I **Portland Community College** **Environmental Health and Safety Manual**	Department: **Environmental Health and Safety (EH&S)**	
	Function: **Health & Safety Manual**	
	Topic: **Chapter 20** - **Fall Protection**	
	Board Policy: **B507**	Revised Date: **April 2019**

Authority	PCC Board Policy – B 507 Portland Community College is committed to providing a safe and healthy work and educational environment for our employees, students and visitors.

Summary	It is the College's goal to reduce, or eliminate, workplace accidents and injuries resulting from falls at height. This policy describes fall protection safeguards to reduce the potential of an accident, injury, or fatality resulting from a fall.

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	II. Authority
	III. Responsibility
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	B. Fall Protection Systems Fall Protection Systems Criteria and Practices 1. Guardrail System 2. Warning Line System 3. Safety Monitor System 4. Controlled Access Zone
	C. Personal Fall Arrest System (PFAS)
	D. Personal Fall Arrest System (PFAS) Inspection
	E. Fall Protection Work Plan (FPWP) 1. Job Specific Information 2. Potential Fall Hazards 3. Methods to be used for Fall Protection Arrest and/or Restraint 4. Description of Process 5. Notification & Emergency Procedure 6. Employees Approved
	F. Aerial Lifts and Self-Powered Work Platforms 1. Body Harness 2. Points of Attachment 3. Inspection of Personal Fall Arrest Equipment
	V. Training
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Appendices	A. Definitions B. References C. Roof Assessment D. Harness Inventory E. OSHA Trigger Heights TBD –

	[Ladders] [Scaffolding] [Walking/Working Surfaces] [Rigging] [Pools]
Forms	1. Fall Protection Work Plan (FPWP) 2. Personal Fall Arrest System (PFAS) Competent Inspection 3. PCC Harness Inspection 4. PCC Lanyard Inspection 5. PCC Lifeline and Rope Inspection

I. PURPOSE

Portland Community College (PCC or College) is committed to employees to reduce the risk of injury or fatality when working at heights ***four (4) feet or more*** above ground level.

ANY roof, walking-working surface, open floor, or areas with a vertical drop of *four (4) feet or more* constitutes a potential fall hazard on ANY PCC campus.

II. AUTHORITY

OAR 437 – Division 2, 437-002-0134, "*Personal Protective Equipment*"

OAR 437 – Division 2, Subdivision D, 1910.28, "*Walking-Working Surfaces"*

OAR 437 – Division 3 CONSTRUCTION, 437-003-1502 *"Warning-Line System for Roofing Work"*

OAR 437 – Subdivision M, 1926.502, *"Fall Protection Systems Criteria and Practices"*

OAR 437 – Subdivision M, 437-003-0503, *"Training Requirements"*

OAR 437 – Subdivision M, 1926.2502, *"Safety Monitoring Systems"*

III. RESPONSIBILITY

Employees

Employees are to follow the procedures in this program. Not following this procedure may bring increased risk of serious injury to themselves and co-workers.

- Employees are responsible for wearing the appropriate fall protection equipment when directed and for following the procedure specified in this policy.
- Employees are responsible for the proper care, use and inspection of their assigned fall protection equipment.
- Employees are expected to report any unsafe conditions to a supervisor.

Supervisors

Supervisors are responsible for providing a safe work environment for their staff by following health and safety policies and procedures. Supervisors are responsible for identifying any existing or potential fall hazards and for identifying which employees require training prior to working at elevated heights.

Supervisors, who are trained in this *Fall Protection Program*, must identify and provide the necessary personal fall protection equipment required for working in fall hazard situations, if engineering controls and administrative procedures are not an option, or should be supplemented. The supervisor should be a 'competent person,' as defined by OSHA, or assign someone to be the 'competent person' for the work group.

Supervisors will evaluate each roof, walking or working surface and verify that the following are considered;

1. ANY roof, **walking-working surface,** open floor, or areas with a vertical drop of ***four (4) feet or more*** constitutes a potential fall hazard on ANY PCC campus.
2. Elimination of a fall hazard will be the College's first consideration.
3. If a fall hazard cannot be eliminated, effective fall protection will be planned, implemented, and monitored to control the risks of injury due to falling.
4. Employees who do not follow the procedures in this program bring increased risk of serious injury to themselves and co-workers.

PCC considers a violation of *Fall Protection* rules and procedures a serious infraction with disciplinary action ranging from a letter of reprimand, to suspension, or with termination possible in the most serious of cases.

Environmental Health and Safety

Environmental Health and Safety Division (EH&S) is responsible for policy and procedure development to ensure compliance with all applicable federal and state regulations and with industry best practices.

- EH&S will provide technical guidance and assistance in training and methods of compliance.
- EH&S staff are authorized to halt any unsafe work practice that is not in accordance with this or any other PCC health and safety policy or procedure.

IV. PROCEDURES

All work performed from elevated surfaces including roofs, building ledges, mobile lifts, scaffolding and other work platforms shall be in accordance with this procedure and with the following *Fall Protection Program*.

A. FALL PROTECTION PROGRAM

OSHA defines two kinds of fall protection: passive fall protection, such as guardrails or netting, and active fall protection. When passive fall protection is not enough, active fall protection such as personal fall arrest systems, positioning systems, travel restraint systems and rope descent systems can help protect workers.

AT PCC, In order to become effective in following the 'hierarchy of remedies,' supervisors are to complete a ***Fall Protection Work Plan*** **(FPWP)** whenever fall protection is required.

Supervisors are to use the PCC *Fall Protection Work Plan* (Work Plan) [Form 1], or request the form from the EH&S Office.

An employee must be protected from falling when working on a walking-working surface that has an unprotected side or edge which is **four (4) feet or more** above an adjacent lower level, or when working from aerial lifts, or other elevated work platforms, and lifts. [1910.28 (b)(1)(i)]

In each of these cases, the fall hazards must be evaluated to determine the preferable method to protect the employee. Personnel should follow the subsequent hierarchy to eliminate, or reduce, the potential of a fall.

When considering what type of fall protection to use, the following 'hierarchy of remedies,' in order of preference, should be considered:

1. **Elimination** of the fall hazard by bringing the work down to safe ground level,
2. **Engineering controls** which protect the worker from exposure to potential falls,
   A. **Passive fall protection** systems such as guard rails, and netting,
   B. **Active Fall Protection** which includes**;**
      1. **Fall restraint** which prevents a person from reaching a fall hazard and
      2. **Fall arrest** which utilizes equipment to stop a fall after it occurs,
3. **Administrative controls** which use work practices, or procedures, to signal or warn a worker to avoid approaching a fall hazard,
   A. **Safe work practices**, and lastly
4. **PPE** suitable for the task.

Post a copy of completed *Fall Protection Work Plan* [Form 1] at the job site (on the Safety Board or prominently displayed), scan and attach to the Work Order, retain copies of the completed form in the departmental file, and send a completed original to Environmental Health and Safety

(EH&S). Please note, that the completed form is subject to review by personnel from the Oregon Occupational Safety and Health Administration (OR OSHA) and EH&S.

B. FALL PROTECTION SYSTEMS

One of the following systems shall be in place whenever an employee is exposed to a fall hazard of four (4) feet or higher.

OSHA Fall Protection Systems Criteria and Practices

1. **Guardrail System,** (which is a 'passive' fall protection system)
2. **Warning Line System,** (the following are 'active' fall protection systems)
3. **Controlled Access Zone,** and
4. **Safety Monitor System**

Fall Protection Systems Criteria and Practices

Warning line systems, controlled access zones, and safety monitor systems must be developed in accordance with OSHA regulation 1926.502*, Fall Protection Systems Criteria and Practices*, and must be approved by EH&S or their designee, before employees are exposed to fall hazards.

1. Guardrail systems

The use of guardrail systems is considered a passive method of fall protection and is actually the preferred method for eliminating fall hazards.

Guardrails are needed at the edge of work areas and shall be **42 inches (**± 3 inches) above the walking/working level [§1926.502(b)(1)] in height to protect employees from falling. This includes the edge of excavations greater than four (4) feet in depth.

Guardrail systems need to meet the following criteria:

- Toprail is 42 inches, +/- 3 inches above the walking/working level,
- Midrail is located midway between the top rail and the walking/working level,
- It is important to remember that the working level is that level where the work is being done. Someone working on a stepladder next to an edge may raise his/her working surface well above the walking surface,
- Both top and midrails should be constructed of materials at least one-quarter inch in thickness or diameter. If wire rope is used for toprails, it needs to be flagged with a high-visibility material at least every 6 feet and can have no more than 3" of deflection,
- The toprail needs to withstand a force of 200 pounds when applied in any downward or outward direction,
- The midrail needs to withstand a force of 150 pounds applied in any downward or outward direction,
- Toeboards are required for all guardrails on elevated walking or working platforms where employees working below are exposed to falling objects. Toeboards must be four inches in height and must be securely fastened,
- The system should be smooth to prevent punctures, lacerations or snagging of clothing,
- The ends of the top rail shouldn't overhang the terminal posts, except when such overhang does not present a projection hazard,
- When a hoisting area is needed, a chain, gate or removable guardrail section must be placed across the access opening when hoisting operations are not taking place.

2. Warning Line System

Warning line systems consist of painted lines, ropes, wires, or chains, and supporting stanchions that form a barrier to warn workers they are near an unprotected roof side or leading edge [§1926.502(f)].

- A yellow painted line on the roof surface, not less than 6-feet from the roof edge, will be marked with a contrasting stencil warning at not more than 6-foot intervals.

The warning line systems consist of a rope, wire or chain and supporting stanchions erected not less than 6-feet from the roof edge as follows:

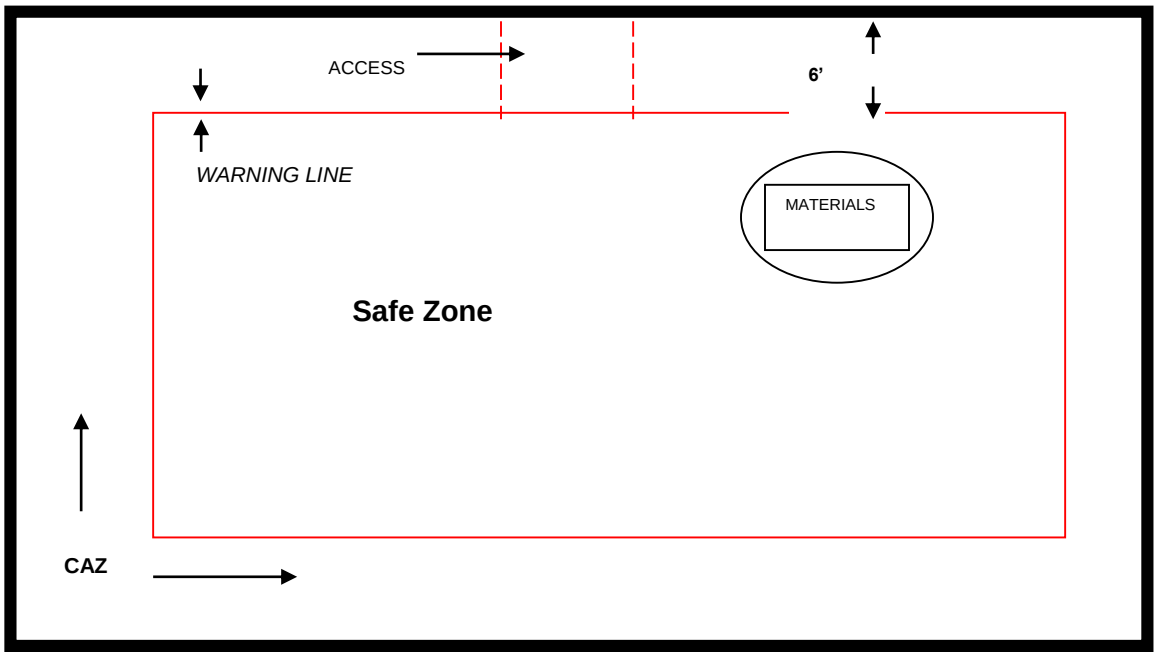
- Warning lines will be erected around all sides of the work area.
- The rope, wire, or chain will be flagged at not more than 6-foot intervals with high visibility material.
- The rope, wire, or chain will be rigged and supported in such a way that its lowest point (including sag) is not less than 36" from the roof surface and its highest point is no more than 42" from the roof surface.
- After being erected, with the rope, wire or chain attached, stanchions will be capable of resisting, without tipping over, a force of at least 16 lbs applied horizontally against the stanchion, 30" above the roof surface, perpendicular to the warning line, and in the direction of the roof edge.
- The rope, wire, or chain will have a minimum tensile strength of 200 lbs and after being attached to the stanchions, will be capable of supporting, without breaking, the loads applied to the stanchions.
- The line will 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.
- Materials will not be stored within 6' of the roof edge unless guardrails are erected at the roof edge.
- Warning lines will be erected not less than 6' from roof edge when no mechanical/mobile equipment is used. When mechanical/mobile equipment is being used, the warning line will be erected not less than 6' from the roof edge which is parallel to the direction of the mechanical equipment operation, and not less than 10' from the roof edge which is perpendicular to the direction of mechanical/mobile equipment operation.
- Workers performing work outside of the warning line, toward the roof edge, must utilize a personal fall arrest system.
- Warning lines may only be used on low-sloped roofs (pitch of less than or equal to 2 in 12) and as part of an employer-approved ***Fall Protection Work Plan*** **(FPWP)** [Form 1].
- Points of access to materials handling areas, and storage areas will 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, a rope, wire, or chain equal in strength and height to the warning line will be placed across the path at the point where the path intersects the warning line erected around the work area.

3. Controlled Access Zone (CAZ) – Leading Edge Work

When performing leading edge work on low-pitched roofs, ensure that a *Control Access Zone* (CAZ) is established. This buffer zone (CAZ) is the area between the warning line and the unprotected sides and the walking/working surface. The CAZ begins 6' back from the leading edge, and is separated by other work areas by a warning line.

Fall restraint or fall arrest systems are to be used inside the CAZ. When these systems are not feasible a safety monitor system will be used. A warning line is not mandatory on low-pitched roofs less than 50' wide, but a safety monitor is still required.

Roof Leading Edge [Roof Assessment documentation will be added in Appendix]



4. Safety Monitor System

A Safety Monitor System (SMS) [§437-003-2502] may be used in conjunction with a warning line system as a method of guarding against falls during work on low-sloped roofs (less than or equal to 2 in 12 pitch), roof less than 50-foot in width, and leading edge work only.

A ***'competent person'*** will act as the 'safety monitor' for this activity on a surface **<50' in width**.

Safety monitoring systems for roofing work and their use shall comply with the following provisions.

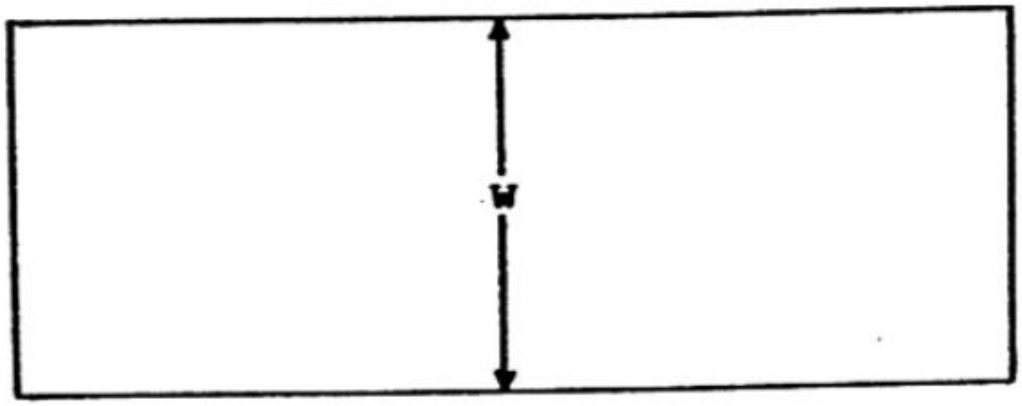
(1) A safety monitoring system shall not be used as a fall protection system for any work other than roofing work on roof slopes of 2 in 12 (vertical to horizontal) or less.

(2) The use of a safety monitoring system alone (i.e., without the warning line system) is not permitted on roofs more than 50 feet (15.25 m) in width. (see Appendix A of this subdivision)

Appendix A serves as a guideline to assist employers complying with the requirements of 1926.501(b)(10). Section 1910.501(b)(10) allows the use of a safety monitoring system alone as a means of providing fall protection during the performance of roofing operations on low-sloped roofs 50 feet (15.25 m) or less in width. Each example in the appendix shows a roof plan or plans and indicates where each roof or roof area is to be measured to determine its width.

Section views or elevation views are shown where appropriate. Some examples show "correct" and "incorrect" subdivisions of irregularly shaped roofs divided into smaller, regularly shaped areas. In all examples, the dimension selected to be the width of an area is the lesser of the two primary dimensions of the area, as viewed from above.

1 Example A
Rectangular Shaped Roofs



PLAN VIEW

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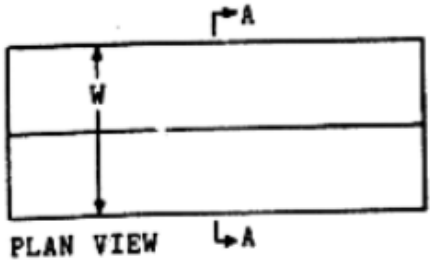
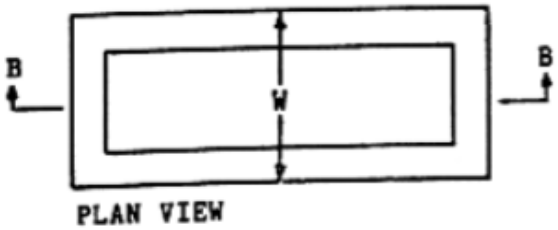
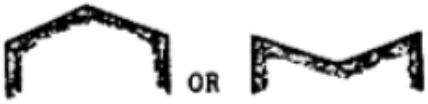
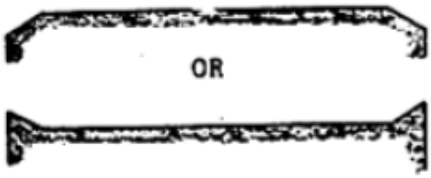
2 Example B
Sloped Regular Shaped Roofs







SECTION A-A



SECTION B-B

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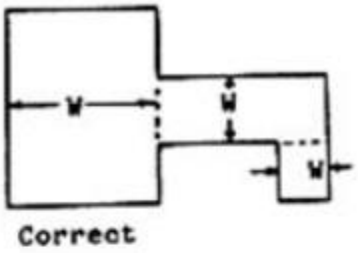
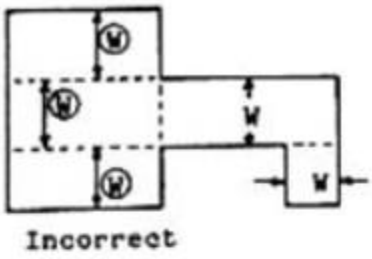
3 Example C
Irregularly Shaped Roofs with Regular Shaped Sections



Correct



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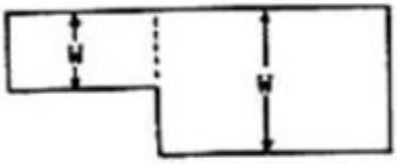

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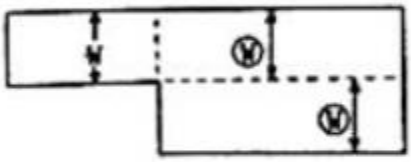

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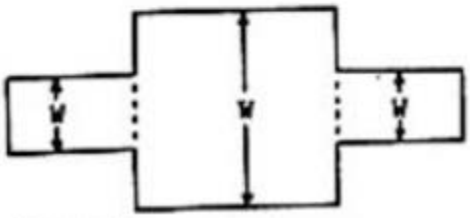

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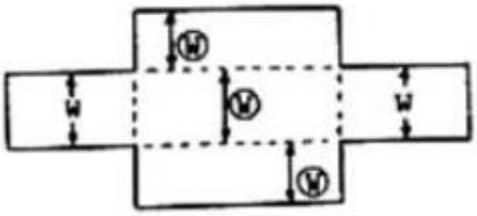

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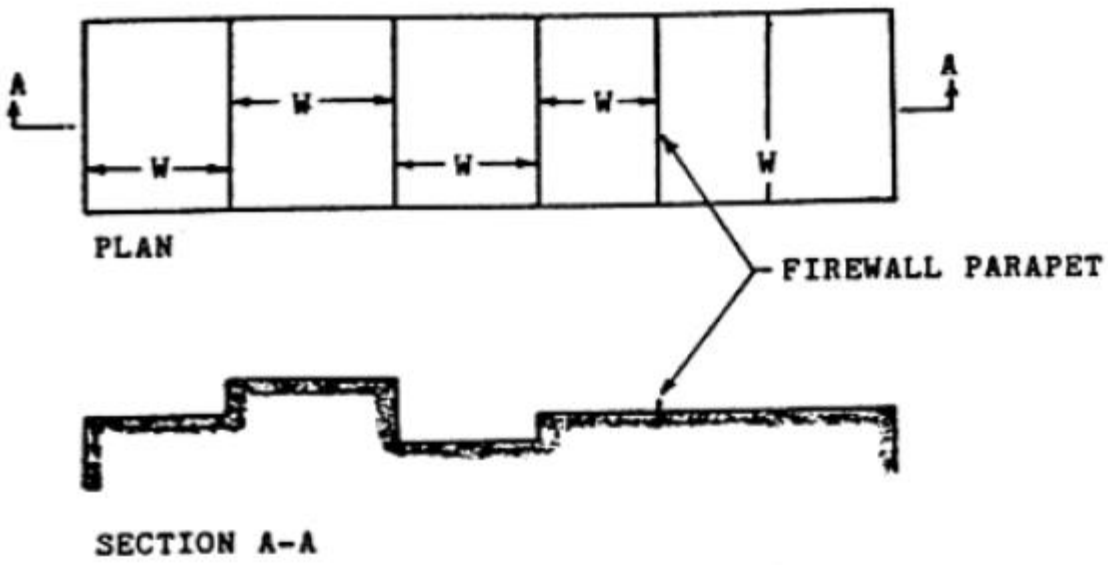
4 Example D
Separate, Non-Contiguous Roof Areas

1.



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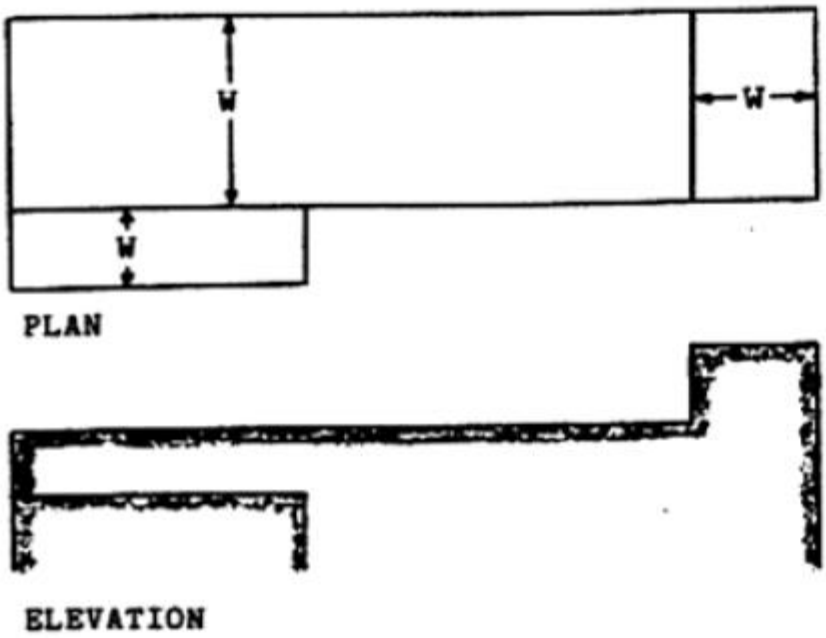

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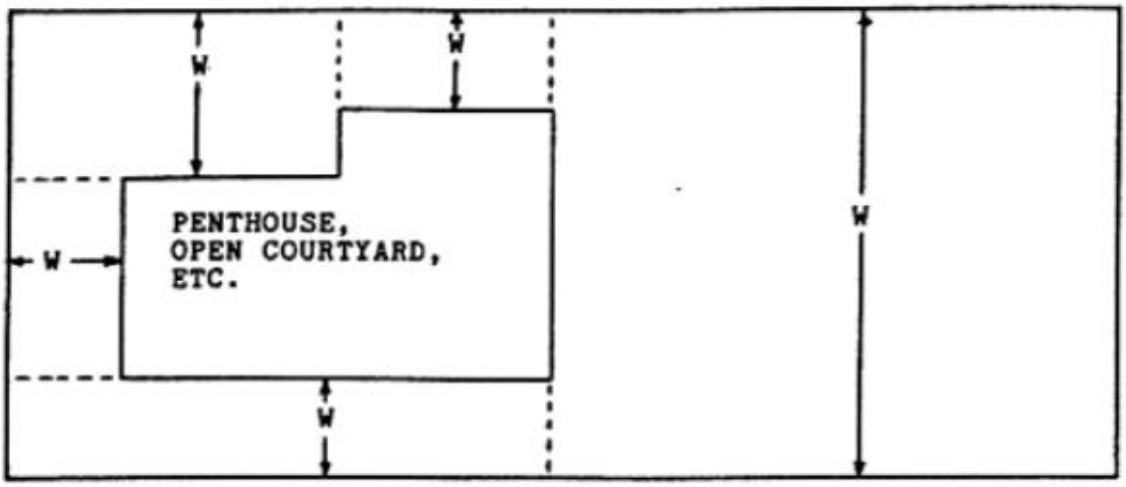
5 Example E
Roofs with Penthouses, Open Courtyards, Additional Floors, etc.



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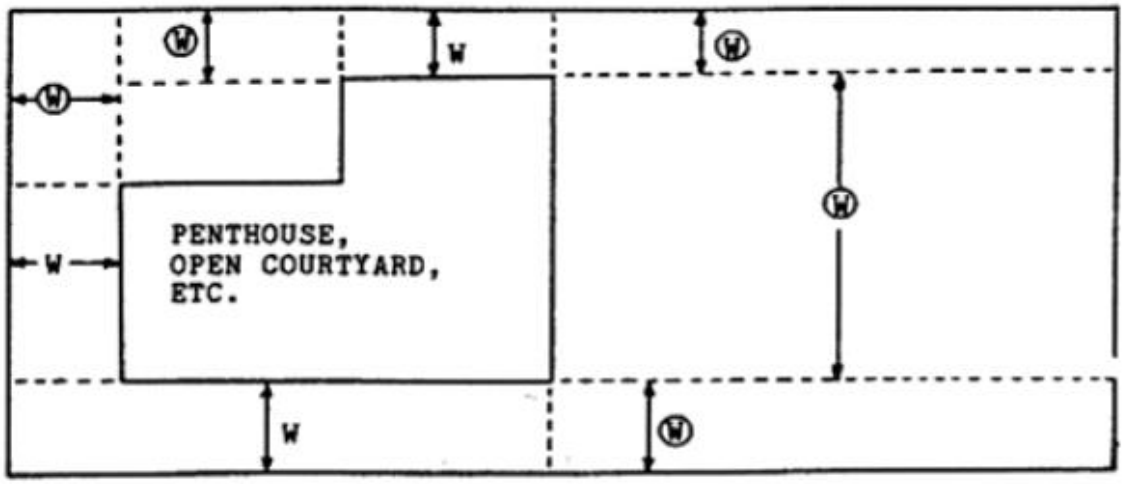

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<u>NOTE</u>: The SMS does <u>NOT</u> provide a physical means of preventing or arresting falls.

[Raked edge, or inclined roof edges and gables, of a building will be considered as a separate hazard and evaluated.]

When a safety monitor system is used, the supervisor will ensure that the safety monitor system is addressed in the fall protection work plan, include the name of the safety monitor(s) and the extent of their training in both the safety monitor and warning line systems. The safety monitor system will <u>not</u> be used when adverse weather conditions create additional hazards.

The safety monitor(s) will be trained in the function of both the safety monitor and in place of the warning line systems, and will:

1. Have control authority over the work as it relates to fall protection.
2. Be instantly distinguishable over members of the work crew (such as, wearing a brightly colored vest).
3. Engage in no other duties while acting as safety monitor.
4. 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.
5. Not supervise more than eight 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.

A safety monitor may be used as the sole means of protection on low-pitched roofs <50' wide.

C. PERSONAL FALL ARREST SYSTEM (PFAS)

Personnel requiring the use of personal fall protection equipment shall employ the "Buddy System" or have an observer to render assistance when and if required.

There are three (3) main components to the personal fall arrest system (PFAS).

This includes;

1. Personal protective equipment the employee wears,
2. Connecting devices, and
3. Anchorage points.

Prior to tying off to perform the work, a means of rescue in the event of a fall must be immediately available.

Personnel requiring the use of personal fall protection equipment shall employ the *"Buddy System"* or have an observer to render assistance when and if required.

ALL personal fall arrest system (PFAS) components must meet the requirements of the ANSI Z359 Standards.

Calculations for the personal fall arrest system (PFAS) equipment:

PFAS = Class III body harness + lanyard + lifeline + anchor point

Consider these 3 components of a fall when choosing the proper PFAS:

1) A free fall distance (not to exceed 6') which is the distance a person falls before the PFAS begins to apply force to stop the fall.
2) The distance which is after the free fall, when the PFAS activates and applies force to stop the fall (not to exceed 3.5' and done by deceleration device such as a shock absorbing lanyard).
3) The arresting force, which is the force needed to stop the worker from falling (limited to 1800 lb. for body harness). The greater the free fall distance, the more force needed to arrest the fall. Equipment used must be able to withstand this arresting force, and the weight of the worker must be considered in the arresting force calculations.

Deceleration distance is 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.

The *Fall Clearance Calculation* will be used to for calculating the fall distance of a person in a harness from a height so not to hit the ground. The following are the symbols used in this calculation:

FFD = Free-Fall Distance, fall before arresting devices engage at 6-feet (2m) min.

DD = Deceleration Distance, energy absorber distance / limit fall to a distance of 5-feet (1.75m) + and harness stretch of 1-foot (0.25m) maximum distances.

H = Height, of the tallest person in your group (assume 6-foot average).

C = Clearance to obstruction, minimum safety factor of 3-feet (1m) minimum (min.)

RD = Required Distance, stopping fall below working surface to nearest obstruction

(Figure 1) Harness and lanyard to cross-arm strap calculation: FFD + DD + H + C = RD

(Figure 2) Harness and retractable lifeline calculation: DD + H + C = RD

The Fall Distance Calculation will be documented on the Fall Protection Work Plan [Form 1].

Figure 1

Formula: FFD + DD + H + C = RD

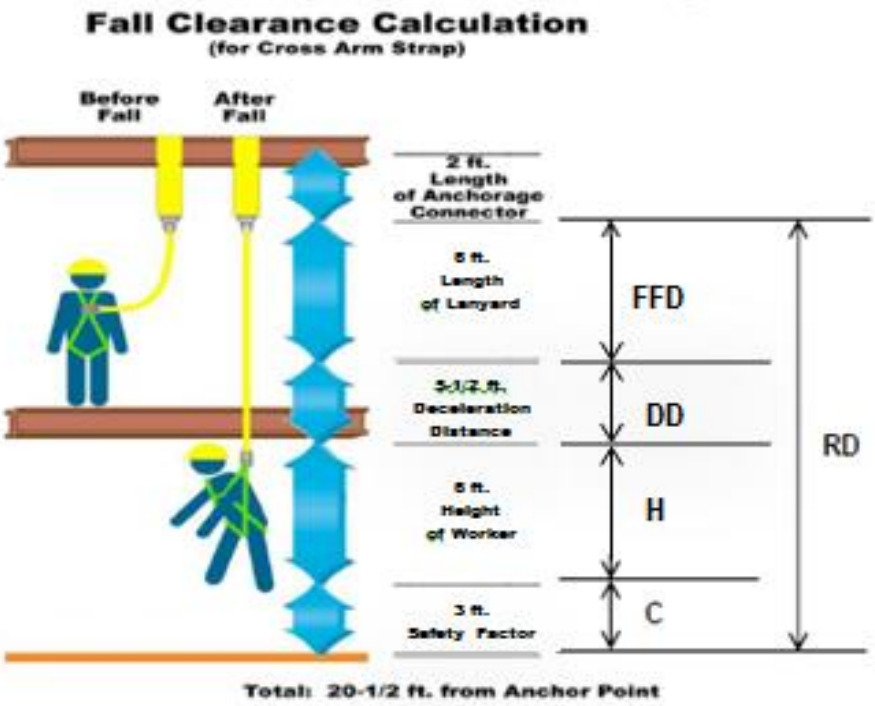
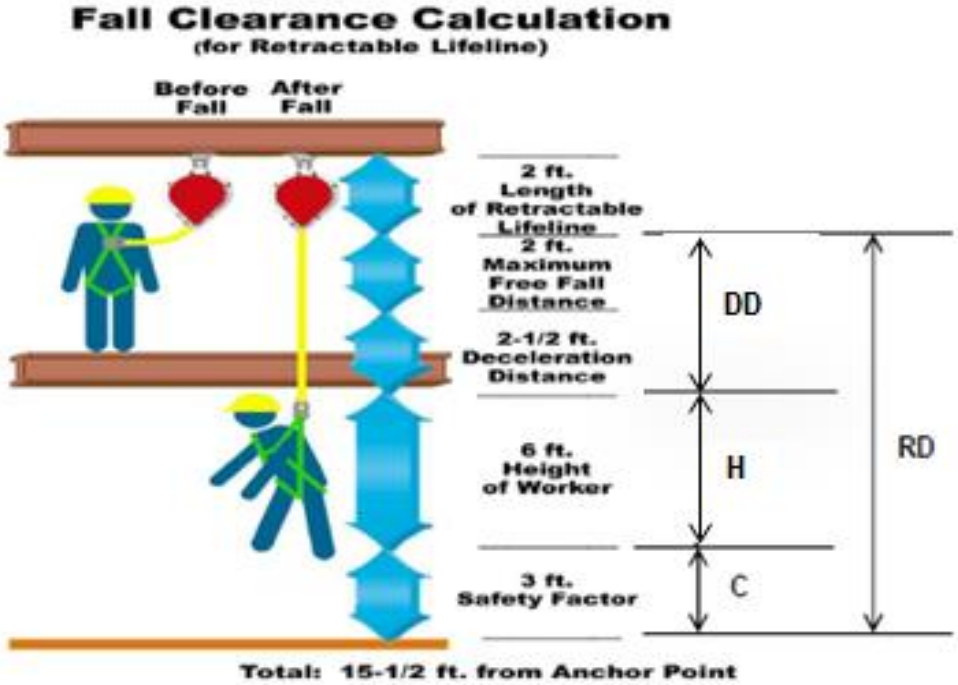


Figure 2

Formula: DD + H + C = RD



D. PERSONAL FALL ARREST SYSTEM (PFAS) INSPECTION [Form 2]

The personal fall arrest system (PFAS) inspection is a form that is used to document the condition of the PFAS equipment that is to be utilized (harness, lanyard, and/or lifeline/rope). A 'competent person' is responsible for the completion of the Form 2 every 6 months.

1. Equipment will be inspected by a 'competent person' **every 6 months** according to manufacturer's directions and documented.
2. A record of the **6-month inspection** will be completed and retained on Form 2.
3. The calendar tag on the harness/lanyard must also be marked, initialed/dated, or punched indicating the date/month inspection has been performed.
4. If defective equipment is found it will immediately be taken out-of-service and discarded, or sent to the manufacturer for repair.

The pre-use inspection is to be performed by a 'qualified person,' and will be captured on;

- *PCC Harness Inspection* - Form 3, and
- *PCC Lanyard Inspection* - Form 4, and
- PCC *Lifeline and Rope Inspection* - Form5 (if this system is used).

1. If the harness and lanyard are used DAILY, a daily visual pre-use inspection must be performed and the attached inspection tag must be completed MONTHLY.
2. If a PFAS is used infrequently, a complete inspection must be performed and documented for EACH USE on each of the appropriate forms, AND every 6-months.
3. The calendar tag on the harness/lanyard must also be marked, initialed/dated, or punched indicating that the date/month inspection has been performed.

There are three main components to the personal fall arrest system. This includes the personal protective equipment the employee wears, the connecting devices, and the anchorage point.

All personal fall arrest system components must meet the requirements of ANSI Z359.

The personal fall arrest system (PFAS) needs to meet the following criteria for each component:

1. Personal Protective Equipment – PPE

a. Full body harnesses are required. The use of body belts is *prohibited*.
b. The attachment point of the body harness is the center D-ring on the back.
c. Employees must always tie off at or above the D ring connector of the harness, except when using an aerial boom lift then the lanyard must be 3 feet or less in length.
d. Harnesses or lanyards that have been subjected to an impact load shall be destroyed.
e. Load testing shall not be performed on fall protection equipment.

2. Connecting devices [§ 1915.159(a)]

This device can be a rope or web lanyard, rope grab or retractable lifeline.

a. Only locking snaphooks may be used,
b. Horizontal lifelines will be designed by a 'qualified person' and installed in accordance with the design requirements,
c. Lanyards and vertical lifelines need a minimum breaking strength of 5,000 pounds,
d. The length of a single lanyard shall not exceed six feet,
e. The use of steel lanyards is prohibited,

f. Lanyards may not be clipped back to itself (e.g. around an anchor point) unless specifically designed to do so,

g. If vertical lifelines are used, each employee will be attached to a separate lifeline,

h. Lifelines need to be protected against being cut or abraded.

3 Anchorage

Secure anchor points are the most critical component when employees must use fall arrest equipment. PCC buildings may have existing structures (e.g., steel beams that may meet the criteria for a secure anchor point). Other work locations and assignments may require the installation of a temporary or permanent anchor.

As a minimum, the following criteria must be considered for each type of anchor point:

a. Structure must be sound and capable of withstanding a 5000 lb. static load,

b. Structure/anchor must be easily accessible to avoid fall hazards during hook up,

c. Direct tying off around sharp edged structures can reduce breaking strength by 70% therefore; chafing pads or abrasion resistant straps must be used around sharp edged structures to prevent cutting action against safety lanyards or lifelines,

d. Structures used as anchor points must be at the worker's shoulder level or higher to limit free fall to six (6) feet or less and prevent contact with any lower level (except when using a self-retracting lifeline, or a three (3) foot lanyard),

e. Choose structures for anchor points that will prevent swing fall hazards. Potentially dangerous "pendulum" like swing falls can result when a worker moves horizontally away from a fixed anchor point and falls. The arc of the swing produces as much energy as a vertical free fall and the hazard of swinging into an obstruction becomes a major factor. Raising the height of the anchor point can reduce the angle of the arc and the force of the swing. Horizontal lifelines can help maintain the attachment point overhead and limit the fall vertically. A 'qualified person' must design a horizontal lifeline.

4. Permanent Anchor Requirements

In addition to all the criteria listed above, the following points must be considered:

- Environmental factors and dissimilarity of materials can degrade exposed anchors,
- Compatibility of permanent anchors with employee's fall arrest equipment,
- Inclusion of permanent anchors into a Preventive Maintenance Program with scheduled annual re-certification,
- Visibly label permanent anchors. Roof anchors must be immediately removed from service and re-certified if subjected to fall arrest forces.

5. Reusable Temporary Anchors

- Reusable temporary roof anchors must be installed and used following the manufacturer's installation guidelines,
- Roof anchors must be compatible with employee's fall arrest equipment,
- Roof anchors must be removed from service at the completion of the job and inspected prior to reuse following the manufacturer's inspection guidelines,
- Roof anchors must be immediately removed from service and disposed of if subjected to fall arrest forces.

6. Complete system

- If a fall occurs, the employee should not be able to free fall more than six (6) feet nor contact a lower level,
- To ensure this, add the height of the worker, the lanyard length of 6 feet, and an elongation/deceleration length of 5.5 feet and a safety factor of 3 feet. Using this formula, a six-foot worker would require a tie-off point at least 20.5 feet above the next lower level,
- A personal fall arrest system that was subjected to an impact needs to be removed from service immediately,
- Personal fall arrest systems need to be inspected prior to each use and damaged or deteriorated components removed from service,
- Personal fall arrest systems should not be attached to guardrails or hoists.

7. Tie-Off

- Employees must tie-off in a manner that ensures no lower level is struck during a fall. Tie-off should be at or above the back D-ring connector attachment of the harness. This is especially important when utilizing shock-absorbing lanyards as these units may elongate as much as 3.5' during a fall.

E. FALL PROTECTION WORK PLAN (FPWP) [Form1]

In order to become effective in following the 'hierarchy of remedies,' supervisors are to complete a ***Fall Protection Work Plan*** **(FPWP)** whenever fall protection is required.

Supervisors are to use the PCC *Fall Protection Work Plan* (Work Plan) [Form 1], or request the form from the EH&S Office.

The FPWP must be evaluated on a task-by-task basis and will address in writing regarding roof and fall hazards;

The FPWP is used to assist in documenting the condition of the roof location and identify the correct PFAS for worker safety.

1. **Job Specific Information**
   This section is to identify the location, dates and project information.
2. **Potential Fall Hazards**
   This section is to identify the potential fall hazards associated with the work on roofs or open-sided floors for; platforms, floor openings, trenches, wall openings, roof hatch and skylights and surfaces that don't meet walking/working surfaces.
3. **Methods to be used for Fall Protection Arrest and/or Restraint**
   This section is to identify what methods will be used as fall protection. This includes; guardrails, warning lines w/wo safety monitor, covers, anchors, horizontal and vertical life-lines, positioning devices, personal fall arrest and restraint systems.
4. **Description of Process**
   This section is to calculate the Fall Distance, location and height of anchors, length of rope, what equipment is needed; maintenance/inspection/disassembly of equipment, PFAS inspection, tools/materials needed, and measures to protect ground workers.
5. **Notification & Emergency Procedure**
   This section is to identify the contacts for emergency services, identify where the hazard is located, start/end time, and any other issues that may be needed in an emergency.
6. **Employees Approved**
   ONLY employees that have taken the EH&S Fall Protection training may access an elevated location.

Supervisor MUST review the FPWP, make corrections, sign & date, then scan and attach to the work order.

Scan and attach to the work order and return the completed form to EH&S.

F. WORK FROM AERIAL LIFTS AND SELF POWERED WORK PLATFORMS

Training in the proper operation and inspection of the equipment must be received prior to operating or working from an aerial lift, or self-powered work platform (i.e., scissors lift), regardless of the type.

1. Body Harness

Body harnesses must be worn with a shock-absorbing lanyard (not to exceed 3 feet in length) **and must be worn when working from an elevated work platform.**

(Exception: Scissor lifts and telescoping lifts that can move only vertically do not require the use of a harness and lanyard as long as the work platform is protected by a guardrail system).

2. Attachment Point

The point of attachment must be the anchor point installed by the equipment manufacturer.

Personnel cannot attach lanyards to adjacent poles, structures or equipment while they are working from the aerial lift.

Personnel cannot move an aerial lift while the boom is in an elevated working position and the operator is inside of the lift platform, unless the movement is performed with a spotter on the ground.

3. Inspection of Personal Fall Restraint or Fall Arrest Equipment

Personal Protective Equipment “Fall Protection” is addressed in the safe operation of aerial lifts [437-002-2306(2)(d) (I) (i), *Personal Protective Equipment*].

Qualified employee shall inspect the entire personal fall restraint or fall arrest system prior to use.

The ‘competent person’ **shall** inspect the entire system in use at the initial installation and every 6-months thereafter. The visual inspection of a personal fall restraint system **shall** follow the manufacturer’s recommendations. Any components of a personal fall restraint system noted to be damaged **shall** be removed from service immediately.

Documentation for the pre-use inspections will be captured on; *PCC Harness Inspection* Form 3*,* and *PCC Lanyard Inspection* Form 4, prior to each use (infrequent) or MONTHLY if used on a daily basis (window washer/painter).

The most common reasons for falls from aerial lifts are hydraulic cylinder failures that cause the boom to drop, outriggers that are not used or are improperly placed causing lift vehicle overturns, workers that are not tied off while they are in the bucket/platform, and worker that fall or are pulled off a platform when the vehicle is struck by another vehicle or moves unexpectedly.

Supervisors are to ensure only trained and authorized person will operate aerial lifts, and employees:

a. Follow the manufacturer’s directions when operating aerial lifts,
b. Do not occupy an aerial lift while driving to a new location of any distance while elevated,

c. Prior to each day use, test the boom, basket, and lift controls to determine that controls are in safe working condition,
d. Stand firmly on the floor of the basket and do not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position,
e. Do not step out of aerial lifts to perform maintenance,
f. Wear a full body harness and a lanyard attached to an approved anchor point on the boom or basket,
g. Do not attach lanyard to an adjacent, pole, structure, or equipment while working from an aerial lift,
h. Do not exceed boom and basket load limits specified by manufacturer.
i. Set brakes, and when outriggers are used, they will be positioned on pads or a solid surface. Wheel chocks will be installed before using an aerial lift on an incline,
j. Do not allow tools and material to accumulate on the floor of the platform,
k. Most lifts are not designed to be used/driven on uneven or sloped ground. Consult manufacturer for lift limitations. Check travel distance and work area for holes, debris, obstacles, drop-offs etc. prior to job,
l. Avoid overhead obstacles and stay at least 10' away from power lines when using aerial lifts,
m. Check overhead clearances prior to using lift,
n. Do not operate lift in severe weather such as electrical storms within 5-miles, or in strong sustained or gusty winds greater than 20 mph OR-OSHA [§1926.1404(k)(8)(i)]
o. Use warnings signs, barricades, and or flagger to keep others out of the work area.

V. TRAINING

The College holds safety in all operations and activities to be of high importance. Accordingly, employee will be trained in the safe performance of their jobs. The *Health & Safety Manual* stresses the importance of safety and identifies expected standards of safe conduct. Regulations from government agencies, e.g., OR-OSHA [§437-003-0503], dictate many standards of employee performance.

Safety training will be directed at developing each employee's knowledge, skill and understanding to enable them to work safely. Training will be provided through various means with primary instruction given by the immediate supervisor/manager or Environmental Health & Safety.

Each employee who may be exposed to fall hazards shall be trained to recognize the hazards and the procedures to follow to minimize the hazards. A 'competent person' will provide the training.

The 'competent person' must train employees in the following areas:

- Overview of the OR OSHA fall protection standards.
- Fall hazards in the work area,
- Correct procedures for erecting, maintaining, disassembling and inspecting the fall protection systems used,
- Selection, proper use and care of equipment comprising a personal fall arrest system (PFAS),
- Role of employees in fall protection plans,
- Rescue procedures to follow in case of a fall,

Training records shall be maintained for each employee. The record will contain; Title of the training, date of training, name of the employee(s) trained, signature of the employee(s), payroll G-number(s), and the name and signature of the person who conducted the training. If there is a change in the fall protection system being used, or if an employee's actions demonstrate that the employee has not retained the understanding or skills important to fall protection, additional training, or retraining, will be administered.

A training module will be available to all employees in the *Fall Protection Program*.

VI. RECORDKEEPING

Training records: Information regarding employee health & safety training such as agendas, handouts, presentation materials, rosters, etc., is maintained by the EH&S department when the EH&S department hosts/conducts the training. Departments that conduct their own employee health and safety training should maintain the original documents but forward copies of the documents to the EH&S department.

All records are to be retained by the applicable departments for the duration established by the Oregon State Archives in conjunction with government regulations.

APPENDIXES

A. Definitions

B. References

C. Roof Assessment

D. Harness Inventory

E. OSHA Trigger Heights

TBD - [Additional sections / chapters of this procedure to update]

- **Ladders**
- **Scaffolding**
- **Walking/Working Surfaces (Holes/Stairs, etc.)**
- **Rigging**
- **Pools**

FORMS

1. Fall Protection Work Plan (FPWP)
2. Personal Fall Restraint & Arrests System (FPAS) Inspection
3. PCC Harness Inspection
4. PCC Lanyard Inspection
5. PCC Lifeline and Rope Inspection