



FALL PROTECTION PROGRAM

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SECTION 1 OBJECTIVE

ABC Company developed this program to protect employees while working at heights. The program ensures the safety of our employee's by providing guidelines for safe practices where personnel may be exposed to fall hazards. This program applies to all employees involved in construction, alteration, repair or maintenance, and who are assigned to perform tasks where fall hazards exist. This program involves establishing a fall protection work plan and providing a fall protection requirement. Through this program, the company will ensure that employees are aware of the fall hazards that they may be exposed to while at work and that available protective measures are to be employed.

This program serves to:

- Establish responsibility for implementing the requirements of the Fall Protection Program.
- Establish guidelines for safely working at heights.
- Provide employees with training concerning the hazards of working at heights.
- Give guidance concerning selection, use, inspection and maintenance of equipment.

SECTION 2 RESPONSIBILITIES AND AUTHORITY

The Safety Program applies to all of ABC Company employees, all contractors and vendors performing work on company property, and all other individuals who are visiting or have business with our company.

- **Insert name here** has been assigned as the administrator of the Fall Protection Program. The Program Administrator is responsible for the overall implementation and periodic review of the program. The administrator has been identified as a qualified person and is designated as a competent person, which involves:
 - A person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, the work, or the project.
 - Being knowledgeable of fall protection equipment, including the manufacturer's recommendations and instructions for the proper use, inspection, and maintenance.
 - Being knowledgeable of the rules contained in regulations regarding the erection, use, inspection, and maintenance of fall protection equipment and systems.
 - Being capable of identifying existing and potential fall hazards.
 - Having the authority to take prompt, corrective action to eliminate those hazards.

- **Managers and supervisors** must monitor the compliance of the procedures, ensure proper training of employees, and conduct periodic inspections. They must ensure the program and ensuing procedures are enforced in their departments. This involves:
 - Thoroughly understand all aspects of this program.
 - Properly training employees to be aware of situations which they may encounter and that would constitute utilization of the guidelines set forth in this program.
 - Periodically checking the work area to ensure that the employee is complying with all aspects of this program.
 - Instructing each employee of the importance of following this program for personal safety as well as disciplinary action(s) that may be involved due to noncompliance.
 - Ensuring the equipment being utilized by the employee is the proper equipment for the job and is in good condition.

- **Employees** are responsible for following established Fall Protection Program procedures. They are responsible for seeking clarification from their supervisor if they do not understand any requirements. A key element in the success of this Policy is the associate awareness that violations will not be tolerated. Violations of the Fall Protection Program will result in immediate disciplinary action up to and including termination.

- **Contractors and vendors** shall comply with all procedures outlined in this policy.

SECTION 3 FALL HAZARD ASSESSMENT

The following fall hazards have been identified:

- Working on roofs
- Framing/top plates/leading edge work
- Vertical positioning/Concrete walls/forms
- Working from ladders
- Working from aerial lifts
- Working from scaffold/ladder jacks
- Working on top of machines/equipment/trucks
- Elevated decks/material handling/loading areas

SECTION 4 FALL PROTECTION REQUIREMENTS

General Fall Protection Requirements

- Employees are exempt from fall protection requirements only under the following conditions:
 - During initial installation of the fall protection anchor (prior to engaging in any work activity), or the disassembly of the fall protection anchor after the work has been completed.
 - An employee directly involved with inspecting or estimating roof-level conditions only on low pitched roofs prior to the actual start of construction work or after all construction work has been completed.
 - Examples of activities recognized as inspecting or estimating include:
 - Measuring a roof to determine the amount of materials needed for a project.
 - Inspecting the roof for damage without removing equipment or components.
 - Assessing the roof to determine what method of fall protection will be provided to employees.
 - Examples not recognized as inspecting or estimating under this exemption include:
 - Delivering, staging or storing materials on a roof.
 - Persons estimating or inspecting on roofs that would be considered a “hazardous slope” by definition.
- All surfaces on which employees will be working or walking must be structurally sound to support them safely prior to allowing employees to work or walk on them.

- Inspect all components (including hardware, lanyards, and positioning harnesses or full body harnesses depending on which system is used) of personal fall arrest systems, personal fall restraint systems and positioning device systems prior to each use according to manufacturer's specifications for mildew, wear, damage, and other deterioration. Remove defective components from service if their function or strength has been adversely affected.
- Inspect safety nets at least once a week according to manufacturer's specifications for wear, damage, and other deterioration. Also inspect safety nets after any occurrence which could affect the integrity of the safety net system. Remove defective components from service. Do not use defective nets.
- Only use personal fall arrest systems, personal fall restraint system, positioning device systems, and their components for employee protection and not to hoist materials.

- Examples of what personal fall arrest, personal fall restraint and positioning device systems look like:

		
Fall Arrest	Fall Restraint	Positioning
Stopped after the fall <ul style="list-style-type: none"> • Full body harness • Safety nets • Catch platforms 	Restrained from falling <ul style="list-style-type: none"> • Standard railing • Safety harness • Warning line/monitor system 	Held in place while working <ul style="list-style-type: none"> • Safety body harness

Fall Protection Required Regardless of Height

- Regardless of height, open sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment, such as dip tanks and material handling equipment, and similar hazards must be guarded with a standard guardrail system.
- Floor holes or floor openings, into which persons can accidentally walk, must be guarded by either a standard railing with standard toe board on all exposed sides, or a cover of standard strength and construction that is secured against accidental displacement. While the cover is not in place, protect the floor hole opening by a standard railing.

- Regardless of height employees must be protected from falling into or onto impalement hazards, such as: reinforcing steel (rebar), or exposed steel or wood stakes used to set forms.

Fall Protection Required at Four Feet or More

- The appropriate fall protection system must be provided, installed, and implemented according to the requirements below when employees are exposed to fall hazards of 4 feet or more to the ground or lower level when on a walking/working surface.
- **Guarding of walking/working surfaces with unprotected sides and edges.** Every open sided walking/working surface or platform 4 feet or more above adjacent floor or ground level must be guarded by one of the following fall protection systems:
 - A standard guardrail system, on all open sides, except where there is entrance to a ramp, stairway, or fixed ladder. The railing must be provided with a standard toe board wherever, beneath the open sides, persons can pass, there is moving machinery, or there is equipment with which falling materials could create a hazard.
 - When employees are using stilts, the height of the top rail or equivalent member of the standard guardrail system must be increased (or additional railings may be added) an amount equal to the height of the stilts while maintaining the strength specifications of the guardrail system.
 - Where employees are working on platforms above the protection of the guardrail system, the height of the guardrail system must be increased, or another fall protection system must be used.
 - When guardrails must be temporarily removed to perform a specific task, the area must be constantly attended by a monitor until the guardrail is replaced. The only duty the monitor must perform is to warn persons entering the area of the fall hazard.
 - A fall restraint system.
 - A personal fall arrest system.
 - A safety net system.
 - A catch platform.
 - A warning line.
- **Guarding of ramps, runways, and inclined walkways.**
 - Ramps, runways, and inclined walkways that are 4 feet or more above the ground or lower level must be equipped with a standard guardrail system or the equivalent, along each open side. Wherever tools, machine parts, or materials are likely to be used on the runway, a toe board must also be installed on each open side to protect persons working or passing below.
 - Runways used exclusively for special purposes may have the railing on one side omitted where operating conditions necessitate such omission, provided the falling hazard is minimized by using a runway not less than 18 inches wide.
- **Guarding of stairs.**

- Stairways having 4 or more risers or rising more than 30 inches (76 cm), whichever is less, must be equipped with:
 - At least one handrail. The height of handrails must be not more than 37 inches (94 cm) nor less than 30 inches (76 cm) from the upper surface of the handrail to the surface of the tread, in line with the face of the riser at the forward edge of the tread. Handrails must provide an adequate handhold for employees grasping them to avoid falling.
and
 - One stair rail system along each unprotected side or edge. The stair rail must be not less than 36 inches (91.5 cm) from the upper surface of the stair rail system to the surface of the tread, in line with the face of the riser at the forward edge of the tread.
 - Handrails and the top rails of stair rail systems must be capable of withstanding, without failure, a force of at least 200 pounds
- Provide mid-rails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members, between the top rail of the stair rail system and the stairway steps.
 - Locate mid-rails, when used, at a height midway between the top edge of the stair rail system and the stairway steps.
 - Screens or mesh, when used, must extend from the top rail to the stairway step, and along the entire opening between top rail supports.
 - When intermediate vertical members, such as balusters, are used between posts, they must be not more than 19 inches (48 cm) apart.
 - Install other structural members, when used, such that there are no openings in the stair rail system that are more than 19 inches (48 cm) wide
- The ends of stair rail systems and handrails must be constructed so as not to constitute a projection hazard.
- Handrails that will not be a permanent part of the structure being built must have a minimum clearance of 3 inches (8 cm) between the handrail and walls, stair rail systems, and other objects.
- **Guarding of floor openings.**
 - Floor openings must be guarded by one of the following fall restraint systems:
 - A standard guardrail system, or the equivalent, on all open sides, except where there is entrance to a ramp, stairway, or fixed ladder. The railing must be provided with a standard toe board wherever, beneath the open sides, persons can pass, or there is moving machinery, or there is equipment with which falling materials could create hazard.
 - A cover.
 - A warning line system erected at least 15 feet from all unprotected sides or edges of the floor opening.
 - If it becomes necessary to remove the cover, the guardrail system, or the warning line system, then an employee must remain at the opening until the cover, guardrail system, or warning line system is replaced. The only duty the employee must perform is to prevent exposure to the fall hazard by warning persons entering the area of the fall hazard.

- Guard ladder way floor openings or platforms by a standard guardrail system with standard toe boards on all exposed sides, except at entrance to opening, with the passage through the railing either provided with a swinging gate or so offset that a person cannot walk directly into the opening.
- Guard hatchways and chute floor openings by one of the following:
 - Hinged covers of standard strength and construction and a standard guardrail system with only one exposed side. When the opening is not in use, the cover must be closed or the exposed side must be guarded at both top and intermediate positions by removable standard guardrail systems.
 - A removable standard guardrail system with toe board on not more than two sides of the opening and fixed standard guardrail system with toe boards on all other exposed sides. The removable railing must be kept in place when the opening is not in use and must be hinged or otherwise mounted so as to be conveniently replaceable.
- Wherever there is a danger of falling through an unprotected skylight opening, or the skylight has been installed and is not capable of sustaining the weight of a 200 pound person with a safety factor of 4, standard guardrails must be provided on all exposed sides or the skylight must be covered. Personal fall arrest equipment may be used as an equivalent means of fall protection when worn by all employees exposed to the fall hazard.
- Guard pits and trap door floor openings by floor opening covers of standard strength and construction. While the cover is not in place, the pit or trap openings must be protected on all exposed sides by removable standard guardrail system.
- Guard manhole floor openings by standard covers which need not be hinged in place. While the cover is not in place, the manhole opening must be protected by standard guardrail system.
- **Guarding of wall openings.**
 - Guard wall openings, from which there is a fall hazard of 4 feet or more, and the bottom of the opening is less than 39 inches above the working surface, as follows:
 - When the height and placement of the opening in relation to the working surface is such that either a standard rail or intermediate rail will effectively reduce the danger of falling, one or both must be provided.
 - The bottom of a wall opening, which is less than 4 inches above the working surface, regardless of width, must be protected by a standard toe board or an enclosing screen.
 - An extension platform, outside a wall opening, onto which materials can be hoisted for handling must have standard guardrails on all exposed sides or equivalent. One side of an extension platform may have removable railings in order to facilitate handling materials.
 - When a chute is attached to an opening, the opening must be guarded, except that a toe board is not required.
- **Fall protection during form and rebar work.**

- When exposed to a fall height of 4 feet or more, employees placing or tying reinforcing steel on a vertical face are required to be protected by personal fall arrest systems, safety net systems, or positioning device systems.
- **Fall protection on steep pitched and low pitched roofs.**
 - **Steep pitched roofs.** Regardless of the work activity, employees exposed to fall hazards of 4 feet or more while working on a roof with a pitch greater than 4 in 12 must use one of the following:
 - Fall restraint system. Safety monitors and warning line systems are prohibited on steep pitched roofs.
 - Fall arrest system. or
 - Positioning device system.
 - **Low pitched roofs.** employees exposed to fall hazards of 4 feet or more while engaged in work, other than roofing work or leading edge work, on low pitched roofs must use one of the following:
 - Fall restraint system.
 - Fall arrest system.
 - Positioning device system.
 - Safety monitor and warning line system. or
 - Safety watch system.
- **Hazardous slopes.**
 - Employees exposed to falls of 4 feet or more while working on a hazardous slope (a slope where normal footing cannot be maintained without the use of devices due to the pitch of the surface, weather conditions, or surface material) must use personal fall restraint systems or positioning device systems.

Fall Protection Required at Ten Feet or More

- Appropriate fall protection system must be provided, installed, and implemented according to the requirements in this part when employees are exposed to fall hazards of 10 feet or more to the ground or lower level, while:
 - Engaged in roofing work on a low pitched roof.
 - Constructing a leading edge.
Note: Employees not directly involved with constructing the leading edge, or are not performing roofing work must comply with the fall protection required at 4 feet or more.
 - Working on any surface that does not meet the definition of a walking/working surface not already covered.
 - Engaged in excavation and trenching operations.
 - **Exceptions** Fall protection is not required at excavations when employees are:
 - Directly involved with the excavation process and on the ground at the top edge of the excavation. or

- Working at an excavation site where appropriate sloping of side walls has been implemented as the excavation protective system.
- Fall protection is required for employees standing in or working in the affected area of a trench or excavation exposed to a fall hazard of 10 feet or more and:
 - The employees are not directly involved with the excavation process. or
 - The employees are on the protective system or any other structure in the excavation.
Note: Persons considered directly involved in the excavation process include:
 - Foreman of the crew.
 - Signal person.
 - Employee hooking on pipe or other materials.
 - Grade person.
 - State, county, or city inspectors inspecting the excavation or trench.
 - An engineer or other professional conducting a quality-assurance inspection.
- **Fall Protection Work Plan** A written fall protection work plan including each area of the work place where the employees are assigned and where fall hazards of 10 feet or more exist must be developed and implemented.
 - The fall protection work plan must:
 - Identify all fall hazards in the work area.
 - Describe the method of fall arrest or fall restraint to be provided.
 - Describe the proper procedures for the assembly, maintenance, inspection, and disassembly of the fall protection system to be used.
 - Describe the proper procedures for the handling, storage, and securing of tools and materials.
 - Describe the method of providing overhead protection for workers who may be in, or pass through the area below the worksite.
 - Describe the method for prompt, safe removal of injured workers. and
 - Be available on the job site for inspection.
 - Prior to permitting employees into areas where fall hazards exist, employees must be trained and instructed in the fall protection work plan.

Scaffolding Specifications

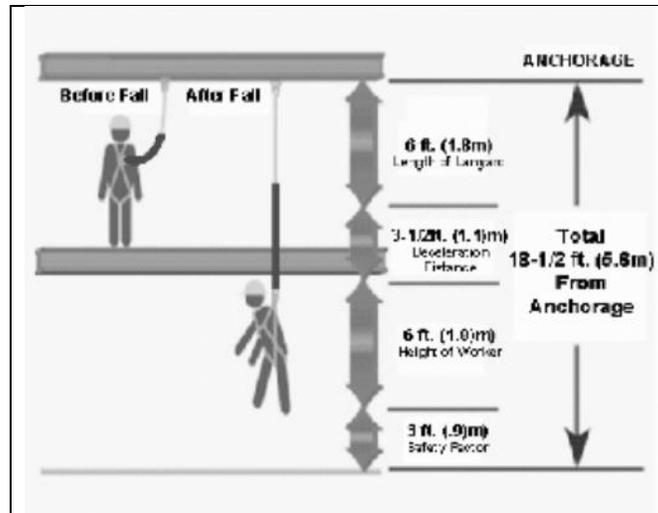
- Fall protection must be used when working from a scaffold at or above ten feet. The fall protection can be in the form of standard guardrails or a personal fall arrest system.
- All scaffolds must be designed by a qualified person and erected as designed, by a competent and experienced person.
- The footing or anchorage for scaffolds must be sound, rigid and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick or concrete blocks must not be used to support scaffolds or planks.
- Scaffolds and their components must be capable of supporting without failure at least 4 times the maximum intended load.

- Scaffolds and their components must be maintained in a safe condition. Any damaged or weakened components must not be used until repairs have been completed.
- An access ladder or equivalent safe access must be provided.
- Scaffolds must not be moved while they are occupied.
- All planking must be Scaffold Grade as recognized by grading rules for the species of wood used.
- The working platform of the scaffold must be fully planked.
- All planking or platforms must be overlapped a minimum of 12 inches or be secured from movement.
- Scaffold planks must extend over their end supports not less than 6 inches nor more than 18 inches.
- The poles, legs or uprights for scaffolds must be plumb, and securely and rigidly braced to prevent swaying and displacement.
- When persons are required to work or pass under a scaffold, a screen covering the entire opening between the toe board and the intermediate mid rail must be provided.
- Employees must not work on scaffolds during storms or high winds.
- Employees must not work on scaffolds which are covered with ice or snow, unless all ice or snow is removed and planking sanded to prevent slipping.
- Tools, materials and debris must not be allowed to accumulate in quantities that would create a hazard.
- Materials being hoisted onto a scaffold must have a tag line.
- The use of shore or lean-to scaffolds is prohibited.
- All employees who will perform work from a scaffold must receive training from a qualified person on the following:
 - How to recognize the hazards associated with the type of scaffold they are using.
 - An understanding of the procedures to control or minimize the hazards.
 - Hazards in the work area and how to deal with them, including:
 - Electrical hazards.
 - Fall hazards.
 - Falling object hazards.
 - How to erect, maintain, and disassemble the fall protection and falling object protection systems being used.
 - How to:
 - Use the scaffold.
 - Handle materials on the scaffold.
- The load-carrying capacity and maximum intended load of the scaffold.

Fall Arrest Specifications

- **Personal fall arrest system** must meet the following requirements:
 - The harness must be a full body harness. A restraint belt cannot be used for fall arrest.

- Immediately remove from service full body harness systems or components subject to impact loading and not use them again for employee protection unless inspected and determined by a competent person to be undamaged and suitable for reuse.
- **Anchorage** for full body harness systems must be capable of supporting (per employee):
 - 3,000 pounds when used in conjunction with:
 - A self-retracting lifeline that limits the maximum free fall distances to two feet or less.
or
 - A shock absorbing lanyard that restricts the forces on the body to 900 pounds or less.
 - 5,000 pounds for all other personal fall arrest system applications, or they must be designed, installed, and used:
 - As a part of a complete personal fall arrest system which maintains a safety factor of at least two. and
 - Under the supervision of a qualified person.
- The following is required when **stopping a fall** with a personal fall arrest systems:
 - Be rigged to allow a maximum free fall distance of 6 feet so an employee will not contact any lower level.
 - Limit maximum arresting force on an employee to 1,800 pounds (8 kN).
 - Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3-1/2 feet (1.07 m). and
 - Have sufficient strength to withstand twice the potential impact energy of an employee free falling a maximum distance of 6 feet (1.8 m).
Note: Shock absorbers that meet the requirements of ANSI Z359.1-2007 that are used as a part of a personal fall arrest system in accordance with manufacturer's recommendations and instructions for use and installation will limit the maximum arresting forces on an employee's body to 1,800 pounds or less.
- Do the following to **calculate the fall clearance distance** using a shock-absorbing lanyard and D-ring anchorage connector:
 - First, add the length of the shock-absorbing lanyard (6 feet) to the maximum elongation of the shock absorber during deceleration (3 1/2 feet) to the average height of a worker (6 feet).
 - Then, add a safety factor of 3 feet to allow for the possibility of an improperly fit full body harness, a taller than average worker and/or a miscalculation of distance.
 - The suggested safe fall clearance distance for this example is 18 1/2 feet.



- Protect all safety lines and lanyards against being cut or abraded.
- The attachment point of the full body harness must be located in the center of the wearer's back near shoulder level, or above the wearer's head.
- Hardware must be drop forged, pressed or formed steel, or made of materials equivalent in strength.
- Hardware must have a corrosion resistant finish, and all surfaces and edges must be smooth to prevent damage to the attached full body harness or lanyard.
- When vertical lifelines (droplines) are used, not more than one employee must be attached to any one lifeline.

Note: The system strength needs in the following items are based on a total combined weight of employee and tools of no more than 310 pounds. If combined weight is more than 310 pounds, appropriate allowances must be made or the system will not be in compliance.

- Vertical lifelines (droplines) must have a minimum breaking strength of 5,000 pounds (22.2 kN), except that self-retracting lifelines and lanyards which automatically limit free fall distance to two feet (.61 m) or less must have a minimum breaking strength of 3,000 pounds (13.3 kN).
- Horizontal lifelines must be designed, installed, and used, under the supervision of a qualified person, as part of a complete personal fall arrest system, which maintains a safety factor of at least two.
- Droplines or lifelines used on rock scaling operations, or in areas where the lifeline may be subjected to cutting or abrasion, must be a minimum of 7/8 inch wire core manila rope or equivalent. For all other lifeline applications, a minimum of 3/4 inch manila rope or equivalent, with a minimum breaking strength of 5,000 pounds, must be used.
- Lanyards must have a minimum breaking strength of 5,000 pounds (22.2 kN).
- All components of full body harness systems whose strength is not otherwise specified in this subsection must be capable of supporting a minimum fall impact load of 5,000 pounds (22.2 kN) applied at the lanyard point of connection.
- D-rings and snap hooks must be proof-tested to a minimum tensile load of 3,600 pounds (16 kN) without cracking, breaking, or taking permanent deformation.

- Snap hooks must be a locking type snap hook designed and used to prevent disengagement of the snap hook by the contact of the snap hook keeper by the connected member.
- Unless the snap hook is designed for the following connections, snap hooks must not be engaged:
 - Directly to the webbing, rope or wire rope.
 - To each other.
 - To a D-ring to which another snap hook or other connector is attached.
 - To a horizontal lifeline. or
 - To any object which is incompatibly shaped or dimensioned in relation to the snap hook such that unintentional disengagement could occur by the connected object being able to depress the snap hook keeper and release itself.
- **Safety net systems** and their use must comply with the following provisions:
 - Safety nets must be installed as close as practicable under the surface on which employees are working, but in no case more than 30 feet (9.1 m) below such level unless specifically approved in writing by the manufacturer. The potential fall area to the net must be unobstructed.
 - Safety nets must extend outward from the outermost projection of the work surface as follows:

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

- Install safety nets with sufficient clearance under them to prevent contact with the surface or structures below when subjected to an impact force equal to the drop test.
- Safety nets and their installations must be capable of absorbing an impact force equal to that produced by the drop test.
 - Safety nets and safety net installations must be drop-tested at the job site after initial installation and before being used as a fall protection system, whenever relocated, after major repair, and at 6-month intervals if left in one place. The drop-test must consist of a 400 pound (180 kg) bag of sand $30 \pm$ two inches (76 ± 5 cm) in diameter dropped into the net from the highest walking/working surface at which employees are exposed to fall hazards, but not from less than 42 inches (1.1 m) above that level.
 - When it can be demonstrate that it is unreasonable to perform the drop test, a competent person must certify that the net and net installation is in compliance by preparing a certification record prior to the net being used as a fall protection system. The certification record must include an identification of the net and net installation for which the certification record is being prepared; the date that it was determined that the identified net and net installation are in compliance and the signature of the person making the determination and certification. The most recent certification record for each net and net installation must be available at the job site for inspection.
- Remove materials, scrap pieces, equipment, and tools which have fallen into the safety net as soon as possible from the net and at least before the next work shift.

- The maximum size of each safety net mesh opening must not exceed 36 square inches (230 cm²) nor be longer than 6 inches (15 cm) on any side, and the opening, measured center-to-center of mesh ropes or webbing, must not be longer than 6 inches (15 cm). All mesh crossings must be secured to prevent enlargement of the mesh opening.
- Each safety net (or section of it) must have a border rope or webbing with a minimum breaking strength of 5,000 pounds (22.2 kN).
- Connections between safety net panels must be as strong as integral net components and must be spaced not more than 6 inches (15 cm) apart.
- **Catch platforms:**
 - Install a catch platform within 4 vertical feet of the work area.
 - The catch platform's width must be a minimum of 45 inches wide and must be equipped with standard guardrails and toe boards on all open sides.

Fall Restraint Specifications

- **Personal fall restraint systems** must be rigged to allow the movement of employees only as far as the unprotected sides and edges of the walking/working surface, and must consist of:
 - A full body harness must be used. A body belt is not allowed.
 - The full body harness must be attached to securely rigged restraint lines.
 - (All hardware assemblies for full body harness must be capable of withstanding a tension loading of 4,000 pounds without cracking, breaking, or taking a permanent deformation.
 - Ensure components are compatible.
 - Anchorage points used for fall restraint must be capable of supporting 4 times the intended load.
 - Rope grab devices are prohibited for fall restraint applications unless they are part of a fall restraint system designed specifically for the purpose by the manufacturer, and used in strict accordance with the manufacturer's recommendations and instructions.
- **Guardrail specifications**
 - **A standard guardrail system** must consist of top rail, intermediate rail, and posts, and must have a vertical height of 39 to 45 inches from upper surface of top rail to floor, platform, runway, or ramp level. When conditions warrant, the height of the top edge may exceed the 45 inch height, provided the guardrail system meets all other criteria of this section. The intermediate rail must be halfway between the top rail and the floor, platform, runway, or ramp. The ends of the rails must not overhang the terminal posts except where such overhang does not constitute a projection hazard.
 - **Minimum requirements** for standard guardrail systems under various types of construction are specified in the following items:
 - **For wood railings**, the posts must be of at least two-inch by 4-inch stock spaced not to exceed 8 feet; the top rail must be of at least two-inch by 4-inch stock and each length of lumber must be smooth surfaced throughout the length of the railing. The intermediate rail

must be of at least one-inch by 6-inch stock. Other configurations may be used for the top rail when the configuration meets the requirements of section.

- **For pipe railings**, posts and top and intermediate railings must be at least 1 1/2 inches nominal OD diameter with posts spaced not more than 8 feet on centers. Other configurations may be used for the top rail when the configuration meets the requirements of this section.
- **For structural steel railings**, posts and top and intermediate rails must be of two-inch by two-inch by 3/8 inch angles or other metal shapes of equivalent bending strength, with posts spaced not more than 8 feet on centers. Other configurations may be used for the top rail when the configuration meets the requirements of this section.
- **For wire rope railings**, the top and intermediate railings must meet the strength factor and deflection of this section. The top railing must be flagged at not more than 6 foot intervals with high-visibility material. Posts must be spaced not more than 8 feet on centers. The rope must be stretched taut and must be between 39 and 45 inches in height at all points. Other configurations may be used for the top rail when the configuration meets the requirements this section.
- **The anchoring of posts** and framing of members for railings of all types must be of such construction that the completed structure must be capable of withstanding a load of at least 200 pounds applied in any direction at any point on the top rail. The top rail must be between 39 and 45 inches in height at all points when this force is applied.
- **Railings receiving heavy stresses** from employees trucking or handling materials must be provided additional strength by the use of heavier stock, closer spacing of posts, bracing, or by other means.
- **Other types**, sizes, and arrangements of railing construction are acceptable, provided they meet the following conditions:
 - A smooth surfaced top rail at a height above floor, platform, runway, or ramp level between 39 and 45 inches.
 - When the 200 pound load is applied in a downward direction, the top edge of the guardrail must not deflect to a height less than 39 inches (1.0 m) above the walking/working level. Guardrail system components selected and constructed in accordance with this part will be deemed to meet this requirement.
 - Protection between top rail and floor, platform, runway, ramp, or stair treads, equivalent at least to that afforded by a standard intermediate rail.
 - Elimination of overhang of rail ends unless such overhang does not constitute a hazard.
- **Toe board specifications**
 - A standard toe board must be a minimum of 4 inches nominal in vertical height from its top edge to the level of the floor, platform, runway, or ramp. It must be securely fastened in place with not more than one-quarter inch clearance above floor level. It may be made of any substantial material, either solid, or with openings not over one inch in greatest dimension.

- Where material is piled to such height that a standard toe board does not provide protection, paneling, or screening from floor to intermediate rail or to top rail must be provided.
- **Cover specifications**
 - **Floor opening or floor hole covers** must be of any material that meets the following strength requirements:
 - Conduits, trenches, and manhole covers and their supports, when located in roadways, and vehicular aisles must be designed to carry a truck rear axle load of at least two times the maximum intended load.
 - All floor opening and floor hole covers must be capable of supporting the maximum potential load but never less than 200 pounds (with a safety factor of 4).
 - All covers must be secured when installed so as to prevent accidental displacement by the wind, equipment, or employees.
 - All covers must be color coded or they must be marked with the word “hole” or “cover” to provide warning of the hazard.
 - **Barriers and screens** used to cover wall openings must meet the following requirements:
 - Barriers must be of such construction and mounting that, when in place at the opening, the barrier is capable of withstanding a load of at least 200 pounds applied in any direction (except upward), with a minimum of deflection at any point on the top rail or corresponding member.
 - Screens must be of such construction and mounting that they are capable of withstanding a load of at least 200 pounds applied horizontally at any point on the near side of the screen. They may be of solid construction of either grill work with openings not more than 8 inches long, or of slat work with openings not more than 4 inches wide with length unrestricted.
- **Warning line system specifications** on pitches 4 in 12 or less for roofing work, leading edge work, and on low pitched open sided surfaces for work activities other than roofing work or leading edge work. Ensure the following:
 - Warning lines must be erected around all unprotected sides and edges of the work area.
 - **Warning lines used during roofing work**
 - When roofing work is taking place or when mechanical equipment is not being used, the warning line must be erected not less than 6 feet (1.8 m) from the edge of the roof.
 - When mechanical equipment is being used, the warning line must be erected not less than 6 feet (1.8 m) from the roof edge which is parallel to the direction of mechanical equipment operation, and not less than 10 feet (3.1 m) from the roof edge which is perpendicular to the direction of mechanical equipment operation.
 - **Warning lines erected for leading edge work.** Warning lines must be erected to separate employees who are engaged in leading edge work (between the forward edge of the warning line and the leading edge), from other work areas on the low pitched surface:
 - The warning line is erected not less than 6 feet nor more than 25 feet from the leading edge. and

- When fall arrest systems or fall restraint systems are not used, a safety monitor system must be implemented to protect employees engaged in constructing the leading edge who are working between the forward edge of the warning line and the leading edge.
- **Warning lines erected on low pitched open sided surfaces** for work activities other than roofing work or leading edge work, must be erected not less than 15 feet from the unprotected sides or edges of the open sided surface.
- **The warning line must consist** of a rope, wire, or chain and supporting stanchions erected as follows:
 - The rope, wire, or chain must be flagged at not more than 6 foot (1.8 m) intervals with high visibility material. Highly visible caution or danger tape does not need to be flagged.
 - The rope, wire, or chain must be rigged and supported in such a way that its lowest point (including sag) is no less than 36 inches from the surface and its highest point is no more than 45 inches from the surface.
 - After being erected, with the rope, wire or chain attached, stanchions must be capable of resisting, without tipping over, a force of at least 16 pounds (71 N) applied horizontally against the stanchion, 30 inches (0.76 m) above the surface, perpendicular to the warning line, and in the direction of the unprotected sides or edges of the surface.
 - The rope, wire, or chain must have a minimum tensile strength of 200 pounds (90 k), and after being attached to the stanchions, must be capable of supporting, without breaking, the loads applied to the stanchions. Highly visible caution or danger tape may be used in lieu of rope, wire, or chain as long as it is at least 3 inches wide and 3 mils thick, and has a tensile strength of at least 200 pounds.
 - The line must be attached at each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in adjacent sections before the stanchion tips over.
- Erect **access paths** as follows:
 - Points of access, materials handling areas, and storage areas must be connected to the work area by a clear access path formed by two warning lines.
 - When the path to a point of access is not in use, place a rope, wire, or chain, equal in strength and height to the warning line, across the path at the point where the path intersects the warning line erected around the work area.
- **Safety monitor system specifications**
 - A safety monitor system may be used in conjunction with a warning line system as a method of fall protection during roofing work on low pitched roofs or leading edge work on low pitched surfaces.
Note: The warning line is not required when performing roofing work on low pitched roofs less than 50 feet wide.
 - When selected, ensure that the safety monitor system is addressed in the fall protection work plan, including the name of the safety monitor(s) and the extent of their training in both the safety monitor and warning line systems. Ensure that the following requirements are met:

- The safety monitor system must not be used when adverse weather conditions create additional hazards.
- Employees working outside of the warning line system, (between the forward edge of the warning line and the unprotected sides or edges of a low pitched surface), must be readily distinguishable from other members of the crew that are working inside the warning line system by wearing highly visible, distinctive, and uniform apparel.
- Employees must promptly comply with fall hazard warnings from the safety monitor.
- A person acting in the capacity of safety monitor(s) in the function of both the safety monitor and warning line systems, must:
 - Be a competent person.
 - Be trained in their duties.
 - Have control authority over the work as it relates to fall protection.
 - Be instantly distinguishable over members of the work crew.
 - Perform no other duties while acting as safety monitor.
 - Be positioned in relation to the workers under their protection, so as to have a clear, unobstructed view and be able to maintain normal voice communication.
 - Not supervise more than 8 exposed workers at one time.
 - Warn the employee when it appears that the employee is unaware of a fall hazard or is acting in an unsafe manner.
- **Safety watch system specifications**
 - When one employee is conducting any repair work or servicing equipment on a roof that has a pitch no greater than 4 in 12, a safety watch system is allowed.
 - Ensure the safety watch system meets the following requirements:
 - There can only be two people on the roof while the safety watch system is being used:
 - The one employee acting as the safety watch and the one employee engaged in the repair work or servicing equipment.
 - The employee performing the task must comply promptly with fall hazard warnings from the safety watch.
 - Mechanical equipment is not used. and
 - The safety watch system is not used when weather conditions create additional hazards.
 - Ensure the employee acting as the safety watch meets all of the following:
 - Is a competent person.
 - Has received training on their duties.
 - Has full control over the work as it relates to fall protection.
 - Has a clear, unobstructed view of the worker.
 - Is able to maintain normal voice communication. and
 - Performs no other duties while acting as the safety watch.

Positioning Device System Specifications

- Positioning device systems and their use must conform to the following provisions:

- Positioning harnesses or full body harnesses must be used. A body belt is not allowed.
- Positioning devices must be rigged to prevent an employee from a free fall greater than two feet.
- Positioning devices must be secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or 3,000 pounds (13.3 kN), whichever is greater.
- Connectors must be drop forged, pressed or formed steel, or made of equivalent materials.
- Connectors must have a corrosion-resistant finish, and all surfaces and edges must be smooth to prevent damage to interfacing parts of this system.
- Connecting assemblies must have a minimum breaking strength of 5,000 pounds (22.2 kN).
- D-rings and snap hooks must be proof-tested to a minimum tensile load of 3,600 pounds (16 kN) without cracking, breaking, or taking permanent deformation.
- Snap hooks must be a locking type snap hook designed and used to prevent disengagement of the snap hook by the contact of the snap hook keeper by the connected member.
- Unless the snap hook is designed for the following connections, snap hooks must not be engaged:
 - Directly to webbing, rope or wire rope.
 - To each other.
 - To a D-ring to which another snap hook or other connector is attached.
 - To a horizontal lifeline. or
 - To any object which is incompatibly shaped or dimensioned in relation to the snap hook such that unintentional disengagement could occur by the connected object being able to depress the snap hook keeper and release itself.

Other Specifications

- **Ramps, runways and inclined walkways must:**
 - Be at least 18 inches wide. and
 - Not be inclined more than 20 degrees from horizontal and when inclined, they must be cleated or otherwise treated to prevent a slipping hazard on the walking surface.
Note: See previous guidelines for guarding ramps, runways, and inclined walkways that are four feet or more above the ground or lower level.
- **Self-rescue devices**-Self-rescue devices are not a fall protection system. Self-rescue devices used to self-rescue after a fall must meet the following requirements:
 - Use self-rescue devices according to the manufacturer's instructions. and
 - Self-rescue devices must be addressed by the fall protection work plan.
- **Canopy** Canopies, when used as falling object protection, must be strong enough to prevent collapse and to prevent penetration by any objects which may fall onto the canopy.
- **Roofing bracket specifications** Roofing brackets are not a fall protection system.
 - Roofing brackets must be constructed to fit the pitch of the roof.

- In addition to securing brackets using the pointed metal projections, brackets must also be secured in place by nailing. When it is impractical to nail brackets, rope supports must be used. When rope supports are used, they must consist of first grade manila of at least 3/4 inch diameter, or equivalent.
- **Crawling board and chicken ladder specifications** Crawling boards and chicken ladders are not fall protection systems.
 - Crawling boards must be not less than 10 inches wide and one inch thick, having cleats one by 1 1/2 inches.
 - The cleats must be equal in length to the width of the board and spaced at equal intervals not to exceed 24 inches.
 - Nails must be driven through and clinched on the underside.
 - The crawling board must extend from the ridge pole to the eaves when used in connection with roof construction, repair, or maintenance.
 - Crawling boards must be secured to the roof using ridge hooks or other equivalent means.
- **Roof edge materials handling areas and materials storage specifications**
 - When guardrails are used at hoisting areas, a minimum of 4 feet of guardrail must be erected along each side of the access point through which materials are hoisted.
 - A chain or gate must be placed across the opening between the guardrail sections when hoisting operations are not taking place.
 - When guardrails are used at bitumen pipe outlet, a minimum of 4 feet of guardrail must be erected along each side of the pipe.
 - Mechanical equipment must be used or stored only in areas where employees are protected using a fall arrest system, or a fall restraint system. Mechanical equipment may not be used or stored where the only protection is provided by the use of a safety monitor.
 - The hoist must not be used as an attachment/anchorage point for fall arrest or fall restraint systems.
 - Materials must not be stored within 6 feet of the roof edge unless guardrails are erected at the roof edge. Guardrails must include a toe board if employees could be working or passing below.

Training

- All training required by this part, must be conducted by a qualified person.
- Training must be documented and documentation kept on file.
- **Retraining.** When there is reason to believe that any affected employee who has already been trained does not have the understanding and skill required to comply with fall protection rules, the employee must be retrained. Circumstances where retraining is required include, but are not limited to, situations where:
 - Changes in the workplace render previous training obsolete.
 - Changes in the types of fall protection systems or equipment to be used render previous training obsolete.

- Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

Fall Protection Definitions

- **Affected area.** The distance away from the edge of an excavation equal to the depth of the excavation up to a maximum distance of 15 feet. For example, an excavation 10 feet deep has an affected area extending 10 feet from the edge of any side of the excavation.
- **Anchorage.** A secure point of attachment for lifelines, lanyards, or deceleration devices which is capable of withstanding the forces specified in this part.
- **Catch platform.** A type of fall arrest system that consists of a platform installed within four vertical feet of the fall hazard, is at least 45 inches wide and is equipped with a standard guardrail system on all exposed sides.
- **Catenary line** - See horizontal lifeline.
- **Competent person.** An individual knowledgeable of fall protection equipment, including the manufacturer's recommendations and instructions for the proper use, inspection, and maintenance; and who is capable of identifying existing and potential fall hazards; and who has the authority to take prompt corrective action to eliminate those hazards; and who is knowledgeable of the rules contained in this part regarding the installation, use, inspection, and maintenance of fall protection equipment and systems.
- **Connector.** A device which is used to connect parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabiner, or it may be an integral component of part of the system (such as a buckle or D-ring sewn into a harness, or a snap hook spliced or sewn to a lanyard or self-retracting lanyard).
- **Deceleration device.** Any mechanism, such as a rope grab, ripstitch lanyard, specifically woven lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.
- **Deceleration distance.** The additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured as the distance between the location of an employee's full body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.
- **Dropline.** A vertical lifeline secured to an upper anchorage for the purpose of attaching a lanyard or device.
- **Equivalent.** Alternative designs, materials, or methods to protect against a hazard which the employer can demonstrate and will provide an equal or greater degree of safety for employees than the methods, materials or designs specified in this standard.
- **Fall arrest system.** A fall protection system that will arrest a fall from elevation. Fall arrest systems include personal fall arrest systems that are worn by the user, catch platforms, and safety nets.
- **Fall distance.** The actual distance from the worker's support to the level where a fall would stop.

- **Fall protection work plan.** A written planning document in which the employer identifies all areas on the job site where a fall hazard of 10 feet or more exists. The plan describes the method or methods of fall protection to be used to protect employees, and includes the procedures governing the installation, use, inspection, and removal of the fall protection method or methods which are selected by the employer.
- **Fall restraint system.** A system in which all necessary components function together to restrain/prevent an employee from falling to a lower level. Types of fall restraint systems include standard guardrail systems, personal fall restraint systems, warning line systems, or a warning line system and safety monitor.
- **Floor hole.** An opening measuring less than 12 inches but more than one inch in its least dimension in any floor, roof, platform, or surface through which materials but not persons may fall, such as a belt hole, pipe opening, or slot opening.
- **Floor opening.** An opening measuring 12 inches or more in its least dimension in any floor, roof, platform, or surface through which persons may fall.
- **Free fall.** The act of falling before a personal fall arrest system begins to apply force to arrest the fall.
- **Free fall distance.** The vertical displacement of the fall arrest attachment point on the employee's full body harness between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance, and lifeline/lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur.
- **Full body harness.** A configuration of connected straps that meets the requirements specified in ANSI Z359.1-2007, that may be adjustable to distribute a fall arresting force over at least the thighs, shoulders and pelvis, with provisions for attaching a lanyard, lifeline, or deceleration devices.
- **Full body harness system.** A full body harness and lanyard which is either attached to an anchorage meeting the requirements of this part; or it is attached to a horizontal or vertical lifeline which is properly secured to an anchorage(s) capable of withstanding the forces specified in this part.
- **Handrail.** A rail used to provide employees with a handhold for support.
- **Hardware.** Snap hooks, D-rings, bucklers, carabiners, adjusters, O-rings, that are used to attach the components of a fall protection system together.
- **Hazardous slope.** A slope where normal footing cannot be maintained without the use of devices due to the pitch of the surface, weather conditions, or surface material.
- **Horizontal lifeline.** A rail, rope, wire, or synthetic cable that is installed in a horizontal plane between two anchorages and used for attachment of a worker's lanyard or lifeline device while moving horizontally; used to control dangerous pendulum like swing falls.
- **Lanyard.** A flexible line of webbing, rope, or cable used to secure a positioning harness or full body harness to a lifeline or an anchorage point usually two, 4 or 6 feet long.
- **Leading edge.** The advancing edge of a floor, roof, or formwork which changes location as additional floor, roof, or formwork sections are placed, formed, or constructed.
- **Lifeline.** A vertical line from a fixed anchorage or between two horizontal anchorages, independent of walking or working surfaces, to which a lanyard or device is secured. Lifeline as referred to in this

text is one which is part of a fall protection system used as back-up safety for an elevated worker or as a restraint for workers on a flat or sloped surface.

- **Locking snap hook.** A connecting snap hook that requires two separate forces to open the gate; one to deactivate the gatekeeper and a second to depress and open the gate which automatically closes when released; used to minimize roll out or accidental disengagement.
- **Low pitched roof.** A roof having a slope equal to or less than 4 in 12.
- **Mechanical equipment.** All motor or human propelled wheeled equipment except for wheelbarrows, mopcars, robotic thermoplastic welders and robotic crimpers.
- **Personal fall arrest system.** A fall arrest system that is worn by the employee to arrest the employee in a fall from elevation. It consists of an anchor point, connectors, a full body harness, and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.
- **Personal fall restraint system.** A fall restraint system that is worn by the employee to keep the employee from reaching a fall point, such as the edge of a roof or elevated work surface. It consists of an anchor point, hardware assemblies, a full body harness and may include a lanyard, restraint lines, or suitable combinations of these.
- **Platform.** A work surface elevated above the surrounding floor or ground.
- **Positioning device system.** A full body harness or positioning harness that is worn by an employee, and is rigged to allow an employee to be supported on an elevated vertical or inclined surface, such as a wall, pole or column and work with both hands free from the body support.
- **Positioning harness.** A body support that meets the requirements specified in ANSI Z359.3-2007 that encircles and closes around the waist and legs with attachment elements appropriate for positioning work.
- **Qualified person.** One who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, the work, or the project.
- **Restraint line.** A line from a fixed anchorage or between two anchorages to which an employee is secured in such a way as to prevent the worker from falling to a lower level.
- **Roof.** The exterior surface on the top of a building. This does not include floors or formwork which, because a building has not been completed, temporarily become the top surface of a building.
- **Roofing work.** The hoisting, storage, application, and removal of roofing materials and equipment, including related insulation, sheet metal, and vapor barrier work, but not including the construction of the roof deck.
- **Rope grab.** A fall arrester that is designed to move up or down a lifeline suspended from a fixed overhead or horizontal anchorage point, or lifeline, to which the full body harness is attached. In the event of a fall, the rope grab locks onto the lifeline rope through compression to arrest the fall. The use of a rope grab device is restricted for all restraint applications.
- **Runway.** A passageway for persons, elevated above the surrounding floor or ground level, such as a footwalk along shafting or a walkway between buildings.
- **Safety line -** See lifeline.
- **Safety monitoring system.** A type of fall restraint system in which a competent person whose only job responsibility is to recognize and warn employees of their proximity to fall hazards when

working between the warning line and the unprotected sides and edges, including the leading edge of a low pitch roof or other walking/working surface.

- **Safety net system.** A type of fall arrest system.
- **Safety watch system.** A fall protection system in which a competent person monitors one worker who is engaged in repair work or servicing equipment on low pitch roofs only.
- **Self-rescue device.** A piece of equipment designed to allow a person, who is suspended in a personal fall arrest system, to independently rescue themselves after the fall by moving the device up or down until they reach a surface and are no longer suspended.
- **Self-retracting lifeline.** A deceleration device which contains a wound line which may be slowly extracted from, or retracted onto, the device under slight tension during normal employee movement, and which after onset of a fall, automatically locks the drum and arrests the fall.
- **Shock absorbing lanyard.** A flexible line of webbing, cable, or rope used to secure a full body harness to a lifeline or anchorage point that has an integral shock absorber.
- **Snap hook** - See "locking snap hook."
- **Standard guardrail system.** A type of fall restraint system that is a vertical barrier consisting of a top rail and mid rail, and toe board when used as falling object protection for persons who may work or pass below, that is erected along all open sides or edges of a walking/working surface, a floor opening, a floor hole, wall opening, ramp, platform, or runway.
- **Standard strength and construction.** Any construction of railings, covers, or other guards that meets the requirements of this part.
- **Static line** - See horizontal lifeline.
- **Steep pitched roof.** A roof having a slope greater than 4 in 12.
- **Toe board.** A vertical barrier at floor level erected along all open sides or edges of a floor opening, platform, runway, ramp, or other walking/working surface to prevent materials, tools, or debris from falling onto persons passing through or working in the area below.
- **Unprotected sides and edges.** Any open side or edge of a floor, roof, balcony/deck, platform, ramp, runway, or walking/working surface where there is no standard guardrail system, or parapet wall of solid strength and construction that is at least 39 inches in vertical height.
- **Walking/working surface.** Any area including, but not limited to, floors, a roof surface, bridge, the ground, and any other surfaces whose dimensions are 45 inches or more in all directions, through which workers can pass or conduct work. A walking/working surface does not include vehicles or rolling stock on which employees must be located in order to perform their job duties.
- **Wall opening.** An opening at least 30 inches high and 18 inches wide, in any wall or partition, through which persons may fall, such as an opening for a window, a yard arm doorway or chute opening.
- **Warning line system.** A barrier erected on a walking and working surface or a low pitch roof (four in twelve or less), to warn employees that they are approaching an unprotected fall hazard(s).

SECTION 5 LADDERS

Ladder Condition, Inspection, Repair, Storage and Transport

- All ladders must meet the requirements of the relevant ANSI A14 Standard.
- Manufactures' labels, including ladder's rated capacity, must be readable at all times. Read and follow the manufacturer's instructions label affixed to the ladder. Follow manufacturer's care and maintenance instructions.
- Portable ladders must be **kept in good, usable condition**. Good, usable condition includes, but is not limited to:
 - Joints between the steps or rungs and the side rails are tight.
 - Rungs, cleats, or steps are not bent, broken, or missing.
 - Side rails are not bent, broken, or split.
 - All bolts and rivets are in place and secure.
 - Hardware, fittings and accessories are securely attached and working properly.
 - Ropes are not frayed or badly worn.
 - Moveable parts operate freely without binding or excessive play.
 - Safety feet and other auxiliary equipment are not excessively worn.
 - Metal components are not corroded.
 - There are no other faulty or defective components.
- Wood ladders **must not be coated** with an opaque covering except for the minimum amount necessary for identification and warning information which may be placed on one face only of a side rail.
- A competent person must **inspect a ladder**:
 - When required by the below Table, Ladder Inspection Criteria. and
 - After any other occurrence that could affect safe use.
- Any **ladder with structural damage** or other hazardous defect must be:
 - Marked to identify it as defective or tagged with "do not use" or similar language. and
 - Removed from service.

Note: Ladders subjected to certain acids or alkali materials may experience chemical corrosion and a reduction in strength. Consult the manufacturer or a qualified person prior to use.

TABLE LADDER INSPECTION CRITERIA	
When The Ladder Is:	Do The Following:
First placed into service and periodically while in service	<ul style="list-style-type: none"> • Inspect the ladder for visible defects, including, but not limited to: <ul style="list-style-type: none"> • Working parts. and • Rung or step connections to the side rails.
Damaged by impact or tips over	<ul style="list-style-type: none"> • Visually inspect the ladder for dents, bends, cracks or splits • Check: <ul style="list-style-type: none"> • Rung or step connections to the side rails. • Hardware connections.

	<ul style="list-style-type: none"> • Rivets for shear damage. • All other components.
Exposed to excessive heat such as a fire	<ul style="list-style-type: none"> • Visually inspect the ladder for damage. • Test for deflection and strength characteristics using the “in-service use tests” contained in the appropriate ANSI standard. <p>EXEMPTION: Job-made wooden ladders are not to be subjected to load or impact tests. Those tests may weaken lumber components or fasteners, causing hidden damage that could result in sudden failure during use.</p>

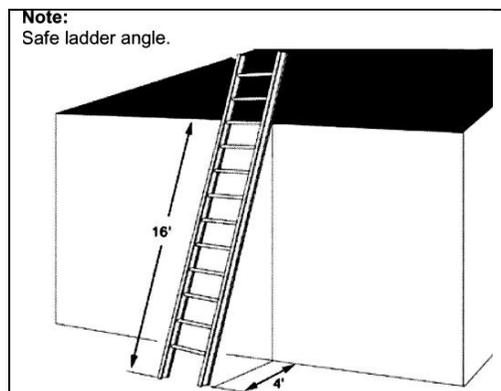
- All repairs must restore the ladder to a condition meeting its original design criteria.
- Repairs to a defective side rail are prohibited.
Note: A commercially manufactured ladder with a defective side rail cannot be repaired by the user. Side rail repair can only be done by the manufacturer.
- All repairs must restore the ladder to a condition meeting its original design criteria.
- Materials must not be put on ladders in storage. Ladders should be stored on racks designed to protect them when not in use. The racks should have enough supporting points to prevent the ladder from sagging. Do not store ladders near sources of heat, moisture, or dampness.
- Ladders must be properly supported while transporting them on vehicles.
- Ensure ladders transported in a truck rack are positively secured in a fixed position that prevents chafing or abrasion.
Note: Securing the ladder to each support point will greatly reduce damage due to road shock.

Ladder Use

- Do not stand on tables, chairs, boxes, railing, pallets or other improvised climbing devices to reach high places. Use a ladder or stepstool.
- Ladders can only be used for their intended purpose.
- Unless specifically recommended by the manufacturer, **do not use a ladder as a:**
 - Brace.
 - Skid.
 - Lever.
 - Guy or gin pole.
 - Gangway.
 - Platform.
 - Scaffold plank.
 - Material hoist.
- Ladders must **not be overloaded**. Do not exceed the ladders rated capacity.
- Protect ladders that are set up in a location where they **could be displaced** by workplace activities or traffic by either:
 - Securing the ladder to prevent accidental displacement. or

- Using a barricade to keep the activities or traffic away from the ladder.
- Protect ladders that are **set up in front of doors** that open towards the ladder by doing at least one of the following:
 - Block the door open.
 - Lock the door.
 - Guard the door to keep it from opening into the ladder.
- **Support**
 - Place the ladder either:
 - With a secure footing on a firm, level support surface. or
 - Secure the ladder to prevent accidental displacement.
 - Make sure a ladder is not placed on ice, snow, or other slippery surface unless the ladder is prevented from accidental displacement by either:
 - Securing it. or
 - Providing the ladder with slip-resistant feet.

Note: Slip-resistant feet are not a substitute for care in placing, lashing, or holding a ladder that is used on a slippery surface.
 - Make sure ladders are not placed on boxes, barrels, or other unstable bases to obtain additional height.
 - Place a straight ladder so the side rails are equally supported by the top support, unless the ladder is equipped with a single support attachment.
 - Make sure the top support of the ladder is reasonably rigid and able to support the load.
- **Set Up**
 - Set up non-self-supporting ladders at a safe angle. The ladder is set at the proper angle when the horizontal distance from the top support to the foot of the ladder is approximately $\frac{1}{4}$ the working length of the ladder.
 - Set up job-made ladders with spliced side rails so that the horizontal distance from the top support to the foot of the ladder is not greater than $\frac{1}{8}$ the working length of the ladder.



- **Climbing and Descending**
 - Both hands must be free to hold on to the ladder.
 - Face the ladder at all times when climbing or descending.
 - Keep ladders free of oil, grease, or other slippery materials.
 - Keep the area around the top and bottom of ladders clear.
 - Single-rail ladders are may not be used.

- **Getting On and Off Ladders at Upper Levels**
 - Make sure a ladder used to access an upper level has the side rails extended at least 3 feet (0.9 m) above the landing surface if the ladder length permits.
 - Do the following if a ladder used to access an upper level is not long enough to obtain a 3-foot side rail extension above the landing surface:
 - Secure the ladder at the top to a rigid support that will not deflect.
 - Provide a grasping device, such as a grab-rail, to assist in mounting and dismounting the ladder.
 - Make sure the ladder deflection under a load would not, by itself, cause it to slip off its support.
 - If two or more separate ladders are used to reach an elevated work area, make sure that the ladders are offset with a platform or landing between them.

EXEMPTION: A platform or landing is not required when a portable ladder is used to reach a fixed ladder on structures such as utility towers and billboards where the bottom of the fixed ladder is elevated to limit access.

- **Persons on Ladders**
 - Do not jump from ladders or step stools.
 - Only one person is allowed on a ladder at a time, unless specifically labeled for 2 person use.
 - Make sure a ladder is not moved, shifted, or adjusted while anyone is on it.
 - Secure the ladder at the top and bottom when working from it.
 - Maintain a three-point contact when using a ladder.
 - When performing work from a ladder, face the ladder and do not lean backward or sideways from the ladder. Do not over reach and never let your belt buckle pass beyond the ladder rail.
 - Use a safety belt with a lanyard that is secured to the ladder when doing any work that:
 - Requires the use of both hands. and
 - Is done from a ladder more than 25 feet above the ground or floor.
 - Work being done from a ladder more than 25 feet above the ground or floor is prohibited if the work requires wearing eye protection or a respirator.

- **Exposed Electrical Hazards**
 - Do not use any type of ladder within 10 feet of high voltage lines.
 - Use ladders with nonconductive side rails where the ladder could contact uninsulated, energized electric lines or equipment. Metal ladders or other ladders specifically designed to permit

grounding or dissipation of static electricity may be used around high-static electrical fields if all of the following are met:

- Using nonconductive ladders would present a greater hazard than using conductive ladders.
- Ladders are prominently marked and identified as being conductive.
- Ladders are grounded when used near energized lines or equipment.

Note: Examples of ladders with conductive side rails are metal ladders, and wood or reinforced plastic ladders with metal side rail reinforcement.

- **Multi-Section Ladders (Extension Ladders)**

- Make sure not to tie or fasten ladder sections together to make longer ladders unless:
 - The ladder manufacturer endorses this type of use; and
 - Hardware fittings specifically designed for this purpose are available.
- Make sure each section of a multi-section ladder, when fully extended and locked in position to be used, overlaps the adjacent section as indicated in the below Table, Minimum Required Overlap for Extension Ladders.

TABLE MINIMUM REQUIRED OVERLAP FOR EXTENSION LADDERS	
If the ladder size (feet) is:	Minimum required overlap (feet) for a two-section ladder is:
Up to and including 36	3
Over 36 up to and including 48	4
Over 48 up to and including 60	5

- **Self-Supporting Ladders (Step Ladders)**

- Do not use self-supporting ladders as a single ladders or in the partially closed position.
- Make sure stepladders are fully opened with the spreaders locked.
- Make sure not to climb on the rear braces of a self-supporting ladder unless they are designed and recommended for that purpose by the manufacturer.
- Employees are prohibited from standing or stepping on the:
 - Top cap and top step of a step or trestle ladder.
 - Bucket or pail shelf of a self-supporting ladder.

EXEMPTION: The restriction against using the top step is not applicable if it is eighteen inches or more below the top cap.

- **Ladder Stands (rolling stair cases) & Scaffold Towers (rolling scaffold platforms)**

- All ladder stand and scaffold tower components must be capable of supporting at least four times the intended work load.
- The maximum work level height must not exceed four times the minimum base dimension. Suitable outrigger frames can be used to achieve this least base dimension or provisions must be made to guy or brace the unit from tripping.

- The minimum platform width for any work level must not be less than 20 inches for scaffold towers. Ladder stands must have a minimum step width of 16 inches and must be fabricated from a slip resistant tread.
- All scaffold towers having a work level of 10 feet or more must be equipped with a standard guard rail or a personal fall arrest system must be used.
- For scaffold towers, a climbing ladder must be provided for proper access and so located that its use will not have a tendency to tip the scaffold tower.
- Ladder stands having more than 5 steps or 60 inches vertical height to the top step must be equipped with handrails measuring a minimum of 29 inches high.
- All ladder stand work levels at or above 4 feet must be provided with a standard guard rail.
- All scaffold tower and ladder stand wheels or casters must be provided with a positive wheel and/or swivel lock to prevent movement. Ladder stands must have at least two of the four casters being of the swivel type.
- Where leveling of the elevated work platform is required, screw jacks or other suitable means for adjusting the height must be provided in the base section of the ladder stand.

- **Fixed Ladders**
 - All fixed ladders, including the appurtenances and fasteners must meet the load requirements.
 - All rungs must have a minimum diameter of $\frac{3}{4}$ inch for metal ladders.
 - The distance between rungs, cleats and steps must be uniform and not more than 12 inches. They must not have any splinters, sharp edges, burrs or projections. The rungs must be at least 16 inches long.
 - The rungs of an individual rung ladder must not allow the climbers foot to slide off the end of the rung.
 - Side rails that might be used as a climbing aid must afford adequate gripping surface without sharp edges, splinters or burrs.
 - All component welding must be according to the “Code for Welding in Building Construction”—AWSD11.0-1969.
 - All components must be protected from deterioration caused by corrosion or rusting.
 - The perpendicular distance from the centerline of the rungs must be at least 36 inches to the nearest object on the climbing side of the ladder and 7 inches to the nearest object on the back side of the ladder. There must also be a minimum of 15 inches of lateral direction clearance from the centerline of the ladder.
 - The step across distance from the nearest edge of the ladder to the nearest edge of the structure must not be more than 12 inches.
 - Cages, wells or ladder climbing safety systems must be on all fixed ladders where the length of climb is more than 24 feet. Where the climb is more than 50 feet, a rest platform must be provided at every 50 feet.
 - The side rails of through or side step ladder extensions must extend 3 $\frac{1}{2}$ feet above the landing.
 - Fixed ladders must be in a safe condition at all times. Documented inspections must be conducted on a quarterly basis by a competent person.

Training

- Employees must be trained to recognize ladder hazards and the procedures to minimize these hazards.
- A competent person must train employees that use ladders in at least the following topics:
 - The proper construction, use, placement, and care in handling ladders.
 - The maximum intended load capacities of ladders that are used.
 - The requirements of regulations pertaining to ladders.
- Employees must be retrained as necessary to make sure they know and understand the content of the original training.

Ladder Definitions

- **Cage.** An enclosure that encircles the climbing space of a fixed ladder. It is fastened to the ladder side rails or to the structure and may also be called a cage or basket guard.
- **Cleat.** A ladder crosspiece used in climbing or descending. Also called a step or rung.
- **Equivalent.** Alternative design, material or method to protect against a hazard. You have to demonstrate it provides an equal or greater degree of safety for employees than the method, material or design specified in the rule.
- **Extension ladder.** A non-self-supporting portable ladder consisting of two or more sections. The sections travel in guides or brackets that allow the length of the ladder to be changed. The size is designated by the sum of the lengths of each section, measured along the side rails.
- **Failure.** The ladder or ladder component loses the ability to carry the load, breaks, or separates into component parts.
- **Fastenings.** A fastening is a device to attach a ladder to a structure, building, or equipment.
- **Fixed ladder.** A ladder permanently attached to a structure, building, or equipment.
- **Grab bars.** Handholds placed adjacent to or as an extension above ladders for the purpose of providing access beyond the limits of the ladder.
- **Job-made ladder.** A ladder that is made, not commercially manufactured, to fit a specific job situation. They are for temporary use until a particular phase of construction is completed or until permanent stairways or fixed ladders are ready to use.
- **Individual-rung/step ladder.** A fixed ladder consisting of individual steps or rungs mounted directly to the side or wall of the structure, building, or equipment.
- **Ladder.** A device having steps, rungs, or cleats that can be used to climb or descend.
- **Ladder safety device.** Any device, other than a cage or well, designed to arrest the fall of a person using a fixed ladder.
- **Ladder type.** The designation that identifies the maximum intended load (working load) of the ladder. Ladder types are as follows:

Duty Rating	Ladder Type	Use	Max. Intended Load
Extra Heavy-Duty	IA	Industry, utilities, contractors	300 lbs.
Heavy-Duty	I	Industry, utilities, contractors	250 lbs.
Medium-Duty	II	Painters, offices, light maintenance	225 lbs.

Light-Duty	III	General household use	200 lbs.
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- **Landing.** Any area such as the ground, roof, or platform that provides access or egress to a ladder.
- **Maximum intended load.** The total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a ladder or ladder component at any one time. It is sometimes referred to as working load.
- **Pitch.** The included angle between the horizontal and the ladder, measured on the opposite side of the ladder from the climbing side.
- **Portable ladder.** A ladder that can be readily moved or carried.
- **Reinforced plastic.** A plastic that has high-strength fillers embedded in the base resin to increase strength.
- **Reinforced plastic ladder.** A ladder whose side rails are reinforced plastic. The crosspieces, hardware, and fasteners may be made of metal or other suitable material.
- **Rung.** A ladder crosspiece used in climbing or descending. Also called a cleat or step.
- **Side-step ladder.** A fixed ladder that requires a person to step to the side of the ladder side rails to reach the landing.
- **Single ladder.** A non-self-supporting portable ladder, nonadjustable in length, consisting of one section. The size is designated by the overall length of the side rail.
- **Single-rail ladder.** A portable ladder with crosspieces mounted on a single rail. Single-rail ladders are prohibited from use.
- **Special-purpose ladder.** A portable ladder that is made by modifying or combining design or construction features of the general-purpose types of ladders in order to adapt the ladder to special or specific uses.
- **Step.** A ladder crosspiece used in climbing or descending. Also called a cleat or rung.
- **Stepladder.** A self-supporting portable ladder, nonadjustable in length, with flat steps and hinged at the top. The size is designated by the overall length of the ladder measured along the front edge of the side rails.
- **Through ladder.** A fixed ladder that requires a person to step between the side rails of the ladder to reach the landing.
- **Trestle ladder.** A self-supporting portable ladder, nonadjustable in length, consisting of two sections hinged at the top to form equal angles with the base. The size is designated by the length of the side rails measured along the front edge.
- **Well.** A walled enclosure around a fixed ladder that provides a person climbing the ladder with the same protection as a cage.
- **Working length.** The length of a non-self-supporting ladder, measured along the rails, from the base support point of the ladder to the point of bearing at the top.

SECTION 6 ELEVATED WORK PLATFORMS

Design, Maintenance, and Modifications

- Only aerial lifts meeting ANSI Standards will be used.
- Elevated work platforms can only be used for their intended purpose, as specified by the manufacturer.
- Misuse of an elevating work platform includes, but is not limited to:
 - Using the elevating work platform as a crane.
 - Using the platform to jack the wheels off the ground unless the machine was designed for that purpose by the manufacturer.
 - Operating the elevating work platform from a truck, trailer, railway car, floating vessel, scaffold, or similar equipment unless the application is approved in writing by the manufacturer.
- Aerial lifts must be maintained, repaired and inspected according to the manufacturer's recommendations and must be maintained in a proper operating condition. Any lift not in proper working condition, must be immediately removed from service.
- Only qualified persons are allowed to make repairs.
- Written approval from the manufacturer is required before making any modification or addition that affects the safe operation, stability, intended use, or the mechanical, hydraulic, or electrical integrity of the aerial lift. Make sure the modified aerial lift is:
 - At least as safe as it was before being modified; and
 - Any change to the insulated portion of the aerial lift does not reduce the insulating value.
Note: If the original manufacturer is no longer in business, an equivalent entity such as a nationally recognized testing laboratory may approve modification.
- Written records must be maintained, documenting all inspections, repairs, modifications, etc. Records must be maintained for a minimum of 4 years.
- The engine must be shut-down while filling fuel tanks.
- Fill fuel tanks and charge batteries only in areas that are:
 - Open and well-ventilated. and
 - Free of flame, sparks, or other hazards that may cause fire or explosion.
- If an operator suspects a malfunction of the elevating work platform or encounters any hazard or potentially unsafe condition, they must do all of the following:
 - Cease operation.
 - Report the problem or malfunction.
 - Discontinue using the elevating work platform until problems or malfunctions that affect safe operation have been corrected.

Operator Requirements

- Only trained and authorized employees are allowed to operate aerial lifts.
- Training must be conducted by a qualified person in the intended purpose and function of each control.
- Operator training must cover at least the following items:
 - General instruction on the inspection, application, and operation of aerial lifts. Include recognizing and avoiding hazards associated with their operation.

- Purpose and use of manuals. Include proper storage of the manuals on the vehicle when not in use.
- Prestart inspection.
- Responsibilities associated with problems or malfunctions affecting the operation of the aerial lift.
- Factors affecting stability.
- Purpose of placards and decals.
- Workplace survey.
- Safety rules and regulations pertinent to the industry.
- Authorization to operate an aerial lift.
- Operator warnings and instructions.
- Proper use of personal fall protection equipment.
- Operator trainees must actually operate the aerial lift, under the direction of a qualified person, for enough time to demonstrate proficiency.
- An operator must be retrained if evaluation and observation of the operator indicates retraining is necessary.
- Operators must be instructed in all of the following before they are directed to operate an aerial lift with which they are not familiar:
 - Location of the manuals;
 - Purpose and function of all controls;
 - Safety devices and operating characteristics specific to the aerial lift.
- Records of the operators trained on each model of aerial lift must be maintained for a minimum of four years.

Operator Prestart Inspections

- The operator must do a prestart inspection of the aerial device as shown in the below Table, Operator Prestart Inspection.
- Elevating Work Platforms must be inspected according to Table 2, Elevating Work Platform Inspections.
- A qualified person must examine or test any items found during the inspection that are thought to be unsafe, to determine if they constitute a safety hazard.
- All unsafe items must be replaced or repaired before use.

TABLE OPERATOR PRESTART INSPECTION	
Component or system:	Test or inspect for the following:
Operating controls and associated mechanisms	Conditions interfering with proper operation
Visual and audible safety devices	Malfunctions
Hydraulic or pneumatic systems	Visible deterioration or excessive leaks
Fiberglass and other insulating components	Visible damage or contamination
Operational and instructional markings	That they are present and legible
Electrical systems of or related to the aerial device	Malfunction and for signs of excessive deterioration, dirt, and moisture accumulation

Locking devices, bolts, pins, and other fasteners	That they are in-place and not loose or deformed	
TABLE 2 ELEVATING WORK PLATFORM INSPECTIONS		
Type of inspection:	When required:	Items to inspect:
Prestart	<ul style="list-style-type: none"> • At the beginning of each shift. 	<p>Do a visual inspection and functional test including at least the following:</p> <ul style="list-style-type: none"> • Operating and emergency controls; • Safety devices; • Personal protective devices, including fall protection; • Air, hydraulic and fuel system leaks; • Cables and wiring harness; • Loose or missing parts; • Tires and wheels; • Placards, warnings, control markings, and required manuals; • Outriggers, stabilizers, and other structures; • Guardrail system; • Items specified by the manufacturer.
Frequent	<ul style="list-style-type: none"> • Elevating work platforms that have been in service 3 months or 150 hours, whichever comes first. and • Before putting elevating work platforms back in service that have been out of service for more than 3 months. <p>Note: Newly purchased used equipment should be given the equivalent of a frequent inspection before being put into service.</p>	<ul style="list-style-type: none"> • All functions and their controls for speeds, smoothness, and limits of motion; • Emergency lowering means (manually propelled only); • Lower controls including the provisions for overriding of upper controls (self-propelled and boom-supported); • All chain and cable mechanisms for adjustment and worn or damaged parts; • All emergency and safety devices; • Lubrication of all moving parts, inspection of filter element(s), hydraulic oil, engine oil, and coolant as specified by the manufacturer; • Visual inspection of structural components and other critical components such as fasteners, pins, shafts, turntable attachment bolts (boom-supported only), and locking devices; • Placards, warnings, and control markings; • Additional items specified by the manufacturer.
Annual	<ul style="list-style-type: none"> • No later than 13 months from the date of the last annual 	<ul style="list-style-type: none"> • All items specified by the manufacturer for an annual inspection.

	inspection	
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Workplace Survey

- The operator must survey the area, before using an aerial lift, for hazards such as:
 - Un-tamped earth fills.
 - Slopes.
 - Ditches.
 - Drop-offs and floor obstructions.
 - Debris.
 - Overhead obstructions and electrical conductors.
 - Weather conditions.
 - Unauthorized persons in the area.
 - Overhead obstructions and high voltage conductors.
 - Hazardous Locations.
 - Inadequate surface and support to withstand the load imposed on them by the elevating work platform in all operating configurations.
 - Wind and weather conditions.
 - Unauthorized persons in the area.
 - Other possible unsafe conditions.

Before and During Use

- Set the brakes and make sure outriggers, when used, are positioned on pads or a solid surface.
- Install wheel chocks when using the aerial lift on an incline if they can be installed safely.
- Positioning the elevating work platform against another object in order to steady the platform is not allowed.
- Do the following when other moving equipment or vehicles are present:
 - Take special precautions to meet the requirements of local ordinances or workplace safety standards. and
 - Use warnings such as, but not limited to, flags, roped-off areas, flashing lights, and barricades.

Elevating and Lowering the Platform

- The operator must make sure all of the following are done before each elevation of the platform:
 - The elevating work platform is on a surface that is within the limits specified by the manufacturer.
 - Outriggers, stabilizers, extendable axes, or other stability enhancing means are used as required by the manufacturer.
 - Guardrails are installed and access gates or openings are closed per the manufacturer's instructions.

- The load and its distribution on the platform and any platform extension does not exceed the manufacturer's rated capacity for the configuration being used.
 - There is adequate clearance from overhead obstructions.
 - The minimum safe approach distance (MSAD) to energized power lines and parts listed in Table, Minimum Safe Approach Distance, is maintained.
 - All persons on the platform are wearing fall protection devices and other safety gear if required.
 - Prevent rope, electric cords, hoses and similar objects from becoming entangled with the platform.
 - The operator must make sure the area is clear of personnel and equipment before lowering the platform.
 - Remove all personnel from a platform that has been caught, snagged, or otherwise prevented from normal motion before attempting to free it using ground controls.
- Note:** If possible, reverse the platform controls to free a platform that is caught, snagged, or otherwise prevented from normal motion by an adjacent structure or other obstacle.

TABLE MINIMUM SAFE APPROACH DISTANCE	
Voltage	Minimum Safe Approach Distance
Less than 300 volts (insulated lines)	3 feet (0.9 m)
Less than 300 volts (uninsulated lines)	10 feet (3.1 m)
300 volts to 50 kv	10 feet (3.1 m)
More than 50 kv	10 feet (3.1 m) .+ 0.4 inches (1.0 cm) for each 1 kv over 50 kv

Working from the Platform

- The boom and platform load limits specified by the manufacturer must not be exceeded.
- Employees must stand firmly on the floor of the platform and may not:
 - Sit or climb on the edge of the platform; or
 - Use guardrails, planks, ladders, or any other device to gain additional height or reach.
- Climbers attached to the feet are not allowed when working from the platform.
- All persons on the platforms of boom-supported elevating work platforms must wear a full body harness with a lanyard attached to either:
 - The manufacturer's recommended attachment point.
- An employee must never attach a lanyard to an adjacent pole, structure, or equipment.

Moving the Aerial Lift

- The boom must be properly cradled and the outriggers in the stowed position before moving an aerial lift.

EXEMPTION: The aerial lift may be moved with the boom elevated and personnel on the platform only if the equipment was specifically designed for this type of operation.
- The operator must limit travel speed according to conditions, including:
 - Condition of the ground or support surface.

- Congestion.
- Visibility.
- Slope.
- Location of personnel.
- Other factors that may create a hazard of collision or injury to personnel.
- The operator must do all of the following before and while driving with the platform elevated:
 - Maintains a clear view of the path of travel.
 - Keeps a safe distance from obstacles, debris, drop-offs, holes, depressions, ramps, and other hazards to safe travel.
 - Keeps a safe distance from overhead obstacles.

Aerial Lift Definitions

- **Aerial device.** A vehicle-mounted device, telescoping or articulating, or both, which is used to position personnel.
- **Aerial ladder.** A vehicle-mounted elevating work platform consisting of a single or multiple-section extensible ladder. It may or may not have a platform at the top.
- **Aerial lift.** An aerial device mounted on a vehicle such as a truck, trailer, or all-terrain vehicle.
- **Approved.** Listed or approved by a nationally recognized testing laboratory or a federal agency that issues approvals for equipment such as the Mine Safety and Health Administration (MSHA); the National Institute for Occupational Safety and Health (NIOSH); Department of Transportation; or U.S. Coast Guard, which issue approvals for such equipment.
- **Articulating-boom work platform.** A vehicle-mounted elevated work platform with 2 or more hinged boom sections.
- **Boom-supported elevating work platform.** A self-propelled, integral chassis, elevating work platform with a boom-supported platform that can be positioned completely beyond the base.
- **Chassis.** The part of a nonvehicle-mounted elevating work platform that provides mobility and support for the elevating assembly and platform.
- **Elevating work platform.** A device used to position personnel, along with their necessary tools and materials, at work locations. It includes a platform and an elevating assembly. It may be vehicle-mounted or have an integral chassis for mobility and as a means of support.
- **Extensible-boom work platform.** A vehicle-mounted elevating work platform with a telescopic or extensible boom.
- **Manually propelled elevating work platform.** A manually propelled, integral chassis, elevating work platform with a platform that cannot be positioned completely beyond the base.
- **Platform.** The portion of an elevating work platform intended to be occupied by personnel. It may also be called a basket, bucket, stand, or similar term.
- **Rated capacity.** The designed carrying capacity of the elevating work platform as specified by the manufacturer.
- **Self-propelled elevating work platform.** A self-propelled, integral chassis, elevating work platform with a platform that cannot be positioned completely beyond the base.

- **Type designation.** A code to identify types of elevating work platforms. It is used to determine if an elevating work platform can be used in a specific classified or unclassified location. An unclassified location is an area that is not designated as a Class 1, 2, or 3 location.
 - **D** refers to elevating work platforms that are diesel-engine-powered that have minimum safeguards against inherent fire hazards.
 - **DS** refers to diesel-powered elevating work platforms that, in addition to meeting all the requirements for type D elevating work platforms, are provided with additional safeguards to the exhaust, fuel and electrical systems.
 - **DY** refers to diesel-powered elevating work platforms that have all the safeguards of the DS elevating work platforms and, in addition, any electrical equipment is completely enclosed. They are equipped with temperature-limitation features.
 - **E** refers to electrically powered elevating work platforms that have minimum acceptable safeguards against inherent fire hazards.
 - **ES** refers to electrically powered elevating work platforms that, in addition to all of the requirements for the E elevating work platforms, have additional safeguards to the electrical system to prevent emission of hazardous sparks and to limit surface temperatures.
 - **EE** refers to electrically powered elevating work platforms that, in addition to all of the requirements for the E and ES type elevating work platforms, have their electric motors and all other electrical equipment completely enclosed.
 - **EX** refers to electrically powered elevating work platforms that differ from E, ES, or EE type elevating work platforms in that the electrical fittings and equipment are designed, constructed, and assembled to be used in atmospheres containing flammable vapors or dusts.
 - **G** refers to gasoline-powered elevating work platforms that have minimum acceptable safeguards against inherent fire hazards.
 - **GS** refers to gasoline-powered elevating work platforms that are provided with additional exhaust, fuel, and electrical systems safeguards.
 - **LP** refers to liquefied-petroleum-gas-powered elevating work platforms that, in addition to meeting all the requirements for type G elevating work platforms, have minimum acceptable safeguards against inherent fire hazards.
 - **LPS** refers to liquefied-petroleum-gas-powered elevating work platforms that, in addition to meeting the requirements for LP type elevating work platforms, have additional exhaust, fuel, and electrical systems safeguards.
- **Vertical tower.** A vehicle-mounted elevating work platform having a platform that can be raised along a vertical axis.

**SECTION
FORMS AND ATTACHMENTS**

The following forms and attachments, contained in the pages hereafter, shall be used to support the Exposure Control Plan.

- Certification of Training-Fall Protection
- Certification of Training-Ladders
- Certification of Training-Scaffolds
- Certification of Training-Elevated Work Platforms
- Fall Protection Competent Person Evaluation
- Lift Pre-Start Inspection and Workplace Survey
- Site Specific Fall Protection Work Plan

CERTIFICATION OF TRAINING
Fall Protection

I certify that I received training on the company’s Fall Protection Program. The training session included the following:

- Hazard recognition in the areas of potential fall hazards in the work area and information on the actual identified hazards on the site.
- The employee’s role in the fall protection program.
- The regulations concerning fall protection.
- Methods of fall protection and fall restraint.
- Procedures for erecting, assembly, handling, inspection, maintenance and disassembly of fall protection systems.
- The employee’s role in safety monitoring and safety watch systems.
- Procedures for the handling and storage of tools and materials.
- Communication procedures.
- Overhead protection.
- Rescue procedures.

I fully understand the requirements as explained during this training session and agree to follow the safe work practices that have been explained.

Employee Name:	Job Title:	
Signature:		Date:

Qualified Trainer Name:	Job Title:	
Signature:		Date:

**CERTIFICATION OF TRAINING
Ladders**

I certify that I received training on the company’s Safe Ladder Procedures. The training session included the following:

- How to recognize ladder hazards and the procedures to minimize these hazards.
- The proper construction, use, placement, and care in handling ladders.
- The maximum intended load capacities of ladders that are used. Requirement to only use ladders with readable labels.
- The regulations concerning ladder safety.

I fully understand the requirements as explained during this training session and agree to follow the safe work practices that have been explained.

Employee Name:	Job Title:
Signature:	Date:

Qualified Trainer Name:	Job Title:
Signature:	Date:

CERTIFICATION OF TRAINING
Scaffolds

I certify that I received training on the company’s Safe Scaffold Procedures. The training session included the following:

- How to recognize the hazards associated with the type of scaffold used.
- An understanding of the procedures to control or minimize the hazards.
- Hazards in the work area and how to deal with them, including:
 - Electrical hazards.
 - Fall hazards.
 - Falling object hazards.
- How to erect, maintain, and disassemble the fall protection and falling object protection systems being used.
- How to:
 - Use the scaffold.
 - Handle materials on the scaffold.
- The load-carrying capacity and maximum intended load of the scaffold.

I fully understand the requirements as explained during this training session and agree to follow the safe work practices that have been explained.

Employee Name:	Job Title:
Signature:	Date:

Qualified Trainer Name:	Job Title:
Signature:	Date:

**CERTIFICATION OF TRAINING
Elevating Work Platforms**

I certify that I received training on the company’s Elevating Work Platforms Procedures. The training session included the following:

- General instruction on the inspection, application, and operation of aerial lifts. Include recognizing and avoiding hazards associated with their operation.
- Purpose and use of manuals. Include proper storage of the manuals on the vehicle when not in use.
- Prestart inspection.
- Responsibilities associated with problems or malfunctions affecting the operation of the aerial lift.
- Factors affecting stability.
- Purpose of placards and decals.
- Workplace survey.
- Safety rules and regulations pertinent to the industry.
- Authorization to operate an aerial lift.
- Operator warnings and instructions.
- Proper use of personal fall protection equipment.

Operator trainees must actually operate the aerial lift, under the direction of a qualified person, for enough time to demonstrate proficiency.

Employee Name:	Job Title:
Signature:	Date:

Note: Only sign after the employee has operated the lift, under the direction of a qualified person, for enough time to demonstrate proficiency.

Name of Lift(s) Trained and Authorized to Use:	
Qualified Trainer Name:	Job Title:
Signature:	Date:

FALL PROTECTION COMPETENT PERSON EVALUATION

This is a check list has been devised to help the employer determine if a designated person is a COMPETENT PERSON within the description and intent of the FALL RESTRAINT AND FALL ARREST STANDARD, WAC 296-155-24503 (7)					
Employee Name:			Job Title:		
Date:	Length of Time with the Company:		Length of Fall Protection Experience:		
TRAINING			KNOWLEDGE		
Does the individual have training in:	Yes	No	Does the individual have knowledge about:	Yes	No
Use of fall protection equipment			Fall hazards		
Inspection requirements of fall protection equipment			Use of protective systems		
Maintenance of fall protection equipment			Requirements of the standards		
Storage of fall protection equipment			Residual risk classifications		
Identifying fall hazards			Fall protection work plans		
Requirements of the fall restraint & fall arrest standards			Emergency removal of the injured		
Current first aid certification					
AUTHORITY					
Does the individual have authority to:				Yes	No
Take prompt corrective measures to eliminate existing and predictable hazards?					
Stop work until hazards are corrected or eliminated or controlled and remove employees from the hazardous area until proper systems are in place?					
COMMENTS					
				Yes	No
Do you consider the individual to be COMPETENT within the requirements of the Fall Protection Standards?					
If not, why?					
List areas to be strengthened:					
Employee Signature:				Date:	
Name and Signature of the Fall Protection Program Administrator:					
Name:	Job Title:	Signature		Date:	

LIFT PRE-START INSPECTION AND WORKPLACE SURVEY

THIS FORM MUST BE COMPLETED PRIOR TO EACH USE		
Operator Print Name and Signature	Equipment	Date
LIFT INSPECTION		
Item	OK	Defect Comments
Operating controls and associated mechanisms – Inspect for conditions interfering with proper operation.		
Visual and audible safety devices – Inspect for any malfunctions		
Hydraulic or pneumatic systems – Inspect for visible deterioration or excessive leaks.		
Fiberglass and other insulating components – Inspect for visible damage or contamination.		
Operational and instructional markings – Inspect that they are present and legible. Ensure required manuals are present		
Electrical systems of or related to the aerial device – Inspect for any malfunction and for signs of excessive deterioration, dirt, and moisture accumulation.		
Structure integrity of components – Inspect for loose, missing or damaged parts; cables, wiring, outriggers, stabilizers, etc.		
Locking devices, bolts, pins, and other fasteners – Inspect that they are in-place and not lose or deformed.		
Tires and wheels – Inspect wheels for loose nuts/bolts and tires for damage or excessive wear. (Low pressure if pneumatic)		
Personal Protection – Inspect guardrails, attachment points, toe-boards, guards, etc.		
ALL UNSAFE ITEMS MUST BE REPLACED OR REPAIRED BEFORE USE. REPORT ALL DEFICIENCIES TO SUPERVISOR		
WORKPLACE SURVEY		
Item	OK	Comments
Is there any un-tamped or soft earth fills where unit will be driven or ditches to be avoided?		
Are there any hazardous locations to avoid? (Hot or cold piping, natural gas equipment or piping, areas where chemicals are present, etc.)		
Are there any loose or damaged gutter grates that may be driven on?		
Are there any slopes, bumps, drop-offs, holes or floor obstructions to be aware of?		
Is there any product or debris present in the work area?		
Are there any hazardous floor conditions present?		
Is there hot work being done or fire hazards in the area to be aware of?		
Are there overhead obstructions or electrical conductors near your work?		
Is the current weather condition creating a hazardous work area?		
Are warning signs, flags and barriers or flashing lights set up when other moving equipment, vehicles or personnel are present?		
Are there any unauthorized persons in the work area?		

SITE SPECIFIC FALL PROTECTION WORK PLAN

Site Location:			Date and Project Duration:		
Identify all fall hazards 10' or more above the ground or lower level (check all that apply)					
Check	Fall Hazard		Check	Fall Hazard	
	Open-sided walking/working surfaces (i.e. roofs, open-sided floors)			Surfaces that do not meet the definition of a walking/working surface (top plate)	
	Floor openings			Wall openings	
	Skylight openings			Open-sided ramps, runways, platforms	
Methods of Fall Protection (LSO = Low Slop Only = 4:12 Roof Pitch or Less)					
Check	Method	Check	Method	Check	Method
	Guardrail system (LSO)		Personal fall arrest system		Vertical life line & rope grab
	Warning line (LSO)		Personal fall restraint system		Safety Watch System (LSO)
	Warning line w/safety monitor (LSO)		Positioning device system		Appropriate anchors for system
	Covers		Catch platform		Safety net
	Horizontal life lines	Name of Monitor/Watch, if Used			
Other methods of fall protection selected:					
	Boom lift		Scissor lift		Forklift w/man basket
	Scaffold w/guardrail	Other:			
Describe procedures for assembly, maintenance, inspection, disassembly of fall protection system to be used:					
Describe procedures for handling, storage, and securing tools, equipment, and materials:					
Describe methods of overhead protection for workers who may be in, or pass through work area:					
Describe methods to be implemented for prompt, safe removal of injured worker(s):					
Names and Signatures of those who have been trained in the Site Specific Fall Protection Work Plan: (use back of form if necessary)					
Print Name:		Signature:		Date:	
Name and Signature of the qualified and competent person:					
Name:		Job Title:	Signature		Date