ADAMS WALLKILL, LLC
Corporate Safety & Health Program

Implemented / Revised (March, 2021)

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Foreword

This document, ADAMS WALLKILL, LLC's Corporate Safety Program, was prepared with the assistance of GBC Safety and Construction Services Inc., a wholly-owned subsidiary of the Associated General Contractors of New York State (AGC NYS, LLC), the New York State Building Chapter of the Associated General Contractors of America (AGC). Many AGC and GBC safety documents were used as references in the production of this document.

1. Policy & Commitment to Safety

March 11, 2021

To our Employees, Contractors, Customers, and Vendors:

Our company, ADAMS WALLKILL, LLC, is guided by our safety and health policy. This policy is based upon the necessity to eliminate injuries, occupational illnesses and property damage, as well as to protect the public whenever and wherever the public comes into contact with the company's work.

All management and supervisory personnel are charged with the responsibility for planning safety into each work task and for preventing the occurrence of incidents and/or controlling conditions/actions that could lead to occupational injuries or illnesses. The ultimate success of a safety and health program depends upon the full cooperation of each individual. Management at ADAMS WALLKILL, LLC is prepared to take the necessary actions to see that safety and health rules and practices are enforced, and to ensure that effective training programs are employed to the best advantage.

Safety will never be sacrificed for production. Safety is an integral part of quality control, cost reduction and job efficiency. All supervisors will be held accountable for the safety performance of the employees under their supervision.

Our goal is the total elimination of accidents from our operations, allowing each employee to return home safely to his or her family.

Sincerely,

2. Responsibilities

All employees of ADAMS WALLKILL, LLC are expected to do their part to ensure a safe workplace. To accomplish this all employees must:

1. Abide by all federal, state, and local regulations.

2. Adhere to the safety policies and procedures of ADAMS WALLKILL, LLC and where appropriate those of the owners and contractors for whom ADAMS WALLKILL, LLC has contracted to perform work. In cases where jobsite safety requirements exceed all Federal, State and local regulations, employees are required to follow the jobsite safety requirements.

3. Exercise good judgment in the application of ADAMS WALLKILL, LLC's Corporate Safety Program.

4. Protect the public from potential hazards created by our activities.

Responsibilities of Management

1. Establish work rules and programs to enhance safety awareness and inform all employees of these established rules and programs.

2. Distribute the appropriate rules and regulations to all supervisors.

3. Provide job safety training for the employees.

4. Impress on all employees that their individual participation, responsibility and accountability is necessary to maintain an accident-free work environment.

5. Where required, provide appropriate protective equipment for employees.

6. Document all violations that are observed and discipline any employee disregarding this policy.

7. Investigate all accidents and provide training to prevent reoccurrence.

8. Require all subcontractors as a matter of contract and all material suppliers through purchase order terms to follow safety rules.

9. Provide for regular safety inspections of jobsites to ensure ADAMS WALLKILL, LLC safety rules are being followed by company employees and subcontractors.

Responsibilities of Jobsite Superintendents

1. Ensure that all work performed is done in accordance with established safety regulations through methods such as pre-planning, training and use of the company disciplinary policy.

2. Superintendents will follow-up on inspections performed to ensure proper corrective and disciplinary actions are taken.

3. Make safety devices and equipment available to all employees and ensure the equipment is used in the way and for the purpose for which it was designed.

4. Inform foremen of ADAMS WALLKILL, LLC's commitment to safety and of the need for them to manage their crews in a safe manner. Nothing less will be tolerated.

5. Review accidents, oversee the correction of unsafe conditions, and complete accident reports.

6. Conduct jobsite safety meetings and provide employees with proper instruction on the safety requirements of their activities.

7. Require ADAMS WALLKILL, LLC subcontractors to perform all work in accordance with established safety regulations. In cases where jobsite safety requirements exceed all Federal, State and local regulations, employees are required to follow the jobsite safety requirements.

8. Notify ADAMS WALLKILL, LLC's corporate office of any safety violations and complete all associated documentation for safety infractions.

9. Protect the public from potential hazards related to company operations.

10. Work with other contractors on site to ensure ADAMS WALLKILL, LLC employees are not endangered by the operations of others.

11. Perform weekly jobsite inspection checklists and keep on file.

12. Maintain daily log books for completeness and accuracy; include all safety concerns and hazards within this log.

Responsibilities of Jobsite Foreman

1. Execute the safety program at the work level.

2. Be knowledgeable of all safety requirements and safe work practices.

3. Conduct pre-task planning sessions to coordinate activities for the day and to anticipate unsafe conditions which may occur in the performance of those activities.

4. Ensure new employees receive new hire orientation training covering the hazards associated with their duties.

5. Provide safety training to existing employees performing new tasks.

6. Make sure an adequate supply of protective equipment is available and used by employees when required.

7. Make sure work is performed in a safe manner and no unsafe conditions or equipment are present.

8. Correct all hazards, including unsafe acts or conditions. Ensure no unsafe equipment is present on the jobsite that could be used by an employee.

9. Report all near accidents so an investigation can be conducted to prevent a reoccurrence.

10. Secure prompt medical attention for any injured employees.

11. Report all injuries and safety violations.

Workers' Responsibilities

1. Follow company safety rules and work in a safe manner to ensure the safety of yourself, co-workers, and others.

2. When uncertain about how to perform any task, request assistance.

3. Correct any unsafe act or condition within the scope of your immediate work. Any hazard which cannot be readily corrected should be immediately reported to your supervisor.

4. Any unsafe condition corrected by an employee should be reported to the appropriate supervisor by the employee(s) who corrected the hazard.

5. Report for work in good mental and physical condition so that assigned duties can be carried out in a safe manner.

6. Avail yourself of company and industry-sponsored programs.

7. Inspect, maintain, and use safety devices provided for your protection.

8. Properly use and maintain all tools under your control.

9. Look out for other employees and assist them with safety requirements if an unsafe practice or condition is observed.

Responsibilities of All Personnel

1. Strive to make all operations safe to achieve an accident-free workplace.

2. Maintain mental and physical health conducive to working safely.

3. Keep all work areas clean and free of debris.

4. Do not perform work in a manner which may be harmful to others. Assess the results of your actions on the entire workplace.

5. Do not let unsafe conditions imperil others. Prior to leaving work, replace or repair safety precaution signs removed or altered during the course of your work.

6. Abide by the safety rules and regulations of every construction site.

7. Work in strict conformance with federal, state and local regulations. In cases where jobsite safety requirements exceed all Federal, State and local regulations, employees are required to follow the jobsite safety requirements.

Subcontractors and Suppliers

1. Abide by all Federal, State, and local regulations. In cases where jobsite safety requirements exceed all Federal, State and local regulations, all personnel are required to follow the jobsite safety requirements.

2. If the activities of another contractor affect the health or safety of your employees, notify the appropriate foreman or superintendent of the hazardous condition.

3. Before entering the jobsite, inform a foreman or superintendent of your arrival.

4. Immediately inform the controlling contractor of all injuries to workers.

5. Any unsafe condition or action observed shall be reported to the controlling contractor so the hazard can be addressed.

6. Participate fully in the project Disciplinary Program.

Architects, Engineers, Owners and Visitors

1. Follow all safety rules of the jobsite.

2. Inform site superintendent before entering the construction site. Personal protective equipment such as a hard hat, safety glasses, and safety boots are required at all times.

3. Emergency Procedures

1. In the event an emergency occurs on or at a company work site, the employee responsible for that site or the most senior employee on the site is responsible to follow the emergency procedures described in this section.

2. Emergencies are classified as life threatening, medical, or serious property damage.

3. In the event of a life-threatening emergency, accident, or medical emergency, the following actions are to be taken.

   a) Ascertain the nature of the emergency and the number of people affected.
   b) Immediately call emergency teams or designate one or two people to contact local police, fire, ambulance, haz-mat, utility, or other emergency response team(s) as quickly as possible.
   c) Designate one or more employees to contact people adjacent to the work site if they are affected by the emergency. Have another employee contact the main office.
   d) Take control of the site and assign tasks as necessary. Survey the area to insure scene is free of hazards that could cause further injury (traffic, electrical hazards, etc.).
   e) Take measures to eliminate hazards that may exist and restrict access to the emergency area. Secure the scene and do not disturb anything unless needed.
   f) Provide whatever immediate and temporary relief possible until emergency personnel arrive at the scene (bring first aid equipment, blankets, etc.).
   g) Accompany the injured party to the hospital or send a fellow employee.
   h) Perform an accident investigation before emergency area is disturbed. Take pictures as soon as possible and conduct an accident investigation following the procedures outlined in ADAMS WALLKILL, LLC's health and safety program

5. In the event of a property damage emergency, the following actions are to be taken:

   a) Determine if there is a danger to workers or persons adjacent to the site. If so, follow procedures outlined for a life-threatening emergency, accident, or medical emergency.
   b) If no danger exists to workers or persons adjacent to the site, immediately call the appropriate emergency response team(s) and report the property damage emergency. (911, police, fire, haz-mat, utility, etc.).
   c) Restrict access to the property damage emergency area. Secure the scene and do not disturb anything unless needed.
   d) Notify the corporate office.
   e) Document the emergency.

NOTE: In the event of any emergency, documentation of the incident is necessary. An accident investigation must be conducted following the guidelines provided in ADAMS WALLKILL, LLC's health and safety program.

4. First Aid

Purpose

To establish the minimum emergency first aid requirements necessary at a work site.

Superintendent Responsibilities

1. Determining the appropriate emergency medical facility (hospital or clinic).

2. Determining the appropriate ambulance service.

3. Complete an "Emergency Numbers" form and posting this information with telephone numbers at all telephones and other selected locations.

4. Assure that one person per 25 workers, trained in first aid and CPR, is at the worksite at all times.

5. Establishing a system to notify the trained employees if an injury occurs.

6. Providing, inventorying, and maintaining a complete first aid kit.

Procedure

In all cases immediately call the emergency number provided on-site.

1. Notify a designated first aider who is certified in first aid and CPR.

2. Do not move a victim.

3. Provide the appropriate emergency first aid (by trained employees only).

Superintendents are responsible for informing all employees about emergency telephone numbers as well as emergency procedures. In addition, superintendents must be sure all employees are aware of the following precautions for special situations:

Clothing Fire

a. Prevent the victim from running.

b. Roll the victim on the floor and wrap in a blanket or coat.

c. Douse the victim with water or use an emergency shower provided the clothing is not burning due to a flammable or combustible material.

d. Do NOT remove wet or burned clothing from the victim's burned areas.

Burns from acid, caustics, or other chemicals

a. Immediately move the victim under an emergency shower or running water.

b. Keep the victim under the shower for a minimum of 20 minutes and remove clothing.

c. In case of eye burns, hold victim's eyelid open and flush with water for 15 minutes, from an eye bath, water fountain, or with a gentle stream from a water hose.

d. Know the location of and how to operate emergency showers, eye baths and water hoses in your work area.

Exposure to vapors, fumes or gases

a. Notify trained personnel to close valves and perform similar precautionary procedures.

b. Move exposed people to fresh air as quickly as possible.

c. If fumes or gases have penetrated clothing and/or are causing skin irritation, immediately get victim under a shower and have clothing removed.

d. Have all victims report to a physician for examination.

e. Tell the physician the specific gas vapor or fumes involved and provide a Material Safety Data Sheet.

f. Call a physician AT ONCE if any symptoms occur after working hours. (Some fumes or gases have delayed action symptoms).

Electric Shock

a. De-energize the circuit if possible. If unable to do so, use a nonconductor to remove the electrical source from the victim.

b. If the victim is not breathing or has no pulse, first aider shall administer CPR.

c. If the victim is in water, ensure that no exposed wires are in or near the water.

d. Move the victim ONLY if there is no other way to stop the current flow.

Basic items needed in the on-site first aid kit:

Unit pack 36-unit first aid kit (special order):

ITEM	*NUMBER OF UNITS*
Adhesive Bandage 1" x 2-3/8"	1
Butterfly 1	1
Bandage Compress 2"	2
Bandage Compress 4"	3
Triangular Bandage	4
Zephiran Chloride	1
Ammonia Inhalant	1
Gauze Bandage 2" x 6 yards	2
Adhesive Tape	1
Eye Dressing Kit	2
Tourniquet, Forceps, Scissors	1
Wound Wipes	1
Cold Packs	3
Rescue Blanket	1
Gauze Compress 3" x 3"	4
Gauze Compress 24" x 72"	1
Latex Exam Gloves	1 dozen 36 Unit Case

Additional Basic Materials:

Pocket Mask w/O2 Port, or "Blob mask"	1 per first aider
Blanket and Pillow	1

NOTE: In absence of an infirmary, clinic, or hospital in near proximity to the workplace, the following additional first aid equipment must be provided.

Folding Stretcher, Ferno Washington Model 12	1
FRAC - Kit #8398, Edco/PASCO Company Division of Tempco Products, Inc. or equivalent	1

5. Multi-Employer Work Sites

General

ADAMS WALLKILL, LLC's subcontractor documents clearly state the requirements of working safely while performing work at a ADAMS WALLKILL, LLC construction project. It also outlines disciplinary action to be taken for non-compliance. This is done because we value our human resources.

This section establishes a line of responsibility for controlling hazards created by each subcontractor on site. In order to complete a construction project, the efforts of many contractors are necessary. Working together during the course of a project can create situations where different trades are exposed to safety hazards created by others. OSHA has developed a Multi-Employer Work Site requirement to help define abatement responsibilities of those contractors involved in the construction process.

OSHA's Multi-Employer doctrine allows OSHA to issue citations to the following if a safety violation exists:

- The employer whose employees are exposed to the hazard,
- The employer who created the hazard,
- The controlling employer or owner on site who would have responsibility for correcting the hazard, and/or
- The employer responsible for correcting the hazard

Responsibilities

The jobsite superintendent will be responsible for making sure the appropriate safety measures are provided for ADAMS WALLKILL, LLC and subcontractor employees. In the event a hazard exists that is not created, controlled, or the responsibility of ADAMS WALLKILL, LLC or one of its subcontractors, ADAMS WALLKILL, LLC and subcontractor employees will be prohibited from working in that area. The responsible and controlling party will then be notified about the condition.

Subcontractors who create a hazard are responsible for correcting the condition and maintain the protection as long as they are working in the area. Any subcontractor removing a safety device is responsible to replace that device immediately. In circumstances where maintaining protection (i.e. guardrails at a loading area) is part of a subcontractor's scope of work, that subcontractor will be required to maintain the proper protection. As a controlling contractor, ADAMS WALLKILL, LLC will address any safety hazard that is identified by ADAMS WALLKILL, LLC or a subcontractor and make sure that measures are taken to abate the hazard.

Example:

> A panel box is not provided with a cover to prevent employees from contacting live parts. The electrical contractor is then responsible to provide and maintain the panel box cover until they complete their work.

6. Demolition Program

Purpose

To provide safe working procedures for personnel involved in demolition operations.

Preparatory Operations

Engineering Survey

OSHA Standard 1926.850(a) requires that an engineering survey must be conducted by a competent person to determine the condition of the framing, floors, and walls so that measures can be taken, if necessary, to prevent the premature collapse of any portion of the structure. Any adjacent structure(s) should also be similarly checked. For the purpose of this program, the competent person conducting the **structural survey** must be a register professional engineer. The contractor performing the demolition work must maintain a written copy of this survey on site.

The engineering survey provides the demolition contractor with the opportunity to evaluate the job and plan for the wrecking and supporting of the structure, proper equipment necessary, manpower requirements, as well as reviewing protection of the public issues. The survey needs to take into account hazards that may be present during the demolition process and identify measures to be taken to address those hazards.

If the structure to be demolished has been damaged by fire, flood, explosion, or some other cause, appropriate measures such as bracing and shoring of walls, floors and other building components must be taken and identified as part of the engineering survey. It shall also be determined if any type of hazardous chemicals, gases, explosives, flammable material, or similar dangerous substances have been used or stored on the site. Undeterminable substances shall be tested and analyzed by a qualified person prior to demolition.

Where a hazard exists from fragmentation of glass, that hazard shall be removed. Wall openings that present worker hazard shall be protected to a height of 42 inches. All floor openings not designed for use with chutes shall be covered. Debris landing areas shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edge of the opening above.

Environmental Survey

An Environmental survey must be conducted prior to the start of demolition to determine the presence of asbestos and lead. All areas containing asbestos must be abated as per New York State Code Rule 56.

Components containing lead paint must handled according to OSHA or EPA regulations depending on which agency has jurisdiction on the project. Typically, private projects will follow OSHA standards while public work requires EPA regulations to be followed. A determination must be made as to what regulation must be followed for the demolition project being performed.

No demolition work may be performed until environmental surveys are complete and appropriate abatement/removal is facilitated and the documentation to support the abatement/removal is obtained.

All asbestos containing material will be disposed of in an appropriate manner by the abatement contractor. Material that contains lead paint must have a Toxicity Classification Leaching Potential (TCLP) test to determine the proper means of disposal

Utility Location

- Properly locate utility services during the planning stage. All electric, gas, water, steam, sewer, and other service lines should be shut off, capped, or otherwise controlled before demolition work is started.
- All utility companies involved should be notified in advance and approval for services obtained.
- Relocation of utilities may be required to maintain power or other service during the demolition.
- Survey overhead power sources to determine if they present an electrical hazard to employees or equipment used during the demolition process.

Stairs and Passageways

- Close off all means of access to the structure except for those specially designated as such.
- Inspect and maintain all stairs, passageways and ladders.
- Properly illuminate stairwells.

Disposal Chute

- No material shall be dropped near the exterior walls of the structure unless the area is effectively protected.
- If materials are dropped more than 20 feet to any point lying outside the exterior walls of the building, a disposal chute must be used.
- Disposal chutes shall be entirely enclosed if at an angle of more than 45°.
- Gates shall be installed at the discharge end, and a competent employee shall control the gate, and backing and loading of trucks.
- Disposal chutes not in use shall be securely closed off.
- Disposal chute openings shall be protected by guardrails at least 42 inches from the floor. Space between the chute and openings in the floors shall be solidly covered.
- Disposal Chute openings shall have a bumper, not less than 4 inches thick and 6 inches high, when material is to be dumped from wheelbarrows or mechanical equipment.
- Chutes shall be designed of such strength to handle the debris loaded in them.

Medical Services & First Aid

- Make provisions prior to start of work for prompt medical attention in case of serious injury.
- Locate and display prominently all contact information for nearby hospitals, infirmaries, clinics and physicians.
- Determine the instructions for the best route to these facilities.

- Proper equipment for transportation of an injured worker should be ready as well as a communication system.
- If a hospital, clinic, infirmary, or physician is not available, a person with a valid certificate in first aid and CPR training from an accredited body should be available at the site.
- A properly stocked first aid kit must be available at the site. See First Aid section of this safety manual for proper quantities and contents of a jobsite safety kit.

Fire Prevention & Protection

- A "fire plan" should be put in place prior to starting work. The plan should outline the assignments of key personnel in the event of a fire. A suitable location at the site should be designated and provided with the fire plan.
- Identify potential sources of ignition and take corrective measures.
- Electrical wiring for light, heat, or other power should be installed by a competent person and inspected regularly.
- Exhaust discharge from engines should be directed away from workers.
- Fire extinguishers should be present and their location clearly identified.
- Heating devices should be installed properly and regularly maintained.
- Smoking is prohibited near hazardous operations or materials.
- Keep access to street fire hydrants clear.
- Large multi-story buildings should be provided with standpipes with outlets. A pump may be necessary if pressure is insufficient.

Personal Protective Equipment

During demolition operations, appropriate personal protective equipment must be used and maintained. Safe work clothing, hand protection, foot protection, head protection, eye & face protection, hearing protection, respiratory protection, fall protection, as well as other personal protective equipment must be used when needed. Employees required to wear respirators must be part of a respiratory protection program, which includes medical evaluations and fit testing.

Special Structure Demolition

Confined Spaces

- Refer to your confined space program in your corporate safety manual for hazards associated with confined spaces.
- Examples of confined spaces on demolition work can include storage tanks, vessels, degreasers, pit vaults, casing, and silos.
- Failure to recognize a confined space as a hazard can lead to injury, illness or death.
- The danger of explosion, poisoning, and asphyxiation are present at the onset of entry into a confined space.

Demolishing a Chimney or Stack

Consult architect/engineer drawings and perform a careful, detailed inspection of the structure by an experienced person. Pay close attention to the condition of the chimney or stack. Lookout for structural defects such as weak or acid-laden mortar joints, and any cracks or openings. The interior brickwork in some sections of industrial chimney shafts can be extremely weak. Remove any steel straps as work progresses from the top down.

- Hand demolition should be performed from a working platform.
- Install scaffolding around the chimney. Pay close attention to the tie-in braces.
- Adequate spacing between chimney and work platform is essential.
- The area around the chimney should be roped off or barricaded and appropriate warning signs posted.
- A safety monitor on the ground is suggested.
- Do not work on the chimney in poor weather conditions.
- Keep the chimney wet to reduce dust.

Demolition of Pre-Stressed Concrete Structures

- *Pretensioned members* do not have any end anchors. Simple pretensioned beams and slabs of spans up to about 7 meters (23 feet) can be demolished in a manner similar to reinforced concrete. Members should be turned on their sides once lowered to the ground for breaking up.
- *Precast units* stressed separately from the main frames of the structure, with end anchors and grouted and ungrouted ducts should be lowered to the ground if possible.
- *Monolithic structures* – Experience in prestressed work is suggested when dealing with members that have been stressed together. Temporary supports are usually required so the anchorage can be cautiously exposed.
- *Progressively prestressed structures* - The stored energy in this type of structure is large. Sudden and complete collapse can occur without warning.

Safe Blasting Procedures

- A complete written survey must be made by a qualified person of all adjacent improvements and underground utilities. Excessive vibration is a possibility when performing blasting operations. Seismic or vibration tests should be conducted to determine the proper safety limits and to prevent damage to nearby buildings, utilities, or other property.
- A structural engineer should direct the work if structural columns, beams, or other components are to be removed. Extreme caution must be taken to avoid weakening and premature collapse of the structure.
- Use of explosives to demolish smokestacks, silos, cooling towers, or similar structures should be permitted only if there is a minimum of 90 degrees of open space extended for at least 150% of the height of the structure.

Fire Precautions

Fire near explosives represents severe danger. Every effort must be made to ensure that fires or sparks do not occur near explosive materials. Smoking, matches, firearms, open flame lamps, and other sources must be prohibited in or near explosive magazines, or in areas where explosives are being handled, transported or used.

Electrical detonators can be inadvertently triggered by stray radio frequency signals from two-way radios.

Personnel

A blaster is a competent person who uses explosives. A blaster must be qualified by reason of training, knowledge, or experience in the field of transporting, storing, handling, and using explosives. Knowledge of state and local regulations is required.

Vehicle Safety

- Vehicles carrying explosives must be in good mechanical condition.
- Explosives, blasting agents, and blasting supplies shall not be transported with other materials.
- Blasting caps shall not be transported in the same vehicle with other explosives.

Proper Use of Explosives

- Blasting operations should be conducted between sunup and sundown.
- Adequate signs should be posted. Alerts should be sounded to warn of hazards.
- Blasting mats and other containment should be used where there is a danger of debris being thrown into the air.
- Take caution to prevent accidental detonation by radio, television, or radar transmitters.

Procedures After Blasting

Inspection

- Immediately disconnect the firing line from the blasting machine.
- Power switches should be locked open or in the off position.
- Allow sufficient time for clearing of dust, smoke, and fumes.
- Make sure all charges have been exploded.

Disposal of Explosives

- Explosive distributors will usually take back unused stock.
- Local fire marshals or representatives of the US Bureau of Mines may arrange for disposal.
- Never abandon explosives.
- Dispose of wood, paper, fiber that may have contained explosives by burning.

Job Site Demolition Survey

Category	Areas	Satisfactory	Unsatisfactory	Corrective Action Required/Performed
Safe Access & Movement				
	Work Areas			
	Walkways, runways, passageways			
	Ladders, stairways, elevators			
	Protection for floor and roof openings			
	Illumination			
Vehicles				
	Roads: turn space, parking area, mud			
	Materials storage areas / dump areas			
	Signs and signals for vehicle routing			
	Maintenance and repair			
Utilities & Service				
	Location of temporary buildings			
	Location / identification of high voltage lines			
	Location of sanitary facilities / drinking water			
Scheduling Work				
	Provide safety equipment; hard hats, life belts, goggles, work vests			
	Establish liaison between contractors to prevent congestion among trades			
	Provide temporary flooring, safety nets and scaffolding where required			
Work Procedures				
	Adequate space			
	Equipment: cranes, hoists, elevators, trucks			
	Rigging procedures			
Tools & Equipment				
	Repair, maintenance, care			
	Inspection			
	Supplies for tools			
Workers / Foremen				
	Job assignments			
	Training and supervision			
	Number of workers			
	Safety plans			
	Safety bulletins, charts, posters			
	Recognition for groups, individuals			
	Investigation, reporting of accidents			
	Safety meetings			
	New employee training/orientation			
	Immediate corrective action plan			
	First aid; medical treatment plan			
Hazard Recognition				
	Health; asbestos, chemicals, materials			
	Noise levels			
	Confined spaces			
	Dust			

7. Disciplinary Program

Purpose

Safety on a jobsite requires constant attention and awareness from everyone involved. The success of a safety program is related to the efforts put forth by all employees involved in the project. It is for this reason that employees of ADAMS WALLKILL, LLC Construction Co. and its subcontractors are required to adhere to the safety rules and regulations of state, federal and local agencies, and the owner for whom work is being performed. Jobsite safety requirements may exceed applicable OSHA Standards. In these circumstances, employees are required to follow the jobsite safety requirements. In order to ensure active participation from each employee, we have developed a Disciplinary Policy to enforce these safety rules and regulations.

Responsibilities

The project superintendents and foremen are responsible for implementation of the Disciplinary Policy. This does not exclude these parties from following safety policies/practices or from disciplinary action resulting from safety violations.

Procedure

1. Employees are subject to one of the following disciplinary actions resulting from safety violations. Each violation (excluding the first verbal which will be documented in the supervisor's daily log) will be documented on the attached Safety Violation Form. This form will include the date of the violation and disciplinary action taken.

    a) First Violation: Verbal warning, to be documented in supervisor's daily log.

    b) Second Violation: Verbal warning, documented on Safety Violation Form.

    c) Third Violation: Mandatory two-day work suspension without pay, documented on Safety Violation Form.

    d) Fourth Violation: Termination, documented on Safety Violation Form.

2. Violations are to be documented and up to date. A copy of the safety violation will be issued to the employee to whom it applies and a second copy will be filed in the employee's personal file.

3. When a safety violation is issued, the supervisor of the employee who is in violation will meet with that employee to discuss the safety infraction. The employee will be informed of the rule or procedure that was violated and the corrective measures that shall be taken to eliminate the hazard. The employee in violation shall fully understand the reason for and the associated risks pertaining to their violation prior to returning to work.

4. Nothing in this policy prohibits the immediate dismissal or removal from the jobsite of any employee whose conduct constitutes a serious violation of the safety requirements, which could cause serious danger to himself/ herself, other employees, property or equipment.

Safety Violation Form

A safety violation form is to be completed each time an employee violates a corporate safety rule. This form must be forwarded to the main office and added to the employee's personnel file.

EMPLOYEE NAME: **POSITION WITH COMPANY:** **DATE OF VIOLATION:**
DESCRIPTION OF VIOLATION:
CORRECTIVE ACTION TO BE TAKEN TO PREVENT A REOCCURENCE:
DISCIPLINARY ACTION TAKEN:
NOTHING IN THIS POLICY PROHIBITS THE IMMEDIATE DISMISSAL OR REMOVAL FROM THE JOBSITE OF ANY EMPLOYEE WHOSE CONDUCT CONSTITUTES A SERIOUS VIOLATION OF PROJECT SAFETY RULES, WHICH COULD CAUSE SERIOUS DANGER TO HIMSELF/HERSELF, OTHER EMPLOYEES, PROPERTY, OR EQUIPMENT. AS AN EMPLOYEE WORKING AT THIS CONSTRUCTION SITE, I UNDERSTAND THE NATURE OF MY SAFETY VIOLATION AND THE PROPER CORRECTIVE ACTIONS NECESSARY TO ELIMINATE THE HAZARD. **EMPLOYEE SIGNATURE: _____** **DATE: _____**

ADAMS WALLKILL, LLC
Safety Violation Charity Program

ADAMS WALLKILL, LLC is committed to maintaining an accident-free workplace. ADAMS WALLKILL, LLC's commitment is not enough, however. Obtaining this goal requires the same commitment by our subcontractors and their employees. To promote this goal and to contribute to our community, ADAMS WALLKILL, LLC has implemented a Safety Violation Charity Program.

The Safety Violation Charity Program (SVCP) will involve ADAMS WALLKILL, LLC and all ADAMS WALLKILL, LLC subcontractors. On projects where ADAMS WALLKILL, LLC is a Prime Contractor we will encourage the implementation of this program on a project-wide basis. Where ADAMS WALLKILL, LLC is the Construction Manager we will encourage our Customers to adopt this program for their project and incorporate it in the contract documents.

The program will work as follows:

The SVCP will be included as an attachment to ADAMS WALLKILL, LLC's subcontract and will be officially introduced at the pre-job meeting. At the pre-job meeting an explanation of the program will be presented and time will be made available to answer any questions. The SVCP is a disciplinary program structured to ensure all contractors on site understand and carry out their jobsite safety responsibilities. In the event a contractor, or the contractor's employees, commit a safety infraction the contractor will be fined $100 per incident with a two-fold increase for each subsequent occurrence. For example, $100 for the first occurrence, $200 for the second, $400 for the third, and so on.

During discussion of the SVCP at the pre-planning meeting, all contractors in attendance will agree upon a charity to whom all fines will be donated at the end of the project. Fines will be paid within 30 days of their occurrence. In the event fines are not paid in a timely fashion, the fine will be back-charged against the contractor by ADAMS WALLKILL, LLC, who will in turn credit the charity account with the funds.

Appropriate fines will be levied against the responsible contractor for each instance in which they or their employees commit unsafe acts.

ADAMS WALLKILL, LLC reserves the right to remove any contractor from the jobsite for repeat safety violations or for serious safety infractions. All contractors must continue to abide by all Federal, State, and local laws that apply to this project regardless of their inclusion in this program. In cases where specific jobsite safety requirements exceed OSHA Standards, employees are required to follow the jobsite safety requirements.

Site Superintendent Safety Violation Form

Project:_____

Date:_____

Name of Subcontractor:_____

Violation:_____

_____

_____

_____

_____

_____

_____

_____

_____

Fine:$_____

Charity:_____

Comments:_____

_____

_____

_____ _____

X Superintendent **For the Subcontractor**

_____ _____

Date **Date**

8. New Employee Orientation

All new employees shall be required to go through a safety orientation covering safety prevention, procedures and response measures. Safety orientation sets the tone for safety awareness and is an important element of ADAMS WALLKILL, LLC's Safety Program.

New Hire Safety Orientations will be held at ADAMS WALLKILL, LLC's corporate offices as needed.

During and at the conclusion of orientation, new employees will be encouraged to ask questions to make sure that the safety procedures are fully understood. The new employee will be asked some questions pertaining to job safety to confirm that he/she understands the safety goals of the company. A Safety Orientation Checklist shall be completed and signed by the individual(s) who conducted the orientation and the new employee.

NOTE: The new employee(s) will be encouraged throughout the orientation to ask any safety questions that may arise relating to his/her work. Other employees who are not considered "new employees" will receive safety orientation where necessary.

Safety Orientation Checklist

The Safety Orientation Checklist is used to document safety training provided to all new and reassigned employees. Safety Orientation is intended to familiarize you with ADAMS WALLKILL, LLC's Safety Program and to provide you with the information to help you recognize and avoid unsafe conditions in your workplace. This checklist includes all safety items to be covered during safety orientation. Employees are to check off each topic as it is covered.

Employee Name:_____ Date of Training:_____

Position:_____ Date of Hire:_____

General	**Check**
Housekeeping requirements.	
Where to locate mandatory posting requirements including emergency phone numbers.	
Where to locate company safety program, hazard communication program, and MSDS's.	
Company hazard communication program content, including material safety data sheets.	
Employee responsibility for reporting accidents, near misses, and injuries.	
Procedures to be taken in the event of a property damage site emergency.	
Procedures to be taken in the event a person is injured at the jobsite.	
Company drug and alcohol policy.	
Personal Protective Equipment	
Company hard hat policy.	
Company policy regarding the use of safety glasses.	
Company hearing conservation program.	
Company respiratory protection program.	
How to determine what personal protective equipment is needed for the job being performed.	
Fire Protection	
Storage of gasoline in safety cans.	
Types of fire extinguishers and their proper use.	
Fire protection requirements for protected building areas.	
Fire protection requirements for fuel storage areas and propane storage.	
Propane storage requirements.	
Hot works permit requirements.	YES NO NA

Welding and Cutting	**Check**
Handling and using compressed gas cylinders.	
Compressed gas cylinder storage requirements.	
Welding safety.	
Electric	
Extension cord types acceptable to use at construction sites.	
Inspecting extension cords.	
Ground fault circuit interrupters.	
Construction electrical safety requirements.	
Scaffolding	
Erecting and dismantling scaffolds.	YES NO NA
Using and maintaining scaffolds.	YES NO NA
Competent person requirements.	
Providing safe access to scaffolds.	
Platform construction and fall protection requirements.	
Electrical hazards associated with scaffold use.	
Properly anchoring scaffolds.	
Construction scaffold safety requirements.	
Tools	
Using guards on power tools.	
Inspecting tools to insure they are free of damage or defects.	
Training requirements for using powder-actuated tools.	

Safety Orientation Checklist

Fall Protection	Check
Pre-planning for fall hazards.	
Construction safety requirements for fall protection.	
Guardrail erection and maintenance.	
Installing covers on floor holes.	
Use of fall arrest equipment.	YES NO NA
Fall protection plans.	YES NO NA
STD 3-0.1A - Guidelines for Residential Fall Protection.	YES NO NA
Motor Vehicles and Heavy Equipment	
The use of seat belts while operating company equipment or vehicles.	
Safety requirements while fueling company equipment or vehicles.	
Recharging batteries and the use of jumper cables.	
Inspecting equipment daily to insure horn, back-up alarm, and brakes are in good working condition.	
Certification requirements for operating lulls, JLG's, and similar equipment.	YES NO NA

Excavations	Check
Underground electrical or other hazards. "Call before you Dig" – 811; www.digsafelynewyork.com	
Protection of the public from excavated areas.	
Competent person requirements for excavations.	
Working in excavations and the hazards associated with it.	
Safe access requirements.	
Construction safety requirements for excavations.	
Confined space hazards.	
Ladders	
Electrical hazards associated with the use of ladders.	
Determining the right ladder for the job.	
Using portable extension ladders to access upper levels.	
Using step ladders properly.	
Improper uses of portable and extension ladders.	

When training is finished, employees are to complete the statement at the end of the checklist confirming attendance at a safety orientation training session. They are also encouraged to make any comments pertaining to the safety training orientation or if they have any safety concerns they wish to discuss with the corporate safety director. Safety orientation checklists will be maintained at the main office. In some cases, copies of safety orientation checklists may be provided at the jobsite.

I, _____, understand fully all items discussed during my safety orientation.

Signature of Employee:_____ Date:_____

Signature of Trainer:_____ Date:_____

Employee Comments:_____

_____

_____

_____

_____

_____

Safety Meetings

Purpose

Regular safety meetings provide information to employees which is necessary in order for them to continue to work safely. Safety meetings are a valuable tool to heighten safety awareness on the jobsite.

Responsibilities

The job superintendent is responsible for conducting safety meetings with the supervisors. This can be accomplished as a part of established production meetings. Supervisors are responsible for weekly safety meetings with all of their employees. It is the responsibility of the job superintendent to see that weekly safety meetings are conducted in an orderly and productive manner. (Superintendent must make sure subcontractors are also performing safety meetings at least on a weekly basis.)

Procedure

1. During the job superintendent's weekly meeting with supervisors, the subject of the next meeting with employees must be decided and any information or materials shall be provided to the supervisors.

2. All supervisors must schedule weekly meetings with all employees.

    a) All of the employees must attend each safety meeting and sign in on a Tool Box Talk Attendance sheet.
    b) Attendance sheets must be kept on file at the jobsite and a copy must be forwarded to the main office.

3. Guidelines for safety meetings are as follows:

    a) Safety is the sole purpose of the meeting and other matters shall not be covered.
    b) Safety meetings should be held at least once a week and cover a topic pertinent to the work being performed. The suggested duration of the meeting is ten to fifteen minutes but can exceed that time frame if safety issues need to be addressed.
    c) Supervisors shall pass on the information discussed with the job superintendent to their employees. The supervisor shall discuss these issues and ask for comments and suggestions from the employees.
    d) Comments and suggestions should be recorded for discussion at the next meeting with the job superintendent.
    e) Administrative matters not contributing to safety are not appropriate topics to be discussed at safety meetings.
    f) A record should be maintained containing the subjects presented or discussed.

4. Subjects for the safety meetings may come from:

a) The insurance carrier
b) Local safety council
c) General Building Contractors of New York State
d) OSHA regulations
e) Fire department
f) Supervisors / Employees
g) Recent incidents
h) The customer
i) Consultant

Safety meetings shall consist of at least one mandatory toolbox talk and it is suggested to do an MSDS as well.

9. Posting Requirements

The following documents shall be posted in a location readily visible to all employees (i.e., inside job trailer, inside lid of a gang box, etc.):

1. OSHA
   a) A poster illustrating industry standard crane hand signals must be posted if any crane or hoisting activities are being performed.

   b) OSHA requires the OSHA 300A form to be posted from February 1 through April 30 each calendar year.

   c) The OSHA Workplace Poster. OSHA Document 3165 (new version) or 2203 (old version), both are acceptable.

2. State
   a) Employment of Minors, including Schedule of Permitted Hours.

   b) Fair Employment and Discrimination laws.

   c) Minimum Wage information.

   d) Notice of Compliance of Workers' Compensation Benefits.

   e) Notice of Unemployment Insurance

   f) Construction Industry Fair Play Act.

   g) Criminal Convictions Records (Article 23-A).

   h) No Smoking / Clean Indoor Air Act.

3. Federal
   a) Occupational Safety & Health Act.

   b) Federal Minimum Wage Notice.

   c) Employee Polygraph Protection Notice.

   d) Equal Employment Opportunity Commission Discrimination.

   e) Family and Medical Leave Act.

   f) Fair Labor Standards Act.

   g) Uniformed Services Employment and Reemployment Rights Act (USERRA).

h) Davis-Bacon Act (if job is federally funded).

i) Notice to Employees Working on Government Contracts.

j) Notification of Employee Rights Under Federal Labor Laws (NLRA).

k) Right to Know.

JOB SAFETY & HEALTH PROTECTION

The Occupational Safety & Health Act of 1970 provides job safety and health protection for workers by promoting safe and healthful working conditions throughout the Nation. Provisions of the Act include the following:

EMPLOYEES:

You have the right to notify your employer or OSHA about workplace hazards. You may ask OSHA to keep your name confidential.

You have the right to request an OSHA inspection if you believe that there are unsafe and unhealthful conditions in your workplace. You or your representative may participate in that inspection.

You can file a complaint with OSHA within 30 days of retaliation or discrimination by your employer for making safety and health complaints or for exercising your rights under the OSH Act.

You have a right to see OSHA citations issued to your employer. Your employer must post the citations at or near the place of the alleged violation.

Your employer must correct workplace hazards by the date indicated on the citation and must certify that these hazards have been reduced or eliminated.

You have the right to copies of your medical records or records of your exposure to toxic and harmful substances or conditions.

Your employer must post this notice in your workplace.

You must comply with all occupational safety and health standards issued under the *OSH Act* that apply to your own actions and conduct on the job.

EMPLOYERS:

You must furnish your employees a place of employment free from recognized hazards.

You must comply with the occupational safety and health standards issued under the *OSH Act*.

10. Employee Exposure Assessment Program

PURPOSE

To provide guidelines for determining employee exposure when performing operations that produce fumes, mists, gases, vapors, airborne dust, etc.

Responsibilities of Management:

1. Identify operations and tasks that produce airborne contaminants by utilizing instrumentation and/or by reviewing Material Safety Data Sheets for those products and materials. Contact suppliers, associations, consultants, and other resources that may provide additional information. Ensure all safety procedures are implemented according to applicable standards.

2. Develop a list that identifies all operations and tasks that produce airborne contaminants, the type of contaminant and the expected level of the contaminant in air.

3. Incorporate engineering improvements and/or personal protective equipment to reduce exposures to airborne dusts, fumes, mists, gases, vapors, etc., as identified in the list making sure all engineering controls are utilized prior to the use of respiratory protection.

4. Provide training programs and instructions for all contaminants, engineering improvements, and/or personal protective equipment identified in the list.

SUPERVISORY:

1. Superintendents, supervisors, or group leaders are responsible for training personnel about the list of airborne contaminants, engineering improvements, and/or personal protective equipment.

2. They are also responsible for requesting measurement and evaluation of any new job or material for inclusion on the list of airborne contaminants, including engineering improvements and/or personal protective equipment.

11. OSHA Recordkeeping Requirements

What work-related injuries and illnesses should you record?

Record those work-related injuries and illnesses that result in:

- death;
- loss of consciousness;
- restricted work activity or job transfer, or
- days away from work;
- medical treatment beyond first aid

* You must also record any significant work-related injury or illness that is diagnosed by a physician or licensed health care professional. You must record any work-related case involving cancer, a chronic irreversible disease, a fracture or cracked bone, or a punctured eardrum.

Medical Treatment

Medical Treatment includes managing and caring for a patient for the purpose of combating disease or disorders. The following are **NOT** considered medical treatments and are **NOT** recordable:

- visits to a doctor or health care professional solely for observation or counseling;
- diagnostic procedures, including administering prescription medications that are used solely for diagnostic purposes; and
- any procedure that can be labeled *First Aid (see below)*.

First Aid

If the incident required only the following types of treatment, consider it first aid and **DO NOT** record the case:

- using non-prescription medications at non-prescription strength;
- administering tetanus immunizations;
- cleaning, flushing, or soaking wounds on the skin surface;
- using wound coverings, such as bandages, BandAids™, gauze pads, etc., or using SteriStrips™ or butterfly bandages;
- using hot or cold therapy;
- using any totally non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc.;
- using temporary immobilization devices while transporting an accident victim (splints, slings, neck collars, or back boards).
- drilling a fingernail or toenail to relieve pressure, or draining fluids from blisters;
- using eye patches;
- using simple irrigation or a cotton swab to remove foreign bodies not embedded in or adhered to the eye;
- using irrigation, tweezers, cotton swab or other simple means to remove splinters or foreign material from areas other than the eye;
- using finger guards;
- using massages;
- drinking fluids to relieve heat stress.

Recording the number of days away from work or restricted work activity

You count the number of days an employee was on restricted work activity or was away from work as a result of a recordable injury. Do not count the day the injury/illness occurred, begin counting the day after. Count all days including weekends up to 180 days, then stop counting.

Forms

300	*Log of Work-Related Injuries and Illnesses*
300A	*Summary of Work-Related Injuries and Illnesses* (for posting only)
301	*Injury and Illness Incident Report*

Injury and Illness Report

An OSHA 301 *Injury and Illness Report* is required to be filled out for each recordable case within 7 days after you receive information that a recordable injury or illness has occurred. However, a workers comp accident report or other form may be substituted provided it contains all the information requested on the OSHA 301.

Posting Requirements

2002

Post Your *OSHA 200 Log* with recordable injuries from 2001, February 1-28, 2002

2003 and after

Post your *OSHA 300A Summary* February 1 through April 30 of the year following the year covered by the form (3 month posting requirement)

NOTE: OSHA 300 forms are required to be kept for each establishment occupied by a company. By OSHA's definition, a construction project expected to operate for a year or more is considered an establishment and must maintain its own OSHA 300 log and post its own OSHA 300A Summary.

12. Accident Investigation

Purpose

An accident investigation is necessary in order to determine the cause or causes of an accident. The investigation will enable ADAMS WALLKILL, LLC to take the appropriate measures to prevent similar situations from reoccurring and to protect our interests in case of litigation. All accidents will be investigated including "near miss" incidents. The difference between an accident and a near miss is often a matter of chance.

When Is An Accident Investigation Conducted?

An accident investigation is conducted as soon as possible after the incident, while the details are still clear in the minds of the parties who observed or who were involved in the accident. As time passes by after the incident, it becomes more difficult to accurately obtain facts, and conditions that may have caused the accident may have changed. A prompt, thorough investigation is crucial so the possibility of another accident due to the same faulty procedures or conditions is minimized.

Accidents generally are not caused by a single factor, but rather are the result of several conditions or actions. The purpose of the accident investigation is to gather information which can improve the safety and health conditions in the work environment.

Accident Investigations

An Accident Investigation Report should be used to document the investigation. Consideration must be given to the types of equipment that may be needed to conduct an accident investigation. It is important that this equipment is available so if an accident occurs the tools needed to do a thorough investigation are in place.

Investigation Procedures

1. First aid or medical care: The first priority in an accident is to provide first aid or medical care for the individual(s) injured. The next of kin should then be notified that an accident has occurred.

2. Reporting accidents: Report serious accidents by telephone immediately to the main office.

3. Documenting the scene: It is important to record the scene of the accident as it exists after the accident. The area should be isolated and restricted to authorized persons. Photographs should be taken and sketches drawn. When photographing the accident scene, make sure the camera is equipped with a flash, if needed, and that proper film speed is being used. A description of the photograph should be put on the back of the picture taken as well as the name of the person who took the picture.

4. Evidence preservation: Conditions change rapidly due to factors such as weather conditions or the necessity to make the area suitable for work to resume. The area must be blocked off from unauthorized personnel until the accident investigation is completed.

5. Notes on physical conditions: Notes should be taken on physical conditions that may have contributed to the accident. Information such as poor housekeeping, surface conditions of roadways/walkways, poor visibility, traffic, weather, defective scaffolding, etc., should be recorded.

6. Vehicles: If the accident involved vehicles, measure distances and plot locations of the vehicles, skid marks, equipment, barricades, etc.

7. Injury type: Note the location and type of injury that occurred. The location of the injury would be left forearm, right thumb, lower back, etc.

8. Other notes: Notes should be taken as to where on the project the accident happened and at what time it occurred. Additional notes should be taken on any other related factors.

9. Notification of agencies: As required by regulation, local and federal agencies should be notified. In the event of a fatality or catastrophe (an incident resulting in the hospitalization of three or more employees) OSHA must be notified within eight hours.

10. Interviewing employees/public: Employees or public who witnessed or were involved in the accident should be interviewed. Interviews should be held in the presence of others for verification purposes. Get all sides and interview as many witnesses as possible. Questions such as what activities were being done, method used, position of equipment and personnel, and any other unsafe acts observed should be asked. Ask witnesses to provide a detailed written statement to document what he/she observed. Obtain the names, social security numbers, license numbers, addresses, phone numbers, and insurance carriers of all witnesses.

11. Investigate employee training: Investigate if hazards and the appropriate safe work practices related to the accident were covered with the employee(s) involved in the incident through orientation, tool box talks, or by other means. Be sure to document any training that was provided that was applicable to work being performed when the accident occurred.

12. Physical and mental condition: Consider physical and mental conditions that may have contributed to the accident. Conditions such as blacking out, drugs or alcohol, medication, and other conditions should addressed.

13. Maintain contact: Maintain contact with the injured party and their family.

14. Request copies of reports: If the police, emergency rescue squad, or the fire department are on site as a result of the accident, request a copy of their reports. They usually conduct an investigation and information they obtained may be helpful.

15. Information pertaining to the accident: Information pertaining to the investigation should not be provided to anyone (except OSHA, with prior approval from main office). All other interested parties who request information concerning the accident should be informed that an investigation is being conducted and that no information will be available until the findings have been made. **Note:** The main office must authorize the release of any information pertaining to an accident that occurred at a ADAMS WALLKILL, LLC jobsite.

16. Litigation: If an accident occurs that is of a serious nature, the accident may end up in litigation. It is important that the investigation be done correctly and documented. If technical matters are involved in the accident in which you do not have sufficient expertise, you should seek the assistance of a specialist.

Interviewing

The interviewer must be complete, correct, and ask pertinent questions. It is important to listen carefully to the person being interviewed and to record all information that is given. The purpose of the interview is to obtain a comprehensive and accurate account of all pertinent information that relates to the accident under investigation. The interview must be conducted in a professional manner and the person interviewed should be encouraged to describe the accident as they observed it. There are simple questions that should be asked when conducting an interview. These questions are who, what, when, where, how, and why the accident occurred.

Interviews may be the primary source of information in an accident investigation. The interview must be conducted in a thorough and efficient manner. Guidelines for accomplishing a high quality investigation are as follows:

1. Know where the interview is going to lead. If possible, prepare in advance.

2. Make sure you have an understanding of the equipment or process involved in the accident. This demonstrates knowledge and enables you to ask suitable questions.

3. Schedule interviews to allow for enough time at each interview to ask all questions.

4. Interviews should be held in private so there are no distractions. This allows you to focus your attention on what the interviewee has to say concerning the accident.

5. Be careful not to be overbearing in the tone of your voice or your mannerisms. When speaking to the interviewee use language that the employee can understand.

6. Remember that the purpose of the interview is to obtain information. If possible, avoid asking questions that suggest an expected answer or can only produce an answer of yes or no.

7. Keep control of the interview and let the person being interviewed talk. Keep the conversation from getting away from the subject at hand.

8. If you are interviewing witnesses, let the person describe what they observe your questions?. After they have given their description, ask your questions and record both versions. Do not ask leading questions. Allow the individual(s) to tell their own story.

9. Avoid using generalizations. Be specific

10. Evaluate the evidence. Check what witnesses say with the conditions you observed at the accident scene. Investigate all clues and do not overlook any aspect of the accident.

11. Stress that you are not looking to place blame on someone but are seeking the cause to prevent a reoccurrence.

12. Close the interview in a courteous manner. Make sure what was said during the interview was recorded and have the statement signed by the person being interviewed. Encourage the person to contact you if any other information concerning the accident comes to mind.

Analyzing the Testimony

When analyzing the testimony, remember that the individuals interviewed are human and are capable of being mistaken or misleading, exaggerating, or withholding information. The investigator should determine how much valid factual evidence exists and how much of the testimony is conflicting. Only substantial testimony should be relied upon when determining the cause of the accident.

Documentation

1. If the owner of the property where the accident occurred is against the taking of photographs/video, conduct the investigation without their use and document the owner's request.

2. Prior to taking any pictures/video, determine if the accident scene has been altered for rescue purposes or for any other reason. If the area has been changed since the accident, note what alterations were done and the individual's name and social security number referencing the change.

3. When taking pictures it is beneficial to incorporate a scale for the picture to indicate vertical or horizontal dimension. Obviously this is not always an option, but should be done if possible. A ruler or tape measure will suffice.

4. After developing the photographs, the following information should be attached to or written on the back of each picture:
   a) Employer's name and address.
   b) Location on the jobsite in which the accident occurred.
   c) Month, day, time, and year picture was taken.
   d) A description of what the photograph is identifying.
   e) Signature and social security number of the person who took the picture.

Correction Procedures

Determining the cause or causes of an accident or incident is important to prevent similar occurrences from taking place in the future. Once root causes of an accident are identified, a training session will be held to implement new procedures and/or to provide awareness training to all appropriate field, yard, and management staff.

Completed accident reports, correspondence, and subsequent training attendance sheets which indicate what training was performed must be filed with the main office.

Jobsite Accident Report

Project

Job Name:		Job Phone:			
Street Address:					
City:		State:		Zip:	

Incident Information

Date and Time of Incident:		Location:	
Incident information provided by: (Name, company, date)		Superintendents Name:	
Description of Incident and Known Injuries:			

Injured Person:

Name of Injured:		SSN:		Birth date:	
Street Address:					
City:		State:		Zip:	Phone:
Taken to medical facility: Yes No		If Yes, by whom:			
Name and Address of Medical Facility:					
Job Title:		Years With Company:		Supervisor:	
Employer:		Phone Number:			

Was a written statement provided by injured: YES NO Was written statement filed properly: YES NO
Was a verbal statement provided by injured: YES NO Was statement documented: YES NO

Witness

Name:		Phone Number:			
Street Address:		SSN:			
City:	State:		Zip:	Employer:	

Was a written statement provided by witness: YES NO Was written statement filed properly: YES NO
Was a verbal statement provided by the witness: YES NO Was statement documented: YES NO

Witness

Name:		Phone Number:			
Street Address:		SSN:			
City:	State:		Zip:	Employer:	

Was a written statement provided by witness: YES NO Was written statement filed properly: YES NO
Was a verbal statement provided by the witness: YES NO Was statement documented: YES NO

Witness

Name:		Phone Number:			
Street Address:		SSN:			
City:	State:		Zip:	Employer:	

Was a written statement provided by witness: YES NO Was written statement filed properly: YES NO
Was a verbal statement provided by the witness: YES NO Was statement documented: YES NO

Use additional accident report sheets provided for any additional information pertaining to the accident.

Accident Report Sheet

Project

Job Name:		Job Phone:			
Street Address:					
City:		State:		Zip:	

Incident information provided by: (Name, company, date)
Date and Time of Incident:
Description of incident:

13. Jobsite Safety Inspections

Frequent and regular jobsite safety inspections are an important part of an effective safety program. In addition to the inspection responsibilities of jobsite superintendents outlined below, representatives of ADAMS WALLKILL, LLC, ADAMS WALLKILL, LLC's insurance carriers, and professional safety consultants may also perform jobsite inspections.

Jobsite Superintendent Inspection Responsibilities

The job superintendent shall perform routine inspections on his jobsite. If the job superintendent is unavailable, a competent person who is familiar with the inspection process may be designated to conduct the inspection.

During the inspection, pre-planning should be done with subcontractors to discuss what safety requirements must be met to perform upcoming construction activities. The pre-planning process is important to address safety hazards prior to employee exposure. In cases where there are questions as to what safety measures are needed, the superintendent should contact the main office. Available resources will be utilized to identify what safety measures will be taken to ensure employee safety.

Frequency

All jobsites must be inspected by the superintendent at least once a week. The frequency of inspections may be increased as the job progresses, for specific areas of a job, or for special critical work.

Documentation

Superintendent will complete the Jobsite Inspection Checklist at the conclusion of each weekly inspection. A copy of the form, which must include any disciplinary action taken against employees, should be forwarded to the main office. Letters sent to subcontractors due to violations observed during a jobsite inspection must include a copy of the safety inspection form describing the violation.

Corrective Actions

If any concerns are observed during the inspection they must be immediately addressed and corrected. Safety violations must be corrected so the operation is performed in a safe manner. The employee(s) should be informed of what the violation is and made aware of acceptable methods. The consequences for repeat or serious safety violations also need to be addressed with the employee(s). If there is a person or party responsible for any observed concern(s), that information must be documented on the inspection report form.

Jobsite Inspection Checklist

Site:	Superintendent:
Inspector:	Date:

This checklist is to be used during weekly jobsite safety inspections. Check off the items below where employees' activities and jobsite conditions are in compliance with OSHA's and jobsite safety standards. Items which are not in compliance should be explained on the bottom of this page along with a description of abatement measures taken to correct any problems. Also indicate if any disciplinary action was taken as a result of safety infractions.

General	**Check**
Work areas are free of debris. Good housekeeping exists at the jobsite.	
Mandatory posting requirements are provided at a the jobsite trailer.	
Company safety program, hazard communication program, and MSDS's are provided at trailer.	
Hazardous chemical list is complete and up to date. List is posted at the jobsite trailer.	
Safety program, hazard communication program and MSDS's of subs are provided at jobsite trailer.	
All XYZ employees have participated in a weekly tool box talk.	
Emergency phone numbers are posted.	
No suspect materials have been encountered.	
Personal Protective Equipment	
Hard hats are being worn by all employees	
Safety glasses	
Ear protection provided	
If a respirator is used, was the employee medically evaluated and fit tested within the last year?	YES NO NA
Protective clothing and equipment provided as per MSDS's or task being performed.	
Fire Protection	
Safety cans are used to store gasoline. Plastic can for gasoline storage is prohibited.	
A fire extinguisher is provided for every 3000 sq. ft of protected building.	
Fuel storage areas are provided with an extinguisher rated 20-B:C or greater.	
Burn permits up to date where necessary	
Propane is not stored inside. Hose are not exposed to damage.	
Propane storage areas have "no smoking" signs posted and are barricaded by highly visible fence.	

Welding and Cutting	**Check**
Fuel gas tanks are labeled, gauges and hoses are free of defects.	
If arc welding activities are being performed, screening is provided to shield arc	
When being stored, oxygen cylinders are separated from combustible cylinders and material by 20 ft.	
Electric	
3- wire construction grade cords are being used that are free of damage or defects.	
Ground fault circuit interrupters are provided.	
Panel boxes are provided with a cover. No knockouts or blanks are missing from panel.	
If overhead power lines exist, have measures been taken to address the hazard.	
Scaffolding	
Does a competent person exist.	YES NO NA
Safe access is provided to all working levels.	
Guardrails are provided on working levels 10 ft. or more in height.	
Bases are provided on scaffold frame legs and mud-sills (2x10 minimum) are provided.	
Working platforms are fully planked.	
Scaffolds are anchored properly.	
Guardrails are maintained at loading areas.	
Fall Protection	
Guardrails provided and structurally sound.	
Floor holes covered, secured, and labeled "hole" or "cover".	
Fall arrest systems properly implemented.	
Upcoming fall hazards addressed and planned for.	

Jobsite Inspection Checklist

Site:	Superintendent:
Inspector:	Date:

Tools	**Check**
Guards are provided for tools. Guards are not being secured in the up position.	
Tools being used are free of damage or defects and the Proper tools is being used for the job.	
Operators of powder-actuated tools have a card indicating they have been trained in its use.	
Motor Vehicles and Heavy Equipment	
Operators are wearing seat belts unless no roll over protection is provided.	
Operators of lulls, JLG's, and similar equipment are certified by their employer as an operator.	YES NO NA
Backup alarms, horns, brakes are operational	
Cranes	YES NO NA
Crane operator is licensed with New York State	
Crane inspections are performed by the operator daily. Inspection information is on-site.	
Monthly state inspections are being performed and the annual federal inspection is complete.	
Accessible areas within the swing radius of the crane is barricaded to prevent employee access.	
An illustration of ANSI hand signals is posted at the jobsite.	

Excavations	**Check**
Underground installations accounted for by contacting Dig Safe–811, www.digsafelynewyork.com	YES NO NA
A competent person for excavations is on site.	
Daily inspections are being performed by a competent person.	
Excavation or trench is free of water, if not, are measures being taken to address and correct hazard.	YES NO NA
Safe egress is provided from the excavation and travel distance to a ladder does not exceed 25 ft.	
Trench is sloped or shored properly as per the soil type.	
Trench box is being used properly and employees are working inside protected areas.	
Ladders	
Ladders used to access an upper level extend 3 ft. past that level and are secured from movement.	
Portable extension ladders are used at an ratio of 4 : Vertical to 1:Horizontal.	
Step ladders are not being used in the closed position.	
The top step or top of step ladders are not being used to work from.	
Ladders used as designed. Planks are not supported at both ends by ladders to create a work platform.	

Comments:_____

14. Handling OSHA Inspections

Purpose

To outline a procedure for the management of OSHA inspections on ADAMS WALLKILL, LLC projects. Additionally, this program will provide the foreman with the information needed to handle an OSHA jobsite inspection in the event that a representative from ADAMS WALLKILL, LLC's main office is unable to accompany the Compliance Safety and Health Officer (CSHO) during the inspection process.

Reasons For an OSHA Inspection

There are a number of reasons why a worksite may be selected for an OSHA inspection, including the following:

1. *Fatality or Catastrophe:* OSHA received a report of a fatality or catastrophe (an accident involving the hospitalization of three or more employees), both of which are required to be reported by the employer to OSHA, or an imminent danger situation is reported.

2. *Formal Complaint:* OSHA receives a formal (written) complaint filed by an employee or employee representative that addresses unsafe workplace conditions.

3. *Informal Complaint:* OSHA sent the company a letter asking it to respond to allegations of a hazard made in an informal (unwritten) employee complaint and the company failed to respond.

4. *Referral:* A referral has been made by another government agency concerning unsafe conditions at the jobsite. Referrals can be generated from government personnel, such as building inspectors, district attorneys, and emergency response personnel. Publicized accidents or accidents that result in contact with public emergency agencies may considered as referrals and lead to an OSHA inspection.

5. *Programmed:* Your jobsite has been selected at random by OSHA from information obtained from Dodge reports for an inspection.

6. *Follow-Up Inspection:* OSHA conducts a follow-up inspection to confirm that violations noted in previous inspections or items to be corrected as a result of a settlement agreement with OSHA have been abated.

7. *Special/Local/National Emphasis Programs:* OSHA conducts an inspection due to any one of these OSHA emphasis programs.

Procedure

When OSHA arrives on site, the compliance officer will locate the designated point of contact (foreman) and present his/her credentials. The OSHA compliance officer should be invited into the job trailer. The foreman should inform the compliance officer that a representative from the main office must be contacted to accompany OSHA during the walkthrough. Request a delay of the inspection until a company representative is on site or has had an opportunity to speak to the compliance officer. Be polite with your requests and make sure the compliance officer understands that you are following a company policy requiring a representative from the main office be present during inspections and that the request is not a delay tactic.

In the event no one from the main office is able to accompany the compliance officer during the walkthrough, the foreman will be required to handle the inspection. The procedures for handling an inspection should be fully understood by the foreman.

Opening Conference

An inspection begins with an opening conference. During this conference the appropriate information shall be documented on the OSHA Inspection Management Form. The objective of the opening conference is to provide affected employers and employees with an explanation of the scope and purpose of the inspection and how the inspection will be conducted. The compliance officer is required to inform the employer of what type of inspection will be conducted. Inspection types include:

- General scheduled inspection;
- Fatality/catastrophe investigation;
- Complaint investigation;
- Referral inspection;
- Special emphasis inspection; and
- Abatement (follow-up) inspection.

The compliance officer will request background information to fill out their inspection report, which includes:

- Jobsite name and address;
- Corporate office address and telephone number;
- Number of employees;
- Accident and illness information (form 200); and
- Names of employees and employee representatives.

If an inspection results from a formal employee complaint, the employer will receive a copy of the complaint from the OSHA compliance officer at the opening conference. Copies of the complaint should be furnished as follows:

- Copy of every complaint to the general contractor;
- Copy of every complaint against the general contractor to all subcontractors whose employees are exposed to the alleged hazards; and
- Copy of every complaint against a subcontractor to that subcontractor and to others whose employees are exposed.

If the compliance officer does not offer a copy of the complaint, the foreman should request it. If none is provided, inform OSHA that company policy requires a copy of the complaint be provided before granting an inspection. Inform the compliance officer that you will be happy to grant an inspection upon receiving a copy of the formal complaint.

The Inspection

It is very important that during the opening conference you find out why the inspection is being conducted and what the scope of the inspection will cover. For a focused inspection, please refer to the attached document.

Inspections conducted due to alleged imminent danger and complaint inspections should be limited to the area of the alleged violative condition and fatality/accident investigations should be limited to the area of the accident. An expanded inspection may be done if the inspection record of the employer indicates a history of significant violations or other legitimate reasons. An expanded inspection in this case requires authorization by the OSHA Area Director.

Referral inspections should be limited to the specific items addressed in the original inspection.

Special emphasis inspections should be limited to the areas covered by the program.

NOTE: The compliance officer should be limited to inspect only the areas addressed during the opening conference. The foreman should request another opening conference to explain any inspection activities that reach beyond the scope of the original inspection.

The Walkaround

A representative from the main office or the foreman will accompany the compliance officer during the walkaround. As discussed, it should be clearly understood from the beginning which areas the compliance officer intends to inspect. These areas are the only areas that the compliance officer should be allowed to inspect. If work is not being performed in certain areas, inform the compliance officer that these areas are inactive. Do not leave a compliance officer unattended and do not volunteer any extra information or expand the scope of the inspection. Anything that is said during the walkthrough could help the compliance officer prove a violation exists.

The compliance officer is required to follow all safety rules as detailed in ADAMS WALLKILL, LLC's Safety Program. This includes requiring proper personal protective equipment. If the compliance officer can not comply with ADAMS WALLKILL, LLC's rules and regulations, you should insist compliance to further prove the company's commitment to safety and health.

Do not allow the compliance officer to interfere with production activities unless those activities are endangering the employee(s).

If a violation is mentioned by the compliance officer, diplomatically demand a means or method of abatement. Get technical and ask questions about the compliance officer's background in each apparent violation. It is the compliance officer's responsibility to know how to abate the alleged violation. If there are any undisputed violations pointed out during the walkaround, they should be corrected immediately, if possible. This shows good faith and may help in future negotiations with OSHA. Do not admit any fault when taking corrective actions.

If a compliance officer feels a violation exists, do not argue but politely disagree with an interpretation and try to convince the compliance officer to understand and accept your point of view. Once a citation is issued, it is difficult to get it withdrawn.

During the inspection, the compliance officer is authorized to talk to employees about working conditions. You cannot forbid your employees to talk to the compliance officer but you are within your rights to inform employees that they are not required to talk to OSHA.

The compliance officer may use a video camera or a camera to document violations. A camera should be used to take the same photographs the compliance officer takes from the same angle at the same time. After the inspection, additional photos may be taken from different vantage points which may offer some insight into OSHA's case if citations are issued.

Closing Conference

At the conclusion of the inspection, the compliance officer will hold a closing conference to inform all contractors of alleged violations. The violations should be described and the appropriate section of the standard violated should be indicated. The compliance officer should inform you if there will be a referral to another compliance officer to check on potential violations outside his/her expertise. Ask for a copy of the compliance officer's notes from the inspection. The compliance officer is not required to provide these notes but your request may be honored.

Immediately after the compliance officer leaves the jobsite, document your point of view about the alleged violations. Take additional pictures from different vantage points and obtain written statements from employees. If any employee(s) were interviewed by OSHA during the inspection, re-interview those employees and document what was discussed.

OSHA Inspection Report Form

Project:_____Foreman:_____

Address:_____

Compliance Officer (CSHO) Information:

Name:_____CSHO#:_____

Office:_____Phone Number:_____

Area Office:_____Foreman:_____

Address: _____

Arrival Time:_____Date:_____

First Person Contacted:_____

Was the compliance officer asked to wait for the arrival of a company representative?
Yes___ No____

If Yes, did the CSHO wait for the arrival of a company representative? Yes___No____

Explain: _____

_____

Was an opening conference held to discuss the reason for the inspection? Yes___No____

List those present at the opening conference:

Name:	Company:
_____	_____
_____	_____
_____	_____
_____	_____

Route copies of this report to:
□ President □ Vice President □ Area Safety Director □ Insurance Carrier

Reason for Inspection

Complaint: _____ Fatality: _____ Accident: _____ Referral: _____
Program: _____ Follow-Up: _____ Other: _____

Walk-around Attendees

Name:	Company:
_____	_____
_____	_____
_____	_____
_____	_____

Was a camera or video used by the CSHO officer to document the walkthrough?
Yes___ No____

Were any pictures taken of the alleged violation by an employee of ADAMS WALLKILL, LLC?
Yes___ No____

If pictures were not taken, explain why:_____

_____

_____

_____

List Employees Interviewed during the inspection:

Name:	Company:
_____	_____
_____	_____
_____	_____
_____	_____

Describe what was discussed at the closing conference:_____

_____

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Report completed by: _____ Date: _____

USE ADDITIONAL PAGES IF NECESSARY.

MAKE SURE TO DOCUMENT EVERYTHING.

15. Jobsite Safety Rules

General Safety Rules

1. Safety related tools and/or equipment must be available, used, and maintained to ensure work is performed in a safe manner. OSHA Standards govern what safety tools and/or equipment are required when performing any operation. Where appropriate, jobsite safety requirements may exceed applicable OSHA Standards. In these circumstances, employees are required to follow the jobsite safety requirements.

2. Report unsafe conditions to your foreman.

3. The use, possession, or sale of alcohol or illegal drugs is prohibited.

4. If asbestos, lead, PCBs or other potentially hazardous materials are encountered during operations, stop work immediately and notify a supervisor.

5. Be aware of the jobsite emergency response plan. Know the alarm signals, evacuation routes, and locations of emergency numbers.

6. All injuries, no matter how minor, must be immediately reported to the foreman.

7. Near miss incidents must be reported to the foreman as soon as possible.

8. Do not enter barricaded areas and obey all warning signs.

9. Proper clothing must be worn at all times on site.

10. Always remove nails from scrap lumber before stacking.

11. Do not stand under or beside suspended loads.

12. Horseplay of any kind is forbidden.

13. Firearms and weapons are forbidden.

14. **THINK SAFETY FIRST**

Scissor Lifts

1. Only authorized and trained personnel may operate the lift.

2. Never exceed boom and basket load limits. Capacity will be identified on the lift.

3. Guardrail system on the lift must be maintained and the gate or chain opening used to access the equipment must be in the closed position.

4. Do not stand on the scissor lift midrail or toprail. Employee's feet must remain on the platform of the equipment.

5. Lift brakes shall be set and when outriggers are used, shall be positioned on pads or a solid surface.

6. Upper and lower controls must be provided and employees working from the lift must be familiar with operating them.

7. Lifts can only be moved with an employee if the equipment was designed for that use.

8. Modifications of scissor lift must not occur unless approved by the manufacturer.

9. Harnesses are not required when working from a scissor lift.

Boom Lifts

1. Employees working from boom lifts must be provided with and wear a full body harness and lanyard attached to the anchor point provided in the boom lift basket.

2. Only authorized and trained personnel may operate the lift.

3. Never exceed boom and basket load limits. Capacity will be identified on the lift.

4. Guardrail system on the lift must be maintained and the gate or chain opening used to access the equipment must be in the closed position.

5. Do not stand on the scissor lift midrail or toprail. Employee's feet must remain on the platform of the equipment.

6. Lift brakes shall be set and when outriggers are used, shall be positioned on pads or a solid surface.

7. Upper and lower controls must be provided and employees working from the lift must be familiar with operating them.

8. Lifts can only be moved with an employee if the equipment was designed for that use.

9. Modifications of scissor lift must not occur unless approved by the manufacturer.

Personal Protective Equipment

1. Approved hardhats (not bumpcaps), in good condition, must be worn at all times.

2. Metal hard hats must never be worn near energized overhead power lines or other high voltage sources.

3. ANSI Z 87.1 approved eye protection must be worn whenever operations present potential eye or face injury from physical, chemical, or radiation agents.

4. Additional protection such as face shields and goggles must be worn while performing high hazard tasks including grinding, chipping, overhead drilling, and working with caustics.

5. Gas and electric welding and cutting requires the use of burning goggles or a welder's hood with lenses having the proper color density.

6. Ear protection must be worn in high noise-level areas and when using certain tools and equipment.

7. Approved work boots or proper footwear as designated by specific jobsite requirements must be worn at all times.

8. Where needed, work gloves, in good condition and suitable for the task to be performed, must be worn.

9. Respirators are required in certain areas and while performing certain types of work. If you are required to wear a respirator you must be part of ADAMS WALLKILL, LLC's respiratory protection program.

Housekeeping

1. Materials must be kept in neat stockpiles for easy access. Aisles must be kept clear of loose materials, tools, cords, and waste.

2. Remove waste from site on a frequent basis and dispose of it in a suitable manner. Failing to maintain a clean work area will not be tolerated and means will be taken to correct the condition.

3. Protruding nails must be removed from material and forms. Stack clean lumber in orderly piles.

Tools

I. Hand Tools

- A. Every tool is designed for a certain job and must only be used for that purpose.
- B. Keep tools in peak condition. Worn tools are dangerous.
- C. Don't force tools beyond their capacity or use cheaters to increase leverage.

II. Power Tools

- A. Do not use power tools unless you are completely familiar with them.
- B. Before using a power tool, examine it for damaged parts, loose fittings, frayed or cut electric cords. Tag and remove defective tools from service.
- C. Do not use tools with improper or damaged guards, or with guards removed.
- D. When using power tools make sure Ground Fault Circuit Interrupter Protection (GFCI) is provided.
- E. Use bits and blades designed to handle the RPM's of the tool in use.

III. Powder Actuated Tools

- A. Only trained and qualified people may use powder actuated tools. Training cards must be provided for employees indicating the training was completed.
- B. Eye, face, and hearing protection must be worn by operators.
- C. Tool must remain unloaded until ready for use. Do not leave loaded tool unattended.
- D. Do not drive fastener into hard or brittle material, or into material it will pass through.

Electrical Safety

1. Ground fault circuit interrupters must be used for electrical tools and equipment. When using an extension cord off permanent power, the extension cord is considered to be temporary power and therefore must have GFCI protection.

2. Examine all cords prior to use. Cords which are frayed, worn, or contain exposed wires must not be used. Damaged cords must be tagged and removed from service immediately.

3. All cords must be of the three-wire type and designed for hard or extra-hard usage. Flat yellow extension cords and Romex extension cords are prohibited.

4. All live electrical installations, such as receptacles, switches, and panel boxes, must be protected by a faceplate or cover. Cardboard is not an acceptable cover.

5. Bulbs used for temporary lighting must be covered by protective cage guards.

6. Cords must be kept clear of walkways and other locations where they may be subject to damage or present a tripping hazard.

7. Protect cords from foot and vehicle traffic, and sharp corners and edges.

8. All electric equipment and materials must be of an approved type.

9. All plugs, outlets, switches, and panel boxes must be installed according to the national electric code. This includes assuring that receptacle boxes are permanently affixed, Romex type NM cable is not used in damp or wet locations, and that temporary wiring is located where it will not be subject to damage.

10. Only qualified workers must be allowed to perform any type of electrical work.

11. All ground fault circuit interrupters must be inspected on a regular basis.

12. Receptacles must be tested for polarity and continuity of the ground. Receptacles whose polarity is reversed or whose ground is not continuous must be tagged out until repaired.

13. Missing knockouts inside panel boxes, on receptacle boxes and on all other equipment containing live parts must be covered or otherwise protected.

Lockout Tagout

⇒ See Lockout-Tagout Program for specific rules and procedures.

1. Locks and tags must be used to prevent operation of a switch, valve, or piece of equipment in cases where someone may get hurt or equipment may be damaged.

2. Never operate any tagged-out piece of equipment.

3. Place your lock personally; never have somebody else do it.

4. Do not remove someone else's tag.

5. All locks and tags must be labeled to identify their owner.

6. Follow all switching and locking procedures to remove a piece of equipment from service.

Material Handling, Storage and Disposal

I. **By Hand**
   - A. Know the weight of any object to be handled. If it is too heavy or bulky, get help.
   - B. Establish firm footing, keep your back straight and lift with your legs. Lift gradually; do not jerk or twist. Reverse the motion when setting the object down.
   - C. Know the weight of the object to be handled, and the capacity of the equipment you intend to use.
   - D. When placing blocks under raised loads, make sure blocking material is large enough to support the load safely. Additionally, ensure that the load is not released until employees have clearly moved away from the load.

II. Storage
   - A. Store materials so as not to block exits, aisles and passageways, and access to fire extinguishers and electrical panels.
   - B. Materials stored in tiers must be secured to prevent sliding, falling, and collapse.
   - C. Materials stored inside must not be placed within 6 feet of any hoistway or inside storage area, or within 10 feet of an exterior wall which does not extend above the materials stored.
   - D. Brick stacks shall not be more than 7 feet in height. Loose brick stacks shall be tapered back 2 feet in every foot above 4 feet level.
   - E. When masonry blocks are stacked higher than 6 feet, measures must be taken to prevent employee exposure. A fence should be provided.

F. Lumber must not be stacked more than 16 feet high if it is handled manually; 20 feet is the maximum stacking height if a forklift is used.

G. Bags and bundles must be stacked in interlocking rows to remain secure. Bagged material must be stacked by stepping back the layers and cross-keying the bags at least every 10 feet.

H. Drums, barrels, and kegs must be stacked symmetrically. If stored on their sides, the bottom tiers must be blocked to keep them from rolling. If stored on end, put planks, sheets of plywood, or pallets between each tier to make a firm, flat, stacking surface.

I. Nails must be removed from used lumber prior to stacking, and from formwork being stripped.

III. Rigging

A. Slings must be inspected before use.

B. Slings and other rigging equipment must be removed from service if damage or defects are visible.

C. Slings must not be shortened with knots, bolts, or other makeshift devices.

D. Slings must not be loaded beyond their rated capacity, according to the manufacturer's instructions.

E. Job or shop hooks and links, or makeshift fasteners, formed from bolts, rods, or other such attachments must not be used.

F. When wire rope clamps are used for eye splices, the U-bolt portion of the wire rope clamp shall be so applied so that the "U" section is in contact with the dead end of the wire rope. The saddle portion of the clamp must be on the live end of the wire rope. Make sure the proper number of clamps are provided for the gauge of wire rope being used. Refer to the diagram on the following page.

LPG Liquified Petroleum Gas

1. Containers must be placed upright on firm foundations or otherwise firmly secured.

2. Storage of LPG within buildings is prohibited.

3. Storage locations must have at least one approved portable fire extinguisher, rated not less than 20-B:C.

4. A "No Smoking" Sign must be posted at LPG storage areas.

5. LPG containers must be separated from oxygen cylinders a minimum distance of 20 feet or by a noncombustible barrier at least five feet high having a fire-resistance of at least one-half hour.

6. Take precautions to protect LPG hoses from damage caused by equipment, tools and employees.

7. Storage of LPG outside of buildings:

a) Propane tanks shall be located away from the building in accordance with the following:

Quantity of LPG Stored	Distance (feet away from building)
500 lbs. or less	0
501 to 6,000 lbs.	10
6,000 to 10,000 lbs.	20
over 10,001 lbs.	25

8. LPG containers stored next to roads or in the areas where vehicles and heavy equipment are in use shall be barricaded or otherwise protected from damage.

Welding & Cutting

I. General

A. You must be instructed in the safe use of welding equipment before using it.
B. Each welder is responsible for containing sparks and slag and/or removing combustibles to prevent fire.
C. All employees engaged in welding and burning operations must use a face shield, goggles, or appropriate welding helmet and welding gloves.
D. No arc or flame welding operation is permitted in areas where the application of flammable paints is taking place or where combustible dust or flammable liquids are present.
E. A suitable fire extinguisher must be located in welding areas at all times.
F. When practical, objects to be welded, cut, or heated shall be moved to a designated safe location or, if the object to be welded, cut, or heated cannot be readily moved, all movable fire hazards in the vicinity shall be taken to a safe place, or otherwise protected.

II. Oxyacetylene Torches

A. All connections must be clean and free from grease and oil.
B. Hoses must not be laid across traffic areas.
C. Where a special wrench is required to operate the acetylene cylinder valve, the wrench must be kept in position on the valve to allow for emergency shutoff.
D. For quick closing, valves on fuel gas cylinders must not be opened more than one and a half turns.
E. Check valves and flash arrestors must be located at the torch.

III. Electric Arc Welders

A. When electrode holders are left unattended, the electrodes must be removed and the holders placed or protected so that they cannot make contact with each other, conductive objects, or people.
B. Arc welding and cutting operations must be shielded by noncombustible or flameproof shields to protect fellow employees from direct arc rays.

C. All welding cable must be insulated completely. Any splices or repairs must have insulation with a resistance equal to or greater than the original insulation. No repairs are permitted within 10 feet of the electrode holder.
D. Insulated boot covers or other suitable protection must be provided to protect terminals where welding cables are connected to arc welder.

IV. Compressed Gas Cylinders

A. Valve protection caps must be in place when compressed gas cylinders are not in use.
B. Cylinder valves must be closed when work is finished and when cylinders are empty or moved.
C. Compressed gas cylinder gauges must be in good working order.
D. Compressed gas cylinders must be secured in an upright position at all times, except if necessary for short periods of time when cylinders are actually being moved or carried.
E. Cylinders must be kept at a safe distance or shielded from welding and cutting operations. Cylinders must be placed where they cannot become part of an electrical circuit.
F. When oxygen cylinders are stored, they must be separated from other fuel gas or highly combustible materials by 20 feet or by a noncombustible barrier (a wall at least 5 feet tall with a half hour resistance).

Stairways & Ladders

I. General

A. A stairway or ladder must be provided at all points of access where there is a change in elevation of 19" or more and no ramp, runway, sloped embankment or personnel hoist is provided.

II. Stairways

A. Stairways shall be kept free of hazardous projections such as nails and screws.
B. Slippery conditions on stairways shall be eliminated before the stairways are used.
C. Stairways greater than 30" high or with four or more risers must be equipped with a stair-rail system along unprotected sides or edges.
D. Stairrail system toprails must be positioned between 36 and 37 inches high (in line with the face of the riser at the forward edge of the tread) and be capable of withstanding a 200 lb. load applied in a downward and outward direction. Midrails must be positioned in-between.
E. Stairways greater than 30" high, or with four or more risers, that do not have an unprotected edge must be provided with at least one handrail. Handrails must be positioned between 36 and 37 inches high as mentioned above. Handrails must maintain a clearance of 3 inches between the inside of the handrail to the wall.

F. A platform must be provided wherever a door opens directly into a stairway. The platform must extend 20" beyond the swing of the door and be protected by a standard guardrail system. This includes doors to field offices and storage trailers.

G. Except during construction, pan treads, stairs, and landings shall be filled with wood or other solid materials, and shall be installed the full width and depth if the stairs are going to accommodate any other foot traffic.

III. Ladders

A. Inspect ladders before use. Ladders with broken or missing rungs, cleats or steps, broken or split rails, or corroded parts must be tagged out and removed from the jobsite immediately.

B. Ladders used to access an upper floor or platform must extend three feet above the upper landing surface.

C. When in position, a ladder must be securely tied at the top to prevent slipping or secured at the base by a fellow employee.

D. Portable ladders must be erected exercising the 4:1 ratio: For every four feet of working length of the ladder, the base will be placed one foot from vertical.

E. The area at the top and bottom of ladders must be kept clear at all times.

F. Always face a ladder when ascending or descending and maintain at least three points of contact with the ladder at all times (example: two feet and one hand).

G. Make sure ladders are free from ice, snow, mud, or other slippery materials before use.

H. Never use a ladder in a horizontal position as a platform or scaffold.

I. A double cleated ladder or two or more separate ladders shall be provided if ladders are the only means of access/exit from a working area of 25 employees, or the ladder serves simultaneously two-way traffic.

J. Ladders shall be used only for the purpose for which they were designed.

K. Ladder rungs shall not be used to support the ends of planks or other similar work platforms.

IV. Step Ladders

A. Do not use ladders in the folded position as a straight ladder would be used. Open the legs and secure the locking mechanism.

B. Do not stand on the top or top step of a step ladder.

C. Step ladders shall be used only for the purpose for which they were designed. Rungs between step ladders shall not be used to support the ends of planks or other similar work platforms.

Hazard Communications

- **See attached Hazard Communication Program for specific information.**

1. Be aware of hazardous chemicals being used on site.

2. Know where the hazard communication program, hazardous materials list and material safety data sheets (MSDS) are maintained on site.

3. Employees shall not work with a material until they have been informed of the hazards they may be exposed to and the steps personnel may take to protect themselves. Be knowledgeable of appropriate work practices, emergency procedures and personnel protective equipment when working with hazardous chemicals and refer to the Material Safety Data Sheet (MSDS) for additional information.

4. Employees shall be willing to share their knowledge of Hazard Communication and of materials with which they work with other employees and officials.

5. Notify your foreman if you bring hazardous materials on site.

6. The integrity of labels on the worksite shall be maintained by all personnel and should contain the chemical name and associated hazards

Fire Protection and Prevention Program

1. Employees shall know where fire extinguishers are located and know how to operate them.

2. Only approved containers and portable tanks shall be used for the storage and handling of flammable and combustible liquids. Refer to MSDS (Material Safety Data Sheet) for approved container type).

3. One 2A rated fire extinguisher shall be present for every 3000 square feet of protected building area. Travel distance to the nearest fire extinguisher shall not exceed 100'.

4. Firefighting equipment shall be conspicuously located.

5. Materials shall not be stored in front of fire extinguishers. Access to fire fighting equipment shall be maintained at all times.

6. Fire extinguishers shall be inspected on a regular basis and serviced annually.

7. No more than 25 gallons of flammable or combustible liquids shall be stored in a room outside of an approved storage cabinet. No more than 60 gallons of flammable or 120 gallons of combustible liquids shall be stored in any one storage cabinet.

8. Flammable liquids shall be kept in closed containers when not actually in use.

9. Conspicuous and legible signs prohibiting smoking shall be posted in service and refueling areas.

Flammable Liquid- Having a flashpoint below 100 Degrees Fahrenheit. (Refer to MSDS)

Combustible Liquid- Having a flashpoint at or above 100 Degrees Fahrenheit. (Refer to MSDS)

Motor Vehicles

I. General

A. Seat belts shall be worn at all times by employees operating or riding on motor vehicles or machinery. (Exception: equipment designed for stand-up operation.)

B. Vehicles used to transport employees shall have seats firmly secured and adequate for the number of employees to be carried. Employees shall not ride on fenders or running boards of equipment.

C. Horns shall be in working order on all bi-directional machinery.

D. Motor vehicle equipment with an obstructed view to the rear shall not be operated unless the vehicle has a reverse signal audible above the surrounding sound or the vehicle is backed up only when an observer signals that it is safe to do so.

E. Operators of all motor vehicle equipment are responsible for the safe operation of their vehicle at all times.

II. Forklift and Lull Operation

Operators of forklifts and Lulls must be certified by ADAMS WALLKILL, LLC to insure they are properly trained to operate the equipment. Employees who operate forklifts or lulls must be part of ADAMS WALLKILL, LLC's Powered Industrial Truck Operator Program. Using a forklift or a lull without being certified by ADAMS WALLKILL, LLC is prohibited.

III. Heavy Equipment Operation

A. Heavy equipment such as backhoes and dump trucks will only be operated by authorized personnel.

B. Unauthorized persons are not permitted to ride in the cabs of heavy equipment.

C. Lower any movable buckets when you stop the vehicle.

D. Always blockout/lockout any movable parts if it is being inspected or having maintenance.

E. Report all operating malfunctions immediately.

F. If the operator's compartment is designated a high noise level area, hearing protection must be worn.

G. Maintenance or repairs must not be done with the engine running.

Cranes

1. Crane usage shall comply with the manufacturer's specifications and limitations where available.

2. As per New York State Code Rule 23, crane operations performed in New York State must have an operator who is licensed with the Department of Labor. Operators must posses a card indicating that they are licensed with the New York State

3. Rated load capacities, recommended operating speeds, and special hazard warnings or instructions shall be conspicuously posted on all equipment. Instructions or warnings shall be visible from the operator's station.

4. Equipment shall be inspected daily by a competent person prior to and during use. A complete inspection must be performed annually. Documentation of daily, monthly, and annual inspections must be available upon request.

5. Accessible areas within the swing radius of the crane shall be properly barricaded.

6. A fire extinguisher rated 5:BC or better must be provided in the cab of the crane.

7. No one is permitted to ride loads.

8. Never operate equipment closer than 2' from the edge of an excavation. Cranes shall not be left near the edge of excavations or in an area that may become unstable.

9. Minimum clearance between power lines rated 50 KV. and below and any part of a crane shall be 10'. For power lines rated greater than 50 KV., the clearance shall be 10' plus 0.4" for every 1 KV. above 50 KV.

10. The operator shall avoid swinging load over workers and bystanders.

11. Taglines shall be used on all loads and shall be insulated to prevent shock.

12. Only one person shall be permitted to give signals to the operator.

NOTE: A copy of the standard hand signals is located on the following page. A copy of these hand signals must be posted at the jobsite trailer.

Concrete And Masonry Construction

1. All protruding reinforcing steel, onto or into which employees could fall, shall be guarded to eliminate the hazard of impalement. Fall protection should be the primary means to preventing an impalement hazard.

2. No employee shall work under concrete buckets while buckets are being elevated or lowered into position.

3. Formwork shall be designed, fabricated, erected, supported, braced, and maintained so that it will be capable of supporting without failure all vertical and lateral loads that may reasonably be anticipated to be applied to the formwork.

4. A limited access zone shall be constructed when a masonry wall is being constructed.

5. The limited access zone shall be established prior to the construction of the wall.

6. The limited access zone shall be equal to the height of the wall to be constructed plus four feet, and shall run the entire length of the wall.

7. The limited access zone shall be established on the side of the wall without scaffolding.

8. The limited access zone shall be restricted to entry by workers actively engaged in constructing the wall. No other workers shall be permitted to enter.

9. The limited access zone shall remain in place until the wall is adequately supported.

10. All masonry walls over 8 feet in height shall be adequately braced unless the wall is supported by other means. The bracing shall remain in place until permanent supporting elements of the structure are in place.

11. Workers shall frequently wash exposed skin to prevent irritation from cement dust.

12. If respirators are used while working, employees must be part of ADAMS WALLKILL, LLC's respiratory protection program.

Sanitation

Potable Water

1. An adequate supply of potable water shall be provided in all places of employment.
2. Potable containers used to dispense drinking water shall be capable of being tightly closed and equipped with a tap.
3. Common drinking cup is prohibited.

Toilets

Toilets shall be provided for employees according to the following table:

NUMBER OF EMPLOYEES	MINIMUM NUMBER OF FACILITIES
20 or less	1 Toilet
20 to 199	1 Toilet Seat and 1 Urinal per 40 Workers.
200 or more	1 Toilet Seat and 1 Urinal per 50 Workers.

Jobsites not provided with a sanitary sewer shall be provided with one of the following toilet facilities unless prohibited by local codes:

1. Privies (where their use will not contaminate ground or surface water)
2. Chemical toilets
3. Recirculating toilets
4. Combustible toilets

Signs and Signals

Signs

Signs and symbols shall be visible at all times when work is being performed, and shall be removed or covered promptly when the hazard no longer exists. The types of signs and their use are as follows:

- *Danger signs*: Danger signs shall be used only where an immediate hazard exists.

- *Caution signs*: Caution signs shall be used only to warn against potential hazards or to caution against unsafe practices.
- *Exit signs*: Exit signs, when required, shall be placed at all exits.
- *Traffic signs*: Construction areas shall posted with legible traffic signs at points of hazard.

Signals

When operations are being performed and signs, signals, and barricades do not provide the necessary protection on or adjacent to a highway or street, flagmen or other appropriate traffic controls shall be provided. Signaling requirements are as follows:

- Signaling directions by flagmen shall conform to ANSI requirements.
- Hand signaling by flagmen shall be by use of red flags at least 18 inches square or sign paddles, and in periods of darkness, red lights.
- Flagmen shall be provided with and shall wear a red or orange warning garment while flagging. Warning garment worn at night shall be a reflective material.

NOTE: Signs, signals, and barricades are to be used to warn and protect employees and the public from jobsite hazards. These warning measures shall remain in place at the end of the workday if the public is exposed to the hazard.

16. Fall Protection

Purpose

To establish fall protection requirements for ADAMS WALLKILL, LLC employees performing work activities on a walking/working surface that is 6 feet or more above lower levels. These requirements do not pertain to ladder use, working from scaffolds, or steel erection activities. These activities have their own fall protection criteria.

Responsibilities

The job superintendent is responsible for making sure that measures are taken to provide for fall protection.

Duty to Have Fall Protection

1. Employees on **walking or working surfaces** in excess of 6' above lower levels shall be protected from falls by one or more of the following:

    a) Guardrail Systems

    b) Safety Net Systems

    c) Personal Fall Arrest Systems (includes harnesses, safety lines, retractable lifelines, anchorage points, etc.)

2. Employees engaged in **leading edge work** 6' above lower levels should be protected by one or more of the systems listed above unless it can be demonstrated that the use of these systems is infeasible or creates a greater hazard. In these circumstances a fall protection plan will be developed to cover the leading edge activities. (See Appendix A)

3. Employees working in **hoist/loading areas** 6' or more above lower levels shall be protected from falls by a guardrail system or personal fall arrest system. If guardrails are used, a removable system is recommended. In some circumstances, both a guardrail system and a personal fall arrest system will need to be utilized to safely perform activities at material handling areas.

4. Employees working on **formwork or reinforcing steel** six feet or more above adjacent levels shall be protected by personal fall arrest systems, safety net systems, or positioning device systems.

5. **Ramps, runways, and** other **walkways** 6 feet or more above lower levels shall be protected by guardrail systems. If multiple planks are used to create a walkway, cleats should be provided to prevent displacement and uneven deflection.

6. **Excavations** six feet or more in depth whose edges are not easily seen shall be protected by guardrail systems, fences, or barricades. If fences or barricades are used they must be positioned at least six feet back from the excavation edge unless they are capable of withstanding the strength requirements for guardrail systems.

7. **Wells, shafts, pits and similar excavations** shall be protected by guardrail systems, fences, barricades or covers. Excavations six feet or more in depth whose edges are not easily seen shall be protected by guardrail systems, fences, or barricades. If fences or barricades are used, they must be positioned at least six feet back from the excavation edge unless they are capable of withstanding the strength requirements for guardrail systems. Covers must meet the requirements provided in the Fall Protection Systems section.

8. **Overhand bricklaying** operations must be protected by guardrail systems, safety net systems, personal fall arrest systems, or shall take place in a controlled access zone. Employees reaching more than 10" below the level on which they are working shall be protected by a guardrail system, safety nets, or fall arrest system.

   Definition: 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 wall during the overhand bricklaying process.

9. **Wall openings** whose inside bottom edge height is 39", and whose outside edge height is six feet or greater shall be protected by guardrail systems, safety nets, or fall arrest systems. Areas such as window openings and door openings leading to a porch area must be checked to ensure fall protection is provided.

10. **Low-slope roofs** with unprotected sides and edges greater than six feet above a lower level shall be protected by guardrail systems, safety nets, slide guards, personal fall arrest systems, or warning line systems in conjunction with a safety monitor. A low slope is a roof having a slope less than or equal to 4 in 12 (vertical to horizontal). See the Fall Protection Systems section for specific requirements.

11. **Steep roofs** with unprotected sides and edges greater than six feet shall be protected by guardrail systems, safety nets, slide guards, or personal fall arrest systems. A steep roof is a roof having a slope greater than 4 in 12 (vertical to horizontal). See the Fall Protection Systems section for specific requirements.

12. Employees engaged in **built-up roofing work** on roofs with a ground-to-eave height greater than 6' shall be protected by one of the following:

    a) Motion Stopping System(s) (MSS) - MSS are fall protection using any one or more of the following: standard guardrails, scaffolds or platforms with guardrails, safety nets, safety harness systems.

    b) Warning Line Systems installed in accordance with OSHA standards.

    c) Safety Monitoring System on roofs less than 50' wide where no mechanical equipment is being used.

13. Employees engaged in **precast concrete erection** at heights greater than six feet shall be protected by guardrail systems, safety nets, or personal fall arrest systems unless the use of these systems is infeasible or creates a greater hazard, in which case a written fall protection plan must be implemented. (See Appendix A)

Floor Holes

1. Floor holes which employees may fall through shall be protected by guardrail systems, covers, or personal fall arrest systems.

2. Floor holes, which employees may trip in or step into shall be protected by covers.

3. Floor holes through which objects may fall shall be protected by covers.

Fall Protection Systems

1. **Guardrail Systems**

    a) Toprails shall be installed between 39 and 45 inches in height and shall not deflect below 39 inches under an outward and downward force of 200 pounds.

    b) Midrails shall be installed midway between the toprail and the walking/working surface. Midrails must be able to withstand 150 pounds of force applied in an outward and downward direction.

    c) If wire rope is used for toprails, it shall be flagged every 6 feet with highly visible materials. Wire rope toprails and midrails shall be at least 1/4" diameter.

    d) If 2x4's are used for guardrails, it is recommended that posts do not exceed 8 feet on center. Lumber used in the construction of guardrails shall be sound and shall not contain large or loose knots. All nails shall be driven in completely. Double-headed nails are not permitted. Using sinker nails or screws is recommended.

    Note: Prior to erecting any guardrail system, consider what height the guardrail should be positioned, taking into account the height of a slab that may be poured. Also consider how access and loading activities will be done so measures can be taken to accomplish these activities in a safe manner. Also consider where guardrails should be positioned so they do not interfere with future operations.

2. **Covers**

    Covers shall be capable of withstanding two times the weight of any object or employee, which may pass over them, and be color coded or marked **"hole"** or **"cover."** Covers also must be secured from movement. Securing the cover to prevent access to a manhole, vault, or other similar opening is suggested where practical.

3. **Controlled Access Zones (CAZ)** for overhand bricklaying shall be erected as follows:

    a) The controlled access zone shall be defined by a control line not less than 10 feet, no more than 15 feet from the working edge.

    b) The control line shall extend a sufficient distance to completely enclose the overhand bricklaying operations including the ends of the controlled access area.

    c) The line shall be made of rope, wire, or tape with a minimum tensile strength of 200 lbs.

d) Stanchions or some other means of support will be used to support the control line at a height no less than 39" and no more than 45". The control line will be flagged every 6 feet with high visibility material.

e) On floors where guardrails have not yet been erected, the controlled access zone should be enlarged, as necessary, to enclose all points of access, materials handling areas, and storage areas.

f) On floors where guardrails are already in place but need to be removed to allow overhand bricklaying work or other leading edge work to take place, only that portion of the guardrail necessary to accomplish the day's work shall be removed.

Note: Employees removing guardrails or other fall protection devices are responsible for replacing those devices when their work is complete.

4. **Warning line systems** for roofing work.

a) Warning lines shall be erected along all sides of the low slope roof work area and positioned at least 6 feet from the roof edge when mechanical equipment is not being used. If mechanical equipment is being used, the warning line must be positioned at least 10 feet from the roof edge in the direction in which the equipment is being used.

b) Mechanical equipment shall only be used on a low slope roof if it is inside a warning line system or in areas where employees are protected by a guardrail system or personal fall arrest system.

c) Warning lines shall be rigged and supported in such a way that its lowest point (including sag) is not less than 34 inches from the roof surface and its highest point is not higher than 39 inches from the roof surface.

d) Points of access, material handling areas, storage areas, and hoisting areas shall be shall be connected to the work area by an access path formed by two warning lines. Guardrails shall be provided along the perimeter of the roof where these activities are being performed.

e) No employee shall be allowed in the area between a roof edge and a warning line system unless guardrails, safety nets, personal fall arrest systems, or a safety monitor system is provided.

5. **Safety Monitors**

Safety monitors can only be used on low slope roofs (4 in 12 pitch or less -vertical to horizontal). Safety monitors cover work activities performed outside the warning line system and cannot be used if mechanical equipment is being used. Mechanical equipment is anything bigger than a mop cart or a wheelbarrow. Safety monitors can be used without warning lines if the roof is 50 feet or less in width.

Safety Monitors must be competent and comply with the following:

a) The safety monitor must be able to recognize fall hazards and be capable of warning employees when it appears an employee is unaware of a fall hazard or is acting in an unsafe manner.

b) The safety monitor must be on the same working level and within visual sighting distance of employees. Safety monitors also must be close enough to communicate audibly to employees. This means on a multilevel roof, a safety monitor may be required at each roof level.

c) The safety monitor shall not have any other responsibilities, which could distract him/her from monitoring employees work activities.

d) No employees, other than those engaged in roofing work or covered by a fall protection plan, shall be in the area where the safety monitoring system is being utilized.

6. **Fall Arrest Systems**

a) Lanyards, vertical lifelines, D-rings, and snap hooks shall have a 5000 lbs. tensile strength.

b) All lanyard snap-hooks shall be of the locking type.

c) Body belts, harnesses, lanyards and other fall protection equipment are not to be used for any purpose other than employee fall protection.

d) As of January 1, 1998, using body belts as part of a fall arrest system is prohibited.

e) Fall arrest anchorage points must be able to withstand 5000 lbs. per employee or must be designed as a system, which maintains a safety factor of at least 2.

f) Fall protection systems must be erected under the supervision of a competent person. Any employee who is unsure whether an anchorage point is appropriate should ask their supervisor.

g) The length of lanyard's and safety lines should be limited so as not to allow a free fall greater than 6 feet. Additionally, care should be given when designing a system to ensure that an employee will not strike lower levels prior to, or during, the activation of the fall arrest system. This is especially of concern when using shock-absorbing and retractable lanyards due to their elongation when arresting a fall.

h) Positioning devices should allow for a free fall of no more than 2 feet.

i) Employees climbing built-up walls of reinforcing steel must tie-off when they reach their work location. Continuous fall protection must be used when climbing above 24 feet vertically.

Fall Protection Training

1. All employees must be trained in the following items:

a) The nature of fall hazards in the work area.

b) The correct procedures for erecting, maintaining, disassembling and inspecting the fall protection systems to be used.

c) The use and operation of guardrail systems, personal fall arrest systems, controlled access zones and other protection to be used.

d) The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection.

e) The role of employees in fall protection plans.

Note: Employees engaged in built-up roofing operations will require additional training.

Residential Construction

When performing "residential construction" activities, and traditional fall protection methods create a greater hazard, ADAMS WALLKILL, LLC employees will utilize a fall protection plan (See Appendix B).

The term "residential construction" is interpreted as construction work that satisfies both of the following elements:

The end-use of the structure being built must be as a home, i.e. a dwelling.

The structure being built must be constructed using traditional wood frame construction materials and methods. The limited use of structural steel in a predominantly wood-framed home, such as a steel I-beam to help support wood framing, does not disqualify a structure from being considered residential construction.

Traditional wood frame construction materials and methods will be characterized by:

Framing Materials – Wood (or equivalent cold-formed sheet metal stud) framing, not steel or concrete; wooden floor joists and roof structures.

Exterior Wall Structure – Wood (or equivalent cold-formed sheet metal stud) framing or masonry brick or block.

Methods – Traditional wood frame construction techniques.

APPENDIX A

Fall Protection Plan
For Precast/Prestress Concrete Structures

Fall Protection Plan
1926 Subpart M App E

Non-Mandatory Guidelines for Complying with 1926.502(k)

Employers engaged in leading edge work, precast concrete construction work and residential construction work who can demonstrate that it is infeasible or creates a greater hazard to use conventional fall protection systems must develop and follow a fall protection plan. Below are sample fall protection plans developed for precast concrete construction and residential work that could be tailored to be site specific for other precast concrete or residential jobsite. This sample plan can be modified to be used for other work involving leading edge work. The sample plan outlines the elements that must be addressed in any fall protection plan. The reasons outlined in this sample fall protection plan are for illustrative purposes only and are not necessarily a valid, acceptable rationale (unless the conditions at the job site are the same as those covered by these sample plans) for not using conventional fall protection systems for a particular precast concrete or residential construction worksite. However, the sample plans provide guidance to employers on the type of information that is required to be discussed in fall protection plans.

Fall Protection Plans

Fall Protection Plan For Precast/Prestress Concrete Structures (This plan can be adapted for leading edge work.)

This Fall Protection Plan is specific for the following project:

Location of Job _____
Erecting Company _____
Date Plan Prepared or Modified _____
Plan Prepared By _____
Plan Approved By _____
Plan Supervised By _____

The following Fall Protection Plan is a sample program prepared for the prevention of injuries associated with falls. A Fall Protection Plan must be developed and evaluated on a site by site basis. It is recommended that erectors discuss the written Fall Protection Plan with their OSHA Area Office prior to going on a jobsite.

I. Statement of Company Policy

(Company Name) is dedicated to the protection of its employees from on-the-job injuries. All employees of (Company Name) have the responsibility to work safely on the job. The purpose of this plan is: (a) To supplement our standard safety policy by providing safety standards specifically designed to cover fall protection on this job and; (b) to ensure that each employee is trained and made aware of the safety provisions which are to be implemented by this plan prior to the start of erection.

This Fall Protection Plan addresses the use of other than conventional fall protection at a number of areas on the project, as well as identifying specific activities that require non-conventional means of fall protection. These areas include:

a. Connecting activity (point of erection).
b. Leading edge work.
c. Unprotected sides or edge.
d. Grouting.

This plan is designed to enable employers and employees to recognize the fall hazards on this job and to establish the procedures that are to be followed in order to prevent falls to lower levels or through holes and openings in walking/working surfaces. Each employee will be trained in these procedures and strictly adhere to them except when doing so would expose the employee to a greater hazard. If, in the employee's opinion,

this is the case, the employee is to notify the foreman of the concern and the concern addressed before proceeding.

Safety policy and procedure on any one project cannot be administered, implemented, monitored and enforced by any one individual. The total objective of a safe, accident free work environment can only be accomplished by a dedicated, concerted effort by every individual involved with the project from management down to the last employee. Each employee must understand their value to the company; the costs of accidents, both monetary, physical, and emotional; the objective of the safety policy and procedures; the safety rules that apply to the safety policy and procedures; and what their individual role is in administering, implementing, monitoring, and compliance of their safety policy and procedures. This allows for a more personal approach to compliance through planning, training, understanding and cooperative effort, rather than by strict enforcement. If for any reason an unsafe act persists, strict enforcement will be implemented.

It is the responsibility of (name of competent person) to implement this Fall Protection Plan. (Name of Competent Person) is responsible for continual observational safety checks of their work operations and to enforce the safety policy and procedures. The foreman also is responsible to correct any unsafe acts or conditions immediately. It is the responsibility of the employee to understand and adhere to the procedures of this plan and to follow the instructions of the foreman. It is also the responsibility of the employee to bring to management's attention any unsafe or hazardous conditions or acts that may cause injury to either themselves or any other employees. Any changes to this Fall Protection Plan must be approved by (name of Qualified Person).

II. Fall Protection Systems to Be Used on This Project

Where conventional fall protection is infeasible or creates a greater hazard at the leading edge and during initial connecting activity, we plan to do this work using a safety monitoring system and expose only a minimum number of employees for the time necessary to actually accomplish the job. The maximum number of workers to be monitored by one safety monitor is six (6). We are designating the following trained employees as designated erectors and they are permitted to enter the controlled access zones and work without the use of conventional fall protection.

Safety monitor:
Designated erector:
Designated erector:
Designated erector:
Designated erector:
Designated erector:
Designated erector:

The safety monitor shall be identified by wearing an orange hard hat. The designated erectors will be identified by one of the following methods:

1. They will wear a blue colored arm band, or
2. They will wear a blue colored hard hat, or
3. They will wear a blue colored vest.

Only individuals with the appropriate experience, skills, and training will be authorized as designated erectors. All employees that will be working as designated erectors under the safety monitoring system shall have been trained and instructed in the following areas:

1. Recognition of the fall hazards in the work area (at the leading edge and when making initial connections-point of erection).
2. Avoidance of fall hazards using established work practices, which have been made known to the employees.
3. Recognition of unsafe practices or working conditions that could lead to a fall, such as windy conditions.
4. The function, use, and operation of safety monitoring systems, guardrail systems, body belt/harness systems, control zones and other protection to be used.

5. The correct procedure for erecting, maintaining, disassembling and inspecting the system(s) to be used.
6. Knowledge of construction sequence or the erection plan.

A conference will take place prior to starting work involving all members of the erection crew, crane crew and supervisors of any other concerned contractors. This conference will be conducted by the precast concrete erection supervisor in charge of the project. During the pre-work conference, erection procedures and sequences pertinent to this job will be thoroughly discussed and safety practices to be used throughout the project will be specified. Further, all personnel will be informed that the controlled access zones are off limits to all personnel other than those designated erectors specifically trained to work in that area.

Safety Monitoring System

A safety monitoring system means a fall protection system in which a competent person is responsible for recognizing and warning employees of fall hazards. The duties of the safety monitor are to:

1. Warn by voice when approaching the open edge in an unsafe manner.
2. Warn by voice if there is a dangerous situation developing which cannot be seen by another person involved with product placement, such as a member getting out of control.
3. Make the designated erectors aware they are in a dangerous area.
4. Be competent in recognizing fall hazards.
5. Warn employees when they appear to be unaware of a fall hazard or are acting in an unsafe manner.
6. Be on the same walking/working surface as the monitored employees and within visual sighting distance of the monitored employees.
7. Be close enough to communicate orally with the employees.
8. Not allow other responsibilities to encumber monitoring. If the safety monitor becomes too encumbered with other responsibilities, the monitor shall
(1) Stop the erection process; and
(2) Turn over other responsibilities to a designated erector; or
(3) Turn over the safety monitoring function to another designated competent person.

The safety monitoring system shall not be used when the wind is strong enough to cause loads with large surface areas to swing out of radius, or result in loss of control of the load, or when weather conditions cause the walking-working surfaces to become icy or slippery.

Control Zone System

A controlled access zone means an area designated and clearly marked in which leading edge work may take place without the use of guardrail, safety net or personal fall arrest systems to protect the employees in the area. Control zone systems shall comply with the following provisions:

1. When used to control access to areas where leading edge and other operations are taking place the controlled access zone shall be defined by a control line or by any other means that restricts access.
When control lines are used, they shall be erected not less than 6 feet (l.8 m) nor more than 60 feet (18 m) or half the length of the member being erected, whichever is less, from the leading edge.
2. The control line shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge.
3. The control line shall be connected on each side to a guardrail system or wall.
4. Control lines shall consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:
5. Each line shall be flagged or otherwise clearly marked at not more than 6-foot (1.8 m) intervals with high-visibility material.
6. Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches (1 m) from the walking/working surface and its highest point is not more than 45 inches (1.3 m) from the walking/working surface.
7. Each line shall have a minimum breaking strength of 200 pounds (.88 kN).

Holes

All openings greater than 12 in. x 12 in. will have perimeter guarding or covering. All predetermined holes will have the plywood covers made in the precasters' yard and shipped with the member to the jobsite. Prior to cutting holes on the job, proper protection for the hole must be provided to protect the workers. Perimeter guarding or covers will not be removed without the approval of the erection foreman.

Precast concrete column erection through the existing deck requires that many holes be provided through this deck. These are to be covered and protected. Except for the opening being currently used to erect a column, all opening protection is to be left undisturbed. The opening being uncovered to erect a column will become part of the point of erection and will be addressed as part of this Fall Protection Plan. This uncovering is to be done at the erection foreman's direction and will only occur immediately prior to "feeding" the column through the opening. Once the end of the column is through the slab opening, there will no longer exist a fall hazard at this location.

III. Implementation of Fall Protection Plan

The structure being erected is a multistory total precast concrete building consisting of columns, beams, wall panels and hollow core slabs and double tee floor and roof members.

The following is a list of the products and erection situations on this job:

Columns

For columns 10 ft to 36 ft long, employees disconnecting crane hooks from columns will work from a ladder and wear a body belt/harness with lanyard and be tied off when both hands are needed to disconnect. For tying off, a vertical lifeline will be connected to the lifting eye at the top of the column, prior to lifting, to be used with a manually operated or mobile rope grab. For columns too high for the use of a ladder, 36-ft and higher, an added cable will be used to reduce the height of the disconnecting point so that a ladder can be used. This cable will be left in place until a point in erection that it can be removed safely. In some cases, columns will be unhooked from the crane by using an erection tube or shackle with a pull pin which is released from the ground after the column is stabilized.

The column will be adequately connected and/or braced to safely support the weight of a ladder with an employee on it.

Inverted Tee Beams

Employees erecting inverted tee beams, at a height of 6 to 40 ft, will erect the beam, make initial connections, and final alignment from a ladder. If the employee needs to reach over the side of the beam to bar or make an adjustment to the alignment of the beam, they will mount the beam and be tied off to the lifting device in the beam after ensuring the load has been stabilized on its bearing. To disconnect the crane from the beam an employee will stand a ladder against the beam. Because the use of ladders is not practical at heights above 40 ft, beams will be initially placed with the use of tag lines and their final alignment made by a person on a manlift or similar employee positioning systems.

Spandrel Beams

Spandrel beams at the exterior of the building will be aligned as closely as possible with the use of tag lines with the final placement of the spandrel beam made from a ladder at the open end of the structure. A ladder will be used to make the initial connections and a ladder will be used to disconnect the crane. The other end of the beam will be placed by the designated erector from the double tee deck under the observation of the safety monitor. The beams will be adequately connected and/or braced to safely support the weight of a ladder with an employee on it.

Floor and Roof Members

During installation of the precast concrete floor and/or roof members, the work deck continuously increases in area as more and more units are being erected and positioned. Thus, the unprotected floor/roof perimeter is constantly modified with the leading edge changing location as each member is installed. The fall protection for workers at the leading edge shall be assured by properly constructed and maintained control zone lines not more than 60 ft away from the leading edge supplemented by a safety monitoring system to ensure the safety of all designated erectors working within the area defined by the control zone lines.

The hollow core slabs erected on the masonry portion of the building will be erected and grouted using the safety monitoring system. Grout will be placed in the space between the end of the slab and face shell of the concrete masonry by dumping from a wheelbarrow. The grout in the keyways between the slabs will be dumped from a wheelbarrow and then spread with long handled tools, allowing the worker to stand erect facing toward the unprotected edge and back from any work deck edge.

Whenever possible, the designated erectors will approach the incoming member at the leading edge only after it is below waist height so that the member itself provides protection against falls.

Except for the situations described below, when the arriving floor or roof member is within 2 to 3 inches of its final position, the designated erectors can then proceed to their position of erection at each end of the member under the control of the safety monitor. Crane hooks will be unhooked from double tee members by designated erectors under the direction and supervision of the safety monitor.

Designated erectors, while waiting for the next floor or roof member, will be constantly under the control of the safety monitor for fall protection and are directed to stay a minimum of six (6) ft from the edge. In the event a designated erector must move from one end of a member, which has just been placed at the leading edge, they must first move away from the leading edge a minimum of six (6) ft and then progress to the other end while maintaining the minimum distance of six (6) ft at all times.

Erection of double tees, where conditions require bearing of one end into a closed pocket and the other end on a beam ledge, restricting the tee legs from going directly into the pockets, require special considerations. The tee legs that are to bear in the closed pocket must hang lower than those at the beam bearing. The double tee will be "two-lined" in order to elevate one end higher than the other to allow for the low end to be ducked into the closed pocket using the following procedure.

The double tee will be rigged with a standard four-way spreader off of the main load line. An additional choker will be attached to the married point of the two-legged spreader at the end of the tee that is to be elevated. The double tee will be hoisted with the main load line and swung into a position as close as possible to the tee's final bearing elevation. When the tee is in this position and stabilized, the whip line load block will be lowered to just above the tee deck. At this time, two erectors will walk out on the suspended tee deck at midspan of the tee member and pull the load block to the end of the tee to be elevated and attach the additional choker to the load block. The possibility of entanglement with the crane lines and other obstacles during this two lining process while raising and lowering the crane block on that second line could be hazardous to an encumbered employee. Therefore, the designated erectors will not tie off during any part of this process. While the designated erectors are on the double tee, the safety monitoring system will be used. After attaching the choker, the two erectors then step back on the previously erected tee deck and signal the crane operator to hoist the load with the whip line to the elevation that will allow for enough clearance to let the low end tee legs slide into the pockets when the main load line is lowered. The erector, who is handling the lowered end of the tee at the closed pocket bearing, will step out on the suspended tee. An erection bar will then be placed between the end of the tee leg and the inside face of the pocketed spandrel member. The tee is barred away from the pocketed member to reduce the friction and lateral force against the pocketed member. As the tee is being lowered, the other erector remains on the tee, which was previously erected to handle the other end. At this point the tee is slowly lowered by the crane to a point where the tee legs can freely slide into the pockets. The erector working the lowered end of the tee must keep pressure on the bar between the tee and the face of the pocketed spandrel member to very gradually let the tee legs slide into the pocket to its proper bearing dimension. The tee is then slowly lowered into its final erected position.

The designated erector should be allowed onto the suspended double tee, otherwise there is no control over the horizontal movement of the double tee and this movement could knock the spandrel off of its bearing or the column out of plumb. The control necessary to prevent hitting the spandrel can only be done safely from the top of the double tee being erected.

Loadbearing Wall Panels: The erection of the loadbearing wall panels on the elevated decks requires the use of a safety monitor and a controlled access zone that is a minimum of 25 ft and a maximum of 1/2 the length of the wall panels away from the unprotected edge, so that designated erectors can move freely and unencumbered when receiving the panels. Bracing, if required for stability, will be installed by ladder. After the braces are secured, the crane will be disconnected from the wall by using a ladder. The wall to wall connections will also be performed from a ladder.

Non-Loadbearing Panels (Cladding): The locating of survey lines, panel layout and other installation prerequisites (prewelding, etc.) for non-loadbearing panels (cladding) will not commence until floor perimeter and floor openings have been protected. In some areas, it is necessary because of panel configuration to remove the perimeter protection as the cladding is being installed. Removal of perimeter protection will be performed on a bay to bay basis, just ahead of cladding erection to minimize temporarily unprotected floor edges. Those workers within 6 ft of the edge, receiving and positioning the cladding when the perimeter protection is removed shall be tied off.

Detailing

Employees exposed to falls of six (6) feet or more to lower levels, who are not actively engaged in leading edge work or connecting activity, such as welding, bolting, cutting, bracing, guying, patching, painting or other operations, and who are working less than six (6) ft from an unprotected edge will be tied off at all times or guardrails will be installed. Employees engaged in these activities but who are more than six (6) ft from an unprotected edge as defined by the control zone lines, do not require fall protection but a warning line or control lines must be erected to remind employees they are approaching an area where fall protection is required.

IV. Conventional Fall Protection Considered for the Point of Erection or Leading Edge Erection Operations

A. Personal Fall Arrest Systems

In this particular erection sequence and procedure, personal fall arrest systems requiring body belt/harness systems, lifelines and lanyards will not reduce possible hazards to workers and will create offsetting hazards during their usage at the leading edge of precast/prestressed concrete construction.

Leading edge erection and initial connections are conducted by employees who are specifically trained to do this type of work and are trained to recognize the fall hazards. The nature of such work normally exposes the employee to the fall hazard for a short period of time and installation of fall protection systems for a short duration is not feasible because it exposes the installers of the system to the same fall hazard, but for a longer period of time.

1. It is necessary that the employee be able to move freely without encumbrance in order to guide the sections of precast concrete into their final position without having lifelines attached which will restrict the employee's ability to move about at the point of erection.

2. A typical procedure requires 2 or more workers to maneuver around each other as a concrete member is positioned to fit into the structure. If they are each attached to a lifeline, part of their attention must be diverted from their main task of positioning a member weighing several tons to the task of avoiding entanglements of their lifelines or avoiding tripping over lanyards. Therefore, if these workers are attached to lanyards, more fall potential would result than from not using such a device.

In this specific erection sequence and procedure, retractable lifelines do not solve the problem of two workers becoming tangled. In fact, such a tangle could prevent the lifeline from retracting as the worker moved, thus potentially exposing the worker to a fall greater than 6 ft. Also, a worker crossing over the

lifeline of another worker can create a hazard because the movement of one person can unbalance the other. In the event of a fall by one person there is a likelihood that the other person will be caused to fall as well. In addition, if contamination such as grout (during hollow core grouting) enters the retractable housing it can cause excessive wear and damage to the device and could clog the retracting mechanism as the lanyard is dragged across the deck. Obstructing the cable orifice can defeat the device's shock absorbing function, produce cable slack and damage, and adversely affect cable extraction and retraction.

3. Employees tied to a lifeline can be trapped and crushed by moving structural members if the employee becomes restrained by the lanyard or retractable lifeline and cannot get out of the path of the moving load. The sudden movement of a precast concrete member being raised by a crane can be caused by a number of factors. When this happens, a connector may immediately have to move a considerable distance to avoid injury. If a tied off body belt/harness is being used, the connector could be trapped. Therefore, there is a greater risk of injury if the connector is tied to the structure for this specific erection sequence and procedure.

When necessary to move away from a retractable device, the worker cannot move at a rate greater than the device locking speed typically 3.5 to 4.5 ft/sec. When moving toward the device it is necessary to move at a rate, which does not permit cable slack to build up. This slack may cause cable retraction acceleration and cause a worker to lose their balance by applying a higher than normal jerking force on the body when the cable suddenly becomes taut after building up momentum. This slack can also cause damage to the internal spring-loaded drum, uneven coiling of cable on the drum, and possible cable damage.

The factors causing sudden movements for this location include:

(a) Cranes
(1) Operator error.
(2) Site conditions (soft or unstable ground).
(3) Mechanical failure.
(4) Structural failure.
(5) Rigging failure.
(6) Crane signal/radio communication failure.

(b) Weather Conditions
(1) Wind (strong wind/sudden gusting) - particularly a problem with the large surface areas of precast concrete members.
(2) Snow/rain (visibility).
(3) Fog (visibility).
(4) Cold - causing slowed reactions or mechanical problems.

(c) Structure/Product Conditions.
(1) Lifting Eye failure.
(2) Bearing failure or slippage.
(3) Structure shifting.
(4) Bracing failure.
(5) Product failure.

(d) Human Error.
(1) Incorrect tag line procedure.
(2) Tag line hang-up.
(3) Incorrect or misunderstood crane signals.
(4) Misjudged elevation of member.
(5) Misjudged speed of member.
(6) Misjudged angle of member.

4. Anchorages or special attachment points could be cast into the precast concrete members if sufficient preplanning and consideration of erectors' position is done before the members are cast. Any hole or other attachment must be approved by the engineer who designed the member. It is possible that some design restrictions will not allow a member to be weakened by an additional hole; however, it is anticipated that such situations would be the exception, not the rule. Attachment points, other than on the deck surface, will

require removal and/or patching. In order to remove and/or patch these points requires the employee to be exposed to an additional fall hazard at an unprotected perimeter. The fact that attachment points could be available anywhere on the structure does not eliminate the hazards of using these points for tying off as discussed above. A logical point for tying off on double tees would be using the lifting loops, except that they must be cut off to eliminate a tripping hazard at an appropriate time.

5. Providing attachment at a point above the walking/working surface would also create fall exposures for employees installing their devices. Final positioning of a precast concrete member requires it to be moved in such a way that it must pass through the area that would be occupied by the lifeline and the lanyards attached to the point above. Resulting entanglements of lifelines and lanyards on a moving member could pull employees from the work surface. Also, the structure is being created and, in most cases, there is no structure above the members being placed.

(a) Temporary structural supports, installed to provide attaching points for lifelines limit the space which is essential for orderly positioning, alignment and placement of the precast concrete members. To keep the lanyards a reasonable and manageable length, lifeline supports would necessarily need to be in proximity to the positioning process. A sudden shift of the precast concrete member being positioned because of wind pressure or crane movement could make it strike the temporary supporting structure, moving it suddenly and causing tied off employees to fall.

(b) The time in man-hours, which would be expended, in placing and maintaining temporary structural supports for lifeline attaching points could exceed the expended man-hours involved in placing the precast concrete members. No protection could be provided for the employees erecting the temporary structural supports and these supports would have to be moved for each successive step in the construction process, thus greatly increasing the employee's exposure to the fall hazard.

(c) The use of a cable strung horizontally between two columns to provide tie off lines for erecting or walking a beam for connecting work is not feasible and creates a greater hazard on this multi-story building for the following reasons:

(1) If a connector is to use such a line, it must be installed between the two columns. To perform this installation requires an erector to have more fall exposure time attaching the cable to the columns than would be spent to make the beam to column connection itself.

(2) If such a line is to be installed so that an erector can walk along a beam, it must be overhead or below him. For example, if a connector must walk along a 24-in. wide beam, the presence of a line next to the connector at waist level, attached directly to the columns, would prevent the connector from centering their weight over the beam and balancing themselves. Installing the line above the connector might be possible on the first level of a two-story column; however, the column may extend only a few feet above the floor level at the second level or be flush with the floor level. Attaching the line to the side of the beam could be a solution; however, it would require the connector to attach the lanyard below foot level which would most likely extend a fall farther than 6 ft.

(3) When lines are strung over every beam, it becomes more and more difficult for the crane operator to lower a precast concrete member into position without the member becoming fouled. Should the member become entangled, it could easily dislodge the line from a column. If a worker is tied to it at the time, a fall could be caused.

6. The ANSI A10.14-1991 American National Standard for Construction and Demolition Operations - Requirements for Safety Belts, Harnesses, Lanyards and Lifelines for Construction and Demolition Use, states that the anchor point of a lanyard or deceleration device should, if possible, be located above the wearer's belt or harness attachment. ANSI A10.14 also states that a suitable anchorage point is one, which is located as high as possible to prevent contact with an obstruction below should the worker fall. Most manufacturers also warn in the user's handbook that the safety block/retractable lifeline must be positioned above the D-ring (above the work space of the intended user) and OSHA recommends that fall arrest and restraint equipment be used in accordance with the manufacturer's instructions.

Attachment of a retractable device to a horizontal cable near floor level or using the inserts in the floor or roof members may result in increased free fall due to the dorsal D-ring of the full-body harness riding higher than the attachment point of the snaphook to the cable or insert (e.g., 6 foot tall worker with a dorsal D-ring at 5 feet above the floor or surface, reduces the working length to only one foot, by placing the anchorage five feet away from the fall hazard). In addition, impact loads may exceed maximum fall arrest forces (MAF) because the fall arrest D-ring would be 4 to 5 feet higher than the safety block/retractable lifeline anchored to the walking-working surface; and the potential for swing hazards is increased. Manufacturers also require that workers not work at a level where the point of snaphook attachment to the body harness is above the device because this will increase the free fall distance and the deceleration distance and will cause higher forces on the body in the event of an accidental fall.

Manufacturers recommend an anchorage for the retractable lifeline, which is immovably fixed in space and is independent of the user's support systems. A moveable anchorage is one which can be moved around (such as equipment or wheeled vehicles) or which can deflect substantially under shock loading (such as a horizontal cable or very flexible beam). In the case of a very flexible anchorage, a shock load applied to the anchorage during fall arrest can cause oscillation of the flexible anchorage such that the retractable brake mechanism may undergo one or more cycles of locking/unlocking/locking (ratchet effect) until the anchorage deflection is dampened. Therefore, use of a moveable anchorage involves critical engineering and safety factors and should only be considered after fixed anchorage has been determined to be not feasible.

Horizontal cables used as an anchorage present an additional hazard due to amplification of the horizontal component of maximum arrest force (of a fall) transmitted to the points where the horizontal cable is attached to the structure. This amplification is due to the angle of sag of a horizontal cable and is most severe for small angles of sag. For a cable sag angle of 2 degrees the horizontal force on the points of cable attachment can be amplified by a factor of 15.

It is also necessary to install the retractable device vertically overhead to minimize swing falls. If an object is in the worker's swing path (or that of the cable) hazardous situations exist:

(1) due to the swing, horizontal speed of the user may be high enough to cause injury when an obstacle in the swing fall path is struck by either the user or the cable;

(2) the total vertical fall distance of the user may be much greater than if the user had fallen only vertically without a swing fall path.

With retractable lines, overconfidence may cause the worker to engage in inappropriate behavior, such as approaching the perimeter of a floor or roof at a distance appreciably greater than the shortest distance between the anchorage point and the leading edge. Though the retractable lifeline may arrest a worker's fall before he or she has fallen a few feet, the lifeline may drag along the edge of the floor or beam and swing the worker like a pendulum until the line has moved to a position where the distance between the anchorage point and floor edge is the shortest distance between those two points. Accompanying this pendulum swing is a lowering of the worker, with the attendant danger that he or she may violently impact the floor or some obstruction below.

The risk of a cable breaking is increased if a lifeline is dragged sideways across the rough surface or edge of a concrete member at the same moment that the lifeline is being subjected to a maximum impact loading during a fall. The typical 3/16-in. cable in a retractable lifeline has a breaking strength of from 3000 to 3700 lbs.

7. The competent person, who can take into account the specialized operations being performed on this project, should determine when and where a designated erector cannot use a personal fall arrest system.

B. Safety Net Systems

The nature of this particular precast concrete erection worksite precludes the safe use of safety nets where point of erection or leading edge work must take place.

1. To install safety nets in the interior high bay of the single story portion of the building poses rigging attachment problems. Structural members do not exist to which supporting devices for nets can be attached in

the area where protection is required. As the erection operation advances, the location of point of erection or leading edge work changes constantly as each member is attached to the structure. Due to this constant change it is not feasible to set net sections and build separate structures to support the nets.

2. The nature of the erection process for the precast concrete members is such that an installed net would protect workers as they position and secure only one structural member. After each member is stabilized the net would have to be moved to a new location (this could mean a move of 8 to 10 ft or the possibility of a move to a different level or area of the structure) to protect workers placing the next piece in the construction sequence. The result would be the installation and dismantling of safety nets repeatedly throughout the normal workday. As the time necessary to install a net, test, and remove it is significantly greater than the time necessary to position and secure a precast concrete member, the exposure time for the worker installing the safety net would be far longer than for the workers whom the net is intended to protect. The time exposure repeats itself each time the nets and supporting hardware must be moved laterally or upward to provide protection at the point of erection or leading edge.

3. Strict interpretation of 1926.502(c) requires that operations shall not be undertaken until the net is in place and has been tested. With the point of erection constantly changing, the time necessary to install and test a safety net significantly exceeds the time necessary to position and secure the concrete member.

4. Use of safety nets on exposed perimeter wall openings and opensided floors, causes attachment points to be left in architectural concrete which must be patched and filled with matching material after the net supporting hardware is removed. In order to patch these openings, additional numbers of employees must be suspended by swing stages, boatswain chairs or other devices, thereby increasing the amount of fall exposure time to employees.

5. Installed safety nets pose an additional hazard at the perimeter of the erected structure where limited space is available in which members can be turned after being lifted from the ground by the crane. There would be a high probability that the member being lifted could become entangled in net hardware, cables, etc.

6. The use of safety nets where structural wall panels are being erected would prevent movement of panels to point of installation. To be effective, nets would necessarily have to provide protection across the area where structural supporting wall panels would be set and plumbed before roof units could be placed.

7. Use of a tower crane for the erection of the high rise portion of the structure poses a particular hazard in that the crane operator cannot see or judge the proximity of the load in relation to the structure or nets. If the signaler is looking through nets and supporting structural devices while giving instructions to the crane operator, it is not possible to judge precise relationships between the load and the structure itself or to nets and supporting structural devices. This could cause the load to become entangled in the net or hit the structure causing potential damage.

C. Guardrail Systems

On this particular worksite, guardrails, barricades, ropes, cables or other perimeter guarding devices or methods on the erection floor will pose problems to safe erection procedures. Typically, a floor or roof is erected by placing 4 to 10 ft wide structural members next to one another and welding or grouting them together. The perimeter of a floor and roof changes each time a new member is placed into position. It is unreasonable and virtually impossible to erect guardrails and toe boards at the ever-changing leading edge of a floor or roof.

1. To position a member safely it is necessary to remove all obstructions extending above the floor level near the point of erection. Such a procedure allows workers to swing a new member across the erected surface as necessary to position it properly without worrying about knocking material off of this surface.

Hollow core slab erection on the masonry wall requires installation of the perimeter protection where the masonry wall has to be constructed. This means the guardrail is installed then subsequently removed to continue the masonry construction. The erector will be exposed to a fall hazard for a longer period of time while installing and removing perimeter protection than while erecting the slabs.

In hollow core work, as in other precast concrete erection, others are not typically on the work deck until the precast concrete erection is complete. The deck is not complete until the leveling, aligning, and grouting of the joints is done. It is normal practice to keep others off the deck until at least the next day after the installation is complete to allow the grout to harden.

2. There is no permanent boundary until all structural members have been placed in the floor or roof. At the leading edge, workers are operating at the temporary edge of the structure as they work to position the next member in the sequence. Compliance with the standard would require a guardrail and toe board be installed along this edge. However, the presence of such a device would prevent a new member from being swung over the erected surface low enough to allow workers to control it safely during the positioning process. Further, these employees would have to work through the guardrail to align the new member and connect it to the structure. The guardrail would not protect an employee who must lean through it to do the necessary work, rather it would hinder the employee to such a degree that a greater hazard is created than if the guardrail were absent.

3. Guardrail requirements pose a hazard at the leading edge of installed floor or roof sections by creating the possibility of employees being caught between guardrails and suspended loads. The lack of a clear work area in which to guide the suspended load into position for placement and welding of members into the existing structure creates still further hazards.

4. Where erection processes require precast concrete stairways or openings to be installed as an integral part of the overall erection process, it must also be recognized that guardrails or handrails must not project above the surface of the erection floor. Such guardrails should be terminated at the level of the erection floor to avoid placing hazardous obstacles in the path of a member being positioned.

V. Other Fall Protection Measures Considered for This Job

The following is a list and explanation of other fall protection measures available and an explanation of limitations for use on this particular jobsite. If during the course of erecting the building the employee sees an area that could be erected more safely by the use of these fall protection measures, the foreman should be notified.

A. Scaffolds are not used because:

1. The leading edge of the building is constantly changing and the scaffolding would have to be moved at very frequent intervals. Employees erecting and dismantling the scaffolding would be exposed to fall hazards for a greater length of time than they would by merely erecting the precast concrete member.

2. A scaffold tower could interfere with the safe swinging of a load by the crane.

3. Power lines, terrain and site do not allow for the safe use of scaffolding.

B. Vehicle mounted platforms are not used because:

1. A vehicle-mounted platform will not reach areas on the deck that are erected over other levels.

2. The leading edge of the building is usually over a lower level of the building and this lower level will not support the weight of a vehicle-mounted platform.

3. A vehicle-mounted platform could interfere with the safe swinging of a load by the crane, either by the crane swinging the load over or into the equipment.

4. Power lines and surrounding site work do not allow for the safe use of a vehicle-mounted platform.

C. Crane suspended personnel platforms are not used because:

1. A second crane close enough to suspend any employee in the working and erecting area could interfere with the safe swinging of a load by the crane hoisting the product to be erected.

2. Power lines and surrounding site work do not allow for the safe use of a second crane on the job.

VI. Enforcement

Constant awareness of and respect for fall hazards, and compliance with all safety rules are considered conditions of employment. The jobsite Superintendent, as well as individuals in the Safety and Personnel Department, reserve the right to issue disciplinary warnings to employees, up to and including termination, for failure to follow the guidelines of this program.

VII. Accident Investigations

All accidents that result in injury to workers, regardless of their nature, shall be investigated and reported. It is an integral part of any safety program that documentation take place as soon as possible so that the cause and means of prevention can be identified to prevent a reoccurrence.

In the event that an employee falls or there is some other related, serious incident occurring, this plan shall be reviewed to determine if additional practices, procedures, or training need to be implemented to prevent similar types of falls or incidents from occurring.

VIII. Changes to Plan

Any changes to the plan will be approved by (name of the qualified person). This plan shall be reviewed by a qualified person as the job progresses to determine if additional practices, procedures or training needs to be implemented by the competent person to improve or provide additional fall protection. Workers shall be notified and trained, if necessary, in the new procedures. A copy of this plan and all approved changes shall be maintained at the jobsite.

APPENDIX B

Fall Protection Plan
For Residential Construction

Fall Protection Plan for Residential Construction

(Insert Company Name)

This Fall Protection Plan Is Specific For The Following Project:

Location of Job_____
Date Plan Prepared or Modified_____
Plan Prepared By_____
Plan Approved By_____
Plan Supervised By_____

The following Fall Protection Plan is a sample program prepared for the prevention of injuries associated with falls. A Fall Protection Plan must be developed and evaluated on a site by site basis. It is recommended that builders discuss the written Fall Protection Plan with their OSHA Area Office prior to going on a jobsite.

I. Statement of Company Policy

(Your company name here) is dedicated to the protection of its employees from on-the-job injuries. All employees of (Your company name here) have the responsibility to work safely on the job. The purpose of the plan is to supplement our existing safety and health program and to ensure that every employee who works for (Your company name here) recognizes workplace fall hazards and takes the appropriate measures to address those hazards.

This Fall Protection Plan addresses the use of conventional fall protection at a number of areas on the project, as well as identifies specific activities that require non-conventional means of fall protection. During the construction of residential buildings under 48 feet in height, it is sometimes infeasible or it creates a greater hazard to use conventional fall protection systems at specific areas or for specific tasks. The areas or tasks may include, but are not limited to:

a. Setting and bracing of roof trusses and rafters;
b. Installation of floor sheathing and joists;
c. Roof sheathing operations; and
d. Erecting exterior walls.

In these cases, conventional fall protection systems may not be the safest choice for builders. This plan is designed to enable employers and employees to recognize the fall hazards associated with this job and to establish the safest procedures that are to be followed in order to prevent falls to lower levels or through holes and openings in walking/working surfaces.

Each employee will be trained in these procedures and will strictly adhere to them except when doing so would expose the employee to a greater hazard. If, in the employee's opinion, this is the case, the employee is to notify the competent person of their concern and have the concern addressed before proceeding.

It is the responsibility of (name of competent person) to implement this Fall Protection Plan. Continual observational safety checks of work operations and the enforcement of the safety policy and procedures shall be regularly enforced. The crew supervisor or foreman (insert name) is responsible for correcting any unsafe practices or conditions immediately.

It is the responsibility of the employer to ensure that all employees understand and adhere to the procedures of this plan and to follow the instructions of the crew supervisor. It is also the responsibility of the employee to bring to management's attention any unsafe or hazardous conditions or practices that may cause injury to either themselves or any other employees. Any changes to the Fall Protection Plan must be approved by (name of qualified person).

II. Fall Protection Systems To Be Used on This Job

Installation of roof trusses/rafters, exterior wall erection, roof sheathing, floor sheathing and joist/truss activities will be conducted by employees who are specifically trained to do this type of work and are trained to recognize the fall hazards. The nature of such work normally exposes the employee to the fall hazard for a short period of time. This Plan details how (Your company name here) will minimize these hazards.

Controlled Access Zones

When using the Plan to implement the fall protection options available, workers must be protected through limited access to high hazard locations. Before any non-conventional fall protection systems are used as part of the work plan, a controlled access zone (CAZ) shall be clearly defined by the competent person as an area where a recognized hazard exists. The demarcation of the CAZ shall be communicated by the competent person in a recognized manner, either through signs, wires, tapes, ropes or chains.

(Your company name here) shall take the following steps to ensure that the CAZ is clearly marked or controlled by the competent person:

All access to the CAZ must be restricted to authorized entrants;

All workers who are permitted in the CAZ shall be listed in the appropriate sections of the Plan (or be visibly identifiable by the competent person) prior to implementation;

The competent person shall ensure that all-protective elements of the CAZ be implemented prior to the beginning of work.

Installation Procedures for Roof Truss and Rafter Erection

During the erection and bracing of roof trusses/rafters, conventional fall protection may present a greater hazard to workers. On this job, safety nets, guardrails and personal fall arrest systems will not provide adequate fall protection because the nets will cause the walls to collapse, while there are no suitable attachment or anchorage points for guardrails or personal fall arrest systems.

On this job, requiring workers to use a ladder for the entire installation process will cause a greater hazard because the worker must stand on the ladder with his back or side to the front of the ladder. While erecting the truss or rafter the worker will need both hands to maneuver the truss and therefore cannot hold onto the ladder. In addition, ladders cannot be adequately protected from movement while trusses are being maneuvered into place. Many workers may experience additional fatigue because of the increase in overhead work with heavy materials, which can also lead to a greater hazard.

Exterior scaffolds cannot be utilized on this job because the ground, after recent backfilling, cannot support the scaffolding. In most cases, the erection and dismantling of the scaffold would expose workers to a greater fall hazard than erection of the trusses/rafters.

On all walls eight feet or less, workers will install interior scaffolds along the interior wall below the location where the trusses/rafters will be erected. "Sawhorse" scaffolds constructed of 46-inch sawhorses and 2x10 planks will often allow workers to be elevated high enough to allow for the erection of trusses and rafters without working on the top plate of the wall.

In structures that have walls higher than eight feet and where the use of scaffolds and ladders would create a greater hazard, safe working procedures will be utilized when working on the top plate and will be monitored by the crew supervisor. During all stages of truss/rafter erection the stability of the trusses/rafters will be ensured at all times.

(Your company name here) shall take the following steps to protect workers who are exposed to fall hazards while working from the top plate installing trusses/rafters:

Only the following trained workers will be allowed to work on the top plate during roof truss or rafter installation:

_____
_____
_____

- Workers shall have no other duties to perform during truss/rafter erection procedures;
- All trusses/rafters will be adequately braced before any worker can use the truss/rafter as a support;
- Workers will remain on the top plate using the previously stabilized truss/rafter as a support while other trusses/rafters are being erected;
- Workers will leave the area of the secured trusses only when it is necessary to secure another truss/rafter;
- The first two trusses/rafters will be set from ladders leaning on side walls at points where the walls can support the weight of the ladder; and
- A worker will climb onto the interior top plate via a ladder to secure the peaks of the first two trusses/rafters being set.

The workers responsible for detaching trusses from cranes and/or securing trusses at the peaks traditionally are positioned at the peak of the trusses/rafters. There are also situations where workers securing rafters to ridge beams will be positioned on top of the ridge beam.

(Your company name here) shall take the following steps to protect workers who are exposed to fall hazards while securing trusses/rafters at the peak of the trusses/ridge beam:

Only the following trained workers will be allowed to work at the peak during roof truss or rafter installation:

_____
_____
_____

- Once truss or rafter installation begins, workers not involved in that activity shall not stand or walk below or adjacent to the roof opening or exterior walls in any area where they could be struck by falling objects;
- Workers shall have no other duties than securing/bracing the trusses/ridge beam;
- Workers positioned at the peaks or in the webs of trusses or on top of the ridge beam shall work from a stable position, either by sitting on a "ridge seat" or other equivalent surface that provides additional stability or by positioning themselves in previously stabilized trusses/rafters and leaning into and reaching through the trusses/rafters;
- Workers shall not remain on or in the peak/ridge any longer than necessary to safely complete the task.

Roof Sheathing Operations

Workers typically install roof sheathing after all trusses/rafters and any permanent truss bracing is in place. Roof structures are unstable until some sheathing is installed, so workers installing roof sheathing cannot be protected from fall hazards by conventional fall protection systems until it is determined that the

roofing system can be used as an anchorage point. At that point, employees shall be protected by a personal fall arrest system.

Trusses/rafters are subject to collapse if a worker falls while attached to a single truss with a belt/harness. Nets could also cause collapse, and there is no place to attach guardrails.

All workers will ensure that they have secure footing before they attempt to walk on the sheathing, including cleaning shoes/boots of mud or other slip hazards.

To minimize the time workers must be exposed to a fall hazard; materials will be staged to allow for the quickest installation of sheathing.

(Your company name here) shall take the following steps to protect workers who are exposed to fall hazards while installing roof sheathing:

- Once roof sheathing installation begins, workers not involved in that activity shall not stand or walk below or adjacent to the roof opening or exterior walls in any area where they could be struck by falling objects;

- The competent person shall determine the limits of this area, which shall be clearly communicated to workers prior to placement of the first piece of roof sheathing;

- The competent person may order work on the roof to be suspended for brief periods as necessary to allow other workers to pass through such areas when this would not create a greater hazard;

- Only qualified workers shall install roof sheathing;

- The bottom row of roof sheathing may be installed by workers standing in truss webs;

- After the bottom row of roof sheathing is installed, a slide guard extending the width of the roof shall be securely attached to the roof. Slide guards are to be constructed of no less than nominal 4" height capable of limiting the uncontrolled slide of workers. Workers should install the slide guard while standing in truss webs and leaning over the sheathing;

- Additional rows of roof sheathing may be installed by workers positioned on previously installed rows of sheathing. A slide guard can be used to assist workers in retaining their footing during successive sheathing operations; and

- Additional slide guards shall be securely attached to the roof at intervals not to exceed 13 feet as successive rows of sheathing are installed. For roofs with pitches in excess of 9-in-12, slide guards will be installed at four-foot intervals.

- When wet weather (rain, snow, or sleet) are present, roof-sheathing operations shall be suspended unless safe footing can be assured for those workers installing sheathing.

- When strong winds (above 40 miles per hour) are present, roof-sheathing operations are to be suspended unless windbreakers are erected.

Installation of Floor Joists and Sheathing

During the installation of floor sheathing/joists (leading edge construction), the following steps shall be taken to protect workers:

Only the following trained workers will be allowed to install floor joists or sheathing:

_____

_____

- Materials for the operations shall be conveniently staged to allow for easy access to workers;

- The first floor joists or trusses will be rolled into position and secured either from the ground, ladders or sawhorse scaffolds;

- Each successive floor joist or truss will be rolled into place and secured from a platform created from a sheet of plywood laid over the previously secured floor joists or trusses;

- Except for the first row of sheathing which will be installed from ladders or the ground, workers shall work from the established deck; and

- Any workers not assisting in the leading edge construction while leading edges still exist (e.g. cutting the decking for the installers) shall not be permitted within six feet of the leading edge under construction.

Erection of Exterior Walls

During the construction and erection of exterior walls, employers shall take the following steps to protect workers:

Only the following trained workers will be allowed to erect exterior walls:

_____
_____
_____

- A painted line six feet from the perimeter will be clearly marked prior to any wall erection activities to warn of the approaching unprotected edge;

- Materials for operations shall be conveniently staged to minimize fall hazards; and

- Workers constructing exterior walls shall complete as much cutting of materials and other preparation as possible away from the edge of the deck.

III. Enforcement

Constant awareness of and respect for fall hazards, and compliance with all safety rules are considered conditions of employment. The crew supervisor or foreman, as well as individuals in the Safety and Personnel Department, reserve the right to issue disciplinary warnings to employees, up to and including termination, for failure to follow the guidelines of this program.

IV. Accident Investigations

All accidents that result in injury to workers, regardless of their nature, shall be investigated and reported. It is an integral part of any safety program that documentation take place as soon as possible so that the cause and means of prevention can be identified to prevent a reoccurrence.

In the event that an employee falls or there is some other related, serious incident occurring, this plan shall be reviewed to determine if additional practices, procedures, or training need to be implemented to prevent similar types of falls or incidents from occurring.

V. Changes to Plan

Any changes to the plan will be approved by (name of the qualified person). This plan shall be reviewed by a qualified person as the job progresses to determine if additional practices, procedures or training needs to be implemented by the competent person to improve or provide additional fall protection. Workers shall be notified and trained, if necessary, in the new procedures. A copy of this plan and all approved changes shall be maintained at the jobsite.
[59 FR 40746, Aug. 9, 1994; 60 FR 5131, Jan. 26, 1995]

17. Steel Erection

Purpose

To provide protection to ADAMS WALLKILL, LLC employees from the hazards associated with steel erection activities involved in the construction, alteration, and/or repair of single and multi-story buildings, bridges, and other structures where steel erection occurs.

NOTE: This program does not cover electrical transmission towers, communication and broadcast towers or tanks.

Steel Erection Activities

Steel erection activities include:
- *Hoisting*
- *Laying out*
- *Placing*
- *Connecting*
- *Welding*
- *Burning*
- *Guying*
- *Bracing*
- *Bolting*
- *Plumbing and rigging structural steel*
- *Steel joists and metal buildings*

Installing
- *Metal decking;*
- *Curtain walls*
- *Window walls*
- *Siding system*
- *Miscellaneous metals*
- *Ornamental iron and similar materials*
- *Moving point-to-point while performing these activities*

Controlling Contractor

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

When ADAMS WALLKILL, LLC operates as a controlling contractor as defined by 29 CFR 1926.751 (see above definition), ADAMS WALLKILL, LLC will be responsible for ensuring the following:

1. Before authorizing commencement of steel erection, the controlling contractor must provide written notification to the steel erector that the concrete in the piers, walls, and footings and the mortar in the masonry walls and piers has reached 75% of its intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection. Also, written notification must be provided for any repairs, replacements and modifications to anchor bolts.
2. The controlling contractor must provide and maintain adequate access roads into and through the site for safe delivery and movement of cranes, derricks, trucks and other necessary equipment, and the material to be erected and means and methods for pedestrian and vehicular traffic.
3. The controlling contractor must provide a firm, properly drained area, readily accessible to the work with adequate space for the safe storage of materials and safe operation of equipment.
4. Fall protection provided by the steel erector shall remain in place, to be used by other trades, only if the controlling contractor has directed the steel erector to leave the fall protection in place and has inspected and accepted control and responsibility of it before authorizing persons other than steel erectors to work in the area.
5. *The controlling contractor shall bar other construction processes below the steel erection unless overhead protection is provided.*

Site-Specific Erection Plan

A site-specific erection plan may be used to deviate from the requirements of the standard ONLY for the following activities: (To do so a *qualified person* must design the alternative method and document this in the site-specific erection plan)

1. Safety latches on hooks can be deactivated only when a qualified rigger has determined that the hoisting and placing of purlins and single joists can be performed more safely by doing so and documents this in a site-specific erection plan.
2. Steel joists at or near columns spanning 60 feet or more must be set in tandem with all bridging installed except when a qualified person develops an alternate method of erection which ensures equivalent stability of the steel joist is maintained and documents this in a site-specific erection plan.

3. No bundle of decking may be placed on steel joists until all bridging has been installed and anchored and all joist bearing ends attached; except when a qualified person determines and documents in the site-specific erection plan the following:
   a) The structure or portion of the structure is capable of supporting the load;
   b) The bundle of decking is placed on a minimum of three steel joists;
   c) The joists supporting the bundle of decking are attached at both ends;
   d) At least one row of bridging is installed and anchored
   e) The total weight of the bundle of decking does not exceed 4,000 pounds;
   f) The edge of the construction load shall be placed within one foot of the bearing surface of the joist end.

Steel Erection Controlling Contractor Checklist

Project:	Superintendent:
Steel Subcontractor:	Erection Start Date:

This checklist is designed to assist the project superintendent in meeting the controlling contractor requirements outlined in the 29 CFR 1926.750 Standards for Steel Erection. This checklist should be completed on all projects where steel erection activities will be performed.

Approval to Begin Steel Erection:

Before authorizing the commencement of steel erection, the controlling contractor shall ensure the steel erector is provided with the following:

1) **Written** Notification that the concrete in the footings, piers, and walls and the mortar in the masonry piers and walls has attained, 75 percent of the intended minimum compressive design strength to support the loads imposed during steel erection.
Notification Provided: _____

2) **Written** Notification of any repaired, replaced, or field modified anchor bolts. Note: Approval from the structural engineer is required.
Notification Provided: _____

Site Layout:

The controlling contractor shall ensure that the following is provided and maintained:

1) Adequate access roads into and through the site for the safe delivery and movement of necessary equipment and materials to be erected, as well as means and methods for pedestrian and vehicular traffic.
Provided and Maintained: _____

2) A firm, properly graded, drained area, readily accessible to the work with adequate space for the safe storage of materials and the safe operation of the erector's equipment.
Provided and Maintained: _____

Protection from Falling Objects and Custody of Fall Protection:

The controlling contractor shall bar other construction processes below steel erection. Fall protection provided by the steel erector shall remain in the area where steel erection activity has been completed, to be used by other trades, only if the controlling contractor or its authorized representative has done the following:

1) Has directed the steel erector to leave the fall protection in place.

2) Has inspected and accepted control and responsibility of the fall protection prior to authorizing persons other than steel erectors to work in the area.
Status of Fall Protection: _____

Steel Erection
Visual Crane Inspection & Hoisting Form

This form must be completed every day before steel erection begins. The visual crane inspection will normally be done by the crane operator. The crane inspection forms must be available to Controlling Contractor upon request.

Project_____ Location_____

Crane_____ Lift Activity_____

Crane Inspector_____ Date_____

INSPECTION ITEM	**COMMENTS**
☐Drive Mechanism	_____
☐Control mechanisms	_____
☐Safety devices	_____
☐Boom angle indicators	_____
☐Boom stops	_____
☐Boom kick out devices	_____
☐Anti-two block devices	_____
☐Load moment indicators	_____
☐Air & hydraulic lines	_____
☐Hooks and latches	_____
☐Wire rope receiving	_____
☐Electrical equipment	_____
☐Hydraulic fluid levels	_____
☐Tires	_____
☐Ground conditions	_____
☐Level of equipment	_____
☐Comments	_____

All items must check out OK before crane may be used for Steel Erection.

Safety latches will be deactivated YES _____ NO_____
(If YES state material to be hoisted) Bar Joists_____ Purlins_____ Other_____

Multi-lifting will be performed YES_____ NO_____
(If YES complete and attach multi-lift Checklist)

Crane Supported Platforms will be used YES_____ NO_____
(If YES Complete and attach Crane Supported Platform Checklist)

Name of Qualified Rigger who inspected rigging for this shift_____

XYZ Erectors
123 Street
Anytown, US 12345
800-123-4567

Site Specific Steel Erection Plan

XYZ Erectors
123 Street
Anytown, US 12345
800-123-4567

Project:_____ Date ____/ ____/ _____

Controlling Contractor:_____

1. Material Deliveries:_____

2. Material Staging/Storage:_____

3. Coordination with Other Trades:_____

4. Crane Site Preparation:_____

5. Path for Overhead Loads:_____

6. Critical Lifts:_____

7. Heaviest Pick:_____

8. Temp Bracing:_____

9. Anchor Bolt Modification Notification:_____

10. Erection Bridging Terminus Point:_____

11. Steel Erection Activities:_____

12. Columns & Beams:_____

13. Purlins and/or Bar Joist:_____

14. Connections:_____

15. Decking:_____

16. Misc. Iron:_____

17. Falling Object Protection:_____

18. Special Procedures:_____

19. Employee Certification:_____

20. Competent Persons:_____

21. Emergency Procedures:_____

_____

_____

22. Directions to Nearest Hospital/Emergency Treatment:_____

_____

_____

Attach Following:

☐ Map of area, highlighting route from jobsite to hospital/emergency treatment center.

☐ Correspondence of training received regarding steel erection activities.

☐ Compliance /inspection certificate for crane being used.

☐ Welding Procedure Specification (WPS).

☐ Welder, Welding Operator, or Tack Welder Qualification Test Records.

☐ Written notification from controlling contractor of 75% cure rate for concrete.

18. Cranes & Derricks

Purpose:

Establish procedures to ensure that cranes and derricks used on construction projects comply with standards required by OSHA 1926.1400 Subpart CC standards.

Controlling Entity Requirements

The cranes and derrick standard identifies several controlling entity requirements. When XYZ is a controlling entity for the contractor using the crane, the following requirements must be met:

- Ensure that ground preparations necessary to meet the requirements are provided.
- Inform the user of the equipment and the operator of the location of hazards beneath the equipment set-up area (such as voids, tanks, utilities) if those hazards are identified in documents (such as site drawings, as-built drawings, and soil analyses) that are in the possession of the controlling entity (whether at the site or off-site) or the hazards are otherwise known to that controlling entity.
- Coordinate operations if two cranes or derricks operate within the swing radius of one another.

If there is no controlling entity for the project, the requirement must be met by the employer that has authority at the site to make or arrange for ground preparations needed.

If the A/D director or the operator determines that ground conditions do not meet the requirements, that person's employer must have a discussion with the controlling entity regarding the ground preparations that are needed so that, with the use of suitable supporting materials/devices (if necessary), the requirements can be met.

Documentation confirming that these issues were addressed should include the contractor checklist identifying they were reviewed as well as information provided to XYZ indicating ground conditions required for model of crane to be used onsite, diagrams indicating location of underground hazards that XYZ is aware of, and other supporting documentation that may be relevant.

Preconstruction Planning

A preconstruction planning meeting will take place prior to cranes or derrick use onsite. Those contractors that will need to have a crane onsite during the project must be identified at the start of the project so discussions regarding what is required per 1926.1400 can be reviewed. Any contractor that will be utilizing a crane or derrick onsite needs to be aware that all applicable requirements must be met even if the crane or derrick is to be used for a short duration. A contractor checklist for cranes and derricks accompanies this program and should be used during preconstruction planning meetings. The planning stage meeting is the best time to address hazard avoidance.

Assembly/Disassembly

Contractors performing crane or derrick assembly/disassembly must identify the names of their competent person, qualified person, qualified rigger, and the assembly/disassemble director. Training documentation per 1926.1400 must be provided to XYZ to confirm that employee have been trained in the procedures (Manufacturer or Employer) utilized to assemble or disassemble the crane or derrick. If employer procedures are followed, synthetic sling use is prohibited.

If any part of the equipment can get closer than 20 feet of a power line, the one of the following three option must be utilized to protect employees:

Option (1)--Deenergize and ground - Confirm from the utility owner/operator that the power line has been deenergized and visibly grounded at the worksite.

Option (2)--20 foot clearance - Ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer than 20 feet to the power line by implementing the measures specified in paragraph (b) of this section.

Option (3)--*Table A clearance.*

Contractors utilizing 20 foot or Table A clearance must implement measures identified in 1926.1407(b) preventing encroachment/electrocutions. If Table A clearance option is used, the utility owner must be notified to request voltage information. The utility owner is required to respond with the information within two days. Table A is provided below.

TABLE A—MINIMUM CLEARANCE DISTANCES

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

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

Crane Operation and Power Lines

Contractors operating a crane or derrick must identify if any part of the equipment can get closer than 20 feet of a power line taking into consideration its maximum working radius. If any part of the equipment can get closer than 20 feet of a power line, the one of the following three option must be utilized to protect employees.

Option (1)--Deenergize and ground. Confirm from the utility owner/operator that the power line has been deenergized and visibly grounded at the worksite.

Option (2)--20 foot clearance. Ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer than 20 feet to the power line by implementing the measures specified in paragraph (b) of this section.

Option (3)--*Table A clearance*.

Contractors utilizing 20 foot or Table A clearance must implement measures identified in 1926.1407(b) preventing encroachment/electrocutions. If Table A clearance option is used, the utility owner must be notified to request voltage information. The utility owner is required to respond with the information within two days. Table A is provided above.

Cranes or derricks that travel near/under powerlines without a load must maintain clearance as per table T below as well as comply with requirements outlined in 29 CFR 1926.1411.

TABLE T—MINIMUM CLEARANCE DISTANCES WHILE TRAVELING WITH NO LOAD

Voltage (nominal, kV, alternating current)	While traveling—minimum clearance distance (feet)
up to 0.75	4
over .75 to 50	6
over 50 to 345	10
over 345 to 750	16
Over 750 to 1,000	20
Over 1,000	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

NOTE: All operators and crew members assigned to work with the equipment must be trained in power line safety. Supporting documentation needs to be provided that identifies training was provided per 1926.1408(g)

Operators

All crane operators working in New York State must be licensed per NYS Code Rule 23. A copy of their license must be provided to XYZ for filing onsite. Copy of the monthly crane inspection per NYS Code Rule 23 as well as the annual inspection per OSHA must be available and signed and dated by the owner.

Manufacturer procedures applicable to operational functions must be maintained and readily available in the cab for use by the operator. Also, the following operator requirements apply:

- Operator not to engage in activities that diverts their attention while operating the equipment
- Operator must not leave the equipment
- Tag-out equipment that is in need of service
- Verify controls in proper position prior to starting it
- Storm warnings and determination by competent person for securing equipment
- Wind speed limit for equipment on-site
- Notify operators and affected employees if adjustments or repairs are needed
- Compliance with rated capacity must be maintained
- Boom or other parts must not contact obstructions
- Do not drag or pull loads sideways
- Wheel mounted equipment, no loads over front are unless allowed by manufacturer
- Test brakes if load is 90% or more of the maximum line pull
- Maintain two full wraps of rope on drums (load or boom)
- Traveling with a load is prohibited unless allowable by manufacturer
- Rotational speed of the equipment must be controlled
- Utilize taglines if necessary to control loads
- Brakes must be adjusted in accordance with manufacturer specs
- Operator must obey a stop signal irrespective of who gives it
- Counterweight/ballast provided and used per manufacturer

Crane Inspections

Crane inspections must be performed when equipment is modified, repaired or adjusted, post assembly, each shift, monthly, annually, after severe service, or when equipment not in regular use per manufacturer. XYZ needs copies of the inspections, daily, monthly, etc. as they are generated. A daily crane inspection checklist is provided in this program and mirrors those items that are required to be inspected per subpart CC.

Signals

A signal person must be provided in each of the following situations:

- The point of operation, meaning the load travel or the area near or at load placement, is not in full view of the operator.
- When the equipment is traveling, the view in the direction of travel is obstructed.
- Due to site specific safety concerns, either the operator or the person handling the load determines that it is necessary.

Signalperson Qualifications

The employer of the signal person must ensure that each signal person meets the Qualification Requirements prior to giving any signals. This requirement must be met by using either Option (1) or Option (2).

Option (1)--Third party qualified evaluator. The signal person has documentation from a third party qualified evaluator.

Option (2)--Employer's qualified evaluator. The employer's qualified evaluator assesses the individual and determines that the individual meets the Qualification Requirements.

The employer must make the documentation for whichever option is used available at the site while the signal person is employed by the employer. The documentation must specify each type of signaling (*e.g*. hand signals, radio signals, *etc*.) for which the signal person meets the requirements of paragraph (c) of this section.

Each signal person must:

- Know and understand the type of signals used. If hand signals are used, the signal person must know and understand the Standard Method for hand signals.
- Be competent in the application of the type of signals used.
- Have a basic understanding of equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads.
- Know and understand the relevant requirements of § 1926.1419 through § 1926.1422 and § 1926.1428.
- Demonstrate that he/she meets the requirements in paragraphs (c)(1) through (4) of this section through an oral or written test, and through a practical test.

Qualified Rigger

A qualified rigger is a person who meets the criteria for qualified person. A qualified person means a person who, by possession of a recognized degree, certificated, or professional standing, or who by extensive knowledge, training and experience, successfully demonstrated the ability to solve/resolve problems relating to the subject matter, the work, or the project.

Wire Rope Inspections

Crane wire rope inspections must be performed by a competent person each shift and on a monthly basis following the protocol outlined in Subpart CC. Annual inspections must be performed by a qualified person and must also follow, at a minimum, specifications outline in Subpart CC.

Safety Devices

The following safety devices must be checked daily and be operational in order to use the crane:

- Crane level indicator
- Boom stops, except for derricks and hydraulic cranes
- Jib stops (if jib attached) except derricks
- Equipment with foot pedal brakes must have locks
- Hydraulic outrigger jacks and stabilizer jacks have integral holding device/check valve
- Equipment on rails, rail clamps and rail stops
  Horn

If safety devices are not operational or break during the use of the crane, the crane must be taken out service until the safety devices are repaired. A checklist of safety devices to be inspected daily is provided as part of this program.

Operational Aids

The following operational aids, if applicable, must be inspected on a daily basis:

- Boom hoist limiting device
- Luffing jib limiting device,
- Anti two-block device,
- Boom angle or radius indicator
- Jib angle indicator
- Boom length indicator
- Load weighting and similar devices
- Outrigger/stabilizer position sensor/monitor
- Hoist drum rotation indicator

- Equipment that lacks a required operational aid must be repaired in allowable time frame and alternative measures must be provided as outlined in 29 CFR 1926.1416.

Fall Protection

Fall protection on walking/working surfaces of cranes must be maintained as per 29 CFR 1926.1423.

Non-Assembly/Disassembly 6 foot trigger height:
When moving point to point
While at a work station on any part of the equipment except;
Employee at or near draw-works
In the cab
On the deck

Assembly/Disassembly work 15 foot trigger height
Exceptions:
Employee at or near draw-works
In the cab
On the deck

Training. The employer must train each employee who may be exposed to fall hazards.

Cranes and Derricks
Visual Cranes Inspection Checklist
Subpart CC, 1926.1400

This form must be completed every day before crane operations begin. The visual crane inspection will normally be done by the crane operator. The crane inspection forms must be available to the Controlling Contractor upon request.

Project:_____ Location:_____

Crane:_____ Lift Activity:_____

Crane Inspector:_____ Date:_____

INSPECTION ITEM:

☐Control mechanisms for maladjustments interfering with proper operation.
☐Control and drive mechanisms for apparent excessive wear of components and contamination by lubricants, water or other foreign matter.
☐Air, hydraulic, and other pressurized lines for deterioration or leakage, particularly those which flex in normal operation.
☐Hydraulic system for proper fluid level.
☐Hooks and latches for deformation, cracks, excessive wear, or damage such as from chemicals or heat.
☐Wire rope reeving for compliance with the manufacturer's specifications.
☐Wire rope, in accordance with § 1926.1413(a).
☐Electrical apparatus for malfunctioning, signs of apparent excessive deterioration, dirt or moisture accumulation.
☐Tires (when in use) for proper inflation and condition.
☐Ground conditions around the equipment for proper support, including ground settling under and around outriggers/stabilizers and supporting foundations, ground water accumulation, or similar conditions.
☐The equipment for level position within the tolerances specified by the equipment manufacturer's recommendations, both before each shift and after each move and setup.
☐Operator cab windows for significant cracks, breaks, or other deficiencies that would hamper the operator's view.
☐Rails, rail stops, rail clamps and supporting surfaces when the equipment has rail traveling.
☐Safety devices and operational aids for proper operation.

If any deficiency is identified, an immediate determination must be made by the competent person as to whether the deficiency constitutes a safety hazard. If the deficiency is determined to constitute a safety hazard, the equipment must be taken out of service until it has been corrected.

If any deficiency of this section (safety devices/operational aids) is identified, the action specified in § 1926.1415 and § 1926.1416 must be taken prior to using the equipment.

All items must check OK before crane can be used.

SAFETY DEVICES AND OPERATIONAL AIDS CHECKLIST

***Safety devices*. The following safety devices are required on all equipment covered by this subpart, unless otherwise specified:**
Crane Level Indicator
☐The equipment must have a crane level indicator that is either built into the equipment or is available on the equipment.
☐If a built-in crane level indicator is not working properly, it must be tagged-out or removed. If a removable crane level indicator is not working properly, it must be removed.
☐This requirement does not apply to portal cranes, derricks, floating cranes/derricks and land cranes/derricks on barges, pontoons, vessels or other means of flotation.
☐Boom stops, except for derricks and hydraulic booms.
☐Jib stops (if a jib is attached), except for derricks.
☐Equipment with foot pedal brakes must have locks.
☐Hydraulic outrigger jacks and hydraulic stabilizer jacks must have an integral holding device/check valve.
☐Equipment on rails must have rail clamps and rail stops, except for portal cranes.
Horn
☐The equipment must have a horn that is either built into the equipment or is on the equipment and immediately available to the operator.
☐If a built-in horn is not working properly, it must be tagged-out or removed. If a removable horn is not working properly, it must be removed.
Operational Aids.
Proper operation required. Operations must not begin unless all of the devices listed in this section are in proper working order. If a device stops working properly during operations, the operator must safely stop operations. If any of the devices listed in this section are not in proper working order, the equipment must be taken out of service and operations must not resume until the device is again working properly. *See* § 1926.1417 (Operation). Alternative measures are not permitted to be used.
The devices listed in this section ("listed operational aids") are required on all equipment covered by this subpart, unless otherwise specified. The requirements in paragraphs (e)(1), (e)(2), and (e)(3) of this section do not apply to articulating cranes. The requirements in paragraphs (d)(3), (e)(1), and (e)(4) of this section apply only to those digger derricks manufactured after November 8, 2011.
Operations must not begin unless the listed operational aids are in proper working order, except where an operational aid is being repaired the employer uses the specified temporary alternative measures. The time periods permitted for repairing defective operational aids are specified in paragraphs (d) and (e) of this section. More protective alternative measures specified by the crane/derrick manufacturer, if any, must be followed. If a listed operational aid stops working properly during operations, the operator must safely stop operations until the temporary alternative measures are implemented or the device is again working properly. If a replacement part is no longer available, the use of a substitute device that performs the same type of function is permitted and is not considered a modification under § 1926.1434.
Category I operational aids and alternative measures. Operational aids listed in this paragraph that are not working properly must be repaired no later than 7 calendar days after the deficiency occurs. *Exception:* If the employer documents that it has ordered the necessary parts within 7 calendar days of the occurrence of the deficiency, the repair must be completed within 7 calendar days of receipt of the parts. *See* § 1926.1417(j) for additional requirements.

Boom Hoist Limiting Device	
☐For equipment manufactured after December 16, 1969, a boom hoist limiting device is required. *Temporary alternative measures (use at least one)*. One or more of the following methods must be used:	
☐Use a boom angle indicator.	
☐Clearly mark the boom hoist cable (so that it can easily be seen by the operator) at a point that will give the operator sufficient time to stop the hoist to keep the boom within the minimum allowable radius. In addition, install mirrors or remote video cameras and displays if necessary for the operator to see the mark.	
☐Clearly mark the boom hoist cable (so that it can easily be seen by a spotter) at a point that will give the spotter sufficient time to signal the operator and have the operator stop the hoist to keep the boom within the minimum allowable radius.	
☐If the equipment was manufactured on or before December 16, 1969, and is not equipped with a boom hoist limiting device, at least one of the measures in paragraphs (d)(1)(i)(A) through (C) of this section must be used.	
Luffing Jib Limiting Device	
☐Equipment with a luffing jib must have a luffing jib limiting device. Temporary alternative measures are the same as in paragraph (d)(1)(i) of this section, except to limit the movement of the luffing jib rather than the boom hoist.	
Anti Two-Blocking Device	
☐Telescopic boom cranes manufactured after February 28, 1992, must be equipped with a device which automatically prevents damage from contact between the load block, overhaul ball, or similar component, and the boom tip (or fixed upper block or similar component). The device(s) must prevent such damage at all points where two-blocking could occur.	
☐*Temporary alternative measures:* Clearly mark the cable (so that it can easily be seen by the operator) at a point that will give the operator sufficient time to stop the hoist to prevent two-blocking, and use a spotter when extending the boom.	
Lattice Boom Cranes.	
☐Lattice boom cranes manufactured after Feb 28, 1992, must be equipped with a device that either automatically prevents damage and load failure from contact between the load block, overhaul ball, or similar component, and the boom tip (or fixed upper block or similar component), or warns the operator in time for the operator to prevent two-blocking. The device must prevent such damage/failure or provide adequate warning for all points where two-blocking could occur.	
☐Lattice boom cranes and derricks manufactured after November 8, 2011 must be equipped with a device which automatically prevents damage and load failure from contact between the load block, overhaul ball, or similar component, and the boom tip (or fixed upper block or similar component). The device(s) must prevent such damage/failure at all points where two-blocking could occur.	
☐*Exception*. The requirements in paragraphs (d)(3)(ii)(A) and (B) of this section do not apply to such lattice boom equipment when used for dragline, clamshell (grapple), magnet, drop ball, container handling, concrete bucket, marine operations that do not involve hoisting personnel, and pile driving work.	
☐*Temporary alternative measures*. Clearly mark the cable (so that it can easily be seen by the operator) at a point that will give the operator sufficient time to stop the hoist to prevent two-blocking, or use a spotter.	
☐Articulating cranes manufactured after December 31, 1999, that are equipped with a load hoist must be equipped with a device that automatically prevents damage from contact between the load block, overhaul ball, or similar component, and the boom tip (or fixed upper block or similar component). The device must prevent such damage at all points where two-blocking could occur. *Temporary alternative measures:* When two-blocking could only occur with movement of the load hoist, clearly mark the cable (so that it can easily be seen by the operator) at a point that will give the operator sufficient time to stop the hoist to prevent two-blocking, or use a spotter. When two-blocking could occur without movement of the load hoist, clearly mark the cable (so that it can easily be seen by the operator) at a point that will give the operator sufficient time to stop the hoist to prevent two-blocking, and use a spotter when extending the boom.	

Category II operational aids and alternative measures. Operational aids listed in this paragraph that are not working properly must be repaired no later than 30 calendar days after the deficiency occurs. *Exception:* If the employer documents that it has ordered the necessary parts within 7 calendar days of the occurrence of the deficiency, and the part is not received in time to complete the repair in 30 calendar days, the repair must be completed within 7 calendar days of receipt of the parts. *See* § 1926.1417(j) for additional requirements.
Boom Angle or Radius Indicator.
☐The equipment must have a boom angle or radius indicator readable from the operator's station. *Temporary alternative measures:* Radii or boom angle must be determined by measuring the radii or boom angle with a measuring device.
☐Jib angle indicator if the equipment has a luffing jib. *Temporary alternative measures:* Radii or jib angle must be determined by ascertaining the main boom angle and then measuring the radii or jib angle with a measuring device.
☐Boom length indicator if the equipment has a telescopic boom, except where the rated capacity is independent of the boom length. *Temporary alternative measures*. One or more of the following methods must be used:
☐Mark the boom with measured marks to calculate boom length,
☐Calculate boom length from boom angle and radius measurements,
☐Measure the boom with a measuring device.
Load Weighing and Similar Devices.
☐Equipment (other than derricks and articulating cranes) manufactured after March 29, 2003 with a rated capacity over 6,000 pounds must have at least one of the following: load weighing device, load moment (or rated capacity) indicator, or load moment (or rated capacity) limiter. *Temporary alternative measures:* The weight of the load must be determined from a source recognized by the industry (such as the load's manufacturer) or by a calculation method recognized by the industry (such as calculating a steel beam from measured dimensions and a known per foot weight). This information must be provided to the operator prior to the lift.
☐Articulating cranes manufactured after November 8, 2011 must have at least one of the following: automatic overload prevention device, load weighing device, load moment (or rated capacity) indicator, or load moment (rated capacity) limiter. *Temporary alternative measures:* The weight of the load must be determined from a source recognized by the industry (such as the load's manufacturer) or by a calculation method recognized by the industry (such as calculating a steel beam from measured dimensions and a known per foot weight). This information must be provided to the operator prior to the lift.
The following devices are required on equipment manufactured after November 8, 2011:
☐Outrigger/stabilizer position (horizontal beam extension) sensor/monitor if the equipment has outriggers or stabilizers. *Temporary alternative measures:* The operator must verify that the position of the outriggers or stabilizers is correct (in accordance with manufacturer procedures) before beginning operations requiring outrigger or stabilizer deployment.
☐Hoist drum rotation indicator if the equipment has a hoist drum not visible from the operator's station. *Temporary alternative measures:* Mark the drum to indicate the rotation of the drum. In addition, install mirrors or remote video cameras and displays if necessary for the operator to see the mark.

19. Scaffolding

1. General

a) Scaffolding should be erected plumb and secure on sound rigid ground under the supervision of a competent person.

b) Precautionary measures, including fall protection, to be used during the erection and dismantling of scaffolds should be planned out prior to beginning work. The competent person will decide the feasibility of using fall protection during the erection and dismantling of scaffolds and whether the use of fall protection creates a greater hazard.

c) No work shall occur on any scaffold until the erection competent person has certified the complete installation of all necessary fall protection and turned the scaffold over to the production crews.

d) The front edge of all platforms shall not be more than 14" from the face of the work unless a guardrail system is erected along the front edge or personal fall arrest systems are used. The distance from the face for plastering and lathing operations shall not exceed 18".

e) Standard guardrails and toeboards are required on all open sides and edges of scaffolds greater than 10' tall. Cross bracing is acceptable in place of a midrail when the crossing point of two braces is between 20" and 30" above the work platform or as a toprail when the crossing point of the two braces is between 38" and 48" above the work platform. To utilize the cross braces as partial guardrail protection, the endpoints at each upright shall be no more than 48" apart.

f) Screen should be installed where tools or materials are stacked above the toeboard and workers are required to pass below scaffold (i.e., to access building).

g) A ladder, stairtower, ramp or other safe means should be used to access scaffold platforms more than 24" above or below a point of access. Climbing on end frames is prohibited unless the frames are designed with integral ladder frames. Integral ladder frames have a rung length of at least 8"; a uniform rung spacing of no more than 16 ¾" (non-uniform rung spacing caused by joining end frames together is allowed provided rung spacing does not exceed 16 ¾"); and rest platforms must be provided at 35' maximum intervals.

h) Ladders and stairtowers shall be positioned such that their bottom step/rung is not more than 24" above the scaffold supporting level.

i) Cross braces on tubular welded scaffolds shall not be used as a means of access or egress.

j) Scaffold planks should overhang end supports no less than 6" and no more than 12" unless cleated or otherwise secured in place. The 12" overhang may be exceeded where guardrails block the cantilevered portion of the platform or where the platform length exceeds 10" the maximum overhang increases to 18".

k) Any scaffolding component damaged or weakened by any cause should be braced and if possible removed or repaired.

l) All scaffold platforms shall be fully planked between the front uprights and the guardrail supports. Platforms shall be decked so that no space between the planks or scaffold supports exceeds 1". Where platforms must fit around scaffold uprights or similar components, the space between the platform and the uprights should not exceed 9 ½".

m) Each scaffold platform and walkway shall be at least 18" wide. Exceptions to this rule are on ladder jack, pump jack, and top plate bracket scaffolds whose platform must be at least 12" wide. One further exception occurs where the area in which the scaffold is located is so narrow the platform or walkway cannot be at least 18" wide.

n) All planking should be scaffold grade or equivalent. Cracked or split planks should be immediately replaced.

o) Do not overload scaffold. Materials should be brought up as needed.

p) Unstable objects shall not be used as working platforms.

2. Supported Scaffolds (i.e., Tubular Welded Frame)

a) Scaffold legs should be set on adjustable bases or plain bases set on mud sills or foundations adequate to support the maximum rated load.

b) Where uplift may occur, panels should be locked together vertically by pins or other equivalent means.

c) Scaffolds should be properly braced by cross-braces, diagonal braces or both.

d) Scaffolds shall be tied off at the closest horizontal scaffold member to a 4:1 height to minimum base dimension ratio, then repeated every 26' vertically at locations of horizontal members. Ties and braces should be located at each end of a scaffold and at 30' intervals horizontally.

e) Scaffold ties shall brace the scaffold from moving into or away from the building structure. To accomplish this, ties should be constructed of tie wire to prevent movement away from the structure and a rigid "standoff" to provide compressive strength to prevent movement into the building. Other methods may be used to construct tie-offs provided they meet the above support requirements.

3. Mobile Scaffolds

a) The height of mobile scaffolds should not exceed four times their minimum base dimension.

b) Scaffolds shall be braced by cross, horizontal, and diagonal braces to prevent racking or collapse and to automatically square and align the vertical members.

c) Platforms should be tightly planked.

d) An access ladder should be affixed to the scaffold in a location where its usage will not have a tendency to tip the scaffold.

e) When in use, casters or wheels should be locked to prevent movement. Only in rare instances are employees allowed to ride mobile scaffolds. 1926.452 (w) should be consulted and jobsite supervisor’s approval must be obtained to ensure that operations meet the requirements of this standard prior to employees riding on a mobile scaffold.

4. Suspension Scaffolds

a) Swing scaffold platforms should not be less than 18 inches nor more than 36 inches wide overall.

b) Roof irons should be of proper size and design and should be securely installed and anchored.

c) Secondary tiebacks equivalent in strength to the suspension ropes should be installed at right angles to the face of the building, whenever possible, and secured to a structurally sound portion of the building.

d) Counterweights should be made of a non-flowable material. Sand, gravel and similar materials are not permitted. Additionally, construction material such as masonry units and rolled roofing should also not be used at counterweight.

e) Counterweights shall be mechanically fastened to the outrigger beam to prevent displacement.

f) Workers shall be protected by appropriate safety harnesses and independent lifelines.

g) All supporting parts should be inspected prior to installation and periodically during use.

h) Check load limits prior to using scaffold and make sure those limits are not exceeded.

i) Guardrails should be installed on all open sides and ends of suspension scaffolds.

j) All power operated gears and brakes should be enclosed.

5. Ramps and Walkways

a) Ramps and walkways 6' or more above a lower level shall be equipped with a standard guardrail system.

b) No ramp or walkway should be sloped greater than 1 vertical to 3 horizontal

c) If the slope of the ramp or walkway is steeper than 1:8, cleats shall be securely fastened to the walkway spaced no further than 14" apart to provide footing.

Appendix A

Scaffolding Diagram

Code of Safe Practices for
Frame Scaffolds, System Scaffolds,
Tube and Clamp Scaffolds & Rolling Scaffolds

Developed for Industry by
Scaffold Industry Association, Inc.

It shall be the responsibility of all users to read and comply with the following common-sense guidelines which are designed to promote safety in the erecting, dismantling and use of scaffolds. These guidelines do not purport to be all-inclusive, nor to supplant or replace other additional safety and precautionary measures to cover usual or unusual conditions. If these guidelines in any way conflict with any state, local, federal or other government statute or regulation, said statute or regulation shall supercede these guidelines and it shall be the responsibility of each user to comply therewith.

General Guidelines

A. POST THESE SCAFFOLDING SAFETY GUIDELINES in a conspicuous place and be sure that all persons who erect, dismantle, or use scaffolding are aware of them.

B. FOLLOW ALL STATE, LOCAL AND FEDERAL CODES, ORDINANCES AND REGULATIONS pertaining to scaffolding.

C. SURVEY THE JOBSITE. A survey shall be made of the job site for hazards, such as untamped earth fills, ditches, debris, high tension wires, unguarded openings, and other hazardous conditions created by other trades. These conditions should be corrected or avoided as noted in the following sections.

D. INSPECT ALL EQUIPMENT BEFORE USING. Never use any equipment that is damaged or defective in any way. Remove it from the job site.

E. SCAFFOLDS MUST BE ERECTED IN ACCORDANCE WITH DESIGN AND/OR MANUFACTURER'S RECOMMENDATIONS.

F. DO NOT ERECT, DISMANTLE, OR ALTER A SCAFFOLD unless under the supervision of a qualified person.

G. DO NOT ABUSE OR MISUSE THE SCAFFOLD EQUIPMENT.

H. ERECTED SCAFFOLDS SHOULD BE CONTINUALLY INSPECTED by users to be sure that they are maintained in a safe condition. Report any unsafe condition to your supervisor.

I. NEVER TAKE CHANCES! IF IN DOUBT REGARDING THE SAFETY OR USE OF THE SCAFFOLD, CONSULT YOUR SCAFFOLD SUPPLIER.

J. NEVER USE EQUIPMENT FOR PURPOSES OR IN WAYS FOR WHICH IT WAS NOT INTENDED.

K. DO NOT WORK ON SCAFFOLDS if your physical condition is such that you feel dizzy or unsteady in any way.

GUIDELINES FOR ERECTION AND USE OF SCAFFOLDS

A. SCAFFOLD BASE MUST BE SET ON AN ADEQUATE SILL OR PAD to prevent slipping or sinking and fixed thereto where required. Any part of a building or structure used to support the scaffold shall be capable of supporting the maximum intended load to be applied.

B. USE ADJUSTING SCREWS or other approved methods instead of blocking to adjust to uneven grade conditions.

C. BRACING, LEVELING, & PLUMBING OF FRAME SCAFFOLDS -

1. Plumb and level all scaffolds as the erection proceeds. Do not force frames or braces to fit. Level the scaffold until proper fit can easily be made.
2. Each frame or panel shall be braced by horizontal bracing, cross bracing, diagonal bracing or any combination thereof for securing vertical members together laterally. All brace connections shall be made secure, in accordance with the manufacturer's recommendations.

A. BRACING, LEVELING & PLUMBING OF TUBE & CLAMP AND SYSTEM SCAFFOLDS –

1. POSTS SHALL BE ERECTED PLUMB in all directions, with the first level of runners and bearers positioned as close to the base as feasible. The distance between bearers and runners shall not exceed manufacturer's recommended procedures.
2. PLUMB, LEVEL, AND TIE all scaffolds as erection proceeds.
3. FASTEN ALL COUPLERS AND/OR CONNECTIONS securely before assembly of next level.
4. VERTICAL AND/OR HORIZONTAL DIAGONAL BRACING MUST BE INSTALLED according to manufacturer's recommendations.

B. TIE CONTINUOUS (RUNNING) SCAFFOLDS TO THE WALL OR STRUCTURE at each end and at least every 30 feet of length when scaffold height exceeds the maximum allowable free standing dimension.

Begin ties or stabilizers when the scaffold height exceeds that dimension, and repeat at vertical intervals not greater than 16 feet. The top anchor shall be placed no lower than four (4) times the base dimension from the top of the completed scaffold. Anchors must prevent scaffold from tipping into or away from wall or structure. Stabilize circular or irregular scaffolds in such a manner that completed scaffold is secure and restrained from tipping.

When scaffolds are partially or fully enclosed or subjected to overturning loads, specific precautions shall be taken to insure the frequency and accuracy of ties to the wall and structure. Due to increased loads resulting from wind or overturning loads the scaffolding component to which ties are subjected shall be checked for additional loads.

C. WHEN FREE STANDING SCAFFOLD TOWERS exceed four (4) times their minimum base dimension vertically, they must be restrained from tipping. (CAL/OSHA and some government agencies require stricter ratio of 3:1).

D. DO NOT ERECT SCAFFOLDS NEAR ELECTRICAL POWER LINES UNLESS PROPER PRECAUTIONS ARE TAKEN. Consult the power service company for advice.

E. A MEANS OF ACCESS TO ALL PLATFORMS SHALL BE PROVIDED.

F. DO NOT USE ladders or makeshift devices on top of scaffolds to increase the height.

G. PROVIDE GUARDRAILS AND MID-RAILS AT EACH WORKING PLATFORM LEVEL where open sides and ends exist, and toeboards where required by code.

20. Excavations & Trenching

Purpose

The purpose of this program is to protect all of ADAMS WALLKILL, LLC's employees that are exposed to hazards associated with excavation and trenching activities.

Policy

When ADAMS WALLKILL, LLC is performing excavation or trenching activities, our designated competent person will be responsible for classifying soil type as well as performing daily inspections.

Specific Requirements

1. **CALL BEFORE YOU DIG!! Dial 811; www.digsafelynewyork.com** Prior to opening an excavation, the exact location of underground utilities shall be determined. Call the local centralized utility agency before you dig or drill. Contractors can now call 811, a national service that will connect you to the appropriate utility marking entity.

2. Excavations exceeding 20 feet in depth must have protective systems designed by a registered professional engineer.

3. **Benching/Sloping:** All excavations and trenches 5 feet or deeper shall be sloped or benched wide enough to achieve stable bank conditions according to the following ratios (Horizontal : Vertical):

4.
   a) Type C soil, at least 1-1/2 : 1
   b) Type B soil, at least 1 : 1
   c) Type A soil, at least 3/4 : 1
   d) Or, if it is not possible to cut back to the angles prescribed, all trenches 5 feet or more in depth shall be shored or shielded.
   e) Unclassified soils must be sloped or benched at least 1-1/2 : 1.
   f) **For instructions on how to classify soil, refer to Appendix A, Soil Classification, of Subpart P - Excavations, 29 CFR 1926, 650-652.**

5. **Inspections:** No employee shall enter an excavation until it has been inspected by a competent person and declared safe to enter. Excavations shall be inspected daily before employees are allowed to enter and after every rainstorm or other hazard-causing occurrence.
   * Definition: *Competent Person* means one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

6. **Access/Egress:** A stairway, ladder, ramp or other safe means of egress shall be located in excavations that are 4' or more in depth so as to allow no more than 25' of lateral travel for employees. Earthen ramps shall be sloped so that employees do not have to climb on hands and feet when accessing or egressing an excavation or trench.

7. **Loose Debris:** Spoil piles, loose rock and soil, tools, and other debris shall be kept at least 2' back from excavation edges, secured or removed to prevent it from falling into excavation where it could cause injuries.

8. **Vehicular Traffic:** All employees working near traffic shall wear vests or garments made of or marked with reflective or high visibility material.

9. **Falling Loads:** No employee shall be permitted beneath a load handled by loading or digging equipment, and operators remaining in their vehicles must have adequate canopy protection.

10. **Fall Protection:** Trenches which are not readily visible will be protected by barricades, covers or other suitable means. Also, where ramps or walkways are utilized to cross over excavations and a fall hazard of 6 feet or more exists, guardrails or some other form of fall protection will be provided.

11. **Hazardous Atmosphere:** When it is expected or reasonably predictable to expect that a hazardous atmosphere exists, or an atmosphere containing less than 19.5% oxygen, precautions necessary to ensure employee safety will be taken. Examples include:

    a) Ventilation
    b) Air purifying respirators will be provided in accordance with ADAMS WALLKILL, LLC's Respirator Program.
    c) Supplied air respirators will be provided in accordance with ADAMS WALLKILL, LLC's Respirator Program.
    d) **When a hazardous atmosphere exists, refer to the Confined Space section of this program.**

12. **Water Accumulation:** Employees will not be permitted to work in excavations where water is accumulating. The designated competent person must determine what safeguards will be taken to protect against the hazards of water accumulation.

13. **Mechanical Equipment:** When mechanical equipment is operated adjacent to an excavation and the operator does not have a clear view of the edge barricades, stop logs or someone providing signals will be utilized.

14. **Surface Encumbrances:** Sidewalks, trees, and other miscellaneous surface encumbrances whose stability may be weakened by excavation operations should be braced, secured or removed to prevent their falling into the open excavation.

15. **Stability of Adjacent Structures:** Whenever excavating operations could weaken adjoining buildings, wall or structures, support systems such as shoring, bracing or underpinning will be utilized.

Support Systems

1. **Timber Shoring:** All timber shoring systems will be designed in accordance with Appendices A and C of **Subpart P - Excavations** from 29 CFR 1926 Standards for Construction.

2. **Aluminum Hydraulic Shoring (AHD):** All aluminum hydraulic shoring systems will be designed from *Manufacturers Tabulated Data* or when not available in accordance with Appendix D of **Subpart P - Excavations** from 29 CFR 1926 Standards for Construction.

Aluminum hydraulic shoring systems designed from the manufacturer's tabulated data will be in accordance with the manufacturer's recommendations, specifications and limitations.

a) **Important:** Any deviation from the manufacturer's recommendations or specifications must be approved by the manufacturer.
b) Altered systems with the manufacturer's approval shall have a written copy of that approval on site during construction of the system and a copy kept at the main office.

3. **Registered Professional Engineer:** Systems designed by a registered professional engineer shall include the following:

a) A plan indicating the sizes, types and configurations of the materials to be used in the protective system; and
b) The identity of the professional engineer designing the system.
c) A copy of the design shall be kept onsite during the construction of the system and a copy will be kept at the main office.

4. **Trench Boxes:** Trench Boxes will be used in accordance with the loads for which they were designed.

a) Trench Boxes shall be installed to prevent lateral movement in the event of cave-ins, etc.
b) Employees shall not enter or exit a trench box from any part of the trench that is unprotected.
c) Employees will not be allowed inside of trench boxes when they are being installed, removed or moved vertically.
d) Trench boxes must extend at least 18 inches above the top of the vertical side to prevent tools and/or debris from falling into the excavation/trench.
e) Excavations of earth material to a level not greater than two feet below the bottom of the shield or trench box shall be permitted, but only if the shield

or support system is designed to resist the forces calculated for the full depth of the trench, and there are no indications of soil movement from behind the shield or support system.

Daily Excavation Checklist

Competent Person(s)_____ Date_____

Use one or more of the following Comment Codes listed below to describe your trench inspection. Use a "checkmark" to indicate yes, or fill in the blank with applicable information or description. Leave blank if not applicable.

DESCRIPTIONS:	(G) Good	(P) Poor	(S) Stable	(U) Unstable
SOIL TYPE:	Rock	"A"	"B"	"C"
MOISTURE CONDITIONS	(M) Moist (D) Dry	(SA) Saturated (PS) Partial Saturation	(R) Rain	

JOB SITE DESCRIPTION

LOCATION_____ AREA CONGESTED_____

BLUE STAKE DATE_____ LOG #:_____ RIGHT OF WAY & CLEARANCE OK_____

TRENCH DEPTH_____ WIDTH_____ LENGTH_____ INTERSECT OR ANGULAR _____

CROSSING TRENCH: LINES_____ ROAD/ALLEY_____

PARALLEL TO TRENCH: LINES_____ ROAD/ALLEY_____ BUILDING(S)_____

POLE BRACING_____ OVERHEAD LINES_____ STRUCTURAL BRACING_____

OPEN DATE/TIME_____ JOB #_____

RPE CONSULTED_____ REASON:_____

TRENCH/EXCAVATION INSPECTION COMMENTS:
Describe any changing conditions, plans, or shoring equipment damage in space below using COMMENT CODES defined above.

Soil Type _____ Time(s) Inspected _____ _____ _____

EMPLOYEE & PUBLIC SAFETY INSPECTION

Air Quality Test	____	Cones	____	Ladders	_____	Steel Plating	____
Barricades	____	Emergency Equipment	____	Ramp/Employee	_____	Traffic Control	____
Barricade Type	____	Fencing	____	Ramp/Equipment	_____	Water Removal	____
Weekend Protection	____						

PROTECTION SYSTEM SELECTION

Installed according to Excavation Safety Resource Manual

Hydraulic Uprights:		**Sloping:**		**Compound Slope:**		**Other:**	
No Sheeting	____	Simple Slope ____H:____V		Upper Slope ____H:____V		Hydraulic Wales	____
Closed Sheeting	____	Slope/Bench ____H:____V		Lower Slope ____H:____V		Timber Shores	____
Spaced Sheeting	____	Mulitple Benches	____			Trench Shield	____
		Slope w/Support	____			Unsupported Wall	____

SOIL CONDITIONS

Results (circle one type) of Visual & Manual tests indicate soil is Type…..Rock A B C

If no Manual & Visual tests performed, trench shall be shored for Type "C" soil (ESRM) _____

Manual Tests (OSHA requires one or more)

		Cohesive Fissured	Cohesive Unfissured	Granular
1.	PLASTICITY/PAT		_____	_____
2.	DRY STRENGTH	_____	_____	_____
3.	DRYING	_____	_____	_____
4.	THUMB PENETRATION			
	Type "A", ¼" or less _____			
	Type "B", ¼" to 1" _____			
	Type "C", 1" or more _____			
5.	POCKET PENETROMETER _____			
6.	OTHER tests _____			

VISUAL TESTS(OSHA requires one or more. Do as many as possible.)

		Cohesive Soil Presence indicates more stability	Granular Soil Presence indicates less stability
1.	Spoil Pile:	Remains in clumps _____ (Fine Grained Clay)	Breaks up easily _____ (Coarse grained sand or gravel: silt)
2.	Trench Sides:	Stands Vertical _____ for over 2 hours (Fine Grained Clay)	Sloughs into trench _____ (Coarse grained sand or gravel: silt)

Presence indicates less trench stability

3.	Fissures:	Cracks or spalls	trench side _____	trench top	_____	
4.	Soil layers slope into trench estimated at 4H:1V or steeper					_____
5.	Rock layer above soil layer					_____
6.	Sloughing or caving of sides into trench during excavation					_____
7.	Seepage into trench from	sides _____	surface _____	bottom	_____	
8.	Water up to bottom half of trench within last 24 hours					_____
9.	Vibration sources near trench may affect stability					_____
10.	Prior or existing excavation	crossing trench _____	parallel to trench		_____	
11.	Organics present in soil can result in trench failure or hazardous air					_____

CONSTRUCTION/DESIGN COMMENTS

Tailboard _____ On-site review with construction supervisor & design _____

The "Competent Person" is responsible for all items in checklist.
CP has authority to make prompt, corrective decisions to remedy any existing or predictable hazard.

SELECTION OF PROTECTIVE SYSTEMS

The following figures are a graphic summary of the requirements for excavations 20 feet or less in depth. Protective systems for use in excavations more than 20 feet in depth must be designed by a registered professional engineer in accordance with § 1926.652(b) and (c).

Figure 1. Preliminary Decisions

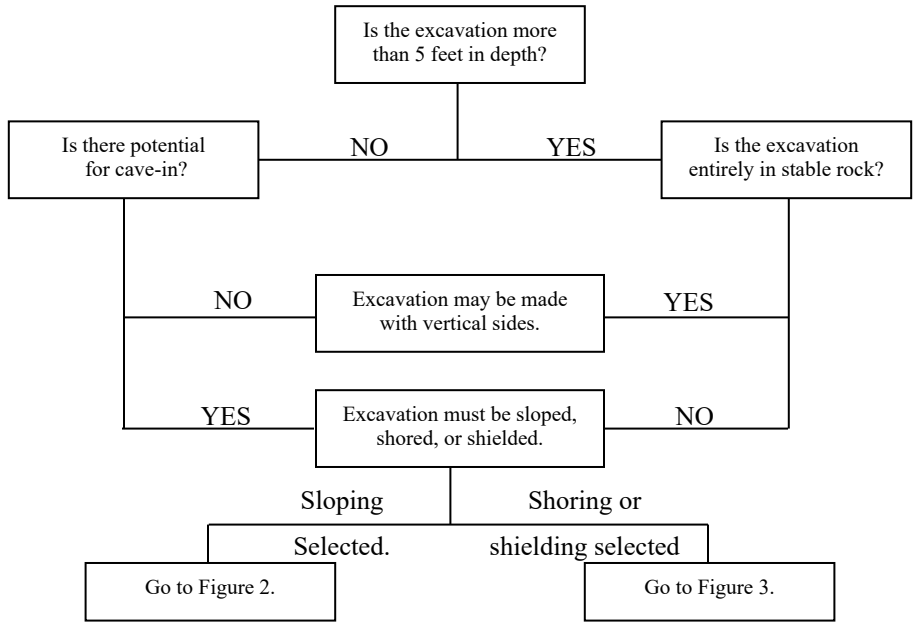
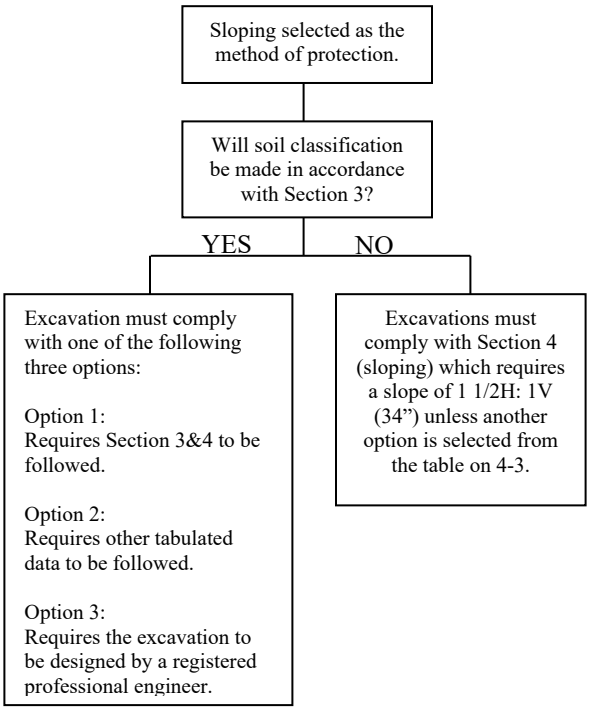
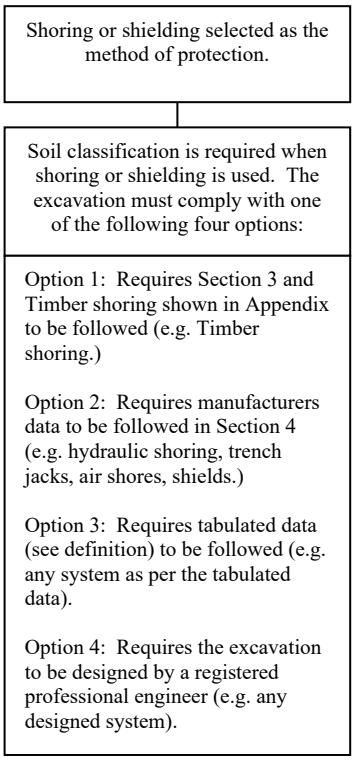


Figure 2. Sloping Options



EXCAVATION STANDARD
Figure 3. Shoring & Shielding Options



21. Hazard Communication

General Information

This written hazard communication program shall be available at the worksite job trailer to any interested employee, employee representative or OSHA personnel. This program was written to educate the employees concerning jobsite hazards relating to hazard communication. [NAME] has been designated to manage this program. This program has been broken into the following easily referenced sections to assist superintendents, foremen and all other employees.

1. List of hazardous chemicals
2. Container labeling
3. Material safety data sheets (MSDS)
4. Employee information and training
5. Hazardous non-routine tasks
6. Informing contractors / multi-employer workplaces

This program covers any chemical and materials known to be present at the workplace to which employees and/or contractors may be exposed under normal as well as emergency conditions.

List of Hazardous Chemicals

This section of the hazard communication program contains a list of all known or potentially hazardous chemicals used at the jobsite. A hazardous chemical is any chemical which is a physical hazard or a health hazard. It is required that each hazardous chemical used on the jobsite be recorded on a hazardous chemical list. The chemical identity used on the list of hazardous chemicals shall be consistent with the name found on the material safety data sheet for that product.

The jobsite superintendent shall be responsible for maintaining the list of hazardous chemicals. When products are brought onto the jobsite, the list shall be checked. If the product is not on the list, it will be added and the superintendent shall confirm that an appropriate MSDS for that product is obtained. In the event that an MSDS is not readily available for a product arriving on site, the superintendent shall contact the manufacturer and request an MSDS for that product and indicate the date on which the call was made on the list of hazardous chemicals.

The form to be used to maintain the list of hazardous chemicals is located at the end of this section. This list of hazardous chemicals form has a designated area for MSDSs on file for the corresponding chemical. This will enable the site superintendent to ensure that there is an MSDS for each product on the list of hazardous chemicals.

Container Labeling

The site superintendent will verify that all stationary tanks, drums, vessels, and portable containers, and bulk materials are labeled as follows.

1. Container shall be clearly labeled as to contents and associated hazards.

2. The label used to identify the chemical shall coincide with the chemical's name used on the Material Safety Data Sheet (MSDS) for that product.

NOTE: If an employee removes a product from a labeled container, the secondary container in which the product is put for use must be properly labeled. The employee who removes the product is responsible to ensure that all secondary containers are labeled. The site superintendent shall review the labeling system in place on the jobsite, and provide additional training as needed.

Material Safety Data Sheets (MSDS)

The site superintendent shall be responsible for obtaining and maintaining current MSDSs for each chemical used at the jobsite. If an MSDS is missing for a particular product, the manufacturer of the chemical shall be contacted by the site superintendent so an MSDS can be obtained. If the manufacturer cannot get the MSDS to the jobsite that day, then the date the call was made shall be documented, as well as when the MSDS is expected to arrive at the jobsite.

Copies of MSDSs for all hazardous chemicals to which employees may be exposed will be kept at ADAMS WALLKILL, LLC's job trailer.

MSDSs will be available for review to all employees during each work shift. If MSDSs are not available or new chemicals in use do not have MSDSs, immediately contact a supervisor.

If during the course of construction an employee is required to perform any task that involves the use of a hazardous chemical, the MSDS shall be referred to prior to using that chemical so the proper safety measures are taken.

A sample Material Safety Data Sheet is included in the hazard communication program for employee review.

Employee Information And Training

ADAMS WALLKILL, LLC has developed an information and training program to educate employees in hazard communication. This program intends to provide the necessary tools that each employee will need to work safely with hazardous chemicals and to increase employee awareness.

Employee information shall include:

1. Informing employees of the chemicals present in their workplace operations.
2. Location and availability of ADAMS WALLKILL, LLC's hazard communication program, Material Safety Data Sheets and list of hazardous chemicals.

Employee training shall include:

1. Physical and health effects of the hazardous chemicals.
2. Methods and observation techniques used to determine the presence or release of hazardous chemicals in the work area.
3. How to lessen or prevent exposure to these hazardous chemicals through the use of control/work practices and personal protective equipment.
4. The use of Material Safety Data Sheets to obtain appropriate hazard information.
5. How to properly read and label containers (primary and secondary).
6. Emergency procedures to follow if they are exposed to hazardous chemicals.

Prior to a new chemical hazard being introduced into the workplace, all employees will be given information and training as outlined above.

Hazards of Non-Routine Tasks

During the course of construction, there are times when employees are required to perform hazardous non-routine tasks. Prior to starting work on such projects, each affected employee will be given information and training by the site superintendent about hazardous chemicals to which the employee(s) may be exposed during such activity.

The information and training that shall be covered for hazardous non-routine tasks include:

1. Specific chemical hazards.
2. Protective/safety measures that can be utilized to reduce the exposure.
3. Measures ADAMS WALLKILL, LLC has taken to reduce the hazards, which may include ventilation, personal protective equipment, presence of another employee, and emergency procedures.

Informing Contractors / Multi-Employer Workplaces

All employers/contractors shall review appropriate hazard communication materials such as the written hazard communication program, list of hazardous chemicals, container labeling and Material Safety Data Sheets. Any precautionary measures shall be taken to protect employees during normal operating conditions and enforceable emergencies prior to commencement of work.

INVENTORY OF HAZARDOUS CHEMICALS

Project Name: _____

	Common Name	Manufacturer Common Name	MSDS On File Section	Date Obtained*
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

*Date Obtained section should be used to indicate the date on which the MSDS is received. In the event that an MSDS is not readily available for a product arriving on site, the superintendent shall contact the manufacturer and request an MSDS for that product and indicate in this section the date the call was made.

Glossary

Absorption – The process by which a substance can be readily taken into the body, for example, some chemicals can be absorbed through unbroken skin.

Acid – A fundamental category of chemicals characterized by having available reactive hydrogen and requiring an alkali to neutralize them. Acids turn litmus paper red and have pH values of 0 to 6. They may cause severe burns.

Acute Effect – Adverse effect which has severe symptoms developing rapidly and coming quickly to a crisis. Compare "Chronic Effect."

Acute Toxicity – Acute effects resulting from a single dose of or exposure to a substance. Ordinarily used to denote effects in experimental animals.

ACGIH – American Conference of Governmental Industrial Hygienists is an organization of professional personnel in governmental agencies or educational institutions who are employed in occupation safety and health programs.

Adenocarcinoma – A tumor originating in a gland.

Adenosis – Any disease of a gland.

Adhesion – A union of two surfaces that are normally separate.

Aerosol – A fine spray of particles sufficiently small in size to resist settling or sedimentation (for example: smoke or fog).

Air Line Respirator – A respirator that is connected to a compressed breathing air source by a hose. The air is delivered continuously or intermittently in a sufficient volume to meet the wearer's breathing requirements.

Air Purifying Respirator – A respirator that uses chemicals to remove specific gases and vapors from the air or that uses a mechanical filter to remove particulate matter. An air purifying respirator must only be used when there is sufficient oxygen to sustain life and the air contaminant level is below the concentration limits of the device.

Alkali – A substance capable of combining with hydrogen ions. They are also called bases, and may cause severe burns to the skin. Alkalis turn litmus paper blue and have pH values from 8 to 14.

Allergic Reaction – An abnormal physiological response to a chemical or physical stimuli by a sensitive person.

Alopecia – loss of hair.

Amenorrhea – absence of menstruation.

Analgesia – loss of sensitivity to pain.

Anaphylaxis – extreme sensitivity resulting from prior contact with a chemical or protein.

Anemia – a deficiency of red blood cells.

Anesthetic – A chemical that causes a total or partial loss of sensation. Over exposure to anesthetics can cause impaired judgment, dizziness, drowsiness, headache, unconsciousness, and even death. Examples include: alcohol, paint remover, and degreasers.

Anhydride – An oxide or compound which when combined with water produces an acid or base.

Anhydrous – does not contain water.

Anosmia – loss of the sense of smell.

Anorexia – loss of apetite.

Anoxia – A lack of oxygen from inhaled air – literally without oxygen. See Hypoxia.

ANSI – American National Standards Institute is a privately funded, voluntary membership organization that identifies industrial and public needs for national consensus standards and coordinates developments of such standards.

Antidote – A remedy to relieve, prevent, or counteract the effects of a poison.

Appearance – A description of a substance at normal room temperature and normal atmospheric conditions. Appearance includes the color, size, and consistency of a material.

API – American Petroleum Institute is a voluntary membership organization of the petroleum industry.

Aquatic Toxicity – The adverse effects to marine life that result from being exposed to a toxic substance.

Aqueous – A water-based solution.

Argyria – local or generalized impregnation (gray-blue color) of the body tissues with silver.

Aromatic – Fragrant or of marked odor. Often applied to a group of hydrocarbons and their derivatives, such as benzene, toluene, xylene.

Asphyxia – Unconsciousness due to interference with the oxygen of the blood.

Asphyxiant – A vapor of gas that can cause unconsciousness or death by suffocation (lack of oxygen). Most simple asphyxiants are harmful to the body only when they become so concentrated that they reduce oxygen in the air (normally about 21%) to dangerous levels (18% or lower). Asphyxiation is one of the principal potential hazards of working in confined and enclosed spaces.

Asphyxiation – A condition that causes asphyxia, suffocation. See also Asphyxiant.

ASTM – American Society for Testing and Materials is the world's Largest source of voluntary consensus standards for materials, products, Systems, and services. ASTM is a resource for sampling and testing methods, health and safety aspects of materials, safe performance guidelines, effects of physical and biological agents and chemicals.

Asthma – A disease characterized by recurring attacks of difficult breathing, wheezing, and cough due to spasmodic contraction of the bronchioles.

Asymptomatic – showing no symptoms.

Atoxia – loss of power of muscle coordination.

Atm – Atmosphere, a unit of pressure equal to 760 mmHg (mercury) at sea level.

Atmosphere Supplying Respirator – A respirator that provides breathing air from a source other than the surrounding atmosphere. There are two types: airline and self-contained breathing apparatus.

Atrophy – A wasting or diminution in the size of a part of the body.

Auto-Ignition Temperature – The temperature to which a closed, or nearly closed container must be heated in order that the flammable liquid, when introduced into the container, will ignite spontaneously or burn.

BAL – British Anti-Lewisite – a name for the drug dimecaprol – a treatment for toxic inhalations.

Barrier Cream – A cream used for use on human skin to protect against injury from contact with specific types of harmful agents.

Base – See Alkali.

BCM – Blood-clotting mechanism effects.

Benign – Not recurrent or not tending to progress.

Biodegradable – Capable of being broken down into innocuous products by the action of living things.

Biohazard – This is a combination of the words biological and hazard; and is used to describe infectious agents presenting a risk or potential risk to the well-being of man or animals either directly through infection, or indirectly though disruption of the ??

Biologic Half-Life – The time required for a given species, organ, or tissue to eliminate half of a substance which it takes in.

Biopsy – Removal and examination of tissue from the living body.

BLD – Blood effects.

Boiling Point – The temperature at which a liquid changes to vapor state at a given pressure. The boiling point is usually expressed in degrees Fahrenheit at sea level pressure (760mmHg, or one atmosphere). For mixtures, the *initial* boiling point or the boiling range may be given. Flammable materials with low boiling points generally present special fire hazards. Some approximate boiling points:

Propane	-44°F
Anhydrous Ammonia	-28°F
Butane	31°F
Gasoline	100°F
Allyl chloride	113°F
Ethylene Glycol	387°F

BOM or BuMines – Bureau of Mines, U.S. Department of Interior.

Bonding – The interconnecting of two objects by means of a clamp and bare wire. Its purpose is to prevent a static discharge (spark) when transferring a flammable liquid from one container to another. The conductive path is provided by clamps which make contact with the charged object and a low resistance flexible cable which allows the charge to equalize. See Grounding.

Bradycardia – A slow heartbeat in which the pulse rate falls below 60. See also Tachycardia.

Breathing Zone – The area of the ambient environment in which a person breathes.

Bronchitis – Inflammation of the bronchial tubes in the lungs.

Buffer – A substance capable in solution of neutralizing both acids and bases and thereby maintaining the original acidity or basicity of the solution.

Bulk Density – Mass of powdered or granulated solid material per unit of volume.

C – Degrees Centigrade, a temperature scale where water boils at 100°C and freezes at 0°C. °C = 5/9(°F – 32).

"C" or Ceiling – The maximum allowable human exposure limit for an airborne substance which is not to be exceeded even momentarily. Also see PEL and TLV.

ca – Approximately.

CAA – Clean Air Act was enacted by Congress to regulate/reduce air pollution. CAA is administered by the Environmental Protection Agency (EPA).

Carcinogen – A substance or agent capable of causing or producing cancer in mammals, including humans. A chemical is considered to be a carcinogen if:

(a) It has been evaluated by the International Agency for Research on Cancer (IARC) and found to be carcinogenic or a potential carcinogen.
(b) It is listed as a carcinogen or potential carcinogen in the Annual Report on carcinogens (latest edition) published by the National Toxicology Program (NTP).
(c) It is regulated by OSHA as a carcinogen.

Car – cancer or carcinogen.

Carcinogenicity – The ability to produce cancer.

Carcinoma – a malignant tumor. A form of cancer.

CAS – Chemical Abstracts Service is an organization under the American Chemical Society. CAS abstracts and indexes chemical literature from all over the world in "Chemical Abstracts." "CAS Numbers" are used to identify specific chemicals or mixtures.

Catalyst – A substance which, without changing itself, causes a chemical reaction to proceed faster.

Cataract – A loss of transparency of the crystalline lens of the eye or of its capsule.

Caustic – The ability of an alkali to cause burns. See Alkali.

cc – Cubic centimeter is a volume measurement in the metric system which is equal in capacity to one mililiter (ml). One quart is about 946 cubic centimeters.

Ceiling Limit – A concentration that is not to be exceeded. See also "C" or Ceiling.

Ceiling Value(s) – A maximum established level which no human exposure should ever exceed.

Central Nervous System – The brain and spinal cord. These organs supervise and coordinate the activity of the entire nervous system. Sensory impulses are transmitted into the central nervous system, and motor impulses are transmitted out.

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act of 1980. The Act requires that the Coast Guard National Response Center be notified in the event of a hazardous substance release. The Act also provides for a fund (the Superfund) to be used for the cleanup of abandoned hazardous waste disposal sites.

Cervix – The lower end of the uterus extending into the vagina.

CFR – Code of Federal Regulations. A collection of the regulations that have been promulgated under U.S. Law.

Chemical – Any element, chemical compound or mixture of elements and/or compounds where chemical(s) are distributed.

Chemical Cartridge Respirator – A respirator that uses various chemical substances to purify inhaled air of certain gases and vapors. This type of respirator is effective for concentrating no more than ten times the TLV of the contaminant, if the contaminant has warning properties (odor or irritation) below the TLV.

Chemical Change (Reaction) – Change of composition in properties due to rearrangement of elements, atoms, or molecules.

Chemical Compound – A substance composed of definite proportions by weight of two or more elements, and whose properties differ from those of its elements. Also see Mixture.

Chemical Family – A group of individual elements or compounds with a common general name. Example: ketones, alcohols.

Chemical Name – The name given to a chemical in the nomenclature developed by the International Union of Pure and Applied Chemistry (IU or the Chemical Abstracts Service (CAS)).

Chemical Pneumonitis – Inflamation of the lungs caused by accumulation of fluids due to chemical irritation.

CHEMTREC – Chemical Transportation Emergency Center is a national center established by the Chemical Manufacturers Association (CMA) to relay pertinent emergency information concerning specific chemicals on requests from individuals. CHEMTREC has a 24-hour toll-free telephone number *800-424-9300) to help respond to chemical transportation emergencies.

Chloracne – An acne-like eruption from contact with chlorinated naphthalenes and polyphenyls acting on sweat glands.

Chronic – Persistent, prolonged, and/or repeated effects which are the result of repeated exposure to low concentrations of a chemical substance over a long period of time. Compare with Acute.

Chronic Effect – An adverse effect on a human or animal body, with symptoms which develop slowly over a long period of time or which recur frequently. Compare with Acute.

Chronic Exposure – long-term contact with a substance.

Chronic Toxicity – Adverse effects resulting from repeated doses of or exposures to a substance over a relatively prolonged period of time. Ordinarily used to denote effects in experimental animals.

Clean Air Act - See CAA.

Clean Water Act – Federal law enacted to regulate/reduce water pollution. CWA is administered by the Environmental Protection Agency (EPA).

CMA – Chemical Manufacturers Association. See CHEMTREC.

CO – Carbon monoxide. A colorless, odorless, flammable and very toxic gas produced by the incomplete combustion of carbon. It is also a by-product of many chemical processes.

CO_2 - Carbon dioxide is a heavy, colorless gas which is produced by the combustion and decomposition of organic substances and as a byproduct of many chemical processes. **CO_2** will not burn and is relatively non-toxic (although high concentrations, especially in confined spaces, can create hazardous oxygen deficient environments.)

COC – Cleveland Open Cup is a flash point test method.

Combustible – A term used by NFPA, DOT, and others to classify certain liquids that will burn, on the basis of flash points. Both NFPA and DOT generally define "combustible liquids" as having a flash point of 100° F (37.8° C) or higher but below 200° F (93.3° C). Also see Flammable. Non-liquid substances such as wood and paper are classified as "ordinary combustibles" by NFPA.

Combustible Liquid – Any liquid having a flash point at or above 100° F (37.8° C), but below 200° F (93.3° C), except any mixture having components with flash points of 200° F (93.3° C) or higher, the total volume of which make up 99% or more of the total volume of the mixture.

Common Name – Any identification, such as code name, code number, trade name, brand name, or generic name, other than its chemical name, used to identify a chemical.

Compressed Gas – (a) A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70° F (21.1° C); or (b) A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130°F (54.4°C) regardless of the pressure at 70° F (21.1° C); or (c) A liquid having a vapor pressure exceeding 40 psi at 100°F (37.8°C) as determined by ASTM D-323-72.

Conc. – see Concentration.

Concentration – The relative amount of a substance when combined or mixed with other substances. Examples: 2 ppm hydrogen sulfide in air, or a 50% caustic solution.

Conditions to Avoid – Conditions encountered during handling or storage which could cause a substance to become unstable.

Confined Space – Any area which has limited openings for entry and exit that would make escape difficult in an emergency, has a lack of ventilation, contains known and potential hazards, and is not intended nor designated for continuous human occupancy.

Conjunctivitis – Inflammation of the conjunctiva, the delicate membrane that lines the eyelids and cover the eyeballs.

Contact Dermatitis – Caused by contact with a primary irritant, a skin irritant at the area of skin contact.

Container – Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of MSDS or HazCom, pipes or piping systems are not considered to be containers.

Cornea – Transparent structure of the external layer of the eyeball.

Corrosive – A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of the contact. This term shall not refer to action or inanimate surfaces.

CPSC – Consumer Products Safety Commission has responsibility for regulating hazardous materials when they appear in consumer goods. For CPSC purposes, hazards are defined in the Hazardous Substances Act and the Poison Prevention Packaging Act of 1970.

Curetiage – Cleansing of diseased surface.

Cutaneous Hazards – Chemicals which irritate the skin.

Cutaneous Toxicity – See Dermal Toxicity.

CWA – Clean Water Act was enacted to regulate/reduce water pollution. It is administered by the EPA.

Cyanosis – Blueness of the skin, generally caused by lack of oxygen.

Cyst – A sac containing a liquid. Most cysts are harmless.

Cytology – The scientific study of cells.

DASHO – Designated Agency Safety and Health Official is the executive official of a Federal Department or Agency who is responsible for safety and occupational health matters within a Federal Agency, and is so designated or appointed by the head of the agency.

Decomposition – Breakdown of a material or substance (by heat, chemical reaction, electrolysis, decay, or other processes) into parts or elements or simpler compounds.

Density – The mass (weight) per unit volume of a substance. For example, lead is much more dense than aluminum.

Depressant – A substance that reduces a bodily functional activity or an instinctive desire, such as apetite.

Dermal – Relating to the skin.

Dermal Toxicity – Adverse effects resulting from the skin exposure to a substance. Ordinarily used to denote effects in the experimental animals.

Dermatitis – Inflammation of the skin. Also see Irritant, Sensitizer, and Contact Dermatitis.

DHHS – U.S. Department of Health and Human Services (replaced U.S. Department of Health, Education and Welfare.) NIOSH and the Public Health Services (PHS) are part of DHHS.

Dike – A barrier constructed to control or confine hazardous substances and prevent them from entering sewers, ditches, streams, or other flowing waters.

Dilution Ventilation – Air flow designed to dilute contaminants to acceptable levels. Also see General Ventilation or Exhaust.

DOL – U.S. Department of Labor. OSHA and MSHA are part of DOL.

Dose – The term used to express the amount of energy or substance absorbed in a unit volume or an organ or individual dose rate is the dose delivered per unit of time.

DOT – U.S. Department of Transportation regulates transportation of chemicals and other substances.

Dry Chemical – A powdered fire extinguishing agent usually composed of sodium bicarbonate, potassium bicarbonate, etc.

Dysfunction – Any abnormality or impairment of an organ.

Dysmenorrhea – painful menstruation.

Dysplasic – An abnormality of development.

Dyspriea – labored or difficult breathing, shortness of breath.

Ectopic Pregnancy – The fertilized ovum becomes implanted outside of the uterus.

Eczema – A skin disease or disorder; one specific type of dermatitis.

Edema – An abnormal accumulation of clear watery fluids in the tissues.

Element – A substance composed entirely of one kind of atom. Elements are designated by chemical symbols.

Emphysema – A lung disease in which the presence of air in the connective tissues of the lungs causes swelling or inflammation.

Endocrine Glands – Glands that regulate body activity be secreting hormones.

Endometrium – The mucous membrane lining the uterus.

Environmental Toxicity – Information obtained as a result of conducting environmental testing designed to study the effects on aquatic and plant life.

EPA – U.S. Environmental Protection Agency.

Epidemiology – Science concerned with the study of disease in a general population. Determination of the incidence (rate of occurrence) and distribution of a particular disease (as by age, sex, or occupation) which may provide information about the cause of the disease.

Epitoxis – Nosebleed; hemorrhage from the nose.

Epithelium – The thin membrane covering internal and external surfaces of the body.

Estrogen – Principal female sex hormone.

Evaporation Rate – The rate at which a material will vaporize (evaporate) when compared to the known rate of vaporization of a standard material. The evaporation rate can be useful in evaluating the health and fire hazards of a material. The designated standard material is usually normal butyl acetate (NBUAC or n-BuAc) with a vaporization rate designated to 1.0 Vaporization rates of other solvents or materials are then classified as:

FAST evaporating if greater than 3.0. Examples: Methyl Ethyl Ketone (MEK) = 3.8, Acetone = 5.6, Hexane = 8.3.

MEDIUM evaporating if 0.8 to 3.0. Examples: 190 proof (95%) Ethyl Alcohol = 1.4, VM & P Naphtha = 1.4, MIBK = 1.6.

SLOW evaporating if less than 0.8. Examples: Xylene = 0.6, Isobutyl Alcohol = 0.6, Normal Butyl Alcohol = 0.4, Water = 0.3, Mineral Spirits = 0.1.

Explosive – A chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.

Exposure or Exposed – State of being open and vulnerable to a hazardous chemical in the course of employment by inhalation, ingestion, skin contact, absorption, or any other course; includes potential (accidental or possible) exposure.

Extinguishing Media – The firefighting substance to be used to control a material in the event of a fire. It is usually named by its generic name, such as fog, foam, water, etc.

Eye Protection – Recommended safety glasses, chemical splash goggles, face shields, etc. to be utilized when handling a hazardous material.

F – Fahrenheit is a scale for measuring temperature. On the Fahrenheit scale, water boils at 212° and freezes at 32°. °F = 9/5 (°C) +32.

f/cc – Fibers per cubic centimeter of air.

FACOSH – Federal Advisory Council for Occupational Safety and Health is a joint management-labor council that advises the Secretary of Labor on matters relating to the occupational safety and health of federal employees.

FDA – U.S. Food and Drug Administration.

Fetal – pertaining to the fetus.

Fetus – The developing young in the uterus from the seventh week of gestation until birth.

FFSHC – Field Federal Safety and Health Councils are organized throughout the country to improve federal safety and health programs at the field level and within a geographic location.

FHCP – Federal Hazard Communication Program.

Fibrosis – An abnormal thickening of fibrous connective tissue, usually in the lungs.

FIFRA – Federal Insecticide, Fungicide and Rodenticide Act requires that certain useful poisons, such as chemical pesticides, sold to the public contain labels that carry health hazard warnings to protect users. It is administered by EPA.

First Aid – Emergency measures to be taken when a person is suffering from overexposure to a hazardous material, before regular medical help can be obtained.

Flammable – A chemical that includes one of the following categories:
(a) "Aerosol Flammable." An aerosol that yields a flame projection exceeding 18 inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of valve opening.
(b) "Gas, Flammable." (1) a gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of 13 percent by volume or less; or (2) a gas that, at ambient temperature and pressure, forms a range of flammable mixtures with air wider than 12 percent by volume, regardless of the lower limit;
(c) "Liquid, Flammable." Any liquid having a flashpoint below 100°F, except any mixture having components with flashpoints of 100°F or higher, the total of which make up 99 percent or more of the total volume of the mixture.
(d) "Solid, Flammable." A solid, other than a blasting agent or explosives 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. A solid is a flammable solid if it ignites and burns with a self-sustained flame at a rate greater than one tenth of an inch per second along its major axis.

Flashback – Occurs when flame from a torch burns back into the tip, the torch, or the hose. It is often accompanied by a hissing or squealing sound with a smoky or sharp-pointed flame.

Flashpoint – The minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite when tested by any of the following methods:
(a) Tagliabue Closed Tester
(b) Pensky-Martens Closed Tester
(c) Setaflash Closed Tester.

Foreseeable Emergency – Any potential occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which could result in an uncontrolled release of a hazardous chemical into the workplace or environment.

Formula – The scientific expression of the chemical composition of a material (e.g. water is H_2O, Sulfuric Acid is H_2SO_4, Sulfur Dioxide is SO_2).

Fume – Smoke, vapor or gas, especially when irritating or offensive.

Fume Fever – An acute condition caused by a brief high exposure to the freshly generated fumes of metal such as lead or magnesium.

Gangrene – Death of tissue combined with putrefaction.

Gastroenteritis – Inflammation of the stomach and intestines.

g – Gram is a metric unit of weight. One ounce U.S. is about 28.4 grams.

General Exhaust – A system for exhausting air containing contaminants from a general work area. Also see Local Exhaust.

Generic Name – A designation or identification used to identify a chemical by other than its chemical name (e.g. code name, code number, trade name, and brand name.)

Genetic – Pertaining to or carried by genes. Hereditary.

Gestation – The development of the fetus from conception to birth.

g/kg – Grams per kilogram is an expression of dose used in oral and dermal toxicology testing to denote grams of a substance dosed per kilogram of animal body weight. Also see kg (kilogram).

Grounding – The procedure used to carry an electrical charge to ground through a conductive path. A typical ground may be connected directly to a conductive water pipe or to a grounding bus and grounding rod. See Bonding.

Gynecology – The study of reproductive organs in women.

Hand Protection – Specific type of gloves or other hand protection required to prevent harmful exposure to hazardous materials.

Hazardous Chemical – Any chemical whose presence or use is a physical hazard or a health hazard.

Hazardous Material – A material that is characterized by one or more of the following (1) has a flashpoint below 140° F, closed cup, or subject to spontaneous heating; (2) has a threshold limit value below 500 ppm for gases and vapors, below 500 mg/m for fumes, and below 25 mppcf for dusts; (3) single oral does LD50 or below 500 mg/kg of body weight; (4) is subject to polymerization which results in the release of large amounts of energy; (5) is a strong oxidizing or reducing agent; (6) causes first degree burns to skin in short time exposure, or is systematically toxic on contact with the skin; and/or (7) in the course of normal operations may produce dusts, gases, fumes, vapors, mists, or smoke which have one or more of the above characteristics.

Hazard Warning – Words, pictures, symbols, or combination thereof presented on a label or other appropriate form to inform of the presence of various materials or hazards.

HCS – Hazard Communication Standard is an OSHA regulation.

Health Hazard – A chemical for which there is significant evidence, based on at least one study conducted in accordance with established scientific principles, that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatoxins, nephrotoxins, neurotoxins, agents which act on the hemtopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.

Hematology – The study of blood.

Hematoma – A blood clot under the surface of the skin.

Hematopoietic System – The blood forming mechanism of the human body.

Hematuria – The presence of blood in the urine.

Hemoglobin – An iron-containing conjugated protein or respiratory pigment occurring in the red blood cells of vertebrates.

Hepatoxin – A substance that causes injury to the liver.

Highly Toxic – A chemical falling within any of the following categories:
(a) A chemical with 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 with 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 2 and 3 kilograms each.
(c) A chemical that has a median lethal concentration (LC50) in air of 200 ppm 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.

HMIS – Hazardous Material Information System is an MSDS file maintained by the Department of Defense and contains MSDSs and transportation data for products purchased by DOD and GSA.

Hormones – Act as chemical messengers to body organs.

Hydrocarbons – Chemicals composed solely of carbon and hydrogen, which are the basic building blocks of all organic chemicals.

Hygroscopic – Readily absorbs moisture from the air.

Hyperplasia – Increase in volume of a tissue or organ caused by the growth of new cells.

Hypoxia – Insufficient oxygen, especially as applied to body cells.

IARC – International Agency for Research on Cancer.

Ignitable – Capable of being set afire.

Immiscible – Liquids which will not mix with each other but will form 2 separate layers or will result in cloudiness or turbidity.

Impervious – A material that does not allow another substance to pass through or penetrate it.

Incompatible – Materials that could cause dangerous reactions by direct contact with one another.

Inflammation – A morbid series of reactions produced in the tissues by an irritant. It is marked by an afflux of blood with exudation of plasma and leukocytes.

Ingestion – Taking in by mouth.

Inhale/Inhalation – Breathing in of a substance in the form of a gas, vapor, fume, mist, or dust.

Inhibitor – A chemical added to another substance to prevent an unwanted chemical change.

Inorganic – A term used to designate compounds that generally do not contain carbon. Source matter other than vegetable or animal. Examples are sulfuric acid and salt.

Insoluble – Incapable of being dissolved in liquid.

Irodocyclitis – Inflammation of both iris and ciliary body of the eye.

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.

Irritating – An irritating material, as defined by DOT, is a liquid or solid substance which, upon contact with fire or when exposed to air, gives off dangerous or intensely irritating fumes (not including poisonous materials).

Iscemia – Local and temporary anemia due to the obstruction of the circulation in a part of the body.

kg – Kilogram is a metric unit of weight, about 2.2 U.S. pounds.

L – Liter is a metric unit of capacity or volume. A U.S. quart is about 9/10 of a liter.

Label – Notice attached to a container, bearing information concerning its contents.

Lacrimation – Secretion and discharge of tears.

Latent Period – The period of time between exposure and the first manifestation of damage.

Lavage – A washing of a hollow organ, such as the stomach.

LC – Lethal Concentration is the concentration of a substance being tested that will kill.

LCL – Lethal Concentration Low, lowest concentration of a gas or vapor capable of killing a specified species over a specified time.

LC50 – The concentration of a material in air that will kill 50 percent of a group of test animals with a single exposure (usually 1 to 4 hours). The LC50 is expressed as part of material per million parts of air, by volume (ppm) for gases and vapors, or as micrograms of material per liter of air (g/1) or milligrams of material per cubic meter of air (mg/m) for dusts and mists, as well as for gases and vapors.

LD – Lethal Dose is the quantity of a substance being tested that will kill.

LDL – Lethal Dose Low, lowest administered dose of a material capable of killing a specified test species.

LD50 – A single dose of material expected to kill 50 percent of a group of test animals. The LD dose is usually expressed as milligrams or grams of material per kilogram of animal body weight (mg/kg or g/kg). The material may be administered by mouth or applied to the skin.

Lower explosive limit (LEL) - The lower limit of flammability of a gas or vapor at ordinary ambient temperatures expressed in percent of the gas or vapor in air by volume. This limit is assumed constant for temperatures up to 120°C (250°F). Above this, it should be decreased by a factor of 0.7 because explosibility increases with higher temperatures.

Malignant - As applied to a tumor. Cancerous and capable of undergoing metastasis, or invasion of surrounding tissue.

Metastasis - Transfer of the causal agent (cell or microorganism) of a disease from a primary focus to a distant one through the blood or lymphatic vessels. Also, spread of malignancy from site of primary cancer to secondary sites.

Meter - A metric unit of length, equal to about 39 inches.

Micron (micrometer, m) - A unit of length equal to one millionth of a meter, approximately 1/25,000 of an inch.

Milligram (mg) - A unit of weight in the metric system. One thousand milligrams equals one gram.

Milligrams per cubic meter (mg/m^3) - Unit used to measure air concentrations of dusts, gases, mists, and fumes.

Milliliter (mL) - A metric unit used to measure volume. One milliliter equals one cubic centimeter.

Millimeter of mercury (mmHg) - The unit of pressure equal to the pressure exerted by a column of liquid mercury one millimeter high at a standard temperature.

Mists - Suspended liquid droplets generated by condensation from the gaseous to the liquid state or by breaking up a liquid into a dispersed state, such as by splashing, foaming, or atomizing. Mist is formed when a finely divided liquid is suspended in air.

MSDS - Material Safety Data Sheet.

MSHA - Mine Safety and Health Administration, U.S. Department of Labor.

Mucous membranes - Lining of the hollow organs of the body, notably the nose, mouth, stomach, intestines, bronchial tubes, and urinary tract.

NFPA - The National Fire Protection Association is a voluntary membership organization whose aim is to promote and improve fire protection and prevention. The NFPA publishes 16 volumes of codes known as the National Fire Codes.

NIOSH - The National Institute for Occupational Safety and Health is a federal agency. It conducts research on health and safety concerns, tests and certifies respirators, and trains occupational health and safety professionals.

NTP - National Toxicology Program. The NTP publishes an Annual Report on carcinogens.

Nuisance dust - Have a long history of little adverse effect on the lungs and do not produce significant organic disease or toxic effect when exposures are kept under reasonable control.

OSHA - U.S. Occupational Safety and Health Administration, U.S. Department of Labor.

Oxidizer - A substance that gives up oxygen readily. Presence of an oxidizer increases the fire hazard.

Oxygen deficiency - That concentration of oxygen by volume below which atmosphere supplying respiratory protection must be provided. It exists in atmospheres where the percentage of oxygen by volume is less than 19.5 percent oxygen.

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

Particulate matter - A suspension of fine solid or liquid particles in air, such as dust, fog, fume, mist, smoke or sprays. Particulate matter suspended in air is commonly known as an aerosol.

PEL - Permissible exposure limit. An exposure limit that is published and enforced by OSHA as a legal standard.

Personal protective equipment (PPE) - Devices worn by the worker to protect against hazards in the environment. Respirators, gloves, and hearing protectors are examples.

PH - Means used to express the degree of acidity or alkalinity of a solution with neutrality indicated as seven.

Polymerization - A chemical reaction in which two or more small molecules (monomers) combine to form larger molecules (polymers) that contain repeating structural units of the original molecules. A hazardous polymerization is the above reaction, with an uncontrolled release of energy.

ppm - Parts per million parts of air by volume of vapor or gas or other contaminant. Used to measure air concentrations of vapors and gases.

psi - Pounds per square inch (for MSDS purposes) is the pressure a material exerts on the walls of a confining vessel or enclosure. For technical accuracy, pressure must be expressed as psig (pounds per square inch gauge) or psia (pounds per square absolute; that is, gauge pressure plus sea level atmospheric pressure, or psig plus approximately 14.7 pounds per square inch).

RCRA - Resource Conservation and Recovery Act of 1976. (U.S.EPA)

Reactivity (chemical) - A substance's susceptibility to undergo a chemical reaction or change that may result in dangerous side effects, such as an explosion, burning, and corrosive or toxic emissions.

Respirable size particulates - Particulates in the size range that permits them to penetrate deep into the lungs upon inhalation.

Respirator (approved) - A device which has met the requirements of 30 CFR Part 11 and is designed to protect the wearer from inhalation of harmful atmospheres and has been approved by the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA).

Respiratory system - Consists of (in descending order) - the nose, mouth, nasal passages, nasal pharynx, pharynx, larynx, trachea, bronchi, bronchioles, air sacs (alveoli) of the lungs, and muscles of respiration.

Route of entry - The path by which chemicals can enter the body. There are three main routes of entry: inhalation, ingestion, and skin absorption.

SARA - Superfund Amendments and Reauthorization Act of 1986. (U.S.EPA)

SCBA - Self-contained breathing apparatus.

Sensitizer - A substance which on first exposure causes little or no reaction but which on repeated exposure may cause a marked response not necessarily limited to the contact site. Skin sensitization is the most common form of sensitization in the industrial setting.

Short-term exposure limit (STEL) - ACGIH-recommended exposure limit. Maximum concentration to which workers can be exposed for a short period of time (15 minutes) for only four times throughout the day with at least one hour between exposures.

"Skin" - A notation (sometimes used with PEL or TLV exposure data) which indicates that the stated substance may be absorbed by the skin, mucous membranes, and eyes -- either airborne or by direct contact -- and that this additional exposure must be considered part of the total exposure to avoid exceeding the PEL or TLV for that substance.

Solubility in water - A term expressing the percentage of a material (by weight) that will dissolve in water at ambient temperature. Solubility information can be useful in determining spill cleanup methods and re-extinguishing agents and methods for a material.

Solvent - A substance, usually a liquid, in which other substances are dissolved. The most common solvent is water.

Sorbent - (1) A material that a removes toxic gases and vapors from air inhaled through a canister or cartridge. (2) Material used to collect gases and vapors during air-sampling.

Specific gravity - The ratio of the mass of a unit volume of a substance to the mass of the same volume of a standard substance at a standard temperature. Water at 4°C (39.2°F) is the standard usually referred to for liquids; for gases, dry air (at the same temperature and pressure as the gas) is often taken as the standard substance. See Density.

Stability - An expression of the ability of a material to remain unchanged. For MSDS purposes, a material is stable if it remains in the same form under expected and reasonable conditions of storage or use. Conditions which may cause instability (dangerous change) are stated. Examples are temperatures above 150°F, shock from dropping.

Synergism - Cooperative action of substances whose total effect is greater than the sum of their separate effects.

Systemic - Spread throughout the body, affecting all body systems and organs, not localized in one spot or area.

Threshold - The lowest dose or exposure to a chemical at which a specific effect is observed.

Time-weighted average concentration (TWA) - Refers to concentrations of airborne toxic materials which have been weighted for a certain time duration, usually 8 hours.

TLV. Threshold Limit Value - A time-weighted average concentration under which most people can work consistently for 8 hours a day, day after day, with no harmful effects. A table of these values and accompanying precautions is published annually by the American Conference of Governmental Industrial Hygienists.

Toxicity - A relative property of a chemical agent and refers to a harmful effect on some biologic mechanism and the conditions under which this effect occurs.

Upper explosive limit (UEL) - The highest concentration (expressed in percent vapor or gas in the air by volume) of a substance that will burn or explode when an ignition source is present.

USDA – U.S. Department of Agriculture.

Vapor – The gaseous form of a solid or liquid substance as it evaporates.

Vapor Density – The weight of a vapor or gas compared to the weight of an equal volume of air is an expression of the density of the vapor or gas. Materials lighter than air have vapor densities less than 1.0, and will rise. Materials heavier than air have a vapor density of more than 1.0, and will concentrate in low places.

Vapor Pressure – The pressure exerted by a saturated vapor above its own liquid in a closed container.

Vermiculite – An expanded mica (hydrated magnesium-aluminum-iron-silicate) used as sorbent for spill control and clean-up.

Vertigo – A feeling of revolving in space; dizziness, giddiness.

Viscosity – Resistance to flow exhibited by a fluid.

Volatility – A measure of how quickly a substance forms a vapor at ordinary temperatures.

Water Disposal Methods – Proper disposal methods for contaminated material, recovered liquids or solids, and their containers.

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

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

Workplace – An establishment at one geographical location containing one or more work areas.

Zinc Fume Fever – A condition brought on by inhalation of zinc oxide fume characterized by flulike symptoms with a metallic taste in the mouth, coughing, weakness, fatigue, muscular pain, and nausea, followed by fever and chills. The onset of symptoms occurs four to twelve hours after exposure.

21. Respiratory Protection Program

Purpose

The primary objective of this program is to protect employees from inhalation and ingestion of harmful levels of air contaminants.

Policy

Employees shall not be exposed to air contaminants which exceed the limits detailed in OSHA Regulation CFR 1910.1000. When there is a probability of exposure to air contaminants exceeding these limits, proper respiratory protection shall be required.

Scope

This policy applies to all personnel in the performance of their jobs with ADAMS WALLKILL, LLC.

Procedures for Selecting Respiratory Protection

1. Determination of Need for Respiratory Protection

a) The foreman of any operation involving the release, or possible release, of airborne contaminants such as dusts, gases, fumes, mists, etc. should contact the Job Superintendent or management for advice on precautions to be taken.

b) The Job Superintendent shall evaluate the hazard and determine if exposure to contaminants can be eliminated by environmental or engineering controls. Example: Substitution of a less hazardous procedure or material, use of general and local ventilation, enclosing or isolating the operation(s), or employee rotation.

c) When effective engineering controls have reduced exposures to the lowest possible level and the air quality still exceeds a PEL (Permissible Exposure Limit), the job superintendent will make a decision on the need for respirators based on Material Safety Data Sheets, industrial hygiene monitoring, medical experience, or other pertinent information.

2. Operations Requiring Respiratory Protection

a) All employees performing jobs which are designated mandatory respirator jobs shall be informed of this requirement. This shall be done through:

- Specifying the correct respirator in the Job Specifications report or other such written procedures for the Job and/or Project Safety meetings.

- Postings at the worksite or signs in the area where the job exists.

3. Selection and Procurement of Respirators

a) Respirators shall be selected according to the hazard(s) to which workers are exposed, keeping in mind the physical and chemical properties of the air contaminant(s) and concentration(s) likely to be encountered.

b) Prior to donning a respirator, ADAMS WALLKILL, LLC employees are required to be medically evaluated and fit-tested. After successfully passing the medical examination and the fit-test, respirators will be provided by ADAMS WALLKILL, LLC and will be permanently assigned to employees that require their use routinely. Respirators for operations involving short-term use will be temporarily assigned to employees and returned to the facility upon completion of the task, where they will be cleaned and properly stored for future use. Replacement air purifying respirators will be issued when needed.

c) The respirators utilized by ADAMS WALLKILL, LLC are NIOSH-certified Air Purifying Respirators which remove particulate or gaseous contaminants by passing ambient air through the air-purifying filter, cartridge, or canister. Air purifying respirators must not be used in atmospheres containing less than 19.5% oxygen by volume.

d) In cases where air purifying respirators are not utilized due to the presence of a hazardous atmosphere, contaminant hazards have not been identified, or employee exposure and protection needed has not been identified or reasonably estimated, the atmosphere shall be considered to be IDLH (Immediately Dangerous to Life and Heath). In these circumstances, a full facepiece pressure demand Self Containing Breathing Apparatus (SCBA) or a combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply will be utilized.

NOTE: Respiratory protection can be achieved through good work practices and the use of air purifying half-face or full-face respirators provided that respirator limitations are not exceeded. Use of a Self Containing Breathing Apparatus or a Supplied Air Respirator typically does not apply to construction activities. In cases where the use of one of these respirators is required, the employee(s) who will be required to don the

respirator will receive the necessary medical evaluation, fit-testing, and associated training prior to wearing the SCBA or SAR.

4. Respirator Approval

a) Only National Institute for Occupational Safety and Health (NIOSH)- and Mine Safety and Health Administration (MSHA)-approved (tested and certified) respirators should be used. Respirators shall be used only for the substances for which they are designed.

5. Medical Approval

a) Employees will not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work while wearing a respirator. Persons who will be assigned to the mandatory use of respirators will have their medical history reviewed by a Medical Department before starting employment. The medical status of those required to use respirators should be viewed periodically thereafter. Based on the overall health of the individual, a doctor shall determine if the employee is to be restricted from wearing respiratory protective equipment. If a restriction is applied, supervision is notified and this fact is indicated on the employee's medical records.

b) Employees required to wear any respirator will be required to fill out a medical questionnaire (see Appendix C to this Chapter) that will be sent to the physician after it is completed. The physician will review the questionnaire and determine whether a medical evaluation is needed. The employee will then be given an opportunity to discuss the questionnaire and the examination results with the physician.

c) Employees who voluntarily wear filtering facepieces (dust masks) and are not exposed to a PEL (Permissible Exposure Limit) will not be required to be medically evaluated. Employees who voluntarily wear any other type of respirator will be required to be medically evaluated.

6. Training

a) Employees required to use a respirator shall be trained at least annually by the respiratory protection program administrator ([NAME]) for their respective office. Additional training will be provided when needed. This training must be documented and shall include:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effects of the respirator. (A copy of how to perform a positive and negative pressure check will be given to the employee.)

- What the limitations and capabilities of the respirator and the air purifying filters, cartridges, and canisters are.

- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.

- How to inspect, put on and remove, use, and check the seals of the respirator.

- What the procedures are for maintenance and storage of the respirator. (A copy of respirator cleaning procedures will be given to the employee.)

- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.

- Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations.

- Procedures to ensure adequate air quality.

- Instructions to employees who voluntary use filtering facepieces (dust masks) when not required to. (A copy of information pertaining to respirator use when not required will be given to the employee.) (See Appendix D to this Chapter.)

- Instructions from respirator manufacturer.

Fit Testing

1. Qualitative Fit Test

a) Prior to initial use of any tight-fitting respirator, each employee will be fit tested with the same make, model, style, and size of the respirator they will be using. Fit testing will be done annually or when changes in the employee's physical condition could affect respirator use. This is done to ensure that each employee is able to obtain a good facepiece-to-face seal. The fit test will be performed by the respiratory program administrator following protocol established under Appendix A. to 1910.134: Fit Testing Procedures. (See Appendix A to this Chapter.)

b) Documentation of fit tests performed will be maintained at ADAMS WALLKILL, LLC's main office. The records will contain information in accordance with the record-keeping requirements set forth in 1910.134(m)

2. Positive and Negative Pressure Tests

a) Respirator users shall be trained in how to perform positive and negative pressure tests and should use them each time the respirator is donned as a means of quickly checking respirator fit. (See Appendix B-1 to this Chapter.)

b) Positive Pressure Test: This test is performed by closing off the respirator exhalation valve using the palm of the hand and exhaling gently into the facepiece. The fit is considered satisfactory if slight positive pressure can be built up inside the facepiece without any evidence of outward leakage.

c) Negative Pressure Test: In this test, the user closes off the air inlet of the respirator by covering it so that it cannot pass air; inhales gently so that the facepiece collapses slightly; and holds breath for about 10 seconds. If the facepiece remains slightly collapsed and no inward leakage is detected, a suitable fit exists.

3. Inspecting, Cleaning, Storing, and Maintaining Respirators

a) Employees must inspect their respirator each day it is used for proper function, including checking inhalation and exhalation valves, facepiece, and wear and condition of head straps. Rubber elastomer parts shall be inspected for pliability and signs of deterioration.

b) Filter, cartridge, or canister life must not be exceeded. Gas and vapor cartridges must be equipped with an ESLI (end of service life indicator) certified by NIOSH. When this type of cartridge is not available, they must be replaced before the end of their service life. This will be determined by the superintendent on site.

c) Respirators permanently assigned must be thoroughly cleaned with a sanitizing solution by the employee after each use. Respirators issued for temporary use will be cleaned when they are returned. Respirator cleaning procedures will follow the manufacturer's guidelines or the following protocol as per Appendix B-2 to 1910.134 will be utilized. (See Appendix B-2 to this Chapter.)

d) Clean respirators should be stored either in a clean bag, a big coffee can, or in a clean storage cabinet. Respirators must be stored properly to prevent deformation of the facepiece and exhalation valve. To prevent damage, respirators should not be stored in toolboxes unless they are in carrying cases or cartons. Also protect respirators from dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals.

e) A selection of replacement parts, cartridges, and filters is available from your supervisor. Any repairs or replacement of parts must be done in accordance with the manufacturer's specifications and done by a trained person using NIOSH-approved parts designed for the respirator.

f) When repairs are made on respirators, NIOSH-approved repair parts must be used which are designed for that specific respirator. Interchanging between different models will void the respirator's certification and may cause dangerous air leaks or equipment failure.

4. Program Evaluation

a) Random inspections should be conducted regularly by the supervisor to ensure that respirators are properly selected, used, cleaned and maintained. Deficiencies will be noted and corrective measures taken. Failure to wear a respirator when required will result in disciplinary action as per ADAMS WALLKILL, LLC's Disciplinary Program.

Appendix A

Fit Testing Procedures

Fit Testing Procedures
(Mandatory)
Appendix A to § 1910.134

Part I. OSHA-Accepted Fit Test Protocols

A. Fit Testing Procedures—General Requirements
The employer shall conduct fit testing using the following procedures. The requirements in this appendix apply to all OSHA-accepted fit test methods, both QLFT and QNFT.

1. The test subject shall be allowed to pick the most acceptable respirator from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

2. Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine an acceptable fit. A mirror shall be available to assist the subject in evaluating the fit and positioning of the respirator. This instruction may not constitute the subject's formal training on respirator use, because it is only a review.

3. The test subject shall be informed that he/she is being asked to select the respirator that provides the most acceptable fit. Each respirator represents a different size and shape, and if fitted and used properly, will provide adequate protection.

4. The test subject shall be instructed to hold each chosen facepiece up to the face and eliminate those that obviously do not give an acceptable fit.

5. The more acceptable facepieces are noted in case the one selected proves unacceptable; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by discussing the points in the following item A.6. If the test subject is not familiar with using a particular respirator, the test subject shall be directed to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.

6. Assessment of comfort shall include a review of the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:

(a) Position of the mask on the nose

(b) Room for eye protection

(c) Room to talk

(d) Position of mask on face and cheeks

7. The following criteria shall be used to help determine the adequacy of the respirator fit:

(a) Chin properly placed;

(b) Adequate strap tension, not overly tightened;

(c) Fit across nose bridge;

(d) Respirator of proper size to span distance from nose to chin;

(e) Tendency of respirator to slip;

(f) Self-observation in mirror to evaluate fit and respirator position.

8. The test subject shall conduct a user seal check, either the negative and positive pressure seal checks described in Appendix B–1 of this section or those recommended by the respirator manufacturer which provide equivalent protection to the procedures in Appendix B–1. Before conducting the negative and positive pressure checks, the subject shall be told to seat the mask on the face by moving the head from side-to-side and up and down slowly while taking in a few slow deep breaths. Another facepiece shall be selected and re-tested if the test subject fails the user seal check tests.

9. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, mustache or sideburns which cross the respirator sealing surface. Any type of apparel which interferes with a satisfactory fit shall be altered or removed.

10. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician or other licensed health care professional, as appropriate, to determine whether the test subject can wear a respirator while performing her or his duties.

11. If the employee finds the fit of the respirator unacceptable, the test subject shall be given the opportunity to select a different respirator and to be re-tested.

12. Exercise regimen. Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure. The description of the process shall include a description of the test exercises that the subject will be performing. The respirator to be tested shall be worn for at least 5 minutes before the start of the fit test.

13. The fit test shall be performed while the test subject is wearing any applicable safety equipment that may be worn during actual respirator use which could interfere with respirator fit.

14. Test Exercises.

(a) The following test exercises are to be performed for all fit testing methods prescribed in this appendix, except for the CNP method. A separate fit testing exercise regimen is contained in the CNP protocol. The test subject shall perform exercises, in the test environment, in the following manner:

(1) Normal breathing. In a normal standing position, without talking, the subject shall breathe normally.

(2) Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.

(3) Turning head side to side. Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.

(4) Moving head up and down. Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).

(5) Talking. The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.

Rainbow Passage
When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

(6) Grimace. The test subject shall grimace by smiling or frowning. (This applies only to QNFT testing; it is not performed for QLFT)

(7) Bending over. The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place shall be substituted for this exercise in those test environments such as shroud type QNFT or QLFT units that do not permit bending over at the waist.

(8) Normal breathing. Same as exercise (1).

(b) Each test exercise shall be performed for one minute except for the grimace exercise which shall be performed for 15 seconds. The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried. The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated.

Bitrex™ (Denatonium Benzoate) Solution Aerosol Qualitative Fit Test Protocol

The Bitrex™ (Denatonium benzoate) solution aerosol QLFT protocol uses the published saccharin test protocol because that protocol is widely accepted. Bitrex is routinely used as a taste aversion agent in household liquids which children should not be drinking and is endorsed by the American Medical Association, the National Safety Council, and the American Association of Poison Control Centers. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) Taste Threshold Screening. The Bitrex taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of Bitrex.

(1) During threshold screening as well as during fit testing, subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches (30.5 cm) in diameter by 14 inches (35.6 cm) tall. The front portion of the enclosure shall be clear from the respirator and allow free movement of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts #14 and #15 combined, is adequate.

(2) The test enclosure shall have a ¾ inch (1.9 cm) hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

(3) The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his or her slightly open mouth with tongue extended. The subject is instructed to report when he/she detects a bitter taste.

(4) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the Threshold Check Solution into the enclosure. This Nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

(5) The Threshold Check Solution is prepared by adding 13.5 milligrams of Bitrex to 100 ml of 5% salt (NaCl) solution in distilled water.

(6) To produce the aerosol, the nebulizer bulb is firmly squeezed so that the bulb collapses completely, and is then released and allowed to fully expand.

(7) An initial ten squeezes are repeated rapidly and then the test subject is asked whether the Bitrex can be tasted. If the test subject reports tasting the bitter taste during the ten squeezes, the screening test is completed. The taste threshold is noted as ten regardless of the number of squeezes actually completed.

(8) If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the Bitrex is tasted. If the test subject reports tasting the bitter taste during the second ten squeezes, the screening test is completed. The taste threshold is noted as twenty regardless of the number of squeezes actually completed.

(9) If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the Bitrex is tasted. If the test subject reports tasting the bitter taste during the third set of ten squeezes, the screening test is completed. The taste threshold is noted as thirty regardless of the number of squeezes actually completed.

(10) The test conductor will take note of the number of squeezes required to solicit a taste response.

(11) If the Bitrex is not tasted after 30 squeezes (step 10), the test subject is unable to taste Bitrex and may not perform the Bitrex fit test.

(12) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

(13) Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.

(14) The nebulizer shall be thoroughly rinsed in water, shaken to dry, and refilled at least each morning and afternoon or at least every four hours.

(b) Bitrex Solution Aerosol Fit Test Procedure.

(1) The test subject may not eat, drink (except plain water), smoke, or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure as that described in 4. (a) above.

(3) The test subject shall don the enclosure while wearing the respirator selected according to section I. A. of this appendix. The respirator shall be properly adjusted and equipped with any type particulate filter(s).

(4) A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.

(5) The fit test solution is prepared by adding 337.5 mg of Bitrex to 200 ml of a 5% salt (NaCl) solution in warm water.

(6) As before, the test subject shall breathe through his or her slightly open mouth with tongue extended, and be instructed to report if he/she tastes the bitter taste of Bitrex.

(7) The nebulizer is inserted into the hole in the front of the enclosure and an initial concentration of the fit test solution is sprayed into the enclosure using the same number of squeezes (either 10, 20 or 30 squeezes) based on the number of squeezes required to elicit a taste response as noted during the screening test.

(8) After generating the aerosol, the test subject shall be instructed to perform the exercises in section I. A. 14. of this appendix.

(9) Every 30 seconds the aerosol concentration shall be replenished using one half the number of squeezes used initially (e.g., 5, 10 or 15).

(10) The test subject shall indicate to the test conductor if at any time during the fit test the taste of Bitrex is detected. If the test subject does not report tasting the Bitrex, the test is passed.

(11) If the taste of Bitrex is detected, the fit is deemed unsatisfactory and the test is failed. A different respirator shall be tried and the entire test procedure is repeated (taste threshold screening and fit testing).

Appendix B-1

User Seal Check Procedures

User Seal Check Procedures
(Mandatory)
Appendix B-1 to § 1910.134

The individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks listed in this appendix, or the respirator manufacturer's recommended user seal check method shall be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

I. Facepiece Positive and/or Negative Pressure Checks

A. Positive pressure check. Close off the exhalation valve and exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

B. Negative pressure check. Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

II. Manufacturer's Recommended User Seal Check Procedures

The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures provided that the employer demonstrates that the manufacturer's procedures are equally effective.

Appendix B-2

Respirator Cleaning Procedures

Respirator Cleaning Procedures

Appendix B-2 to § 1910.134
(Mandatory)

These procedures are provided for employer use when cleaning respirators. They are general in nature, and the employer as an alternative may use the cleaning recommendations provided by the manufacturer of the respirators used by their employees, provided such procedures are as effective as those listed here in Appendix B–2. Equivalent effectiveness simply means that the procedures used must accomplish the objectives set forth in Appendix B–2, i.e., must ensure that the respirator is properly cleaned and disinfected in a manner that prevents damage to the respirator and does not cause harm to the user.

I. Procedures for Cleaning Respirators

A. Remove filters, cartridges, or canisters. Disassemble facepieces by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.

B. Wash components in warm (43° C [110° F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.

C. Rinse components thoroughly in clean, warm (43° C [110° F] maximum), preferably running water. Drain.

D. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:

1. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one tablespoon of laundry bleach to one gallon of water at 43° C (110° F); or,
2. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6–8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43° C (110° F); or,
3. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.

E. Rinse components thoroughly in clean, warm (43° C [110° F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.

F. Components should be hand-dried with a clean lint-free cloth or air-dried.

G. Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.

H. Test the respirator to ensure that all components work properly.

Appendix C

OSHA Respirator Medical Evaluation Questionnaire

Appendix C

OSHA Respirator Medical Evaluation Questionnaire

(Mandatory)

Appendix C to § 1910.134

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee: Can you read (circle one): Yes/No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory) The following information must be provided by every employee who has been selected to use any type of respirator (please print).

Company _____

1. Your name: _____ 2. Today's date: _____
3. Your age (to nearest year): ___ 4. Sex (circle one): Male/Female
5. Your height: ___ ft. ___ in. 6. Your weight: ____ lbs.
7. Your job title: _____
8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): _____
9. The best time to phone you at this number: _____
10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No
11. Check the type of respirator you will use (you can check more than one category):
    a. __ N, R, or P disposable respirator (filter-mask, non-cartridge type only).
    b. __ Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).
12. Have you worn a respirator (circle one): Yes/No
    If ''yes,'' what type(s): _____

Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle ''yes'' or ''no'').

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month: Yes/No
2. Have you ever had any of the following conditions?
    a. Seizures (fits): Yes/No
    b. Diabetes (sugar disease): Yes/No
    c. Allergic reactions that interfere with your breathing: Yes/No
    d. Claustrophobia (fear of closed-in places): Yes/No
    e. Trouble smelling odors: Yes/No
3. Have you ever had any of the following pulmonary or lung problems?
    a. Asbestosis: Yes/No
    b. Asthma: Yes/No
    c. Chronic bronchitis: Yes/No
    d. Emphysema: Yes/No
    e. Pneumonia: Yes/No
    f. Tuberculosis: Yes/No

g. Silicosis: Yes/No
h. Pneumothorax (collapsed lung): Yes/No
i. Lung cancer: Yes/No
j. Broken ribs: Yes/No
k. Any chest injuries or surgeries: Yes/No
l. Any other lung problem that you've been told about: Yes/No

4. Do you currently have any of the following symptoms of pulmonary or lung illness?
a. Shortness of breath: Yes/No
b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/No
c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/No
d. Have to stop for breath when walking at your own pace on level ground: Yes/No
e. Shortness of breath when washing or dressing yourself: Yes/No
f. Shortness of breath that interferes with your job: Yes/No
g. Coughing that produces phlegm (thick sputum): Yes/No
h. Coughing that wakes you early in the morning: Yes/No
i. Coughing that occurs mostly when you are lying down: Yes/No
j. Coughing up blood in the last month: Yes/No
k. Wheezing: Yes/No
l. Wheezing that interferes with your job: Yes/No
m. Chest pain when you breathe deeply: Yes/No
n. Any other symptoms that you think may be related to lung problems: Yes/No

5. Have you ever had any of the following cardiovascular or heart problems?
a. Heart attack: Yes/No
b. Stroke: Yes/No
c. Angina: Yes/No
d. Heart failure: Yes/No
e. Swelling in your legs or feet (not caused by walking): Yes/No
f. Heart arrhythmia (heart beating irregularly): Yes/No
g. High blood pressure: Yes/No
h. Any other heart problem that you've been told about: Yes/No

6. Have you ever had any of the following cardiovascular or heart symptoms?
a. Frequent pain or tightness in your chest: Yes/No
b. Pain or tightness in your chest during physical activity: Yes/No
c. Pain or tightness in your chest that interferes with your job: Yes/No
d. In the past two years, have you noticed your heart skipping or missing a beat: Yes/No
e. Heartburn or indigestion that is not related to eating: Yes/No
f. Any other symptoms that you think may be related to heart or circulation problems: Yes/No

7. Do you currently take medication for any of the following problems?
a. Breathing or lung problems: Yes/No
b. Heart trouble: Yes/No
c. Blood pressure: Yes/No
d. Seizures (fits): Yes/No

8. If you've used a respirator, have you ever had any of the following problems? (If you've never used a respirator, check the following space and go to question 9:) ___
a. Eye irritation: Yes/No
b. Skin allergies or rashes: Yes/No
c. Anxiety: Yes/No
d. General weakness or fatigue: Yes/No
e. Any other problem that interferes with your use of a respirator: Yes/No

9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes/No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you ever lost vision in either eye (temporarily or permanently): Yes/No
11. Do you currently have any of the following vision problems?
    a. Wear contact lenses: Yes/No
    b. Wear glasses: Yes/No
    c. Color blind: Yes/No
    d. Any other eye or vision problem: Yes/No
12. Have you ever had an injury to your ears, including a broken ear drum: Yes/No
13. Do you currently have any of the following hearing problems?
    a. Difficulty hearing: Yes/No
    b. Wear a hearing aid: Yes/No
    c. Any other hearing or ear problem: Yes/No
14. Have you ever had a back injury: Yes/No
15. Do you currently have any of the following musculoskeletal problems?
    a. Weakness in any of your arms, hands, legs, or feet: Yes/No
    b. Back pain: Yes/No
    c. Difficulty fully moving your arms and legs: Yes/No
    d. Pain or stiffness when you lean forward or backward at the waist: Yes/No
    e. Difficulty fully moving your head up or down: Yes/No
    f. Difficulty fully moving your head side to side: Yes/No
    g. Difficulty bending at your knees: Yes/No
    h. Difficulty squatting to the ground: Yes/No
    i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes/No
    j. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No

Part B Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes/No
    If ''yes,'' do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes/No
2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes/No
    If ''yes,'' name the chemicals if you know them: _____

3. Have you ever worked with any of the materials, or under any of the conditions, listed below:
    a. Asbestos: Yes/No
    b. Silica (e.g., in sandblasting): Yes/No
    c. Tungsten/cobalt (e.g., grinding or welding this material): Yes/No
    d. Beryllium: Yes/No
    e. Aluminum: Yes/No
    f. Coal (for example, mining): Yes/No
    g. Iron: Yes/No

h. Tin: Yes/No
i. Dusty environments: Yes/No
j. Any other hazardous exposures: Yes/No
If ''yes,'' describe these exposures: _____

4. List any second jobs or side businesses you have: _____
5. List your previous occupations: _____
6. List your current and previous hobbies: _____
7. Have you been in the military services? Yes/No
If ''yes,'' were you exposed to biological or chemical agents (either in training or combat): Yes/No
8. Have you ever worked on a HAZMAT team? Yes/No
9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes/No
If ''yes,'' name the medications if you know them: _____
10. Will you be using any of the following items with your respirator(s)?
a. HEPA Filters: Yes/No
b. Canisters (for example, gas masks): Yes/No
c. Cartridges: Yes/No
11. How often are you expected to use the respirator(s) (circle ''yes'' or ''no'' for all answers that apply to you)?:
a. Escape only (no rescue): Yes/No
b. Emergency rescue only: Yes/No
c. Less than 5 hours per week: Yes/No
d. Less than 2 hours per day: Yes/No
e. 2 to 4 hours per day: Yes/No
f. Over 4 hours per day: Yes/No
12. During the period you are using the respirator(s), is your work effort:
a. Light (less than 200 kcal per hour): Yes/No
If ''yes,'' how long does this period last during the average shift: ___hrs. ___ mins.
Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1–3 lbs.) or controlling machines.
b. Moderate (200 to 350 kcal per hour): Yes/No
If ''yes,'' how long does this period last during the average shift: ___ hrs. ___ mins.
Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.
c. Heavy (above 350 kcal per hour): Yes/No
If ''yes,'' how long does this period last during the average shift: ___ hrs. ___ mins.
Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).
13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes/No
If ''yes,'' describe this protective clothing and/or equipment: _____
_____
14. Will you be working under hot conditions (temperature exceeding 77° F): Yes/No
15. Will you be working under humid conditions: Yes/No
16. Describe the work you'll be doing while you're using your respirator(s): _____
_____

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases): _____
_____
18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):
Name of the first toxic substance: _____
Estimated maximum exposure level per shift: _____
Duration of exposure per shift: _____
Name of the second toxic substance: _____
Estimated maximum exposure level per shift: _____
Duration of exposure per shift: _____
Name of the third toxic substance: _____
Estimated maximum exposure level per shift: _____
Duration of exposure per shift: _____
The name of any other toxic substances that you'll be exposed to while using your respirator:
_____
19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security): _____
_____

Appendix D

Information for Employees Using Respirators When Not Required Under the Standard

Information for Employees Using Respirators When Not Required Under the Standard

Appendix D to § 1910.134
(Non-Mandatory)

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, of if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard. You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.

2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.

3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.

4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

23. Confined Space Program

Purpose

To provide maximum protection for employees assigned to enter and work in confined spaces.

Definition

A confined space is any space having the following characteristics:

- Is large enough and so configured that an individual can bodily enter and perform assigned work; and
- Has limited or restricted means of entry or exit; and
- Is not designed for continuous employee occupancy.

Confined spaces may include but are not limited to:

Boilers	Manholes	Tank Cars
Pits	Vaults	Wells
Tunnels	Sewers	Cisterns
Furnaces	Diked Areas	Digesters
Silos	Septic Tanks	Pumping Stations
Storage Bins	Hoppers	Vessels
Process Vessels		

Hazards

1. Hazards Of Confined Spaces

a) Hazardous atmospheres
- Oxygen deficiency or oxygen enrichment
- Combustible/flammable/explosive gases and vapors
- Toxic gases or vapors
- Combustible dust

b) Engulfment hazards

c) Entrapment or configuration hazards

d) Mechanical hazards

e) Other hazards
- Corrosive chemicals
- Electrical
- Access with ladders
- Lighting (poor visibility)
- Temperature extremes
- Falling/tripping/insecure footing
- Falling objects
- Weather conditions

2. How Confined Space Hazards Occur

a) Confined space hazards occur as a result of both natural and man-made sources.

b) Sources of confined space hazards include but are not limited to:

- Chemical reactions from products stored in vessels.
- Oxidation/reduction reactions (i.e., rusting of metals)
- Decomposition of organic matter
- Cleaning reagents (solvents, acids)
- Welding, spray painting, grinding, brazing, sandblasting
- Spaces purged with an inert gas
- Fire and explosion hazards from organic hydrocarbon based substances
- Ignition sources from static electricity, hot work operations, electrical equipment
- Lack of proper training
- Loose materials stored in tank (grain, sawdust, etc.)
- Pyrophoric chemicals

Identification of Confined Spaces

1. Existing Facilities

If work is to be performed in an existing facility, the host employer shall have the responsibility of identifying confined spaces within that facility. Prior to beginning work, the Superintendent shall contact the host employer to determine the location of all confined spaces within the work area. If confined spaces are present in the facility, the host employer will inform ADAMS WALLKILL, LLC of any known hazards the host employer has experienced within the confined spaces and of any precautions that have been instituted by the host employer to protect employees in or near the permit space. Upon receipt of information from the host employer, the permit space program will be adapted to address the specific hazards associated with each space.

Where it is necessary for employees of ADAMS WALLKILL, LLC and the host employer to work simultaneously in a space, the host employer will be responsible for the development and implementation of procedures to coordinate entry operations. Employees of ADAMS WALLKILL, LLC will follow the procedures of the host employer in cooperating with their efforts to coordinate entry operations if both parties will have personnel working in the space.

All information pertaining to confined spaces should be provided by the host employer to ADAMS WALLKILL, LLC in writing.

At the conclusion of activities within a confined space, personnel should be prepared to brief the host employer on any hazards encountered or created while working in the confined space.

2. New Construction

ADAMS WALLKILL, LLC's jobsite superintendent will be responsible for identifying confined spaces. Spaces that fall within the definition of a confined space shall be treated as such and operations will follow the entry procedures outlined below.

Entry Procedures

No person shall enter a confined space without first being instructed as to the nature of the hazards involved, the necessary precautions to be taken, and in the use of protective and emergency equipment required. The following procedures must be followed to provide for the safety of all personnel working within a confined space.

1. Authorization

All persons assigned to enter a confined space must first obtain instruction from their Superintendent and a Confined Space Entry Permit Form. The permit is to be entirely completed and reviewed and signed by the Superintendent to authorize entry before any work in a confined space begins. The duration of the permit shall not exceed the time required to complete the task. Should the job last longer than one shift, a new permit must be issued at the beginning of each shift. The permit's duration can be stated in terms of a specific task to be performed; for example, the removal and installation of a relief valve. The permit must be posted outside the confined space to inform others that an employee is working inside. All permits must be filed in the jobsite office upon their expiration. Permits should be maintained for a period of one year to allow for an annual review of this Confined Space Entry Program.

2. Atmospheric Testing

The atmosphere in the confined space must be tested prior to entry and continuously monitored while the confined space is occupied. Only personnel trained in the use of air-monitoring equipment and its limitations will be permitted to perform pre-entry testing. Air-monitoring equipment must be calibrated prior to each use unless otherwise specified by its manufacturer. Before entry into the confined space, the atmosphere must test within the acceptable ranges as outlined below. It is important to remember that due to the intrinsic limitations of air monitoring devices, testing must be performed in the order listed below.

NOTE: Confined space entrants or their authorized representative, shall be provided an opportunity to observe calibration, pre-entry or periodic testing results.

Order	Substance	Acceptable Level
1.	Oxygen	19.5% - 23.5%
2.	Explosive gas or vapor	<10% LFL
3.	Explosive dust	<LFL (5 ft. visibility)
4.	Carbon monoxide (CO)	50 ppm
5.	Hydrogen sulfide	10 ppm

1% = 10,000ppm (Parts Per Million)

All readings should be recorded on the entry permit. If any values fall outside the acceptable range, appropriate corrective actions should be taken. Where additional substances may exist, the appropriate tubes and testing equipment should be used to assure airborne concentrations are within the acceptable range. This range, referred to as the PEL or TWA, can usually be found on the MSDS for the material generating the airborne substance.

Where testing reveals an unsafe atmosphere, appropriate equipment must be used to purge and ventilate the space. If readings cannot be brought into acceptable levels then the confined space entry supervisor shall notify the main office as to the site conditions. Confined spaces in which the air quality is unsafe, despite purging and ventilation efforts, may require the use of a self-contained breathing apparatus (SCBA) and other specialized equipment. ADAMS WALLKILL, LLC employees are prohibited from using such equipment unless they have received the necessary training and are authorized to use it by the main office.

In the event the audible alarm or flashing lights on the monitor are activated while working in a confined space, the entrant must exit the confined space immediately.

NOTE: If work is performed in a confined space in which a flammable atmosphere exists, employees must use spark-proof hand tools and explosion-proof equipment. ADAMS WALLKILL, LLC employees are only permitted to work in such conditions if the entry supervisor has utilized all means to get the air quality in the confined space within acceptable levels and has received clearance with the main office.

3. Completion of Entry Permit

Entry permits must be completed prior to entering a confined space. The confined space entry permit provided with ADAMS WALLKILL, LLC's confined space program must be completed in it's entirety and must be signed by the entry supervisor before any ADAMS WALLKILL, LLC employee is permitted to enter the space. The confined space entrant shall be given the opportunity to review the permit prior to their entry and may request that additional monitoring be performed if they feel the evaluation of the space may not be accurate. When possible, observations necessary to complete the entry permit should be made from outside the confined space. In circumstances where this in not possible, the main office shall be notified as to the site conditions.

The following are procedures that must be completed and logged onto the permit prior to confined space entry:

a) Before working in the confined space, flange off all incoming and outgoing pipes and lockout all valves and electrical equipment. Lockout and tag all valves in accordance with the lockout-tagout procedure.
b) All mechanical equipment must also be tagged out and/or blocked to prevent accidental startup of equipment.
c) Once an entrance cover is removed, the opening must be promptly guarded by a railing, temporary cover, temporary fences, or other temporary barriers to prevent individuals from falling into a space and to protect the entrant from falling materials.
d) A means of communication between the entrant and the attendant must be established. Communication may be by voice, radio, visual, or rope.
e) Appropriate personal protective equipment must be selected to protect the entrant from any hazards inside the space.
f) Appropriate rescue equipment must be provided for use in emergency situations.
g) Names and numbers of emergency response services must be provided.
h) An adequate lighting source must be provided which is appropriate for conditions inside the space.

NOTE: Canceled entry permits shall be retained for at least one year to facilitate the review of the confined space permit program. Any problems encountered during an entry operation shall be noted on the pertinent permit so that appropriate revisions to the confined space program and entry permit can be made.

4. Duties of Authorized Entrants

a) Review entry permits to assure calibrations, monitoring results and engineering controls implemented are acceptable and request a re-evaluation if needed.
b) Know the hazards that may be faced during entry, including information on the mode, signs or symptoms and consequences of exposure.
c) Properly use the equipment provided. (Harness, air monitors, ventilation, communication, etc.)
d) Communicate with the attendant as necessary to enable the attendant to monitor the entrant's status and alert entrant of the need to evacuate.
e) Alert the attendant of any warning sign or symptom of exposure to a dangerous situation or prohibited condition.
f) Exit from the permit space as quickly as possible if the attendant or entry supervisor gives the order; if a warning sign or symptom of exposure to a dangerous situation or prohibited condition exists; or if an evacuation alarm is activated.

5. Duties of Attendants

a) Know the hazards that may be faced during entry, including information on the mode, signs or symptoms and consequences of exposure.

b) Be aware of possible behavioral effects of hazard exposure in authorized entrants.
c) Maintain an accurate account of all authorized entrants in the permit space.
d) Remain outside the permit space during entry operations until relieved by another attendant.
e) Communicate with authorized entrant to monitor their status and to alert the entrant of need to evacuate.
f) Order an evacuation of the space if:
- A prohibited condition is detected
- A behavioral effect or hazard exposure is detected in the entrant
- A situation outside the space could endanger the entrant
- Attendant duties cannot be effectively and safely performed

g) Summon rescue and other emergency services if entrant may need assistance to escape from the permit space hazards.
h) Prevent unauthorized persons from approaching or entering a permit space while entry is underway.
i) Perform no other duties that may interfere with primary duty of protecting the authorized entrant.
j) Perform non-entry rescues as per ADAMS WALLKILL, LLC's confined space program. (i.e. Using retrieval systems)

6. Duties of Entry Supervisor

a) Know the hazards that may be faced during entry, including information on the mode, signs or symptoms and consequences of exposure.
b) Verify that the appropriate entries have been made on the permit prior to endorsing the permit and allowing entry to begin.
c) Terminate entry and cancel the permit when the entry operations covered by the permit are completed or a condition that is not allowed under the entry permit arises in or near the permit space.
d) Verify that rescue services are available and that the means for summoning them are operable.
e) Remove unauthorized individuals who enter or attempt to enter the permit space during entry operations.
f) Determine if entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

7. Emergency Rescue Procedures

Under no circumstances do we expect personnel to enter a permit space where hazards have not been eliminated or effectively controlled. Additionally, we understand that unexpected situations might arise that prevent entrants from self-rescue. In response, the following rescue and emergency action plan has been developed and will be strictly enforced. Non-entry rescue shall be the first and primary option for emergency rescue.

Vertical Confined Spaces – When entering a vertical confined space, a retrieval system will be utilized to rescue employees. The system will be operated by the attendant

responsible for the confined space and the entry supervisor will confirm that the necessary rescue equipment is in place and that employees are trained in their use. A tripod with a winch will be situated at the permit opening. The authorized entrant shall wear a full body harness with the winch snap hook securely fastened to the D-ring located on the entrant's back between the shoulders. The use of the retrieval system will be the primary means of rescue however, off-site rescue entry services will be in place as a safety precaution. The entry supervisor is responsible for notifying third party rescue services to discuss the permit required work that needs to be performed and to conduct a site walk-through with the rescue service to assure they are capable of performing such a rescue in a timely manner.

Horizontal Confined Space – During horizontal confined space entry, ADAMS WALLKILL, LLC will rely soley on off-site rescue entry services. The entry supervisor is responsible for notifying third party rescue services to discuss the permit required work that needs to be performed and to conduct a site walk-through with the rescue service to assure they are capable of performing such a rescue in a timely manner.

NOTE: Each member of the rescue service team shall practice making a permit required space rescue at least every 12 months. Each member of the rescue service team shall be trained in basic first aid and cardiopulmonary resuscitation (CPR). At least one member of the rescue service team holding current certification in first aid and CPR shall be available.

8. Smoking

Smoking is prohibited inside of, and within twenty (20) feet of the confined space.

9. Welding Within a Confined Space

If welding is to be performed in confined spaces that did or does now contain combustibles, all residues including dry scale or sediment must be removed. If it is not possible to remove all combustible materials, they must be covered by a noncombustible blanket.

The following specific procedures are required when welding is performed in a confined space:

a) Welding electrodes must be removed from their holders during suspension of work (e.g., during lunch or overnight). The welding machine must be disconnected from its power source.
b) Mechanical ventilation must be provided.
c) Compressed gas cylinders and welding machines must be left outside the confined space.
d) Portable equipment on wheels must be secured to prevent accidental movement.
e) Gas welding and cutting equipment, such as hoses, connections, torches, etc., must be inspected and tested to ensure their integrity.

f) Means must be available for the quick removal of a welder in the event of an emergency. A full body harness must be used whenever their use will facilitate rescue.
g) An attendant with a pre-planned rescue procedure must be stationed outside the space.
h) Torch valves must be closed and the fuel gas and oxygen supply positively shut off at some point outside the space when the torch is not being used for substantial amount of time. Additionally, the torch and hose must also be removed from the confined space where practicable.
i) Warning signs should be posted warning of hot metal after welding is completed.
j) Welders and helpers must use appropriate respiratory protection when ventilation controls are insufficient.
k) Never use oxygen to ventilate a confined space.

10. Multi-Employer Permit Space Entry Operations

Where employees of ADAMS WALLKILL, LLC and those of another employer are required to work simultaneously within a confined space, efforts will be made to cooperate with the operations of other employers so employees are not endangered by the operations of another employer.

11. Fire Protection

At least one 20 lb. ABC multi-purpose fire extinguisher must be available for instant use in a confined space containing flammable gases or vapors.

12. Training

Every individual involved in confined space entry will receive initial and annual refresher training. The training will be specific for the duties the employee will perform and the procedures and practices necessary to protect them from the dangers of the permit space.

All personnel involved in confined space entry will receive training in:

a) Types of confined space hazards.
b) Components of the confined space program.
c) Components of the entry permit system.
d) Safe confined space welding practices.
e) The need for prompt guarding of the entrance opening.
f) Atmospheric testing equipment including its use, calibration, and maintenance.
g) Atmospheric testing protocol:
- Oxygen, combustibles, toxics
- Pre-entry, frequent or continuous testing
- Check all levels of the space

h) Methods for the control or elimination of any atmospheric hazards:

- Draining and rinsing
- Purging and cleaning
- Continuous forced air ventilation

i) Procedures employees must follow if they detect a hazard.

j) The evaluation process to be used for reentry if hazards are detected.

k) Train employees on the use of entry equipment.

l) Personal protective equipment required:
   - Full body harness
   - Respiratory protection
   - Eye and face equipment
   - Protective clothing

Confined Space Entry Permit

Date and Time: _____Project Name:_____
Permit Expiration Time: _____
Permit Space Location and Description: _____
_____
Purpose of Entry:_____
_____
_____

Pre-Entry Checklist

NOTE: The entire form must be completed prior to entry into the confined space.

1. Atmospheric testing: To be conducted in following order.

A. Order	Substance	Acceptable Level	Readings	Acceptable
1.	Oxygen (O_2)	19.5% - 23.5%		Yes No
2.	Explosive Gas or Vapor	< 10% LFL		Yes No
3.	Explosive Dust	< LFL (5ft visibility)		Yes No
4.	Carbon Monoxide	< 50 ppm		Yes No
5.	Hydrogen Monoxide	< 10 ppm		Yes No
6.	Other			Yes No
7.	Other			Yes No

B. Continuous forced air ventilation in place where required? NA Yes No
C. Are explosion-proof tools and equipment required? NA Yes No
D. Is a 20 lb. ABC extinguisher present where required? NA Yes No

2. Control of Hazardous Energy
   A. Are all lines to vessel locked out - broken - capped - or blanked? NA Yes No
   B. Are all switches and valves locked or tagged out? NA Yes No
   C. Is all mechanical equipment locked out or tagged to prevent accidental startup? NA Yes No
3. Is opening to confined space adequately protected? NA Yes No
4. Is a means of communication established between entrant and attendant? NA Yes No
5. Is entrant equipped with appropriate personal protective equipment? NA Yes No
6. Is each entrant equipped with a harness and lifeline for emergency rescue operations? NA Yes No
7. Are the names and numbers of emergency rescue services readily available? NA Yes No
8. Is an adequate lighting source, safe for conditions in the space, provided? NA Yes No
9. Will welding operations be performed within the space? NA Yes No
   ⇒ If "yes," a Confined Space Hot Work Permit must be completed.
10. Have all personnel received the appropriate training for their duties? NA Yes No

IF NO IS MARKED FOR ANY ITEM, ENTRY OPERATIONS MAY NOT PROCEED.

Superintendent Entry Authorization: _____

Signature of Attendant: _____

Signature of Entrants: _____

24. Lockout Tagout Program

Introduction

This document establishes the requirements and procedures for isolating potentially hazardous energy during installation, service, or maintenance of machines and equipment in which the unexpected startup or the release of stored energy could cause injury to employees. These machines will be tagged or locked out before any employee performs any service or maintenance if unexpected startup or release of stored energy could cause injury.

Responsibility

The jobsite superintendent will have overall responsibility for the lockout-tagout program, and is in charge of the lockout-tagout procedure including helping other employees locate, lock and tag valves, switches, etc.

Supervisors are responsible for the enforcement of all jobsite safety rules. All shop employees and traveling maintenance personnel, including new or transferred employees, shall be trained in the scope, identification, and significance of the lockout procedures.

Training

Each employee who will be involved in lockout-tagout shall be given training by the designated jobsite superintendent before performing work on any mechanical, electrical, pressurized, etc. system.

Preparation for Lockout-Tagout

The jobsite superintendent should conduct a survey to locate and identify all energy isolating devices. They should be certain switches, valves, or other isolating devices apply to the equipment. The lockout-tagout procedure involves, but is not limited to, electricity, motors, steam, natural gas, compressed air, hydraulic systems, digesters, sewers, etc.

Lockout Tagout Restrictions

1. The isolating devices locked and tagged must include all of the devices which control energy, must be singularly identified, and must not be used for any other purpose.

2. Locks, hasps, and tags must be able to withstand any kind of adverse environment in which they may be used. Tags which are to be located in adverse conditions must not deteriorate to a point where they become illegible.

3. Lockout requirements are not met by the removal of fuses.

4. Locks and tags are not to be removed by any person other than the individual who applies the lock.

5. No employee shall rely on another employee's lock or tag.

Procedures of Lockout-Tagout System

1. The lockout tag is to be completed before any work is performed. The tag shall consist of the following information:

   a) Date and time lock was installed.
   b) Name of employee who applied the lock and tag.
   c) Name of employee's employer.
   d) Phone number.
   e) Review and compare visual identification data with the specific written procedures for the equipment and machinery.
   f) **More than one energy source may be involved.**

2. Notify all affected employees that a lockout-tagout system is going to be used and the reason for it. The authorized employee shall know the type and magnitude of energy connected to the machine or equipment and understand the hazards.

3. If the machine or equipment is operating, shut it down by normal stopping procedure.

4. Operate all switches, valves, or other energy isolating devices so that the equipment is totally isolated from its energy sources. Stored energy (such as that in springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as repositioning, blocking, bleeding, disconnecting, etc.

5. Place a lock on each energy isolating device. Only authorized employees may attach the locks. The locks must hold the energy isolating devices in a "safe" or "off" position. Attach "Danger Do Not Operate" tags to each lock. On the tag write the name of the employee, employer, date and time of attachment, and phone number.

6. If more than one individual is required to lockout and tag the equipment, each person must place a separate lock or tag on each energy isolating device. When an energy isolating device cannot accept multiple locks or tags, a multiple lock hasp must be used. Individual locks are removed as each person no longer needs to maintain lockout protection.

7. ***No Employee May Remove The Lock Of Another Employee.***

8. After verifying that no personnel are exposed, and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate.

9. The system is now properly locked out. CAUTION: Return operating control(s) to "neutral" or "off" position after the test.

10. Implement a tagout system if a lock cannot be utilized. The tag is to be attached so it will clearly indicate that the operation or movement of energy isolating devices from the "safe" or "off" position is prohibited. Employees are to be trained in the following limitations of the tagout system:

    a) Tags are warning devices and do not provide the physical restraint a lock does.
    b) Tags are not to be removed without authorization of the authorized person responsible for them.
    c) Tags must be legible, understandable and made of a material which will withstand the environmental conditions.
    d) Tags are to be securely attached so that they cannot be inadvertently or accidentally detached during use.

11. Where a tag cannot be attached directly to the energy isolating device, the tag is to be located as close as safely possible to the device in a position immediately obvious to anyone attempting to operate the device.

Sequence For Restoring Machines To Normal Operation

1. When working on equipment that requires "inching" or "jogging" to move parts for adjustment or maintenance, special attention at the energy source must be continued until work is completed. Special attention involves an employee stationed at the primary disconnect switch (the energy source) during "inching" and "jogging." In the event the secondary switch should fail, he would switch the primary disconnect off.

2. After servicing and/or maintenance is complete and equipment is ready for normal operation, check the areas around the machines or equipment to ensure that no one is exposed.

3. After checking that all tools have been removed from the machines or equipment, guards have been reinstalled and employees are in the clear, notify the designated lockout/tagout coordinator before the removal of the tag and lock.

4. After authorization is given, remove all locks and tags. Operate the energy isolating devices to restore energy to the machine or equipment.

If An Employee Forgets To Remove a Lock or Tag

No employee may remove the tag or lock of another employee. The only exception to this is if an employee has forgotten to remove the lock and is not available to do so. The

designated lockout-tagout coordinator is the only person who may remove a lock or tag and then only after he/she verifies that:

1. It is safe to restore the energy to the machine or equipment,

2. The authorized employee who applied the device is not at the facility,

3. All reasonable efforts are made to contact the authorized employee, and

4. The authorized employee knows his or her lock and tag was removed before he or she resumes work at the facility.

Definitions

Affected Employee: An employee whose job requires operation or normal use of a machine or piece of equipment which may be locked out, or one whose job requires work in an area where a machine or piece of equipment is locked out.

Authorized and Designated Lockout-Tagout Coordinator: A person authorized and designated by the project manager or project superintendent for contacting the owner's representative to identify all systems to be locked-tagged out, and then assist other authorized employees to locate and lockout-tagout valves, switches, etc.

Authorized Employee: A person who locks out and tags, or tags out a machine or piece of equipment in order to perform service or maintenance on that piece of equipment. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing maintenance or service on a machine which must be locked out.

Capable of Being Locked Out: An energy isolating device is capable of being locked out:

- If it can be held in the off or safe position by placing a lock, hasp, or similar part into it,
- If it has a built-in lock which holds the device in the off or safe position, and/or
- If a lock can be placed to hold the device in the "off" or "safe" position without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

Energy Isolating Device: A mechanical device that physically prevents the transmission or release of energy, such as valves, manually operated electrical switch boxes, disconnect switches, blocks, and any similar device used to block or isolate energy. The term does not include push button, selector switch, and other devices.

Energy Source: Any electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Lockout: The placement of a lock and tag on an energy isolating device, in accordance with established procedure, so the energy isolating device and the equipment being controlled cannot be operated until the lock is removed.

Service and/or Maintenance: Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, maintaining, and servicing machines or equipment. These activities include lubrication, cleaning, unjamming, adjustments or tool changes, where the employee may be exposed to unexpected energizing, start up, or a release of hazardous energy.

Tag: A prominent warning device which can be securely fastened to any energy isolating device to indicate that the energy isolating device and the equipment being controlled may not be operated until the tag is removed. The tag must include the name of the employer, name of employee, and date of attachment.

25. Hot Work

PURPOSE

To establish the requirements for safe welding, cutting, soldering, heating, etc.

RESPONSIBILITIES

The job foreman is responsible for all aspects of the hot work program. The foreman must review requirements with subcontractors prior to performing any "HOT WORK" operation. In some circumstances, a "HOT WORK" permit may be required prior to the start of work.

PROCEDURE

1) **General**

   a) All combustible materials must be removed or protected by a welding blanket from the place where the flame or arc is to be:

      i) 15 feet horizontally

      ii) 45 feet below

      iii) 10 feet above

   b) No arc or flame operation is permitted in an area where painting is being done or where combustible dusts or flammable liquids are present.

   c) A fire watch with proper extinguishers must be posted during all flame or electric arc work and for 30 minutes after such work. A fire watch must also be posted for 25 minutes after use of temporary heaters.

   d) Mechanical ventilation and/or respirators must be provided when welding, cutting or heating:

      i) Hazardous materials such as stainless steel, cyanides, zinc, cadmium, heavy metals, etc.

      ii) In confined spaces.

2) **Oxy-acetylene torches**

   a) Fuel gas and oxygen hoses must be easily distinguishable and connections cannot be interchangeable.

   b) All connections must be clean and free of grease or oil.

   c) Flash Arrestors must be installed at the mixing tube of all torches.

   d) Hoses shall not be laid across traffic areas.

e) All gas cylinders must be secured in an upright position. When in storage the protective cap must be on the cylinder.

3) **Propane torches**

a) Hoses shall not be laid across traffic areas.

b) All gas cylinders must be secured in an upright position. When in storage the protective cap must be on the cylinders and the cylinders protected against mechanical damage. Propane cylinders must not be stored indoors.

4) **Electric arc welders**

a) All arc welding must be protected by non-combustible shields or curtains to prevent people from viewing the arc.

b) When electrode holders are left unattended, the electrodes must be removed and the holders placed or protected so that they cannot make contact with each other, conductive objects or people.

c) All welding cable must be insulated completely. Any splices or repairs must have insulation with a resistance equal to or greater than the original insulation.

5) **Propane fired heaters**

a) The propane fuel tank must be located at least 20 feet from the burner.

b) Hoses shall not be laid across traffic areas.

c) All gas cylinders must be secured in an upright position. When in storage the protective cap must be on the cylinders and the cylinders protected against mechanical damage. Propane cylinders must not be stored indoors.

6) **Liquid fueled heaters**

a) All liquid fuels must have a flashpoint of 100º F or more. Refer to the fuel Material Safety Data Sheet (MSDS) for flash point information.

b) Refueling shall only be done after the heater has been off for 15 minutes or more and a funnel must be used.

c) Fuel storage must be located well away from any heat source and protected from mechanical damage.

26. Lead Management Program

PURPOSE

To protect employees from harmful exposure to lead while performing construction activities

RESPONSIBILITIES

It is the responsibility of management, project managers, and foremen to ensure that proper measures are taken to address lead exposure at a ADAMS WALLKILL, LLC Construction project. If demolition activities are performed, a lead survey must be done prior to the start of demolition to determine if lead is present. If lead is present, a lead exposure assessment must be conducted during demolition activities to confirm proper personal protective equipment is provided and to clarify what other applicable standards must be met. The survey and assessment must comply with the standards and actions outlined by OSHA.

Prior to the start of any project, ADAMS WALLKILL, LLC's Safety Director must be notified so the appropriate steps can be taken to identify the presence of lead. It is important to understand that significant lead exposures can arise from removing paint from surfaces previously coated with lead-containing paint, such as in bridge repair, residential renovation and demolition.

Operations that generate lead dust and fumes also include the following:

1. flame-torch cutting, welding and grinding of lead painted surfaces in repair, reconstruction, dismantling and demolition work
2. abrasive blasting of bridges and other steel structures containing lead-based paints
3. using torches, head guns and sanding machines during abatement of lead-based paint

Operations that involve exposure to lead containing products include:

1. spray painting bridges and other structures with lead-based paints and primers
2. using solder in plumbing and electrical work

In building construction, lead is frequently used for roofing, tank lining, electrical conduits, plumbing and painting.

On projects where lead is identified at the action level of 30ug/m3 or above, employees will be prohibited from smoking or eating in those work areas. Please note that whenever lead is present at a project, even in low concentrations, employees should practice good hygiene habits to avoid breathing or ingesting lead. Any employee must contact the safety director if he or she suspects exposure to lead.

Lead absorption and the effects on the human body

Lead can be absorbed into the body by inhalation (breathing) and ingestion (eating). Very small amounts of lead that may be unintentionally ingested via eating, drinking or smoking on the job can be harmful.

Lead exposure is very harmful. It can affect the brain, leading to seizures, comas and death. Lead poisoning can occur at high exposure concentrations (acute) or at low exposure concentrations over a long period of time (chronic) and can cause either temporary or permanent damage.

Lead is a cumulative poison. It accumulates in the blood, bones and organs, including the kidneys, brain and liver. It stays in the bones for decades. It may be slowly released over time to cause toxic effects. Increased blood lead levels usually means there has been some recent exposure. Early effects of lead poisoning are not specific and resemble "flu-like" illnesses. Worker awareness and training are important so that employees can recognize the symptoms of exposure and get medical attention.

Lead Exposure Limits

The OSHA standard establishes maximum limits of exposure to lead for all workers covered, including a permissible exposure limit and action level.

Permissible Exposure Limit (PEL):

The PEL sets a maximum worker exposure to lead. No employee may be exposed to lead in airborne concentrations greater than 50 ug/m3 averaged over an eight-hour period.

Action level:

An action level is the level at which an employer must begin certain compliance activities outlined in the standard. The action level, regardless of respirator use, for the lead in construction standard is an airborne concentration of 30 ug/m3 calculated as an eight-hour TWA.

The only way to determine airborne concentrations of lead is to perform air monitoring. ADAMS WALLKILL, LLC's policy requires employees involved in the lead assessment to have blood work done to determine their baseline lead and ZPP levels. This must be done prior to the assessment. When the exposure assessment is conducted, interim personal protective equipment must be provided based on the operation performed during the assessment.
In some circumstances, potential lead hazards may be abated by a specialty contractor experienced in this area.

Under no circumstances shall work be performed in areas that have not been identified as "Lead Free".

Regulated Materials

Asbestos

ADAMS WALLKILL, LLC will not make use of, make contact with, or work in an area containing state or federally regulated materials such as Asbestos. In the event Asbestos Containing Materials (ACM) are suspected of being present in a work area, all work will stop immediately and a supervisor will be notified. The supervisor will notify the owner or contractor for whom ADAMS WALLKILL, LLC is performing work for confirmation and/or inspection of the area. Work will resume only after ADAMS WALLKILL, LLC is notified in writing that the suspect material has been declared safe or, if the suspect material is found to be hazardous, the material has been removed and the area declared safe for entry and the resumption of work.

Lead In Construction

Prior to beginning demolition of any structure, or portions of any structure, constructed prior to 1980, testing shall be conducted to determine the presence of lead. Refer to ADAMS WALLKILL, LLC's Lead Management Program for guidelines.

Pre-Planning

ADAMS WALLKILL, LLC estimating staff should verify whether lead, asbestos, or other hazardous materials are present prior to bidding on any project involving demolition of buildings, structures, or portions thereof.

27. Vehicle Safety

Purpose

To establish the company requirements for safe vehicle use.

Responsibilities

1. Management will supervise compliance of vehicle safety.

2. All drivers must comply with these Company procedures in addition to those of New York State vehicle and traffic law.

3. Pedestrians are to use sidewalks and marked cross-walks where available and observe all traffic control devices.

4. Safety department is to complete accident reports and corrective action reports for all accidents occurring on company property and/or involving an employee while he/she is working.

Procedure

1. Each person must have a valid state driver's license to operate a company vehicle. All employees are required to report to the company if their license is suspended or revoked.

2. Seat belts must be used at all times by all drivers and passengers. Passengers may not ride except in proper seats with seat belts.

3. All traffic regulations (including parking) must be observed at all times including customer rules and flagmen directions.

4. All loads must be properly secured at all times and for all trips of any length. All doors must be closed and latched before a vehicle is moved.

5. Driving while using prescription drugs that may impair ability is not permitted.

6. Evidence of illegal drugs or alcohol may cause dismissal whether the employee is driving or not.

7. All vehicles must be inspected daily by the driver for:

   a. Proper operation of the vehicle lights,

   b. Proper operation of windshield wipers and washers,

   c. Condition of the tires,

d. Proper operation of the brakes, and

e. General appearance

8. No vehicle is to be operated in reverse until the driver has made certain that no people or obstructions are in the path of travel. The driver must look in the direction of travel and sound the horn or other sound producing alarm while operating in reverse.

9. DO NOT transport passengers in cargo section of vehicles unless the cargo space is empty. Such vehicles used to transport employees shall have seats firmly secured and adequate for the number of people to be carried.

10. All accidents are to be reported in accordance with the company policy.

28. Powered Industrial Truck Operation

Purpose: To ensure equipment operators have the knowledge and skills needed to operate a powered industrial truck safely.

Definition: Powered Industrial Truck- A mobile , power-driven vehicle used to carry, push, pull, lift, stack and tier material.

Classes of Powered Industrial Trucks

Class 1 - Electric motor, sit-down rider, counterbalanced trucks (solid, pneumatic tires).
Class 2 - Electric motor, narrow aisle trucks (solid tires).
Class 3 - Electric motor hand trucks or hand/rider trucks (solid tires).
Class 4 - Internal combustion engine trucks (solid tires).
Class 5 - Internal combustion engine trucks (pneumatic tires).
Class 6 - Electric and internal combustion engine tractors (solid, pneumatic tires).
Class 7 - Rough terrain forklift trucks (pneumatic tires).

As of December 1, 1999, operators of power industrial trucks must be certified by their employer that they have successfully completed training in the use of the equipment being utilized. Training shall consist of a combination of formal instruction (lecture, discussion, interactive learning, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace. All training will be conducted by person(s) who have the knowledge, training, and experience to train powered industrial truck operators and evaluate their competence.

Training Program Content

Powered industrial truck operators shall receive initial training in the following topics unless they are not applicable to the safe operation of the truck in the workplace.

Truck Related Topics to be Covered During Training:

1) Differences between a powered industrial truck and an automobile.
2) Operating instructions, warnings, and precautions for the type of truck the operator will operate.
3) Truck controls and instrumentation: where they are located, what they do, and how they work.
4) Engine and motor operation.
5) Steering and maneuvering
6) Visibility, including restrictions due to loading.
7) Fork and attachment adaptation, operation, and use limitations.
8) Vehicle capacity and stability
9) Vehicle inspections and maintenance that must be performed by the operator.
10) Refueling and/or charging and recharging of batteries.
11) Operating limitations.

12) Operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

Workplace topics to be covered during training:

1) Surface conditions where the vehicle will be operated.
2) Composition of loads to be carried and load stability.
3) Load manipulation, stacking, and unstacking.
4) Pedestrian traffic in areas where the vehicle will be operated.
5) Narrow aisles and other restricted places where the vehicle will be operated.
6) Hazardous locations where the vehicle will be operated.
7) Ramps and other sloped surfaces that could affect the vehicle's stability.
8) Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust.
9) Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.

Training Frequency

Training shall be provided prior to an employee operating a powered industrial truck and shall, at a minimum, be conducted at least every three years. Refresher training in relevant topics shall be provided to the operator when:

- The operator is observed to operate the vehicle in an unsafe manner.
- The operator has been involved in an accident or a near-miss incident.
- The operator has received an evaluation that reveals that the operator is not operating the powered industrial truck safely.
- The operator is assigned to drive a different type of powered industrial truck.
- A condition in the workplace changes in a manner that could affect the safe operation of the powered industrial truck.

NOTE: If an operator has previously received training, and such training is appropriate to the powered industrial truck and working conditions encountered, additional training in that topic is not required if the operator has been evaluated and found competent to operate the truck safely.

Certification

ADAMS WALLKILL, LLC shall certify that each operator has been trained and evaluated. The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training evaluation. A copy of the training material used to train ADAMS WALLKILL, LLC employees shall be maintained at the main office

29. Hearing Conservation

Purpose

To establish procedures and methods that will be utilized by all ADAMS WALLKILL, LLC employees who are exposed to noise levels that exceed the Time Weighted Average (TWA) of 85 decibels or more.

General

Exposure to high noise levels can cause hearing loss or impairment. There is no cure for noise-induced hearing loss, making prevention of excessive noise exposure the only way to avoid hearing damage. Earplugs are available at each site for employees to use to help reduce exposure. Other forms of hearing protection, such as ear muffs, are available if activities being performed require protection with a higher Noise Reduction Rate (NRR).

Control Methods

When employees are required to work with or near tools or equipment that produce sounds that exceed permissible amounts, engineering controls shall be utilized. If the use of the engineering controls fails to reduce the sound to permissible levels, then hearing protection equipment shall be used to reduce noise exposure to acceptable levels.

Hearing Protection

There are many different types of hearing protection which provide different protection factors. Manufacturers of hearing protection designate protection factors in terms of NRR, Noise Reduction Rate. The higher the NRR, the better the protection. These values are based on the hearing protection fitting the user perfectly. Obviously, the hearing protection will not always provide a perfect fit for all users, so the NRR may be lower.

Consideration must be taken for what type of work will be performed while wearing hearing protection. For instance, if work is being performed near vehicle traffic and hearing protection is being used, the wearer may not hear a warning signal from a piece of machinery. When conditions warrant hearing protection but the use of this protection creates an additional hazard, measures must be taken to address this hazard.

Performing activities such as jackhammering, pile driving, and operating certain tools or equipment can expose an employee to higher decibel levels than are permitted over an eight-hour time period. If these activities are only performed for a short duration, the Time Weight Average (TWA) may not exceed permissible exposure limits but hearing protection use is encouraged provided its use does not create an additional hazard. A chart demonstrating limits for employee exposure to noise is provided at the end of the Hearing Conservation Program.

HEARING CONSERVATION PROGRAM

1. All employees exposed to an eight-hour time-weighted average of 85 decibels or greater shall be provided with and be required to wear hearing protection. Employees exposed to lower decibels are encouraged to utilize hearing protection if its use does not create additional hazards.

2. Hearing protection shall be available on each jobsite for employee use. The foreman shall ensure that hearing protection is being worn by employees exposed to a eight-hour Time Weighted Average (TWA) of 85dB or greater.

3. All employees shall be provided with training in the use and care of hearing protection equipment as well as their limitations.

4. Employees who fail to wear hearing protection when its use is required will be disciplined as per ADAMS WALLKILL, LLC's Disciplinary Program.

5. Employees who are required to regularly wear hearing protection to prevent an exposure to a TWA of 85dB or greater will be tested annually for hearing loss.

Training

All employees exposed to noise at or above an eight-hour TWA of 85 decibels shall participate in a fitting training program provided by the employer. The training shall discuss the effects of noise on hearing and how through the use of hearing protection noise levels can be reduced. Additionally, the advantages and disadvantages of various types of hearing protection will be discussed as well as the use and care of often-used protectors.

Limits For Employee Exposure To Noise

Sound Level	Hours Of Exposure Per Day
83	21
85	16
87	12
90	8
92	6
95	4
97	3
100	2
102	1.5
105	1
110	0.5
115	0.25

30. Spill and Release Prevention

Purpose

To establish the company requirements for prevention of spills and releases to the environment.

Responsibility

The job foreman is responsible for controlling spills and releases. The foreman must insure hazardous materials are stored properly on site.

Procedure

1. Keep Material Safety Data Sheets for all materials brought to the jobsite. Subcontractors are responsible for maintaining up to date Material Safety Data Sheets for the products being used on-site. Subcontractors must submit a copy of their Material Safety Data Sheets to ADAMS WALLKILL, LLC for filing at the jobsite trailer.

2. Develop a spill and release control plan that covers the hazardous materials on the jobsite, the storage requirements, the use methods, precautionary information, the appropriate regulations, the regulatory agency and the notification contact at the regulatory agency.

3. Bring only one day's supply of hazardous materials to the jobsite.

4. Keep all containers of liquids labeled properly and in impervious secondary containment.

5. Store hazardous material away from sewers, drains, and pits. If hazardous material must be located near sewers, drains, and pits, measures must be taken to prevent the product from entering these areas in the event a spill occurs.

6. Inspect secondary containment areas on a daily basis.

7. Remove all hazardous waste materials from the jobsite daily.

8. If a spill or release occurs, notify the main office, the customer, and the appropriate authorities immediately.

31. Hazardous Waste

Purpose

To establish the company requirements for safe and environmentally sound disposal of hazardous waste.

Responsibility

The job foreman is responsible for controlling the handling and disposal of hazardous waste. Hazardous waste includes, but is not limited to, asbestos and lead.

Procedure

1. Identify all waste materials that may need disposal or recycling during the job.

2. Determine the proper disposal/recycling method for all of these materials. If the proper disposal/recycling method is not known, contact the main office so the correct procedure can be identified.

3. Obtain the appropriate containers for the wastes.

4. Label the containers and place them at the jobsite.

5. Maintain records of all materials that are brought to the jobsite. The disposition of all materials must be known. This includes materials that evaporate to the atmosphere, materials drained to sanitary or storm sewers, materials disposed of in trash containers and materials that become part of the construction.

6. Include in the project plan intentions regarding disposition of hazardous wastes. Include an expected mass balance, disposition methods, all Material Safety Data Sheets for materials, and by-products, and a statement about the appropriate legislation.

7. Communicate the requirements of the project safety plan to all employees and to the customer.

8. Include waste disposition in the daily inspections.

9. All waste is to be removed from the jobsite daily.

32. Project Safety Plan

The Project Safety Plan is meant to supplement ADAMS WALLKILL, LLC's existing safety program by identifying all real and potential hazards of a project and providing specific plans to deal with those hazards.

Pre-planning is an important step toward achieving a zero-injury project. This document is designed to walk you through the pre-planning process. The written end product of pre-planning activities will be the Project Safety Plan (PSP). The PSP should be a brief outline of the hazardous conditions associated with your project and the controls you intend to implement to remove those hazards, or to prepare for the work to be performed under the condition.

As questions develop, rely on your experience, OSHA Standards, ADAMS WALLKILL, LLC's Corporate Safety Program, owner's representatives, engineers, insurance and trade association representatives, and consultants for assistance.

Subcontractors are encouraged to participate in the pre-planning process. Through coordination between trades, an effective Project Safety Plan can be developed. Where project activity can or will affect a client's operations, an owner's representative should also be encouraged to participate.

Responsibilities

The job foreman is responsible for developing a project safety plan whenever the complexity of the project warrants it, when the owner requests it, or when there is a legal requirement for one.

Procedure

1. Through inspection of the site, review of the project plans, inquiries to the customer, and other investigation obtain appropriate information about potential hazards and available resources. Record data discovered during the inspection. This should include the following information:

    a) Materials which will be present in or near the work area
        i) Locations
            a) For demolition activities inspect pipes, ductwork, soil, residue from exhaust vents, etc.
        ii) Quantities
        iii) Copies of Material Safety Data Sheets
        iv) Contamination which exists or may exist in or near the work area.
        v) Locations of regulated materials which may be contacted or disturbed during the work.
    b) Sources of ionizing radiation (x-ray machines and radioactive sources)
    c) Any equipment which will be operating or may start automatically (such as robots, conveyors, manipulators, exhaust systems, air handling units, compressors, etc.).
    d) Ambient noise levels
    e) Provide a listing of Emergency Procedures and emergency service names, locations, and telephones for hazards involving
        i) Medical
        ii) Fire
        iii) Spills or Releases
        iv) Utilities
        v) Facility and Equipment Damage

f) Sources of Technical Information
   i) Safety
   ii) Environmental Engineering
   iii) Security
g) Special access controls and security requirements.

2. Proposed Operations: Review the proposed scope of work and operations to identify the hazards that are inherent to the project and those that may be created or compounded by adjacent customer operations, facilities, or processes. Specifically identify hazards associated with the following:
   a) Materials to be used
   b) Elevated work
   c) Excavations
   d) Traffic and pedestrian control
   e) Confined spaces
   f) Noise levels
   g) Dust/contamination
   h) Utility disruptions
   i) Production disruption
   j) Product movement
   k) Employee discomfort
   l) Lockouts
   m) Poor lighting
   n) Cutting, welding, open flame work
   o) Internal combustion engines being used
   p) Cranes and hoists

3. Review all of the information regarding the materials the customer will have at or near the worksite, the materials that we will use and any contamination, which may be present.
   a) Determine whether an incompatibility exists among the various materials and, if so, develop a protective measure to prevent contact between the incompatible materials.
   b) Determine the respirator protection to be used, if any is needed. Make sure all respiratory protection requirements are met.
   c) Determine whether measurements of employee exposure to airborne contaminants will be required.
      i) Work that will require the measurements
      ii) Contaminants
      iii) The time and duration of each measurement
      iv) The person who will take the measurements.
4. Determine what hearing protection, if any, is needed.
5. Determine what other personal protective equipment is needed (such as gloves, hard hats, harnesses, lanyards, etc.)
6. Determine whether special permits, licenses or qualifications will be required.
7. Through review of the above and the personnel training records, determine what training will be necessary.
8. Determine who is responsible for housekeeping, cleaning methods and cleanliness to be maintained.
9. Provide information regarding exit evacuation plans, routes and methods.
10. Write a plan incorporating all of the determinations and requirements developed above and issue it as an addendum to the company safety program applicable to this project. In the plan, describe what actions are needed to meet the requirements identified above, when they are to be done, and who is responsible for doing them. Provide a detailed schedule of

the work including project name, location, description, and contact names, phone numbers and pager numbers of both company and contractor responsible personnel. Distribute this plan to all company and contractor employees who will be affected by the project.