

# Mowery Subcontractor Orientation





# What's Covered

Disclaimer

Safety Leadership

Project-Specific Guidelines

General Worksite Safety

Occupational Health & Wellness

Personal Protective Equipment

Fall Protection

Fire Safety

Tools & Equipment

Electrical Safety

Motor Vehicles & Traffic

Trenching & Excavation

Confined Spaces

Concrete & Masonry

Steel Erection

Conclusion

# Disclaimer

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This orientation is not intended to represent or replace the safety training responsibilities of employers of employees working on a Mowery project. It is the responsibility of each subcontractor, lower-tier subcontractor, and vendor to ensure its employees have been properly trained in accordance with applicable laws, statutes, ordinances, rules and regulations, and lawful orders of public authorities, for the safety of persons and property.



# Safety Leadership

In this section:

- Safety is not optional
- Uncompromising safety leaders

If you see something that doesn't look right, say something to your supervisor

# **Safety is not optional**

- We are Safe Always, no matter what.
- We put Safety First to protect our Team Members, Subcontractors, Clients and Community.
- Our goal is to make sure that everyone involved in our projects goes home to their families and loved ones in a healthy and safe condition.





# Uncompromising safety leaders

- Believe that all incidents are preventable
- Believe their commitment to safety is non-negotiable
- Believe everyone is empowered to be a safety leader
- Create the conditions for everyone to safely return home each night



# Uncompromising safety leaders

- Are familiar with and follow regulatory and site safety rules
- Practice situational awareness
  - If they see something at-risk, they address and/or report it immediately
- Contribute and participate in safety meetings, hazard identification / correction, and other safety activities





# Project-Specific Guidelines

In this section:

- Daily huddles
- Disciplinary action
- Substance abuse policy
- Incident reporting



## Daily huddle

- Conducted by the Mowery Superintendent with Subcontractor Foremen, the Daily Huddle is a discussion of specific activities for the work day, the potential hazards associated with the activities and the methods necessary to mitigate those hazards.

Attendance by Subcontractor Foremen is **mandatory**.



## Disciplinary Action

**Grounds for Suspension or Removal from a Mowery Project include, but are not limited to:**

- Failure to follow policies and procedures
- Failure to wear PPE
- Fighting
- Alcohol or Drug Use or Possession
- Weapons Possession
- Serious or intentional unsafe acts



## Substance abuse policy

- We are committed to maintaining a safe and drug-free workplace
- No personnel shall report to work under the influence of alcohol beverage or illegal drugs
- No drinking of alcoholic beverages at any time on the job sites, parking lots or property of the owner
- More info can be found at <http://www.drugfreeconstruction.org/>





# Incident reporting

## Incident defined:

An incident is an unplanned, undesired event that results in injury, property damage, or otherwise adversely affects the project.



## Incident reporting

- Report all work related incidents to your supervisor **immediately**
- The subcontractor supervisor must then immediately report the incident to the Mowery Superintendent
- A written report must be submitted to the Mowery Superintendent **within 48 hours** of occurrence







# General Worksite Safety

In this section:

- Worksite hazards
- Stop work authority
- Pre-job planning
- Globally harmonized system
- Safety data sheets
- Housekeeping

# Worksite hazards

## OSHA's Fatal Four:

1. Falls
2. Electrocution
3. Caught in/between objects  
(trench collapse, pinch points)
4. Getting struck by an object  
(vehicles, falling objects)



## Worksite hazards

- Do not enter restricted areas without permission
- Do not work under suspended loads
- Maintain situational awareness of equipment, vehicles and operations at all times





## Stop work authority

- Stop Work Authority empowers employees and contract workers with the ability and obligation to stop work if conditions are deemed at-risk

If you see something that doesn't look right, say something to your supervisor



## Pre-job planning

A step-by-step analysis of a specific activity, the potential hazards associated with the activity and the tools / methods necessary to mitigate those hazards

**Consider tasks that will be performed by other trades in proximity to your work**





## Globally harmonized system (GHS)

- Ensures information about chemicals, including information and ingredients, can be universally communicated
- Formally known as the Hazard Communication Standard (HCS) or HazCom



## Safety data sheets

- Provides all information necessary to safely handle a particular chemical
- Must be readily accessible to any employee using a hazardous chemical
- Subcontractors are responsible to submit and maintain Safety Data Sheets for all hazardous chemicals they bring on site
- Mowery Superintendents have Safety Data Sheets for hazardous chemicals used by Mowery





# Safety data sheets

## Most useful sections to know:

### Section 1: Identification

Chemical name, emergency contact info, recommended use, etc.

### Section 2: Hazard(s) Identification

All hazards regarding the chemical; required label elements

### Section 4: First Aid Measures

Important symptoms/effects, acute, delayed; required treatment

### Section 5: Fire-Fighting Measures

Suitable extinguishing techniques, equipment, chemical hazards from fire



# Safety data sheets

## Section 6: Accidental Release Measures

Emergency procedures; protective equipment; proper methods of containment and cleanup

## Section 7: Handling and Storage

Precautions for safe handling and storage, including incompatibilities

## Section 8: Exposure Controls/Personal Protection

OSHA's Permissible Exposure Limits (PELs), ACGIH Threshold Limit Values (TLVs), and any other exposure limit used or recommended by the chemical manufacturer along with personal protective equipment (PPE) requirements





## Housekeeping

- Keep your work area clean at all times
- Place cords and hoses overhead to prevent tripping hazards
- Dispose of trash in the proper containers
- Bend or back out nails in scrap lumber

If you see something that doesn't look right, say something to your supervisor







# Occupational Health & Wellness

In this section:

- Silica
- Blood borne pathogens

## Silica

- Subcontractors must replace crystalline silica materials with safer substitutes whenever possible
- When feasible, Subcontractors must use engineering or administrative controls such as local exhaust ventilation to reduce exposures below the PEL



## Silica

- Use protective equipment or other protective measures if engineering controls are not adequate
- Use all available work practices to control dust exposures, such as integrated water delivery systems



## Blood borne pathogens

If it is reasonably anticipated Subcontractor employees will be exposed to blood or other potentially infectious materials while using first-aid supplies, Subcontractor should provide personal protective equipment (PPE) including, but not limited to:

- Gloves
- Face shields
- Masks
- Eye protection







# Personal Protective Equipment

In this section:

- Head protection
- High visibility clothing
- Eye protection
- Hearing protection
- Foot protection
- Hand protection
- Respiratory protection



## Head protection

- Hard hats must be worn at all times on Mowery job sites. No one is exempt from this mandatory safety requirement – including subcontractors, vendors, and visitors on the jobsite
- Damaged hard hats must be discarded and replaced immediately



## High visibility clothing

- High visibility clothing (safety yellow/orange shirts and/or ANSI class II reflective safety vest) worn as an outer layer is mandatory on all Mowery projects
- Additional hi-vis PPE may be required depending on specific hazards such as roadway traffic





## Eye protection

- Must be worn any time an eye hazard is present
- Prescription glasses, with side shields, must meet minimum ANSI requirements





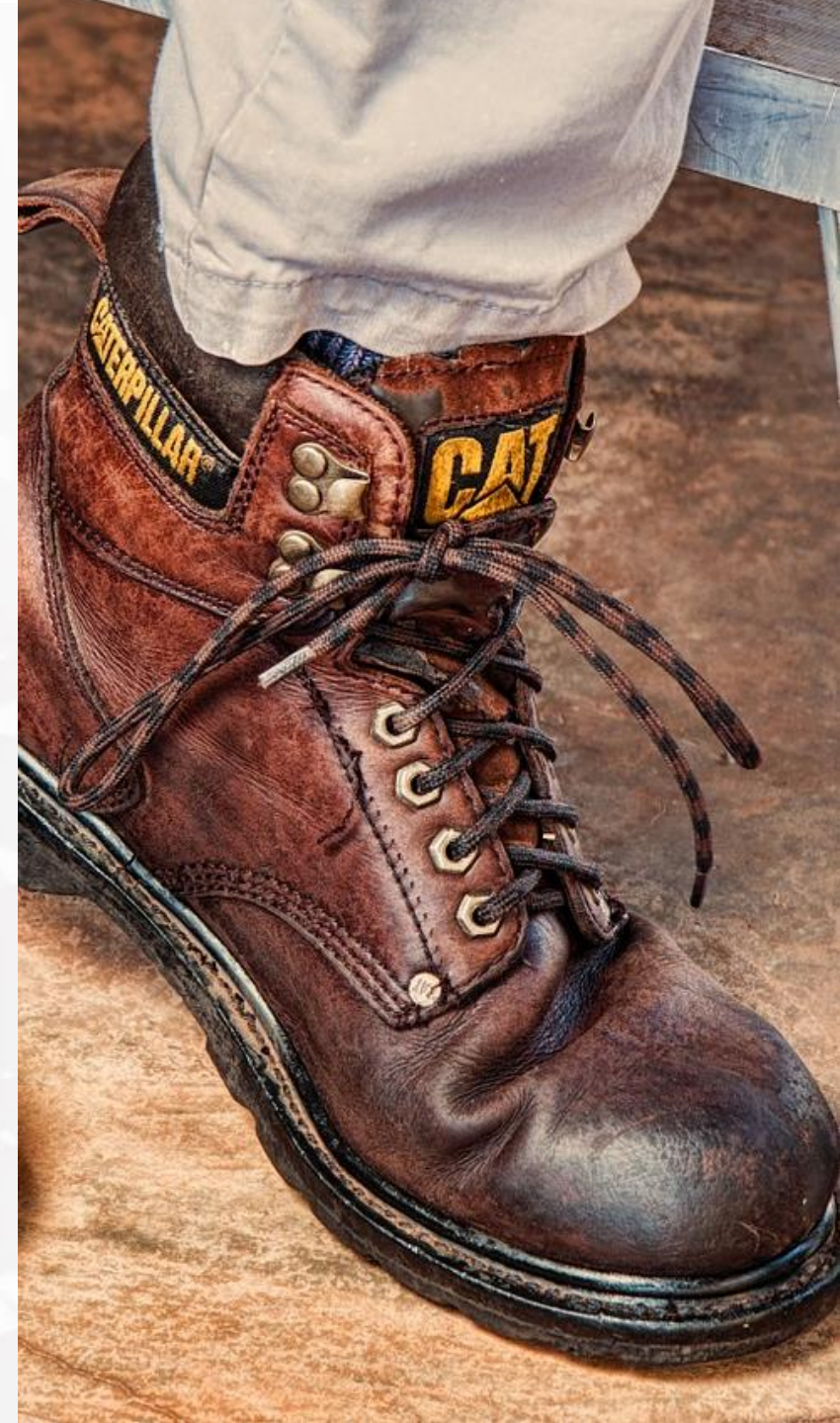
## Hearing protection

- OSHA recommends that workplace noise levels be kept below 90 dBA as an 8-hour time-weighted average
- Hearing protective devices should be used any time noise levels meet or exceed 85dBA



## Foot protection

- Appropriate construction footwear, typically a sturdy work boot, is required on the jobsite at all times
- Safety toe (steel or composite) footwear is highly recommended





## Hand protection

- Hand protection must be used when handling jagged or sharp material, and for protection against hazardous chemicals as required



## Respiratory protection

- Where workers are required to wear respiratory protection, employers must develop and implement a written respiratory protection program with required work-specific procedures
- Employees must be medically approved, fit tested and trained before they are assigned a task requiring respirator use







# Fall Protection

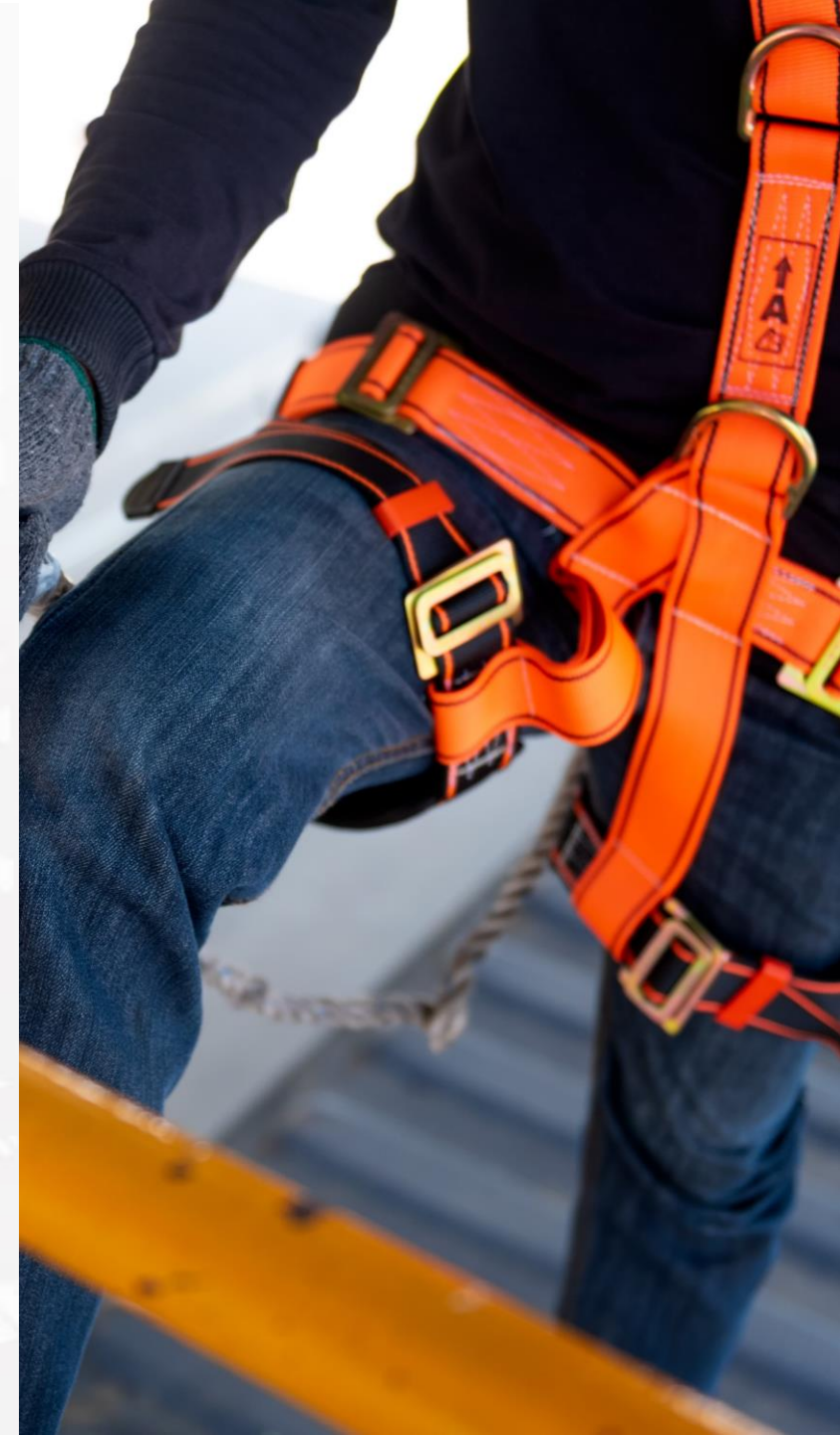
In this section:

- Fall protection
- Aerial lifts
- Guardrail systems
- Personal fall arrest systems

## Fall protection

**Falls are the #1 cause of injury and death on construction sites**

- In order to prevent falls, for any worker potentially exposed to a fall of 6 feet or more, a fall protection system must be utilized in order to protect these individuals from falling
- Examples include but are not limited to:
  - Guardrail systems
  - Personal Fall Arrest Systems
  - Controlled Access Zone



## Aerial lifts

### Articulating boom lifts

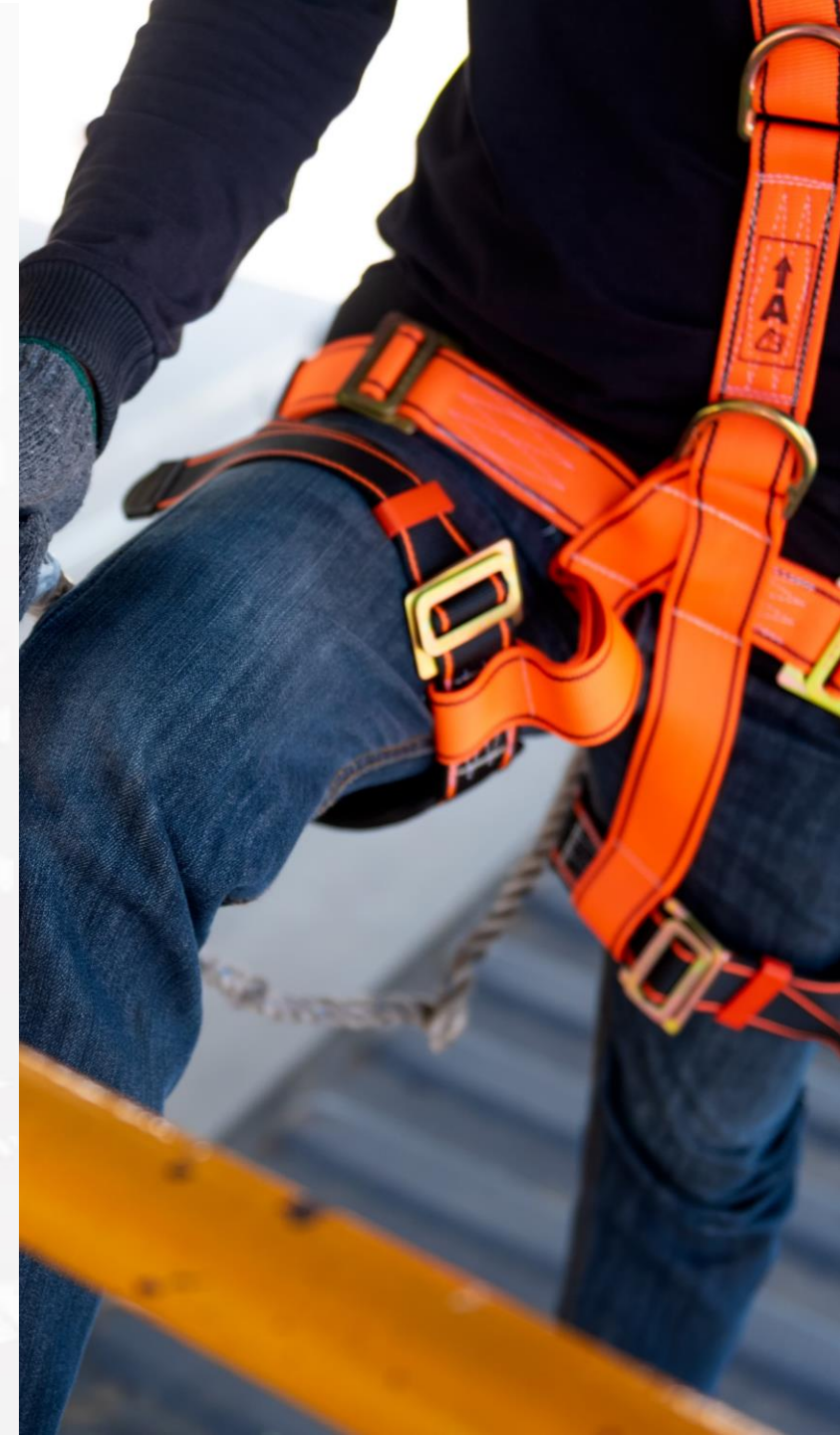
Operators must:

- Be tied off while inside the basket, even if boom is not extended
- Be trained on safe operation
- Remain in the lift basket at all times (feet on the floor, not railing)

### Scissor lifts

Operators must:

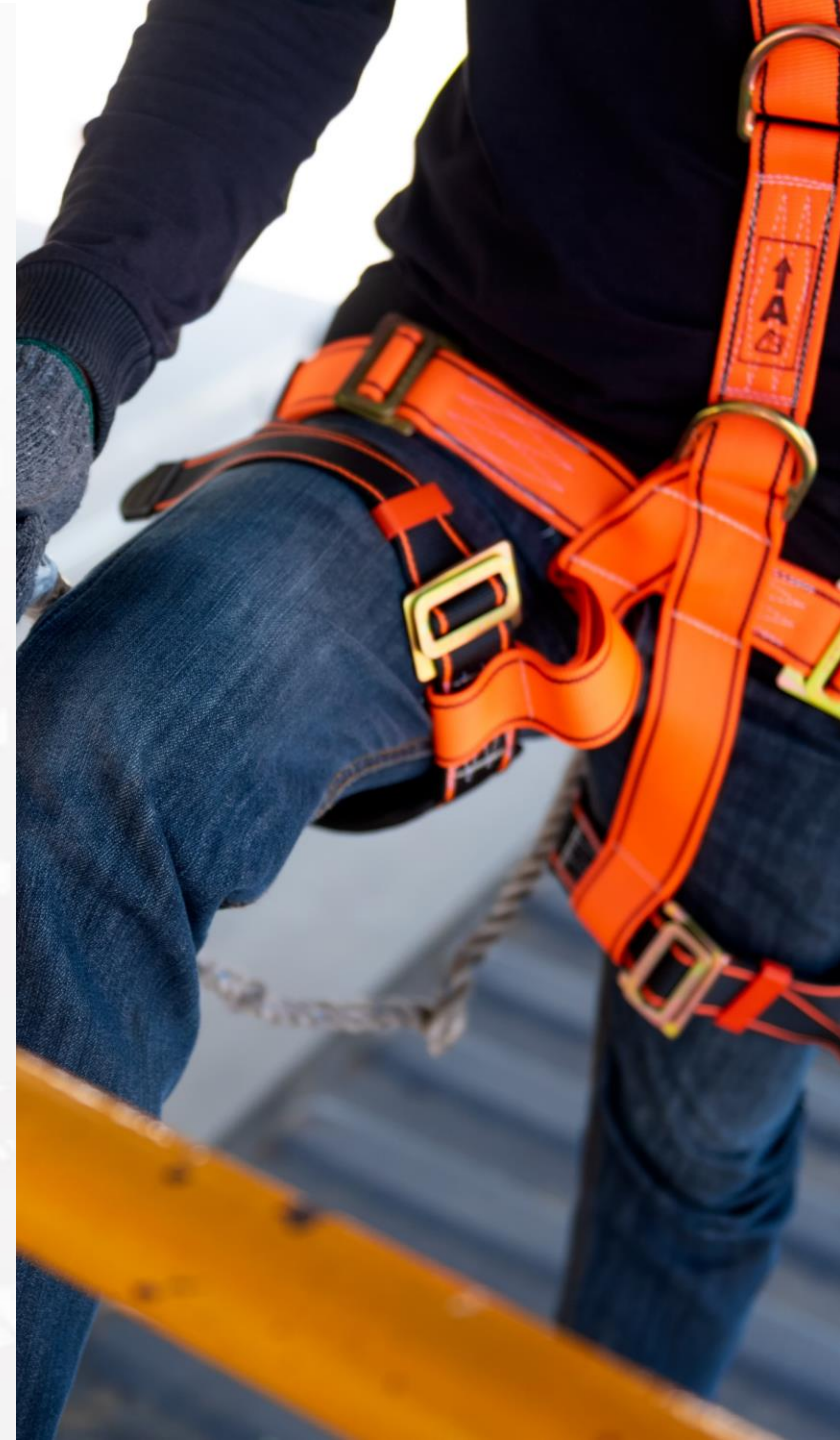
- Follow manufacturer's guidelines for fall protection
- Be trained on safe operation





## Guardrail systems

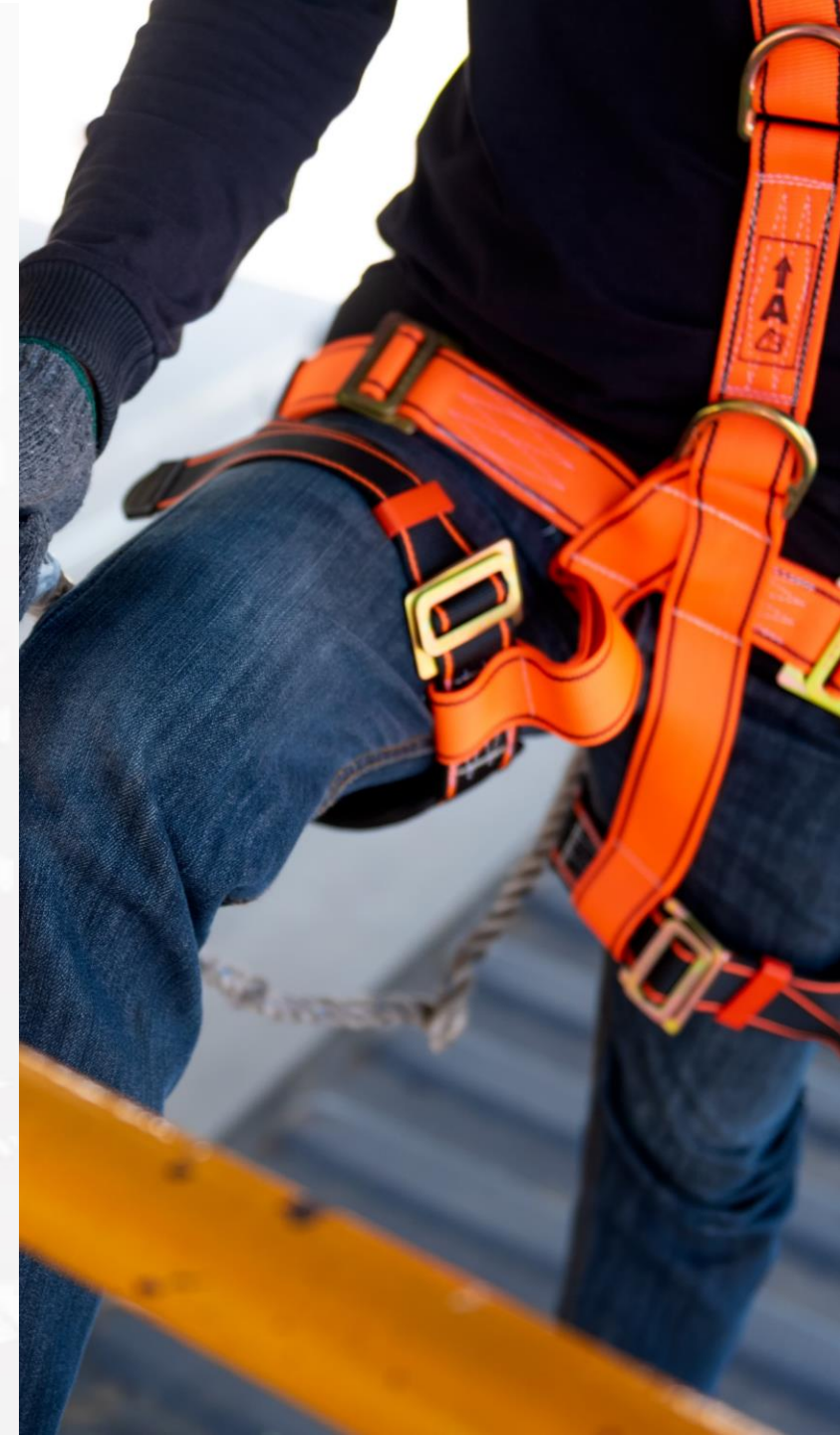
- Typically are 42" in height (+-3") with a mid-rail installed at least 21" in height
- Must be able to withstand 200 lbs. of force, in any direction, without failure
- Top rail deflection must not exceed 3"
- Wire rope must be at least ¼" in diameter and flagged every 6' for visibility





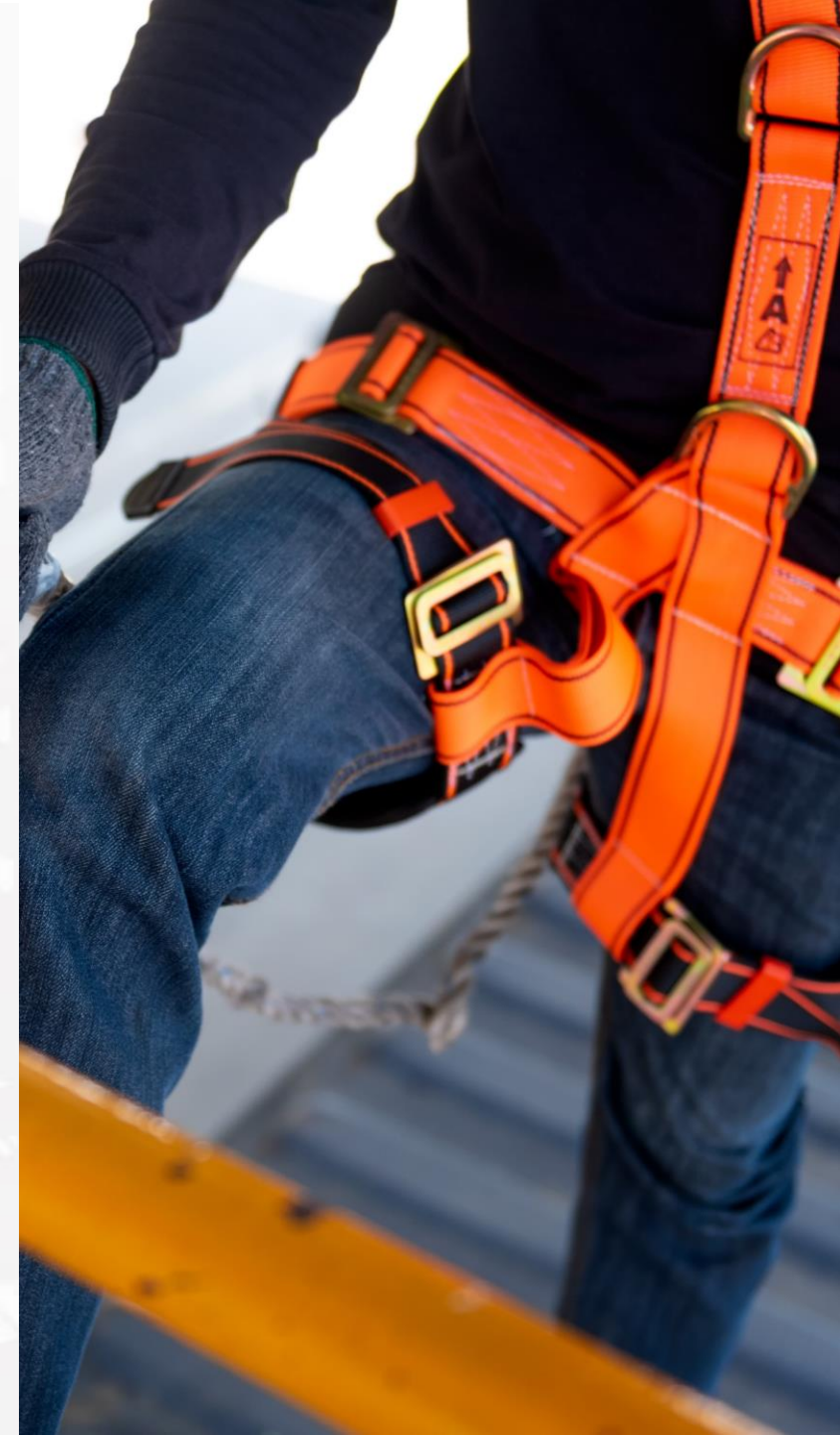
## Personal fall arrest systems (PFAS)

- PFAS must be inspected prior to each use for wear, damage, and other deterioration
- Defective equipment must not be worn and must be immediately removed from service
- Lanyards must be attached to the Dee-ring in the middle of the back at the shoulder level
- Anchor points must be able to withstand at least 5,000 lbs.



## Personal fall arrest systems (PFAS)

- The employer must provide for prompt rescue of employees in the event of a fall
- PFAS cannot be attached to guardrail systems
- **Positioning devices** must be rigged so that the employee cannot fall more than 2'



# Fire Safety

In this section:

- Fire protection
- Flammable liquids
- Liquefied petroleum (LP-Gas)



## Fire protection

- Subcontractors are responsible to provide fire protection for their specific operations
- Fire extinguishers must be conspicuously located and periodically inspected
- Travel distance to an extinguisher must not exceed 100'
- A fire extinguisher must be within 50' of any outdoor storage of flammable liquids exceeding 5 gallons





## Flammable liquids

- Flammable liquids must be stored in metal safety cans containing a spring loaded top and a flash arrestor
- Flammable liquids may not be stored in plastic containers



## Flammable liquids

- No more than 25 gallons of flammable liquids may be stored in a room outside of an approved storage cabinet
- Outdoor storage must not exceed 1,100 gallons, in any one area, and be positioned at least 20' from any building





## Liquefied petroleum (LP-Gas)

- LP-Gas containers must not be stored within buildings, regardless of whether they are full or empty
- When stored outdoors, containers must be in a suitable, well ventilated enclosure





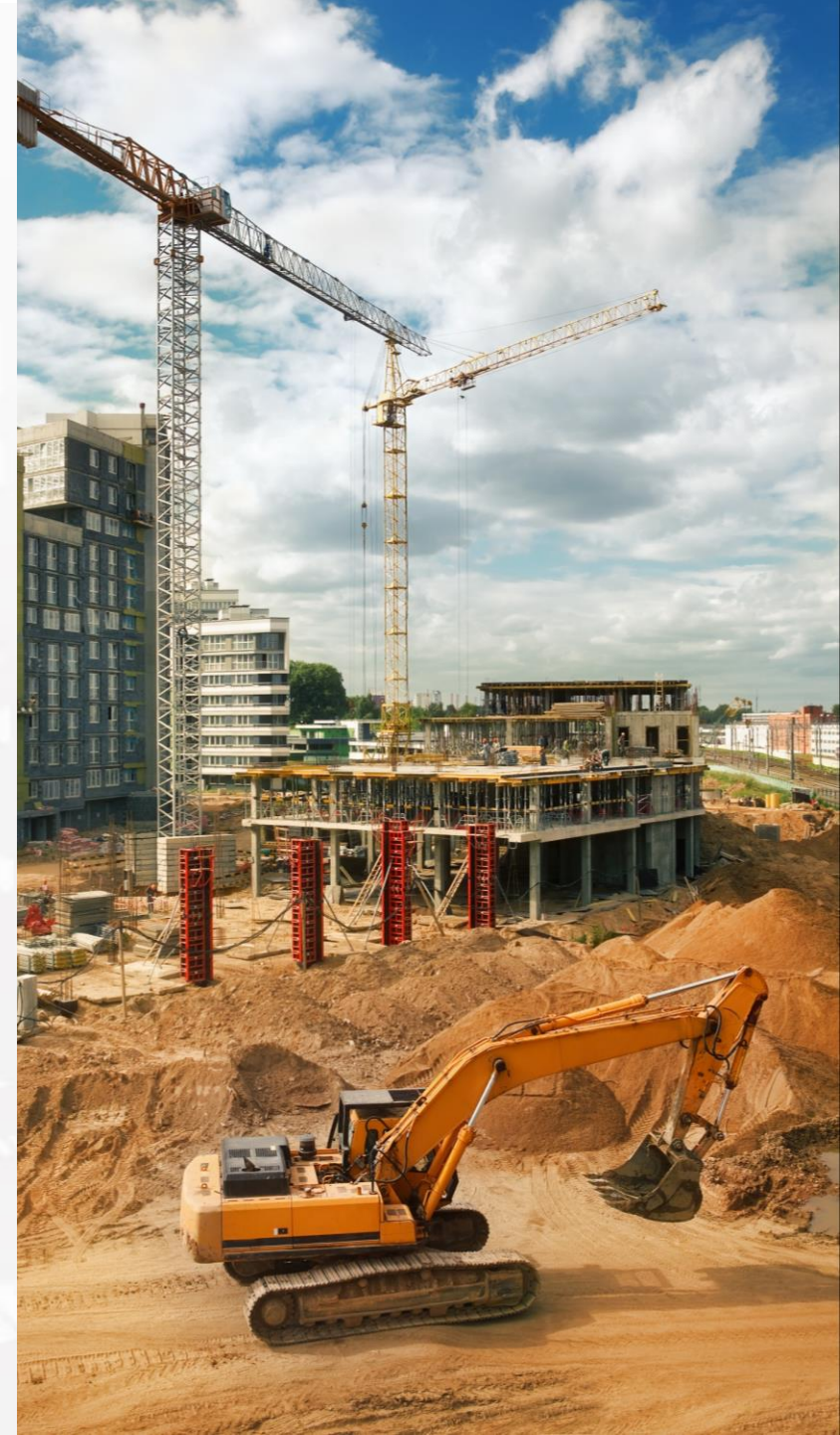
# Tools & Equipment

In this section:

- Heavy equipment
- Ladders
- Scaffolds
- Cranes
- Hoisting and lifting
- Hand and power tools
- Materials handling
- Welding and cutting

## Heavy equipment

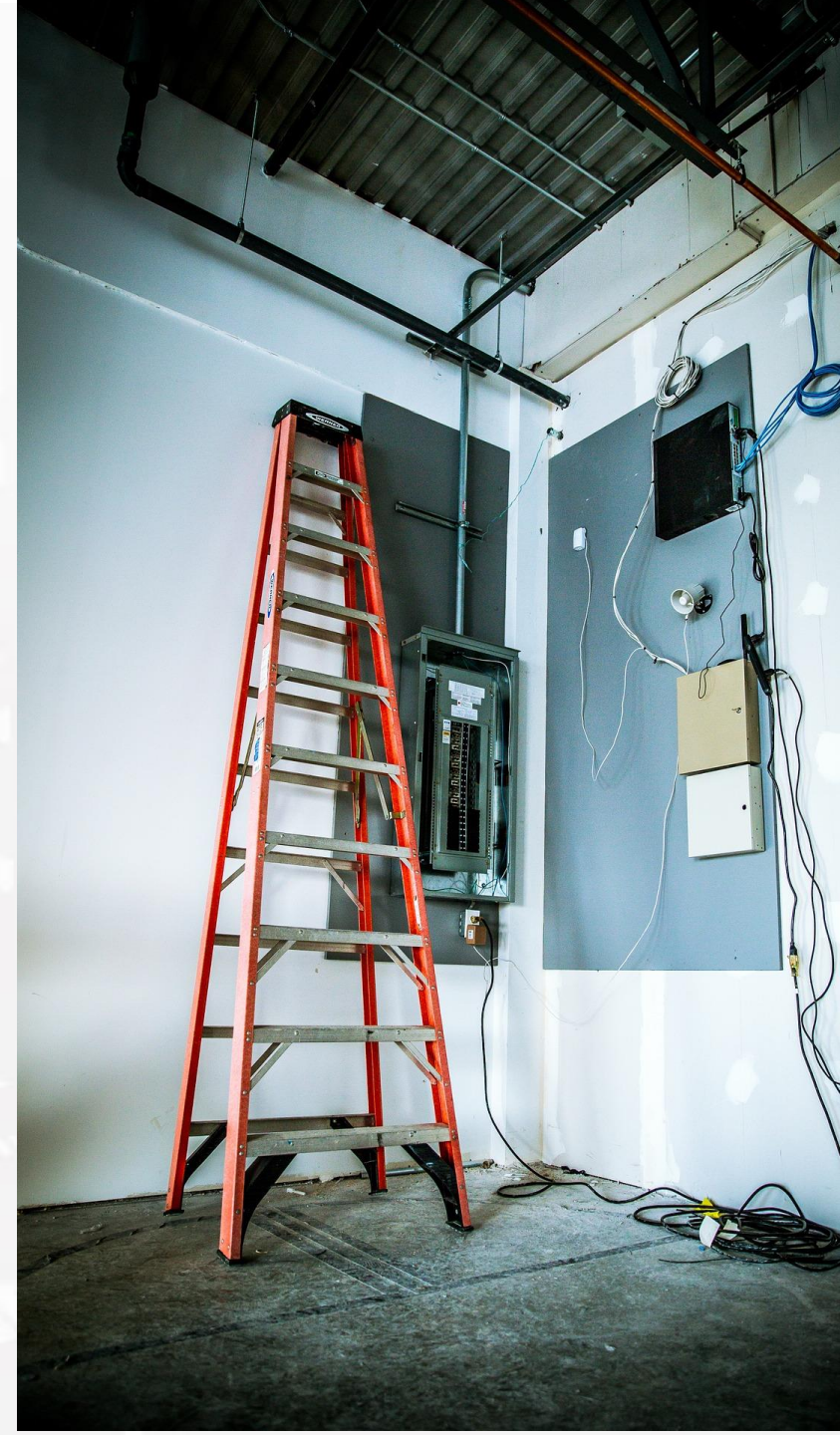
- Do not operate vehicles in reverse with an obstructed rear view unless it has a reverse signal alarm capable of being heard above ambient noise levels or a signal observer indicates that it is safe to move
- Be aware of blind spots
- Only use equipment for its intended purpose
- Maintain a minimum 10' safe working distance from electric lines





# Ladders

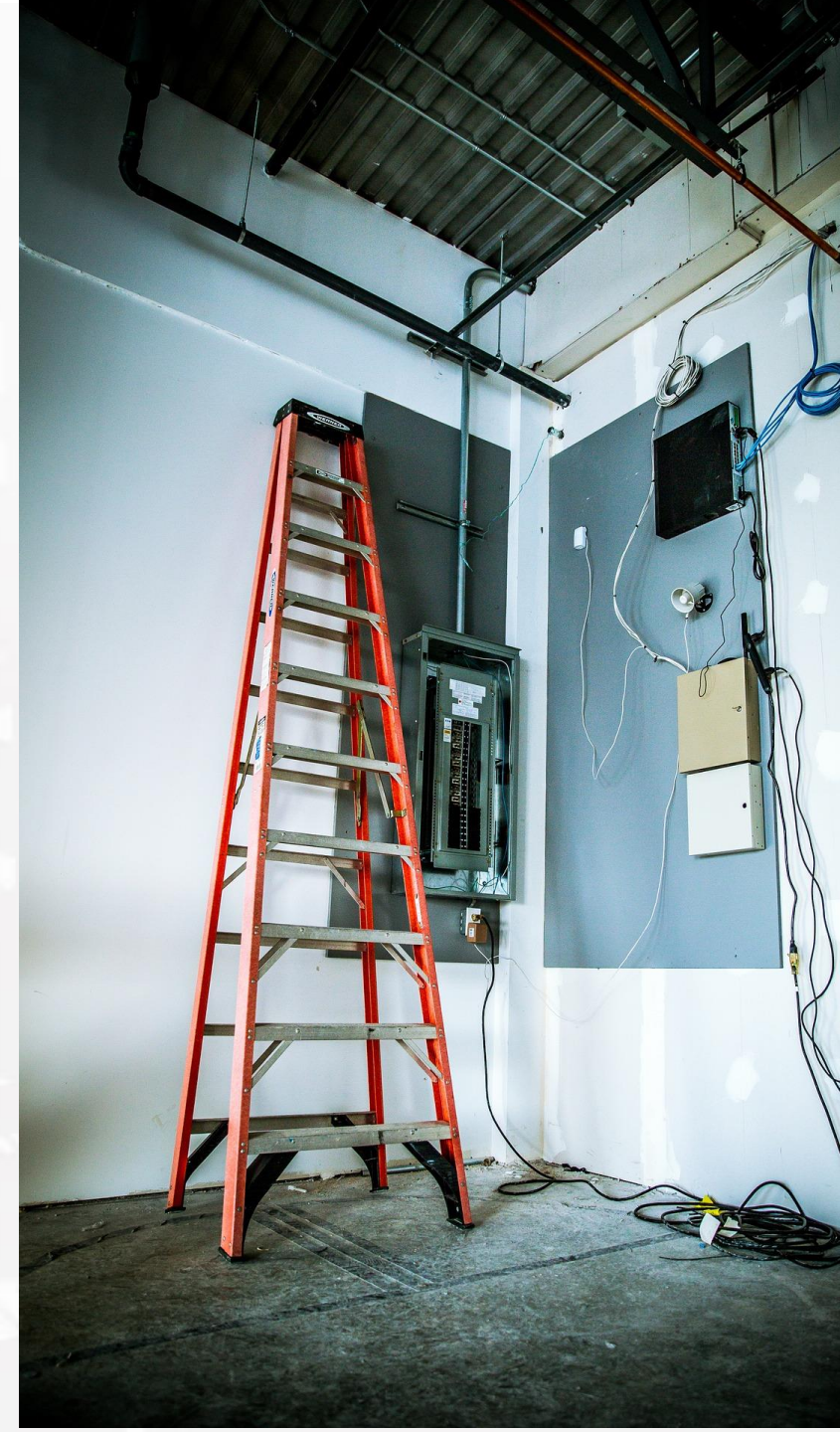
- Maintain a 3-point contact  
Two hands and a foot, or two feet and a hand when climbing/  
descending a ladder
- Only put ladders on a stable and level  
surface
- Extend the top of the ladder three feet  
above the landing





# Ladders

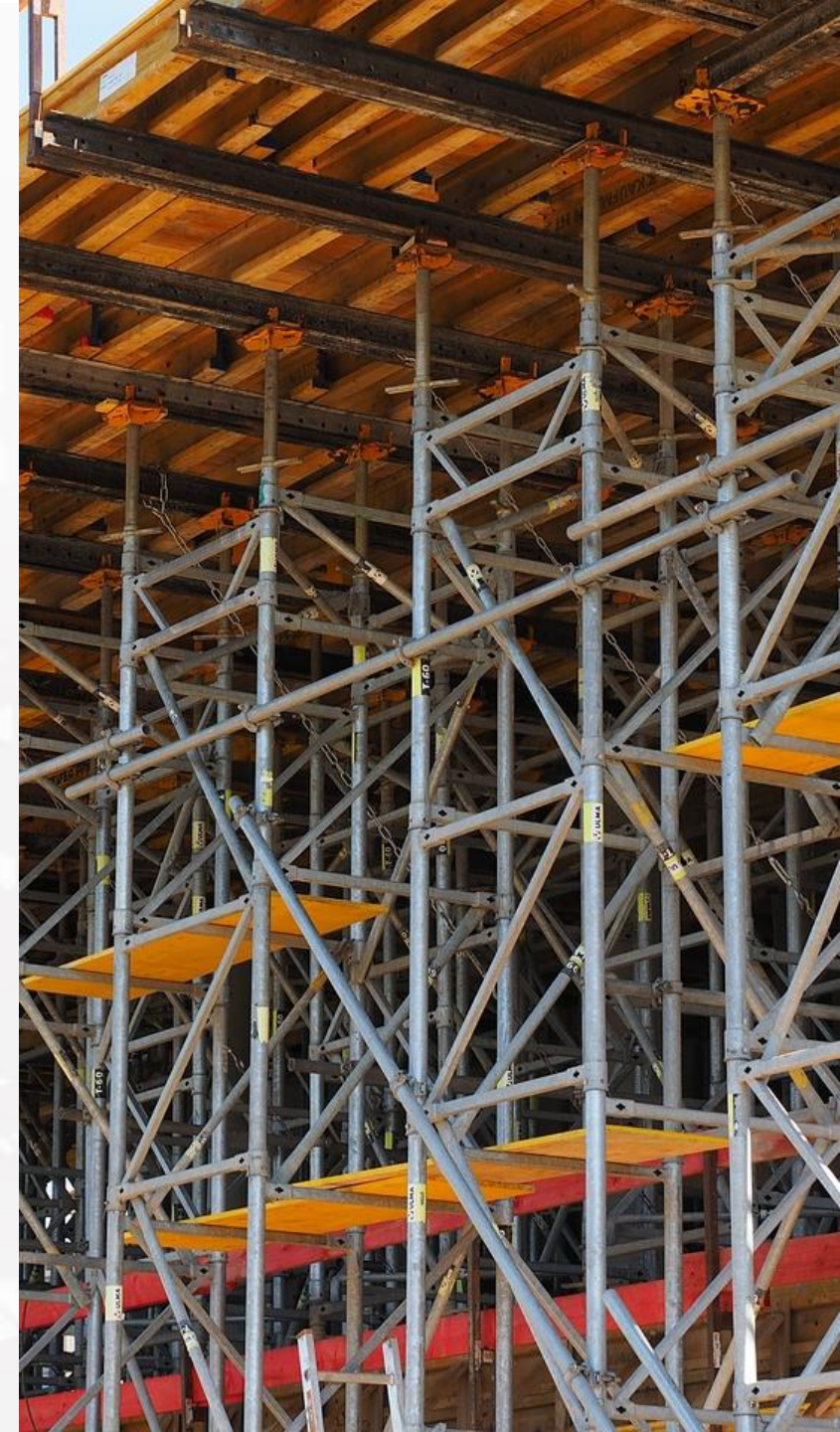
- Stepladders must be opened fully and locked while in use
- Ladders must be secured to prevent accidental displacement
- Ladders must be used as designed
- Set the ladder at the proper angle  
When a ladder is leaned against a wall, the bottom of the ladder should be one-quarter of the ladder's working length away from the wall





# Scaffolds

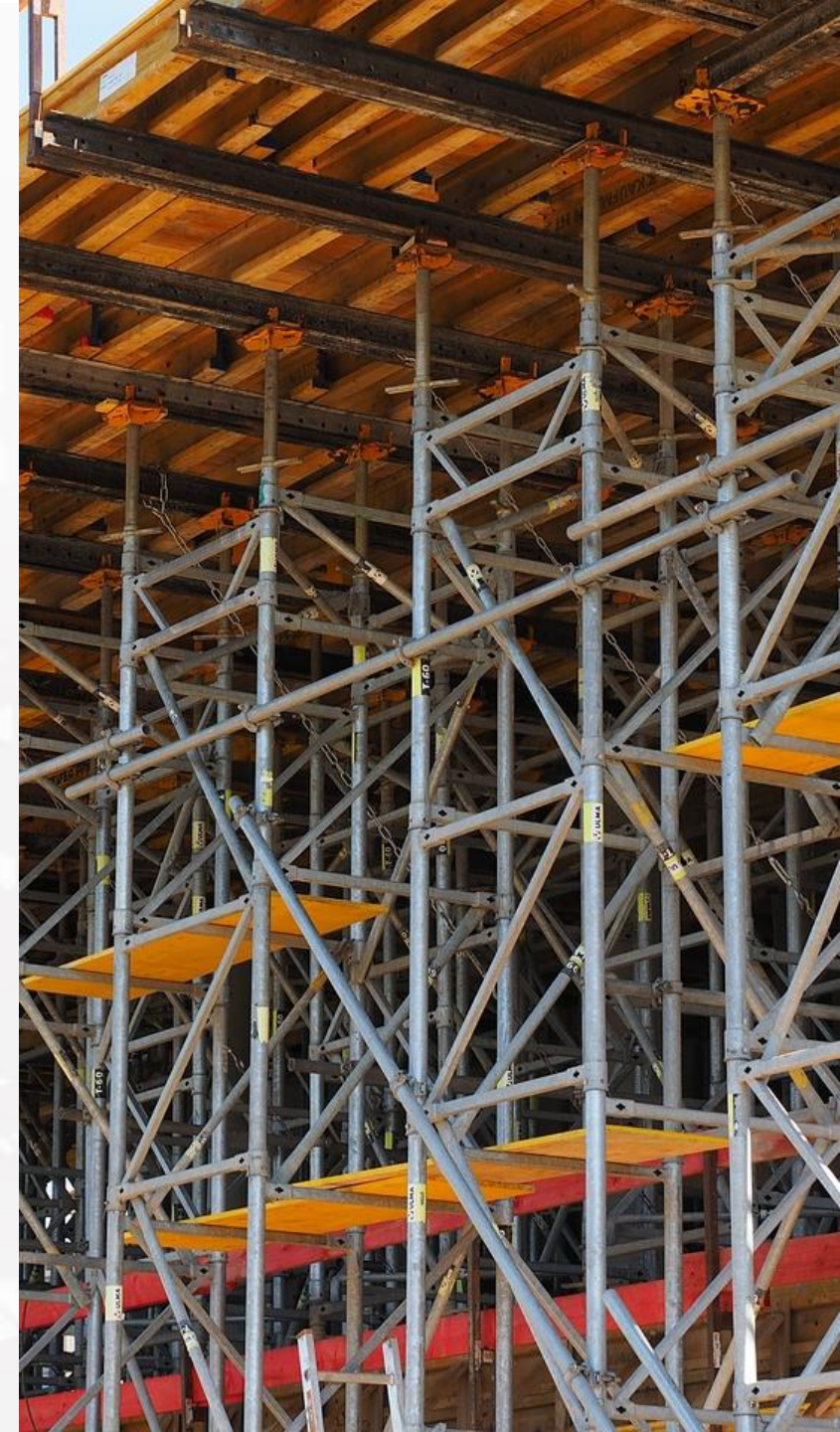
- Each scaffold and scaffold component must support– without failure– its own weight and at least 4 times the maximum intended load applied or transmitted to it
- **A qualified person must design the scaffolds,** which are loaded in accordance with that design
- Each platform must be planked and decked as fully as possible with the space between the platform and uprights not more than 1 inch





# Scaffolds

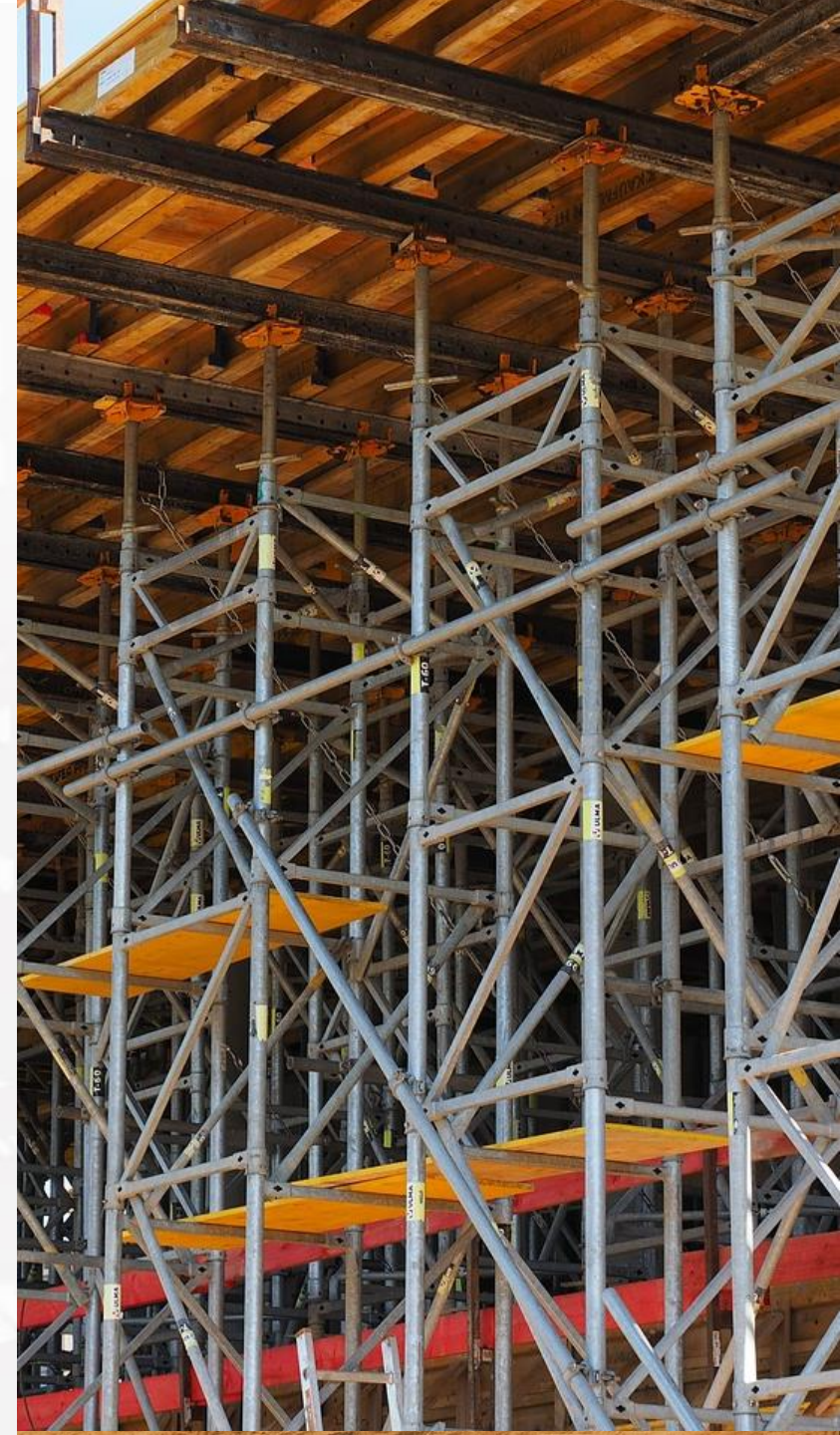
- Supported scaffolds are platforms supported by legs, outrigger beams, brackets, poles, frames, or similar rigid support
- Supported scaffolds with a height to base width ratio of more than 4:1 must be restrained by guying, tying, bracing, or an equivalent means
- Supported scaffolds' poles, legs, posts, frames, and uprights must bear on base plates and mud sills, or other adequate firm foundation





# Scaffolds

- Guardrails or PFAS must be used when the fall hazard is 10' or more
- Scaffolds must be inspected by a competent person before each shift
- Scaffolds must not be moved while employees are working from them
- Cross braces cannot be used for access / egress





## Cranes

- Cranes must remain a minimum of 10' from overhead high voltage (OHHV) lines
- The Subcontractor must assume the OHHV lines are energized unless the utility confirms that they are not
- A competent person must inspect the crane prior to each shift



# Cranes

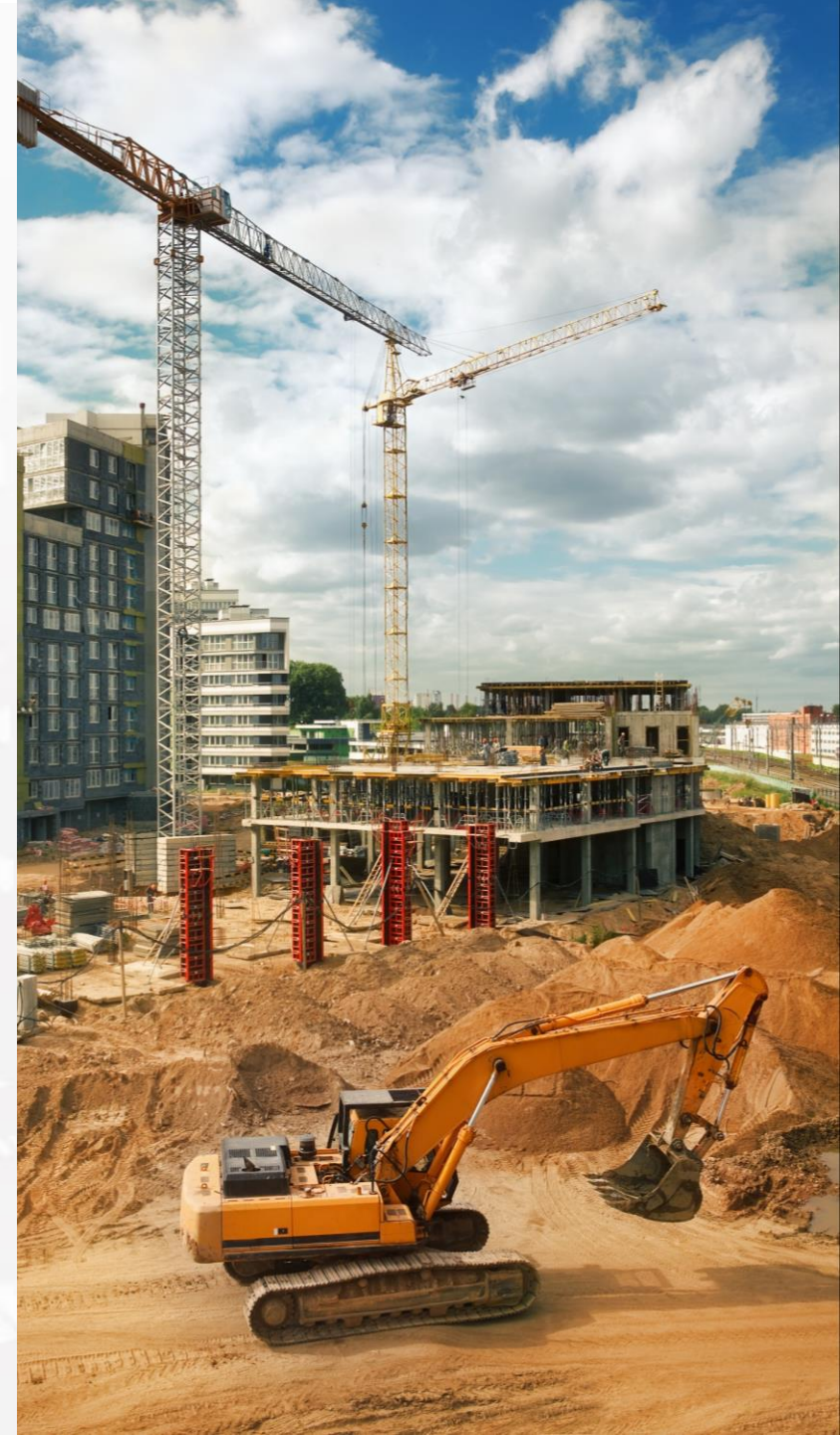
- Operators must be certified by one of four entities:
  1. An accredited crane operator certification testing organization
  2. An audited employer program
  3. Qualification by the U.S military
  4. Licensing by a government entity
- Swing radius must be barricaded to prevent accidental contact
- The Subcontractor must ensure that each signal person meets the standard's qualification requirements





# Hoisting and lifting

- Only certified riggers are permitted to control loads
- Tag lines must be used to control loads
- Alterations and modifications may not be made to any material or personnel hoists unless approved by the manufacturer
- Signal persons must be qualified by the employer
- Only one person may signal a crane at a time



## Hand and power tools

- Power tools must be fitted with guards and safety switches
- When replacing grinding wheels, make sure the RPM rating on the wheel exceeds the motor rating
- Exposed moving parts of power tools need to be safeguarded including, but not limited to:  
Belts, gears, shafts or other reciprocating, rotating, or moving parts





## Hand and power tools

To protect user from shock and burns:

- Must be plugged into a grounded receptacle or be double insulated
- Ground prong must never be removed from the plug

When using pneumatic tools:

- A safety clip or retainer must be installed to prevent attachments such as chisels on a chipping hammer from being ejected during tool operation





## Hand and power tools

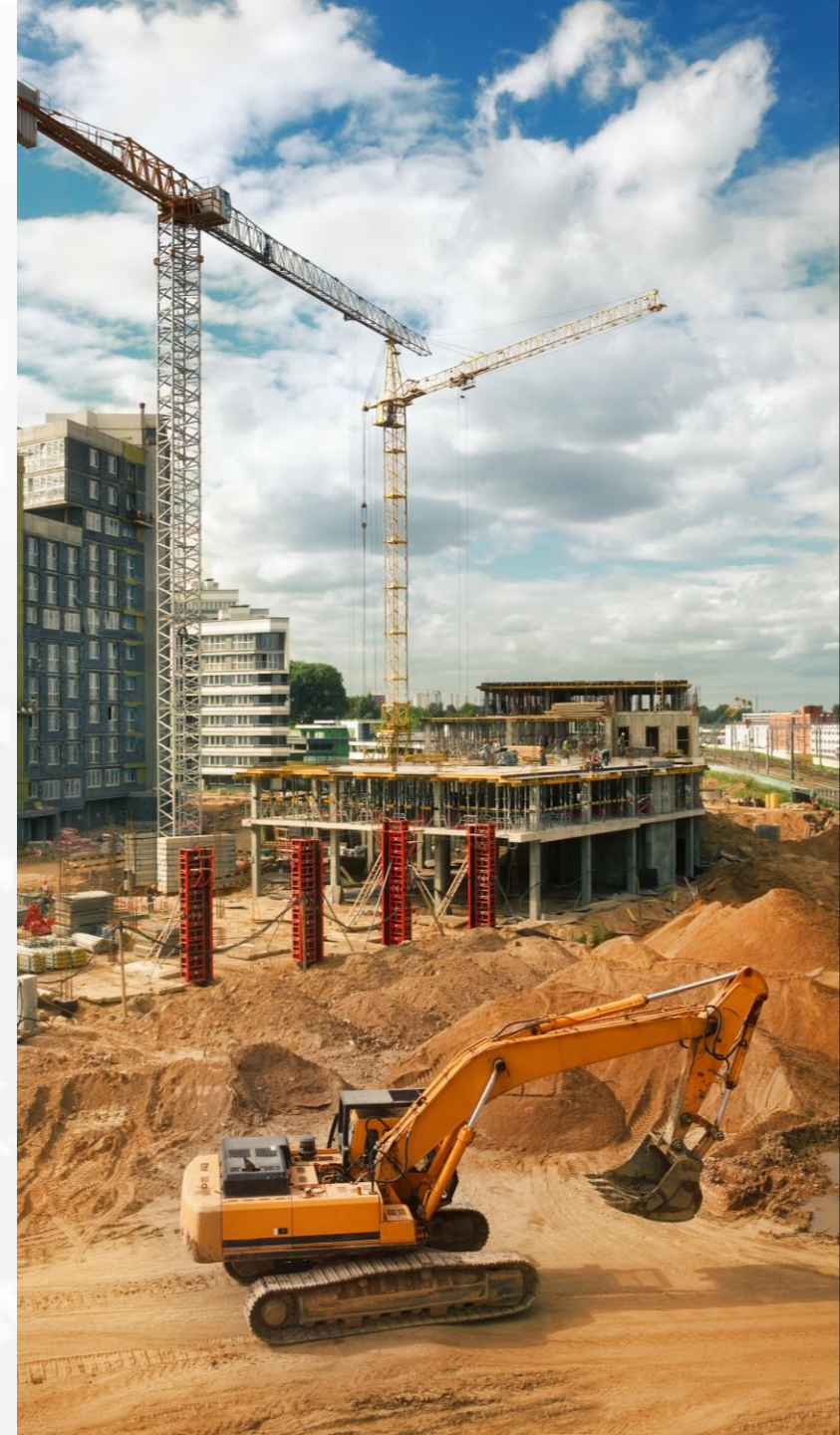
- If an air hose is more than 1/2-inch in diameter:
  1. A safety excess flow valve must be installed at the source of the air supply to reduce pressure in case of hose failure
  2. Pneumatic power tools must be secured to the hose with a whip-check device to prevent accidental disconnection
- Powder-actuated tools operate like a loaded gun and must be treated with extreme caution
- Proof of training must be with the operator at all times



# Materials handling

## Back Injury Prevention

- Have materials delivered as close to where they will be used as possible
- Use pallet jacks and hand trucks to transport heavy items
- Ask for help if lifting heavy objects
- Maintain neutral and straight spine alignment whenever possible





## Welding and cutting

- Valve protection caps shall be in place and secured when transporting, moving, and storing compressed gas cylinders
- Compressed gas cylinders must be secured in an upright position at all times
- Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials, a minimum distance of 20 feet or by a noncombustible barrier at least 5 feet high having a fire-resistance rating of at least one-half hour





## Welding and cutting

- Cylinders shall be kept far enough away so that sparks, hot slag, or flame will not reach them; when this is impractical, fire resistant shields shall be provided
- No welding, cutting, or heating shall be done where the application of flammable paints, or the presence of other flammable compounds, or heavy dust concentrations creates a hazard
- Suitable fire extinguishing equipment shall be immediately available in the work area





# Electrical Safety

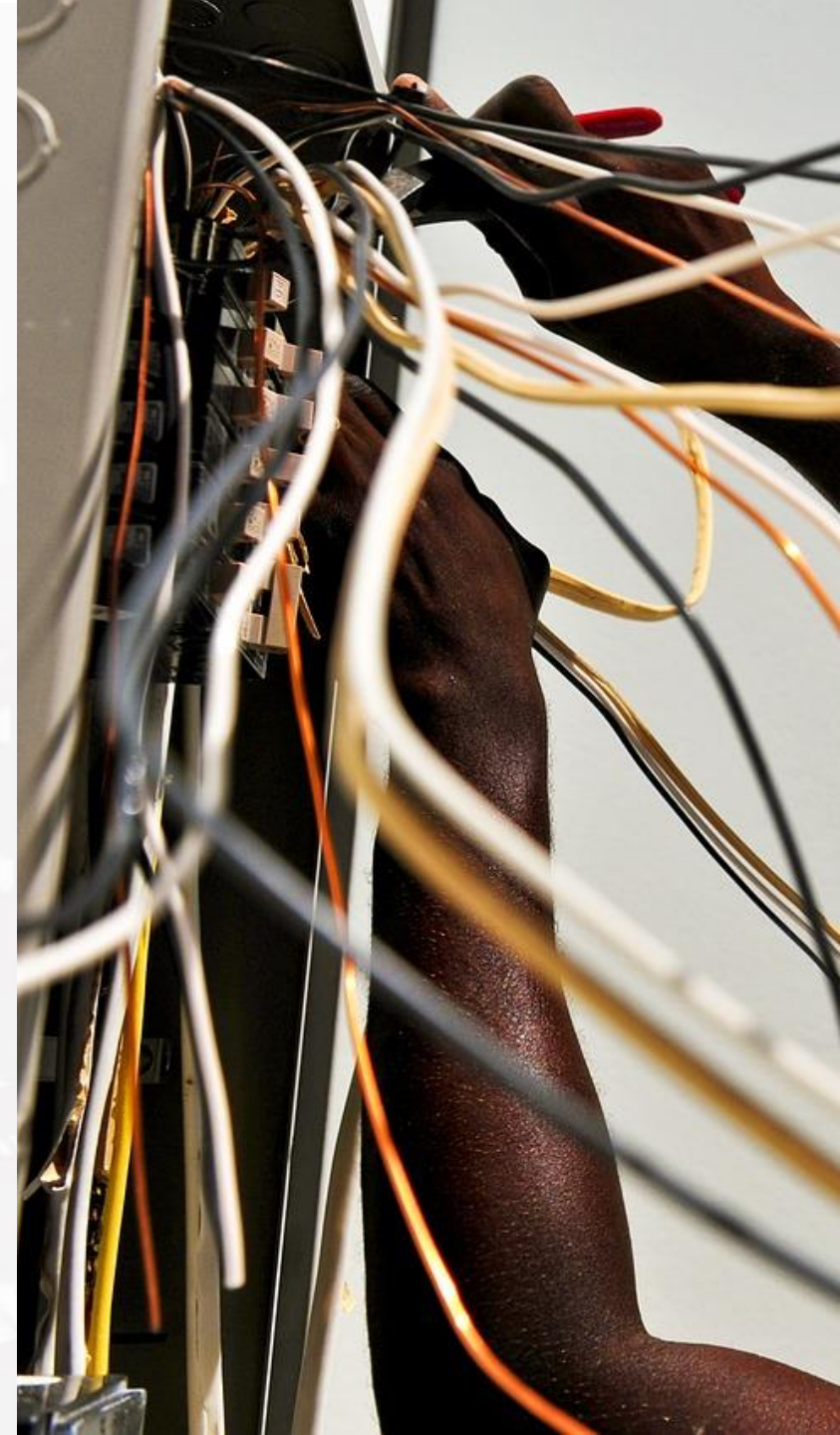
In this section:

- Power lines
- Power cords
- Lights
- Circuits



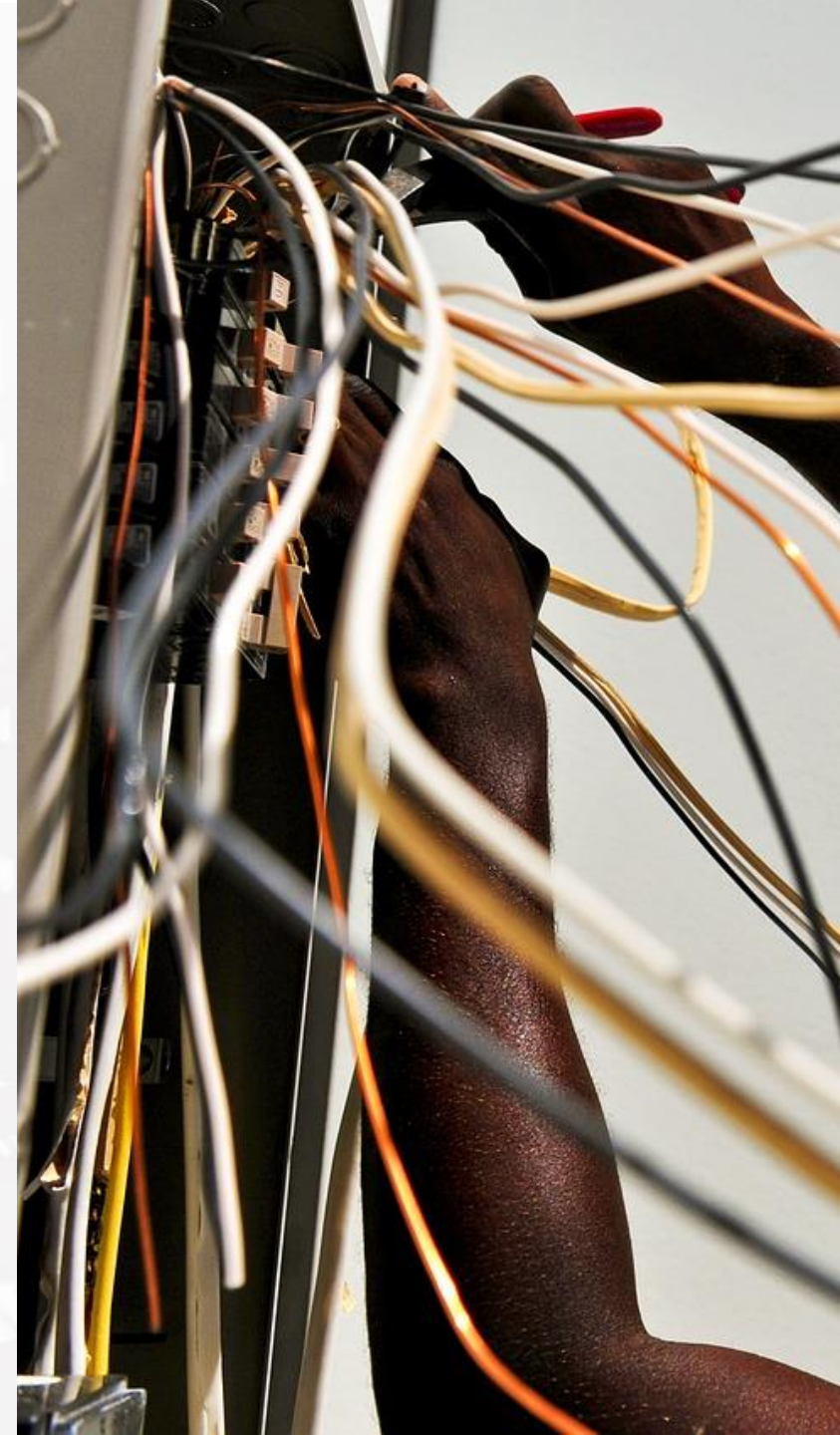
## Electrical safety

- Look for overhead power lines and buried power line indicators
- Stay at least 10 feet away from overhead power lines and assume they are energized
- Use factory-assembled cord sets and only extension cords that are 3-wire type
- Use of ground-fault circuit interrupters (GFCIs) is required for all extension cords



## Electrical safety

- Extension and power cords shall be protected from sharp edges and potential pinch points
- Temporary lights must be protected by cage guards
- Circuits must be locked and tagged out prior to employees working on them





# Motor Vehicles & Traffic

In this section:

- Motor vehicles and mechanized equipment
- Traffic control and flagging



# Motor vehicles and mechanized equipment

- All vehicles and equipment should be checked at the beginning of each shift to ensure that parts that affect the safe operation are free from defects
- Any vehicle or equipment with an obstructed view to the rear must have a back up alarm or a spotter in place while backing
- Heavy machinery or equipment beds must be blocked against falling or pinching hazards while employees are working under them



## Traffic control and flagging

- All traffic control must be performed in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) along with state and local guidelines
- Flaggers must use the STOP / SLOW paddle when flagging





# Trenching & Excavation

In this section:

- Underground utilities
- Soil classifications
- Inspections



# Trenching and Excavation

Specific excavation requirements:

- The location of underground utilities must be determined prior to excavating
- **Employees working in an excavation >5' in depth must be protected by a sloping or shoring system**
- Soil must be classified by a competent person using at least one manual and visual test
- Excavations must be inspected daily by a competent person



# Confined Spaces

In this section:

- Defining confined spaces
- Pre-entry planning
- Permit required confined space

# Confined space entry

Confined spaces have three criteria:

1. Large enough for a worker to enter
2. Limited means of entry or exit
3. Not designed for continuous occupancy

Before workers can enter a confined space, employers must provide pre-entry planning, including:

- Having a competent person evaluate the work site for the presence of confined spaces, including permit-required confined spaces





## Confined space entry

Once the space is classified as a **Permit Required Confined Space**, identify:

- The means of entry and exit
- Proper ventilation methods
- Elimination or control of all potential hazards in the space
- Follow appropriate Permit Required Confined Space procedures



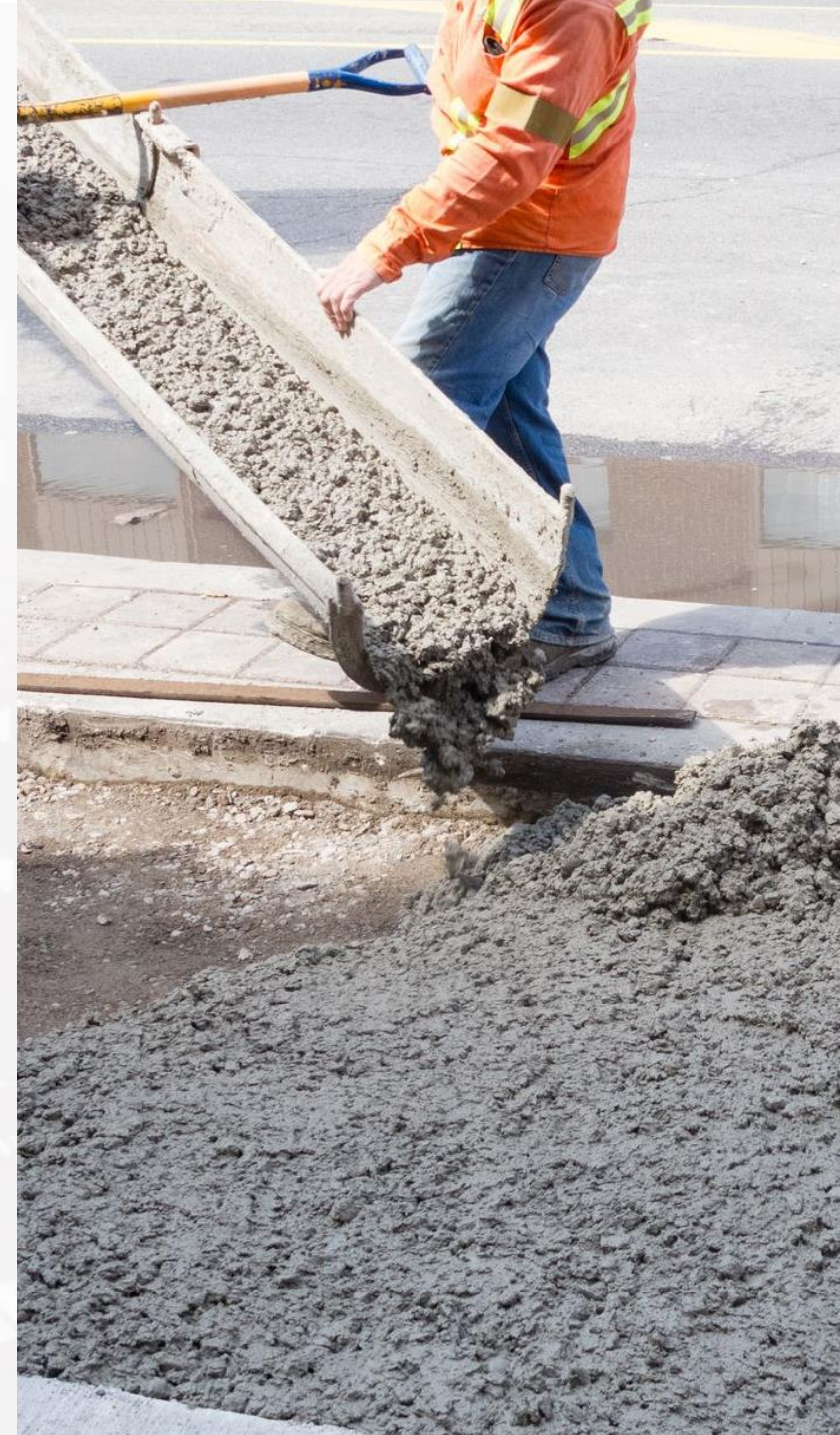
# Concrete & Masonry

In this section:

- Working near concrete machines
- Limited access zones
- Masonry walls
- Masonry saws

## Concrete and masonry construction

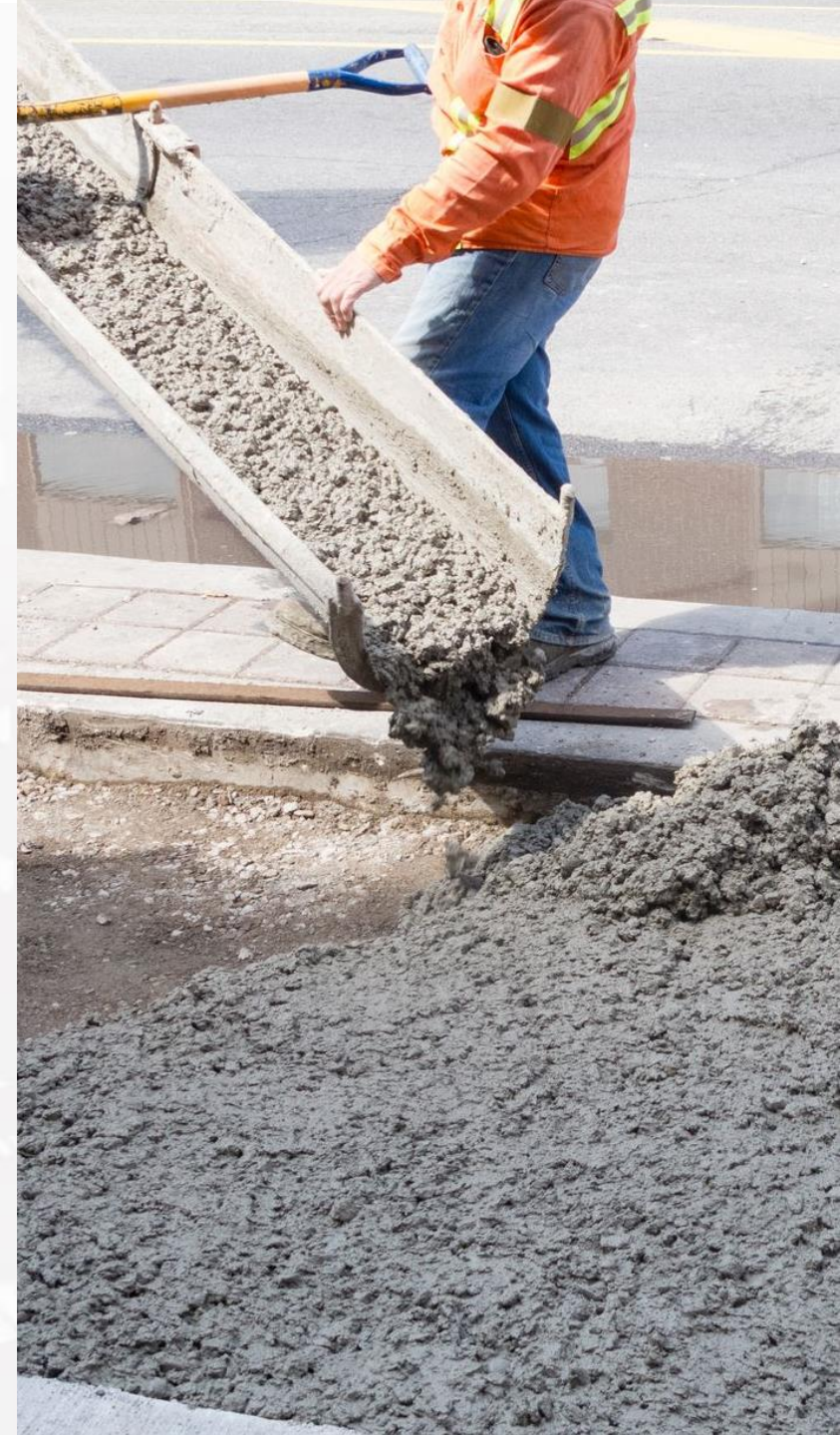
- No employee shall be allowed to work under concrete buckets
- Concrete troweling machines must be equipped with a “dead man” switch
- Protruding rebar, onto which employees could fall, must be protected against impalement hazards





## Concrete and masonry construction

- A limited access zone (LAZ) shall be established whenever a masonry wall is being built
- The zone shall be equal to the height of the finished wall plus 4'
- All masonry walls  $> 8'$  must be braced to prevent collapse
- Masonry saws must be guarded with a semicircular guard over the blade



# Steel Erection

In this section:

- General requirements
- Columns
- Controlled decking zones
- Shear connectors



# Steel erection

## General requirements:

- Erection shall not commence until the concrete in footings, piers and walls has attained 75% of the intended minimum compressive design strength
- Routes for suspended loads shall be pre-planned so that no employee is required to work directly beneath a suspended load





## Steel erection

- Columns must be anchored with at least 4 anchor bolts, structural members must have at least 2 bolts
- Controlled decking zones (CDZ) must be clearly marked and used only by employees in leading edge work
- Shear connectors cannot be installed until after metal decking is placed



# Conclusion

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- 1** Know the job, know the rules to stay safe

# Conclusion

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- 1** Know the job, know the rules to stay safe
- 2** If you see an unsafe condition, have the courage to speak up (see something, say something)



# Conclusion

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- 1** Know the job, know the rules to stay safe
- 2** If you see an unsafe condition, have the courage to speak up (see something, say something)
- 3** **Safety is Not Optional**

**M**



**MOWERY**  
**SMART SAFETY**