

**COMPANY NAME HERE**

## Model Fall Protection Plan

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This fall protection plan is provided as a resource and not designed to address all work site scenarios and fall hazards. It is a set of policies and procedures designed to help identify and reduce fall hazards. It is recommended that builders discuss the written Fall Protection Plan with their OSHA Area Office prior to going on a jobsite.

# COMPANY NAME HERE

## Model Fall Protection Plan

### Table of Contents

I. INTRODUCTION.....	5
II. SCOPE.....	6
III. DEFINITIONS.....	7
A - D.....	7
E to H.....	8
I to L.....	9
M to P.....	10
Q to T.....	11
U to Z.....	12
IV. COMPANY POLICY.....	13
Hierarchy of Fall Protection Controls.....	13
Employee Training and Responsibilities.....	14
Employer Responsibilities.....	14
V. FALL PROTECTION SYSTEMS TO BE USED ON THE JOB.....	15
1. Eliminating Fall Hazards – Priority One.....	15

2. Passive Fall Restraints – Guardrail Systems.....	15
3. Active Fall Restraints.....	18
4. Fall Arrest Systems .....	19
Personal Fall Arrest System Components .....	20
Rescue Plans and Equipment.....	22
5. Controlled Access Zones - A Last Resort.....	22
Installation Procedures for Roof Truss and Rafter Erection .....	23
Walls Under 8 Feet Tall.....	24
Walls Over 8 Feet Tall.....	24
Work from Top Plate Installing Trusses/Rafters .....	24
Roof Sheathing Operations .....	25
Erection of Exterior Walls.....	28
Additional Fall Protection Measures may be Required .....	28
VI. STAIRWAYS.....	28
Stairways Used During Construction .....	28
Stair Rails.....	29
Handrails.....	30
Midrails .....	31
VII. LADDERS.....	31

Routine Ladder Inspection .....	32
Ladders Built on the Job Site (Jab-Made Ladders) .....	33
Specific Types of Ladders.....	34
Stepladders.....	34
Portable Ladders.....	34
Defective Ladders .....	35
Fixed Ladders (See OSHA Regulations) .....	36
VII. SCAFFOLDS .....	36
Fall Protection Requirements for Scaffolds.....	37
Types of Fall Protection .....	38
Falling Object Protection.....	39
VI. Enforcement .....	40
VII. Incident Investigations .....	40
VIII. Changes to Plan .....	40
APPENDIX A: JOB SPECIFIC FALL PROTECTION PLAN.....	41
Identified Fall Hazards (Check those that apply).....	41
Corrective Actions that will be taken to Prevent Falls.....	42
Worksite Checklist - Stairways.....	43
Worksite Checklist - Ladders (General) .....	44

Worksite Checklist - Stepladders .....	45
Worksite Checklist - Extension Ladders.....	45
Worksite Checklist - Job-made Ladders.....	46
Worksite Checklist - Guardrails .....	47
Worksite Checklist - Safety Nets (Not Provided).....	48
Worksite Checklist - Holes and Skylights.....	48
Worksite Checklist - Work on Steep Roofs (greater than 4 in 12 vertical to horizontal) .....	48
Worksite Checklist - Scaffolds.....	49
Worksite Checklist - Aerial Lifts.....	50
Worksite Checklist - Personal Fall Restraint Systems (Including Positioning Systems).....	51
Worksite Checklist - Personal Fall Arrest Systems .....	52
Worksite Checklist – Fall Arrest Rescue Equipment .....	53
Worksite Checklist - Warning Line Systems (A Last Resort).....	54
Worksite Checklist - Controlled Access Zones (A Last Resort).....	55
Worksite Checklist - Safety Monitoring Systems for Low-Slope Roofs (A Last Resort) .....	56
APPENDIX B: WORKSITE INCIDENT FORM.....	57
APPENDIX C: LADDER INSPECTION FORM .....	59

# COMPANY NAME HERE

## Model Fall Protection Plan

### I. INTRODUCTION

The following Fall Protection Plan for residential and small business construction projects was prepared using guidelines provided in 29 CFR 1926, Subpart M, Fall Protection, Appendix E. This fall protection plan is provided as a resource and not designed to address all work site scenarios and fall hazards. It is a set of policies and procedures designed to help identify and reduce fall hazards. The general approach is centered on a five (5) tiered hierarchy of fall protection controls, as outlined below.

1. The top priority is to **eliminate the fall hazard**, whenever feasible.
2. The second priority is to **install and use passive fall restraints** (e.g., guardrails and barriers) to prevent falls.
3. The third priority is to **use active fall restraints** to prevent falls.
4. The fourth priority is to **use fall arrest systems** to prevent severe injuries in the event of a fall.
5. The last resort is to **establish a controlled access zone** to notify and warn workers of fall hazards.

Occupational Safety and Health Administration (OSHA) regulations require the use of fall protection when construction workers are working at heights of 6 feet or greater above a lower level. It is recommended that at heights of 4 feet or greater be used when working near dangerous equipment, for example, working over machinery with open drive belts, pulleys or gears or open vats of degreasing agents or acid.

Each work site and job task can be unique and contain a number of fall hazards that must be addressed prior to the beginning work. Supervisors and workers are

responsible for assessing these hazards and taking necessary corrective actions to reduce dangerous falls.

## II. SCOPE

This Fall Protection Plan is a set of general policies and a project specific template for the following project or types of projects:

- |  |                              |
|--|------------------------------|
| 1. Carpentry – framing and general         | <input type="checkbox"/> Yes |
| 2. Concrete and stone work                 | <input type="checkbox"/> Yes |
| 3. Dry wall installation and finishing     | <input type="checkbox"/> Yes |
| 4. Electrical work                         | <input type="checkbox"/> Yes |
| 5. Landscape gardening work                | <input type="checkbox"/> Yes |
| 6. Machine and equipment installation work | <input type="checkbox"/> Yes |
| 7. Painting and coating                    | <input type="checkbox"/> Yes |
| 8. Plasterwork                             | <input type="checkbox"/> Yes |
| 9. Plumbing and piping work                | <input type="checkbox"/> Yes |
| 10. Roofing work                           | <input type="checkbox"/> Yes |
| 11. Scaffold work                          | <input type="checkbox"/> Yes |
| 12. Sheet metal work                       | <input type="checkbox"/> Yes |
| 13. Telecommunications work                | <input type="checkbox"/> Yes |
| 14. Thermal insulation work                | <input type="checkbox"/> Yes |
| 15. Tile, brick and block work             | <input type="checkbox"/> Yes |
| 16. Other: _____                           | <input type="checkbox"/> Yes |
| 17. Other: _____                           | <input type="checkbox"/> Yes |
| 18. Other: _____                           | <input type="checkbox"/> Yes |
| 19. Other: _____                           | <input type="checkbox"/> Yes |

The following Fall Protection Plan is a model program prepared for the prevention of injuries associated with falls from heights greater than 6 feet above a lower level or 4



feet above a hazard. A Fall Protection Plan must be developed and evaluated on a site-by-site basis. It is recommended that builders discuss the written Fall Protection Plan with their OSHA Area Office prior to going on a jobsite.

### III. DEFINITIONS

#### A - D

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

**Body belt (safety belt)** - a strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device. Note: Since January 1, 1998, OSHA has prohibited the use of a body belt as part of a personal fall arrest system. Exception: When used correctly, body belts are recognized by OSHA as an acceptable fall protection component when used as a part of 1) a restraining device that prevents a fall or 2) a positioning device that limits a free fall to 2 feet.

**Body harness** - straps that may be secured about the worker in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders, with means for attaching it to other components of a personal fall arrest system.

**Buckle** - any device for holding the body belt or body harness closed around the worker's body.

**Competent person** - one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to workers, and who has authorization to take prompt corrective measures to eliminate them.

**Connector** - a device which is used to couple (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 carabineer, or it may be an integral component of part of the

system (such as a buckle or Dee-ring sewn into a body belt or body harness, or a snaphook spliced or sewn to a lanyard or self-retracting lanyard).

**Controlled access zone (CAZ)** - an area in which certain work (for example, overhand bricklaying) may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems; and where access to the zone is controlled.

**Dangerous equipment** - equipment (such as pickling or galvanizing tanks, degreasing units, machinery, electrical equipment, and other units) which, as a result of form or function, may be hazardous to workers who fall onto or into such equipment.

**Deceleration device** - any mechanism (such as a rope grab, rip-stitch lanyard, specially-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 a worker 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 a worker's body belt or body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the worker comes to a full stop.

## **E to H**

**Equivalent** - alternative designs, materials, or methods to protect against a hazard, which the employer can demonstrate will provide an equal or greater degree of safety for workers than the methods, materials, or designs specified in the standard.

**Failure** - load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.

**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 worker's body belt or 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.

**Guardrail system** - a barrier erected to prevent workers from falling to lower levels.

**Hole** - a gap or void 2 inches or more in its least dimension, in a floor, roof, or other walking or working surface.

## **I to L**

**Infeasible** - impossible to perform the construction work using a conventional fall protection system (that is, guardrail system, safety net system, or personal fall arrest system); or technologically impossible to use any one of these systems to provide fall protection.

**Lanyard** - a flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

**Leading edge** - the edge of a floor, roof, or formwork for a floor or other walking or working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed. A leading edge is considered to be an "unprotected side and edge" during periods when it is not actively and continuously under construction.

**Lifeline** - a component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both

ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

**Low-slope roof** - a roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

**Lower levels** - those areas or surfaces to which a worker can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.

## **M to P**

**Mechanical equipment** - all motor- or human-propelled wheeled equipment used for roofing work, except wheelbarrows and mop carts.

**Opening** - a gap or void 30 inches or higher and 18 inches or wider, in a wall or partition, through which workers can fall to a lower level.

**Overhand bricklaying and related work** - the process of laying bricks and masonry units such that the surface of the wall to be jointed is on the opposite side of the wall from the mason, requiring the mason to lean over the wall to complete the work. Related work includes mason tending and electrical installation incorporated into the brick wall during the overhand bricklaying process.

**Personal fall arrest system** - a system used to arrest a worker in a fall from a working level. It consists of an anchorage, connectors, and a body harness. It may include a lanyard, deceleration device, lifeline, or suitable combinations of these. Note - Since January 1, 1998, the use of a body belt for fall arrest has been prohibited.

**Positioning device system** - a body belt or body harness system rigged to allow a worker to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.

## Q to T

**Qualified** - one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.

**Rope grab** - a deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of a worker. A rope grab usually employs the principles of inertial locking, cam/level locking, or both.

**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.

**Safety-monitoring system** - a safety system in which a competent person is responsible for recognizing and warning workers of fall hazards.

**Self-retracting lifeline/lanyard** - a deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal worker movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

**Snaphook** - a connector comprised of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object. Snap hooks are generally one of two types:(1) The locking type with a self-closing, self-locking keeper which remains closed and locked until unlocked and pressed open for connection or disconnection; or (2) The non-locking type with a self-closing keeper which remains

closed until pressed open for connection or disconnection. As of January 1, 1998, the use of a non-locking snaphook as part of personal fall arrest systems and positioning device systems is prohibited.

**Steep roof** - a roof having a slope greater than 4 in 12 (vertical to horizontal).

**Toeboard** - a low protective barrier that will prevent the fall of materials and equipment to lower levels and provide workers protection from falls.

## **U to Z**

**Unprotected sides and edges** - any side or edge (except at entrances to points of access) of a walking or working surface (for example, floor, roof, ramp, or runway) where there is no wall or guardrail system at least 39 inches high.

**Walking or working surface** - any surface (whether horizontal or vertical) on which a worker walks or works, including but not limited to floors, roofs, ramps, bridges, runways, formwork and concrete reinforcing steel; but not including ladders, vehicles, or trailers, on which workers must be located in order to perform their job duties.

**Warning line system** - a barrier erected on a roof to warn workers that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body harness, or safety net systems to protect workers in the area.

**Work area** - that portion of a walking or working surface where job duties are being performed.

## IV. COMPANY POLICY

**COMPANY NAME HERE** is dedicated to protecting employees from on-the-job injuries. All employees have the responsibility to work safely on the job. The purpose of this plan is to supplement our existing safety and health program and to ensure that every employee recognizes workplace fall hazards and acts appropriately to address those hazards. A fall hazard is one associated with falls from heights greater than 6 feet above a lower level or 4 feet above a hazard. The general approach is centered on a five (5) tiered hierarchy of fall protection controls, as outlined below.

### Hierarchy of Fall Protection Controls

Priority	Control	Examples
<b>First</b>	Eliminate the fall hazard	Bring work to ground level; Use tools to eliminate work above ground level
<b>Second</b>	Passive fall restraint	Install physical barriers, such as guardrails or parapets, to prevent falls
<b>Third</b>	Active fall restraint	Use a restraint system (e.g., full-body harness, lanyard and anchor) to prevent falls
<b>Fourth</b>	Fall arrest	Use a personal fall arrests system or safety net to minimize fall injuries
<b>Fifth</b>	Controlled access zones (CAZ) a last resort	When fall protection is not feasible, provide adequate training, on-site supervision, signage and visible barriers to preclude workers from fall hazard zones

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

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

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

### **Employee Training and Responsibilities**

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

### **Employer Responsibilities**

On the job, it is the responsibility of the **NAME AND TITLE OF DESIGNATED COMPETENT PERSON** to implement this Fall Protection Plan. Continual observational safety checks of work operations and the enforcement of the safety policy and procedures shall be regularly enforced. The crew supervisor or foreman, **CREW**



**SUPPERVISOR/FOREMAN NAME**, is responsible for correcting any unsafe practices or conditions immediately.

It is the responsibility of the employer to ensure that all employees understand and adhere to the procedures of this plan and to follow the instructions of the crew supervisor. It is also the responsibility of the employee to bring to management's attention any unsafe or hazardous conditions or practices that may cause injury to either themselves or any other employees. The DESIGNATED QUALIFIED PERSON must approve any changes to the Fall Protection Plan.

## **V. FALL PROTECTION SYSTEMS TO BE USED ON THE JOB**

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

### **1. Eliminating Fall Hazards – Priority One**

The top priority of the fall protection plan is to eliminate fall hazards whenever feasible. This includes moving tasks to ground level, as well as changing the workflow and job design to allow work to be performed at ground level.

### **2. Passive Fall Restraints – Guardrail Systems**

When it is not feasible to eliminate a fall hazard, then physical barriers, such as guardrail systems, should be installed to prevent falls. A guardrail system must be durably constructed and meet OSHA design specifications.



**Properly installed guardrail system.**

Source: OSHA

Guardrail systems are barriers erected to prevent workers from falling to lower levels. If the employer chooses to use guardrail systems to protect workers from falls, the following provisions apply:

- a. Top rails, or equivalent guardrail system members, must be 42 inches plus or minus 3 inches above the walking or working level. When workers are using stilts, the top edge of the top rail, or equivalent member, must be increased an amount equal to the height of the stilts. 29 CFR 1926.502(b)(1).
- b. Screens, midrails, mesh, intermediate vertical members, or equivalent intermediate structural members must be installed between the top edge of the guardrail system and the walking or working surface when there are no walls or parapet walls at least 21 inches high. 29 CFR 1926.502(b)(2).
  - i. When midrails are used, they must be installed at a height midway between the top edge of the guardrail system and the walking or working level.
  - ii. When screens and mesh are used, they must extend from the top rail to the walking or working level and along the entire opening between top rail supports.
  - iii. When necessary, screens and/or mesh must be installed in a manner to prevent worker from falling underneath.

- iv. When intermediate members (such as balusters) are used between posts, they must not be more than 19 inches apart.
- v. Other structural members (such as additional midrails and architectural panels) must be installed so that there are no openings in the guardrail system more than 19 inches wide.
- c. Guardrail systems must be capable of withstanding a force of at least 200 pounds applied within 2 inches of the top edge, in any outward or downward direction, at any point along the top edge. 29 CFR 1926.502(b)(3).
- d. Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members must be capable of withstanding a force of at least 150 pounds applied in any downward or outward direction at any point along the midrail or other member. 29 CFR 1926.502(b)(5).
- e. Guardrail systems must have a surface to protect workers from punctures or lacerations and to prevent clothing from snagging. 29 CFR 1926.502(b)(6).
- f. The ends of top rails and midrails must not overhang terminal posts, except where an overhang poses no projection hazard. 29 CFR 1926.502(b)(7).
- g. Steel and plastic banding cannot be used as top rails or midrails. 29 CFR 1926.502(b)(8).
- h. Top rails and midrails of guardrail systems must have a nominal diameter or thickness of at least 1/4 inch to prevent cuts and lacerations. 29 CFR 1926.502(b)(9).
- i. If wire rope is used for top rails, it must be flagged at not more than 6-foot intervals with high-visibility material. 29 CFR 1926.502(b)(9).
- j. When guardrail systems are used at hoisting areas, a chain, gate, or removable guardrail section must be placed across the access opening between guardrail sections during those times when hoisting operations are not taking place. 29 CFR 1926.502(b)(10).
- k. When guardrail systems are used at holes, they must be set up on all unprotected sides or edges. When a hole is used for the passage of materials, it must not have more than two sides with removable guardrail sections. When the hole is not in use,

it must be covered or provided with a guardrail system along all unprotected sides or edges. 29 CFR 1926.502(b)(11) & (12).

- l. If guardrail systems are used around holes being used as access points (such as ladderways), gates must be used. Alternatively, the point of access must be offset to prevent workers from accidentally walking straight into the hole. 29 CFR 1926.502(b)(13).
- m. If guardrails are used on ramps and runways, they must be erected on each unprotected side or edge. 29 CFR 1926.502(b)(14).
- n. Manila, plastic, or synthetic rope used for top rails or midrails must be inspected as frequently as necessary to ensure its strength and stability. 29 CFR 1926.502(b)(15).

### **3. Active Fall Restraints**

While fall restraint systems are not mentioned in Subpart M, OSHA recognizes a fall restraint system as a means of prevention. The system, if properly used, tethers a worker in a manner that will not allow a fall of any distance. This system is comprised of a body harness, an anchorage, connectors, and other necessary equipment. Other components typically include a lanyard, a lifeline, and other devices. For a restraint system to work, the anchorage must be strong enough to prevent the worker from moving past the point where the system is fully extended, including an appropriate safety factor.

OSHA suggested that, at a minimum, a fall restraint system must have the capacity to withstand at least 3,000 pounds or twice the maximum expected force that is needed to restrain the person from exposure to the fall hazard.



Source: OSHA

#### **4. Fall Arrest Systems**

A personal fall arrest system is a system used to safely stop (arrest) a worker who is falling from a working level. It consists of an anchorage, connectors, and a body harness. It also may include a lanyard, deceleration device, lifeline, or suitable combinations of these. Body belts (safety belts) are prohibited for use as part of a personal fall arrest system.

When employers choose to use a personal fall arrest system as a means of worker fall protection they must:

- a. Limit the maximum arresting force on a worker to 1,800 pounds when used with a body harness. 29 CFR 1926.502(d)(16)(ii).
- b. Be rigged so that a worker can neither free fall more than 6 feet nor contact any lower level. 29 CFR 926.502(d)(16)(iii).
- c. Bring a worker to a complete stop and limit the maximum deceleration distance a worker travels to 3.5 feet. 29 CFR 1926.502(d)(16)(iv).
- d. Have sufficient strength to withstand twice the potential impact energy of a worker free falling a distance of 6 feet or the free fall distance permitted by the system, whichever is less. 29 CFR 1926.502(d)(16)(v).

- e. Be inspected prior to each use for wear, damage, and other deterioration.  
Defective components must be removed from service. 29 CFR 1926.502(d)(21).

### *Personal Fall Arrest System Components*

#### Snap hooks

Snap hooks must be the locking type and designed and used to prevent disengagement from any component part of the personal fall arrest system. 29 CFR 1926.502(d)(5).

Unless the snaphook is a locking type and designed for the following connections, snap hooks shall not be engaged:

- directly to webbing, rope, or wire rope;
- to each other;
- to a Dee-ring to which another snaphook or other connector is attached;
- to a horizontal lifeline; or
- to any object which is incompatibly shaped or dimensioned in relation to the snaphook, such that unintentional disengagement could occur by the connected object being able to depress the snaphook keeper and release itself. 29 CFR 1926.502(d)(6).

#### Horizontal Lifelines

On suspended scaffolds or similar work platforms with horizontal lifelines that may become vertical lifelines, the devices used to connect to a horizontal lifeline must be capable of locking in both directions on the lifeline. 29 CFR 1926.502(d)(7).

Horizontal lifelines must be designed, installed, and used under the supervision of a qualified person, as part of a complete personal fall arrest system that maintains a safety factor of at least two. 29 CFR 1926.502(d)(8).

## Vertical Lifelines and Lanyards

Vertical lifelines and lanyards must have a minimum breaking strength of 5,000 pounds. 29 CFR 1926.502(d)(9). Lifelines must be protected against being cut or abraded. 29 CFR 1926.502(d)(11).

## Self-retracting Lifelines and Lanyards

Self-retracting lifelines and lanyards that automatically limit free fall distance to 2 feet or less must be capable of sustaining a minimum tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position. 29 CFR 1926.502(d)(12).

Self-retracting lifelines and lanyards which do not limit free fall distance to 2 feet or less, ripstitch lanyards, and tearing and deforming lanyards must be capable of sustaining a minimum tensile load of 5,000 pounds applied to the device with the lifeline or lanyard in the fully extended position. 29 CFR 1926.502(d)(13).

## Ropes and Straps

Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body belts and body harnesses must be made of synthetic fibers. 29 CFR 1926.502(d)(14).

## Anchorage

Anchorage used to attach personal fall arrest systems 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. Alternatively, the anchorage must be independent of any anchorage being used to support or suspend platforms and must be capable of supporting at least 5,000 pounds per worker attached or be capable of supporting at least twice the expected impact load. 29 CFR 1926.502(d)(15).

## *Rescue Plans and Equipment*

Workers cannot stay suspended for long and are at risk of reduced blood flow, oxygen deprivation, brain damage, cardiac arrest and death. According to the American National Standards Institute (ANSI) Standard Z359, rescue should be completed within six minutes of a fall arrest. All workers using fall arrest systems must be monitored and promptly rescued in the event of a fall. In addition to rescue equipment available onsite, use of self-rescue devices are recommended.

Fall arrest rescue equipment that need to be available onsite when fall arrest equipment are used include:

- Ladders
- Rescue poles
- Rescue ropes
- Rescue wench
- Crane
- Aerial lift
- Scaffold
- Lifting or lowering device

### **5. Controlled Access Zones - A Last Resort**

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

**COMPANY NAME HERE** shall take the following steps to ensure that the CAZ is clearly marked or controlled by the competent person:



- a. All access to the CAZ must be restricted to authorized entrants;
- b. All workers who are permitted in the CAZ shall be listed in the appropriate sections of the Plan (or be visibly identifiable by the competent person) prior to implementation;
- c. The competent person shall ensure that all protective elements of the CAZ be implemented prior to the beginning of work.

### *Installation Procedures for Roof Truss and Rafter Erection*

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

### Ladders

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

### Exterior Scaffolds

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

### *Walls Under 8 Feet Tall*

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

### *Walls Over 8 Feet Tall*

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

### *Work from Top Plate Installing Trusses/Rafters*

**COMPANY NAME HERE** shall take the following steps to protect workers who are exposed to fall hazards while working from the top plate installing trusses/rafters. The following requirements must be followed:

- a. Only the trained workers will be allowed to work on the top plate during roof truss or rafter installation;
- b. Workers shall have no other duties to perform during truss/rafter erection procedures;
- c. All trusses/rafters will be adequately braced before any worker can use the truss/rafter as a support;
- d. Workers will remain on the top plate using the previously stabilized truss/rafter as a support while other trusses/rafters are being erected;
- e. Workers will leave the area of the secured trusses only when it is necessary to secure another truss/rafter;

- f. The first two trusses/rafters will be set from ladders leaning on side walls at points where the walls can support the weight of the ladder; and
- g. A worker will climb onto the interior top plate via a ladder to secure the peaks of the first two trusses/rafters being set.
- h. The workers responsible for detaching trusses from cranes and/or securing trusses at the peaks traditionally are positioned at the peak of the trusses/rafters. There are also situations where workers securing rafters to ridge beams will be positioned on top of the ridge beam.

**COMPANY NAME HERE** shall take the following steps to protect workers who are exposed to fall hazards while securing trusses/rafters at the peak of the trusses/ridge beam:

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

### *Roof Sheathing Operations*

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

fall protection systems until it is determined that the roofing system can be used as an anchorage point. At that point, employees shall be protected by a personal fall arrest system.

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

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

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

**COMPANY NAME HERE** shall take the following steps to protect workers who are exposed to fall hazards while installing roof sheathing:

- a. Once roof sheathing installation begins, workers not involved in that activity shall not stand or walk below or adjacent to the roof opening or exterior walls in any area where they could be struck by falling objects;
- b. The competent person shall determine the limits of this area, which shall be clearly communicated to workers prior to placement of the first piece of roof sheathing;
- c. The competent person may order work on the roof to be suspended for brief periods as necessary to allow other workers to pass through such areas when this would not create a greater hazard;
- d. Only qualified workers shall install roof sheathing;
- e. The bottom row of roof sheathing may be installed by workers standing in truss webs;
- f. After the bottom row of roof sheathing is installed, a slide guard extending the width of the roof shall be securely attached to the roof. Slide guards are to be constructed of no less than nominal 4" height capable of limiting the uncontrolled

slide of workers. Workers should install the slide guard while standing in truss webs and leaning over the sheathing;

- g. Workers positioned on previously installed rows of sheathing may install additional rows of roof sheathing. A slide guard can be used to assist workers in retaining their footing during successive sheathing operations; and
- h. Additional slide guards shall be securely attached to the roof at intervals not to exceed 13 feet as successive rows of sheathing are installed. For roofs with pitches in excess of 9-in-12, slide guards will be installed at four-foot intervals.
- i. When wet weather (rain, snow, or sleet) are present, roof-sheathing operations shall be suspended unless safe footing can be assured for those workers installing sheathing.
- j. When strong winds (above 40 miles per hour) are present, roof-sheathing operations are to be suspended unless windbreakers are erected. Installation of Floor Joists and Sheathing During the installation of floor sheathing/joists (leading edge construction), the following steps shall be taken to protect workers:
- k. Only trained workers will be allowed to install floor joists or sheathing:
- l. Materials for the operations shall be conveniently staged to allow for easy access to workers;
- m. The first-floor joists or trusses will be rolled into position and secured either from the ground, ladders or sawhorse scaffolds;
- n. Each successive floor joist or truss will be rolled into place and secured from a platform created from a sheet of plywood laid over the previously secured floor joists or trusses;
- o. Except for the first row of sheathing which will be installed from ladders or the ground, workers shall work from the established deck; and
- p. Any workers not assisting in the leading edge construction while leading edges still exist (e.g. cutting the decking for the installers) shall not be permitted within six feet of the leading edge under construction.

### *Erection of Exterior Walls*

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

- a. Only the following trained workers will be allowed to erect exterior walls:
- b. A painted line six feet from the perimeter will be clearly marked prior to any wall erection activities to warn of the approaching unprotected edge;
- c. Materials for operations shall be conveniently staged to minimize fall hazards;  
and
- d. Workers constructing exterior walls shall complete as much cutting of materials and other preparation as possible away from the edge of the deck.

### **Additional Fall Protection Measures May Be Required**

The Fall Protection Plan is a model program designed to address common fall hazards. It does not address all fall hazards. In the case of special hazards or the use of fall protection techniques not described here, please refer to the applicable OSHA regulations in Title 29 of the Code of Federal Regulations.

## **VI. STAIRWAYS**

The rules covering stairways and their components generally depend on how and when stairs are used. Specifically, there are rules for stairs used during construction and stairs used temporarily during construction, as well as rules governing stair rails and handrails.

### **Stairways Used During Construction**

The following requirements apply to all stairways used during construction:

- a. Stairways that will not be a permanent part of the building under construction must have landings at least 30 inches deep and 22 inches wide (76 x 56 cm) at every 12 feet (3.7 m) or less of vertical rise.

- b. Stairways must be installed at least 30 degrees —and no more than 50 degrees—from the horizontal.
- c. Variations in riser height or stair tread depth must not exceed 1/4 inch in any stairway system, including any foundation structure used as one or more treads of the stairs.
- d. Doors and gates opening directly onto a stairway must have a platform that extends at least 20 inches (51 cm) beyond the swing of the door or gate.
- e. Metal pan landings and metal pan treads must be secured in place before filling.
- f. Stairway parts must be free of dangerous projections such as protruding nails.
- g. Slippery conditions on stairways must be corrected.
- h. Workers must not use spiral stairways that will not be a permanent part of the structure.

### **Temporary Stairs**

The following requirements apply to stairways used temporarily during construction.

- a. Except during construction of the stairway, do not use stairways with metal pan landings and treads if the treads and/or landings have not been filled in with concrete or other materials unless the pans of the stairs and/or landings are temporarily filled in with wood or other materials. All treads and landings must be replaced when worn below the top edge of the pan.
- b. Do not use skeleton metal frame structures and steps (where treads and/or landings will be installed later) unless the stairs are fitted with secured temporary treads and landings.

Note: Temporary treads must be made of wood (or other solid material) and installed the full width and depth of the stair.

### **Stair Rails**

The following general requirements apply to all stair rails:

- a. Stairways with 4 or more risers or rising more than 30 inches (76 cm) in height—whichever is less—must be installed along each unprotected side or edge. When the top edge of a stair rail system also serves as a handrail, the height of the top edge must be no more than 37 inches (94 cm) nor less than 36 inches (91.5 cm) from the upper surface of the stair rail to the surface of the tread.
- b. Stair rails installed after March 15, 1991, must be not less than 36 inches (91.5 cm) in height.
- c. Top edges of stair rail systems used as handrails must not be more than 37 inches (94 cm) high nor less than 36 inches (91.5 cm) from the upper surface of the stair rail system to the surface of the tread. (If installed before March 15, 1991, not less than 30 inches [76 cm]).
- d. Stair rail systems and handrails must be surfaced to prevent injuries such as punctures or lacerations and to keep clothing from snagging.
- e. Ends of stair rail systems and handrails must be built to prevent dangerous projections, such as rails protruding beyond the end posts of the system. In addition,
- f. Unprotected sides and edges of stairway landings must have standard 42-inch (1.1 m) guardrail systems.
- g. Intermediate vertical members, such as balusters used as guardrails, must not be more than 19 inches (48 cm) apart.
- h. Other intermediate structural members, when used, must be installed so that no openings are more than 19 inches (48 cm) wide.
- i. Screens or mesh, when used, must extend from the top rail to the stairway step and along the opening between top rail supports.

## **Handrails**

Requirements for handrails are as follows:



- a. Handrails and top rails of the stair rail systems must be able to withstand, without failure, at least 200 pounds (890 n) of weight applied within 2 inches (5 cm) of the top edge in any downward or outward direction, at any point along the top edge.
- b. Handrails must not be more than 37 inches (94 cm) high nor less than 30 inches (76 cm) from the upper surface of the handrail to the surface of the tread.
- c. Handrails must provide an adequate handhold for employees to grasp to prevent falls.
- d. Temporary handrails must have a minimum clearance of 3 inches (8 cm) between the handrail and walls, stair rail systems and other objects.
- e. Stairways with four or more risers or that rise more than 30 inches (76 cm) in height— whichever is less—must have at least one handrail.
- f. Winding or spiral stairways must have a handrail to prevent use of areas where the tread width is less than 6 inches (15 cm).

### **Midrails**

Midrails, screens, mesh, intermediate vertical members or equivalent intermediate structural members must be provided between the top rail and stairway steps to the stair rail system. When midrails are used, they must be located midway between the top of the stair rail system and the stairway steps.

## **VII. LADDERS**

The following rules apply to all ladders:

- a. Maintain ladders free of oil, grease and other slipping hazards.
- b. Do not load ladders beyond their maximum intended load nor beyond their manufacturer's rated capacity.
- c. Use ladders only for their designed purpose.
- d. Use ladders only on stable and level surfaces unless secured to prevent accidental movement.

- e. Do not use ladders on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental movement. Do not use slip resistant feet as a substitute for exercising care when placing, lashing or holding a ladder upon slippery surfaces.
- f. Secure ladders placed in areas such as passageways, doorways or driveways, or where they can be displaced by workplace activities or traffic to prevent accidental movement. Alternatively, use a barricade to keep traffic or activity away from the ladder.
- g. Keep areas clear around the top and bottom of ladders.
- h. Do not move, shift or extend ladders while in use.
- i. Use ladders equipped with nonconductive side rails if the worker or the ladder could contact exposed energized electrical equipment.
- j. Face the ladder when moving up or down the ladder.
- k. Use at least one hand to grasp the ladder when climbing.
- l. Do not carry objects or loads that could cause loss of balance and falling.

### **Routine Ladder Inspection**

All ladders must be regularly inspected and repaired, at least quarterly, but inspection may be more often depending on the amount of use and type of work conditions. If ladders are used two or more days a week, then a monthly inspection and repair cycle is recommended. If ladders are used daily under harsh work conditions, then a weekly inspection and repair cycle is recommended.

A ladder inspection form is provided in Appendix C. The default ladder inspection and repair cycle is:

\_\_\_\_ Weekly

\_\_\_\_ Monthly

\_\_\_\_ Quarterly

## **Ladders Built on the Job Site (Jab-Made Ladders)**

In addition, the following general requirements apply to all ladders, including ladders built at the jobsite:

- a. Double-cleated ladders or two or more ladders must be provided when ladders are the only way to enter or exit a work area where 25 or more employees work or when a ladder serves simultaneous two-way traffic.
- b. Ladder rungs, cleats and steps must be parallel, level and uniformly spaced when the ladder is in position for use.
- c. Rungs, cleats and steps of portable and fixed ladders (except as provided below) must not be spaced less than 10 inches (25 cm) apart, nor more than 14 inches (36 cm) apart, along the ladder's side rails.
- d. Rungs, cleats and steps of step stools must not be less than 8 inches (20 cm) apart, nor more than 12 inches (31 cm) apart, between center lines of the rungs, cleats and steps.
- e. Rungs, cleats and steps at the base section of extension trestle ladders must not be less than 8 inches (20 cm) nor more than 18 inches (46 cm) apart, between center lines of the rungs, cleats and steps. The rung spacing on the extension section must not be less than 6 inches (15 cm) nor more than 12 inches (31 cm).
- f. Ladders must not be tied or fastened together to create longer sections unless they are specifically designed for such use.
- g. When splicing side rails, the resulting side rail must be equivalent in strength to a one-piece side rail made of the same material.
- h. Two or more separate ladders used to reach an elevated work area must be offset with a platform or landing between the ladders, except when portable ladders are used to gain access to fixed ladders.
- i. Ladder components must be surfaced to prevent snagging of clothing and injury from punctures or lacerations.
- j. Wood ladders must not be coated with any opaque covering except for identification or warning labels, which may be only on one face of a side rail.

Note: A competent person must inspect ladders for visible defects periodically and after any incident that could affect their safe use.

### **Specific Types of Ladders**

- a. Do not use single-rail ladders.
- b. Use non-self-supporting ladders at an angle where the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder.
- c. Use wooden ladders built at the jobsite with spliced side rails at an angle where the horizontal distance is one-eighth of the working length of the ladder. In addition, the top of a non-self-supporting ladder must be placed with two rails supported equally unless it is equipped with a single support attachment.

### **Stepladders**

- d. Do not use the top or top step of a stepladder as a step.
- e. Do not use cross bracing on the rear section of stepladders for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.
- f. Metal spreader or locking devices must be provided on stepladders to hold the front and back sections in an open position when ladders are being used.

### **Portable Ladders**

- a. The minimum clear distance between side rails for all portable ladders must be 11.5 inches (29 cm).
- b. In addition, the rungs and steps of portable metal ladders must be corrugated, knurled, dimpled, coated with skid-resistant material or treated to minimize slipping.
- c. Non-self-supporting and self-supporting portable ladders must support at least four times the maximum intended load; extra heavy-duty type 1A metal or plastic

ladders must sustain 3.3 times the maximum intended load. To determine whether a self-supporting ladder can sustain a certain load, apply the load to the ladder in a downward vertical direction with the ladder placed at a horizontal angle of 75.5 degrees.

- d. When portable ladders are used for access to an upper landing surface, the side rails must extend at least 3 feet (.9 m) above the upper landing surface. When such an extension is not possible, the ladder must be secured and a grasping device such as a grab rail must be provided to assist workers in mounting and dismounting the ladder. A ladder extension must not deflect under a load that would cause the ladder to slip off its supports.

### **Defective Ladders**

Ladders needing repairs are subject to the following rules:

- a. Portable ladders with structural defects—such as broken or missing rungs, cleats or steps, broken or split rails, corroded components or other faulty or defective components—must immediately be marked defective or tagged with "Do Not Use" or similar language and withdrawn from service until repaired.
- b. Fixed ladders with structural defects—such as broken or missing rungs, cleats or steps, broken or split rails or corroded components— must be withdrawn from service until repaired.
- c. Defective fixed ladders are considered withdrawn from use when they are immediately tagged with "Do Not Use" or similar language, or marked in a manner that identifies them as defective, or blocked—such as with a plywood attachment that spans several rungs.
- d. Ladder repairs must restore the ladder to a condition meeting its original design criteria before the ladder is returned to use.

## **Fixed Ladders (See OSHA Regulations)**

Fixed ladders are not covered in this fall protection plan for construction. Please refer to the applicable OSHA regulations for fixed ladders, as necessary.

## **VII. SCAFFOLDS**

The following is a summary of OSHA fall protection requirements for scaffolds and the following pertain primarily to fall protection measures as part of a fall prevention program. OSHA's scaffolding standard has several key provisions:

- a. Fall protection or fall arrest systems—Each employee more than 10 feet above a lower level shall be protected from falls by guardrails or a fall arrest system, except those on single-point and two-point adjustable suspension scaffolds. Both a personal fall arrest system and a guardrail shall protect each employee on a single-point and two-point adjustable suspended scaffold. 1926.451(g)(1)
- b. Guardrail height—The height of the toprail for scaffolds manufactured and placed in service after January 1, 2000 must be between 38 inches (0.9 meters) and 45 inches (1.2 meters). The height of the toprail for scaffolds manufactured and placed in service before January 1, 2000 can be between 36 inches (0.9 meters) and 45 inches (1.2 meters). 1926.451(g)(4)(ii)
- c. Crossbracing—When the crosspoint of crossbracing is used as a toprail, it must be between 38 inches (0.97 m) and 48 inches (1.3 meters) above the work platform. 1926.451(g)(4)(xv)
- d. Midrails—Midrails must be installed approximately halfway between the toprail and the platform surface. When a crosspoint of crossbracing is used as a midrail, it must be between 20 inches (0.5 meters) and 30 inches (0.8 m) above the work platform. 1926.451(g)(4)
- e. Footings—Support scaffold footings shall be level and capable of supporting the loaded scaffold. The legs, poles, frames, and uprights shall bear on base plates and mud sills. 1926.451(c)(2)

- f. Platforms—Supported scaffold platforms shall be fully planked or decked.  
1926.451(b) • Guying ties, and braces—Supported scaffolds with a height-to-base of more than 4:1 shall be restrained from tipping by guying, tying, bracing, or the equivalent. 1926.451(c)(1)
- g. Capacity—Scaffolds and scaffold components must support at least 4 times the maximum intended load. Suspension scaffold rigging must at least 6 times the intended load. 1926.451(a)(1) and (3)
- h. Training—Employers must train each employee who works on a scaffold on the hazards and the procedures to control the hazards. 1926.454
- i. Inspections—Before each work shift and after any occurrence that could affect the structural integrity, a competent person must inspect the scaffold and scaffold components for visible defects. 1926.451(f)(3)
- j. Erecting and Dismantling—When erecting and dismantling supported scaffolds, a competent person<sup>2</sup> must determine the feasibility of providing a safe means of access and fall protection for these operations. 1926.451(e)(9) & (g)(2)

### **Fall Protection Requirements for Scaffolds**

The following guidelines do not cover scaffold construction. Instead, they cover general fall protection requirements as outlined under OSHA regulations.

- a. Employers must provide fall protection for each employee on a scaffold more than 10 feet (3.1 meters) above a lower level. 1926.451(g)(1)
- b. A competent person must determine the feasibility and safety of providing fall protection for employees erecting or dismantling supported scaffolds.  
1926.451(g)(2)
- a. Fall protection includes guardrail systems and personal fall arrest systems. Guardrail systems are explained below. Personal fall arrest systems include harnesses, components of the harness/belt such as Dee-rings, and snap hooks, lifelines, and anchorage point. 1926.451(g)(3)
- b. Vertical or horizontal lifelines may be used. 1926.451(g)(3)(ii) through (iv)

- c. Lifelines must be independent of support lines and suspension ropes and not attached to the same anchorage point as the support or suspension ropes. 1926.451(g)(3)(iii) and (iv)
- d. When working from an aerial lift, attach the fall arrest system to the boom or basket. 1926.453(b)(2)(v)

*Types of Fall Protection*

The below chart illustrates the type of fall protection required for specific scaffolds.

<b>Type of Scaffold</b>	<b>Fall Protection Required</b>
Aerial lifts	Personal fall arrest system
Boatswains' chair	Personal fall arrest system
Catenary scaffold	Personal fall arrest system
Crawling board (chicken ladder)	Personal fall arrest system, or a guardrail system, or by a 3/4 inch (1.9 cm) diameter grabline or equivalent handhold securely fastened beside each crawling board
Float scaffold	Personal fall arrest system
Ladder jack scaffold	Personal fall arrest system



<b>Type of Scaffold</b>	<b>Fall Protection Required</b>
Needle beam scaffold	Personal fall arrest system
Self-contained adjustable scaffold when supported by ropes	Both a personal fall arrest system and a guardrail system
Single-point and two-point suspension scaffolds	Both a personal fall arrest system and a guardrail system
Supported scaffold	Personal fall arrest system or guardrail system
All other scaffolds not specified above	Personal fall arrest system or guardrail systems that meet the required criteria

*Self-contained Adjustable Scaffolds Require Dual Protection*

Each employee on a self-contained adjustable scaffold shall be protected by a guardrail system (with minimum 200-pound toprail capacity) when the platform is supported by the frame structure, and by both a personal fall arrest system and a guardrail system (with minimum 200-pound toprail capacity) when the platform is supported by ropes. 1926.451(g)(1)(iv)

*Falling Object Protection*

To protect employees from falling hand tools, debris, and other small objects, install toeboards, screens, guardrail systems, debris nets, catch platforms, canopy structures, or barricades. In addition, employees must wear hard hats. 1926.451(h)(1) & (2) and (3)

## **VI. Enforcement**

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

## **VII. Incident Investigations**

All incidents that result in injury to workers, regardless of their nature, shall be investigated and reported. It is an integral part of any safety program that documentation take place as soon as possible so that the cause and means of prevention can be identified to prevent a reoccurrence. A Worksite Incident Form is provided in the Appendix. The form is to be completed and used to initiate an incident investigation with the goal of taking corrective actions to prevent future occurrences.

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

## **VIII. Changes to Plan**

The Designated Qualified Person will approve any changes to the plan. A qualified person shall review this plan as the job progresses to determine if additional practices, procedures or training needs to be implemented by the competent person to improve or provide additional fall protection. Workers shall be notified and trained, if necessary, in the new procedures. A copy of this plan and all approved changes shall be maintained at the jobsite.

**APPENDIX A: JOB SPECIFIC FALL PROTECTION PLAN**

This Fall Protection Plan is specific to the following project, in accordance with company policies and procedures as outlined in the Fall Protection Plan:

Description	Details
Location of Job	
Date Plan Prepared or Modified	
Plan Prepared By (Designated Competent Person)	Name: Phone:
Plan Approved By	Name:
Plan Supervised By (Designated Qualified Person)	Name: Phone:

*Identified Fall Hazards (Check those that apply)*

- 1. Roof or elevated surface 6 or more feet above the ground or a lower level \_\_\_\_\_
- 2. Roof or elevated surface 4 or more feet above a hazard \_\_\_\_\_
- 3. Structural framing work – Not feasible for fall protection equipment \_\_\_\_\_
- 4. Structures not capable of holding 5,000-pounds load capacity for lifelines \_\_\_\_\_
- 5. Leading edges - Lack of guard rails or parapets (walls) \_\_\_\_\_
- 6. Openings, holes or skylights to a lower level \_\_\_\_\_
- 7. Stairways - Lack of sturdy guardrails \_\_\_\_\_
- 8. Ladder use \_\_\_\_\_
- 9. Scaffolding use \_\_\_\_\_
- 10. Aerial lift platform use \_\_\_\_\_
- 11. Hoist use \_\_\_\_\_
- 12. Potential for falling objects \_\_\_\_\_
- 13. Other: \_\_\_\_\_
- 14. Other: \_\_\_\_\_
- 15. Other: \_\_\_\_\_
- 16. Other: \_\_\_\_\_

## *Corrective Actions that will be taken to Prevent Falls*

Address ALL identified fall hazards using the below hierarchy. Try to address the fall hazards using the first two priorities, whenever feasible. Also, try to address each fall hazard using two (2) or more actions and priorities. This will help ensure fall hazards are adequately controlled.

1. **Priority 1: Eliminate fall hazards** (e.g., perform work at ground level or use tools to eliminate work above ground level)
  - a. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - b. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - c. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - d. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - e. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  
2. **Priority 2: Passive fall restraint** (e.g., install physical barriers to prevent falls)
  - a. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - b. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - c. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - d. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - e. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  
3. **Priority 3: Active fall restraint** (e.g., restraint system with full-body harness, lanyard and anchor to prevent falls)
  - a. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - b. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - c. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - d. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - e. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  
4. **Priority 4: Fall arrest** (e.g., personal fall arrest system or safety net)
  - a. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - b. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - c. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - d. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - e. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  
5. **Last resort: Controlled access zones** when fall prevention or protection are not feasible (e.g., visible barriers, signage, on-site supervision, restricted access and adequate worker training on uncontrolled hazards)
  - a. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - b. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - c. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - d. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_
  - e. Hazard#: \_\_\_\_\_ Action: \_\_\_\_\_

*Worksite Checklist - Stairways*

Item	Acceptable	Addressed by action taken
Stairways with four or more stairs are equipped with stair rails or handrails		
Stairways are at least 22 inches wide		
Steps are uniform from top to bottom		
Steps are slip resistant		
Landing platforms are at least 30 inches in the direction of travel		
Landing platforms provide at least 20 inches of space beyond an open door		
Landings are same width as stairs		
The vertical distance between landings does not exceed 12 feet		
Handrails are 30-34 inches above the stair treads		
Handrails have at least 3 inches open space from wall		
Handrails can withstand a load of 200 pounds within 2 inches of the top edge		
Stair exists that open into vehicle traffic have barriers and warning signs		

Corrective actions taken:

*Worksite Checklist - Ladders (General)*

Item	Acceptable	Addressed by action taken
Ladders are in good repair and free of slippery surfaces		
Ladders are clean and not painted in a way that hides defects		
Ladders have UL-approved seal and designed to carry worker weights		
Ladders are used on a level, stable and non-slippery surface		
Ladders are only used for the purpose they were designed for (not tied together)		
Metal ladders are not used around power lines or near electrical equipment		
Ladders are not used near doors or similar hazards		
Ladders are not used horizontally like a platform		
Ladders are not moved or shifted while a worker is on it		
Workers always face the ladder when climbing and working		
Workers use tool belts or hand lines to keep hands free when climbing ladders		
Workers travel up and down ladders using 3-point contact always		
Workers keep body inside the side rails (do not lean out beyond the side rails)		
No work is performed during windy conditions		

Corrective actions taken:

*Worksite Checklist - Stepladders*

Item	Acceptable	Addressed by action taken
Stepladders are used fully open with spreaders locked in place		
The rear is never used for climbing or cross-bracing		
Workers never stand on the top cap or top step		

Corrective actions taken:

*Worksite Checklist - Extension Ladders*

Item	Acceptable	Addressed by action taken
Extension ladder rails extend 3 feet above the landing it rests on		
The base is positioned away from the wall at least 1/4 ( a 1:4 ratio) of the landing height (e.g., for every 4 feet of height the base should be 1 foot out from the wall)		
The base is not positioned to far away and as close to the above 1:4 ratio		
For high places, the ladder is secured at the top		
Workers never step higher than the third rung from the top		

Corrective actions taken:

*Worksite Checklist - Job-made Ladders*

Item	Acceptable	Addressed by action taken
The ladder base and top are properly secured to prevent movement		
Ladder is placed on a stable and level surface		
Ladder is built with construction-grade lumber and designed to hold 4 times its intended weight load		
Ladders are built in accordance with ANSI standards		
Cleats are spaced 12 inches apart and fastened with 12d common wire nails along the side rails and with filler blocks in place between cleats (rungs)		
Cleats are 12 to 16 inches wide for travel		
Wood for cleats is at least 1 x 4 inch and for side rails at least 2 x 6 inch		
Rails extend 3 to 4 feet above the landing as hand rails, but cleats do not		
Job-made ladders are not used as work platforms - Only for travel		
Double-cleated ladders are available for worker numbers in excess of 25		

Corrective actions taken:



*Worksite Checklist - Guardrails*

Item	Acceptable	Addressed by action taken
Guardrails are at least 42 inches above the working surface with a 21-inch midrail (For normal openings the measurements can be within plus or minus 3 inches)		
Guardrails can withstand a load of 200 pounds within 2 inches of the top edge		
Midrails and added structures can withstand a load of 150 pounds		
Top rails and midrails must be at least 1/4 inch in diameter		
If wire rope is used, then it is flagged every 6 feet with a high-visibility material		
All open sides above 10 feet have a 4-inch high toe-board		
Openings between railings do not exceed 19 inches		
Gates are used at access points		

Corrective actions taken:

*Worksite Checklist - Safety Nets (Not Provided)*

Safety nets are not covered here. Please See OSHA requirements for safety nets (29 CFR 1926.502(c)).

*Worksite Checklist - Holes and Skylights*

Item	Acceptable	Addressed by action taken
Holes and skylights near work are protected by a cover and labelled as "Hole"		
A guardrail system is erected around the hole or skylight (a personal fall arrest system is an alternative)		

Corrective actions taken:

*Worksite Checklist - Work on Steep Roofs (greater than 4 in 12 vertical to horizontal)*

Item	Acceptable	Addressed by action taken
Workers are protected by one of the following: a guardrail system with toeboards; a safety net system or personal fall arrest systems		

Corrective actions taken:

### Worksite Checklist - Scaffolds

Item	Acceptable	Addressed by action taken
Scaffolds were designed by a licensed professional engineer competent in scaffolding		
Scaffolds were erected under the supervision of a trained and competent person		
Scaffolds are in good repair and inspected by a competent person prior to use		
Planking is made of 2 x 10 inch scaffold grade lumber or metal		
Planking spans no more than 10 feet for light trades (25 pounds per square foot, psf), 8 feet for medium trades (50 psf) or 6 feet for heavy trades (75 psf)		
Planks overhang supports by 6 (minimum) to 12 inches (maximum)		
Uprights are plumb (vertical) and securely braced to prevent swaying		
The scaffold is tied off and secured to a stable structure		
All open sides above 4 feet have 42-inch high guardrails with a 21-inch midrail		
Guardrail supports are no more than 8 feet apart		
All open sides above 10 feet have a 4-inch high toe-board		
Ladders for access extend 3 feet above the platform and are securely attached		
No work is performed during windy conditions		

Corrective actions taken:

*Worksite Checklist - Aerial Lifts*

Item	Acceptable	Addressed by action taken
Aerial lifts are operated by a trained and qualified person in accordance with manufacturer's instructions		
Aerial lifts are in good repair and inspected by a competent person prior to use		
All open sides have a guardrail with a midrail or full enclosure		
Operators use a body harness with lanyard attached to the boom or basket (Note: this is recommended with scissor lifts as well)		
Lift is not moved with a worker elevated (unless permitted by manufacture)		
Aerial lifts are properly stabilized on firm, level surfaces and away from hazards		
Lifts are operated at least 10 feet away from energized overhead power lines		
Brakes are set and wheels chocked when on an incline		
Outriggers are used, if provided		
Load limits are not exceeded		
No work is performed during windy conditions (e.g., winds above 27 mph)		

Corrective actions taken:

*Worksite Checklist - Personal Fall Restraint Systems (Including Positioning Systems)*

Item	Acceptable	Addressed by action taken
Workers are trained on proper use and care of fall restraint systems		
Workers are using an approved safety harness and equipment that have been inspected for wear, damage and deterioration prior to use		
Defective components are removed from service		
The anchorage or connection point and lanyard and/or lifeline are approved and capable of withstanding at least 3,000 pounds per attached worker		
The fall restraint system will prevent the worker from falling downward		
Positioning devices are set up so a worker cannot free fall more than 2 feet		

Corrective actions taken:

*Worksite Checklist - Personal Fall Arrest Systems*

Item	Acceptable	Addressed by action taken
Workers are trained on proper use and care of fall arrest systems		
Workers are using an approved safety harness and equipment that have been inspected for wear, damage and deterioration prior to use. Defective components are removed from service.		
The anchorage or connection point and lanyard and/or lifeline are approved and capable of withstanding at least 5,000 pounds per attached worker		
The fall arrest system will limit the maximum arresting force to 1,800 pounds		
The system is rigged so a worker cannot fall more than 6 feet nor contact a lower level or hazard		
Anchorages are designed, installed and used under the supervision of a qualified person		
Horizontal and vertical lifelines are designed, installed and used under the supervision of a qualified person		
Vertical lifelines can be locked in both directions and are protected from cuts or abrasion		
Self-retracting lifelines or lanyards that limit free falls to 2 feet or less are designed to withstand a force of 3,000 pounds, fully extended		
Lanyards, lifelines and harnesses are made of synthetic fibers (ropes/straps)		
Snap hooks are locking type designed to prevent disengagement		

Corrective actions taken:

*Worksite Checklist – Fall Arrest Rescue Equipment*

Item	Acceptable	Addressed by action taken
Fall arrest rescue equipment and procedures are in place when fall arrest equipment are used		
Workers using fall arrest equipment are monitored		
Adequate trained personnel, rescue equipment and plans are available and in place to rescue a worker within 6 minutes of a fall arrest		
First aid equipment is available onsite		

Corrective actions taken:

*Worksite Checklist - Warning Line Systems (A Last Resort)*

Item	Acceptable	Addressed by action taken
Before considering use of a warning line system, all four priority fall protection controls 1 to 4 were evaluated and deemed not feasible by a qualified person		
The warning line is erected around all sides of roof work areas, 6 feet from the roof edge (with mechanical equipment use the perpendicular distance is 10 feet)		
The warning line is installed parallel to the leading edge		
The rope, wire or chain is within 34 to 39 inches from the walking surface and is flagged at 6 foot intervals with a highly-visible material		
The rope, wire or chain has a tensile strength of at least 500 pounds		
Stanchions are capable of resisting 16 pounds horizontal, outward force at the top		
The line is erected in such a way that pulling on one section will not result in slack being taken up in adjacent sections before the stanchion tips over.		

Corrective actions taken:



*Worksite Checklist - Controlled Access Zones (A Last Resort)*

Item	Acceptable	Addressed by action taken
Before considering use of a controlled access zone, all four priority fall protection controls 1 to 4 were evaluated and deemed not feasible by a qualified person		
The control line is erected around all sides of roof work areas, at least 6 to 25 feet from the roof edge (exception is 60 feet for precast concrete erection)		
The control line is installed parallel to the leading edge		
The line is within 39 to 45 inches (50 inches for overhand bricklaying) from the walking surface and is flagged at 6 foot intervals with a highly-visible material		
The line has a tensile strength of at least 200 pounds		
For overhand bricklaying, the control line is 10 to 15 feet from the working edge, with only bricklayers permitted within the enclosed area(s)		
When a guardrail must be removed for overhand bricklaying, only that portion of the guardrail necessary for that day of work is removed		

Corrective actions taken:

*Worksite Checklist - Safety Monitoring Systems for Low-Slope Roofs (A Last Resort)*

Item	Acceptable	Addressed by action taken
Before considering use of safety monitoring, all four priority fall protection controls 1 to 4 were evaluated and deemed not feasible by a qualified person		
A trained and competent person (in the recognition of fall hazards) is designated to monitor workers and has no other duties to distract them from that function		
The monitor is present on the same walking or working surface as the workers		
The monitor is close enough to see and speak directly with workers		
Mechanical equipment are not being used or stored in monitoring areas		
All affected workers are trained on the fall hazards, warnings and procedures		

Corrective actions taken:

**APPENDIX B: WORKSITE INCIDENT FORM**

This Worksite Incident Form is to be completed and turned into the employer following any falls resulting in an injury. No matter how serious the injury, it should be reported to facilitate an investigation and ensure a more serious incident does not occur later. The goal of the incident investigation is to take necessary corrective actions to prevent further occurrences.

Injured Worker Name: \_\_\_\_\_ Date: \_\_\_\_\_

Worker Job Title: \_\_\_\_\_ Time: \_\_\_\_\_

Job Location: \_\_\_\_\_

Location of incident: \_\_\_\_\_

Were you able to interview the injured worker?      \_\_\_ Yes      \_\_\_ No

How many witnesses did you interview?      \_\_\_

Provide the names and titles of all witnesses interviewed: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Provide a detailed description of the incident. Include relevant events leading up to, during and after the incident.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Identify and describe any of the below factors that contributed to the incident:

1. Failure to follow safety procedures
  
2. Faulty equipment, machinery or tools
  
3. An unidentified fall hazard(s)
  
4. The work environment and conditions
  
5. Environmental conditions (e.g., weather)
  
6. Improper work procedures
  
7. Lack of proper training

Recommend corrective actions that should be initiated to prevent future incidents

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Preparer Name: \_\_\_\_\_

Preparer signature: \_\_\_\_\_ Date: \_\_\_\_\_

## APPENDIX C: LADDER INSPECTION FORM

Inspection date: \_\_\_\_\_ Inspection completed by: \_\_\_\_\_

If items 1-9 and 11 are unchecked, then mark ladder as defective/damaged with a "Do Not Use" tag or similar until repaired.

Item	1	2	3	4	5	6
Ladder ID number						
Size, Type, Construction						
1. Warning labels legible						
2. No broken or missing rungs						
3. No broken, split or missing rails						
4. No corrosion						
5. Feet intact and operational						
6. No loose bolts/rivets						
7. No cracks in fiberglass or wood						
8. No deformation/dents in rails/bracing						
9. Locking bar/ device operational						
10. Repairs made during inspection						
11. Ladder in good condition & can be used						