Section 1: Safety Leadership
Uncompromising Safety Leaders

• Have courage
• Are comfortable being out in front while everyone else is behind them
• Take a stand when no one else will
• Get their energy from transforming and challenging the status quo
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 all company and site safety rules
• Practice situational awareness
  • If they see something at-risk, they address and/or report it immediately
• Contribute and participate in toolbox talks and other safety discussions
SAFETY ORIENTATION

Section 2:
Project-Specific Safety Guidelines
Grounds for Removal from the Project

• Failure to follow policies and procedures
• Failure to wear your PPE
• Fighting
• Alcohol or Drug Use or Possession
• Weapons Possession
Safety Policy and Goals

• All incidents are preventable.
• Everyone returns home without injury each day.
• Everyone is empowered to prevent incidents.
• Our goal is to create the conditions to ensure the safety of our employees, subcontractors, customers, and the general public.
Project-Issued Safety Fines and Violations

Placeholder

• Insert your company-specific and/or project-specific safety fines and violations on this slide
Substance Abuse Policy

• We are committed to maintaining a safe and drug-free workplace
• We conduct post-incident, random and for cause testing.
• For more info, including our Employee Assistance Program (EAP), contact your HR rep
• More info can be found at http://www.drugfreeconstruction.org/
Project-Specific Emergency Action Plan
Insert project / company specific info here

Exit Routes
- Insert exit route here

Muster Point
- Insert muster point here

Medical Information/Local Hospital
- Insert medical info/local hospital info here
Cell Phone Policy

Cell phone use is prohibited while:

- Conducting job responsibilities
- Operating company vehicles or machinery
- Standing within 10 feet of moving vehicles
Section 3: General Worksite Safety
Worksite Hazards

OSHA’s Fatal Four:

- Falls
- Electrocution
- Caught in/between objects (trench collapse, pinch points)
- Getting struck by an object (vehicles, falling objects)

- Do not enter restricted areas without permission
- Ensure work has stopped before entering an area.
- Do not work under suspended loads
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 authorities or your supervisor
Pre-Job Planning

• Also known as:
  • Job Safety Analysis (JSA)
  • Activity Hazard Analysis (AHA)
  • Pre-Task Plan (PTP)

• 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 Haz-Com
Safety Data Sheets (SDS)

• Provides all information necessary to safely handle a particular chemical
• Must be readily accessible to any employee using a hazardous chemical
• Any chemical identified with a label that states “Danger, Caution, or Warning” must have a SDS
Safety Data Sheets (SDS)

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 (SDS)

• 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
SAFETY ORIENTATION

Section 4: Occupational Health and Wellness
Silica

• Employers must replace crystalline silica materials with safer substitutes whenever possible

• When feasible, employers must use engineering or administrative controls such as local exhaust ventilation and blasting cabinets to reduce exposures below the PEL

• Use protective equipment or other protective measures if engineering controls are not adequate

• Use all available work practices to control dust exposures, such as water sprays and integrated water delivery systems
Silica

• Participate in training, exposure monitoring, health screening, and surveillance programs to monitor any adverse health effects caused by crystalline silica exposures

• Be aware of the operations and job tasks that create crystalline silica exposures in your workplace environment and know how to protect yourself

• Be aware of the health hazards related to exposures to crystalline silica

• Be aware that smoking adds to the lung damage caused by silica exposures
Silica

• Do not eat, drink, smoke, or apply cosmetics in areas where crystalline silica dust is present
  • Wash your hands and face outside of dusty areas before performing any of these activities

• Wear only a N95 NIOSH certified respirator if respirator protection is required
  • Do not alter the respirator
    • Do not wear a tight-fitting respirator with a beard or mustache that prevents a good seal between the respirator and the face

• Wear disposable or washable work clothes and shower if facilities are available
  • Vacuum the dust from your clothes or change into clean clothing before leaving the work site
Blood Borne Pathogens

• If it is reasonably anticipated employees will be exposed to blood or other potentially infectious materials while using first-aid supplies, employers should provide personal protective equipment (PPE) including, but not limited to:
  • Gloves
  • Gowns
  • Face shields
  • Masks
  • Eye protection
Injury Reporting

• Report all work related injuries to your supervisor immediately

• Injury types include, but are not limited to:
  • Minor cuts
  • Scrapes
  • Scratches
  • Burns
  • Other treatments that require minimal training or technology to administer

• Know the location of first aid supplies
SAFETY ORIENTATION

Section 5: Personal Protective Equipment
Head Protection

• Wear hard hats where there is a potential for:
  • Objects falling from above
  • Bumps to the head from fixed objects
  • Accidental head contact with electrical hazards

• Routinely inspect hard hats for:
  • Dents
  • Cracks
  • Deterioration

• Replace after a heavy blow or electrical shock

• Maintain in good condition
Eye Protection

• Must be worn onsite at all times
• 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
• As the noise level increases, it damages your hearing more quickly
• If a sound level meter is not available use the 2-to-3 foot rule:
  • Stand about an arm’s length away from your coworker
  • If you have to raise your voice to be heard 2-3 feet away, assume the sound level is at or above 90 dBA
Foot Protection

• Composite toe footwear is recommended
• A minimum 6” boot is highly recommended
Hand Protection

• Insert your company hand protection policy here
Respiratory Protection

• Employers must develop and implement a written respiratory protection program with required work specific procedures

• Employers must use NIOSH-certified respirators

• Employees must be medically approved and trained before they are assigned a task requiring respirator use

• Employees must be fit tested if using a negative or positive pressure tight-fitting facepiece
High Visibility Clothing

• At a minimum, a class II reflective vest should be worn while working onsite
• High visibility clothing may be worn in lieu of the vest
Fall Protection

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

- All employees exposed to a fall > 6’, must be **effectively tied off**
- That means the fall distance and anchor point have been calculated / approved by a competent person and is deemed adequate
- Harness and lanyards must be inspected daily
- Remove from service if defects are found
Aerial Lifts

Articulating boom lifts
• Must be tied off while inside the basket, even if boom is not extended
• Must be trained on the specific model that you are operating
• Operators must remain in the lift basket at all times (feet on the floor, not railing)

Scissor lifts
• Follow manufacturer's, site guidelines for fall protection
• Must be trained on the specific model that you are operating
• Overhead work warnings (signs, barricades), should be in position
Guardrail Systems

• Typically are 42” in height (+-3”) with a midrail 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 shock absorbing and 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.
  • Think the weight of a pickup truck
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’
• Positioning devices must be connected to an anchor capable of supporting at least twice the load impact or 3,000 lbs., whichever is greater
Section 7: Fire Safety
Fire Protection

- Fire extinguishers must be conspicuously located and periodically inspected
- Travel distance to an extinguisher must not exceed 100’
- In a multistory building, extinguishers must be located at each stairwell on every level
- 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 must not be stored near stairwells or other access / egress points
• Flammable liquids may not be stored in plastic containers
• 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.
- At least one 20-BC fire extinguisher must be in place.
- Outdoor storage distance from buildings is as follows:
  - < 500 lbs: 0’
  - 501-6,000 lbs: 10’
  - 6,001-10,000 lbs: 20’
  - > 10,000 lbs: 25’
SAFETY ORIENTATION

Section 8: Equipment and Tools
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
• Make eye contact with the operator when entering their work area
• Only use equipment for its intended purpose
• Maintain a minimum 10’ safe working distance from electric lines
Ladders and Stairways

• A ladder or stair must be provided at all work points of access where the break in elevation is > 19” and no ramp, runway, sloped embankment, or personnel hoist is provided

• A double cleated ladder or two or more separate ladders must be in position when there are 25 or more employees in an elevated work area
Ladders

• Maintain a 3-point contact
  • Two hands and a foot, or two feet and a hand when climbing/descending a ladder

• Stay near the middle of the ladder and face the ladder while climbing up or down

• Only put ladders on a stable and level surface that is not slippery

• Extend the top of the ladder three feet above the landing
Ladders

• Stepladders must be opened fully and locked while in use
  • They cannot be used as straight ladders
• Ladders must be secured to prevent accidental displacement
• Ladders must be used as designed
  • Not as scaffold planks, “bridges”, etc.
• 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.

• Scaffold planking must be able to support, without failure, its own weight and at least four times the intended load.
Scaffolds

• Supported scaffolds are platforms supported by legs, outrigger beams, brackets, poles, frames, or similar rigid support

• The structural members must be plumb and braced to prevent swaying and displacement
  • Poles, legs, posts, frames, and uprights

• 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 exceeds 6’
• Scaffolds must be inspected by a competent person before each shift and should be tagged that it’s safe to access
• Scaffolds must not be moved while employees are working from them
• Cross braces cannot be used for access / egress
Cranes

• Ground conditions
  • The controlling entity must ensure that ground conditions are safe for the crane to be assembled and used
  • The Assembly / Disassembly (A /D) director determines if safe ground conditions are present
• Cranes must remain a minimum of 10’ from overhead high voltage (OHHV) lines
• The employer 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:
  • An accredited crane operator certification testing organization
  • An audited employer program
  • Qualification by the U.S military
  • Licensing by a government entity
• Swing radius must be barricaded to prevent accidental contact
• The employer must ensure that each signal person meets the standard’s qualification requirements
Hoisting and Lifting

• Only certified riggers are allowed 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, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts
Hand and Power Tools

• To protect user from shock and burns:
  • Electric tools must have a three-wire cord with a ground
  • Must be plugged into a grounded receptacle, be double insulated, or be powered by a low-voltage isolation transformer
  • Third 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:
  • A safety excess flow valve must be installed at the source of the air supply to reduce pressure in case of hose failure
  • 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
Materials Handling

Proper Lifting Procedure

• Kneel on one knee and pull load onto knee before standing
• Bending at the knees, not the waist, helps maintain proper spine alignment
• Place materials that are to be manually lifted at "power zone" height, about mid-thigh to mid-chest
• Turn your whole body, not just your waist, when lifting or lowering materials
• Move items close to your body and use your legs when lifting an item from a low location
Welding and Cutting

• Valve protection caps shall be in place and secured when transporting, moving, and storing compressed gas cylinders
• Compressed gas cylinders shall 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
• Torches shall be lighted by friction lighters or other approved devices, and not by matches or from hot work
Welding and Cutting

• Cylinders shall be kept far enough away from the actual welding or cutting operation 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 and shall be maintained in a state of readiness for instant use.


Working Over or Near Water

• Employees working over or near water, where the danger of drowning exists, shall be provided with U.S. Coast Guard-approved life jacket or buoyant work vests

• Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet

• At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water

• Landscapers, and other employees working on slopes adjacent to water, should take additional precautions
SAFETY ORIENTATION

Section 10: Electrical Safety
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 only cords, connection devices, and fittings that are equipped with strain relief
• Use ground-fault circuit interrupters (GFCIs) on all 120-volt, single-phase, 15- and 20-ampere receptacles, or have an assured equipment grounding conductor program (AEGCP)
Electrical Safety

• Extension and power cords shall be protected from sharp edges and potential pinch points
• Temporary lights must be protected by cage guards
• Extension cords must have a strain relief device to prevent excessive pull from being transmitted to the terminal screws
• Electrical tape cannot be used to repair nicks in extension and power cords
• Circuits must be locked and tagged out prior to employees working on them
Motor Vehicles and Mechanized Equipment

• All vehicles and equipment must be checked at the beginning of each shift to ensure that all parts and accessories 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, not an orange / red flag
SAFETY ORIENTATION

Section 12: Excavation and Trenching
Excavations and Trenching

• Specific excavation requirements:
  • Contact “Miss Utility” at 811 to locate underground utilities 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
  • Shoring systems must extend at least 2’ above the surrounding surface so as the prevent material or debris from entering the excavation
SAFETY ORIENTATION

Section 13: Permits
Hot Work Permit

• Insert company policy here
Confined Space Entry

• Confined spaces have three criteria:
  • Large enough for a worker to enter
  • Limited means of entry or exit
  • 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
Work Permit

• Add specific company policy here
Concrete and Masonry Construction

• No employee shall be allowed to work under concrete buckets
• To the extent practical, elevated concrete buckets shall be routed so no employee, or the fewest number of employees, are exposed
• 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

- **General requirements:**
  - Each employee engaged in steel erection on an unprotected deck > 15’ must be protected by PFAS, guardrail or safety net systems
  - Connectors working more than 2 stories or 30’, whichever is less, must be protected by PFAS, guardrail or safety net systems
  - Best practice: employees must be protected at 6’
  - Shear connectors cannot be installed until after metal decking is placed
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
- Many companies require a 6’ fall protection requirement rule, regardless of the type of work performed
SAFETY ORIENTATION

Conclusion and Final Questions
Conclusion

• Safety is everyone’s responsibility!
• If you see something, say something
• You can contribute to saving 800 lives per year
Thank you!

• Please contact (insert instructor name and contact information) for further information