets the requirements described in 16 CFR 1500.45 when tested;
 - 5.18.2 "Gas, flammable" means:
 - 5.18.2.1 A gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of 13% by volume; or
 - 5.18.2.2 A gas that, at ambient temperature and pressure, forms a range of flammable mixtures with air wider than 12% by volume, regardless of the lower limit;
 - 5.18.3 "Liquid, flammable" means any liquid having a flash point below 100 degrees F, except any mixture having components with flash points of 100 degrees F, or higher, the total of which make up 99% or more of the total volume of the mixture.

HAZARD COMMUNICATION PROGRAM

- 5.18.4 “Solid, flammable” means a solid, other than a blasting agent, or explosive as defined in 29 CFR 1910.109(a), that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard.
- 5.19 ***Flashpoint*** - The minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite when tested as follows:
- 5.19.1 Tagliabue Closed Tester;
 - 5.19.2 Pensky-Martens Closed Tester;
 - 5.19.3 Setaflash Closed Tester;
 - 5.19.4 Organic peroxides, which undergo auto accelerating thermal decomposition, are excluded from any of the flashpoint determination methods specified above.
- 5.20 ***Foreseeable Emergency*** - Any potential occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that could result in an uncontrolled release of a hazardous chemical into the workplace.
- 5.21 ***Hazard Warning*** - Any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the specific physical and health hazards, including target organ effects, of the chemicals in the containers
- 5.22 ***Hazardous Chemical*** - Any chemical that is a physical hazard or a health hazard.
- 5.23 ***Health Hazard*** - A chemical for which there is statistically significant evidence based on at least one study conducted according to established scientific principles that acute or chronic health effects may occur in exposed employees. The term “health hazard” includes chemicals that are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents that act on the hematopoietic system and agents which damage the lungs, skin, eyes or mucous membranes. Refer to 29 CFR 1910.1200 Appendix A and Appendix B for further explanation.
- 5.24 ***Identity*** - Any chemical or common name which is indicated on the Material Safety Data Sheet (SDS) for the chemical. The identity shall permit cross-references to be made among the required list of hazardous chemicals, the label and the SDS.
- 5.25 ***Immediate Use*** - The hazardous chemical will be under the control of and used by the person who transfers it from a labeled container, and only within the work shift in which it is transferred.
- 5.26 ***Importer*** - The first business with employees within the Customs Territory of the United States that receives hazardous chemicals produced in other countries.

HAZARD COMMUNICATION PROGRAM

- 5.27 ***Label*** - Any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.
- 5.28 ***Safety Data Sheet (SDS)*** - Written or printed material concerning a hazardous chemical which is prepared according to 29 CFR 1910.1200(g).
- 5.29 ***Mixture*** - Any combination of two or more chemicals if the combination is not, in whole or in part, the result of a chemical reaction.
- 5.30 ***Organic Peroxide*** - An organic compound that contains the bivalent -O-O- structure that may be considered a structural derivative hydrogen peroxide where one or both of the hydrogen atoms have been replaced by an organic radical.
- 5.31 ***Oxidizer*** - A chemical other than a blasting agent or explosive as defined in 29 CFR 1910.109(a) that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.
- 5.32 ***Physical Hazard*** - A chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water reactive.
- 5.33 ***Produce*** - To manufacture, process, formulate, blend, extract, generate, emit or repackage.
- 5.34 ***Pyrophoric*** - A chemical that will ignite spontaneously in air at a temperature of 130 degrees F (54.4 degrees C) or below.
- 5.35 ***Responsible Party*** - Someone who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.
- 5.36 ***Specific Chemical Identity*** - The chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.
- 5.37 ***Trade Secret*** - Any confidential formula, pattern, process, device, information, or compilation of information used in an employer's business, and that gives the employer an opportunity to obtain the advantage over competitors who do not know or use it. Refer to Appendix D of 29 CFR 1910.1200 for specific criteria.
- 5.38 ***Unstable (reactive)*** - A chemical which in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure, or temperature.
- 5.39 ***Use*** - To package, handle, react, emit, extract, generate as a byproduct, or transfer.
- 5.40 ***Water-reactive*** - A chemical that reacts with water to release a gas that is either flammable or presents a health hazard.
- 5.41 ***Work Area*** - A room or defined space in a work place where hazardous chemicals are produced or used, and where employees are present.

HAZARD COMMUNICATION PROGRAM

- 5.42 ***Work place*** - An establishment, job site or project at one geographical location containing one or more work areas.

6.0 CHEMICAL/MATERIAL INVENTORY AND LISTING

- 6.1 A thorough inventory of all chemicals, materials, products, and the items will be done annually, or as new items are purchased, to update existing chemical/material lists.
- 6.2 A list of all chemicals used or stored at G & M Services locations and their accompanying SDS will be assembled and maintained by the individual sites.
- 6.3 A master list of these chemicals/materials will be maintained by G & M Services and is available from the Company Safety Director.
- 6.4 All chemicals purchased by G & M Services will be entered on the chemical/material list, will be properly labeled and will have an accompanying SDS.
- 6.5 The purchase of any chemical substance is conditional upon the receipts of the SDS or verification that an SDS is already available at G & M Services.
- 6.6 All chemicals must be properly labeled at the time of purchase/delivery. No chemical shall be bought or accepted without proper labeling.

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HAZARD COMMUNICATION PROGRAM

7.0 CHEMICAL/MATERIAL HAZARD DETERMINATION

- 7.1 A hazard determination will be performed on all chemicals and materials used or stored at our facility to determine the toxicity, reactivity, flammability, and other concerns to develop appropriate control measures to protect our employees and others from harm.
- 7.2 A hazard determination will be performed by the Company Safety Director annually. The Company Safety Director will use a variety of resources to assist in the hazard determination process including:
 - 7.2.1 SDS provided by manufacturers, importers, suppliers, and distributors.
 - 7.2.2 Safety and health references, agencies, regulations, and consultants.

8.0 CHEMICAL/MATERIAL LABELING

- 8.1 All containers of hazardous materials and chemicals at G & M Services must be properly labeled. All original labels must include the following information:
 - 8.1.1 Identity of the hazardous chemicals.
 - 8.1.2 Any appropriate hazard warnings.
 - 8.1.3 Name and address of the chemical manufacturer, importer, or other responsible party.
 - 8.1.4 HMIS Type Label
- 8.2 Original labels on containers are not to be defaced or removed. An employer need not affix new labels to comply with the standard if existing labels already convey the required information.
- 8.3 Labels are not required on portable containers into which hazardous chemicals are transferred from labeled containers if such containers are intended only for the immediate use of the employee who performs the transfer.
- 8.4 All labels and other forms of warning will be legible, in English, and prominently displayed on the container or readily available in the work area throughout each work shift.
- 8.5 If original labels are inadequate or become illegible, G & M Services employees will re-label with company-authorized labels (HMIS) available from the Company Safety Director. These labels shall state the chemical name and hazards of the chemical.
- 8.6 For employees who speak other languages, the employer shall add the information in their language to the material presented, if the information is presented in English as well.
- 8.7 Stationary process equipment, regular process sheets, batch tickets, blend tickets,

HAZARD COMMUNICATION PROGRAM

signs, placards, and similar written materials will be substituted for container labels when they contain the same information as labels. These written materials will be made readily available to you during your work shift.

- 8.8 Chemicals in unlabeled pipes - Prior to beginning work in these areas, the employee shall be informed regarding the chemicals in the pipes, potential hazards, and safety precautions which shall be taken. The Company Safety Director will maintain a copy of the blueprint for the piping system that identifies the location of all pipes and their contents where applicable.

9.0 CHEMICAL/MATERIAL PLACARDING

- 9.1 Storage areas where hazardous materials and chemicals will be stored should be placarded according to the requirements of the “Right-to-Know” law and in cooperation with the local fire department.

10.0 SAFETY DATA SHEETS (SDS)

- 10.1 A master copy of all SDSs for all hazardous chemicals for G & M Services will be kept by the Company Safety Director. The master copy will be kept in the main office for G&M Services and each G & M location shall maintain a copy for each job site.
- 10.2 The master copy of all SDSs for all hazardous chemicals will be updated quarterly. SDS's shall be available to all employees during their work shifts.
- 10.3 Each SDS will be in English (although the employer may maintain copies in other languages as well) accommodations shall be made for non-English speaking employees or contractors and contain at least the following information:
 - 10.3.1 Chemical/material identity used on label.
 - 10.3.2 Chemical and common names of ingredients or mixture.
 - 10.3.3 Physical/chemical characteristics.
 - 10.3.4 Physical hazards.
 - 10.3.5 Health hazards.
 - 10.3.6 Primary routes of entry.
 - 10.3.7 Exposure limits.
 - 10.3.8 Safe handling procedures.
 - 10.3.9 Control measures/special protection.
 - 10.3.10 Emergency and first aid procedures.

HAZARD COMMUNICATION PROGRAM

- 10.3.11 Date of preparation of the SDS.
- 10.3.12 Special precautions.
- 10.3.13 Name, address and telephone number of the chemical manufacturer, importer, employer or other responsible party.
- 10.4 If the SDS is not provided with a shipment labeled as a hazardous chemical, G & M Services shall obtain one from the chemical manufacturer or importer as soon as possible, and the chemical manufacturer shall provide the employer with an SDS upon request.
- 10.5 If an contractor without a commercial account purchases a hazardous chemical from a retail distributor not required to have SDSs on file, the retail distributor shall provide the employer, upon request, with the name, address, and telephone number of the chemical manufacturer, importer, or distributor from which an SDS can be obtained.
- 10.6 Where employees must travel between work places during a work shift, i.e., their work is carried out at more than one geographical location, the Hazard Communication Program and the SDSs may be kept at the primary work place facility. In this situation, the employer shall ensure that employees can immediately obtain the required information in an emergency.
- 10.7 Note: SDSs can be kept in any form, including operating procedures, and may be designed to cover groups of hazardous chemicals in a work area where addressing the hazard of a process may be more appropriate than individual hazardous chemicals. However, the employer shall always ensure that the required information is provided for each hazardous chemical and is readily accessible during each work shift to employees when they are in their work areas.

HAZARD COMMUNICATION PROGRAM

11.0 TRADE SECRETS

- 11.1 The chemical manufacturer, importer, or employer may withhold the specific chemical identity, including the chemical name and other specific identification of a hazardous chemical, from the material safety data sheet, if:
 - 11.1.1 The claim that the information withheld as a trade secret can be supported;
 - 11.1.2 Information contained in the material safety data sheet concerning the properties and effects of the hazardous chemical is disclosed;
 - 11.1.3 The material safety data sheet indicates that the specific chemical identity is being withheld as a trade secret; and,
 - 11.1.4 The specific chemical identity is made available to health professionals, employees, and designated representatives according to the applicable provisions of this paragraph.

12.0 EMPLOYEE INFORMATION AND TRAINING

- 12.1 All employees shall be provided with information and training on hazardous chemicals in their work area at the time of their initial assignment and whenever a new hazard is introduced into their work area.
- 12.2 The information provided to all employees will consist of the following:
 - 12.2.1 The requirements for employee information and training regulations.
 - 12.2.2 Any operations in their work areas where hazardous chemicals are present.
 - 12.2.3 The existence, availability and location of the written Hazard Communication Program, SDS book, emergency response and first aid equipment, protective equipment and a copy of the State and Federal laws which apply to them.
- 12.3 The training provided to all employees will consist of the following:
 - 12.3.1 Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area.
 - 12.3.2 Physical and health hazards of the chemicals in the work area.
 - 12.3.3 The measures employees can take to protect themselves from these hazards, including the specific procedures G & M Services has implemented to protect its employees from exposure to hazardous chemicals.
 - 12.3.4 The details of this Hazard Communication Program, including:
 - 12.3.4.1 Labeling/placarding system
 - 12.3.4.2 SDS

HAZARD COMMUNICATION PROGRAM

12.3.4.3 Chemical/material inventory and listing

12.3.4.4 Training for non-routine tasks.

12.3.5 The way employees can obtain and use appropriate hazard information.

- 12.4 Employees will receive specific training when they are called upon to perform certain duties that are considered by the Company Safety Director to require additional training. Examples include the use of respiratory protection or a specific regulated chemical or material.
- 12.5 The training program will consist of written materials, lectures, videos, and question and answer exams.
- 12.6 Accommodations shall be made for training provided to non-English speaking employees or contractors.
- 12.7 Attendance will be recorded for participation in the training sessions and will be kept on file by the Company Safety Director.

13.0 OUTSIDE CONTRACTORS AND VENDORS

- 13.1 G & M Services will communicate this Hazard Communication Program to any contractor or vendor called upon to perform work at G & M Services sites in which they or their employees could come in contact with any hazardous chemical or material.
- 13.2 A copy of the SDS will be provided to or made available to contractors or vendors for each hazardous chemical which they may be exposed to while working.
- 13.3 Each contractor/vendor bringing chemicals on site must provide us with the appropriate hazardous information on these substances, including the labels used and the precautionary measures to be taken in working with these chemicals.

14.0 EMERGENCY RESPONSE

- 14.1 In addition to the placarding and labeling section of the written program, G & M Services will annually submit a list of hazardous chemicals and materials that are present in significant amounts to the local fire department by certified letter.

15.0 COMMUNITY RIGHT-TO-KNOW

- 15.1 The written Hazard Communication Program and the quantity of hazardous materials or chemicals stored or used at G & M Services will be provided to the general public upon request.

HAZARD COMMUNICATION PROGRAM

16.0 HAZARDOUS NON-ROUTINE TASKS

- 16.1 When employees are required to perform hazardous non-routine tasks, a special training session will be conducted which will include the following information on:
 - 16.1.1 Specific chemical hazards.
 - 16.1.2 Protective/safety measures the employee can take.
 - 16.1.3 Measures the company has taken to lessen the hazard.

HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

HEALTH HAZARDS

For purposes of this section, any chemicals that meet any of the following definitions, as determined by the criteria set forth in Appendix B of 29 CFR 1910.1200, are health hazards. However, this is not intended to be an exclusive categorization scheme. If scientific data is that involves other animal species or test methods, it must also be evaluated to determine the applicability of the HCS.

1. **Carcinogen:** A chemical is considered a carcinogen if:
 - a. It has been evaluated by the International Agency for Research on Cancer (IARC), and found to be a carcinogen or potential carcinogen; or
 - b. It is listed as a carcinogen or potential carcinogen in the Annual Report on Carcinogens published by the National Toxicology Program (NTP) (latest edition); or,
 - c. It is regulated by OSHA as a carcinogen.
2. **Corrosive:** A chemical that causes visible destruction of, or irreversible alterations in living tissue by chemical action at the site of contact. For example, a chemical is considered corrosive if, when tested on the intact skin of albino rabbits by the method described by the U.S. Department of Transportation in appendix A to 49 CFR part 173, it destroys or changes irreversibly the structure of the tissue at the site of contact following an exposure period of four hours. This term shall not refer to action on inanimate surfaces.
3. **Highly toxic:** A chemical falling within any of the following categories:
 - a. A chemical that has a median lethal dose (LD50) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.
 - b. A chemical that has a median lethal dose (LD50) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.

HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

- c. A chemical that has a median lethal concentration (LC50) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.
- 4. **Irritant:** A chemical, which is not corrosive, but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact. A chemical is a skin irritant if, when tested on the intact skin of albino rabbits by the methods of 16 CFR 1500.41 for four hours exposure or by other appropriate techniques, it results in an empirical score of five or more. A chemical is an eye irritant if so determined under the procedure listed in 16 CFR 1500.42 or other appropriate techniques.
- 5. **Sensitizer:** A chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.
- 6. **Toxic:** A chemical falling within any of the following categories:
 - a. A chemical that has a median lethal dose (LD50) of more than 50 milligrams per kilogram but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.
 - b. A chemical that has a median lethal dose (LD50) of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.
 - c. A chemical that has a median lethal concentration (LC50) in air of more than 200 parts per million but not more than 2,000 parts per million by volume of gas or vapor, or more than two milligrams per liter but not more than 20 milligrams per liter of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.

HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

TARGET ORGAN EFFECTS

The following is a target organ categorization of effects that may occur, including examples of signs and symptoms and chemicals that have been found to cause such effects. These examples are presented to illustrate the range and diversity of effects and hazards found in the workplace, and the broad scope employers must consider in this area, but are not intended to be all-inclusive.

1. **Hepatotoxins:** Chemicals that produce liver damage

 Signs and Symptoms: Jaundice; liver enlargement

 Chemicals: Carbon tetrachloride; nitrosamines
2. **Nephrotoxins:** Chemicals that produce kidney damage

 Signs and Symptoms: Edema; proteinuria

 Chemicals: Halogenated hydrocarbons; uranium
3. **Neurotoxins:** Chemicals that produce their primary toxic effects on the nervous system

 Signs and Symptoms: Narcosis; behavioral changes; decrease in motor functions

 Chemicals: Mercury; carbon disulfide
4. **Agents that act on the blood or hemato-poietic system:** Decrease hemoglobin function; deprive the body tissues of oxygen

 Signs and Symptoms: Cyanosis; loss of consciousness

 Chemicals: Carbon monoxide; cyanides
5. **Agents that damage the lung:** Chemicals that irritate or damage pulmonary tissue

 Signs and Symptoms: Cough; tightness in chest; shortness of breath

 Chemicals: Silica; asbestos

HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

6. **Reproductive toxins:** Chemicals that affect the reproductive capabilities including chromosomal damage (mutations) and effects on fetuses (teratogenesis)

Signs and Symptoms: Birth defects; sterility

Chemicals: Lead; DBCP

7. **Cutaneous hazards:** Chemicals that affect the dermal layer of the body

Signs and Symptoms: Defatting of the skin; rashes; irritation

Chemicals: Ketones; chlorinated compounds

8. **Eye hazards:** Chemicals that affect the eye or visual capacity

Signs and Symptoms: Conjunctivitis; corneal damage

Chemicals: Organic solvents; acids

HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

HAZARD COMMUNICATION GLOSSARY

ACUTE EFFECT	An adverse effect on a human or animal, with symptom developing rapidly and quickly becoming a crisis. See “Chronic Effect.”
ANTIDOTE	An agent that neutralizes or counteracts the effects of a poison.
ASPHYXIAN	A chemical gas or vapor that can cause unconsciousness or death by suffocation. Simple asphyxiant, such as nitrogen, either use up or displace oxygen in the air. Chemical asphyxiant, such as carbon monoxide, interfere with the body’s ability to receive or use an adequate supply of oxygen.
BOILING POINT	The temperature at which liquid changes to vapor. Expressed in degrees Fahrenheit at sea level pressure. Flammable materials with low boiling points generally present special fire hazards.
BURNBACK	The distance a flame will travel from the ignition source back to the aerosol container.
C.A.S. NUMBER	Chemical Abstracts Service, a service of the American Chemical Society, identifies particular chemicals with a number.
CARCINOGEN	A chemical is considered a carcinogen if it is a substance or agent that may cause cancer in animals or humans.
CHRONIC EFFECT	An adverse effect on an animal or human. Symptoms develop slowly over a long period of time or recur frequently.
CO ₂	Carbon Dioxide. A heavy, colorless, nonflammable and relatively nontoxic gas. Produced by the combustion and decomposition of organic substances and as by-product of many chemical processes. Also used as a fire-fighting agent.
CONCENTRATION	The amount of a substance in a stated unit of mixture or solution. For example, five parts (of acetone) per million (parts air). See PPM.

HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

CORROSIVE	A substance that, according to the DOT, causes visible destruction or permanent changes in human skin tissue at the site of contact. Or, a liquid that has a severe corrosion rate on steel.
DECOMPOSITION	The breakdown of a chemical or substance into different parts or simpler compounds. Decomposition can occur due to heat, chemical reaction, decay, etc.
DEFATTING	The removal of natural oils from the skin by fat dissolving solvent.
DERMATITIS	An inflammation of the skin.
D.O.T.	The U.S. Department of Transportation (DOT) regulates the transportation of materials.
EMULSION	A stable mixture of two or more immiscible liquids held in suspension by small percentages of substances called emulsifiers.
EVAPORATION RATE	The rate at which a material is converted to vapor (evaporates) at a given temperature and pressure when compared to the evaporation rate of a given substance.
FLAME EXTENSION	The distance a flame will travel from the aerosol container when exposed to an ignition source.
FLAMMABLE	A material that is easily ignited and burns very rapidly.
FLAMMABLE LIQUID	As defined by OSHA, any liquid with a flash point below 100 degrees F.
FLASH POINT	The temperature at which a liquid will give off enough flammable vapor to ignite in the presence of an ignition source.
IGNITABLE	A solid, liquid or compressed gas that has a flash point of less than 140 degrees F. Capable of being set on fire.
INCOMPATIBLE	The term used for two substances to indicate that one material cannot be mixed with the other without the possibility of a dangerous reaction.
INGESTION	Taking a substance into the body through the mouth.

HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

INHALATION	The breathing of an airborne substance into the body (lungs) through the nose, mouth and breathing passages. Maybe in the form of a gas, vapor, fume, mist or dust.
INHIBITOR	A substance that is added to another to prevent or slow down an unwanted reaction or change.
IRRITANT	A substance that an irritating effect when it contacts the skin, eyes, nose or respiratory system.
LEL	Lower Explosive Limit. The lowest concentration of a substance that will produce a fire or flash when an ignition source is present. It is expressed as a percent of vapor or gas in the air by volume. At concentrations below the LEL, the mixture is too “lean” to burn. See UEL.
MELTING POINT	The temperature at which a solid substance changes to a liquid.
mg/m ³	Milligrams per Cubic Meter. Units used to measure air concentrations of dusts, gases, mists and fumes.
MIXTURE	Any combination of two or more chemicals if the combination is not, in whole or in part, the result of a chemical reaction.
mm HG	Millimeters of mercury. A unit of measure for pressure or partial vacuum that is equal to the height of a column of mercury that this atmosphere will support.
MUTAGEN	A substance or agent capable of changing the genetic material of a living cell.
N/A	An abbreviation for Not Applicable.
NARCOSIS	Stupor or unconsciousness caused by exposure to a chemical.
NIOSH	The National Institute for Occupational Safety and Health is a federal agency that trains occupational health and safety professionals, conducts research and tests and certifies respirators, etc.

HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

OSHA	The Occupational Safety and Health Administration is a federal agency that publishes and enforces health and safety regulations for most businesses and industries.
PEL	Permissible Exposure Limit. An exposure limit established by OSHA as a legal standard. May be a time weighted average (TWA) limit or a minimum concentration exposure limit.
pH	Value that represents the acidity or alkalinity of an aqueous (water-based) solution.
PPM	Parts per million. A unit for measuring the concentration of a gas or vapor in contaminated air. Also used to indicate the concentration of a particular substance in a liquid or solid.
POLYMERIZATION	A chemical reaction in which one or more small molecules combine to form larger molecules. A hazardous polymerization is a reaction that takes place at a rate that releases large amounts of energy.
REACTIVITY	A substance's tendency to undergo a chemical reaction or change that may result in dangerous side effects, such as explosion, burning and corrosive or toxic emissions.
RESPIRATOR	A device designed to protect the wearer from inhaling harmful contaminants.
SARA	Superfund Amendments and Reauthorization Act of 1986.
SENSITIZER	A substance that may cause no reaction in a person during initial exposure, but to which further exposure will cause an allergic response.
SOLUBILITY	The percentage of a material (by weight) that will dissolve in water at a specified temperature.
SPECIFIC GRAVITY	The weight of a material compared to the weight of an equal volume of water; an expression of the density (or heaviness) of the material. Insoluble materials with specific gravity less than one will float, an important consideration for fire suppression and spill clean up.
TERATOGEN	A substance or agent to which exposure of a pregnant female can cause malformations in the fetus.

HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

TLV	Threshold Limit Value. A term used to express the airborne concentration of a material to which nearly all persons can be exposed day after day without adverse effects.
TOXIN	A substance that is poisonous to varying degrees.
TOXICITY	The potential of a substance to have a harmful effect and a description of the effect and the conditions or concentration under which the effect takes place.
UEL	Upper Explosive Limit. The highest concentration of a substance that will burn or explode when an ignition source is present. Expressed in percent of vapor or gas in the air by volume. See LEL.
VAPOR	The gaseous form of substances that are usually liquid or solid.
VAPOR DENSITY	The weight of a vapor or gas compared to the weight of an equal volume of air. An expression of density of the vapor or gas. Materials lighter than air have vapor densities less than one. Lighter materials tend to rise and dissipate. Heavier vapors are likely to concentrate in low places where they may create fire or health hazards.
VAPOR PRESSURE	The pressure exerted by a saturated vapor above its own liquid in a closed container. Vapor pressure is usually expressed as pounds per square inch, but on SDSs is in millimeters of mercury (mmHG) at 68 degrees F. The lower the boiling point of a substance, the higher its vapor pressure.
VISCOSITY	A fluid's internal resistance to flow.
VOLATILE	The tendency or ability of a liquid to vaporize. Liquids such as alcohol or gasoline are volatile because they have a tendency to evaporate quickly.

HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

Hazard Communication Review Questions

1. You know that a product contains hazardous chemicals if the label has which one of the following hazard warnings on it:

A. WARNING	C. DANGER
B. CAUTION	D. All of the above.
2. There are two types of hazards associated with hazardous chemicals. What are they?

A. Health and Physical Hazards
B. Medical and Mental Hazards
C. Employee and Employer Hazards
D. All of the above.
3. If a chemical is designated as a hazardous chemical, what information, by law, has to be on the container label?

A. Identity of hazardous chemical, appropriate hazard warning, manufacturer's name and address.
B. Hazard warning, net contents, poison control phone number.
C. Identity of hazardous chemical, Material Safety Data Sheet, name of product.
D. All of the above.
4. What do you do if a container label has been defaced or removed?

A. Fill out the "destroyed label" form and turn it into your supervisor.
B. Separate it from the rest of the containers and call your supervisor to contact the manufacturer and request a new label.
C. No action needs to be taken.
D. Both A and C are correct.
5. What does "SDS" stand for?

A. Men Safely Delivering Sulfur Dioxide
B. Material Safety Data Sheet
C. Maintaining Safe Departmental Standards
D. None of the above.

HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

6. When should an SDS be consulted?
 - A. When you need to know information about special protective chemical handling equipment and procedures.
 - B. When you need emergency or first aid information.
 - C. When a spill or fire of a hazardous chemical occurs.
 - D. All of the above.
7. Where should the SDSs be located?
 - A. In the break room.
 - B. In the work area.
 - C. We don't have any SDSs.
 - D. All of the above.
8. Where would you look to find information regarding proper protective gear for applying the product?
 - A. The label
 - B. Ask a co-worker
 - C. The SDS
 - D. Both A and C are correct.
9. A written plan of your company's Hazard Communication Program is available to you by:
 - A. A request through my supervisor.
 - B. My company does not have a written plan.
 - C. I am given the plan with my paycheck.
 - D. A written request to the OSHA committee in New Jersey.
10. An evaluation of the hazardous chemicals in your facility has been made by:
 - A. A supervisor in your facility
 - B. The Environmental Protection Agency
 - C. The Internal Revenue Service
 - D. The OSHA Regulation Authorities.
11. The OSHA Hazard Communication Standard has been developed for what purpose?
 - A. To make sure employees know about any hazardous chemical they may come in contact within their work area.
 - B. To make your facility a safer place in which to work.
 - C. To train employees on how to read and use product label and SDS information.
 - D. All of the above.

HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

Review Questions Answer Sheet

1. You know that a product contains hazardous chemicals if the label has which one of the following hazard warnings on it:

A. WARNING	C. DANGER
B. CAUTION	D. All of the above.

2. There are two types of hazards associated with hazardous chemicals. What are they?

A. Health and Physical Hazards
B. Medical and Mental Hazards
C. Employee and Employer Hazards
D. All of the above.

3. If a chemical is designated as a hazardous chemical, what information, by law, has to be on the container label?

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B. Hazard warning, net contents, poison control phone number.
C. Identity of hazardous chemical, Material Safety Data Sheet, name of product.
D. All of the above.

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HAZARD COMMUNICATION PROGRAM

APPENDIX A - TRAINING INFORMATION

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 - D. All of the above.**

Hazard Communication Program

G&M Services LLC, Concrete Visions, LLC
7525 Connelley Drive, Hanover, MD 21076

Date Prepared: November 13, 2013

Objective:

The purpose of this program is to inform you that our company is complying with the OSHA Hazard Communication Standard, Title 29 Code of Federal Regulations 1910.1200 and the guidelines set forth by the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), by compiling a hazardous chemicals list, using Safety Data Sheets (SDSs), ensuring that containers are labeled, and providing you with training you need to recognize and interpret label and/or SDS, information, and to take appropriate action in response to chemical hazards.

The person with primary responsibility for this program is:

Name: James L. Miller

Title: Safety Director

Contact information:

7525 Connelley Drive, Hanover, MD 21076, 410-787-8828

This program applies to all work operations in our company where you may be exposed to hazardous substances under normal working conditions or during an emergency situation.

Note: This program will be available to all employees for review and a copy will be located in the following area(s):

Location:

- 1. Safety Director's Office**
- 2. All Company Vehicles**
- 3. Maintenance Shop**

Employee Information and Training:

Prior to starting a work assignment, everyone who works with or is potentially exposed to hazardous chemicals, will receive initial training conducted by:

Name: James L. Miller

Title: Safety Director

Contact information:

7525 Connelley Dr., Hanover, MD. 21076, 410-787-8828

The training will cover the following topics:

- Policies and procedures covered by the Hazard Communication Standard and GHS
- Summary and location of the Company's Hazard Communication Program
- How to recognize and interpret label and/or SDS information
- Location of SDSs and how to obtain additional hazard information
- Physical and health hazards of hazardous substances in their work area
- Procedures to protect against hazards (e.g., work procedures, personal protective equipment)
- How to take appropriate action in response to chemical hazards
- Emergency response procedures for hazardous chemical spills

It is the responsibility of each department's supervisor to make sure that all affected employees receive thorough training. All employees have a right to information pertaining to hazardous substances in the workplace without discrimination or reprisal.

Upon completion of the training program, each employee will sign a form documenting that he/she has received the training. A program that uses both audiovisual materials and classroom type training has been prepared for this purpose. Whenever a new hazard is introduced, additional training will be provided. Regular safety meetings will also be used to review the information presented in the initial training. Foremen and other supervisors will be extensively trained regarding hazards and appropriate protective measures so they will be available to answer questions from employees and provide daily monitoring of safe work practices.

The Safety and Health Manager or designee will review our employee training program and advise the Plant Manager on training or retraining needs. Retraining is required when the hazard changes or when a new hazard is introduced into the workplace, but it will be Company policy to provide training regularly in safety meetings to ensure the effectiveness of the program. As part of the assessment of the training program, the Safety and Health Manager will obtain input from employees regarding the training they have received, and field their suggestions for improving it.

Safety Data Sheets (SDSs):

Safety Data Sheets, or SDSs, provide you with specific information on the chemicals you use. The person with primary responsibility for maintaining Safety Data Sheets is:

Name: James L. Miller

Title: Safety Director

Contact information:

7525 Connelley Dr., Hanover, MD. 21076, 410-787-8828

The Safety Director will maintain a binder in his/her office with an SDS on every substance listed as a hazardous chemical. The Safety Director and on-site Operator or Firestop Mechanic will ensure that each work site maintains an SDS for hazardous materials in that area.

The Safety Director is responsible for acquiring and updating SDS sheets. He/she will review each SDS for thoroughness prior to its usage and contact the chemical manufacturer or vendor if additional information is necessary or if an SDS has not been supplied with an initial shipment. OSHA will be notified if there is no response to a request for any SDS that is not received in a reasonable period of time.

All new procurements for the company must be cleared by the Safety Director to determine any significant safety and health information. He/she will be responsible for ensuring that all affected department supervisors are aware of these new substances and the specific safety procedures for the new substance. The supervisor will be responsible for informing all affected employees who are exposed to these substances. This will include handling procedures, health/safety hazards regarding usage, first aid procedures and personal protective equipment. When alternatives to actual data sheets are used, a description of the system will be provided.

The following system will assure receipt of SDSs:

- A. The purchasing department will require SDS Sheets on all products ordered that are subject to The Hazard Communication Standard.
- B. All department supervisors will be requested to reject any shipments of chemicals without prior approval from the purchasing department.

A master list of SDS as well as copies of SDSs will be kept in the following areas:

Department	Location
Concrete Operations _____	7525 Connelley Dr., Hanover, MD. 21076
Life Safety Operations _____	7525 Connelley Dr., Hanover, MD. 21076

SDSs are available to all employees at all times for their work department or for the company as a whole. If a department does not have an SDS for a chemical used in that work area, the employee must contact their supervisor immediately.

Container Labeling:

Company policy mandates that containers of hazardous substances will not be issued or released until the following label information is verified:

- A. Containers are clearly labeled as to its contents.
- B. Appropriate hazard warnings are noted utilizing GHS Pictograms and signal words.
- C. The name and address of the manufacturer are listed.

The Safety Director is responsible for managing the container labeling program and ensuring that all supervisors are properly trained in labeling procedures including secondary container labeling procedures. He/she will ensure that all hazardous chemicals in the plant are properly labeled and updated, as necessary. Containers that are shipped from the plant will be checked by the supervisor of shipping and receiving to make sure all containers are properly labeled.

The container policy listed herein will also apply to the secondary usage of containers. If a secondary container is used, it must be labeled as listed on the original container. It is each department supervisor's responsibility to ensure this process is followed.

The following is a list of responsible supervisors and their respective departments:

Andrew Tomlinson – President / Manager
James Miller – Safety Director
Todd McKee – Vice President, Concrete Operations
Ray Sebold – Operations Manager, Concrete Operations
Mike Kaspersky – Vice President, Life Safety Operations
Daniel Beltran – Project Manager, Life Safety Operations

If there are a number of stationary containers within a work area that have similar contents and hazards, signs will be posted on them to convey the hazard information. On our stationary process equipment, regular process sheets, batch tickets, blend tickets, and similar written materials will be substituted for container labels when they contain the same information as labels. These written materials will be available to you during your work shift.

Hazardous Non-routine Tasks:

Employees are occasionally required to perform non-routine tasks. When you are required to perform hazardous non-routine tasks (e.g., cleaning tanks, entering confined spaces, etc.), a special training session will be conducted to inform you regarding the hazardous chemicals to which you might be exposed, the proper precautions to take to reduce or avoid exposure, and the steps the Company has taken to eliminate or control the hazard.

Examples of non-routine tasks performed by employees of this company:

Task	Hazardous Substance
Confined Space _____	Silica _____

List of Hazardous Substances:

Specific information on each hazardous substance(s) in regards to carcinogenicity, volatility, skin or eye irritation, inhalation risks, hazardous decomposition by-products, hazardous polymerization, emergency and first aid procedures and protective equipment may be obtained by reviewing the Safety Data Sheets (SDS) for the specific substance being used.

Listed below are all known hazardous substances present. This includes the work areas in which they are used:

Hazardous Substance	Work Area or Process
<i>Example:</i> All 3M/Hilti Caulks & Sealants _____	Job Site Installation _____

The responsible supervisor will monitor the contractor to ensure that proper procedures are used during the contractor's presence at our facility.

Each contractor bringing chemicals on-site must provide the supervisor with the appropriate hazard information on these substances, including the labels used and the precautionary measures to be taken in working with these chemicals.

Personnel Policies:

Employees are responsible for following all safe work practices and using proper precautions required by the guidelines in this program. When an employee is not following safety and health rules regarding working with a hazardous substance, disciplinary action will be taken up to and including termination.

Additional Information:

All employees, or their designated representatives, can obtain further information on this written program, the Hazard Communication Standard, applicable SDSs and labels, and chemical information lists by contacting:

Name: James L. Miller

Title: Safety Director

Contact information: 410-787-8828

Location: 7525 Connelley Dr., Hanover, MD. 21076

Employee Right to Know Hazardous Communication Plan

Dear Employee:

The following information is supplied to you as part of our Hazardous Communication Program. All employees must adhere to the policies outlined in our formal Hazardous Communication Program. It is your responsibility to ensure that you receive training prior to working with any hazardous substance that is used in any job task that you perform. Please inform your supervisor immediately if you have not been properly trained on the use of any hazardous substance prior to beginning work with the substance and/or job task. The following procedure will be used to train you on our Program:

Employees must attend a Health and Safety orientation meeting conducted by Safety Director prior to starting a work assignment in a department that has hazardous substances. This responsibility may be assigned to the department's supervisor. This meeting will be for the purpose of hazardous materials training and procedures. The training will include the following:

- A. An overview of the requirements contained in the Hazardous Communication Regulation and Globally Harmonized System of Classification and Labeling of Chemicals (GHS), including their rights to information without discrimination or reprisal.
- B. Information about any operations in their work area where hazardous substances are present and/or used. A Hazardous Substance List and the work areas and/or processes where these substances are used will be made available to all employees.
- C. Summary and location of the Company's written Hazardous Communication Program. The Program will be kept in each separate department and will be available to any employee upon request.
- D. Methods and observation techniques used to determine the presence or release of Hazardous Substances in the Work Area. All Chemicals/ Hazardous Substances used in the Plant are restricted to certain areas and will be closely monitored by the supervisor of that area or department.
- E. Information about physical and health effects of the hazardous substances. These substances may be harmful and could be FATAL if ingested. Repeated and prolonged breathing of vapors or contact with the skin could be harmful and cause irritation. The vapors may also be combustible if the area is not properly ventilated. To receive additional information regarding a substance, please request the SDS for that substance.
- F. Information about the steps the company has taken to lessen or prevent exposure to these substances through usage of engineering controls, work practices and the usage of personal protective equipment. Strict control over the use of these substances is conducted by the supervisor of the department where the substance is used. They are kept in an area accessible only to authorized personnel who have

been properly trained in their usage. It is mandatory that the employees using these substances wear the proper personal protective equipment provided by the company.

G. Training in the reading of labels and reviewing of SDSs to obtain appropriate hazard information. Our employees will be trained on the procedures of how to obtain hazard information in their initial employee orientation on safety and health when first hired. Continuing education in these areas will be provided to employees during all company safety meetings.

H. Teaching of emergency first aid procedures and the cleaning up of hazardous chemical spills to all employees at time of hire and continuing during the course of their employment with our company. The responsible supervisor of the employee will be properly trained in these first aid procedures. The supervisor will be responsible in the administration and direction of these procedures for their respective employees.

It is of utmost importance that all employees understand the policies outlined herein.

Whenever new production processes are introduced in the workplace involving Hazardous Substances or when substances are introduced by any other means, the responsible supervisors will retrain their employees regarding these substances and processes. This will include the hazards, proper usage, required personal protection equipment and first aid procedures.

All employees must follow the procedures outlined in this program. Failure to follow any company policy regarding the safe use of a hazardous substance may lead to disciplinary action up to and including immediate termination.

G & M Services

PROGRAM FOR HEARING CONSERVATION

29 CFR 1910.95

TABLE OF CONTENTS

	<u>Page</u>
1.0 PURPOSE AND SCOPE	3
2.0 DEFINITIONS.....	3
3.0 APPLICATION.....	3
4.0 RESPONSIBILITIES	3
5.0 GENERAL MONITORING PROCEDURES	4
6.0 TRAINING	5
7.0 RECORDKEEPING.....	6
8.0 APPENDIX 1.....	7

APPENDICES

- A Required Designated Hearing Protection Areas

HEARING CONSERVATION PROGRAM

1.0 PURPOSE AND SCOPE

1.0.1 Purpose: To provide engineering or/and administrative controls for those employees who are subject to sounds exceeding 85 dB for an 8-hour workday. Engineering or/and administrative controls must be utilized first to reduce sound levels to OSHA acceptable levels. If the controls fail then personal protective equipment must be provided.

1.0.2 Scope: Establishes procedures for –

- Noise monitoring
- Audiometric Testing
- Determination of the necessary hearing protection for the workplace

2.0 DEFINITIONS

Action Level means an 8-hour time-weighted average of 85 decibels measured on the A-scale, slow response, or equivalently, a dose of fifty percent.

Audiogram means a chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.

Baseline audiogram means the audiogram against which future audiograms are compared.

Criterion sound level means a sound level of 90 decibels.

Decibel (dB) means a unit of measurement of sound level.

Representative exposure means a measurement of an employee's noise dose or 8-hour time-weighted average sound level that the employers deem to be representative of the exposures of other employees in the workplace.

Sound level means ten times the common logarithm of the ratio of the square of the measured A-weighted sound pressure to the square of the standard reference pressure of 20 micropascals.

Time weighted average sound level means that sound level, which if constant over an 8-hour exposure, would result in the same noise dose as is measured.

3.0 APPLICATION

3.0.1 Applies to: Employees who are subject to sounds exceeding 85 dB for an 8-hour workday.

3.0.2 Does not apply to: To employers engaged in oil and gas well drilling and servicing operations.

4.0 RESPONSIBILITIES

4.0.1 Safety Director

The Safety Director is responsible for:

- Coordinating the noise exposure monitoring and audiometric testing programs.
- Ensuring that hearing protectors are provided to all employees exposed to an 8-hour time-weighted average of 85 decibels or greater at no cost to the employee and replaced as necessary.

4.0.2 Employees

All employees who are required to wear hearing protectors under the program are responsible to wear them properly during the entire time they are in the designated area (Appendix 1).

5.0 GENERAL MONITORING PROCEDURES

5.0.1 The noise monitoring program is in place for G & M Services to provide an ongoing means of determining employee exposure to noise and protect employees from excessive exposure. When information indicates that any employee's exposure may equal or exceed an 8-hour time – weighted average of 85 dB, G & M Services is required to develop and implement an appropriate monitoring program to identify all employees for inclusion in the hearing conservation program and to implement engineering and administrative controls. If the engineering and administrative controls fail then proper selection of hearing protection is required. The conditions under the monitoring program are the following:

- The program must be followed for each work area when information indicates that any employees exposure may equal or exceed an 8-hour time weighted average of 85 decibels measured on the A scale (slow response) without regard to any reduction provided by the use of personal protection equipment.
- The monitoring must be repeated whenever a change in production, process, equipment or controls increase noise exposure.
- The instruments used to measure employee noise exposure are calibrated to ensure measurement accuracy.
- Employees and their designated representatives are to be provided an opportunity to observe any noise measurements conducted.
- All continuous, intermittent and impulsive sound levels from 80 decibels to 130 decibels shall be integrated into the noise measurements with properly calibrated instruments.
- The results of each monitoring shall be posted on a bulletin board accessible to each affected employee exposed to the area monitored.
- Hearing protector reduction shall be evaluated for each specific noise environment in which a determination has been made to use hearing protectors.
- Hearing protectors are to reduce employee exposure at least to an 8-hour time weighted average of 85 decibels.

6.0 GENERAL AUDIOMETRIC TESTING PROCEDURES

6.0.1 Audiometric testing is to be performed for affected employees whose exposures equal or exceed an 8-hour time weighted average of 85 decibels and the following are the additional requirements for the audiometric testing procedures:

- Within 6 months of first exposure a valid baseline audiogram is established and annually thereafter unless mobile test vans are used.
- If mobile test vans are used a valid baseline audiogram must be obtained within 1 year of an employee's first exposure at or above the action level.
- The testing is available to all affected employees at no cost
- Where mobile test vans are used to meet the audiometric testing obligations, a valid baseline audiogram shall be obtained 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 shall wear hearing protectors for any period exceeding six months after first exposure until the baseline audiogram is obtained.
- Employees are to be notified to avoid high levels of work place or non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination or to wear hearing protectors during that period.
- Audiometric tests shall be performed by personnel who have satisfactorily demonstrated competence in administering audiometric examinations, obtaining valid audiograms, and properly using, maintaining and checking calibration and proper functioning of the audiometers being used.
- All personnel performing audiometric tests shall be responsible to an audiologist, otolaryngologist, or other physician.
- Each employee's annual audiogram shall be compared to that employee's baseline audiogram. Any standard threshold shift of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear shall be reviewed by the responsible audiologist, otolaryngologist, or other physician using the following information:
 1. The baseline audiogram and most recent audiogram of the employee to be evaluated together with a history of the audiometric testing for this employee.
 2. Measurements of background sound pressure levels in the audiometric test room.
 3. Records of audiometer calibrations
- The physician shall determine whether there is a need for further evaluation and prescribe additional audiological evaluation and otological examination as appropriate.
- The employee shall be informed in writing within 21 days of a determination that a standard threshold shift has occurred. The employee will be fitted and trained or refitted and retrained with hearing protectors and be required to use them.

7.0 TRAINING

7.0.1 All affected employees included in the hearing conservation program are to receive training initially and annually thereafter including the following:

- The effects of noise on hearing.
- The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use and care.
- The purpose of audiometric testing and an explanation of the test procedures.
- Where hearing protection can be obtained
- Areas that are required to wear hearing protection

8.0 RECORDKEEPING

8.0.1 The following records are kept in the corporate office to maintain accurate record of all employees' exposures:

- Exposure measurements
- Audiometric tests which includes
 1. Name and job classification of the employee
 2. Date of the audiogram
 3. The examiner's name
 4. Date of the last acoustic or exhaustive calibration of the audiometer
 5. Employee's most recent noise exposure assessment

8.0.2 Record Retention – G & M Services will maintain the following records for the given length of time:

- Noise exposure measurement – 2 years or 4 years plus the current year.
- Audiometric test records – for the duration of the affected employee's employment or the employee's most recent exposure assessment shall be kept for the duration of the affected employee's employment plus six years.

8.0.3 A copy of this program is to be posted in the work place.

APPENDIX 1
G & M Services
HEARING CONSERVATION PROGRAM

Recommend noise mapping of the client facility documenting all levels and highlighting “hot spots”

AREAS REQUIRING HEARING PROTECTION	
1.	
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HOUSEKEEPING

G & M SERVICES

The purpose of this procedure is to ensure that employees maintain a clean, safe work area.

This procedure applies to all employees and contractors. This procedure will be considered minimum requirements for housekeeping in the work area.

The Company Safety Director is responsible for the implantation of an effective housekeeping program. He or she will also conduct regular inspections with site supervision, to evaluate and enhance company standards.

The Site Manager is responsible for ensuring that housekeeping standards are maintained. He or she will also be responsible for communication problems back to the Company Safety Director.

The Supervisor/Foreman is responsible for housekeeping in the work areas. He or she will conduct regular monthly inspections with his or her employees and with the Company Safety Director or Plant Manager. He or she will also be responsible for follow-up and corrections from these inspections.

Inspections should be held daily. Formal inspections will be conducted one per month with the Company Safety Director, and/or the Plant Manager.

All safety related hazards will be corrected immediately. Additional safety upgrading will be scheduled as work load and time permits, but will be completed as soon as possible.

Listed below are housekeeping items. The Site Managers/Supervisors should review these items daily.

1. Good housekeeping is essential to the safety of employees and job efficiency, therefore you are responsible for keeping your work area orderly and uncluttered.
2. Floors, halls, and decks shall be kept clear of debris, hoses, leads and cords. Eliminate or protect the cause of tripping hazards.
3. The floor of every workroom shall be maintained, so far as practical, in a dry condition. Where wet processes are used, drainage shall be maintained and false dry standing places shall be provided, or appropriate waterproof footwear shall be provided.
4. Fire extinguishers shall be in proper locations.
5. Flammable storage shall be protected properly.

HOUSEKEEPING

6. Trash containers should be provided, and used in all work areas, and emptied frequently.
7. All sweepings, solids or liquid wastes, refuse and garbage shall be removed in a way that avoids creating a menace to health and as often as necessary or appropriate to maintain the place of employment in a sanitary condition.
8. Unused materials or tools should be returned to their proper storage areas.
9. Store hazardous materials away from other materials.
10. Place oily rags in approved metal containers.
11. Remove grease, oil, frost, and ice from work areas.
12. Remove or bend over all exposed nails in the workplace.
13. Any receptacle used for solid or liquid waste or refuse shall be so constructed that it does not leak and may be thoroughly cleaned and maintained in a sanitary condition. It shall be equipped with a solid tight fitting cover, unless it can be maintained in a sanitary condition without a cover.

INCIDENT INVESTIGATION

G & M SERVICES

1.0 INTRODUCTION

- 1.1 When an accident occurs, the first consideration shall be the care and protection of the injured and the protection of any other endangered personnel. The second consideration shall be the protection of property. The third consideration shall be the prompt, complete and accurately documented investigation of the accident. Such documented accident reports are essential for the success of an organized accident prevention program.
- 1.2 This procedure establishes the methods, requirements, and responsibilities for the determination of the basic cause or causes and the type and classification of each occupational injury or illness.
- 1.3 Accident investigation shall be conducted to determine the cause of accidents so that action can be recommended to prevent similar accidents from occurring in the future. These investigations are not used as an attempt to place blame.

2.0 INVESTIGATIONS

- 2.1 All occupational-related accidents, illnesses and accidents that cause property damage and could have resulted in injury or illness shall be investigated.
- 2.2 Such investigations should include participation of the immediate supervisor responsible for the person or persons injured and/or property damaged in the accident.
- 2.3 Investigations should include statements written and signed by the victim and eyewitnesses when possible. Such statements should contain only factual and applicable information. The purpose of the investigation is to obtain information about what happened and how it happened so that similar situations can be avoided in the future.

3.0 REPORTING

- 3.1 Occupational-related accidents/illnesses shall be recorded on applicable report form.
- 3.2 Occupational related accidents/illnesses shall be investigated. The report of the investigation shall be recorded on the Accident Investigation Report.
- 3.3 The original copy of the completed Accident Investigation Form shall be submitted immediately to the Company President And Company Safety Director.

INCIDENT INVESTIGATION

- 3.4 All occupational-related accidents/illnesses that result in a fatality or hospitalization of three or more persons shall immediately be reported to the Company President, Safety Director & OSHA. The report must be made to the area OSHA office within eight hours after the accident occurs.
- 3.5 Serious personal injury accidents, as described above, fatalities or major property damage accidents occurring that do not involve Company employees or property shall be reported to the President and Safety Director for information purposes only.

4.0 MEDIA RELATIONS

- 4.1 All employees are prohibited from responding to media inquiries, or otherwise releasing information to the media. Inquiries from the media (newspaper, TV, radio, etc.) concerning any occupational-related accident/illness should be directed to the Company President.



INCIDENT INVESTIGATION REPORT

A. GENERAL DATA

PAGE 1 OF 3

1. FACILITY NAME AND EXACT LOCATION OF INCIDENT		2. FACILITY PHONE NUMBER	
3. INJURED EMPLOYEE'S NAME AND ID NO.	4. SOCIAL SECURITY NUMBER	5. DATE OF BIRTH (MM/DD/YY)	
6. HOME ADDRESS	7. HOME PHONE NUMBER	8. OCCUPATION (JOB TITLE)	
9. DATE OF HIRE:	10. DATE EMPLOYER WAS NOTIFIED OF THE INCIDENT:	11. DATE OF THE INVESTIGATION:	
12. DAY OF THE WEEK <input type="checkbox"/> M <input type="checkbox"/> T <input type="checkbox"/> W <input type="checkbox"/> TH <input type="checkbox"/> F <input type="checkbox"/> SAT <input type="checkbox"/> SUN		13. EMPLOYEE USUALLY WORKS: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> HRS/DAY DAYS/WEEK TOTAL WEEKLY HOURS </div>	
14. DATE OF INCIDENT	15. TIME OF INCIDENT : A.M. : P.M.	16. TIME SHIFT BEGAN : A.M. : P.M.	
17. EMPLOYMENT STATUS (CHECK STATUS AT TIME OF INJURY) <input type="checkbox"/> FULL-TIME <input type="checkbox"/> PART-TIME <input type="checkbox"/> TEMPORARY <input type="checkbox"/> SEASONAL		18. DATE RETURNED TO WORK:	19. IF STILL OFF WORK, CHECK THIS BOX: <input type="checkbox"/> RETURN DATE:
20. NAME AND ADDRESS OF PHYSICIAN AND CARE FACILITY		21. PHYSICIAN PHONE #	22. NAME OF DIRECT SUPERVISOR
23. WHO TRANSPORTED THE EMPLOYEE TO THE PHYSICIAN?		24. TYPE OF INCIDENT <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <input type="checkbox"/> OSHA RECORDABLE <input type="checkbox"/> FIRST-AID ONLY <input type="checkbox"/> FATALITY </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <input type="checkbox"/> VEHICLE ACCIDENT <input type="checkbox"/> PROPERTY DAMAGE <input type="checkbox"/> NEAR MISS </div>	

B. INJURY/ILLNESS DATA

1. CLASS OF INJURY <input type="checkbox"/> FATALITY <input type="checkbox"/> LOST WORKDAY <input type="checkbox"/> RESTRICTED WORK <input type="checkbox"/> MEDICAL ONLY <input type="checkbox"/> FIRST-AID <input type="checkbox"/> OTHER (SEE Box #24 ABOVE)						
2. NATURE(S) OF INJURY						
<input type="checkbox"/> AMPUTATION <input type="checkbox"/> ASPHYXIATION <input type="checkbox"/> BURN – SCALD <input type="checkbox"/> BURN – CHEMICAL <input type="checkbox"/> CONCUSSION	<input type="checkbox"/> CONTUSION/BRUISE <input type="checkbox"/> CUT/LACERATION <input type="checkbox"/> DERMATITIS <input type="checkbox"/> DISLOCATION <input type="checkbox"/> ELECTRICAL SHOCK	<input type="checkbox"/> FLASHBURN <input type="checkbox"/> FOREIGN BODY IN EYE <input type="checkbox"/> FRACTURE <input type="checkbox"/> FREEZING/FROSTBITE <input type="checkbox"/> RADIATION EFFECTS	<input type="checkbox"/> HEAT/SUNSTROKE <input type="checkbox"/> HERNIA/RUPTURE <input type="checkbox"/> POISONING <input type="checkbox"/> PNEUMOCONIOSIS <input type="checkbox"/> HEARING LOSS	<input type="checkbox"/> STRAIN/SPRAIN <input type="checkbox"/> OCCUPAT. DISEASE <input type="checkbox"/> INFECT. DISEASE <input type="checkbox"/> SCRATCH/ABRASION <input type="checkbox"/> OTHER		
3. PART(S) OF BODY AFFECTED <input type="checkbox"/> RIGHT SIDE <input type="checkbox"/> LEFT SIDE						
<input type="checkbox"/> HEAD <input type="checkbox"/> EYE <input type="checkbox"/> BACK/NECK	<input type="checkbox"/> SHOULDER <input type="checkbox"/> ARM <input type="checkbox"/> ELBOW	<input type="checkbox"/> CHEST <input type="checkbox"/> ABDOMEN <input type="checkbox"/> HIP	<input type="checkbox"/> LEG <input type="checkbox"/> KNEE <input type="checkbox"/> FOOT	<input type="checkbox"/> TOE <input type="checkbox"/> HAND <input type="checkbox"/> THUMB	<input type="checkbox"/> INDEX FINGER <input type="checkbox"/> MID. FINGER <input type="checkbox"/> RING FINGER	<input type="checkbox"/> LITTLE FINGER
4. INCIDENT TYPE						
<input type="checkbox"/> STRUCK BY <input type="checkbox"/> STRUCK AGAINST <input type="checkbox"/> FALL TO FOOT LEVEL <input type="checkbox"/> MOTOR VEHICLE	<input type="checkbox"/> RUBBED OR ABRADED <input type="checkbox"/> OVEREXERTION <input type="checkbox"/> ELECTRICAL CONTACT <input type="checkbox"/> CHEMICAL CONTACT	<input type="checkbox"/> TEMPERATURE <input type="checkbox"/> PHYSICAL HAZARDS <input type="checkbox"/> INHALATION OF TOXIC SUBSTANCE <input type="checkbox"/> FALL FROM ELEVATED SURFACE	<input type="checkbox"/> CAUGHT IN, UNDER, OR INBETWEEN <input type="checkbox"/> SLIP, TRIP OR FALL <input type="checkbox"/> OTHER			
5. SOURCE(S) OF INJURY OR NEAR MISS						
<input type="checkbox"/> AIR PRESSURE <input type="checkbox"/> ANIMAL/INSECTS <input type="checkbox"/> ANIMAL PRODUCTS <input type="checkbox"/> CONVEYORS <input type="checkbox"/> TEXTILE ITEMS <input type="checkbox"/> POWERED VEHICLES <input type="checkbox"/> STRUCTURES <input type="checkbox"/> WORKING SURFACE <input type="checkbox"/> COLD/HEAT	<input type="checkbox"/> PETROLEUM PRODUCT <input type="checkbox"/> GLASS ITEMS <input type="checkbox"/> HAND TOOLS <input type="checkbox"/> PARTICULATES <input type="checkbox"/> DRUGS/MEDICINE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> CERAMIC ITEMS <input type="checkbox"/> CHEMICALS <input type="checkbox"/> FLOORS	<input type="checkbox"/> CLOTHING/SHOES <input type="checkbox"/> METAL <input type="checkbox"/> NOISE/VIBRATION <input type="checkbox"/> TOOLING FIXTURES <input type="checkbox"/> HOISTING APPARATUS <input type="checkbox"/> RADIATION <input type="checkbox"/> EXCAVATIONS <input type="checkbox"/> TRENCHES <input type="checkbox"/> CONTAINERS	<input type="checkbox"/> MACHINERY <input type="checkbox"/> MECHANICAL POWER <input type="checkbox"/> SCRAP/DEBRIS <input type="checkbox"/> STEAM <input type="checkbox"/> GRINDING/CHIPING <input type="checkbox"/> PUMPS/PRIME MOVERS <input type="checkbox"/> PAPER/PLASTIC/FOIL <input type="checkbox"/> LADDERS/SCAFFOLDS <input type="checkbox"/> CLEANING	<input type="checkbox"/> FIRE/FLAME/SMOKE <input type="checkbox"/> BODILY MOTION <input type="checkbox"/> PRESSURE VESSELS <input type="checkbox"/> PLANTS/TREES <input type="checkbox"/> WOOD ITEMS <input type="checkbox"/> INFECTIOUS AGENTS <input type="checkbox"/> WORK AREA <input type="checkbox"/> WELDING/CUTTING <input type="checkbox"/> OTHER		

6. UNSAFE ACT(S)				
<input type="checkbox"/> HORSEPLAY <input type="checkbox"/> FAILURE TO LOCKOUT <input type="checkbox"/> OPERATING AT AN UNSAFE SPEED <input type="checkbox"/> IMPROPER LIFTING <input type="checkbox"/> WORKING ON ENERGIZED EQUIPMENT	<input type="checkbox"/> MISUSE OF EQUIPMENT <input type="checkbox"/> OPERATOR ERROR <input type="checkbox"/> FAILURE TO USE PROPER EQUIPMENT <input type="checkbox"/> FAILURE TO FOLLOW INSTRUCTIONS <input type="checkbox"/> UNSAFE LOADING	<input type="checkbox"/> FAILURE TO USE PROPER PPE <input type="checkbox"/> IMPROPER USE OF HANDS/BODY PARTS <input type="checkbox"/> OPERATING WITHOUT AUTHORIZATION	<input type="checkbox"/> TAKING AN UNSAFE BODILY POSITION <input type="checkbox"/> INATTENTION TO SURROUNDINGS <input type="checkbox"/> USING UNSAFE OR DAMAGED EQUIPMENT	<input type="checkbox"/> REMOVING SAFETY GUARDS OR DEVICES <input type="checkbox"/> OTHER (DESCRIBE)
7. UNSAFE CONDITION(S)				
<input type="checkbox"/> POOR HOUSEKEEPING <input type="checkbox"/> GUARDING NOT PROVIDED <input type="checkbox"/> INADEQUATE TRAFFIC CONTROL <input type="checkbox"/> POOR ILLUMINATION	<input type="checkbox"/> POOR VENTILATION <input type="checkbox"/> IMPROPER GUARDING <input type="checkbox"/> NATURAL HAZARDS (TERRAIN, ETC.) <input type="checkbox"/> HAZARDOUS CONDITIONS	<input type="checkbox"/> IMPROPER STACKING, AND/OR PALLETIZING <input type="checkbox"/> UNAVAILABILITY OF REQUIRED ELEMENTS <input type="checkbox"/> POOR DESIGN OR LAYOUT	<input type="checkbox"/> IMPROPER PRESCRIBED WORK METHODS <input type="checkbox"/> DEFECTIVE TOOLS AND/OR EQUIPMENT <input type="checkbox"/> MATERIALS OR VEHICLES	<input type="checkbox"/> CONGESTED OR RESTRICTED AREAS <input type="checkbox"/> INCLIMATE WEATHER <input type="checkbox"/> OTHER (DESCRIBE)
8. JOB FACTOR(S)				
<input type="checkbox"/> FAILURE TO ENFORCE SAFETY RULES <input type="checkbox"/> INADEQUATE INSPECTION OF EQUIPMENT <input type="checkbox"/> INADEQUATE INSPECTION OF WORK AREA <input type="checkbox"/> FAILURE TO FOLLOW INSTRUCTIONS	<input type="checkbox"/> INCORRECT JOB ASSIGNMENT <input type="checkbox"/> INADEQUATE TRAINING <input type="checkbox"/> INADEQUATE INSTRUCTIONS <input type="checkbox"/> INEFFECTIVE IMMEDIATE SUPERVISION	<input type="checkbox"/> FAILURE TO PROVIDE SAFE AND/OR CORRECT TOOLS <input type="checkbox"/> FAILURE TO PROVIDE PROPER PERSONAL PROTECTIVE EQUIPMENT <input type="checkbox"/> INADEQUATE WORK PRACTICE <input type="checkbox"/> INADEQUATE MAINTENANCE	<input type="checkbox"/> OTHER (DESCRIBE)	

C. DESCRIPTION OF INCIDENT

1. Give full details being particular to describe conditions preceding the incident, (i.e., work in progress, stage of work process, actual acts resulting in injuries and other workers involved, etc.), so that a clear picture of the incident is given. Take pictures and submit with your report for all incidents.

- 2. Were there witnesses to the incident?** ☐ Yes ☐ No

If yes, have witnesses complete witness statement form and attach it to this report.

- 3. Injured Employee Statement** ☐ Yes ☐ No

Have the injured employee use a separate sheet of paper to give written details of how the incident occurred. Make certain that the injured employee signs and dates the statement.

D. CORRECTIVE AND PREVENTIVE ACTIONS

As a result of the investigation, what actions are being taken to prevent similar occurrences? Please define corrective action, the responsible party, and the estimated time of completion.

1. Action Item(s)	2. Responsible Party	3. Due Date
4. Investigated By: Please Print	Signature:	Date:
5. Supervisor Name: Please Print	Signature:	Date:
6. Facility Manager: Please Print	Signature:	Date:



INCIDENT WITNESS STATEMENT (IWS) FORM

Injured/Involved Worker _____ Date of Incident _____

Witness's Name _____

EMSI Location _____

Witness's Job Title _____

1. Were you in the area where the incident occurred? Yes ☐ No ☐

2. Did you see the incident happen? Yes ☐ No ☐

3. What exactly happened?

4. Where exactly did the incident happen? _____

5. Was the employee using a tool, piece of machinery, or operating some type of equipment during the incident? Yes ☐ No ☐

6. If answer is "YES" to Question 5, briefly describe what the employee was using or operating when the incident occurred. _____

7. Are you aware of any other incidents, personal or on the job, that this employee has been involved in?

Yes ☐ No ☐ If answer is "YES", describe:

7. Do you know if this employee was ever cautioned by the supervisor or anyone else about unsafe work habits? Yes ☐ No ☐

8. What do you suggest can be done to prevent a reoccurrence of this incident in the future?

To the best of my knowledge, the above questions have been accurately and completed

Witness Signature

Foreman/Supervisor

Date



**INJURED OR INVOLVED EMPLOYEE STATEMENT FORM
(FOR INJURY/ILLNESS AND NON-INJURY INCIDENTS)**

1. Name:
2. Date of Incident:
- Time:
3. EMSI Location/Dept.:
4. Current address:
5. Phone:
6. How long have you worked for this company?
7. SS#:
8. What is your job title?
9. Describe your job in detail:
10. Exactly where did the incident happen (town, facility, building, room, etc.)?
11. Describe the incident in your own words:
12. Did anyone witness the incident? Yes ☐ No ☐ If yes, list names:
13. Who did you inform about the incident?
14. What action did your supervisor take when you informed him/her of the incident?
15. Did you seek treatment (For Injury/Illness Case Only)? Yes ☐ No ☐ If yes, who treated you?
Their address:
16. Did the doctor take you off work (For Injury/Illness Case Only)? Yes ☐ No ☐ If yes, how long?
17. Does the company provide you with necessary personal protective equipment? Yes ☐ No ☐
18. What suggestions or recommendations do you have that could prevent incident/illness from reoccurring in the future?
19. Have you been involved in previous incidents prior to this one (Injury/Illness/Non-Injury)? If so, please explain:

NOTE: All information given is true to the best of my knowledge. I understand giving false information is subject to discipline up to and including employment termination.

Injured/Involved Employee's Signature _____ **Date** _____



PROPERTY DAMAGE or NEAR MISS INVESTIGATION REPORT

GENERAL DATA

1. FACILITY NAME AND EXACT LOCATION OF INCIDENT	2. FACILITY PHONE NUMBER	
3. EMPLOYEE INVOLVED/JOB TITLE /ID NO.	4. DATE OF HIRE	5. DATE/ TIME OF NEAR MISS

WORK ACTIVITY ASSOCIATED WITH NEAR MISS

<input type="checkbox"/> AIR PRESSURE <input type="checkbox"/> CONVEYORS <input type="checkbox"/> FORK LIFT <input type="checkbox"/> STRUCTURES <input type="checkbox"/> WORKING SURFACE	<input type="checkbox"/> HAND TOOLS <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MOTOR VEHICLE <input type="checkbox"/> LADDERS/SCAFFOLDS	<input type="checkbox"/> METAL <input type="checkbox"/> TOOLING FIXTURES <input type="checkbox"/> HOISTING APPARATUS <input type="checkbox"/> CRANES/LIFTS	<input type="checkbox"/> LATHES <input type="checkbox"/> MECHANICAL POWER <input type="checkbox"/> SCRAP/DEBRIS <input type="checkbox"/> GRINDING/CHIPPING	<input type="checkbox"/> PRESSURE VESSELS <input type="checkbox"/> WORK AREA <input type="checkbox"/> WELDING/CUTTING <input type="checkbox"/> OTHER (DESCRIBE)
--	--	---	---	--

CONTRIBUTING CONDITION(S)

<input type="checkbox"/> POOR HOUSEKEEPING <input type="checkbox"/> GUARDING NOT PROVIDED <input type="checkbox"/> INADEQUATE TRAFFIC CONTROL <input type="checkbox"/> POOR ILLUMINATION	<input type="checkbox"/> POOR VENTILATION <input type="checkbox"/> IMPROPER GUARDING <input type="checkbox"/> NATURAL HAZARDS (TERRAIN, ETC.) <input type="checkbox"/> HAZARDOUS CONDITIONS	<input type="checkbox"/> IMPROPER STACKING, AND/OR PALLETIZING <input type="checkbox"/> UNAVAILABILITY OF REQUIRED ELEMENTS <input type="checkbox"/> POOR DESIGN OR LAYOUT	<input type="checkbox"/> IMPROPER PRESCRIBED WORK METHODS <input type="checkbox"/> DEFECTIVE TOOLS AND/OR EQUIPMENT <input type="checkbox"/> MATERIALS OR VEHICLES	<input type="checkbox"/> CONGESTED OR RESTRICTED AREA <input type="checkbox"/> INCLEMENT WEATHER <input type="checkbox"/> OTHER (DESCRIBE)
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JOB FACTOR(S)

<input type="checkbox"/> FAILURE TO ENFORCE SAFETY RULES <input type="checkbox"/> INADEQUATE INSPECTION OF EQUIPMENT <input type="checkbox"/> INADEQUATE INSPECTION OF WORK AREA <input type="checkbox"/> FAILURE TO FOLLOW INSTRUCTIONS	<input type="checkbox"/> INCORRECT JOB ASSIGNMENT <input type="checkbox"/> INADEQUATE TRAINING <input type="checkbox"/> INADEQUATE INSTRUCTIONS <input type="checkbox"/> INEFFECTIVE IMMEDIATE SUPERVISION	<input type="checkbox"/> FAILURE TO PROVIDE SAFE AND/OR CORRECT TOOLS <input type="checkbox"/> FAILURE TO PROVIDE PROPER PERSONAL PROTECTIVE EQUIPMENT <input type="checkbox"/> INADEQUATE WORK PRACTICE <input type="checkbox"/> INADEQUATE MAINTENANCE	<input type="checkbox"/> OTHER (DESCRIBE)
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DESCRIPTION OF INCIDENT

1. Give full details being particular to describe conditions preceding the incident, (i.e., work in progress, stage of work process, actual acts resulting in injuries and other workers involved, etc.), so that a clear picture of the incident is given. Take pictures and submit with your report for all incidents.
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CORRECTIVE AND PREVENTIVE ACTIONS

As a result of the investigation, what actions are being taken to prevent similar occurrences? Please define corrective action, the responsible party, and the estimated time of completion.		
1. Action Item(s)	2. Responsible Party	3. Due Date
5. Supervisor Name: Signature: _____ Date: _____ <div style="text-align: center; margin-top: 5px;">Please Print</div>		
6. Facility Manager: Signature: _____ Date: _____ <div style="text-align: center; margin-top: 5px;">Please Print</div>		

JOB SAFETY AND HEALTH ANALYSIS

G & M Services

Job-related injuries occur every day in the workplace. Often these injuries occur because employees are not trained in the proper job procedure.

One way to prevent workplace injuries is to establish proper job procedures and train all employees in safer and more efficient work methods. Establishing proper job procedures is one benefit of conducting a job safety and health/hazard analysis, that is, carefully studying and recording each step of a job, identifying existing or potential job hazards (both safety and health), and determining the best way to perform the job to reduce or eliminate these hazards. Improved job methods can reduce costs resulting from employee absenteeism and workers' compensation, and can often lead to increased productivity.

This section explains what a job safety and health analysis is and contains guidelines for conducting step-by-step analysis. G & M Services site managers are responsible for developing these procedures at their respective work sites and locations for all job tasks.

It is important to note that the job procedures in this section are for illustration only and do not necessarily include all steps, hazards, or protections for similar jobs in industry. In addition, standards issued by the Occupational Safety and Health Administration (OSHA) should be referred to as part of your overall job safety and health analysis. OSHA standards apply to most job operations, and compliance with these standards is mandatory.

Although this section is designed for use by foremen and supervisors, employees also are encouraged to use the information contained in the program to analyze their own jobs, be aware of workplace hazards, and report any hazardous conditions to their supervisors.

For additional information on job safety and health analyses and job safety and health programs, ask the Company Safety Director for assistance.

SELECTING JOBS FOR ANALYSIS

A job safety and health analysis should be performed for all jobs in the workplace, whether the job is "special" (non-routine) or routine. Even one-step jobs, such as those in which only a button is pressed, can and perhaps should be analyzed by evaluating surrounding work conditions.

To determine which jobs should be analyzed first, review your job injury and illness reports. Obviously, a job safety and health analysis should be conducted first for jobs with the highest rates of accidents and disabling injuries. Also jobs where "close calls" or "near misses" have

JOB SAFETY AND HEALTH ANALYSIS

occurred should be given priority. Analyses of new jobs and jobs where changes have been made in processes and procedures should follow. Eventually, a job hazard analysis should be conducted and made available to employees for all jobs in the workplace.

INVOLVING THE EMPLOYEE

Once a job is selected for analysis, a discussion of the procedure with the employee performing the job shall be done to explain its purpose. Point out that you are studying the job itself, not checking on the employee's job performance. Involve the employee in all phases of the analysis, from reviewing the job steps to discussing potential hazards and recommend solutions. You also should talk to other workers who have performed the job.

CONDUCTING THE JOB SAFETY AND HEALTH ANALYSIS

Before actually beginning the JSHA, look at the general conditions under which the job is performed and develop a checklist. Below are some sample questions you might ask.

1. Are materials on the floor that could trip a worker?
2. Is lighting adequate?
3. Are any live electrical hazards at the plant?
4. Are any explosive hazards associated with the job or likely to develop?
5. Are tools, including hand tools, machines, and equipment in need of repair?
6. Is excessive noise in the work area hindering worker communication and increasing risk of hearing loss?
7. Is fire protection equipment readily accessible and have employees been trained to use it?
8. Are emergency exits clearly marked?
9. Are trucks or motorized vehicles properly equipped with brakes, overhead guards, backup signals, horns, steering gear and identification, as necessary?
10. Are all employees wearing proper personal protective equipment (PPE) for the jobs they are performing?
11. Have any employees complained of headaches, breathing problems, dizziness or strong

JOB SAFETY AND HEALTH ANALYSIS

odors?

12. Is ventilation adequate?
13. Does the job involve entry into a confined space?
14. Have tests been made for oxygen deficiency and toxic fumes?

Naturally, this list is not complete because each worksite has its own requirements and environmental conditions. You should add your own questions to the list. You also might take photographs of the workplace, if appropriate, for use in making a more detailed analysis of the work environment.

BREAKING DOWN THE JOB

Nearly every job can be broken down into steps. In the first part of the JSHA, list each step of the job in order of occupance as you watch the employee performing the job. Be sure to record enough information to describe each job action, but do not make the breakdown too detailed. Later, go over the job steps with the employee.

IDENTIFYING HAZARDS

After you have recorded the job steps, next examine each step to determine the hazards that exist or that might occur. Ask yourself these kinds of questions:

1. Is the worker wearing clothing that could get caught in the machinery?
2. Are fixed objects present that may cause injury, such as sharp machine edges?
3. Can the worker get caught in or between machine parts?
4. Can the worker be injured by reaching over moving machinery parts or materials?
5. Is the worker at any time in an off-balance position?
6. Is the worker positioned to the machine in a way that is potentially dangerous?
7. Is the worker required to make movements that could cause hand or foot injuries, repetitive motion injuries, or strain from lifting?
8. Can the worker be struck by an object, lean against or strike a machine part or object?

JOB SAFETY AND HEALTH ANALYSIS

9. Do suspended loads or potential energy (such as compressed springs, hydraulics or jacks) pose hazards?
10. Can the worker fall from one level to another?
11. Can the worker be injured from lifting objects, or from carrying heavy objects?
12. Do environmental hazards such as dust, chemicals, radiation, welding rays, heat or excessive noise result from the performance of the job?

Repeat the job observation as often as necessary until all hazards have been identified.

EVALUATING THE HAZARDS

The next step is to look into what would cause these hazards. You need to think about what events could lead to an injury or illness for each hazard you identified. Typical questions are:

1. Is the worker wearing protective clothing and equipment, including safety belts or harnesses that are appropriate for the job? Does it fit properly?
2. Has the worker been trained to use appropriate PPE?
3. Are work positions, machinery, pits or holes, and hazardous operations, adequately guarded?
4. Are lockout procedures used for machinery deactivation during maintenance procedures?
5. Is the flow of work improperly organized (e.g., is the worker required to make movements that are too rapid)?
6. How are dusts and chemicals dispersed in the air?
7. What are the sources of noise, radiation and heat?
8. What causes a worker to contact sharp surfaces?
9. Why would a worker be tempted to reach into moving machine parts?

Recommendations should be based on the reliability of the solution. Overall, the most reliable protection is to eliminate the source or cause of the hazard. Hazards might be eliminated by redesigning equipment, changing tools, installing ventilation, or adding machine guards.

JOB SAFETY AND HEALTH ANALYSIS

If the hazard cannot be eliminated, the danger should be reduced as much as possible. Improving the procedure or using personal protective equipment are primary ways to reduce the danger. These changes should be accompanied by training programs aimed at covering the procedures and equipment in detail. (Some OSHA standards require formal training for employees).

RECOMMENDING SAFE PROCEDURES AND PROTECTION

After you have listed each hazard or potential hazard and have reviewed them with the employee performing the job, determine whether the job could be performed in another way to eliminate the hazards, such as combining steps or changing the sequence, whether safety equipment and precautions are needed to reduce the hazards, or whether training is needed to recognize hazards.

If safer and better job steps can be used, list each new step, such as describing a new method for disposing of material. List exactly what the worker needs to know how to perform the job using a new method. Do not make general statements about the procedure, such as “Be careful.” Be as specific as you can in your recommendations.

If hazards are still present, try to reduce the necessity for performing the job or the frequency of performing it.

Go over the recommendations with all employees performing the job and ask for their suggestions. Their ideas about the hazards and proposed recommendations may be valuable. Be sure that they understand what they are required to do and the reasons for the changes in the job procedure.

REVISING THE JSHA

A JSHA can do much toward reducing accidents and injuries in the workplace, but it is only effective if it is reviewed and updated periodically. Even if no changes have been made in a job, hazards missed in earlier analysis could be detected.

If an accident or injury occurs on a specific job, the JSHA should be reviewed immediately to determine whether changes are needed in the job procedure. In addition, if an accident results from an employee’s failure to follow job procedures, this should be discussed with all employees performing the job.

Any time a JSHA is revised, training in the new job methods or protective measures should be provided to all employees affected by the changes. A JSHA also can be used to train new employees on job steps and job hazards.

JOB SAFETY AND HEALTH ANALYSIS

To show how a JSHA form is prepared, a sample worksheet for grinding castings follows. Both safety and health hazards are noted, and recommendations for safer methods and protection.

EMPLOYEE RIGHTS

Employees have the right to file a complaint with their employers, their unions, OSHA, or another government agency about workplace safety and health hazards. Section 11(c) of the Occupational Safety and Health (OSH) Act makes it illegal for employees to be discriminated against for exercising this right and for participating in other job safety and health-related employee activities. These protected activities include:

1. Submitting complaints individually or with others directly to management concerning job safety conditions.
2. Filing formal complaints with government agencies such as OSHA or state safety and health agencies, fire departments, etc. (An employee's name can be withheld from the complaint if so requested.)
3. Participating in union committees or other workplace committees concerning safety and/or health matters.
4. Testifying before any panel, agency or court of law concerning job hazards.
5. Participating in walk-around inspections.
6. Filing complaints under section 11(c) and giving evidence concerning these complaints.

Employees also cannot be punished for refusing a work assignment if they have a reasonable belief that it would put them in real danger of death or serious physical injury, provided that, if possible, they have requested the employer to remove the danger and the employer has refused, and provided that the danger cannot be eliminated quickly enough through normal OSHA enforcement procedures.

If an employee is punished or discriminated against in any way for exercising his or her rights under the OSH Act, the employee should report it to OSHA within 30 days. OSHA will investigate, and if the employee has been illegally punished, OSHA will seek appropriate relief for the employee. If necessary, OSHA will go to court to protect the rights of the employee.



JSHA - Job Safety And Health Analysis

Name of organization completing the work:			Job name:		
Task:			Job number:		
Principal contractor:			Job location:		
Date the JSHA was prepared:			Number of pages in this JSHA:		
This JSHA has been reviewed by:			This JSHA has been discussed with:		
Principal Contractor or Representative (signature)			Employee/subcontractor (signature)		
Position Date			Position Date		
Item Number	Work activity Break the job down into steps	Potential or Known Hazard/s What could harm someone?	Safe Work Procedure What can be done to make the job safe?	Persons Responsible Who will make sure it happens?	Completion Date and signoff



JSHA -Job Safety And Health Analysis

Item Number	Work activity Break the job down into steps	Potential or Known Hazard/s What could harm someone?	Safe Work Procedures What can be done to make the job safe?	Persons Responsible Who will make sure it happens?	Completion Date and signoff

(JSHA)Job Safety And Health Analysis - Example

Note this is only an example and may not address all the hazards for this particular work activity at a specific site. A JSHA that is relevant to an individual site should be prepared.

Name of organisation completing the work: <i>XYZ Roofing</i>			Job name: <i>Smith's Warehouse</i>		
Task: <i>Roof sheeting on commercial shed</i>			Job number: <i>Project 001</i>		
Principal contractor: <i>ABC Construction</i>			Job location: <i>Coast Road, Joondanna</i>		
Date the JSHA was prepared: <i>11/03/00</i>			Number of pages in this JSHA: 4		
This JSHA has been reviewed by: <i>Joe Bloggs, Site Supervisor</i>			This JSHA has been discussed with: <i>Joe Bloggs, Site Supervisor and Jack Brown, Employee</i>		
Principal Contractor or Representative (signature) <i>J.F.Bloggs</i>			Employee/subcontractor (signature) <i>J.F.Bloggs</i> <i>J.S.Brown</i>		
Position <i>Site Supervisor</i>		Date <i>11/03/00</i>	Position <i>Site Supervisor</i> <i>Employee</i>		Date <i>11/03/00</i>
Item Number	Work activity Break the job down into steps	Potential or Known Hazard/s What could harm someone?	Safe Work Procedures What can be done to make the job safe?	Persons Responsible Who will make sure it happens?	Completion Date and signoff
1.	<i>Lay down area for work materials.</i>	<i>Slip, trips and falls. Unsafe access/egress for other workers.</i>	<i>Organize safe lay down area before material arrives.</i>	<i>Joe Bloggs (supervisor) Jack Brown (employee)</i>	
2-	<i>Access/egress to working platforms and work areas.</i>	<i>Fall from heights when accessing to and egressing from work areas on the roof</i>	<i>Provide and Maintain safe stair access. Maintain good housekeeping throughout the job.</i>	<i>Joe Bloggs (supervisor) Jack Brown (employee)</i>	

Item Number	Work activity Break the job down into steps	Potential or Known Hazard/s What could harm someone?	Safe Work Procedure What can be done to make the job safe?	Persons Responsible Who will make sure it happens?	Completion Date and signoff
3.	<i>Lifting roof materials to work areas with crane.</i>	<i>Load failing on workers and/or public.</i> <i>Crane overturning.</i> <i>Roof collapse.</i> <i>Power lines nearby.</i>	<i>Suitable gantry or overhead protection.</i> <i>Lift area suitably barricaded.</i> <i>Suitable capacity crane for the job.</i> <i>Crane set up correctly and away from other people and structures.</i> <i>Certified persons slinging and operating crane.</i> <i>Suitable spreader beams to lift roof sheets.</i> <i>Check weather conditions (e.g. wind, rain).</i> <i>Tag lines attached to load.</i> <i>Safety helmets.</i> <i>Roof is assessed by competent person to avoid overloading (prop up if needed).</i> <i>Ensure no parts from crane enter the electrical danger zone.</i>	<i>Joe Bloggs (supervisor)</i> <i>Jack Brown (employee)</i>	
4.	<i>Installing safety mesh to purlins.</i>	<i>Electric shock.</i> <i>Manual handling injuries.</i> <i>Fall from heights.</i> <i>Hand injury</i> <i>Sunburn.</i> <i>Falling objects.</i>	<i>Ensure tools and extension lead are tagged and current.</i> <i>Ensure temporary power board is fitted with Residual Current Devices (RCD).</i> <i>Ensure leads do not extend more than 30 metres from the temporary power board.</i> <i>Provide gloves.</i> <i>Mesh lifted by crane or by hoist to the working area.</i> <i>Mesh installed by competent persons in accordance with AS 4389.</i> <i>Use suitable working platform while installing mesh (i.e. scaffold. scissor</i>	<i>Jack Brown (employee)</i> <i>Joe Bloggs (supervisor)</i>	

Item Number	Work activity Break the job down into steps	Potential or Known Hazards What could harm someone?	Safe Work Procedure What can be done to make the job safe?	Persons Responsible Who will make sure it happens?	Completion Date and signoff
6.	<i>Cleaning up fibreglass or glasswool from roof area.</i>	<i>Falling debris. Eye, skin and upper respiratory irritation.</i>	<i>Bag and remove all loose fibres and dispose of in accordance with the site requirements. Remove all metal off cut and material and dispose in bins.</i>	<i>Joe Bloggs (supervisor) Jack Brown (employee)</i>	
7.	<i>Moving and installing roof sheets.</i>	<i>Fall ji'om heights. Electrical shock. Manual handling injuries (sprain and st rains).</i>	<i>Use mechanical means to move material where possible. Adopt correct lifting techniques i.e. team lifting. Ensure tools and extension leads are tagged and current. Ensure temporary power board is fitted with Residual Current Devices (RCD). Ensure leads do not extend more than 30 metres from the temporary' power board. Provide edge protection or fall injury prevention system (ensure person using fall-arrest are suitably trained). Isolate the electrical danger zone.</i>	<i>Joe Bloggs (supervisor) Jack Brown (employee)</i>	
8.	<i>Installation of down pipes and gutters.</i>	<i>Fall from heights. Hand injury.</i>	<i>Provide gloves and adequate tools. Provide adequate working platform (i.e. scaffold, scissor lift, cherry picker).</i>	<i>Joe Bloggs (supervisor) Jack Brown (employee)</i>	

Item Number	Work Activity Break the job down into steps	Potential or Known Hazard/s What could harm someone?	Safe Control Procedure What can be done to make the job safe?	Persons Responsible Who will make sure it happens?	Completion Date and signoff
			<i>lift or cherry picker.</i> <i>Use fall arrest equipment (if appropriate).</i> <i>Ensure persons are trained on the safe use of the equipment and an emergency rescue plan is ready on site.</i> <i>Safety mesh not to be used as a working platform.</i> <i>Wear hats, shirt, sun screen and UV rated sunglasses.</i> <i>Ensure no one is working below.</i>	<i>Joe Bloggs (supervisor)</i> <i>Jack Brown (employee)</i>	
5.	Installing fibreglass or glass wool insulation.	<i>Eye, skin and upper respiratory irritation.</i> <i>Fall from heights.</i>	<i>Persons handling fibres to be provided with appropriate personal protective equipment (i.e. masks, overalls and gloves).</i> <i>All persons installing fibres to be aware of manufacturer: requirements and first aid procedure..</i> <i>Install signs and barricades while installing fibres.</i> <i>Ensure that Material Safety Data Sheets (MSDS) are available on site.</i>	<i>Joe Bloggs (supervisor)</i> <i>Jack Brown (employee)</i>	



Job Hazard Analysis

Task Description: Core Drilling		Project:	
Task Phases: Preparation for work, core drilling of concrete, concrete removal and demobilization		Task Specific Location:	
General Contractor:		Estimated Task Start Date:	
Contractor:		Building Location:	
Date Prepared: 01/22/10	Date Revised: N/A	Revision No: N/A	
Prepared by: Vance Rogers	Revised by: N/A	Accepted by:	
Contractor JHA No:001	Job Hazard Classification	Routine Task X	Non Routine Task
Operation:	Hazard:	Action to be taken:	
1. Logistics and Preparation for continuing work	1.1 Worksite awareness	1.1.1 Review layout with foreman to familiarize the workers with the task.	
	1.2 Possibility of existing building utilities in the slab or below grade.	1.2.1 Visual inspection of floor to determine if anything was mapped out on floor.	
2. Review safety procedures and training.	2.1. Worker knowledge of project requirements.	2.1.1 Ensure all workers conducting this task review and sign-off on the JHA and the daily task plan.	
3. Mobilization: Equipment set-up, PPE, trip hazard with electrical power cords	3.1 Material handling	3.1.1 Use good body mechanics unloading and moving Equipment.	
	3.2 Housekeeping	3.2.1 Ensure that the areas are clear of debris.	
		3.2.2 Ensure that work area is taped off to prevent unauthorized workers from entering the hazard area. Routinely monitor the perimeter to enforce.	
	3.3 Slip and trip	3.3.1 Ensure that electrical cords and water hoses used with the equipment are clear of the work area and not a trip hazard.	
	3.4 PPE	3.4.1 All workers shall wear project minimum PPE including hard hat, safety glasses with side shields, hi-vis safety vests, proper footwear, and wear gloves while handling and operating equipment.	
		3.4.2 Select appropriate ear	

		protection based on the operating guidelines indicated in the manufacturer's literature.
	3.5 Equipment setup, preparation and other general hazards with equipment use.	<p>3.5.1 Follow the manufacturer's instructions for operation; use only a trained employee.</p> <p>3.5.2 Coordinate work activities/use of area. Make sure the area below the core drill location is clear and the falling core location is identified.</p> <p>3.5.3 Make sure the tools to be used are working properly and the way they are designed. Any tools not working properly or have defects to the tool must be tagged out of service and removed from site.</p> <p>3.5.4 Proper lifting of equipment, lift with your legs not your back, use appropriate number of personnel to move the equipment, protection of finished floor where needed when moving the equipment.</p>
4. Core Drilling Operations	4.1 Proper equipment operation	<p>4.1.1 The machine shall be operated by a trained technician within the normal operating range and in conditions recommended by the manufacturer.</p> <p>4.1.2 Proper use of the tool by an experienced operator, no personnel near or around the moving parts of the tool, tool will not be operated or running unless attended by operator, do not wear loose fit clothing around the moving parts. Proper PPE will be worn by operator and helper during use(safety glasses, hearing protection, hard hat).</p> <p>4.1.3 Maintain a minimum 10' clear work zone around the equipment.</p>
	4.2 Housekeeping	4.2.1 Tie up any cords or hoses so not to create a tripping hazard in the work zone.
	4.3 Dust	4.3.1 Dust will be mitigated by use of water from a pump can or hose.
	4.4 Water hazard	4.4.1 Shop vac up water while drilling is happening. Remove vacuumed waste and slurry from the building and dispose off site.
	4.5 Falling cores	4. 5.1 A helper will be on the floor below. The falling core location will

be identified prior to drilling. This will be done by drilling a pilot hole and putting a piece of wire through the hole to locate.

4. 5. 2 If the core can fall without damaging anything below, the area will be cautioned off with danger tape. The helper will assure that no one goes inside this perimeter.

4. 5. 3 If the core cannot fall safely, a helper will catch any debris that falls with a bucket. The operator will break off the core approximately 1" from the bottom of the slab. He will then drill the rest for the helper to safely catch.

5. Demobilization

5.1 Trip hazards from open holes

5.1.1 Cover all holes over 2" diameter with plywood to prevent trips or falls.

5.2 Equipment removal and cleanup

5.2.1 Use good body mechanics removing equipment.

5.2.2 Clean up all trash before leaving work area, put away all tools and cords and hoses. Remove from the building, and properly dispose of, any remaining slurry or concrete. Walk with GC to ensure clean work area before leaving.

PPE required: Hard hats, safety glasses with side shields, vests, gloves, sleeves (where applicable for concrete removal) and proper footwear.		Tools required for this task: N/A Attachments: CSDA Operator Job Safety Analysis Form	
Equipment to be use	Inspection requirements	Training requirements	
Core drill machine	Daily	Experienced Operator	

Other requirements or comments:

Employees Signature and Date:	

LOCKOUT/TAGOUT PROGRAM

G & M SERVICES

1.0 PURPOSE

- 1.1 The purpose of this program is to provide compliance with OSHA's Lockout/Tagout Standard (Control of Hazardous Energy) and to protect the safety of workers during maintenance, construction, repair or work on machines and equipment that could expose employees to injury due to the unexpected or unintentional movement/activation of the equipment or machine.

2.0 DEFINITIONS

- 2.1 To fully understand and comply with all aspects of the program and 29 Code of Federal Regulations (CFR) 1910.147, key words as follows need to be defined:
 - 2.1.1 ***Authorized employee*** – One who uses lockout/tagout devices and participates in the associated service or maintenance operations that necessitated the lockout or tagout.
 - 2.1.2 ***Affected Employee*** – One who operates equipment or machines locked or tagged out, or employees who work around said items where lockout/tagout devices are utilized.
 - 2.1.3 ***Other Employee*** – Employees whose work operations take them into areas where energy control procedures may be utilized.
 - 2.1.4 ***Hazardous Energy*** – Any energy source that moves or has the potential to move equipment during work. Types of hazardous energy include steam, air pressure, hydraulic pressure, electricity, chemicals, gravity, mechanical, thermal, etc.
 - 2.1.5 ***Isolation Device*** – A mechanical device that physically prevents the transmission or release of energy (i.e., circuit breaker, valve, capping lines, etc.). Push button and selector switches are not considered to be energy isolating devices.
 - 2.1.6 ***Energy Isolation Control Procedures (EICs)*** – Written procedures identifying types of hazardous energy in a system to be locked out, the magnitude of energy, isolation devices and release procedures, and lockout devices needed to effectively lock out the system.
 - 2.1.7 ***Lockout Device*** - A device that utilizes a positive means such as a lock, to hold an energy isolating device in a safe position to prevent the unexpected energizing of machine or equipment. Included are blank flanges, and bolted slip blinds.

LOCKOUT/TAGOUT PROGRAM

- 2.1.8 ***Personal Locks*** – As referred to in this program are those locks supplied by the employer to be utilized by employees for lockout purposes, only.
- 2.1.9 ***Tagout Device*** - A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device, to indicate that the energy isolating device and the equipment or machine being controlled may not be operated until the tagout device is removed. Note: Tagout devices shall not be used alone. Further means must be used to make the tagout as safe as lockout.

3.0 RESPONSIBILITIES

- 3.1 The Company Safety Director will be responsible for reviewing the written program annually and making any necessary changes.
- 3.2 Supervisors or their designees in each area are responsible for ensuring that employees follow all established lockout/tagout procedures. Program violations shall result in applicable use of the Disciplinary Program. G & M Services has a zero tolerance policy for Lockout/Tagout. Employees proven in violation with this policy of client Lockout Policies shall be immediately terminated.
- 3.3 Site Managers/Supervisors are responsible for maintaining Energy Isolation Control Procedures (EICs) for modified equipment; writing new EICs as new equipment is installed and ensuring that EICs are available to employees and followed.
- 3.4 Site Managers/Supervisors will continually ensure that all equipment has correct and usable EICs and that all equipment and machines have EICs developed and put into place after installation of such equipment.
- 3.5 The Site Managers/Supervisors are responsible for ensuring that all energy isolating devices accommodate lockout devices when new equipment is installed or when isolation devices are repaired, replaced or modified.

4.0 APPLICATION OF THIS PROGRAM

- 4.1 This program applies to the control of hazardous energy during servicing and maintaining of machines or equipment. This could include constructing, installing, setting up, adjusting, inspecting, modifying, maintaining and/or servicing equipment and machinery. Also included are such tasks as lubricating, cleaning, removing a jam, changing a tool or adjusting of machines or equipment.
- 4.2 All electrical work shall be performed by qualified electricians. The deenergizing of live electrical parts by qualified electricians shall be done following the procedures set forth in 29 CFR 1910.333(b) as described in the Electrical Work section of this Program.

LOCKOUT/TAGOUT PROGRAM

- 4.3 This program does not apply to work performed on cord and plug connected electrical equipment, for example, an electrical grinder or an air chisel. Employees must disconnect this type of machinery from the power source; i.e., unplug the machinery from the outlet and keep the connecting means under their exclusive control.
- 4.4 Other equipment throughout G & M Services may meet the exemption criteria for not needing specific EICs as set forth by OSHA. Equipment meeting the exemption criteria may be locked out utilizing the general lockout/tagout sequences that follow in this section of the written program.
- 4.5 The exemption criteria for not needing specific EICs are as follows:
 - 4.5.1 The equipment has no potential for stored or residual energy after shut down.
 - 4.5.2 The equipment has a single source of energy that can be readily identified and isolated. To meet the criteria of “readily identifiable,” the Energy Isolating Device must be within the line of site of the equipment and be easily determined to energize the equipment, i.e., an electrical disconnect within ten feet of a fan where it is evident that the disconnect energizes the fan, only.
 - 4.5.3 Locking out/tagging out of that energy source will completely deenergize and deactivate the entire piece of equipment.
 - 4.5.4 The equipment is isolated and is maintained locked out during work.
 - 4.5.5 A single lockout device will achieve a locked out condition.
 - 4.5.6 The lockout device will be under the exclusive control of the Authorized Employee.
 - 4.5.7 Working on the equipment does not create other hazards for employees not involved in the lockout.
 - 4.5.8 No accidents involving unexpected activation or reenergizing of the equipment have occurred during previous work.
- 4.6 General lockout/tagout sequences for equipment/machinery that meets exemption criteria:
 - 4.6.1 Notify all affected employees of the intent to lockout/tagout equipment.
 - 4.6.2 Shut down operating equipment by normal stopping procedures (i.e., depress Stop button, turn toggle switch to Off, etc.)
 - 4.6.3 Identify the hazardous energy sources. Release or secure the energy to prevent movements. Note: Authorized employees must thoroughly understand the type and magnitude of energy that the equipment uses as well as the hazards of such energy.

LOCKOUT/TAGOUT PROGRAM

- 4.6.4 Isolate equipment from energy sources by operating the appropriate valves, switches, etc. and locking out/tagging out the isolation devices. If more than one employee is working on the equipment, each employee will place his or her designated lock or tag on the equipment.
- 4.6.5 Attempt to activate equipment using normal operating controls to ensure that all energy has been isolated and equipment cannot move/start.
- 4.6.6 Return the operating controls to Off or the neutral position.
- 4.6.7 Perform required work.

5.0 EQUIPMENT INVENTORY/HAZARD ASSESSMENT

- 5.1 G & M Services shall conduct an initial inventory at all locations to identify the powered equipment present, the types of energy sources and energy isolation devices available in the area and the lockout/tagout devices needed to lock out equipment in the area.
- 5.2 A Lockout/Tagout Hazard Assessment Form shall be used to determine the hazards of the equipment and the isolation steps/devices needed to perform lockout/tagout and to write the equipment specific EICs. Completed forms must be turned in to the Corporate Safety Director and filed for documentation and reference purposes.
- 5.3 EICs will be written during the initial inventory and will be kept in the appropriate site locations for review by Authorized Employees.

6.0 GENERAL POLICIES AND PROCEDURES OF LOCKOUT/TAGOUT

- 6.1 All employees of G & M Services shall be trained in the contents of this program, the requirements of the applicable regulations, and any other applicable standards.
- 6.2 All employees will be categorized as “authorized,” “affected” or “other” and will be appropriately trained in the responsibilities and limitations of each designation. Employees will also be trained in the contents of this written program and the requirements of applicable regulations.
- 6.3 The Corporate Safety Director is responsible for ensuring that adequate training has been accomplished concerning this program.
- 6.4 G & M Services ensures that all contractors’ employees who might be affected by this program will be trained in accordance with the established program.
- 6.5 This program and its policies and procedures are to be strictly adhered to by all employees. In no case shall a system that has been locked out or tagged out be bypassed for any reason. No lock or tag shall be removed by anyone other than the person who placed the lockout or tagout device, unless the emergency lock removal procedure is followed in the Emergency Lock Removal section of this Program.

LOCKOUT/TAGOUT PROGRAM

- 6.6 Identification tags for lockout and tagout situations must be able to withstand the environment in which they are used and must be secured with a plastic cable tie or other means that will withstand at least 50 lbs. of pressure before breaking.
- 6.7 All personal locks used for lockout will be accompanied by a tag that states the employee name, identification number, department or location, and the date. Only **Red** American Locks, keyed separate, are to be used as a personal lock for lockout.
- 6.8 All tags and locks shall bear the legible identification of the individual who placed the device and other data such as dates and times shall be legibly written so that an inspection of the system, as is required by regulation, can be efficiently completed.
- 6.9 Each Authorized Employee shall receive a unique lock that only has one key, which is to be maintained by that employee at all times. The Site Manager/Supervisor or his/her designee shall maintain the second key in a controlled location. No employee-owned locks or tags are to be utilized for application of this program.
- 6.10 Employees must be thoroughly knowledgeable in the equipment on which they are to be working and must know the appropriate steps to shut down equipment and verify lockout.
- 6.11 Each Authorized Employee shall apply his or her assigned lock to the machine or equipment being worked on.
- 6.12 Loss of the assigned lock or key must be reported to the Site Manager or supervisor immediately after the loss is discovered.
- 6.13 The Corporate Safety Director or Site Manager/Supervisor are the **ONLY** persons who can authorize the use of group lockout/ tagout procedures as described in this document in lieu of the standard lockout/tagout procedures described herein.
- 6.14 Lockout shall be accomplished wherever it is possible and tagout shall only be used where machines or equipment are not designed to accommodate locks. A unique tag designed for use with this program is the only tag that shall be used if tagout is accomplished. If tagout alone is used, the system must be made as safe as lockout by disconnecting wires, capping lines, etc.

7.0 PREPARATORY STEPS FOR LOCKOUT/TAGOUT

- 7.1 A visual survey shall be conducted of the entire system to identify all potential energy isolating devices and methods of locking them out. This survey will be used to create an Energy Isolation Control Procedure (EIC). G & M Services has identified and written an EIC for all applicable equipment.
- 7.2 A competent person must perform the assessment of the Energy Isolation Control Procedure. The proposed EIC procedures will be checked and rechecked by the Corporate Safety Director before they are implemented as company policy.

LOCKOUT/TAGOUT PROGRAM

- 7.3 Once an Energy Isolation Control Procedure is implemented as policy, it shall be made available to every Authorized Employee.

8.0 SEQUENCE OF LOCKOUT /TAGOUT PROCEDURES

- 8.1 The Site Manager/Supervisor must grant permission to the Authorized Employee to perform lockout/tagout.
- 8.2 The Site Manager/Supervisor or the Authorized Employee must notify all affected employees of the following items:
 - 8.2.1 The identity of the system that is to be locked out.
 - 8.2.2 The approximate length of time that the system will be locked out.
 - 8.2.3 The reason for the system to be locked out.
- 8.3 The Authorized Employee will follow these steps:
 - 8.3.1 If the machine or equipment is in operation, deenergize or have a qualified operator deenergize it via normal operational procedures such as pressing a stop button, or opening a toggle switch, etc. or having the equipment operator shut the equipment down.
 - 8.3.2 Apply the energy isolating device so that the system is completely isolated from the energy sources. Stored energy such as that in capacitors, springs, rotating fly wheels, hydraulic systems, pressurized air, gas, steam, water, and elevated loads shall be appropriately dissipated or restrained as is necessary by means such as repositioning, bleeding down, locking down, or other acceptable means which shall ensure the stored energy is either released or controlled.
 - 8.3.3 Lockout and/or tagout the device as is applicable and ensure that all energy sources and devices have been locked and/or tagged by cross-referencing the EIC form. Ensure that all locks and/or tags placed are legibly identified.
 - 8.3.4 After all locks and/or tags have been placed, all Authorized Employees shall test the system to ensure that the isolation of all energy sources has been accomplished. After testing, all switches and controls shall be returned to the off or neutral position prior to commencing work.
 - 8.3.5 Perform maintenance or service operations.

LOCKOUT/TAGOUT PROGRAM

9.0 RESTORING THE MACHINE OR EQUIPMENT TO OPERATIONAL STATUS

- 9.1 After completion of the operation, the Authorized Employee shall perform a visual inspection of the entire system to ensure that there are no tools, materials, or persons in or on the machinery such that a potential hazard would be created if start-up were to occur, and also to ensure that all operational criteria have been accomplished.
- 9.2 During the above-mentioned inspection, ensure that all machine guards and safety devices have been restored to their original condition and are in proper working order.
- 9.3 Notify affected employees of pending reenergization.
- 9.4 Have all Authorized Employees remove their locks and/or tags.
- 9.5 Have a qualified person achieve reenergization of the machine or equipment while being viewed by an Authorized Employee to ensure proper startup/reenergization.
- 9.6 Isolation devices shall be operated to restore energy to equipment.
- 9.7 If work has not been completed at the end of the shift and the Authorized Employee is not staying over to finish the work, the lockout of the equipment shall not be suspended. To accomplish this, the Authorized Employee currently working on the equipment cannot remove his/her locks until the next shift employee has attached his/her lock, unless group lockout is being used.

10.0 GROUP LOCKOUT/TAGOUT

- 10.1 Use of Group Lockout will require a designated Primary Authorized Employee (typically a Supervisor) to use the EICs to isolate all required energy sources with locks. The keys to these locks will then be placed in a lock box. The lock box will be located in the Production Area or at the equipment/system operating station that is being secured. The Primary Authorized Employee will secure the lock box closed with a lockout hasp. A description tag will be secured to the hasp with a plastic cable tie. This tag will identify what equipment or system has been shut down, who shut the system down, the reason for the shutdown and the date the equipment is shutdown.
- 10.2 Authorized employees who need to work on equipment or systems that are isolated will place their personal lockout lock and tag on the lock box before actually working on the equipment. Employees must verify that the system/equipment is adequately isolated from the energy sources as per the normal lockout verification steps.

LOCKOUT/TAGOUT PROGRAM

- 10.3 Group locks can be obtained from the Site Manager/Supervisor and are to be **Gold** American locks. Under no circumstances are employees to use group locks alone for protection when working on equipment or systems. When employees are actively working on equipment and systems they must use a personal (**Red**) lockout lock to secure the keys in the lock box. Placing the lock indicates that the system is actively being worked on.
- 10.4 Group lockout/tagout shall only be utilized where the machine or equipment will not accommodate the number of locks/tags necessary for each authorized person to apply their own lock or tag.
- 10.5 At no time shall any one individual control the lockout/tagout application unless they are the only person affected by the application of the program. In other words, there shall never be any one person who will apply or remove all locks for all affected persons.
- 10.6 Additionally, no one shall ever remove the tag or lock of another employee unless authorized to do so by the Corporate Safety Director or Site Manager/Supervisor. If this occurs, the Corporate Safety Director/Manager/Supervisor shall document all facts relative to the situation per the Emergency Lock Removal Form.

11.0 MULTIPLE EMPLOYEE LOCKOUT/TAGOUT

- 11.1 Multiple employee lockout/tagout conditions require that each employee working on the equipment must utilize the EICs for the equipment and place their lock at each isolation point.
- 11.2 A hasp allowing the attachment of multiple locks at one isolation point will be used during all lockouts. Multiple hasps may be required depending upon the number of workers.
- 11.3 If work extends beyond one shift, the Authorized Employees currently working on the equipment cannot remove their locks until the next shift's workers have attached their locks to the isolation points
- 11.4 The Site Manager or supervisor will be responsible for ensuring that the lockout is uninterrupted.

LOCKOUT/TAGOUT PROGRAM

12.0 ELECTRICAL WORK(SEE ALSO ELECTRICAL POLICY)

12.1 All electrical work performed by qualified electricians shall be performed according to 29 CFR 1910.333(b) as follows:

(b) "Working on or near exposed deenergized parts."

(b)(1) "Application." This paragraph applies to work on exposed deenergized parts or near enough to them to expose the employee to any electrical hazard they present. Conductors and parts of electric equipment that have been deenergized but have not been locked out or tagged in accordance with paragraph (b) of this section shall be treated as energized parts, and paragraph (c) of this section applies to work on or near them.

(b)(2) "Lockout and Tagging." While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been deenergized, the circuits energizing the parts shall be locked out or tagged or both in accordance with the requirements of this paragraph. The requirements shall be followed in the order in which they are presented (i.e., paragraph (b)(2)(i) first, then paragraph (b)(2)(ii), etc.).

(b)(2)(ii) "Deenergizing equipment."

(b)(2)(ii)(A) Safe procedures for deenergizing circuits and equipment shall be determined before circuits or equipment are deenergized.

(b)(2)(ii)(B) The circuits and equipment to be worked on shall be disconnected from all electric energy sources. Control circuit devices, such as push buttons, selector switches, and interlocks, may not be used as the sole means for deenergizing circuits or equipment. Interlocks for electric equipment may not be used as a substitute for lockout and tagging procedures.

(b)(2)(ii)(C) Stored electric energy which might endanger personnel shall be released. Capacitors shall be discharged and high capacitance elements shall be short-circuited and grounded, if the stored electric energy might endanger personnel. Note: If the capacitors or associated equipment are handled in meeting this requirement, they shall be treated as energized.

(b)(2)(ii)(D) Stored non-electrical energy in devices that could reenergize electric circuit parts shall be blocked or relieved to the extent that the circuit parts could not be accidentally energized by the device.

(b)(2)(v) "Reenergizing equipment." These requirements shall be met, in the order given, before circuits or equipment are reenergized, even temporarily.

LOCKOUT/TAGOUT PROGRAM

(b)(2)(v)(A) A qualified person shall conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that the circuits and equipment can be safely energized.

(b)(2)(v)(B) Employees exposed to the hazards associated with reenergizing the circuit or equipment shall be warned to stay clear of circuits and equipment.

(b)(2)(v)(C) Each lock and tag shall be removed by the employee who applied it or under his or her direct supervision. However, if this employee is absent from the workplace, then the lock or tag may be removed by a qualified person designated to perform this task.

- 12.2 All work requiring locks and tags shall follow the normal procedures set forth in this program.
- 12.3 Emergency lock removal is to be as described in the Emergency Lock Removal section of this Program.

13.0 EMERGENCY LOCK REMOVAL

- 13.1 If an employee should become ill, has forgotten to remove his or her lock or tag or is not available to remove his or her locks or tags for any reason, the lockout and/or tagout device may be removed by the Site Manager or Supervisor provided that he/she has made a thorough attempt to find the employee within the plant who has attached the lockout/tagout device.
- 13.2 If it has been verified that the employee has left the plant, the Site Manager/Supervisor must then comply with the following procedures:
 - 13.2.1 The Site Manager/Supervisor will attempt to contact the employee to get the employee to return to the site and remove his or her lock.
 - 13.2.2 If contact with the employee fails, the Site Manager/Supervisor must comply with the following steps and fill in the following information on the Lock Removal Form:
 - 13.2.2.1 Date;
 - 13.2.2.2 Employee's name who they are trying to contact;
 - 13.2.2.3 Name of the equipment that the lock is attached to;
 - 13.2.2.4 Department;
 - 13.2.2.5 Time of contact;
 - 13.2.2.6 Results of contact; and
 - 13.2.2.7 Supervisor's name.

LOCKOUT/TAGOUT PROGRAM

- 13.2.3 The Site Manager/Supervisor shall complete the Lockout/Tagout Removal Form and sign in the appropriate area.
- 13.2.4 Once the employee's alternate key is obtained, the Site Manager/Supervisor and a qualified person will thoroughly check the system/equipment to ensure that nonessential items have been removed and that the system/equipment components are operationally intact.
- 13.2.5 The Site Manager/Supervisor and the qualified person will also check the work area to ensure that all employees have been safely positioned or removed from the area.
- 13.2.6 The Site Manager/Supervisor and a qualified person at this time will perform another check of the area and proceed to removing the lock.
- 13.2.7 Once the lock is removed and the system/equipment is safely brought back to operation, the employee's key will be returned to the site manager/supervisor.
- 13.2.8 The Lockout/Tagout Removal Form will also be turned into the Company Safety Director after removal. The Corporate Safety Director will keep the Lockout/Tagout Removal Forms on file for one year.
- 13.2.9 The Site Manager/Supervisor will ensure that the employee is notified of the lock removal prior to the employee starting work at the next scheduled shift.
- 13.3 Contractor employees who fail to remove their locks after the completion of the job, or after being directed to remove their locks by the G & M Services Representative or Contractor Supervisor may fall under the Emergency Lock Removal Procedure. If contractor employee's lock needs to be removed, the following steps are to be taken:
 - 13.3.1 The contractor company will be notified by the G & M Services representative that the contractor employee's lock needs to be removed.
 - 13.3.2 Contractors may then utilize their own lock removal policy or follow the basic criteria of the G & M Services Lockout/Tagout Program; however, in either case, the G & M Services Lockout/Tagout Removal Form will be filled out by the contractor and/or the G & M Services representative and will be turned into the Corporate Safety Director.
 - 13.3.3 If the contractor is unable to be reached to allow for the contractor employee or a contractor representative to remove the contractor lock, then the G & M Services representative will then follow the appropriate lock removal procedure of this written program.
 - 13.3.4 The G & M Services representative must continue to contact the contractor until such an attempt is successful and the contractor and contractor employee are made aware of the lock removal.

LOCKOUT/TAGOUT PROGRAM

14.0 OUTSIDE CONTRACTORS

- 14.1 Projects that will require outside contractors to perform lockout/tagout will be preplanned and coordinated by the contractor's representative and the G & M Services representative. Contractor employees will be required to follow the G & M Services Lockout/Tagout Program and procedures, as applicable. If the contractor's Lockout/Tagout program is more stringent, it may be followed if so authorized by the G & M Services representative. However, the EICs for the equipment and identification of the locks will follow the G & M Services program.
- 14.2 Before starting the project, the G & M Services representative and the contractor's representative will exchange information and discuss the work to be performed during the project. If not previously obtained from the contractor for the current calendar year, contractors will be required to:
 - 14.2.1 Provide the G & M Services representative with a copy of the contractor's Lockout/Tagout program.
 - 14.2.2 Provide documentation that all contractor employees have been adequately trained concerning their lockout/tagout designation.
 - 14.2.3 Provide lockout/tagout equipment such as locks, tags, and other lockout devices. Contractor employees will not be required to use G & M Services locks, however tags will be used to identify the locks and the tags must include the name of the authorized contractor employee, company name and the date. All equipment will be used and maintained by authorized contractor employees.
- 14.3 Information provided to the contractor's jobsite superintendent will include but may not be limited to:
 - 14.3.1 A copy of the G & M Services Lockout/Tagout Program.
 - 14.3.2 Specific information on the equipment to be worked on, (i.e., material safety data sheets, potential hazards, how to contact operators, procedures and precautions followed by in-house personnel when working on equipment, etc).
- 14.4 Information regarding the G & M Services emergency lock removal procedures. During pre-project planning, the contractor's representative and the G & M Services representative will jointly identify the Lockout/Tagout EICs to be followed.
- 14.5 Upon completion of the project, the contractor representative and the G & M Services Representative will discuss any problems or other unusual situations that occurred regarding lockout /tagout for the project.
- 14.6 Failure to follow this written program will result in the proper corrective actions.

LOCKOUT/TAGOUT PROGRAM

15.0 PROGRAM DOCUMENTATION

- 15.1 All records concerning the Lockout/Tagout Program will be maintained indefinitely unless specified elsewhere. Records will include:
 - 15.1.1 Training session outlines and attendance sheets; maintained in the Main Office.
 - 15.1.2 EIC procedures and an inventory list of equipment; maintained in the Corporate Safety Director's office.
 - 15.1.3 Lockout/Tagout Removal Forms; maintained in the Corporate Safety Director's office.
 - 15.1.4 Review forms shall be maintained for the two calendar years proceeding the current year.

16.0 TRAINING OUTLINE

- 16.1 Training for employees will cover all elements of this written program.
- 16.2 Employees will be informed of the various employee classifications and responsibilities during lockout/tagout; the limitations of lockout/tagout; the proper requirements for lockout/tagout; when lockout/tagout is required; use and location of EICs; multiple lockout/tagout requirements; and emergency lock removal.
- 16.3 The appropriate pre-lockout/tagout steps will also be discussed, as well as the steps to be followed before lockout/tagout devices are removed.
- 16.4 The different forms of hazardous energy will be discussed including typical procedures of isolating/releasing these energies. Employees will be given a questionnaire to ensure comprehension of the procedures. In addition, Authorized Employees will be required to perform lockout/tagout on a piece of equipment in their area utilizing EICs.

17.0 TRAINING REQUIREMENTS

- 17.1 Authorized Employees:
 - 17.1.1 The entire contents of this program;
 - 17.1.2 Limitation of tags;
 - 17.1.3 Purpose of the standard and the hazards controlled;
 - 17.1.4 Definitions of terms used;
 - 17.1.5 Devices used for accomplishing lockout/tagout:
 - 17.1.5.1 Standardized appearance;

LOCKOUT/TAGOUT PROGRAM

- 17.1.5.2 Personal identification procedures;
- 17.1.6 Procedures to include:
 - 17.1.6.1 Preparatory;
 - 17.1.6.2 Notification of affected employees;
 - 17.1.6.3 Shutdown, isolation, blocking, and securing;
 - 17.1.6.4 Placement, removal, and transfer of devices;
 - 17.1.6.5 Release of stored energy;
 - 17.1.6.6 Testing to verify effectiveness of control;
 - 17.1.6.7 Return to operational status;
 - 17.1.6.8 Special Procedures for:
 - 17.1.6.8.1 Designation of lockout versus tagout;
 - 17.1.6.8.2 Shift and personnel changes;
 - 17.1.6.8.3 Group lockout/tagout;
 - 17.1.6.9 Inspections;
 - 17.1.6.10 Communication and Chain of Command.
- 17.2 Affected Employee:
 - 17.2.1 Introduction to procedures outlined in the program for Authorized Employees;
 - 17.2.2 Policies regarding prohibition of bypassing lockout or tagout devices, and in any other way energizing the machine or equipment being locked or tagged out.
- 17.3 Supervisors:
 - 17.3.1 Training requirements, scheduling, and associated responsibilities;
 - 17.3.2 Retraining criteria;
 - 17.3.3 Inspection requirements and associated responsibilities;
 - 17.3.4 Outside personnel requirements;
 - 17.3.5 Administrative and record keeping responsibilities.

18.0 ANNUAL PROGRAM REVIEW

- 18.1 The Corporate Safety Director will review the effectiveness and proper application of this Lockout/Tagout Program annually. The review will include an audit of:

LOCKOUT/TAGOUT PROGRAM

- 18.1.1 Program applicability – If the program is found to be deficient in any area the Corporate Safety Director will modify the program to ensure compliance and to adequately address any issues that may have occurred over the last year concerning lockout/tagout.
- 18.1.2 Lockout/Tagout Removal Forms, employee training records, and existing EICs will be reviewed at least annually to determine equipment and procedure validity in inventory, identification and needed corrections.

LOCKOUT/TAGOUT PROGRAM – APPENDIX A

LOCKOUT/TAGOUT REMOVAL FORM

DATE: _____ TIME: _____

Name of employee whose lock is to be removed: _____

Number of locks to be removed: _____

Reason for removal: _____

Have all means available been used to contact above employee? YES NO

Has the system been walked down to verify personnel, tools and condition? YES NO

Have steps been taken to notify employee of Lockout Removal? YES NO

Name

Name

Date

Time

Date

Time

*Turn this Form in to the Company Safety Director. Keep on file for at least one year.



NEW EMPLOYEE ORIENTATION **VERIFICATION SHEET**

EMPLOYEE NAME (PRINT) _____

Employee safety is a vital part of this Company's operations. Each employee is required to work according to the safety practices established by the Company and applicable State and Federal regulations. The following items represent the most commonly practiced safety requirements at the plant and/or jobsites.

Employee: Before beginning work, I received instructions on the following safety rules, practices, and requirements:

Company Representative: Before employee began work, I instructed him or her on the following safety rules, practices and requirements. If the item is marked "N/A," I have included an explanation in the "Comments" section on page two.

<u>Included in Orientation</u>	<u>Employee Initials</u>	<u>Company Representative Initials</u>
_____ Safety Commitment Policy	_____	_____
_____ Assigned Responsibilities	_____	_____
_____ Audit/Inspection Procedures	_____	_____
_____ Bloodborne Pathogens	_____	_____
_____ Concrete and Masonry	_____	_____
_____ Confined Spaces	_____	_____
_____ Cranes, Hoists, and Rigging	_____	_____
_____ Compressed Gas/Hot Works	_____	_____
_____ Disciplinary Program	_____	_____
_____ Documented Safety Meetings	_____	_____
_____ Electrical Safety	_____	_____
_____ Emergency Action Plan	_____	_____
_____ Equipment Maintenance/Inspection	_____	_____
_____ Fall Protection	_____	_____
_____ First Aid/Medical Services	_____	_____
_____ Fire Protection/Prevention	_____	_____
_____ Floors, Wall Openings & Stairways	_____	_____
_____ General Safety Rules	_____	_____
_____ Hand and Power Tools	_____	_____
_____ Hazard Communication	_____	_____
_____ Hearing Conservation	_____	_____

_____	Housekeeping	_____	_____
_____	Incident Investigation	_____	_____
_____	Job Safety And Health Analysis	_____	_____
_____	Lockout/Tagout	_____	_____
_____	Office Safety	_____	_____
_____	Personal Protective Equipment	_____	_____
_____	Office Safety	_____	_____
_____	Personal Protective Equipment	_____	_____
_____	Recordkeeping	_____	_____
_____	Respiratory Protection	_____	_____
_____	Scaffolding	_____	_____
_____	Stairways and Ladders	_____	_____
_____	Vehicle Operating Policy	_____	_____
_____	Sawing Safety Program	_____	_____
_____	Other _____	_____	_____

Comments: _____



NEW EMPLOYEE ORIENTATION PROGRAM VERIFICATION

The items indicated on page one and two of the New Employee Orientation Program have been reviewed with me and explained to my satisfaction. I understand that if I do not know, if I am in doubt, or if I do not fully comprehend, any part of the job instruction, equipment, or procedures; it is my obligation to ask for explanations and/or further training before I begin any work assignment.

I understand that failure to comply with these rules, practices, and requirements will result in disciplinary action and could lead to termination.

I have personally instructed this employee in the safety requirements shown above for G & M Services.

Signed _____ Date _____
Company Representative

I have been instructed in the safety requirements shown above. I have received a copy of this instructional form.

Signed _____ Date _____
Employee

OFFICE SAFETY

G & M Services

Overall, offices are safe places in which to work. However, there are many practices and tools of the trade that can be very hazardous.

FILE CABINETS

One of the worst offenders is the file cabinet. Drawers left open are “striking against” hazards, and a full top drawer with empty or partly filled bottom drawers can cause the cabinet to tip over. Furniture must be secured.

CHAIRS AS LADDERS

Standing on chairs to reach high shelves is another dangerous practice. Use a step stool or stepladder. When you do use them, make sure you’re not in front of a door that can swing inward and knock the ladder or stool over. In addition, some chairs can be tipped over if you lean back too far.

ROTATING DUPLICATORS

Some offices use rotating duplicators. Watch for finger and hand hazards, and be careful if you have long hair.

ELECTRIC APPLIANCES

Electric typewriters, electric letter openers, paper shredders and other electric appliances must be grounded or double-insulated. Severe shocks can be received, especially when operating in damp or wet conditions.

SLIP/FALL HAZARDS

Paper clips, pens, pencils and some kind of paper can cause slipping hazards. Pick them up when you see them on the floor. Slippery floors, obstructive mats, cords and furniture can result in strains, sprains, broken bones, and other injuries. Proper designing, cleaning and maintenance of the office environment can eliminate these problems.

OFFICE SAFETY

OBSTRUCTED PASSAGEWAYS

Carrying objects that block your view of the path ahead can cause a serious collision. Approach swinging doors cautiously.

ELEVATORS

Elevator doors can be severe pinch points. Don't try to beat the elevator doors. Some time they may not retract and the result could be fatal.

BACK INJURIES

Lifting a load improperly or lifting too heavy a load can result in back injuries and hernias. Lift with your legs, not your back. Get help with heavy or awkward loads.

CUTS AND PUNCTURES

Paper has sharp edges and can cause painful cuts.

Let's look at drafting or art department hazards. Perhaps compasses or drawing instruments are the worst offenders because of their very sharp points. Knives, paper edges and paper cutters also require an alert and careful user. Push pins and thumbtacks can produce serious puncture wounds.

Sharp-pointed pencils and drawing pens can also cause severe puncture wounds.

HORSEPLAY

Not often mentioned, but of great injury potential is horseplay. Rarely is any serious bodily harm intended when workers "fool around." However, some of the worst injuries, even fatalities, happen because of horseplay. It can happen anywhere, anytime. On record are cases of burst eardrums, broken arms, blindness and fatalities. And, of course, there are many less serious but still painful injuries.

FIRE

OFFICE SAFETY

Carbon paper in wastebaskets is extremely combustible. Never dispose of matches or cigarette or pipe ashes in the same wastebasket as carbon paper.

Good office safety includes knowing where fire extinguishers are located and the proper fire escape route. Access to the extinguishers or escape routes must never be blocked.

NOISE

High levels of noise like that from computer printers as well as multiple conversations, phones, and typewriters can cause stress and its effects from even low noise exposures. This can be prevented by stationing noisy equipment in separate areas. Use noise-reducing covers and pads on printers, typewriters, etc. The installation of sound-absorbing partitions can also be beneficial.

LIGHTING

Glare from lights and highly reflective equipment and surfaces and/or inadequate light for reading small figures or unclear prints can lead to burning and itching eyes and difficulty focusing as well as headache, fatigue and stress. The use of adjustable overhead lighting and non-glare desktops and wall paint can decrease this effect.

Individual lamps can also be used for certain tasks. To eliminate glare, computer users can attach filters to their screens.

Eyesight suffers when lighting is poor, and if workers spend too much energy trying to adapt to poor lighting, they'll have less energy left over to do their work. Employees in offices with poor lighting tend to suffer headaches, eyestrain, neck strain and even low morale.

Task lights provide light so that it won't be such a strain when your eyes go from light to dark. In a workstation, desk space or the tackboard may be in a shadow under a shelf. Task lights eliminate that shadow. Task lights can have flexible necks and fluorescent or halogen bulbs. Workers should use task lights to read hard copy so that the ambient lighting can be kept low enough to prevent glare on the computer screen.

A good lighting system is much more than overhead fluorescent bulbs. Provide workers with plenty of task lights, position lights to minimize glare and consider the color of the walls and surfaces. Make your office a place where lighting doesn't cause eyestrain and headaches but a place that lights the way to employee health.

OFFICE FURNITURE

OFFICE SAFETY

Too high of a desk (especially for keyboard use) can result in wrist injuries from incorrect keyboard height. This can be remedied by adjusting chair height properly and then footrests should be used to support feet.

Telephones and materials should be kept in easy reach to prevent accidents.

Chairs should be provided with easily adjustable height and backrest position. This can prevent aches in back, neck and shoulders. The front edges of chairs should be rounded to prevent leg circulation problems, varicose veins and backaches. Appropriate casters and steady bases should be included on the chairs to allow for ease in reaching things from chairs to prevent back problems and injuries from awkward reaching.

VIDEO DISPLAY TERMINALS (VDT's)/CRT's

Overhead lighting should be dimmed, light fixtures should be covered with ½-inch cube louvers, or indirect lighting should be installed to decrease stress, eye discomfort, and headaches. Again desks, chairs and keyboard and screen height should be adjustable to prevent neck and back strain and wrist injuries. Rest breaks should be provided and work should be varied both on and off VDT's to decrease wrist injuries, eye strain and headaches. Printers should be equipped with noise shields or moved to separate areas to decrease stress from too high of noise levels. Non-VDT jobs should be provided for pregnant women who choose to transfer as reproductive hazards have not yet been ruled out.

STRESSORS

Repetitive, demanding work; rapid work pace; little control; inadequate breaks; discrimination or harassment; lack of promotional opportunity/low pay; muscle; eye or mental fatigue; noise; crowding and juggling of home and work responsibilities can all be work-related stressors. These can lead to insomnia, headaches, backaches, stomach ailments, irritability, exhaustion, increased allergic sensitivity, high blood pressure, coronary heart disease and ulcers. To remedy this, provide task variety; more control over work pace; rest breaks or varied work; effective grievance procedures; fair pay, respect and opportunity to use and increase skills; improvements in office environment; relief from burdens of dual role at work and home (such as flexible hours).

POOR AIR QUALITY AND VENTILATION

The "tight building syndrome" (not enough fresh air; harmful substances build up, such as air contaminants from copiers, cigarette smoke, asbestos and formaldehyde from building materials, nearby labs or factories, or from trucks idling near the air intake vents) can cause midafternoon headache and fatigue from lack of fresh air, irritation to eyes, nose and throat. Asbestos exposure causes lung disease and cancer. This can be prevented by an increased fresh air supply.

OFFICE SAFETY

Adequate exhaust ventilation should be installed for copiers and they should be placed in separate rooms. Bacterial and viral infections and allergies can be prevented by cleaning and inspecting ventilation systems regularly. Even discomfort can be controlled with flow of air and temperature in individual areas.

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TABLE OF SPECIFIC OFFICE POLLUTANTS

<u>POLLUTANT</u>	<u>SOURCES</u>	<u>HEALTH EFFECTS</u>
Ammonia	Blueprint machines, cleaning solutions	Respiratory system, eye and skin irritation
Asbestos	Duct and pipe insulation, spackling compounds, insulation products, fire retardants, ceiling and floor tiles	Pulmonary (lung) fibrosis, cancer
Benzene	Synthetic fibers, plastics, cleaning solutions, tobacco smoke	Central nervous system damage, skin, respiratory system irritant. Possible genetic damage
Carbon dioxide Carbon monoxide	Humans' exhaled air, combustion, Automobile exhaust, tobacco smoke	Headache, nausea, dizziness, weakness, long-term exposure related to heart disease
Ethanol	Duplicating fluids	Dermatitis, liver damage, intoxication
Formaldehyde	Urea-formaldehyde foam insulation and urea-formaldehyde resin used to bind laminated wood products such as particle board and plywood, tobacco smoke	Respiratory system, eye and skin irritation, nausea, headache, fatigue, cancer (in exposed laboratory animals)
Methyl alcohol	Spirit duplicating machines	Respiratory system and skin irritation

OFFICE SAFETY

Micro-organisms (such as viruses, bacteria and fungi)	Humidifying and air- conditioning systems evaporative condensers,	Respiratory infection, allergic responses
Motor vehicle exhaust (carbon monoxide, nitrogen oxides, lead particulates sulphur oxides)	Parking garages, outside traffic	Respiratory system and eye irritation; headache (see carbon monoxide), genetic damage
Nitrogen oxides	Gas stoves, combustion, motor vehicle exhaust, tobacco smoke	Respiratory system and eye irritation
Ozone	Photocopying and other electrical machines	Respiratory system and eye irritation, headache, genetic damage
Paint fumes	Freshly painted surfaces	Respiratory system and eye irritation; neurological, kidney and bone marrow damage at high levels of exposure
PCBs (polychlorinated biphenyls), dioxin, diebenzofuran	Electrical transformers	Sperm and fetal defects, skin rashes liver and kidney damage, cancer
Pesticides	Spraying of plants, premises	Depending on chemical components liver damage, cancer, skin, eye irritation, respiratory system, and neurological damage
Radon and decay products	Building construction materials such as concrete and stone; basements	Ionizing radiation- related diseases such as genetic damage, cancer, fetal and sperm

OFFICE SAFETY

damage

Sterilant gases (such as ethylene oxide)	Systems to sterilize humidifying and air-conditioning systems	Depending on chemical components; respiratory system and eye irritation, genetic damage, cancer
Tobacco smoke	Cigarettes, pipes, cigars	Respiratory system and eye irritation; may lead to diseases associated with smokers
Toluene	Rubber cement, cleaning fluids	Narcotic, skin irritant
Trichloroethane	Duplicating fluid, white-out liquids	Dizziness, headaches possible liver damage; suspected carcinogen
Trichloroethylene	Stencil machines	Liver cancer, lung dysfunction; central nervous system damage
Trinitrofluorenone (TNF)	Photocopiers	Suspected mutagen (genetic damage)

PERSONAL PROTECTIVE EQUIPMENT

G & M SERVICES

1.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

- 1.1 The purpose of this section is to ensure proper use and minimum requirements for personal protection for all employees. These rules and guidelines apply to all employees, and are considered minimum requirements as a condition of employment, for personal protection.
- 1.2 The Site Supervisor shall assess the client workplace to determine if hazards are present, or likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, the Site Supervisor shall select, and have each affected employee use, the types of PPE that will protect against the identified hazards. PPE must properly fit each employee and the employer shall verify the hazard assessment in writing.
- 1.3 Damaged or defective PPE must not be used.
- 1.4 Should an employee choose to utilize their own PPE, G & M Services shall verify that the PPE meets all applicable ANSI Standards before use.
- 1.5 G & M Services shall provide all required PPE at no cost to employees.

2.0 TRAINING

- 2.1 The Site Supervisor must provide training to each employee who is required to use PPE. Training will include when PPE is necessary, what PPE is necessary, how to wear PPE, the proper care, maintenance, useful life, and disposal of the PPE. The employer must certify in writing that the employee has received and understands the training.
- 2.2 The Site Supervisor shall re-train employees who have been found deficient in understanding the G & M Services requirement to wear PPE where required.

3.0 EYE & FACE PROTECTION

- 3.1 ***Safety Glasses*** - Safety glasses with approved side shields are required to be worn at all times when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation. The only approved types of side shields are those that are permanent part of the glasses or those that clamp onto the frame of the glasses. Protective eye and face must comply with ANSI Z87.1-1989 or be demonstrated to be equally effective.
- 3.2 ***Face Shield*** - Face shields must be worn when additional protection is needed such as: Grinding, chipping, sawing, buffing, etc.

PERSONAL PROTECTIVE EQUIPMENT

- 3.3 ***Chemical Monogoggles*** - Chemical monogoggles are to be worn and used when additional protection is needed, such as: Chemical splashing, dusty conditions jack hammering, air hose spraying, and cleaning, etc.
- 3.4 ***Welding Hoods*** - Welding hoods must be worn to provide eye and face protection to all welders and welder helpers who are involved in arc, tig, or mig type welding.
- 3.5 ***Cutting Goggles*** - Cutting goggles must be worn when work is being performed utilizing a cutting torch or flame welding.
- 3.6 ***Respirators*** - An approved respirator must be worn when in dusty conditions or when exposed to gases or fumes. Make sure it is the right type for the exposure. (See Respiratory Protection Policy)

4.0 HEAD PROTECTION

- 4.1 Employees must wear their hard hat at all times when working in areas where a potential for injury to the head from falling objects exists. Bump caps are not substitutes for hard hats. Protective helmets designed to reduce electrical shock hazard shall be worn by each such affected employee when near exposed electrical conductors that could contact the head. Protective helmets shall comply with ANSI Z89.1986 or be equally effective.

5.0 HEARING PROTECTION

- 5.1 Only approved hearing protection can be worn when exposed to noise hazards. Cotton is not acceptable as hearing protection. Approved means ear plugs worn properly or ear muffs.

6.0 FOOT PROTECTION

- 6.1 All employees are required to wear safety hard toed leather boots or shoes at all times, while on company time, when working in areas where a danger of foot injuries due to falling or rolling objects, or objects piercing the sole exist, and where employees' feet are exposed to electrical hazards. Any exceptions to this must policy must be approved in writing by the Company Safety Director. Protective footwear must comply with ANSI Z41-1991 or be equally effective.

7.0 CLOTHING

- 7.1 All employees are required to wear adequate and appropriate clothing. The only approved clothing is as follows: Long pants (no cuffs), shirts with sleeves (not altered or rolled up).

PERSONAL PROTECTIVE EQUIPMENT

8.0 HAND AND ARM PROTECTION

- 8.1 All employees are required to wear hand and arm protection when engaged in activities where they are handling sharp edged materials (such as sheet metal, fabricated steel units, uni-strut, etc.) or any other activities where there is a potential for common hand or arm injuries such as burns, cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, skin absorption of harmful substances, harmful temperature extremes, etc. Because gloves do not provide protection against all potential hand hazards, selecting the most appropriate glove for a particular application is important, (i.e., certain chemicals), and to determine how long it can be worn and whether it can be reused.

9.0 FALL PROTECTION

- 9.1 Employee protection shall be required for all work in which a potential for employees falling four feet or greater exists. Following is a list of fall protection devices:
- 9.1.1 Fixed work platforms with approved railings.
 - 9.1.2 Scaffolds constructed and used according to OSHA regulations.
 - 9.1.3 Vehicle-mounted elevating work platforms (Articulating Boom Platforms, Scissors Lifts, etc.) or other approved personnel hoisting devices. All employees working in an aerial lift shall wear a safety harness, with a lanyard attached to the basket, at all times.

10.0 LIFE PRESERVING EQUIPMENT/WORKING OVER OR NEAR WATER

- 10.1 Employees working over or near water, where the danger of drowning exists, shall be provided with U.S. Coast Guard-approved life jackets or buoyant work vests.
- 10.2 Before and after each use, the equipment shall be inspected for defects that would alter their strength or buoyancy. Defective units shall not be used.
- 10.3 Ring buoys with at least 90' of line shall be provided and readily available for emergency rescue operation. Distance between ring buoys shall not exceed 200'.
- 10.4 At least one lifesaving skiff shall be immediately available at locations where employees are working or adjacent to water.

PERSONAL PROTECTIVE EQUIPMENT

11.0 CLEANING AND MAINTENANCE

- 11.1 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 so that the PPE provides the requisite protection.
- 11.2 It is also important to ensure that contaminated PPE that cannot be decontaminated be disposed of in a way that protects employees from exposure to hazards.
- 11.3 All personal protective equipment shall be required, used, and maintained in sanitary and reliable condition, as necessary to protect employees from workplace hazards.



INJURY/ILLNESS RECORDKEEPING PROGRAM

1. GENERAL REQUIREMENTS

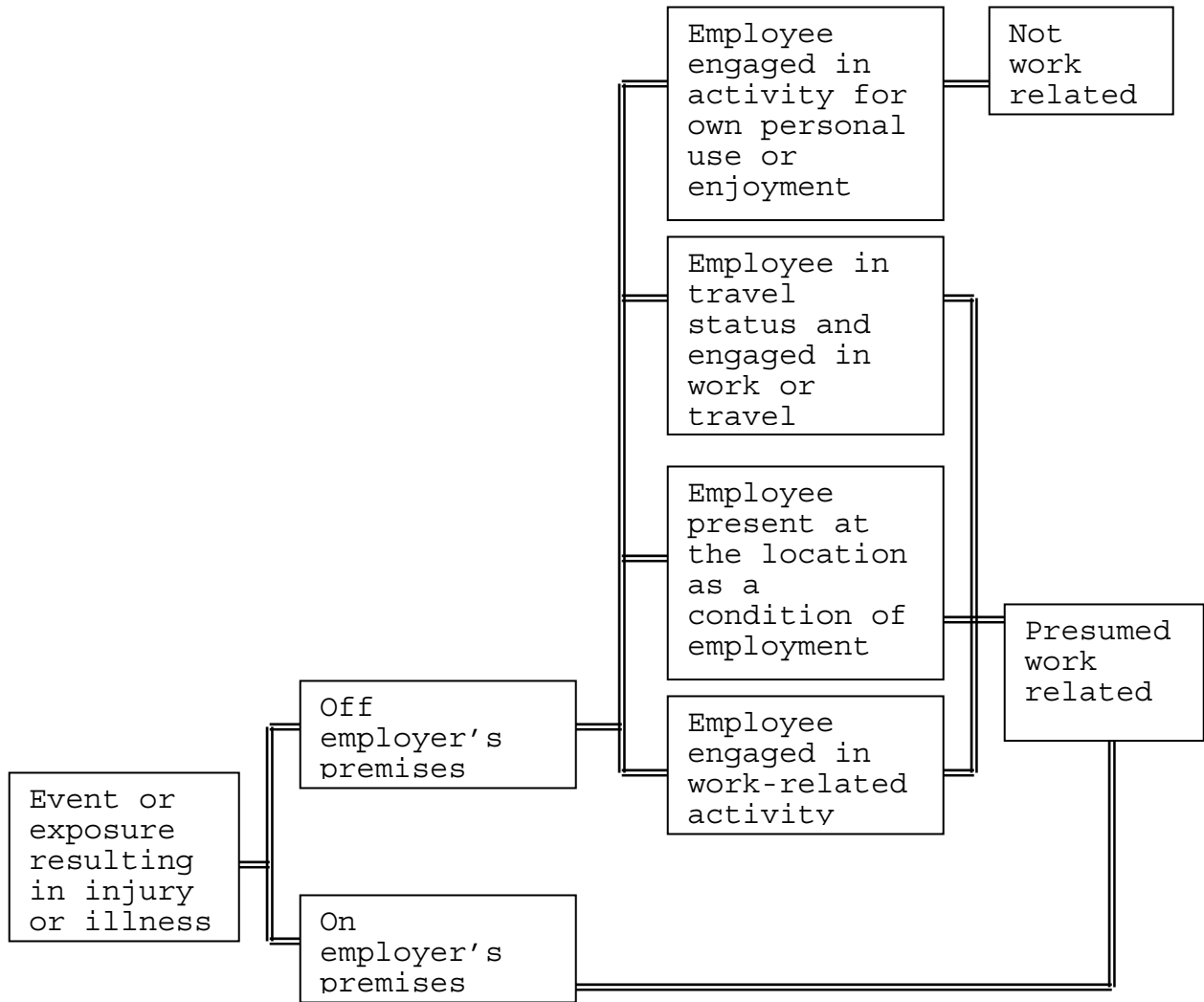
- a. OSHA record keeping itself is a simple operation. However, it requires decision-making in determining whether or not the case is recordable.
- b. If more information is required than provided in this written program, refer to 29 CFR 1904. These documents can usually be requested from the Superintendent of Documents at 202-512-2250.
- c. Employers who must maintain OSHA records include those in high hazard industries with eleven or more employees at any given time during the preceding calendar year.
- d. Records that must be kept include:
- e. OSHA 300/300A Log and Summary of Occupational Injuries and Illnesses.
- f. OSHA 301 Form or equivalent must be available to back up each entry on the 300 Log.
- g. Records must be generated only after a recordable incident has occurred. When no injuries or illnesses occur during the year, zeros must be entered on the totals line of the 300A Form. The form must be posted from February 1st to April 30th of each year for the previous calendar year's records.
- h. The location, retention and maintenance of records are as follows:
 - i. Fixed establishments are those that operate from a given site for long periods of time (in excess of 365 days). Single unit employers and multi-unit employers who choose this method of record keeping are included in this group.
 - j. A single unit employer is an employer with only one physical location (establishment). Included in this category are such activities as stores, banks, factories, etc. Multi-unit employers may choose to have each individual location maintain its own records. Examples of these employers are chain stores, factories, construction sites, etc.
- k. Records must be maintained and available at the establishment.
- l. The OSHA 300 Log and Form 301 must be maintained current within seven calendar days.

- m. The OSHA 300A Log totals for the previous calendar year must be posted from February 1st to April 30th. When no injuries or illnesses occur during the year, zeros must be entered on the totals line.
- n. Records must be available for the current year plus five previous years.
- o. Multi-unit employers keeping centralized records may do the paperwork at a place other than the establishment, but each record keeping system must still reflect only the experience of a single establishment. In most instances, this provision is used by large multi-unit employers who use data processing; or multi-unit employers who do not have office personnel available at the individual establishments (such as construction sites, bus garages, maintenance shops, etc.).
- p. The Log and Summary (OSHA No. 300/300A) may be maintained in a place other than the establishment if a complete and current copy of the Log and Summary is available in the establishment.
- q. The Log and Summary cannot be a combined report for the entire company; it must contain only information relating to the individual establishment.
- r. The Supplementary Record (OSHA 301 or equivalent) for each case entered on the Log and Summary must be available within seven calendar days after receiving information that a recordable case has occurred.
- s. The OSHA 300A Log totals for the previous calendar year must be posted from February 1st to April 30th. If no injuries or illnesses occurred during the year, zeros must be entered on the totals line.
- t. Records must be available for the current year plus five previous years.

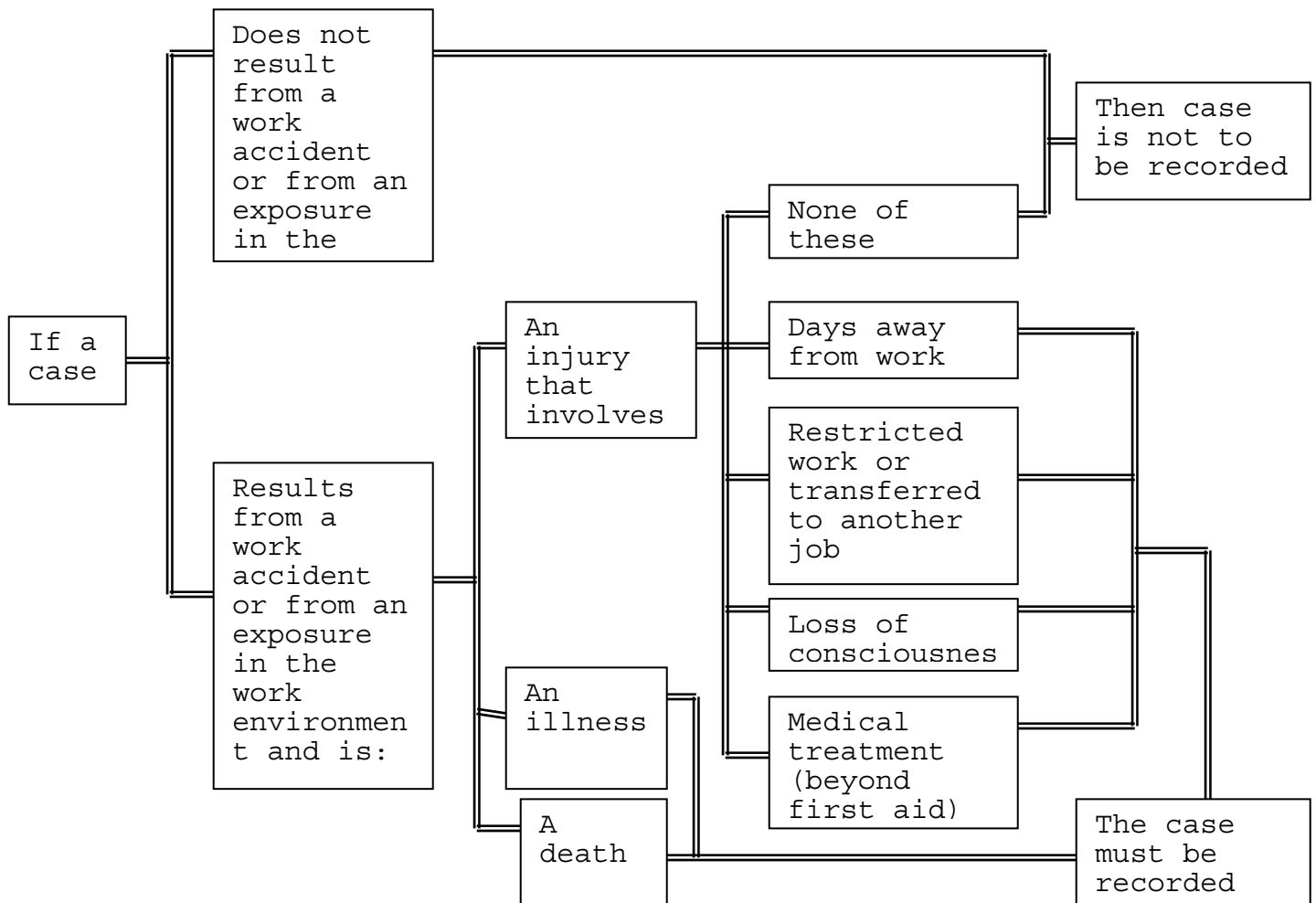
2. RECORDKEEPING DECISION MAKING

- a. First, a work relationship must be established.
- b. Injuries and illnesses resulting from events or exposures on the employer=s premises are generally considered work related.
- c. When an employee is off the employers premises and suffers an injury or an illness exposure, work relationship must be established. It is not presumed.
- d. Injuries and illness exposures off premises are considered work related if the employee is engaged in a work activity or if they occur in the work environment.

e. Guidelines for establishing work relationship:



f. Guide to recordability of cases under Occupational Safety And Health Act.



- g. An occupational illness is any abnormal condition or disorder associated with employment, other than one resulting from an occupational injury, caused by an exposure to environmental factors or event in the work environment. Occupational illnesses must be diagnosed to be recordable. Diagnosis may be by a physician, registered nurse, or a person who by training or experience is capable to make such a determination.
- h. An occupational injury is classified as either first aid or medical treatment.
 - First aid cases are not recordable.
 - Medical treatment is recordable.

3. RECORDING ON THE 300 LOG

Now that the decision-making is out of the way, the incident must be recorded. The information on the Form 301 can be helpful.

To enter the information on the OSHA 300 Log, simply follow the instructions at the top of the column.

- A step-by-step guide is printed in the 300 Log Pamphlet.

4. SUMMARY OF THE FORMS COMPLIANCE WILL LOOK FOR DURING A SURVEY

❖ FIXED-ESTABLISHMENT - INDIVIDUAL RECORDKEEPING

- OSHA No. 300/300A Log and Summary current to within seven calendar days.
- OSHA No. 301 Supplementary Records current to within seven calendar days.

Summary posted from February 1st until April 30th of each year for the previous calendar year's records.

- OSHA Poster posted in a conspicuous place for employees to see.

❖ MULTI-UNIT EMPLOYER - CENTRALIZED RECORDKEEPING

- OSHA No. 300/300A Log and Summary current to within seven calendar days.
- OSHA No. 301 Supplementary Records current to within seven calendar days.
- Summary posted from February 1st until April 30th.

- OSHA Poster posted in conspicuous place for employees to see.

All OSHA records are to be retained for five years following the end of the calendar year to which they relate.

5. REPORTING REQUIREMENTS

A catastrophe is an incident that results in the hospitalization of three or more employees, or the death of one of more employees, (i.e., explosion, fire, chemical spill, etc.)

Catastrophes must be reported to OSHA within eight hours. Supply this information:

- Establishment name
- Location of the incident
- Time of the incident
- Number of fatalities or hospitalized employees
- Names of injured employees
- Company contact person and his or her phone number; and
- A brief description of the incident.
- In most cases, OSHA will conduct an onsite investigation within twenty-four hours.
- The penalty for not reporting or not timely reporting can be up to \$7,000.00.

6. REQUIRED POSTINGS

Several posters covering a variety of subjects are required to be displayed at all times at each job site. Other posting requirements take effect depending upon the time of year, and the nature of work being done.

Display the poster in a conspicuous place for all employees to see at each office, warehouse and job site to which employees report directly to work.

- Poster must be kept clean and legible.
- Do not permit items to be displayed over or hung in front of the posters.
- Do not permit writing or doodles on posters.
- Do not reduce the size of the posters.

Mandatory posters for each job site regardless of time of year or nature of work being done:

OSHA Poster

The Federal poster is acceptable, however, if working in a state that operates its own Occupational Safety and Health program, the poster for that State will be posted

- Display according to requirements above.
- Available from Division of Labor in your state.

Equal Employment Opportunity Poster is available from the Division of Labor in your state, and should be displayed according to requirements above.

Note: The American Disabilities Act Posting is included on this poster as of April 1992.

Minimum Wage Poster should be displayed according to requirements above.

Federal Minimum Wage Poster should be displayed according to requirements above.

Job Insurance Poster should be displayed according to requirements above.

Emergency Phone Numbers should be posted near each telephone and should be displayed according to requirements above.

Polygraph Poster should be displayed at all locations where employees are hired.

“LASER IN USE” Poster:

- Must be posted when lasers are in use at the work area.

Display at all entrances to the area where the lasers are in use. Several signs may be required.

CRANE HAND SIGNALS Chart:

- Must be displayed while the crane is in use in the work area.
- Chart must be for type of crane in use.
- Display according to requirements, above.

HEARING CONVERSATION AMENDMENT:

- Must be displayed in all areas where a hearing conservation program has been established.
- Display according to requirements above.

OSHA 300A LOG OF INJURIES AND ILLNESSES:

- Information and totals from previous calendar year must be posted

February 1st through April 30th.

- Post the entire Summary.
- Only applicable to those establishments required to maintain records.
- Display according to requirements above.
- Available from Division of Labor in your state.

7. SUMMARY REFERENCE GUIDE

If you record accidents and illnesses using the following guidelines, you will meet OSHA record keeping requirements. The following analysis is to be applied in determining recordability of an illness or injury on OSHA 300 Log:

- **Death**: Record all deaths resulting from a work accident or exposure in the work environment.
- **Illness**: **Record all illnesses** resulting from or **aggravated** by a work accident or exposure in the work environment. An occupational illness is defined as any abnormal condition or disorder “caused by environmental factors associated with employment.” Illnesses should be recorded when they result from or are **aggravated** by agents or other conditions in the work environment. Some illnesses such as certain dermatitis may recur because of new exposures to sensitizing agents, and should be recorded as new cases.
- **Injuries**: Unlike illnesses, workplace injuries require additional analysis to determine recordability. An occupational injury is defined as any injury or **aggravation** of a previous injury, (e.g., cuts, fracture, sprain, etc.), which results from a work accident or exposure involving a **single instantaneous incident** -- i.e., an “ouch.” An occupational injury is recordable **only** if it involves one of the following:
 - ❖ Medical treatment other than first aid
 - ❖ Loss of consciousness
 - ❖ Restriction of work or transfer to another job due to the related injury.
 - ❖ Death.
 - ❖ Days away from work.
 - ❖ A significant injury or illness diagnosed by a physician or other licensed health care professional.

Reminders:

- ❖ Back cases are always analyzed as injuries.

- ❖ When calculating days away from work include: (1) the day after the injury or onset of the illness, or (2) any days the employee would not have worked, even if able to work (e.g., holidays, vacations, weekends). (Calendar days.)
- ❖ When calculating days of restricted work activity due to injury or illness, include (1) all calendar days the employee was assigned to another job on a temporary basis, or (2) all days the employee worked at his regular job less than full-time, or (3) all days the employee worked at his permanently assigned job but could not perform all the duties normally connected with it. Again count calendar days.
- ❖ Whether a case involves an injury or illness is determined by the nature of the original event or exposure that caused the case, not by the resulting condition of the affected employee.
- ❖ For OSHA recordkeeping purposes, injuries on employer recreational facilities (e.g., ball fields, tennis courts, gyms) are not recordable unless the employee was engaged in some work-related activity, or was required by the employer to participate.

An injury or illness is recordable if it results in death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or is a significant injury or illness diagnosed by a physician or licensed health care professional.

RESPIRATORY PROTECTION PROGRAM

G & M SERVICES

1.0 PURPOSE

- 1.1. The purpose of the Respiratory Protection Program for G & M Services is to establish a company wide program that will set overall objectives and policies governing the selection, use, care and maintenance of equipment used for respiratory protection;
- 1.2. To provide a safe and health-free workplace to protect all employees from respiratory hazards through the proper use of respirators; and
- 1.3. To ensure that respirators are used properly. Respirators are only required where engineering and administrative controls of respiratory hazards are not feasible, while engineering controls are being installed, or in emergencies.

2.0 RESPONSIBILITY

- 2.1. The Safety Director has overall responsibility for all facets of this program and has full authority to make any necessary decisions to ensure success of this program. All company supervisory personnel are responsible for the implementation of the Respiratory Protection Program in their designated areas.
- 2.2. The Company Safety Director is the designated Respiratory Program Administrator and will be responsible for the following:
 - 2.2.1. Identifying and evaluating respiratory hazards.
 - 2.2.2. Selecting and providing NIOSH certified equipment.
 - 2.2.3. Identifying a physician or other licensed health care professional (PLHCP) for medical evaluations.
 - 2.2.4. Ensuring that useful training is being given and employees are retaining the training.
 - 2.2.5. Ensuring that fit tests are being given and are effective.
 - 2.2.6. Ensuring that respirators are being inspected and properly maintained.
 - 2.2.7. Ensuring that respirators are being used properly.
 - 2.2.8. Establishing and retaining the following information:
 - 2.2.8.1. Medical evaluations.
 - 2.2.8.2. Fit Tests.
 - 2.2.8.3. A written copy of the Respiratory Protection Program.

RESPIRATORY PROTECTION PROGRAM

- 2.2.9. Regularly monitoring the workplace and employees for situations that might necessitate a change in the Respiratory Protection Program.
- 2.2.10. Distributing and ensuring understanding of Appendix D to employees who desire to wear respirators in non-required situations.
- 2.3. It is the responsibility of each employee to follow all applicable parts of this Respiratory Program, including wearing of the respirator correctly and at the appropriate times.

3.0 DETERMINING RESPIRATOR USE

- 3.1. In areas where respirator usage is required, G & M Services will demonstrate that respirator hazards in the workplace have been evaluated. This shall include:
 - 3.1.1. A reasonable estimate of employee exposures to respiratory hazards; and
 - 3.1.2. An identification of the contaminant's chemical state and physical form.
- 3.2. Where the company cannot demonstrate this, the area shall be considered immediately dangerous to life and health (IDLH). IDLH is explained further in Section J.
- 3.3. Where it is determined that respirator use is not necessary, the company may elect to let the employees wear respirators. These voluntary respirators may be company-owned or personally owned. Because a hazard is not present, the company is not required to supply the respirator. However, G & M Services will still determine that:
 - 3.3.1. The employee is medically able to wear the respirator;
 - 3.3.2. The respirator is kept clean;
 - 3.3.3. The respirator is stored properly;
 - 3.3.4. The respirator is maintained properly; and
 - 3.3.5. The employee has been supplied with a copy of Appendix D.
- 3.4. This criteria does not apply to the voluntary use of filtering face pieces (dust masks).

4.0 RESPIRATORY SELECTION

- 4.1. All feasible engineering and work practices will be used to eliminate the need for respirators. When determined that work area conditions and exposures require respirators, G & M Services shall abide by the following selection criteria:
 - 4.1.1. The selection of respirators shall be based on the type of hazards to which the worker will be exposed.

RESPIRATORY PROTECTION PROGRAM

- 4.1.2. Respirators shall be selected from among those approved by the National Institute for Occupational Safety and Health (NIOSH).
- 4.1.3. Additional information can be obtained from an industrial hygienist or other qualified individual. State and Federal Regulations Departments may also be contacted for the criteria of respiratory selection.
- 4.1.4. The employees shall be given a sufficient number of respirator models and styles from which to choose.

5.0 MEDICAL EVALUATIONS

- 5.1. All employees shall be medically evaluated before they are fit-tested or required to wear a respirator. Evaluations must be performed by a physician or other licensed health care professional (PLHCP). The PLHCP must use a medical questionnaire or medical examination that obtains the same information as the medical questionnaire. Medical evaluations are provided at no cost to employees.
- 5.2. The purpose of the medical questionnaire will be explained to the employees. Employees will also have the opportunity to discuss the questionnaire with the PLHCP.
- 5.3. The PLHCP shall be supplied with the following information about the individual employee's respirator use:
 - 5.3.1. The type and weight of the respirator.
 - 5.3.2. The duration and frequency of respirator use.
 - 5.3.3. The expected physical work effort.
 - 5.3.4. Additional protective clothing and equipment to be worn.
 - 5.3.5. Temperature and humidity extremes that may be encountered.
- 5.4. The PLHCP shall also be supplied with a copy of this respiratory program and a copy of 29 CFR 1910.134(e) as required by OSHA.
- 5.5. The PLHCP shall provide the employer with a written recommendation for the employee's respirator use and a statement that he or she has also provided the employee with the recommendation.
- 5.6. Additional medical evaluations may be required if:
 - 5.6.1. An employee reports medical signs or symptoms related to respirator use.
 - 5.6.2. A PLHCP, Supervisor or the respiratory program administrator informs the employee that the employee needs to be reevaluated.

RESPIRATORY PROTECTION PROGRAM

- 5.6.3. Information from the Respiratory Protection Program, including observations made during fit testing and program evaluation, which indicate such a need.
- 5.6.4. A change in workplace conditions that may result in a substantial increase in the physiological burden placed on an employee.

6.0 RESPIRATORY PROTECTIVE EQUIPMENT FITTING/ISSUANCE

- 6.1. All employees will be fit tested according to 29 CFR 1910.134 Appendix A. Fit tests will be updated annually. Additional fit tests will be required when a different make, model, style or size of respirator is to be used. Additional fit tests may also be required if there are changes in the employee's physical condition such as, but not limited to, facial scarring, dental changes, cosmetic surgery or an obvious change in body weight. G & M Services utilizes the qualitative and quantitative method of fit testing.
- 6.2. Facial hair coming in contact with the seal of the respirator is not permitted.
- 6.3. Eyeglasses are not permitted with a full-face respirator. An approved lens kit and lens will be used.
- 6.4. Wearing contact lenses while using a respirator is prohibited.
- 6.5. Employees will be issued a respirator for their exclusive use.

7.0 END OF SERVICE LIFE INDICATORS

- 7.1. For protection against gases and vapors, G & M Services shall provide:
 - 7.1.1. An atmosphere-supplying respirator; or
 - 7.1.2. An air-purifying respirator provided with an end of service life indicator (ESLI); or
 - 7.1.3. Atmosphere-supplying respirators shall only use Grade D air.
- 7.2. If no ESLI is available for the workplace, the company shall:
 - 7.2.1. Implement a change schedule for canisters and cartridges that is based on objective information or data that will ensure that they are changed before the end of their service life.
 - 7.2.2. The employer shall describe in this program the information and data relied upon and the basis for canister and cartridge change schedule and the basis for reliance on the data.

RESPIRATORY PROTECTION PROGRAM

8.0 RECORDKEEPING

- 8.1. The Company Safety Director will maintain all medical evaluations, fit testing records and respirator issuance for G & M Services. Such records shall include the following:
 - 8.1.1. The name or identification of the employee tested.
 - 8.1.2. The type of fit test performed.
 - 8.1.3. The specific make, model, style and size of respirator tested.
 - 8.1.4. The date of the test.
 - 8.1.5. The pass/fail results for Quality Fit Testing (QLFT) or the fit factor and strip chart recording or other recording of the test results for Quantity Fit Testing (QNFT).
- 8.2. Fit test records shall be retained for respirator users until the next fit test is administered.

9.0 TRAINING

- 9.1. Each employee shall be able to demonstrate knowledge of the following:
 - 9.1.1. Why the respirator is necessary and how improper fit, usage and/or maintenance can compromise the use of the respirator.
 - 9.1.2. What the limitations and capabilities of the respirator are.
 - 9.1.3. How to use the respirator effectively in emergency situations, including malfunctions.
 - 9.1.4. How to inspect, put on and remove, use and check the seals of the respirator.
 - 9.1.5. What the procedures are for maintenance and storage of the respirator.
 - 9.1.6. How to recognize medical signs and symptoms that may limit or prevent the effective use of the respirator.

10.0 RESPIRATORS FOR IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH) USE

- 10.1. Respirators for IDLH atmospheres must be:
 - 10.1.1. A full face piece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes; or
- 10.2. A combination full-face piece pressure demand supplied air respirator with auxiliary self-contained air supply. All oxygen-deficient atmospheres shall be

RESPIRATORY PROTECTION PROGRAM

considered IDLH unless the oxygen concentration can be maintained as outlined in the table below. If these concentrations can be maintained, then any atmosphere-supplying respirator may be used.

Altitude (ft)	Oxygen deficient Atmospheres (% O ₂) for which the employer may rely on atmosphere-supplying respirators
Less than 3,001	16.0-19.5
3,001-4,000	16.4-19.5
4,001-5,000	17.1-19.5
5,001-6,000	17.8-19.5
6,001-7,000	18.5-19.5
7,001-8,000 ¹	19.3-19.5

¹Above 8,000 feet the exception does not apply. Oxygen-enriched breathing air must be supplied above 14,000 feet.

11.0 MAINTENANCE - CLEANING AND DISINFECTING

- 11.1. All respirators will be cleaned and disinfected regularly.
- 11.2. Respirators that are routinely used will be inspected during each cleaning. All worn and defective parts must be replaced.
- 11.3. Each employee will be responsible for maintaining a clean respirator.
- 11.4. Respirators used by more than one employee must be thoroughly cleaned and disinfected after each use.
- 11.5. Cleaning and disinfecting should be done according to the manufacturers' instructions. General cleaning procedures are as follows:
 - 11.5.1. Disassemble the respirator.
 - 11.5.2. Remove inhalation valve.
 - 11.5.3. Remove exhalation valve.
 - 11.5.4. Remove cover and head strap.
 - 11.5.5. Wash the face piece, valves, and cover in mild detergent & water.
 - 11.5.6. Rinse thoroughly.
 - 11.5.7. Air-dry.
 - 11.5.8. Reassemble.

RESPIRATORY PROTECTION PROGRAM

- 11.6. Respirator or safety equipment disposable wipes can be used on respirators used by one employee between cleaning.
- 11.7. A record of respiratory usage is to be filled out after each use/cleaning by employee.

12.0 STORAGE

- 12.1. Storage of respirators will be as follows:
 - 12.1.1. Stored in a clean and sanitary location free from dust, sunlight, heat or excessive cold, moisture, and damaging chemicals.
 - 12.1.2. Respirators cannot be stored so that molded parts are distorted from their normal shape.
 - 12.1.3. Employees may store respirators in lockers and toolboxes only, if it is in a carrying case or carton.

13.0 INSPECTION

- 13.1. Inspection of respirators will be maintained by the Company Safety Director and be conducted as follows:
 - 13.1.1. All respirators used routinely will be inspected during cleaning and before and after each use. All worn or deteriorated parts shall be replaced by manufacturer's parts only and repairs shall be made by competent individuals.
 - 13.1.2. Respirators for emergency use, such as self-contained devices, will be thoroughly inspected at least once a month and after each use.

14.0 USE OF RESPIRATORS

- 14.1. When employees are required to use air-purifying respirators, the following procedures will be used:
 - 14.1.1. Employees will don the respirator and perform positive and negative pressure fit checks before entering the contaminated area. If either check fails, the employee will adjust the respirator and again perform the fit checks. If the employee cannot achieve a satisfactory fit, they will report to their Foreman immediately. Under these circumstances, they will not enter the contaminated work area.
 - 14.1.2. The employees will date the cartridges used on air purifying respirators. These cartridges will be changed daily, or at the end of the service life, whichever comes first.

RESPIRATORY PROTECTION PROGRAM

- 14.1.3. Employees who have substantial hair growth that would interfere with the respirator seal shall not work in contaminated areas.
- 14.1.4. Disposable dust/mist respirators and similar respirators have many useful purposes. Only employees who have been trained and fit-tested may wear these types of respirators and may only do so in areas designated for that type of respirator.
- 14.2. An inspection record is furnished in Appendix A of the program.

RESPIRATORY PROTECTION PROGRAM – APPENDIX A FORMS

MEDICAL EVALUATION FORM

_____ (Employee Name) has been examined by me and is
medically able to wear respiratory protective equipment as part of his or her job function.

Signature of Physician

Date

Name of Physician

Street Address of Physician

City, State, Zip of Physician

Telephone Number of Physician

Additional comments _____

Employee Signature

Safety Director

Social Security Number

RESPIRATORY PROTECTION PROGRAM – APPENDIX A FORMS

RESPIRATOR INSPECTION RECORD

RESPIRATOR	FILTER	PRE-FILTER	CARTRIDGE

Item	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Face Piece												
Inhalation Valve												
Exhalation Valve												
Headbands												
Cartridge Holder												
Cartridge/Canister												
Filter												
Harness Assembly												
Speaking Diaphragm												
Gaskets												
Connections												
Overall condition												
Other												
Inspector's Initials												

“X” Mark – No deficiencies

“O” Mark – Deficiency; If deficiency is noted, document corrective action below:

Corrective action: _____

SCAFFOLDING PROGRAM

G & M SERVICES

1.0 POLICY

- 1.1. All scaffolds shall be built by qualified employees under the direction of a competent person designated by G & M Services.
- 1.2. G & M Services shall have a competent person or persons oversee various aspects during the stages of scaffold erection, use and disassembly. These include, but are not limited to:
 - 1.2.1. Determining the feasibility for providing safe access for each employee erecting or dismantling supported scaffolds.
 - 1.2.2. The Corporate Safety Director shall provide training as required for scaffold inspection. Training shall include fall protection, electrical hazards, use, load capacity and G & M Services specific policy issues.
 - 1.2.3. Inspection for visible defects by a competent person before each work shift, and after any occurrence that could affect a scaffold's integrity.
 - 1.2.4. Erected scaffolds shall be tagged red for not to use, yellow during construction and green only after the "competent" person has inspected and signed the tag. Tags shall be client issued and employees shall comply with the client tag systems and policies as well.
 - 1.2.5. Selection of experienced and trained employees for the erection, movement, dismantling or alteration of scaffolds.
 - 1.2.6. Determining the safety of employees before work on or from scaffolds during storms and high winds. In cases where employees are allowed to work during such conditions, windscreens and/or personal fall arrest systems need to be used. If a windscreen is utilized, the scaffold must be secured against the anticipated wind forces imposed.
 - 1.2.7. Determining the feasibility of providing and using fall protection when erecting and/or dismantling scaffolds.
- 1.3. All inspections and training shall be documented and kept on file at the jobsite, main office, or both, at the discretion of G & M Services.

2.0 GENERAL REQUIREMENTS FOR ALL SCAFFOLDING

- 2.1. The requirements below are summarized from the CFR 1926 OSHA standards and should only be used for "at a glance" guidelines.
 - 2.1.1. Each scaffold and scaffold component shall be capable of supporting, without failure, its own weight and at least four times the maximum intended load

SCAFFOLDING PROGRAM

applied or transmitted to it.

- 2.1.2. Direct connections to roofs and floors, and counters used to balance scaffolds, shall be capable of resisting at least four times the tipping moment.
- 2.1.3. Each suspension rope, including connecting hardware used on scaffolds shall be capable of supporting, without failure, at least six times the maximum intended load applied or transmitted to that rope.
- 2.1.4. The stall load of any scaffold hoist shall not exceed three times its rated load.
- 2.1.5. Scaffolds shall be designed by a qualified person and shall be constructed and loaded according to that design.
- 2.1.6. Each platform unit shall be installed so that the space between adjacent units is no more than one inch wide, except where the employer can demonstrate that a wider space is necessary. Regardless, no such space between the platform and the uprights shall exceed 92 inches.
- 2.1.7. Platform width requirements do not apply to platforms used solely for walkways or solely by employees performing scaffold erection.
- 2.1.8. Each scaffold platform and walkway shall be at least 18 inches wide except for ladder jack scaffolds, top plate scaffolds, roof bracket scaffolds and pump jack scaffolds, which shall be at least twelve inches wide.
- 2.1.9. Where using 18-inch platforms is infeasible, the maximum width platform or walkway shall be used in that situation combined with fall protection.
- 2.1.10. The front edge of all platforms shall not be more than 14 inches from face of the work unless plastering and lathing operations are underway; then the distance may be up to 18 inches unless outrigger scaffolds are being used; then the distance may be no more than three inches. Distances greater than the ones stated above may be used only when fall protection is utilized.
- 2.1.11. Each end of a platform unless cleated or otherwise restrained by hooks or equivalent means, shall extend over the centerline of its support at least six inches.
- 2.1.12. Each end of a platform ten feet or less in length shall not extend over its support more than twelve inches unless it has been designed so, or unless it has guardrails to block employees from walking onto the cantilever portion.
- 2.1.13. Each platform greater than ten feet in length shall not extend over its support more than 18 inches, unless it has been designed so, or unless it has guardrails to block employees from walking onto the cantilever portion.
- 2.1.14. On scaffolds where platforms are overlapped to create a long platform, the overlap shall occur only over supports, and shall not be less than twelve inches unless the platforms are nailed together or otherwise restrained to

SCAFFOLDING PROGRAM

prevent movement.

- 2.1.15. All wood planking shall be “Scaffold Grade” or equivalent.
 - 2.1.16. Wood platforms shall not be covered by an opaque finish on the top or bottom surfaces.
 - 2.1.17. When scaffold platforms are more than two feet above or below a point of access, then some means of access must be provided, (i.e., portable ladders, hook-on ladders or personnel hoists). Cross bracing may not be climbed for access.
 - 2.1.18. Integral prefabricated scaffold access frames shall:
 - 2.1.18.1. Be specifically designed and constructed for use as ladder rungs.
 - 2.1.18.2. Have a rung length of at least eight inches.
 - 2.1.18.3. Not be used as work platforms when rungs are less than 112 inches in length, unless each affected employee uses fall protection, or a positioning device.
 - 2.1.18.4. Be uniformly spaced within each frame section.
 - 2.1.18.5. Be provided with rest platforms at 35 feet.
 - 2.1.18.6. Have a minimum spacing between rungs of 16¾ inches. Non-uniform rung spacing caused by joining end frames together is allowed, provided the resulting spacing does not exceed 16¾ inches.
 - 2.1.19. Access for employees erecting or dismantling supported scaffolds shall be according to the following:
 - 2.1.19.1. The employer shall provide safe means of access for each employee erecting or dismantling a scaffold when feasible.
 - 2.1.19.2. Hook-on or attachable ladders shall be installed as soon as scaffold erection has progressed to a point that permits safe installation and use.
 - 2.1.19.3. When erecting or dismantling tubular welded frame scaffolds, end frames, with horizontal members that are parallel, level, and are not more than 22 inches apart vertically, may be used as climbing devices for access, provided they are erected in a manner that creates a usable ladder and provides good hand holds and foot space.
 - 2.1.19.4. Cross braces shall not be used as a means of access or egress.
- The clearance between scaffolds and power lines shall be as follows:

SCAFFOLDING PROGRAM

Scaffolds shall not be erected, used, dismantled, altered or moved such that they or any conductive materials handled on them might come closer to exposed and energized power lines than as follows:

Insulated lines voltage	Minimum distance	Alternatives
Less than 300 volts	3 feet	
More than 50 kv	10 feet plus 4.0 inches for each 1 kv over 50 kv	2 times the length of the line insulator, but never less than 10 feet

Uninsulated lines voltage	Minimum distance	Alternatives
Less than 50 kv	10 feet	
More than 50 kv	10 feet plus 4.0 inches for each 1 kv over 50 kv	2 times the length of the line insulator, but never less than 10 feet

- 2.1.20. Scaffolds and materials may be closer to power lines than specified only after the utility company or electrical systems operator has deenergized the lines, relocated the lines, or installed protective covering to prevent accidental contact with the lines.
- 2.1.21. Employees shall be prohibited from working on scaffolds covered with snow, ice or other slippery material, except as necessary for removal of such materials.
- 2.1.22. Debris shall not be allowed to accumulate on platforms.
- 2.1.23. Makeshift devices, such as, but not limited to, boxes and barrels, shall not be used on top of scaffold platforms to increase the working level height of employees.

SCAFFOLDING PROGRAM

- 2.1.24. Ladders shall not be used on scaffolds to increase the working level height of employees except on large area scaffolds where employers have satisfied the following criteria:
 - 2.1.24.1. When the ladder is placed against a structure that is not a part of the scaffold, the scaffold shall be secured against the sideways thrust exerted by the ladder.
 - 2.1.24.2. The platforms shall be secured to the scaffold to prevent their movement.
 - 2.1.24.3. The ladder legs shall be on the same platform, or other means shall be provided to stabilize the ladder against unequal platform deflection, and
 - 2.1.24.4. The ladder legs shall be secured to prevent them from slipping or being pushed off the platform.
- 2.1.25. Platforms shall not deflect more than 1/60th of the span when loaded.
- 2.1.26. Each employee on a scaffold more than ten feet above a lower level shall be protected from falling to that lower level.
- 2.1.27. Guardrail systems shall be installed along all open sides and ends of platforms. Guardrail systems shall be installed before the scaffold is released for use by employees other than erection/dismantling crews.
- 2.1.28. Each toprail of a guardrail system shall be capable of withstanding, without failure, a force applied in any downward or horizontal direction at any point along its top edge of at least 100 pounds for guardrail systems installed on single-point adjustable suspension scaffolds or two-point adjustable suspension scaffolds and at least 200 pounds for guardrail systems installed on all other scaffolds.
- 2.1.29. Crossbracing is acceptable in place of a midrail when the crossing point of two braces is between 20 inches and 30 inches above the work platform or as a toprail when the crossing point of two braces is between 38 inches and 48 inches above the work platform. The end points at each upright shall be no more than 48 inches apart.
- 2.1.30. In addition to wearing hard hats, each employee on a scaffold shall be provided with additional protection from falling hand tools, debris and other small objects through the installation of toeboards, screens or guardrail systems, or through the erection of debris nets, catch platforms, or canopy structures that contain or deflect the falling objects.

SCAFFOLDING PROGRAM

2.1.31. Scaffolds shall be secured to the structure when the scaffold reaches a vertical height of 26 feet or is four times higher than the minimum base dimension, whichever is less. Guys, ties, and braces shall be installed according to manufacturers' recommendations or at the closest horizontal bearer to the 4:1 height and be repeated vertically at locations of horizontal members every 20 feet or less thereafter for scaffolds three feet wide or less. The same shall be done every 26 feet or less for scaffolds greater than 3 feet wide. The top guy, tie, or brace of completed scaffolds shall be placed no further than the 4:1 height from the top. They shall be installed at each end and at horizontal intervals not to exceed 30 feet, measured from one end.

3.0 MANUALLY PROPELLED MOBILE SCAFFOLDS

- 3.1. When free standing, the height of the work platform must not exceed four times the minimum base dimension.
- 3.2. Casters must be locked when a person is on the platform.
- 3.3. Scaffold platforms must be tightly planked the full width of the platform and secured in place.
- 3.4. A ladder must be provided for access to the work platform.
- 3.5. Employees shall not ride on the scaffold while moving from one location to another, unless:
 - 3.5.1. The floor is level, free from pits, holes and obstructions and is within three inches of level.
 - 3.5.2. The height does not exceed twice the narrowest dimension of the base.
 - 3.5.3. The scaffold has wheels of rubber or similar resilient material.
 - 3.5.4. All tools and materials are secured or removed before moving.
 - 3.5.5. Manual force used to move the scaffold shall be applied as close to the base as practical, but not more than five feet above the supporting surface.

4.0 SINGLE POINT ADJUSTABLE SUSPENSION SCAFFOLDS

- 4.1. The scaffolding, including power units or manually operated winches shall be of an approved type and shall be capable of supporting, without failure, no less than four (4) times the maximum rated load.
- 4.2. All power-operated gears and brakes shall be enclosed.
- 4.3. In addition to the normal operating brake, all power driven units shall have an emergency brake that engages automatically when the normal speed of descent is exceeded.

SCAFFOLDING PROGRAM

- 4.4. The supporting cable shall be vertical for its entire length.
- 4.5. Suspension methods shall conform to applicable safety standard.
- 4.6. The employee shall be protected by a safety belt and lifeline. The attachment point of the lifeline to the structure shall be appropriately changed as the work progresses.

5.0 TWO POINT SUSPENSION SCAFFOLDS (SWINGING SCAFFOLDS)

- 5.1. Two point suspension scaffold platforms shall be no more than thirty-six (36) inches wide overall. The platform shall be securely fastened to the hangers by U-bolts or by other equivalent means.
- 5.2. The hangers of two point suspension scaffolds shall be made of mild steel, or other equivalent materials, having a cross sectional area capable of sustaining four (4) times the maximum rated load, and shall be constructed to accommodate a guardrail, intermediate rail, and toeboard.
- 5.3. When hoisting machines are used on two point suspension scaffolds, such machines shall be of a design tested and approved by Underwriters' Laboratories or Factory Mutual Engineering Corporation.
- 5.4. The roof irons or hooks shall be of mild steel, or other equivalent material, or proper size and design, securely installed and anchored. Tiebacks of three-quarter inch manila rope, or the equivalent, shall serve as an additional means of anchorage, installed at right angles to the face of the building, whenever possible, and secured to a structurally sound portion of the building.
- 5.5. Two point suspension scaffolds shall be suspended by wire, synthetic, or fiber ropes capable of supporting no less than six (6) times the maximum rated load. All other components shall be capable of supporting no less than four (4) times the maximum rated load.
- 5.6. The sheaves of all blocks shall fit the size and type of rope used.
- 5.7. No more than two (2) employees shall be required to be on a two-point suspension scaffold designed for a working load of five hundred (500) pounds, at any time. No more than three (3) employees shall be required to be on a two-point suspension scaffold designed for a working load of seven hundred (700) pounds, at any time. Each employee shall be protected by an approved safety belt attached to a lifeline. The lifeline shall be securely attached to substantial members of the structure (not the scaffold) or to securely rigged lines, which will safely suspend the employee in case of a fall.
- 5.8. Two point suspension scaffolds shall be securely lashed to the building or structure to prevent them from swaying. Window cleaners' anchors shall not be used for this purpose.

SCAFFOLDING PROGRAM

- 5.9. The platform of every two point suspension scaffold shall be one of the following types:
- 5.10. Wooden ladder-type platforms shall be capable of sustaining four (4) times the maximum rated load and shall be constructed according to regulations.
- 5.11. Plank-type platforms shall be composed of no less than Scaffold Grade two-inch by ten-inch unspliced planks, properly cleated together on the underside, starting six (6) inches from each end; intervals in between shall not exceed four (4) feet. The plank-type platform shall not extend beyond the hangers more than twelve (12) inches. A bar or other effective means shall be securely fastened to the platform at each end to prevent its slipping off the hanger. The span between hangers for plank-type platforms shall not exceed eight (8) feet.
- 5.12. Beam-type platforms shall have side stringers of lumber no less than two (2) inches by six (6) inches set on edge. The span between hangers shall not exceed twelve (12) feet when beam platforms are used. The flooring shall be supported on two (2) inch by six (6) inch cross beams, laid flat and set into the upper edge of the stringers with a snug fit, at intervals of no more than four (4) feet, securely nailed in place. The flooring shall be of one (1) inch by six (6) inch material, or equivalent, properly nailed. Floorboards shall be spaced no more than one-half (2) inch apart.
- 5.13. Approved light metal type platforms shall be capable of supporting without failure no less than four (4) times the maximum rated load.

6.0 GLOSSARY OF SCAFFOLDING DEFINITIONS

- 6.1. ***Bearer*** - A horizontal member of a scaffold upon which the platform rests that may be supported by ledgers.
- 6.2. ***Boatswain's chair*** - A seat supported by slings attached to a suspended rope, designed to accommodate one employee in a sitting position.
- 6.3. ***Brace*** - A tie that holds one scaffold member in a fixed position with respect to another member.
- 6.4. ***Bricklayer's square scaffold*** - A scaffold, the platform of which is supported on built-up squares, secured to each other by full and continuous diagonal bracing.
- 6.5. ***Carpenter's bracket scaffold*** - A scaffold, the platform of which is supported on triangular braced brackets, fastened to the side of the structure.
- 6.6. ***Chimney, stack, or tank bracket scaffold*** - A scaffold composed of a platform supported by wood or steel brackets, hooked over a steel wire rope that surrounds the circumference of the chimney, stack, or tank.
- 6.7. ***Coupler*** - A device for locking together the component parts of a tubular metal scaffold.

SCAFFOLDING PROGRAM

- 6.8. ***Double pole or independent pole scaffold*** - A scaffold supported from the base by a double row or uprights, independent of support from the walls and constructed of uprights, ledgers, horizontal platform bearers, and diagonal bracing.
- 6.9. ***Elevating assembly*** - A mechanical hydraulic, or other type of mechanism used to elevate and lower a work platform.
- 6.10. ***Float or ship scaffold*** - A scaffold hung from overhead supports by means of ropes and consisting of a platform having diagonal bracing underneath, resting upon and fastened to two parallel plank bearers at right angles to the span.
- 6.11. ***Foot scaffold*** - A scaffold used to give additional height, the platform of which does not exceed eighteen (18) inches above the supporting surface.
- 6.12. ***Heavy duty scaffold*** - A scaffold designed and constructed to carry a working load in excess of fifty (50) pounds, but no more than seventy-five (75) pounds per square foot.
- 6.13. ***Horizontal wire rope supported scaffold*** - A scaffold, the platform of which is supported at two or more points by horizontal wire ropes.
- 6.14. ***Horse scaffold*** - A scaffold for light or medium duty, composed of horses supporting a work platform.
- 6.15. ***Interior hung scaffold*** - A scaffold suspended from the ceiling or roof structure.
- 6.16. ***Ladder jack scaffold*** - A light duty scaffold supported by brackets attached to ladders.
- 6.17. ***Lean-to or shore scaffold*** - (Use of this scaffold is prohibited). A scaffold, the platform of which is supported on members consisting of a putlog or bearer, knee braced to two diverging inclined legs that are in a plane substantially transverse to the putlog and that support the outer end of the putlog or bearer, while the inner end of the bearer or putlog rests on or against the structure or on a bearing block attached to the structure.
- 6.18. ***Ledgers or stringers*** - A horizontal scaffold member that extends from post to post at right angles to the putlogs or bearers, supports the putlogs or bearers, and forms a tie between the posts and becomes a part of the scaffold bracing.
- 6.19. ***Light duty scaffold*** - A scaffold designed and constructed to carry a working load of no more than twenty-five (25) pounds per square foot.
- 6.20. ***Manually propelled mobile scaffold*** - A portable rolling scaffold equipped with casters.
- 6.21. ***Mason's adjustable multiple-point suspension scaffold*** - A scaffold having a continuous platform supported by bearers suspended by wire rope from overhead supports, so arranged and operated as to permit the raising or lowering of the platform to desired working positions.

SCAFFOLDING PROGRAM

- 6.22. **Maximum rated load** - The total of all loads including the working load, the weight of the scaffold, and such other loads as may be reasonably anticipated.
- 6.23. **Medium duty scaffold** - A scaffold designed and constructed to carry a working load in excess of twenty-five (25) pounds but no more than fifty (50) pounds per square foot.
- 6.24. **Needle beam scaffold** - A cantilevered light duty scaffold consisting of two parallel horizontal beams called needle beams supporting a platform.
- 6.25. **Outrigger scaffold** - A scaffold supported by outriggers or thrustouts projecting beyond the wall or face of the building or structure, the inboard ends of which are secured inside the wall or face of such building or structure.
- 6.26. **Pick, or kick, plank** - A platform similar in construction to a narrow ladder with light decking strung upon and attached to the rungs, which rests upon horizontal and parallel stringers, or other bearers, and is movable along the course of the stringer.
- 6.27. **Platform** - The temporary flat working surface used to support employees, material, and equipment.
- 6.28. **Putlog** - A scaffold member upon which the platform rests (also see bearer).
- 6.29. **Runner** - The lengthwise horizontal bracing or bearing members, or both.
- 6.30. **Scaffold** - Any temporary elevated platform and its supporting structure used for supporting employees, materials, or equipment.
- 6.31. **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 so arranged and operated as to permit the raising or lowering of a platform to desired working positions.
- 6.32. **Single pole scaffold** - Platforms resting on putlogs or cross beams, the outside ends of which are supported on ledgers secured to a single row of posts or uprights, and the inner ends of which are supported on or in a wall.
- 6.33. **Stack bracket scaffold** - See chimney bracket scaffold.
- 6.34. **Suspended scaffold** - A scaffold supported from above, the platform of which is supported at more than two points from overhead outriggers fastened to the framework of the structure.
- 6.35. **Tank bracket scaffold** - See chimney bracket scaffold.
- 6.36. **Tube and coupler scaffold** - An assembly consisting of tubing which serves as posts, bearers, braces, ties, and runner, a base supporting the posts, and special couplers that serve to connect the uprights and to join the various members.

SCAFFOLDING PROGRAM

- 6.37. ***Tubular welded frame scaffold*** - A sectional panel or frame metal scaffold built up of prefabricated welded sections that consist of posts and horizontal bearers with intermediate members.
- 6.38. ***Two-point suspension scaffold or swinging scaffold*** - A scaffold, the platform of which is supported by stirrups or hangers at two points to permit raising or lowering, suspended from overhead supports.
- 6.39. ***Window jack scaffolds*** - A scaffold, the platform of which is supported by a jack or thrustout that projects through a window opening.
- 6.40. ***Working load*** - The load on the scaffold imposed by employees, material, and equipment.

STAIRWAYS AND LADDERS

G & M SERVICES

GENERAL REQUIREMENTS

1. A stairway or ladder must be provided at all worker points of access where there is a break in elevation of nineteen inches (48 cm) or more and no ramp, runway, embankment or personnel hoist is provided.
2. When there is only one point of access between levels, it must be kept clear to permit free passage by workers. If free passage becomes restricted, a second point of access must be provided and used.
3. When there are more than two points of access between levels, at least one point of access must be kept clear.
4. All stairway and ladder fall protection systems required by these rules must be installed and all duties required by the stairway and ladder rules must be performed before employees begin work that requires them to use stairways or ladders and their respective fall protection systems.

STAIR RAILS AND HANDRAILS

The following general requirements apply to all stair rails and handrails:

1. Stairways having four or more risers, or rising more than thirty inches (76 cm) in height, whichever is less, must have at least one handrail. A stair rail also must 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 must not be more than thirty-seven inches (94 cm) nor less than thirty-six inches (91.5 cm) from the upper surface of the stair rail to the surface of the tread.
2. Winding or spiral stairways must be equipped with a handrail to prevent using areas where the tread width is less than six inches (15 cm).
3. Stair rails installed after March 15, 1991 must not be less than thirty-six inches (91.5 cm) in height.
4. Midrails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members must be provided between the top rail and stairway steps of the stair rail system.

STAIRWAYS AND LADDERS

5. Midrails, when used, must be located midway between the top of the stair rail system and the stairway steps.
6. Screens or mesh, when used, must extend from the top rail to the stairway step, and along the opening between top rail and supports.
7. Intermediate vertical members, such as balusters, when used, must be installed so that there are no openings of more than nineteen inches (48 cm) wide.
8. Other intermediate structural members, when used, must be installed so that there are no openings of more than nineteen inches (48 cm) wide.
9. Handrails and the top rails of the stair rail systems must be capable of withstanding, without failure, at least 200 pounds (890 n) of weight applied within two inches (5 cm) of the top edge in any downward or outward direction, at any point along the top edge.
10. The height of handrails must not be more than thirty-seven inches (94 cm) nor less than thirty inches (76 cm) from the upper surface of the handrail to the surface of the tread.
11. The height of the top edge of a stair rail system used as a handrail must not be more than thirty-seven inches (94 cm) nor less than thirty-six inches (91.5 cm) from the upper surface of the stair rail system to the surface of the tread.
12. Stair rail systems and handrails must be surfaced to prevent injuries from punctures or lacerations, and to keep clothing from snagging.
13. Handrails must provide an adequate handhold for employees to grasp to prevent falls.
14. The ends of stair rail systems and handrails must be constructed to prevent dangerous projections, such as rails protruding beyond the end posts of the system.
15. Temporary handrails must have a minimum clearance of three inches (8 cm) between the handrail and walls, stair rail systems, and other objects.
16. Unprotected sides and edges of stairway landings must be provided with standard forty-two-inch (1.1 m) guardrail systems.

LADDERS

The following general requirements apply to all ladders, including job-made ladders:

1. A double-cleated ladder or two or more ladders must be provided when ladders are the only way to enter or exit a work area for twenty-five or more employees, or when a

STAIRWAYS AND LADDERS

ladder serves simultaneous two-way traffic.

2. Ladder rungs, cleats, and steps must be parallel, level, and uniformly spaced when the ladder is in position for use.
3. Rungs, cleats, and steps of portable and fixed ladders (except as provided below) must not be spaced less than ten inches (25 cm) apart, nor more than fourteen inches (36 cm) apart, along the ladder's side rails.
4. Rungs, cleats and steps of step stools must not be less than eight inches (20 cm) nor more than eighteen inches (46 cm) apart, between center lines of the rungs, cleats, and steps. The rung spacing on the extension section must not be less than six inches (15 cm) nor more than twelve inches (31 cm).
5. Ladders must not be tied or fastened together to create longer sections unless they are specifically designed for such use.
6. A metal spreader or locking device must be provided on each stepladder to hold the front and back section in an open position when the ladder is being used.
7. When splicing side rails, the resulting side rail must be equivalent in strength to a one-piece side rail made of the same material.
8. Two or more separate ladders used to reach an elevated work area must be offset with a platform or landing between the ladders, except when portable ladders are used to gain access to fixed ladders.
9. Ladder components must be surfaced to prevent injury from punctures or lacerations, and prevent snagging of clothing.
10. Wood ladders must 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.

PORTABLE LADDERS

1. Non self-supporting and self-supporting portable ladders must support at least four times the maximum intended load. Extra-heavy-duty type 1A metal or plastic ladders must sustain 3.3 times the maximum intended load. The ability of a self supporting ladder to sustain loads must be determined by applying the load to the ladder in a downward vertical direction. The ability of a non-self-supporting ladder to sustain loads must be determined by applying the load in a downward vertical direction when the ladder is placed at a horizontal angle of 75½ degrees.

STAIRWAYS AND LADDERS

2. The minimum clear distance between side rails for all portable ladders must be 11½ inches (229 cm).
3. The rungs and steps of portable metal ladders must be corrugated, knurled, dimpled, coated with skid-resistant material, or treated to minimize slipping.

FIXED LADDERS

1. A fixed ladder must be capable of supporting at least two loads of 250 pounds (114 kg) each, concentrated between any two consecutive attachments. Fixed ladders must also support added anticipated loads caused by ice buildup, winds, rigging, and impact loads resulting from the use of ladder safety devices.
2. Individual rung/step ladders must extend at least forty-two inches (1.1 m) above an access level or landing platform either by the continuation of the rung spacings as horizontal grab bars that must have the same lateral spacing as the vertical legs of the ladder rails.
3. Each step or rung of a fixed ladder must be capable of supporting a load of at least 250 pounds (114 kg) applied in the middle of the step or rung.
4. The minimum clear distance between the sides of individual rung/step ladders and between the side rails of other fixed ladders must be sixteen inches (41 cm).
5. The rungs of individual rung/step ladders must be shaped to prevent slipping off the end of the rungs.
6. The rungs and steps of fixed metal ladders manufactured after March 15, 1991, must be corrugated, knurled, dimpled, coated with skid-resistant material, or treated to minimize slipping.
7. The minimum perpendicular clearance between fixed ladder rungs, cleats, and steps, and any obstruction behind the ladder must be seven inches (18 cm), except that the clearance for an elevator pit ladder must be 4 ½ inches (11 cm).
8. The minimum perpendicular clearance between the centerline of fixed ladder rungs, cleats, and steps, and any obstruction on the climbing side of the ladder must be thirty inches (76 cm). If obstructions are unavoidable, clearance may be reduced to twenty-four inches (61 cm), provided a deflection device is installed to guide workers around the obstruction.
9. The step-across distance between the center of the steps or rungs of fixed ladders and the

STAIRWAYS AND LADDERS

nearest edge of a landing area must be no less than seven inches (18 cm) and no more than twelve inches (30 cm). A landing platform must be provided if the step-across distance exceeds twelve inches (30 cm).

10. Fixed ladders without cages or wells must have at least a fifteen inch (38 cm) clear width to the nearest permanent object on each side of the centerline of the ladder.
11. Fixed ladders must be provided with cages, wells, ladder safety devices, or self-retracting lifelines where the length of climb is less than twenty-four feet (7.3 m) but the top of the ladder is at a distance greater than twenty-four feet (7.3 m) above lower levels.
12. If the total length of a climb on a fixed ladder equals or exceeds twenty-four feet (7.3 m), the following requirements must be met: Fixed ladders must be equipped with either (a) ladder safety devices; (b) self-retracting lifelines, and rest platforms at intervals not to exceed 150 feet (45.7 m); or (c) a cage or well, and multiple ladder sections, each ladder section not to exceed fifty feet (15.2 m) in length; or (d) a cage or well, and multiple ladder sections. These ladder sections must be offset from adjacent sections, and landing platforms must be provided at maximum intervals of fifty feet (15.2 m).
13. The side rails of through or sidestep fixed ladders must extend forty-two inches (1.1 m) above the top level or landing platform served by the ladder. Parapet ladders must have an access level at the roof if the parapet is cut to permit passage through the parapet; if the parapet is continuous, the access level is the top of the parapet.
14. Steps or rungs for through-fixed-ladder extensions must be omitted from the extension, and the extension of side rails must be flared to provided between twenty-four inches (61 cm) and thirty inches (91 cm).

CAGES FOR FIXED LADDERS

1. Horizontal bands must be fastened to the side rails of rail ladders, or directly to the structure, building, or equipment for individual-rung ladders.
2. Vertical bars must be on the inside of the horizontal bands and must be fastened to them.
3. Cages must not extend less than twenty-seven inches (68 cm), or more than thirty inches (76 cm) from the centerline of the step or rung, and must not be less than twenty-seven inches (68 cm) wide.
4. The inside the cage must be clear of projections.
5. Horizontal bands must be spaced at intervals not more than four feet (1.2 m) apart measured from centerline to centerline.

STAIRWAYS AND LADDERS

6. Vertical bars must be spaced at intervals not more than 9½ inches (24 cm) apart measured from centerline to centerline.
7. The bottom of the cage must be between seven feet (2.1 m) and eight feet (2.4 m) above the point of access to the bottom of the ladder. The bottom of the cage must be flared not less than four inches (10 cm) between the bottom horizontal band and next higher band.
8. The top of the cage must be a minimum of forty-two inches (1.1 m) above the top of the platform, or the point of access at the top of the ladder. Provisions must be made for access to the platform or other point of access.

WELLS FOR FIXED LADDERS

1. Wells must completely encircle the ladder.
2. Wells must be free of projections.
3. The inside face of the well on the climbing side of the ladder must extend between twenty-seven inches (68 cm) and thirty inches (76 cm) from the centerline of the step or rung.
4. The inside width of the well must be at least thirty inches (76 cm).
5. The bottom of the well above the point of access to the bottom of the ladder, must be between seven feet (2.1 m) and eight feet (2.4 m).

LADDERS SAFETY DEVICES AND RELATED SUPPORT SYSTEMS FOR FIXED LADDERS

1. All safety devices must be capable of withstanding, without failure, a drop test consisting of a 500-pound weight (226 kg) dropping eighteen inches (41 cm).
2. All safety devices must permit the worker to ascend or descend without continually having to hold, push or pull any part of the device, leaving both hands free for climbing.
3. All safety devices must be activated within two feet (.61 m) after a fall occurs, and limit the descending velocity of an employee to seven feet per second (2.1 m/sec.) or less.
4. The connection between the carrier or lifeline and the point of attachment to the body belt

STAIRWAYS AND LADDERS

or harness must not exceed nine inches (23 cm) in length.

MOUNTING LADDER SAFETY DEVICES FOR FIXED LADDERS

1. Mountings for rigid carriers must be attached at each end of the carrier, with intermediate mountings, spaced along the entire length of the carrier, to provide the necessary strength to stop workers' falls.
2. Mountings for flexible carriers must be attached at each end of the carrier, with intermediate mountings, spaced along the entire length of the carrier, to provide the necessary strength to stop workers' falls.
3. The design and installation of mountings and cable guides must not reduce the strength of the ladder.
4. Side rails, and steps or rungs for sidestep fixed ladders must be continuous in extension.

USE OF ALL LADDERS, INCLUDING JOB-MADE LADDERS

1. When portable ladders are used for access to an upper landing surface, the side rails must extend at least three feet (.9 m) above the upper landing surface. The ladder must be secured, and a grasping device, such as a grab rail, must be provided to assist workers in mounting and dismounting the ladder. A ladder extension must not deflect under a load that would cause the ladder to slip off its support.
2. Ladders must be maintained free of oil, grease, and other slipping hazards.
3. Ladders must not be loaded beyond the maximum intended load for which they were built, nor beyond their manufacturer's rated capacity.
4. Ladders must be used only for the purpose for which they were designed.
5. Non-self-supporting ladders must be used at an angle where the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder. Wood job-made ladders with spliced side rails must be used at an angle where the horizontal distance is one-eighth the working length of the ladder.
6. Fixed ladders must be used at a pitch no greater than 90 degrees from the horizontal, measured from the back side of the ladder.
7. Ladders must be used only on stable and level surfaces unless secured to prevent

STAIRWAYS AND LADDERS

accidental movement.

8. Ladders must not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental movement. Slip-resistant feet must not be used as a substitute for the care in placing, lashing, or holding a ladder upon slippery surfaces.
9. Ladders placed in areas such as passageways, doorways or driveways, or where they can be displaced by workplace activities or traffic, must be secured to prevent accidental movement, or a barricade must be used to keep traffic or activities away from the ladder.
10. The area around the top and bottom of the ladders must be kept clear.
11. The top of a non-self-supporting ladder must be placed with two rails supported equally unless it is equipped with a single support attachment.
12. Ladders must not be moved shifted or extended while in use.
13. Ladders must have nonconductive siderails if they are used where the worker or the ladder could contact exposed energized electrical equipment.
14. The top or top step of a stepladder must not be used as a step.
15. Cross-bracing on the rear section of stepladders must not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.
16. Ladders must be inspected by a competent person for visible defects regularly and after any incident that could affect their safe use.
17. Single-rail ladders must not be used.
18. When ascending or descending a ladder, the worker must face the ladder.
19. Single-rail ladders must not be used.
20. When ascending or descending a ladder, the worker must face the ladder.
21. Each worker must use at least one hand to grasp the ladder when moving up or down the ladder.
22. A worker on a ladder must not carry any object or load that could cause the worker to lose balance and fall.

STAIRWAYS AND LADDERS

STRUCTURAL DEFECTS

1. Portable ladders with structural defects, such as broken or missing rungs, cleats, or steps, broken or split rails, corroded components, or other faulty or defective components, must immediately be marked defective, or tagged with “Do Not Use” or similar language, and must be withdrawn from service until repaired.
2. Fixed ladders with structural defects such as, broken or missing rungs, cleats, or steps, broken or split rails, or corroded components, must be withdrawn from service until repaired.
3. Defective fixed ladders are considered withdrawn from use when they are (a) immediately tagged with “Do Not Use” or similar language, (b) marked in a way that identifies them as defective; or © blocked (such as with a plywood attachment that spans several rungs).
4. Ladder repairs must restore the ladder to a condition meeting its original design criteria, before the ladder is returned to use.

TRAINING REQUIREMENTS

Under the provision of the standard, employers must provide a training program for each employee using ladders and stairways. The program must enable each employee to recognize hazards related to ladders and stairways and to use proper procedures to minimize these hazards. For example, employers must ensure that each employee is trained by a competent person in the following areas, as applicable:

1. The nature of fall hazards in the work area;
2. The correct procedures for erecting, maintaining, and disassembling the fall protection system to be used;
3. The proper construction, use, placement, and care in handling of all stairways and ladders; and
4. The maximum intended load-carrying capacities of ladders used.

In addition, retraining must be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired through compliance with the standard.

STAIRWAYS AND LADDERS

LADDER LOAD RATINGS

Ladders have been designed in four duty classifications:

<i>DUTY RATING</i>	<i>LADDER TYPE</i>	<i>WORKING LOAD (POUNDS)</i>
Extra heavy duty	IA	300
Heavy duty	I	250
Medium duty	II	225
Light duty	III	200

Users shall give consideration to the length required, the working load, the duty rating, and frequency of use to which the ladder will be subjected. Users shall not overload a ladder.

The following criteria shall be used when purchasing or using a ladder:

- * Extra Heavy Duty. For users requiring a 300-pound working load, such as industry, utilities, contractors, and the like.
- * Heavy Duty. For users requiring a 250-pound working load such as industry, utilities, contractors and the like.
- * Medium Duty. For users requiring 225-pound working load, such as painters, offices, for light maintenance, and the like.
- * Light Duty. For users requiring no more than a 200-pound working load, such as in general household use. Light-duty ladders shall not be used with ladder jacks or scaffold planks, or both.

VEHICLE OPERATING POLICY

G & M SERVICES

STATEMENT OF DRIVING RECORD POLICY

1. G & M SERVICES provides company-owned vehicles for use by certain employees and, in other cases, the company leases the personal vehicle of certain employees for use during business hours. As part of the company's corporate safety policies, this vehicle operating policy is intended to provide for:
 - a. Assigning company vehicles to safe, responsible employees, who will operate those vehicles on client property, public streets, and highways with regard for the safety and welfare of company property, themselves, and others.
 - b. The monitoring of our employees' driving histories.
 - c. The procedures to be administered for any violations of this policy.
2. Definitions.

Company vehicle means a motor vehicle owned or leased for company related activities by the company.

Company-owned vehicle means a motor vehicle owned by the company.

Company related activities means any activity that is directly or indirectly related to any employee work activity. Examples of indirect work activities would include attending meetings, seminars, trade shows, etc., outside the company.

3. To be eligible to operate a company vehicle, an applicant or employee must:
 - a. Have a valid driver's license that bears a classification qualifying the employee to operate the vehicle where the vehicle will be located.
 - b. Have a current driving record that demonstrates that over a three-year period preceding employment, the employee has not repeatedly violated motor vehicle laws of the state where the individual will be employed to such an extent that the individual's driving privileges could be suspended or revoked.

- c. Not have been convicted of or be presently charged with any driving-related offense (including driving while intoxicated, or under the influence of illegal drugs) which, by the seriousness of the nature of the offense, the length of time since its occurrence, and the general driving history and past experience of the employee, demonstrates that the employee would pose a significant safety hazard to the employee and others.
- d. Disclose to the company at the time of applying for employment, or during employment, all details concerning the above conditions or the nature of any driving incident, on or off duty.

Any applicant or employee who cannot meet the above eligibility requirements shall not be allowed to operate a company vehicle or be employed in a driving position.

- 4. An employee that operates a company vehicle shall be subject to disciplinary action, loss of driving privileges, and/or termination if the employee:
 - a. Fails to keep his or her driver's license current or has it suspended, revoked, or restricted due to unsafe driving practices.
 - b. Is charged with or convicted of driving while intoxicated or any other offense that could or does result in automatic suspension of driving privileges under state law.
 - c. Is at fault as a driver in any accident resulting in:
 - (1) The death of or serious bodily injury to another person; or
 - (2) Serious property damage.
 - d. Has repeatedly violated the motor vehicle laws of any state where the employee is assigned to work to such an extent that the employee's driving privileges could be suspended or revoked.
 - e. Displays carelessness, irresponsibility, recklessness or negligence in the operations of a company vehicle.
- 5. Nothing in this policy prohibits the company from terminating any employee without regard to the employee's driving record or the number of moving traffic violations, citations, convictions, or other evidence of unsafe driving practices.
- 6. The Personnel Department will at least annually review the driving records of employees in such driving positions to examine all available information concerning the current driving history of each such employee, regardless of whether the information refers to driving incidents occurring on or off duty.
- 7. Employees driving company-owned vehicles are required to provide their immediate

supervisor with a copy of any citation, complaint, or indictment charging them with any moving traffic violation or other driving-related offense or incident incurred while either on or off the job, by the end of their next work day after issuance of the citation, complaint or indictment, or the occurrence of the incident.

USE OF COMPANY VEHICLES

1. Company vehicles may be assigned to or leased from employees whose duties and responsibilities warrant extensive use of a vehicle to accomplish their job duties.
2. Managers may authorize the use of company-owned vehicles to employees not regularly assigned such a vehicle as necessary to perform their duties provided the employees meet the eligibility requirements above. If such an employee will be authorized to use a company-owned vehicle on more than an occasional basis, the authorizing supervisor shall request the Personnel Department to review and monitor the employee's driving record at least annually for compliance with the requirements of the eligibility requirements.
3. The company-owned vehicle must be operated and treated with proper care. Improper use results in higher maintenance costs and can adversely affect the company's public relations image.

OPERATING RULES AND REGULATIONS

1. An individual may use a company-owned vehicle to commute to and from the designated workplace if he or she has obtained prior written authorization from a Company officer. Any personal use of the vehicle after hours or during off duty hours must have prior approval of a Company officer. Violations to personal use of company vehicles may result in disciplinary action including the loss of company vehicle driving privileges or termination from employment.
2. Unless permission is obtained from a company officer, a company-owned vehicle may not be driven by any employee not specifically authorized to drive such a vehicle or by any non-employee, including any dependent, relative, friend, or associate of the employee.
3. No one under the age of 18 will be assigned or allowed to drive a company-owned vehicle. No one under the age of 21 will be allowed to drive over-the-road trucks (larger than one ton).
4. Drivers of vehicles larger than one ton must have a driver's license of the proper classification to operate the particular vehicles involved and must have demonstrated by an appropriate company-administered driving test that they are capable of safely operating such vehicles.

5. Trucks, (except standard ½ ton or ¾ ton pickup trucks), are allowed only for legitimate business reasons and must be restricted to company employees, corporate business passengers, or client representatives, without approval.
6. The company prohibits modification to a company-owned vehicle; including installation of auxiliary fuel tanks beyond those recommended by the manufacturer and approved by the company. Auxiliary fuel reserves may not be carried in separate containers of any size.
7. The company's Substance Abuse Policy addresses the prohibited use of alcohol and drugs. Under no circumstances shall any employee be authorized to operate a company vehicle at a time when such employee has in his or her body alcohol or any drug or other substance prohibited by the company's Substance Abuse Policy. Any employee who operates a company-owned vehicle or leased vehicle on company time in violation of this provision will be considered acting outside the course and scope of his or her employment and may be subject to immediate termination.

PROCEDURE FOR CHECKING DRIVERS LICENSE

1. The employee's driver's license will be visually checked at the time of employment for the following information:
 - a. Driver's license number.
 - b. Expiration date.
 - c. Restrictions.
 - d. License classification (A, B, or C).
2. Requests for drivers' license checks should be forwarded to the Personnel Department and should include the driver's:
 - a. Name as it appears on the driver's license.
 - b. Social Security number.
 - c. Date of birth.
 - d. The driver's license number.

ACCIDENT REPORTING

All accidents on and off the job must be reported immediately and require the completion of the designated company motor-vehicle accident form.

RESPONSIBILITY

1. The General Managers have the responsibility of ensuring compliance with the above rules and regulations in his or her respective division.
2. The Safety Department will at least annually monitor compliance and check driving records as needed. In any case where disciplinary action may be warranted, the Company Discipline Form must be completed immediately, and forwarded to the Personnel Department.

DISCIPLINARY GUIDELINES

If deviations from the above-described policies occur, the following disciplinary guidelines will apply:

1. Disciplines shown are mandatory and are minimums only used if past safety performance, job performance, attendance, etc. so warrant. Discipline must be administered by the individual's immediate supervisor. It cannot be delegated.
2. Discipline is applicable only if the person is clearly at fault as determined by final investigation results, and must be administered within one week of the final investigation.
3. Persons on probation who violate any additional safety rule shall be subject to further discipline up to and including discharge.
4. Abuse to company vehicles and/or equipment is grounds for immediate dismissal.
5. Disciplinary actions are to be documented on the Company Discipline Form and forwarded to the Personnel Department.
6. For the purpose of discipline, any company-leased vehicle used in the course and scope of company related activities shall be considered the same as a company-owned vehicle

EMPLOYEE ACKNOWLEDGMENT OF POLICY STATEMENT

The undersigned states that he or she has received a copy of this policy statement, understands all provisions and understands that failure to fully comply with all the requirements of the policy will result in disciplinary action. The undersigned also acknowledges the Company's right from time to time to change or modify this policy.

Employee Signature

Date

Name (Printed)

DRILLING AND SAWING SAFETY PROGRAM

G & M Services

FLAT SAWING PROCEDURES

“Flat” sawing refers to a sawing a flat or horizontal concrete surface. For example: floors, roofs, bridge decks, and roads. It is the responsibility of the saw owner to provide the operator with the proper saw for the job in safe operating condition with all guards in place and secure, all fasteners tight and all controls in proper working order.

The owner also shall provide an instruction manual, keep proper maintenance records, provide a device to measure blade RPM or list the arbor RPM on fixed speed saws, and see to it that all operators have proper personal safety and protective equipment for operating the saw.

Each operator must fully read and understand the instruction manual for any saw to be operated, and be familiar with all aspects of machine operation, including being familiar with all machine controls and their functions.

Any operator must also make sure the blade shaft RPM is proper for the size blade being used.

An operator must NOT operate any saw that is unsafe, and may NEVER leave the machine running unattended.

When operating any concrete saw, always wear safety glasses, proper footwear, hearing protection, and head protection. If conditions warrant, wear a safety vest.

Never operate or allow anyone to operate equipment when tired or under stress or while under the influence of drugs, alcohol or medications which impair alertness or reaction time or judgement.

Do not operate equipment while wearing loose fitting clothing. Always keep hands and clothing away from all moving parts at all times.

Do not operate a concrete saw in an area where there is combustible material or fumes. Sparks from the saw could cause an explosion or fire.

When hoisting the concrete saw equipped with a lifting frame, always inspect the frame, lifting hardware and cables or straps before lifting. Remember to use a tag line to keep employees away from overhead exposure.

DO NOT operate gasoline or diesel powered machines inside a building or other enclosed area that is not fully vented to outside air. Exhaust contains invisible, deadly carbon monoxide. Serious personal injury or death from carbon monoxide poisoning can result.

DRILLING AND SAWING SAFETY PROGRAM

Prior to cutting slab on grade inspect the surrounding area to be sure you cover anything that may get water damaged while cutting. Use plastic, duct tape, mortar, etc to protect the area if necessary. While cutting squeegee the slurry into the cut if possible, and or use a vacuum to collect the slurry.

Prior cutting suspended, or above grade slabs such as building floors or bridge decks, inspect the surrounding area on the floor you are cutting and the floor below to be sure you cover anything that may get water damaged while cutting. Use plastic, duct tape, mortar, etc to protect the area. Cover or plug any hole that may let water / slurry continue to flow down from floor to floor. The concrete piece must be supported so as not to fall when cut free.

The support must be sufficient to prevent the slab from shifting and falling. Also, when removing the cut piece, proper safe rigging and hardware must be used.

Various kinds of diamond or abrasive saw blades may be used on these machines, but you must make sure the blade is of proper specification and size for the application. Select the right blade, and use it properly.

If the saw RPM is too low, the blade will tend to wear out too fast, and may not run true and straight. If the RPM is too high, the segments may glaze over and stop cutting. If a blade is run beyond its maximum rated RPM 's, severe damage can occur, including breaking and shattering that could injure or kill the operator or other personnel.

Most flat sawing is done with wet cutting diamond blades. Wet-cutting blades **MUST** be supplied water for cooling, lubrication and to remove slurry from around the blade.

Inadequate water to the blade will cause segment loss, blade warping and possible blade failure.

The water must cover the entire blade from the mounting flanges to the cutting edge. A good rule of thumb it to direct the water correctly and use enough to cool the blade, wash the slurry from cut and leave a small edge of the slurry trail.

Never try to rig an unconventional water supply to cool a blade. Spraying water on the blade won't work. A steady stream of water must contact the blade on both sides near the blade flanges in such a way that the force of the stream and centrifugal force combine to move the water to the edge of the blade and into the cut.

Inspect all blades before installation. **NEVER** use a damaged blade. If the blade is cracked, the core excessively worn, warped or out of round, if segments are missing or the arbor hole is worn or damaged, the blade is **UNSAFE** to use.

To install the blade, raise the saw high enough to allow clearance for the mounting of the blade. Before starting the mounting procedure, make sure the ignition switch is off, or the engine kill switch is in the stop position.

DRILLING AND SAWING SAFETY PROGRAM

With electric, air or hydraulic powered saws, make sure the saw is disconnected from the power source, and bleed off any stored energy. Remove the blade shaft nut or bolt and the outer collar of flange.

Inspect both flanges and the arbor shaft for damage, nicks or burrs. The inner flange should be tight on the shaft.

Slide the blade onto the arbor shaft. It should fit snugly. DO NOT force it, alter the arbor hole or file the blade shaft to force a fit.

If it does not fit, either there is damage or you have the wrong size blade.

Check and make sure the inside and outside flanges are of the same diameter, not excessively worn, and free of concrete build up.

OSHA regulations specify that the flanges must be at least 1/6 the diameter of the blade you will use. Use of under-sized flanges can lead to serious injury.

Align the blade so the pin on the flange is through the drive pinhole on the blade and into the inner flange. Hand-tighten the mounting nut or bolt with the pin in the hole.

Prior to wrench-tightening the blade shaft nut, grasp the outer edge of the blade and rotate it up toward the back of the saw to remove any clearance between the drive pin and the drive pin hole.

Then tighten the blade shaft nut securely, according to the manufacturer's instructions, using the proper wrench. Before starting the saw, make sure the blade guard is installed properly, and will not interfere with the blade. Again, NEVER attempt to operate a saw without a blade guard.

Because there are hundreds of types of flat saws, and new models offer every year, it is impossible for this program to cover all operation details for every saw. That is why you must read and understand the operating manual for the saw you will be using.

There are some standard pre-operation inspections, set-up and maintenance factors regardless of saw type. Before starting operation, check for missing or loose nuts and bolts, and check any drive belts. Tighten or replace them if necessary. Check all grease fittings and apply grease as needed.

On air powered saws always use a safety pin or wire on air hose connections. Do not turn the air on when the hoses are not connected. Or the saw on/off valve is in the "on" position.

With hydraulic powered saws, be sure the hoses are of sufficient size and strength to handle the pressures involved. Also make sure hose connections are tight and the on/off valve is off before starting the power pack.

DRILLING AND SAWING SAFETY PROGRAM

When making connections to three-phase power sources for electric powered saws, make sure the blade rotation is correct. Also refer to the operation manual, and observe all local, state and federal electrical codes.

Never allow connectors to come onto contact with water.

Check out saw controls to make sure they are operating smoothly and correctly.

Before starting the saw, make sure the blade is raised high enough to clear the ground when it starts.

If the surface is not level always saw up the incline, never downhill.

Start the saw with the blade away from you, other personnel and any tools or obstructions in the area.

With self-propelled models, place the saw in neutral.

When a blade in safe condition is properly mounted on a saw in safe condition, the blade will run without wobble or vibration.

It will be solidly mounted, balanced and true. Wobble and vibration are indicators of unsafe conditions.

Always perform cutting operations with the engine at full throttle.

Turn the water on and recheck that there is sufficient water flow to both sides of the blade. If water flow is ever interrupted, stop cutting immediately.

If there is smoke or fire at the point of contact, either you have a water supply problem, the blade is too hard for the material, or you are pushing the blade too fast.

Maintain a steady, even forward speed. Avoid twisting the blade in the cut. A spray of cooling water off the front of the blade to one side is an indication you are skewing the blade in the cut.

Excessive pressure or speed will cause the blade to ride out of the cut and reduces blade life. It can knock segments off the blade, especially if reinforcing steel is encountered. Also, it creates excessive heat that glazes the segments and damages or pulls the diamonds from the matrix.

While the blade is in the cut, don't let it turn without cutting. This increases wear on the bond, and causes diamonds to discharge before their cutting life is over. If you are going to stop cutting more than momentarily, remove the blade from the cut.

DRILLING AND SAWING SAFETY PROGRAM

As long as the blade is cutting smoothly and freely, you are getting the most from your equipment. Forcing the blade into the cut will only slip the belts or stall the saw.

When it is time to stop the saw, for any reason, first do not take the transmission out of gear or stop forward pressure on the saw. You do not want to pull a saw out of gear, especially if you are in the cut with a large diameter blade.

With forward movement stopped, motor should be idled down before the blade is removed from the cut. Next turn off the water if wet cutting, and bring engine or motor to low idle and let it turn a few minutes to cool.

Then shut off the power source. NEVER leave the machine until the blade has completely stopped.

Your saw's instruction manual contains the manufacturer's recommended maintenance program. Good maintenance prolongs machine life and is an important safety procedure.

Actual repairs should be performed only by qualified personnel in accordance with the saw manufacturer's recommended practices. It is also recommended that the work areas should be barricaded or working signs placed to warn of work in progress.

WALL SAWING PROCEDURES

Sawing openings in concrete and masonry walls requires strict attention to safe equipment and procedures. This manual is designed to acquaint you with the basic principles of safe operation of most wall saws.

Wall saws are typically powered by electric air or hydraulic motors, and are specially designed and equipped so they can be securely and safely anchored for cutting vertical surfaces.

It is the responsibility of the saw owner to provide the operator with the proper saw for the job in safe operating condition.

The company also must provide an instruction manual covering up keep and proper maintenance and provide information on saw speed and RPM's for proper blade selection.

And see to it that all operators have proper personal safety and protective equipment.

Each operator must fully read and understand the instruction manual, and be familiar with all aspects of the saw's controls and operation.

An operator must NOT operate any saw that is unsafe, and may NEVER leave the machine running unattended.

DRILLING AND SAWING SAFETY PROGRAM

When operating any concrete saw, always wear safety glasses, gloves, safety footwear, ear plugs or earmuffs and a hard hat. Certain conditions warrant the use of a safety vest, breathing protection or a respirator.

Never operate or allow anyone to operate equipment when sleepy or while under the influence of drugs, alcohol or medications, which impair alertness or reaction time.

Do not operate equipment while wearing loose fitting clothing, rings or jewelry. Always keep hands and clothing away from all moving parts at all times.

When hoisting a concrete saw equipped with a lifting frame, always inspect the frame, lifting hardware and cables or straps before lifting. Remember to use a tag line to warn of the overhead exposure.

Do not operate any concrete saw in an area where there is combustible material or fumes. Sparks from the saw could cause an explosion or fire.

DO NOT operate gasoline or diesel-powered units inside a building or other enclosed area that is not fully vented to outside air. Exhaust contains invisible, deadly carbon monoxide. Even if the unit is outdoors, make sure the exhaust does not vent into an indoor area.

Safety begins with a well-trained, alert operator and the proper, well-maintained equipment.

At the job site, safety considerations begin before the equipment is off the truck.

You need to know what is on both sides of the opening, and to which side the customer wants the sawed-out wall to fall. Inspect both sides of the wall.

Utilities are always a concern. Make sure no electrical or gas lines will be cut, and that there are not other obstructions. If you can not inspect the backside of the opening, you need assurances that no hazards are present.

All personnel in the vicinity of the opening should be warned to stay clear. Barricade tape or warning signs should be used if necessary.

If the job requires a ladder or scaffolding, make sure it is on a firm, level surface, and that any scaffolding is constructed according to OSHA and the manufacturer's standards.

The saw tracks must be securely anchored or attached to the wall by hold-down plates or brackets.

Drill the anchor holes. All should be the same depth, to facilitate the use of one size bolt or nut. All should be drilled so the anchor will set below the surface of the concrete.

DRILLING AND SAWING SAFETY PROGRAM

Set the anchors. A two-to-four-pound hammer should insure a good set. Discard all anchor sets with ends that have started to mushroom.

Track safety stops should be placed at each end of the track, as required.

Clean the blade flanges and arbor and inspect them for damage before mounting the blade.

Also, inspect the blade before mounting. Do not use any blade with core cracks, missing or broken segments, arbor hole damage, or loss of blade tension.

Make sure you have the correct blade for the job, and follow the manufacturer's instruction for operating RPM and blade coolant requirements.

Install the blade and tighten the blade shaft nut and bolt per the manufacturer's specifications. Over-tightening the 3/8-inch bolt on some saw models will cause the bolt to break. Inspect the saw; and lubricate or grease as per manufacturer's instructions.

Using correct safe-lifting techniques, mount the saw on the bottom track.

Correctly mount and tighten the blade guard. It is not safe to operate these saws without a blade guard in place.

Whenever starting the saw, make sure it is on the track about one inch or over one of the track brackets. Then turn on the blade on/off valve or blade power switch.

When cutting into intersecting surfaces, such as the floor, when making vertical cuts, it is necessary to remove a portion of the blade guard to allow the blade to cut into these surfaces. To safely do this:

- Remove the guard half only when required, and only in close proximity to the intersecting surface.
- Stop blade rotation completely before removing or re-installing the guard.
- Place the guard half, a piece of plywood, or other shielding device adjacent to the saw to deflect slurry spray.
- Keep your hands and body out of line with and away from the rotating blade when operating saw controls.
- Use of longer crank handles or remote controls is suggested. Never work above a saw on a ladder, and never place yourself out of balance when operating a wall saw.
- Place wedges in the bottom and top cuts on both sides of the opening, approximately six to twelve inches in from the vertical cuts.
- Before making the final pass on the right or the left-hand vertical cut, make sure a track or safety strapping is bolted across the opening so the wall won't fall prematurely.

DRILLING AND SAWING SAFETY PROGRAM

When the final cut is complete remove all equipment from the wall except the safety strap and wedges.

As you prepare to drop the opening.....

The drop area must be clear. Make sure there is either someone to watch for pedestrian traffic, or the fall zone is barricaded to keep people out. Mount a piece of angle on the wall above the block to be removed and another angle on the block to be removed. Rig the block using a chain hoist with the angles and put a little tension on the chain. When all is clear, unbolt the safety track or strap. Knock out the top wedges on the side to which the customer wishes the opening to drop. Work the block out using bars. Keep your hands clear, use the bars as an extension of your hands. When the block is clear lower it to the ground using the chain hoist.

Never use the flush-cut blade guard except when cutting flush against adjoining surfaces. If cutting against columns or beams where the backside of the blade can be exposed, put temporary guarding in place.

Inspect flush-cut blade mounting screws frequently. Immediately replace any that show any signs of wear or damage.

When fueling, make sure all equipment is shut down, including generators, water pumps and the power line unit. Allow the unit to cool before fueling.

With air operated systems, always use safety protection, which may fluctuate depending on job conditions, equipment and blade type.

There is also certain special precautions to be taken with electrically operated saws.

Always have a qualified electrician connect electrical cable to building power.

Make sure proper earth ground is in place. GFIs are not available for Hi-Cycle power.

Ground leads on cords, motors, switchboxes and generators must be tested as a part of an assured grounding program.

Keep cords, and especially connectors, out of water and slurry. Even then, use booted connectors for extra safety.

CORE DRILLING SAFETY PROCEDURES

1. When core drilling always wear approved personal protective equipment, including but not limited to hard hat, ear plugs, safety glasses and safety boots.
2. Always wear tight fitting clothing, as to not get caught in drill motor. Jewelry should not be worn.

DRILLING AND SAWING SAFETY PROGRAM

3. When electric drilling, make sure all electrical equipment, such as cords and generators are in good operating condition and use GFCI's.
4. When using hydraulic drills make sure all lines and fittings are in good condition.
5. All drills are to be mounted to walls with drop in anchors, masonry anchors, or by through bolting with threaded rods. All anchors must be set with proper setting tool. **When drilling thru brick or block walls always through bolt with threaded rod, washer & nuts.**
6. When drilling be sure there are no electrical lines, phone cables, conduits, etc. that may be located under or behind the concrete when possible. Take precautions with pre-stressed cables.
7. When drilling floors of suspended slabs, make sure the area below is properly secure. Keep everyone away from the area of falling cores. If possible take measures to catch the core directly beneath the floor.
8. When drilling large diameter holes through walls it is recommended to add an additional drop in anchor for additional strength in holding the drill in place. Extra bracing for the mast is also recommended to secure the drill.
9. When using vacuum pads to secure the drill to the floor, make sure of proper suction to the floor before starting the drill motor.
10. Never remove the core bit from the drill motor by putting a wrench on the bit and starting the drill motor.
11. When lifting the core drill on wall for mounting, it is recommended to first mount the stand and then slide carriage onto the stand. This helps eliminate lower back strain. To avoid accidents when carrying a core drill to a different location, you **must separate the drill from the stand and carry the core drill separate from the core drill stand. This will take two trips.**
12. When anchoring the core drill to a wall, it is recommended to anchor directly above or below the hole whenever possible.
13. Always use common sense and safe work practices when core drilling.
14. When drilling concrete, the core drill needs to be mounted properly. Do not stand on drill base.
15. **Procedures for catching cores when drilling an elevated slab;**

When catching cores that we have access to catch, the Core Drill helper will be underneath when the Mechanic is drilling to "catch" the core with a bucket. **The limit for this procedure is 8" in Diameter.** When we **do not** have access underneath or the core is larger than 8", we will anchor plywood or bolt a prefabricated metal pan prior to drilling. We may also use a jack down pole as opposed to anchoring. If we are unable to use one of the above procedures, a unistrut may be used for said application. In addition, G&M Services employees will cover plumbing fixtures, pipes, walls, etc. with plywood/poly protection. G&M Services employees will also place plastic protection under drilling area to protect floor and wall finishes.

When catching cores, the Mechanic is to drill down to approximately 1" of the bottom of the hole, break the core, pull up the core then continue core drilling the last inch. Again, the helper **is not to catch anything larger than 8" in diameter.**

16. Operators are to inspect their core bits daily. Any core bit which is found to have

DRILLING AND SAWING SAFETY PROGRAM

- 50% or less** life in said bit must be replaced. Notify the shop mechanic of your needs.
17. Operators and Helpers are responsible for the “drop zone area” making sure that work area is secure and barricaded with 3” Caution Tape, prior to drilling, preventing unauthorized persons from entering drop area.

WIRE SAWING SAFETY PROCEDURES

1. Always use approved protective equipment.
2. Rope off work area with safety tape-“DANGER DO NOT ENTER”.
3. Have a safety meeting with all wire saw personnel to determine hand signals for starting and stopping wire saw. The following is recommended:
 - a. Signal for starting the wire: Raise the right arm and bend it at the elbow with fist closed and the index finger making a circular motion.
 - b. Signal for stopping the wire: Place your arms in front of your chest with wrists crossed and your fingers pointing up.
4. When the wire saw operator leaves the machine unattended he must do on of the following:
 - a. Lock out machine.
 - b. Turn machine off and remove the key.
 - c. Disconnect electrical plug ends.
 - d. Disconnect hydraulic lines.
 - e. Place a qualified attendant to oversee equipment.
5. Safety cages should be placed over wire whenever possible to prevent possible injury to personnel if the wire breaks. Safety cages are usually made of steel tube and wire mesh so the operator can still see the wire.
6. When the cutting objects is not in clear view of the wire saw operator, some sort of communication should be used to communicate with an observer.
7. During cutting operations the wire saw operator should never allow anyone to stand in a direct line of the wire.
8. When joining two ends of the diamond cable, it is the wire saw operator’s responsibility to insure that the crimps are placed on the diamond cable properly and are pressed to the maximum pressure suggested by the manufacturer.
9. When operating gasoline or diesel driven wire saws in a large indoor area an approved engine exhaust scrubber must be utilized or do not use unless fully vented to outside air.
10. The wire saw team must abide by all safety guidelines and rules set out by OSHA and any other governing bodies involved on any given project. Read and follow all manufacturers’ standards and recommendations.

HAND SAWING PROCEDURES

DRILLING AND SAWING SAFETY PROGRAM

1. Personal safety devices must be working at all times when hand sawing.
2. Handsaws are to be used by persons properly trained in their use and physically capable of operation.
3. Saws shall be kept in good working order and blade should be secured tightly and check periodically for tightness.
4. Operator should always use both hands on the saw and keep arms close to his body, not allowing arms to become extended.
5. Blade guards should always be in place and cutting should be done in a direction, which shields operator from cutting debris.
6. When working on ladders, only A-Frame type should be used. Ladders should be placed perpendicular to the wall and operator between wall and ladder. Only the highest step allowed by the ladder manufacturers should be used.
7. Electric saws should be properly grounded, cord connections should be kept out of water, and GFCI's should be used.
8. Operators should be allowed rest periods as necessary to keep from becoming fatigued,.
9. When possible make lead cuts with a smaller saw or blade and start the saw with the blade in the cut on second cuts or with larger saw.
10. Handsaws shall never be operated above the chest.

CHAIN SAWING PROCEDURES

1. Never operate a diamond chain saw with the side cover missing or broken. Also never operate the saw with the mud flap or bottom guard removed.
2. Never insert a diamond chain into a slot that is narrower than the chain segments, rapid pushback might occur. Standard diamond chain segments are .225 wide and Corner-Pro diamond chain segments are .205 wide.
3. Always wear eye and ear protection.
4. Never install or run the chain backwards. The bumpers should lead the segments into the cut. The chain should flow away from the operator on the top of the bar and return to operator on the bottom of the bar.
5. Never run a diamond chainsaw up side down. Concrete debris can fly back into the operator's face.
6. Inspect both sides of the wall or slab for electrical lines, water pipes, sensitive equipment, personnel, etc.
7. Always turn the saw off before performing any maintenance. This includes tightening a loose chain. Turn the hydraulic supply off too.
8. Always maintain secure footing when operating a diamond chain saw. Keep loose hoses and equipment out from under feet.
9. Hydraulic diamond chain saws operate at 8 GPM and 2500-PSI MAX.
10. The preferred method of starting a cut is to plunge directly into the wall with the nose of the bar.

TRANSITIONAL WORK / RETURN TO WORK POLICY



TRANSITIONAL WORK/RETURN TO WORK POLICY:

The company has taken the initiative to set up a voluntary program to return employees to work in the event of an injury. Transitional/light duty work will be designed to contribute something valuable to the company and keep the employee working.

Procedures

1. All employees will be considered eligible for transitional/light duty work.
2. The Safety Director will determine physical limitations from a physician's review/diagnosis. The Safety Director will review the job description for the injured employee to determine if the injured employee can do their normal day-to-day work.
3. If necessary, the Safety Director will contact the physician to discuss the injured employee's ability to perform these duties.
4. The Safety Director or Safety Manager will discuss the possible work duties with the injured employee's direct supervisor. If transitional/light duty work is the only option, transitional/light duty tasks will be determined.
5. Upon agreement with the Safety Director and the direct supervisor, the employee and the direct supervisor will be required to sign the TRANSITIONAL WORK/RETURN TO WORK TASK POLICY as acknowledgment that the employee is able to and has agreed to perform the indicated work tasks. The employee will then be returned to work.
6. If the extent of the injury prevents immediate return to work, the Safety Director will contact the physician to determine a return to work date.
7. No employee who is working in a transitional/light duty work capacity will return to full duty without first consulting the Safety Director.
8. No employee who is working in a transitional/light duty capacity shall be laid off from work without first consulting the Safety Director.

DRUG AND ALCOHOL POLICY



Drug[RAJ1] and Alcoh[RAJ2]ol Policy

Purpose

Drug and alcohol abuse poses a serious threat to the safety and welfare of all employees (not just the user). Specifically, drug and alcohol use lowers productivity, lessens reliability, increases absenteeism, impairs the ability of employees to perform their work, increases the likelihood of accidents, and impairs good judgment. Our policy establishes G&M Services as a drug and alcohol-free workplace. This is in the best interest of our employees, employees of companies doing business with us and our clients.

Policy

It is the policy of G&M Services to maintain a workplace free from the use and abuse of drugs and alcohol. Compliance with this policy is a condition of continued employment. It supersedes any other Company policy or practice on this subject. At any time, G&M Services may unilaterally, at its discretion, amend, supplement, modify, or change any part of this policy. The policy does not represent an expressed or implied contract, and it does not affect your status as an at-will employee. If you have any questions about this policy, please direct them to the **Safety Manager**.

To maintain a Drug and Alcohol-Free Workplace, G&M Services has established the following policy effective January 1, 2015 with regard to the use, possession, and sale of drugs and/or alcohol. The policy covers all employees of G&M Services. Drug and alcohol testing practices will be adopted to identify employees or applicants using drugs and/or alcohol.

Definitions

This policy is designed to establish and maintain a workplace free from the influences of controlled substances, most particularly, drugs and alcohol.

“Employee” means all individuals employed by G&M Services in any capacity whatsoever (including management).

“Drug” means any substance recognized as a drug in the United States Pharmacopoeia, the National Formulary, or other drug compendia or supplement to any compendium.

1. The use, possession, or sale of which is illegal; or
2. That which cannot legally be purchased over-the-counter, and which is not prescribed or being used under the supervision of a physician; or

DRUG AND ALCOHOL POLICY

3. That which, even if purchased over-the-counter or prescribed, is being used other than as prescribed or directed.

“Alcohol” means any alcoholic beverage or substance containing alcohol.

“Under the influence” means having consumed any drug or alcohol as evidenced by behavior, appearance, attendance, performance, and/or having a detectable level – in excess of a trace – of alcohol, drugs or controlled substances in the body as determined by urine or other appropriate test.

“Company Premises” means all areas in which G&M Services has a proprietary interest, including, but not limited to, all Company property, facilities, structures, and automobiles, trucks, and other vehicles owned, leased or used by G&M Services. Also included are customer stores/offices/warehouses or any other area visited while representing the Company.

Policy Statement

The unlawful manufacture, distribution, dispensation, and use of drugs and/or alcohol are prohibited. It is a violation of G&M Services’ work rules, regulations, and accepted practices for any employee to:

- Report to work, work, or attempt to work under the influence of drugs and/or alcohol.
- Use, possess, trade, attempt to sell, or sell drugs and/ or drug – related paraphernalia on Company premises – including in employee vehicles.
- Consume alcohol or use or possess unsealed containers of alcoholic beverages on Company premises -- including employee vehicles.
- Engage in any illegal on or off-the-job drug or alcohol-related activities.

Violation of any of the above rules may result in discipline up to and including discharge. In addition, G&M Services may notify appropriate authorities of any use, possession, trading, sale, or attempted sale of drugs.

NOTE: *Nothing stated herein or within this Policy as a whole is intended to change or alter the at-will employment relationship established between G&M Services and any of its employees.*

Notification

As a condition of your employment with G&M Services, you must abide by the terms of this policy regarding use and abuse of drugs and alcohol. Consistent with the Drug-Free Workplace Act of 1988, should you be convicted under any criminal drug statute or law for conduct occurring in the workplace, including convictions pertaining to the use of illegal drugs or drug paraphernalia, you must notify the Company of such conviction no later than five (5) days after such conviction.

Drug and Alcohol Prohibitions

DRUG AND ALCOHOL POLICY

"Illegal Drug" means: any drug (1) that is not legally obtainable, or (2) that is legally obtainable but has not been legally obtained, or (3) that is a controlled substance. The term includes prescribed drugs not legally obtained, prescribed drugs not being used for prescribed purposes, or prescribed drugs exceeding the recommended prescribed dosage.

1. Any employee engaged in any of the activities listed below is in violation of Company policy and subject to disciplinary action:
 - a.) Bringing illegal drugs and/or alcohol onto Company premises or property, including Company owned or leased vehicles, or a G&M Services' customer's premises;
 - b.) Having possession of, being under the influence of, or having in one's system illegal drugs or alcohol;
 - c.) Using, consuming, transporting, distributing or attempting to distribute, manufacturing or dispensing illegal drugs or alcohol;
 - d.) Switching, tampering with, altering or adulterating any specimen or sample collected under this policy or attempting to do so.
 - e.) Operating a company vehicle, rental vehicle (under the company name), or personal vehicle used for company purposes under the influence of alcohol at any time while representing G&M Services.
2. The Company(s) strictly prohibits the abuse of prescription drugs. (See "Illegal Drugs" previously mentioned.)
3. The company(s) prohibits the use of alcohol on the job or use of alcohol prior to the start of the employee's next scheduled duty period.
4. Any employee refusing to cooperate with or submit to questioning, medical or physical tests or examinations, when requested or conducted by the Company or its designee, is in violation of Company policy and subject to disciplinary action.

Drug and Alcohol Testing

PRE-EMPLOYMENT TESTING: As a precondition to obtaining employment with G&M Services, and at Company expense, all applicants who have been given a conditional offer of employment with the Company must successfully complete a pre-employment screen for use and/or abuse of drugs and/or alcohol by testing negative through urinalysis or similar testing administered specifically for the purpose of detecting the use or abuse of drugs and/or alcohol. Such pre-employment testing bears a direct, material, and timely relationship to an applicant's capacity to perform his or her duties safely and effectively. If the job offer is subsequently withdrawn, G&M Services will inform the applicant of the reason for its actions. Applicants will be required to voluntarily submit to a test and sign an acknowledgment form that will release from liability. The Company will not discriminate against applicants for employment because of past drug abuse. It is the current abuse of drugs which prevents employees from properly performing their jobs.

DRUG AND ALCOHOL POLICY

POST-ACCIDENT: A drug and/or alcohol test will be conducted on all employees involved in accidents occurring during work time or while on company property. Covered accidents include, but are not limited to, accidents that the employee caused or contributed to that involve:

- a. Personal injury to employees or others which necessitates medical attention (beyond first aid) or results in lost work time; and/or
- b. Damage to company or customer property.

Employees are expected to make themselves available for post-accident testing. If circumstances require an employee to leave the scene of an accident, the employee must make a good-faith attempt to be tested and to notify the company of his/her location, but in no case later than thirty-two (32) hours after the accident.. If, due to injuries, the employee cannot submit to testing within the prescribed time, the employee will provide the Company with necessary authorization required to obtain hospital reports and other documents indicating the presence or non-presence of any drugs and/or alcohol in the employee's system at the time of the accident.

Failure to report any accident that meets the post-accident testing criteria is in violation of Company policy and subject to disciplinary action. Employees testing positive may be ineligible for workers' compensation and unemployment compensation benefits.

TESTING OF EMPLOYEES "FOR CAUSE": G&M Services, at its expense, will require employees believed to be under the influence of drugs and/or alcohol, which may be impairing their ability to perform job duties to undergo appropriate testing to detect the use or abuse of such controlled substances. Such testing will be limited to instances where the Company has reasonable grounds to believe an employee is under the influence of drugs or alcohol, which are impairing job performance. Employees tested "for cause" will be immediately suspended, pending test results.

RANDOM TESTING^[RAJ3]: All employees are subject to random, periodic, unannounced drug tests at any time the company(s) deem necessary to maintain a drug-free workplace. This testing is conducted to ensure public and employee safety and to protect the company profitability, image and reputation as a drug-free organization. The rate of random selection will be a percentage of the annual average employee or consortium base. Every employee has an equal chance of being chosen every time a random selection is made.

CONSENT FORM^[j4]: Every applicant for employment and employee must execute a "Consent to Drug and Alcohol Testing" form which remains in effect throughout an individual's employment, thereby indicating consent to testing for all of the following: (1) an application for employment, (2) "for cause" testing, (3) random testing (if applicable), and (4) rehabilitation testing.

DISCIPLINE: All employees or job applicants have the right to refuse to undergo drug and alcohol testing. However, in the discretion of G&M Services, any refusal may result in disciplinary action, up to and including termination. Employees who receive a positive

DRUG AND ALCOHOL POLICY

test on an initial screening and a positive test result on a confirmatory test may, in the discretion of the Company be subject to discipline, up to and including termination

Disciplinary actions outlined in this policy are not intended to modify the employment at will relationship and do not create any contractual obligations.

PROCEDURES

The drug test for pre-employment and random testing are performed at the Corporate Office. Post-Accident, "For Cause", and any employee failing a Pre-Employment or Random test will be performed from specimens collected at a qualified collection site. A breath or saliva test may be performed for all post-accident and reasonable-cause situations to determine alcohol levels.

The collection site will take necessary steps to avoid any dilution or alteration of specimens. However, the test shall be conducted in a professional and sanitary manner with due regard for the individual's privacy, dignity, and confidentiality. Proper handling of the specimens will be maintained so that the specimen results can be traced to the proper individual.

The specimen will be analyzed by a SAMHSA certified, professional laboratory for adulterants and the following controlled substances:

* Cannabinoids (marijuana) * Cocaine * Phencyclidine (PCP)
* Opiates (heroin, morphine, codine) * Amphetamines (stimulants such as Benzedrine & Dridex)

Any positive results from this GC/MS test will be reviewed by an independent Medical Review Officer (MRO) prior to the result being communicated to the company. The MRO will give the employee the opportunity to rebut a positive test result and provide evidence of the proper use of prescription drugs. This will ensure that positive results are not due to legally obtained prescription drugs or other factors which the MRO feels justify the presence of controlled substances.

Any employee who is tested will have the right, upon request, to see the results of his/her test and request a retest of the original specimen at a different SAMSHA – certified laboratory (at the employee's expense) within 10 business days of being notified of a positive test result. All drug and alcohol information regarding the test results will remain confidential and will only be given out on a strict need-to-know basis. The company's workers' compensation carrier will be notified of results from post-accident tests that may affect compensability under the G&M Services insurance program.

Retest Rights

Any employee or applicant who has received a positive test result on a confirmatory test may submit information, at his/her expense, to G&M Services explaining the reasons for the result within three business days after notification of a positive result. This is in addition to any information submitted previously by the employee or applicant.

DRUG AND ALCOHOL POLICY

Any employee or applicant who has received a positive test result on a confirmatory test may also request and pay for a confirmatory re-test of the original sample within five business days after notification of a positive test result.

Confidentiality

G&M Services believes the privacy of its employees is of paramount importance. The Company will take all appropriate steps to ensure medical and personal information obtained pursuant to this policy shall be held confidential. Such information will be disseminated only to authorized personnel on a "need to know" basis.

An employee or applicant may request and receive from G&M Services test results report copies on any drug or alcohol test connected directly to the employee or applicant.

Alcohol and Company Related Functions

Company, customer or supplier-sponsored activities that may include the service of alcoholic beverages are not included in this policy. However, all employees are viewed as representatives of G&M Services, whether at work or at participation in these events. The Company does not require employees to consume alcohol at these functions; it is up to the discretion of the employee. If the employee decides to consume alcohol at one of these functions, the Company expects that such consumption will be appropriate so as not to reflect negatively on its professional reputation or expose it or its employees to undue legal liability. An employee should not operate a motor vehicle or otherwise engage in any hazardous activity if alcohol is consumed.

Crystalline Respirable Silica Written Exposure Control Plan



Updated: 06/01/2018

Gases, Vapors, Fumes, Dusts, and Mists Compliance Program for Construction

The purpose of this program is to inform interested persons, including employees, that G & M SERVICES LLC is complying with OSHA's Gases, Vapors, Fumes, Dusts, and Mists standard, Title 29 Code of Federal Regulations 1926.55 and other OSHA rules as needed to ensure that no employee is exposed to inhalation, ingestion, skin absorption, or contact with any material or substance at a concentration above those specified in the "Threshold Limit Values of Airborne Contaminants for 1970" of the American Conference of Governmental Industrial Hygienists found in Appendix A of 29 CFR 1926.55.

To achieve compliance we must first implement all feasible administrative and engineering controls. However, when such controls are not feasible, we will use protective equipment or other protective measures to keep the exposure of employees to air contaminants within the limits prescribed in Appendix A of 29 CFR 1926.55. All equipment and technical measures used to achieve compliance will first be approved for each particular use by a competent industrial hygienist or other technically qualified person.

This program applies to all construction work (including alteration, repair, painting, and decorating) where one of our employees may be occupationally exposed to gases, vapors, fumes, dusts, and mists at concentrations above those specified in Appendix A of 29 CFR 1926.55. For G & M SERVICES LLC, these gases, vapors, fumes, dusts, and mists include:

Respirable Silica

Administrative Duties

This written safety program is for the All Current and Future Work Sites where Core Drilling and/or Saw Cutting of Concrete or Masonry is involved. The Safety Director is the program coordinator/manager and is responsible for its implementation. Copies of the written program may be obtained at the Safety Department at G&M Services corporate office.

Exposure assessment and monitoring

The current OSHA permissible exposure limit (PEL) for respirable dust containing crystalline silica (quartz) is measured by millions of particles per cubic foot (mppcf) and is calculated as:

$$\text{PEL} = (250 \text{ mmpcf}) / (\% \text{ silica} + 5) \quad \text{PEL on 9/23/17, .50ug/m}^3$$

Note: PEL is an 8 hour time-weighted average (TWA).

Medical surveillance

Although we understand that medical examinations should always supplement effective gas, vapor, fume, dust, and mist monitoring and controls, and never substitute for them, we provide medical examinations for all workers who may be exposed to the following gases, vapors, fumes, dusts, or mists at or above their respective PEL found in 29 CFR 1926.55:

Silica Exposure

Medical Exams (Baseline) are provided every (3) years when no evidence of exposure is evident, and as part of hiring process along with pulmonary function test, TB Test, chest xray and B Level reader as required by OSHA. Medical Surveillance includes, Physical exam/Fit test, Chest Xray, Pulmonary Function test, TB Test, B Reader as required.

Recordkeeping

We know recordkeeping is critical for our gases, vapors, fumes, dusts, and mists operations. Our recordkeeping tasks, at a minimum, include records of employees' tests, dates, and any monitoring conducted and training records

which are chemical specific.

Training and information

We will provide our workers with training that includes:

Haz Com, Respirator Fit Test, Information about potential health effects of exposure to Silica, Safety Data sheets, including labeling and storage, handling of toxic materials. Instruction on proper PPE and respiratory protection. Substitution, engineering and work practice controls.

Our gases, vapors, fumes, dusts, and mists training material and curriculum are attached to this written program.

Our silica dust Training and Information Program is also attached to this written program.

Methods of compliance

This section contains our description of the specific means that we will employ to achieve compliance with the requirements of 29 CFR 1926.27,.51,.55..95,.100 -.105, and.200.

Administrative procedures, engineering controls, and good work practices

Exposures to gases, vapors, fumes, dusts, and mists can be controlled with engineering controls and work practices. Engineering controls are hazard controls designed into equipment and workplaces. Work practices are procedures followed by employers and workers to control hazards. Some of the engineering controls and work practices we may use during work that generate gases, vapors, fumes, dusts, and mists are:

A **Wet Method/Integrated water delivery system** is to be used when Core Drilling and Concrete Sawing. All Dry dust must be vacuumed prior to stopping work using a wet/dry vac with HEPA Filter rated at 99% or greater. Warning signs posted at all entrances of affected work area and state "Danger-Respirable Crystalline Silica. May cause Cancer, Causes Damage to Lungs. Wear Respirator Protection in This Area. Authorized Personnel Only". Wet slurry is to be vacuumed after completion of duties. An APF 10

Respirator is to be worn when working indoors or in an enclosed area when drilling or sawing activity processes continue for up to (4) hours.

Hygiene facilities and practices

The following personal hygiene practices are essential for protecting our workers from gases, vapors, fumes, dusts, and mists:

No eating, drinking or use of tobacco products in dusty areas. Do not carry products associated with these activities or store such products in these dusty areas. Employees should wash their hands and faces before eating, drinking or smoking outside dusty areas. Vacuum clothing before leaving work site.

Housekeeping

Our housekeeping practices include:

Use high-efficiency vacuum equipped with a HEPA Filter rated at 99% or greater to vacuum affected area or use wet sweeping method for clean-up. Never dry sweep or dry shovel sweep during clean-up. Do not blow, shake or use other means to disperse dust into the air. When removing dust from equipment, use a water hose rather than compressed air.

Protective clothing

We will take the following steps to assure that gas, vapor, fume, dust, and mist work clothing do not contaminate cars, homes, or work sites outside the dusty area:

Assure dusty clothing does not contaminate work vehicles, homes or work sites outside dusty area.

Respirators and the respiratory protection program

We know the OSHA regulation requires us to implement a respirator program when engineering, administrative, and good work practices are not enough to keep gases, vapors, fumes, dusts, and mists below their permissible exposure limit (PEL) as found in 29 CFR 1926.55. We will not use respirators as the primary means of preventing or minimizing exposures to

airborne contaminants. Instead, we will use effective source controls such as:

- Substitution,
- Automation,
- Enclosed systems,
- Local exhaust ventilation,
- Wet methods, and
- Good work practices.

(See “OSHA Table 1 Standards” attached)

Such measures will be the primary means of protecting our workers. However, when source controls cannot keep exposures below the PEL, controls will be supplemented with the use of respirators.

Our Respirator Program is attached to this written program and follows the requirements of 29 CFR 1926.103.

Communication of Hazards



We will post warning signs to mark the boundaries of work areas contaminated with gases, vapors, fumes, dusts, and/or mists at or above their PELs.

Our Communication of Hazards program is supplemented by the requirements of 29 CFR 1926.59-Hazard Communication and can be found under tab 21 of this Safety Manual.



Appendices

OSHA Table 1 Standards



**TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS
WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA†**

Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does <i>full and proper</i> implementation require?*
		≤ 4 hours /shift	> 4 hours /shift	
(i) Stationary masonry saws 	<p>Use saw equipped with integrated water delivery system that continuously feeds water to the blade.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p>	None	None	<p>Water Controls:</p> <ul style="list-style-type: none"> ■ An adequate supply of water for dust suppression is used; ■ The spray nozzle is working properly to apply water at the point of dust generation; ■ The spray nozzle is not clogged or damaged; and ■ All hoses and connections are intact.
(ii) Handheld power saws (any blade diameter) 	<p>Use saw equipped with integrated water delivery system that continuously feeds water to the blade.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <ul style="list-style-type: none"> ■ When used outdoors. ■ When used indoors or in an enclosed area. 	<p>None</p> <p>APF 10</p>	<p>APF 10</p> <p>APF 10</p>	<p>Water Controls:</p> <ul style="list-style-type: none"> ■ An adequate supply of water for dust suppression is used; ■ The spray nozzle is working properly to apply water at the point of dust generation; ■ The spray nozzle is not clogged or damaged; ■ All hoses and connections are intact.


**TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS
WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA[†]**

Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does <i>full and proper</i> implementation require?*
		≤ 4 hours /shift	> 4 hours /shift	
<p>(iii) Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)</p> 	<p>For tasks performed <u>outdoors only</u>:</p> <ul style="list-style-type: none"> ■ Use saw equipped with commercially available dust collection system. ■ Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. ■ Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency. 	None	None	<p>Dust Collection Systems:</p> <ul style="list-style-type: none"> ■ The shroud or cowl is intact and installed in accordance with the manufacturer's instructions; ■ The hose connecting the tool to the vacuum is intact and without kinks or tight bends; ■ The filter(s) on the vacuum are cleaned or changed in accordance with the manufacturer's instructions to prevent clogging; and ■ The dust collection bags are emptied to avoid overfilling.
<p>(iv) Walk-behind saws</p> 	<p>Use saw equipped with integrated water delivery system that continuously feeds water to the blade.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <ul style="list-style-type: none"> ■ When used outdoors. ■ When used indoors or in an enclosed area. 	<p>None</p> <p>APF 10</p>	<p>None</p> <p>APF 10</p>	<p>Water Controls:</p> <ul style="list-style-type: none"> ■ An adequate supply of water for dust suppression is used; ■ The spray nozzles are working properly to apply water at the point of dust generation; ■ The spray nozzles are not clogged or damaged; and ■ All hoses and connections are intact.

**TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS
WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA†**

Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does <i>full and proper</i> implementation require?*
		≤ 4 hours /shift	> 4 hours /shift	
(v) Drivable saws 	<p>For tasks performed <u>outdoors only</u>:</p> <ul style="list-style-type: none"> ■ Use saw equipped with integrated water delivery system that continuously feeds water to the blade. ■ Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None	<p>Water Controls:</p> <ul style="list-style-type: none"> ■ An adequate supply of water for dust suppression is used; ■ The spray nozzles produce a pattern that applies water at the point of dust generation; ■ The spray nozzles are not clogged or damaged; and ■ All hoses and connections are intact.
(vi) Rig-mounted core saws or drills 	<ul style="list-style-type: none"> ■ Use tool equipped with integrated water delivery system that supplies water to cutting surface. ■ Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None	<p>Water Controls:</p> <ul style="list-style-type: none"> ■ An adequate supply of water for dust suppression is used; ■ The spray nozzles produce a pattern that applies water at the point of dust generation; ■ The spray nozzles are not clogged or damaged; and ■ All hoses and connections are intact.

**TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS
WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA†**

Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does <i>full and proper</i> implementation require?*
		≤ 4 hours /shift	> 4 hours /shift	
<p>(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)</p> 	<ul style="list-style-type: none"> ■ Use drill equipped with commercially available shroud or cowling with dust collection system. ■ Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. ■ Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. ■ Use a HEPA-filtered vacuum when cleaning holes. 	None	None	<p>Dust Collection Systems:</p> <ul style="list-style-type: none"> ■ The shroud or cowling is intact and installed in accordance with the manufacturer's instructions; ■ The hose connecting the tool to the vacuum is intact and without kinks or tight bends; ■ The filter(s) on the vacuum are cleaned or changed in accordance with the manufacturer's instructions; and ■ The dust collection bags are emptied to avoid overfilling.

**TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS
WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA†**




Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does <i>full and proper</i> implementation require?*
		≤ 4 hours /shift	> 4 hours /shift	
<p>(viii) Dowel drilling rigs for concrete</p> 	<p>For tasks performed <u>outdoors only</u>:</p> <ul style="list-style-type: none"> ■ Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism. ■ Use a HEPA-filtered vacuum when cleaning holes. 	APF 10	APF 10	<p>Dust Collection Systems:</p> <ul style="list-style-type: none"> ■ The shroud is intact and installed in accordance with the manufacturer's instructions; ■ The hose connecting the tool to the vacuum is intact and without kinks or tight bends; ■ The filter(s) on the vacuum are cleaned or changed in accordance with the manufacturer's instructions; and ■ The dust collection bags are emptied to avoid overfilling.

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA†	
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Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does <i>full and proper implementation</i> require?*
		≤ 4 hours /shift	> 4 hours /shift	
(ix) Vehicle-mounted drilling rigs for rock and concrete 	<p>Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector.</p> <p style="text-align: center;">OR</p> <p>Operate from within an enclosed cab and use water for dust suppression on drill bit.</p>	None	None	<p>Dust Collection Systems:</p> <ul style="list-style-type: none"> ■ The shroud or hood is intact and installed in accordance with the manufacturer's instructions; ■ The hose connecting the tool to the vacuum is intact and without kinks or tight bends; ■ The filter(s) on the vacuum are cleaned or changed in accordance with the manufacturer's instructions; and ■ The dust collection bags are emptied to avoid overfilling. <p>Water Controls:</p> <ul style="list-style-type: none"> ■ An adequate supply of water for dust Suppression is used; ■ The spray nozzles are working properly and produce a pattern that applies water on the discharge point from the dust collector; ■ The spray nozzles are not clogged or damaged; and ■ All hoses and connections are intact.

**TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS
WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA[†]**

Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does <i>full and proper</i> implementation require?*
		≤ 4 hours /shift	> 4 hours /shift	
<p>(x) Jackhammers and handheld powered chipping tools</p> 	<p>Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.</p> <ul style="list-style-type: none"> ■ When used outdoors. ■ When used indoors or in an enclosed area. <p align="center">OR</p> <p>Use tool equipped with commercially available shroud and dust collection system.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <p>Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.</p> <ul style="list-style-type: none"> ■ When used outdoors. ■ When used indoors or in an enclosed area. 	<p>None</p> <p>APF 10</p>	<p>APF 10</p> <p>APF 10</p>	<p>Water Controls[‡]:</p> <ul style="list-style-type: none"> ■ An adequate supply of water for dust suppression is used; ■ The water sprays are working properly and produce a pattern that applies water at the point of dust generation; ■ The spray nozzles are not clogged or damaged; and ■ All hoses and connections are intact. <p>Dust Collection Systems:</p> <ul style="list-style-type: none"> ■ The shroud is intact and installed in accordance with the manufacturer's instructions; ■ The hose connecting the tool to the vacuum is intact and without kinks or tight bends; ■ The filter(s) on the vacuum are cleaned or changed in accordance with the manufacturer's instructions; and ■ The dust collection bags are emptied to avoid overfilling.

**TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS
WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA†**


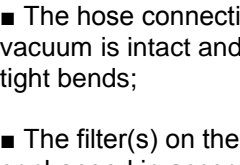
Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does <i>full and proper</i> implementation require?*
		≤ 4 hours /shift	> 4 hours /shift	
<p>(xi) Handheld grinders for mortar removal (i.e., tuckpointing)</p> 	<p>Use grinder equipped with commercially available shroud and dust collection system.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <p>Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.</p>	APF 10	APF 25	<p>Dust Collection Systems:</p> <ul style="list-style-type: none"> ■ The shroud is intact, encloses most of the grinding blade, and is installed in accordance with the manufacturer's instructions; ■ The hose connecting the tool to the vacuum is intact and without kinks or tight bends; ■ The filter(s) on the vacuum are cleaned or changed in accordance with the manufacturer's instructions; ■ The dust collection bags are emptied to avoid overfilling; ■ The blade is kept flush against the surface whenever possible; and ■ The tool is operated against the direction of blade rotation, whenever practical.

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA†	
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TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA†	
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Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does full and proper implementation require?*
		≤ 4 hours /shift	> 4 hours /shift	
(xiii) Walk-behind milling machines and floor grinders 	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None None	None None	Water Controls: ■ An adequate supply of water for dust suppression is used; ■ The spray nozzles are working properly and produce a pattern that applies water at the point of dust generation; ■ The spray nozzles are not clogged or damaged; and ■ All hoses and connections are intact. Dust Collection Systems: ■ The hose connecting the tool to the vacuum is intact and without kinks or tight bends; ■ The filter(s) on the vacuum are cleaned or changed in accordance with the manufacturer's instructions to prevent clogging; and ■ The dust collection bags are emptied to avoid overfilling.

**TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS
WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA†**



Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does <i>full and proper</i> implementation require?*
		≤ 4 hours /shift	> 4 hours /shift	
<p>(xiv) Small drivable milling machines (less than half-lane)</p> 	<p>Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant.</p> <p>Operate and maintain machine to minimize dust emissions.</p>	None	None	<p>Water Controls:</p> <ul style="list-style-type: none"> ■ An adequate supply of water for dust suppression is used; ■ The spray nozzles are working properly and produce a pattern that applies water at the point of dust generation; ■ The spray nozzles are not clogged or damaged; and ■ All hoses and connections are intact.

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA†	
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[illegible]

**TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS
WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA[†]**

Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does <i>full and proper</i> implementation require?*
		≤ 4 hours /shift	> 4 hours /shift	
(xvi) Crushing machines 	<p>Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points).</p> <p>Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions.</p> <p>Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.</p>	None	None	<p>Water Controls^{††}:</p> <ul style="list-style-type: none"> ■ Nozzles are located upstream of dust generation points and positioned to thoroughly wet the material; ■ The volume and size of droplets is adequate to sufficiently wet the material (optimal droplet size is between 10 and 150 µm); and ■ Spray nozzles are located far enough from the target area to provide complete water coverage but not so far that the water is carried away by wind.

**TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS
WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA[†]**



Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does <i>full and proper</i> implementation require?*
		≤ 4 hours /shift	> 4 hours /shift	
<p>(xvii) Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials**</p> 	<p>Operate equipment from within an enclosed cab.</p> <p>When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.</p>	<p>None</p> <p>None</p>	<p>None</p> <p>None</p>	<p>No additional information provided. Refer to the engineering and work practice control methods outlined.</p>

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA†	
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Equipment/Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)		What does <i>full and proper</i> implementation require?*
		≤ 4 hours /shift	> 4 hours /shift	
<p>(xviii) Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silica-containing materials</p> 	<p>Apply water and/or dust suppressants as necessary to minimize dust emissions.</p> <p style="text-align: center;">OR</p> <p>When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.</p>	None	None	<p>The following scenarios are examples of when the employer must use water and/or dust suppressants as necessary to minimize dust emissions:</p> <ul style="list-style-type: none"> ■ Equipment for grading and excavating is not equipped with enclosed, pressurized cabs. <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> ■ Employees other than the operator are engaged in the task. If water or dust suppressants are applied as necessary to minimize visible dust, the employer need not provide an enclosed, filtered cab for the operator.

APF 10 (requires fit testing)		APF 25	
 <p>Dust Mask/Half Mask</p>	 <p>Half Mask (Elastomeric)</p>	 <p>Loose-Fitting Powered Air-Purifying Respirator (PAPR)</p>	 <p>Hooded Powered Air-Purifying Respirator (PAPR)</p>

† (1) When implementing the control measures specified in Table 1, each employer shall:

- i. *For tasks performed using wet methods*, apply water at flow rates sufficient to minimize release of visible dust. The appropriate water flow rates for controlling silica dust emissions can vary; therefore, it is necessary to follow manufacturers' instructions when determining the required flow rate for dust suppression systems on a given worksite. Integrated water systems must be developed specifically for the type of tool in use so they will apply water at the appropriate dust emission points based on tool configuration and do not interfere with other tool components or safety devices.

Any slurry generated when using water to suppress dust should be cleaned up to limit secondary exposure to silica dust when the slurry dries following procedures described in the employer's *Written Exposure Control Plan*.

When working in cold temperatures, where there is a risk of water freezing, additional work practices such as insulating drums, wrapping drums with gutter heat tape or adding environmentally-friendly antifreeze.

- ii. *For tasks performed using commercially available, dust collection systems (i.e. LEV)*, use equipment that is designed to effectively capture dust generated by the tool being used and does not introduce new hazards such as obstructing or interfering with safety mechanisms. The "commercially available" limitation is meant only to eliminate on-site improvisations of equipment by the employer. When employers use methods other than commercially available systems for dust suppression, they must conduct exposure assessments and comply with the PEL.

Some Table 1 entries for dust collection systems specify use of cyclonic pre-separators and filter cleaning mechanisms to prevent buildup of debris on filters that result in less dust capture. A cyclonic pre-separator collects large debris before the air reaches the filters. A filter cleaning mechanism prevents the need for manually cleaning filters to prevent buildup of debris (caking). Some vacuums are equipped with a gauge indicating filter pressure or an equivalent device (e.g., timer to periodically pulse the filter) to help employees in determining when it is time to run a filter cleaning cycle.

- i. *For tasks performed indoors or in enclosed areas*, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust. Indoors or in an enclosed areas mean areas where airborne dust can build up unless additional exhaust is used. Sufficient air circulation in enclosed or indoor environments is important to ensure the effectiveness of the control strategies and to prevent the accumulation of airborne dust. The means of exhaust necessary could include: the use of portable fans (box fans, floor fans, and axial fans), portable ventilation systems, or other systems that increase air movement and assist in the removal and dispersion of airborne dust. To be effective, the ventilation must be set up so that movements of employees during work, or the opening of doors and windows, will not negatively affect the airflow.
- ii. *For measures implemented that include an enclosed cab or booth*, ensure that the enclosed cab or booth:
 - a. Is maintained as free as practicable from settled dust;
 - b. Has door seals and closing mechanisms that work properly;
 - c. Has gaskets and seals that are in good condition and working properly;
 - d. Is under positive pressure maintained through continuous delivery of fresh air;
 - e. Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10.0 µm range (e.g., MERV-16 or better); and
 - f. Has heating and cooling capabilities.

(2) Where an employee performs more than one task on Table 1 during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.

* Refer to [OSHA's Small Entity Compliance Guide](#) for more information.

‡ The water delivery system is not required to be integrated or mounted on the tool; it can be assembled and installed by the employer. Acceptable water delivery systems include direct connections to fixed water lines or portable water tank systems. These water delivery systems can be operated by one worker or could require a second worker to supply the water at the point of impact.

§ The integrated water delivery system can be a free-flowing water system designed for blade cooling as well as manufacturers' systems designed for dust suppression alone. This option applies only when grinders are used outdoors.

†† The water spray systems can be installed so that they can be activated by remote control.

** NOTE: When the operator exits the enclosed cab and is no longer actively performing the task, the operator is considered to have stopped the task. However, if other abrading, fracturing, or demolition work is performed by other heavy equipment and utility vehicles in the area while an operator is outside the cab, that operator is considered to be an employee "engaged in the task" and must be protected by the application of water and/or dust suppressants.



G&M SERVICES LLC, HEAT & COLD STRESS PROGRAM

Preventing Heat-Related Illnesses (Heat Stress)

When the body heats up faster than it can cool itself, mild to severe illnesses may develop. It's important to recognize the symptoms of heat-related illnesses and understand how to prevent, control and respond to their effects.

Air temperature, humidity and clothing can increase the risk of developing heat-related illnesses. So can age, sex, weight, physical fitness, nutrition, alcohol or drug use, or pre-existing diseases like diabetes. How can you prevent or control heat-related illnesses?

- Drink water - Drink small amounts of water frequently, about a cup every 15-20 minutes. (Alcohol increases the loss of body fluids.)
- Limit exposure time and/or temperature - Try to schedule hot jobs for cooler times of the day or cooler seasons of the year. Take rest breaks in cool areas. Add more workers to reduce workload or reduce the workday.
- Acclimatization - Gradually adapting to heat will reduce the severity of heat stress.
- Engineering controls - Mechanize heavy jobs or increase air movement with fans or coolers.
- Wearing loose, lightweight clothing - Clothing can affect heat buildup.
- Salt tablets should not be used - Taking salt tablets can raise blood pressure, cause stomach ulcers, and seriously affect workers with heart disease.

Someone with a mild reaction to heat may have a rash called "prickly heat" or painful muscle spasms, called heat cramps, during or after activity. A mild reaction may also include fatigue or dizziness. You may notice a change in physical or mental performance and an increase in accidents. A person with a moderate reaction or heat exhaustion will have some or all of the following symptoms: excessive sweating, cold, moist, pale or flushed skin, thirst, extreme weakness or fatigue, headache, nausea, lack of appetite, rapid weak pulse, or giddiness and if not properly treated, the victim may collapse.

HEAT AND COLD STRESS PROGRAM

Anyone with mild or moderate symptoms should be moved to a cool, shaded place with circulating air. They should lie down and, if conscious, be given small sips of cool water at frequent intervals. If symptoms continue, a doctor should be called.

In severe cases of heat illness, a heat stroke may result. The victim's face is flushed red and their skin is hot and dry with no sweating. They develop a severe headache with deep, rapid breathing. They have a very high fever and may become delirious. They may become unconscious, have convulsions, or lapse into a coma. This condition is fatal unless emergency medical treatment is obtained. Immediately call for medical help. In the meantime, get them out of the hot environment. Loosen clothing and pour water over the entire body. Get air circulating around the body.

Recognizing the warning signs and symptoms of heat-related illnesses and using preventive and control measures can reduce the frequency and severity of heat illness while increasing worker productivity.

The above evaluations and/or recommendations are for general guidance only and should not be relied upon for legal compliance purposes. They are based solely on the information provided to us and relate only to those conditions specifically discussed. We do not make any warranty, expressed or implied, that your workplace is safe or healthful or that it complies with all laws, regulations or standards.

Preventing Cold-Related Illnesses

Working in the cold for prolonged periods of time can cause many physical problems. You should take precautions to prevent cold stress in the workplace. There are several types of cold stress that a person can suffer.

Different Types of Cold Stress

Hypothermia is the most common type of cold stress. Hypothermia occurs when your body temperature drops from prolonged exposure in a cold environment. Your body stores energy and that keeps you warm at first but as you stay in the cold your body burns that energy and cannot replace it as quickly. That is how your temperature drops below normal.

Some of the Symptoms of Hypothermia are a slowed heart beat and irregular breathing. You could also become drowsy or feel extremely exhausted. Many people often suffer from memory lapse and difficulty speaking after hypothermia has set in. If you suspect a person is suffering from hypothermia call for medical attention immediately. While waiting for help you should keep the person in a warm room. Remove any wet clothing and wrap them in a blanket. Give them a warm drink such as hot

HEAT AND COLD STRESS PROGRAM

tea. This will help raise their body temperature.

The second most popular form of cold stress is Frostbite. Is caused by the body literally beginning to freeze and usually starts in the toes or fingers which lose heat the fastest. In severe frostbite cases the tissue is permanently damaged and has to be amputated to stop the spread of dead tissue.

There are a few symptoms of frostbite the first is numbness of the area. Second is tingling or aching feelings and the third is a blue-ish waxy skin. If someone is showing symptoms of frost bite call for medical help as soon as possible. Try not to use the area of body that is suffering frostbite it is your hands try not to touch or pick up things. If your feet are frostbitten do not continue to walk on them it could cause more damage. Use warm water to help restart circulation; never rub the area it could cause the frostbite to spread. Never use a fireplace, stove or other heat source to warm up. Since the skin is numb you could get to close and cause burns.

How to Prevent Cold Stress

There are simple and easy ways to prevent cold stress in the workplace. It is really all about working safely and wearing the right protective gear this is the best way to prevent cold stress in the workplace.

- Wear insulated work boots and wool socks.
- Never wear tight clothing. You have to allow room for air to circulate.
- Keep a change of socks and other clothing to switch into if Anything you are wearing gets wet.
- Wear gloves and a hat at all times
- Keep warm be drinking hot liquids such as tea,coffee and hot chocolate. You can also eat soup at lunch to help warm up your core temperature.
- If at all possible take your breaks in a warm area. If there is no building available you can sit in your truck with the heat on.

Preventing cold stress in the workplace is very important. Many people are unaware that the cold can seriously injury or in extreme cases kill if the proper safety precautions are not followed.



COMPRESSED AIR AND GASES

It is very important that those using cylinders be familiar with compressed gas cylinder characteristics, safety features, and precautionary measures which must be observed in their use. Gases drawn from cylinders are usually characterized as:

- Permanent gases having boiling points of -150°F or lower and cannot be liquefied at room temperature no matter how high the pressure. Such gases include oxygen, nitrogen, and helium.
- Liquid gas which liquefy at temperatures of -130°F or higher at one atmosphere, but can be liquefied and maintained as liquids at higher pressures. Such gases include propane, chlorine, and butane. Carbon dioxide is in this category, but becomes a solid rather than a liquid.
- Dissolved gases in common use such as acetylene dissolved in acetone which holds 35 times its own volume of acetylene.

Compressed gas cylinder users must maintain and refer to the specific Safety Data Sheets (SDS) for the substances contained in the cylinder for more details. Note that OSHA has specific standards for some compressed gases such as acetylene, hydrogen, oxygen, etc.

This safety procedure covers the proper use of compressed gases and compressed gas cylinders to assure protection of employees working with or near compressed gases. The Safety Director will ensure employees follow these procedures.

STANDARDS

Reference standards for compressed gases include:

- OSHA Standards for General Industry 29 CFR 1910
 - [1910.101 Compressed Gases](#) (General Requirements)
 - [1910.102 Acetylene](#)
 - [1910.103 Hydrogen](#)
 - [1910.104 Oxygen](#)
 - [1910.105 Nitrous Oxide](#)
 - 1910.242(b) Compressed Air, cleaning
 - [1910.169 Compressed Air, receiver](#)
 - [1910.253 Oxygen-fuel Gas Welding and Cutting](#)
- DOT Hazardous Materials Regulations 49 CFR 171-179

- DOT Hazardous Materials Regulations 14 CFR 103
- Compressed Gas Association (CGA)
Pamphlet No./ Description
C-6-1968, Inspections
C-8-1962, Inspections
P-1-1965, In-plant Handling, Storage and Use
S-1.1-1963 & 1965 addenda, Pressure Relief Devices
8-1.2-1963, Pressure Relief Devices
- OSHA Construction Standards 29 CFR 1926
- ASME Boiler and Pressure Vessels Code Section VIII, III.
- AGA (American Gas Association)
- ANSI Z48.1 - 1954, 1965

Contact the Safety Director for access to these reference documents.

GENERAL REQUIREMENTS

Improper use, handling, and storage of compressed air, gases, or related equipment can result in fatal consequences. Employees should be properly trained in the safe use and handling of such substances and equipment. Visual inspections of equipment, including portable cylinders is needed to ensure equipment is in safe operating condition prior to each use. No one shall not possess cylinders without first obtaining the proper equipment to use, handle, or store them accordingly.

Inspections, usage, handling and storage of compressed air, gases and related equipment should comply with the applicable Standards listed above. For a listing of definitions, see Appendix A.

COMPRESSED AIR USED FOR CLEANING

When using compressed air for cleaning purposes, such as blowing off machinery, certain precautions must be taken to prevent the accidental injection of air into the blood stream. When used for cleaning, the compressed air equipment (air nozzle) must reduce the outlet (working) air pressure to less than 30 psi at the discharge tip. In-line chip protection shall be used when airlines are connected directly to a compressed air system. This does not mean that the supply air or line pressure be reduced to 30 psi as long as the static (dead head) pressure exiting the nozzle when restricted does not exceed the mandatory maximum 30psi.

This reduction can be done with nozzles and tips designed for this purpose. For that reason, employees must not remove, damage, cover (i.e., tape), replace or in any way alter the equipment provided for this purpose. Nozzles that have been altered or "home-made" are not approved and shall not be used. Use of non-approved equipment shall be grounds for disciplinary actions against the employee using the device.

To prevent eye injury, employees using compressed air should wear appropriate safety glasses with side shields at all times.

COMPRESSED GAS: PORTABLE CYLINDERS

A. Cylinders and Containers

1. Approval and marking. All portable cylinders used for the storage and shipment of compressed gases shall be constructed and maintained in accordance with the regulations of the U.S. Department of Transportation, 49 CFR Parts 171-179. This must be included as a requirement in any purchase or use agreement to insure that the vendor is supplying approved cylinders.
2. Compressed gas cylinders shall be legibly marked, for the purpose of identifying the gas content, with either the chemical or the trade name of the gas. Such marking shall be by means of stenciling, stamping or labeling, and shall not be readily removable. Whenever practical, the marking shall be located on the shoulder of the cylinder. This method conforms to the American National Standard Method for Marking Portable Compressed Gas Containers to Identify the Material Contained, ANSI Z48.1-1954.
3. Compressed gas cylinders shall be equipped with connections complying with the American National Standard Compressed Gas Cylinder Valve Outlet and Inlet Connections, ANSI B57.1-1965.
4. All cylinders with a water weight capacity of over 30 pounds (13.6 kg) shall be equipped with a means of connecting a valve protection cap or with a collar or recess to protect valve.

B. Transporting and Moving of Compressed Gas Cylinders

1. Valve protection caps, where cylinder is designed to accept a cap, shall always be in place and secure.
2. When transporting cylinders by a crane or derrick, a cradle, boat, or suitable platform shall be used. Slings or electric magnets shall not be used for this purpose.
3. Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dropped, struck, or permitted to strike each other violently.
4. When cylinders are transported by powered vehicles, they shall be secured in a vertical position.
5. Valve protection caps shall not be used for lifting cylinders from one vertical position to another. Bars shall not be used under valves or valve protection caps to pry cylinders loose when frozen. Warm, not boiling water, shall be used to thaw cylinders loose.
6. Unless cylinders are firmly secured on a special carrier intended for this purpose, regulators shall be removed and valve protection caps put in place before cylinders are moved.
7. A suitable cylinder truck, chain, or other steadying device shall be used to keep cylinders from being knocked over while in transit.
8. When cylinders are moved at any time, the cylinder valve shall be closed.

9. Compressed gas cylinders shall be secured in an upright position at all times except, if necessary, for short periods of time while cylinders are actually being hoisted or carried.
Acetylene cylinders must remain upright at all times.

Storage

1. Cylinders shall be kept away from radiators and other sources of heat.
2. Inside of buildings, hydrogen cylinders shall be stored in a well-protected, well-ventilated, dry location, at least 20 feet (6.1m) from highly combustible materials. All cylinders should be stored in definitely assigned places away from elevators, stairs, or gangways. Assigned storage places shall be located where cylinders will not be knocked over or damaged by passing or falling objects, or subject to tampering by unauthorized persons. Cylinders shall not be kept in unventilated such as lockers and cupboards.
3. Empty cylinders shall have their valves closed and marked "MT".
4. Valve protection caps, where cylinder is designed to accept a cap, shall always be in place, hand-tight, except when cylinders are in use or connected for use.
5. Fuel-gas cylinders stored inside a building, except those in actual use or attached ready for use, shall be limited to a total cumulative gas capacity of 2,000 cubic feet (56 m³) or 300 pounds (135.9 kg) of liquefied petroleum gas.
6. Acetylene cylinders shall be stored valve end up.
7. Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet (6.1 m) or by a noncombustible barrier at least 5 feet (1.5m) high having a fire-resistance rating of at least one-half hour.

Operating Procedures

1. Cylinders, cylinder valves, couplings, regulators, hose, and apparatus shall be kept free from oily or greasy substances. Oxygen cylinders or apparatus shall not be handled with oily hands or gloves. A jet of oxygen must never be permitted to strike an oily surface, greasy clothes, or enter a fuel oil or other storage tank.
2. Cylinders shall not be dropped or struck or permitted to strike each other violently.
3. Cylinders not having fixed hand wheels shall have keys, handles, or non-adjustable wrenches on valves stems while these cylinders are in service. In multiple cylinder installations, only one key or handle is required for each manifold.
4. Cylinder valves shall be closed when work is finished.
5. Empty cylinders shall be closed and placed in appropriate designated storage locations as part of the change-out procedure.
6. Cylinders shall be kept far enough away from welding or cutting operations so that sparks, hot slag, or flame will not reach them, or fire-resistance shields shall be provided.
7. Cylinders shall not be placed where they might become part of an electric circuit. Cylinders shall be kept away from radiators, piping systems, layout tables, etc., that may be used for

grounding electric circuits such as for arc welding machines. Any practice, such as the tapping of an electrode against a cylinder to strike an arc, shall be prohibited.

8. Cylinders shall never be used as rollers or supports, whether full or empty.

9. The numbers and markings stamped into cylinders shall not be tampered with.

10. No person, other than the gas supplier, shall attempt to mix gases in a cylinder. No one, except the owner of the cylinder or person authorized by him, shall refill a cylinder.

11. No one shall tamper with safety devices on cylinders or valves.

12. Unless connected to a manifold, oxygen from a cylinder shall not be used without first attaching an oxygen regulator to the cylinder valve. Before connecting the regulator to the cylinder valve, the valve shall be opened slightly for an instant and then closed. Always stand to one side of the outlet when opening the cylinder valve.

13. A hammer or wrench shall not be used to open cylinder valves. If valves cannot be opened by hand, the supplier shall be notified.

14. Cylinder valves shall not be tampered with, nor should any attempt be made to repair them. If trouble is experienced, the supplier should be sent a report promptly.

15. Fuel gas cylinders shall be used with the valve stem up and liquefied gases stored and shipped with the valve end up.

16. Cylinders shall be handled carefully. Rough handling, knocks, or falls may damage the cylinders, valve, or safety devices and cause leakage.

Appendix A

DEFINITIONS

The following definitions relate to pressure, compressed gases, and compressed gas cylinders.

Pressure, according to the American Gas Association (AGA), is a high-pressure gas distribution line that operates at a pressure of more than 2 psi (pounds per square inch). The ASME rates boilers which operate at more than 15 psi as high-pressure boilers. OSHA states that: "High-pressure cylinders mean those marked with a service pressure of 900 psi or greater." The term "high pressure" can therefore be any level prescribed for the equipment or system in use. For accident prevention purposes, any pressure system must be regarded as hazardous.

Safety Valves means frequently called "pop" valves because they pop full open when a preset pressure is exceeded.

Relief Valves do not "pop" but open slightly and then open further as pressure increases.

Frangible Disk is a thin piece of metal in a pressure system to relieve excessively high pressure.

Fusible Plugs are fittings with an alloy that melts at a predetermined temperature.