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Introduction

Most construction and maintenance operations often require manual labor at dangerous heights and on steeply pitched working surfaces. The possibility of lost footing, decreased stability, and objects falling from such heights is great, not only to the employee(s) who is working at such heights, but to the employee(s) who are working directly or passing through the elevated work site.

In recognition of these hazards, Hilscher-Clarke has created the following plan to:

- Specifically address fall protection on the job, and;
- To ensure that each employee is trained and made aware of the safety provisions which are to be implemented by this plan prior to the start of a job duty involving a ***“uniform threshold height of six feet.”***

This means that all employees, and the general public, must be protected from fall hazards and falling objects whenever:

- An affected employee is six feet or more above a lower level;
- When workers could fall into or onto dangerous equipment from six feet or less;

When employees and/or subcontractors of Hilscher-Clarke are involved in such operations, the following minimum safety guidelines shall be followed to promote a safe and healthful workplace and to guard against injury to others below the actual work area.

- Training & Retraining
- Work Site Evaluation & Re-Evaluation by a Competent Person
- Safety Monitoring System(s)
- Controlled Access Zones (CAZ)
- Catch Platforms
- Walking & Working Surfaces (Holes)
- Crane or Derrick Suspended Personnel Platforms
- Guardrail Systems
- Safety Belts, Lifelines, & Lanyards (Individual Protection Systems)
- Safety Net Systems
- Erection of Exterior Walls
- Roofing Brackets
- Roof Sheathing Operations
- Scaffolds (*See Hilscher-Clarke’s Scaffolding Plan*)
- Use of Hoisting Lines
- Working Over or Near Water
- Work Site Isolation
- Personal Protective Equipment

Because Hilscher-Clarke recognizes that Fall Protection in the workplace is not limited to the “Safety Monitoring System” and “Controlled Access Zones,” we have developed this policy as a way of addressing potential hazards and required training, and retraining

Policy

Hilscher-Clarke is committed to provide a safe and healthful work environment for our entire staff and any subcontractors we may employ. In pursuit of this endeavor, the following Fall Protection Plan is provided to eliminate or minimize the risk of injury in accordance with OSHA Fall Protection, Title 29 CFR (Code of Federal Regulations) 1926.501 through 1926.503.

The Fall Protection Plan is a key document to assist our firm in implementing and ensuring compliance with the standard, thereby protecting our employees, and in turn the general public. This Fall Protection Plan includes, but is not limited to:

- The identification of fall hazards in the work area;
- The use and operation of guardrail systems, body belt/harness systems, safety nets, and other fall protection systems;
- The correct procedures for erecting, maintaining, disassembling, and inspecting the system(s) being used;
- All applicable OSHA standards and/or regulations and the schedule and method for implementing the specific sections of the standard, including, but not limited to:
 - Fall Protection Work Plan – *Site Specific*
 - Design & Operational Requirements
 - Company Mandated Training & Re-training Requirements
 - PPE & Material Storage
 - Competent Person Qualifications
 - Accident & Near Miss Investigation & Documentation

Section II
General Program
Management

Program Administration

- ❑ The Vice President is responsible for the implementation of the Fall Protection Plan. The Vice President will maintain and update the written Fall Protection Plan at least annually and whenever necessary to include new or modified tasks, procedures, and individual protection systems.
 - ❑ The Vice President and/or Safety Director may delegate various aspects of the Fall Protection Plan to a Qualified Organization (as approved by the Vice President). However, the Safety Director's ultimate responsibility for his/her aspects of the program cannot be delegated.
 - ❑ Personnel employed by Hilscher-Clarke and all contractors and subcontractors, working at any and all construction/work sites operated by Hilscher-Clarke are required to comply with (at a minimum) the procedures and work practices outlined in this Fall Protection Plan. Supervisory Personnel are responsible for ensuring that said individuals/organizations, operating under their immediate supervision, are informed of and adhere to Hilscher-Clarke's Fall Protection Program.
 - ❑ Those employees who are reasonably anticipated to work in an area where there is a fall hazard, or a hazard from a falling object, are required to comply with the procedures and work practices outlined in this Fall Protection Plan.
 - ❑ The Safety Director will have the responsibility for ensuring that all procedures outlined in the Fall Protection Plan are followed and that only ANSI approved devices, PPE, and/or equipment is purchased and utilized on the individual site(s).
 - ❑ The Safety Director will be responsible for training, documentation of training, and making the written Fall Protection Plan available to employees, OSHA and NIOSH representatives.
 - ❑ The Safety Director will work with Supervisory Personnel to identify and evaluate fall hazards, and provide a written "Fall Protection Work Plan" (*see Appendix A*) for each work area where:
 - An employee is six feet or more above a lower level and;
 - When a worker could fall into or onto dangerous equipment from six feet or less.
- The Supervisor will then post the "Fall Protection Work Plan" at each area and update/maintain this work plan as the work area and Fall Protection needs, change.
- ❑ The Safety Director will work with Supervisory Personnel to provide all necessary PPE, Individual Protection Systems (IPS), equipment and materials needed to comply with the requirements of the individual posted "Fall Protection Work Plan(s)".
 - ❑ The Supervisor is responsible for insuring that **only** employees, and sub-contractors employees, who have been trained in proper use, wearing, application, and inspection procedures of ANSI approved personal fall protection equipment, will be allowed to work in locations where such equipment must be worn.

NOTE: Hilscher-Clarke's designated Safety Director, or site specific Competent Person, will ensure that adequate supplies of the aforementioned ANSI approved equipment are readily available.

Section III

Definitions

Definitions

Before beginning training there are several definitions that should be explained and/or clarified, which specifically apply to this regulation and this plan.

Extension Ladder – a portable ladder, adjustable in length. It consists of 2 or more sections traveling in guides or brackets so arranged as to permit length adjustment. Its size is designated by the sum of the lengths of the sections measured along the side rails.

Fall Arresters (shock absorbers, or deceleration device) – a device that slows a worker's fall or breaks the fall to prevent injury, usually by rip stitches, specially woven lanyard, tearing or deforming lanyard, rope grab, or automatic self-retracting lifeline. Such a device dissipates a substantial amount of energy during a fall.

Fixed Ladder – as used in this plan, a ladder securely fastened in a fixed position, whether to remain as part of the structure or for use during a part or all of the construction period.

Floor Hole – an opening measuring less than 12 inches but more than 1 inch in its least dimension in any floor, scaffold, platform, or runway, through which materials or tools may fall.

Floor Opening – an opening measuring 12 inches or more in its least dimension, in any floor or platform into which employees may step, such as stairway openings, ladder openings, pits or manholes.

Free Fall – the act of falling before the personal fall arrest system begins to apply force to arrest the fall.

Handrail – a single bar or pipe supported on brackets from a wall or partition, as on a stairway or ramp.

Intermediate Rail – the intermediate lateral member or members of a standard guard railing installed at intervals of no more than 21 inches.

Ladder – a piece of equipment usually consisting of 2 side rails joined at regular intervals by cross-pieces called steps, treads,

rungs, or cleats, on which an employee may step in ascending or descending.

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 anchor 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.

Maximum Rated Load – the total of all loads including the working load, the weight of the scaffold, and such other loads as may be reasonably anticipated.

Nose (nosing) – that portion of a tread projecting beyond the face of the riser immediately below.

Platform – a temporary flat working space elevated above the surrounding floor or ground for the use of supporting employees, material and equipment.

Restraint Device – a device where the lanyard is sized such that the worker can just reach the farthest point on a platform without actually reaching the edge.

Rise (riser) – a passageway for employees, elevated above surrounding floor or ground level.

Safety Harness – straps worn around parts other than the soft tissue areas of the body.

Scaffold – any temporary elevated platform and its supporting structure used for supporting employees, material and equipment.

Stair Platform – an extended step or landing breaking a continuous run of stairs.

Stairs (stairway) – a series of steps and landings having four or more risers leading from one level or floor to another, or leading to platforms.

Definitions (cont.)

Standard Guard Railing – a substantial barrier, constructed in accordance with Section 9 of this plan.

Top Rail – the top lateral member of a standard guard railing.

Toeboard – a vertical barrier at floor level, erected along exposed edges of a floor opening, platform, runway or ramp to prevent falls of material.

Tread Width – the horizontal distance from the front to back of tread, including nosing when used.

Unprotected Heights – any work platform over four (4) feet above the floor or adjacent work platform or ground that does not have standard handrails, except where there are stairs or a fixed ladder.

Wall Opening – an opening no less than 30 inches high and 18 inches wide in any wall.

Working Load – the load on a scaffold imposed by employees, material and equipment.

Section IV Training Requirements

Training

- All Affected Employees, including temporary employees, and/or subcontractors that will be working at Hilscher-Clarke jobsites, will be appropriately informed and trained on the requirements of Hilscher-Clarke's Fall Protection Plan and the OSHA standards relating to Fall Protection. This training and instruction will enable employees to recognize potential fall hazard conditions on site and the procedures to be followed in order to prevent falls to lower levels. Only employees and/or sub-contractors who have been trained in proper use, wearing, application, and inspection procedures of personal fall protection equipment, will be allowed to work in locations where such equipment must be worn.

- Training will be conducted by a **“Competent Person”** qualified, at a minimum, in the;
 - Nature of fall hazards;
 - Erecting, maintaining, disassembling, and inspection of the fall protection system;
 - Use and operation of fall-protection systems;
 - Role of employees in a safety monitoring systems;
 - Use of mechanical equipment during low-sloped roofing work;
 - Handling and storage of equipment and material and erection of overhead protection;
 - Safety Nets;
 - Scaffolds;
 - Floors, stairways, railings, over-head protection & guarding of open-sided floors, platforms and runways;
 - “Fall Protection Work Plan” form;
 - Role of employees in fall protection plans;
 - General Housekeeping & Good Work Practices;

- Retraining of all appropriate employees, including temporary employees, and/or subcontractors that will be working at jobsites, will occur when the Safety Director and/or Supervisor;
 - Feels there has been sufficient change(s) in the nature of fall hazard(s) that the employees, including temporary employees, and/or subcontractors were originally trained for (i.e., a change in the “Fall Protection Work Plan”);
 - Purchase of different (another type, brand) ANSI approved Fall Protection Equipment;
 - Following a Disciplinary Action against one or more employees or subcontractor.

- Hilscher-Clarke's Human Resources Representative will prepare and maintain an Employee Education and Training Record (*see Appendix B*) upon completion of training and any retraining. These documents will include, but not be limited to;
 - Names or other identities of employees trained;
 - Signature of the person receiving the training;
 - Date of the training;
 - Date of Retraining;
 - Specific topics addressed during the training session;
 - Specific topic(s) addressed during the retraining session;
 - Signature of the person, or company, conducting the training;
 - Signature of the person, or company, conducting the retraining.

The original document will be kept with the employee's records at our main office and a copy of this training record will be kept in the “Safety File” at the work site, as appropriate.

Section V
Fall Protection Plan
And
General Policies

1.0 Work Site Evaluation & The Fall Protection Plan Form

- 1.0 The Supervisor will evaluate each jobsite for the specifics of identifying work areas, where there is a potential for injury, to an employee(s), sub-contractor(s) or the general public, from a recognized “fall hazard” and/or other recognized area(s) of concern.
- 1.2 When conducting a jobsite evaluation the Safety Director and/or Supervisor will assess and address, at a minimum, the following:
 - Each type of fall exposure;
 - Determine worker’s vertical and horizontal movement;
 - Evaluate strength of anchor point;
 - Plan anchoring system;
 - Select and obtain correct equipment;
 - Train workers;
 - Maintain equipment.
- 1.3 The Supervisor will work with the Safety Director to complete a “Fall Protection Work Plan” (*see Appendix A*) for each work site where fall protection is required. A copy of the completed form will be retained in the “On-Site Safety File.”
- 1.4 The Safety Director and Supervisory Personnel are responsible for ensuring that involved personnel are trained in the installation and use of the fall protection equipment listed on the form. The form will then be posted in a conspicuous place at the work-site itself, to insure the adequate conveyance of the fall protection requirements to the employees engaged, in any form of activity, at that specific work-site.
- 1.5 The Safety Director will institute regular site inspections to evaluate, and re-evaluate, all relevant types of fall protection systems, devices and equipment required by the Fall Protection Program and OSHA standards to assure proper installation, maintenance and use.
- 1.6 Upon Inspection, any defective fall protection item(s) shall be immediately corrected and/or tagged out of service and removed from the site. Any damaged or inadequate systems such as guardrails and covers shall be immediately repaired. The Safety Director, and/or Supervisor will remove all employees, and/or persons, from the area of the fall protection hazard if the corrections cannot be made immediately.
- 1.7 **Supervisory Personnel** will initiate Disciplinary Action (as outlined in the company’s Discipline Program) against any Hilscher-Clarke sub-contractor, manager, supervisor, or other employee not adhering to Hilscher-Clarke’s safety procedures, described in this plan.

2.0 Where Fall Protection Is Needed

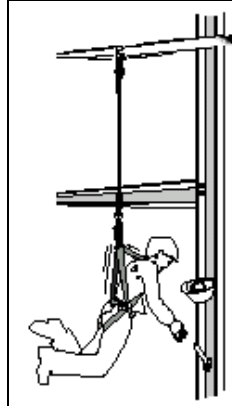
- 2.1** Among the recommendations for protection against falling objects are ANSI approved hard hats, *see Appendix C*, (areas to be clearly marked with signage, examples of which are shown below) and one of the following measures:
- 2.1.1** Toeboards, screens or guardrail systems to prevent objects from falling;
 - 2.1.2** Canopy structures to keep potential falling objects far enough from the edge to prevent accidental displacement;
 - 2.1.3** Barricades around areas where objects could fall;
 - 2.1.4** Tools and all loose items shall be tethered to prevent them from falling on personnel and equipment below.
 - 2.1.5** Areas below personnel working at heights shall be roped off and signs posted to keep personnel out of the hazard area. These areas will be clearly marked with signage, examples of which are shown below.
- 2.2** The following sign, or a sign similar in content, will be used at our work site(s):



3.0 Personal Fall-Arrest Systems (PFAS)

3.1 Personal Fall-Arrest Systems (PFAS)

A personal fall-arrest system (PFAS) consists of an anchor, connectors, and a body harness that work together to stop the user from falling and to minimize the arrest force. Other system components may include a lanyard, a deceleration device, and a lifeline. Due to the varying nature of PFAS equipment each employee must be educated as to the proper donning, storage and inspection of each system, and how the components work together to arrest a fall.



All fall protection devices and equipment shall meet ANSI A10.14 standards. Only the President or his designated Competent Person shall be allowed to purchase or receive equipment through an authorized company vendor to insure compliance.

Personal Fall-Arrest System Components (PFAS)

<p>The Anchor</p> <p><i>Qualified Person</i></p> <p><i>Safety Factor</i></p>	<p>An anchor provides a secure point of attachment for a lifeline, lanyard, or deceleration device and is perhaps the most important personal fall-arrest system component.</p> <ul style="list-style-type: none"> ▪ The Anchor must support a minimum load of 5,000 pounds – a challenging requirement, particularly on wood-framed and residential type structures. If you don't know how much weight an anchor will hold, a Qualified Person (as defined in this policy) must design a complete fall-protection system. The system must be installed under the supervision of the qualified person ▪ The designed fall protection system must maintain a safety factor of at least two – twice the impact force of a worker free-falling six feet. ▪ Never use hoists or guardrails as anchors. They are not built to withstand the forces generated by a fall.
<p>Connectors</p>	<p>The snap hook consists of a hook-shaped member and a keeper. It opens to receive a connecting component and when released, automatically closes. Snap hooks must also have a minimum breaking strength of 5,000 pounds.</p> <p>There are two types of snap hooks;</p> <ul style="list-style-type: none"> ▪ Locking which has a self-locking keeper that won't open until it's manually unlocked; ▪ Non-Locking which is strictly prohibited for use on any SFR Construction work site and by any SFR Construction employee regardless of status. ▪ Use only locking snap hooks as part of a personal fall-arrest system.
<p>Body Harness</p>	<p>The body harness consists of straps that distribute fall-arrest forces over the thighs, waist, chest, shoulders, and pelvis. A basic harness must include a back D-ring for attaching lifelines, lanyards, or retractable devices and a back pad for support. A body harness must exert an arresting force of no more than 1,800 pounds on a falling worker.</p> <p>Remember the following when using a body harness:</p> <ul style="list-style-type: none"> ▪ Body harnesses cannot be made from natural fibers; ▪ Body harnesses are available in different sizes. Make sure the harness fits properly. ▪ The attachment point of a body harness must be located in the center of the back, about shoulder level. ▪ Use only body harnesses approved for commercial work. Do not use recreational climbing harnesses.

Personal Fall-Arrest Systems (cont.)

Personal Fall-Arrest System (PFAS) Components	
<p>Lanyards</p>	<p>A lanyard is a specially designed rope, strap, or webbing that connects a body harness to an anchor, a deceleration device, or a lifeline. Lanyards must have a minimum breaking strength of 5,000 pounds; they come in a variety of designs including self-retracting types that make moving easier and shock-absorbing types that reduce fall-arrest forces.</p> <p>Remember the following when you use a lanyard:</p> <ul style="list-style-type: none"> ▪ Self-retracting lanyards that limit free-fall distance to two (2) feet or less must have components that will hold a minimum load of 3,000 pounds With the lanyard in the fully extended position. ▪ Self-retracting lanyards that do not limit free-fall distance to two (2) feet or less must have components that will hold a minimum load of 5,000 pounds with the lanyard in the fully extended position. ▪ When using self-retracting lanyards that do not limit free-fall distance to two feet or less, work near or directly below the anchor to avoid swing falls. ▪ Do not use rope lanyards made from natural fibers.
<p>Deceleration Devices</p> <p><i>Rope Grab</i></p>	<p>You can reduce fall-impact forces on an anchor (and the employee) by minimizing the fall distance and using a deceleration device such as a shock absorbing lanyard or self-retracting lifeline.</p> <p>A third type of deceleration devise is the rope grab, a mechanism that allows you to move up and down a vertical lifeline. The rope grab automatically locks onto the lifeline if you fall.</p> <p>Always follow the manufacturer’s specifications and directions for the proper inspection and use of deceleration devices.</p>
<p>Lifelines</p> <p><i>Vertical Lifelines</i></p> <p><i>Self-Retracting Lifelines</i></p> <p><i>Horizontal Lifelines</i></p>	<p>A lifeline is flexible cable or rope that connects to a body harness, lanyard, or deceleration device and at least one anchor. There are two (2) types of lifelines, vertical and horizontal.</p> <p>A vertical lifeline attaches directly to a body harness, lanyard, or deceleration device and to an anchor (and hangs vertically, hence the name).</p> <ul style="list-style-type: none"> ▪ Vertical lifelines must have a minimum breaking strength of 5,000 pounds. <p>The self-retracting lifeline is both a vertical lifeline and a deceleration device.</p> <ul style="list-style-type: none"> ▪ It consists of a drum-wound line that unwinds and retracts from the drum as a worker moves. If the worker falls, the drum automatically locks. ▪ Self-Retracting lifelines that automatically limit free-fall distance to two feet or less must have a minimum breaking strength of 3,000 pounds. ▪ Self-Retracting lifelines that do not limit free-fall distance to two feet or less must have a minimum breaking strength of 5,000 pounds. ▪ Protect all self-retracting lifelines against cuts or abrasions. ▪ Never use a self-retracting lifeline made from natural fiber; the fibers deteriorate. <p>If you need to move horizontally over an extended distance, the vertical lifeline can be hazardous because it creates the potential for a swing fall – a pendulum motion that results when you swing back under the anchor point.</p>

Personal Fall-Arrest Systems (cont.)

Personal Fall-Arrest System (PFAS) Components	
Lifelines (cont.) <i>Horizontal Lifelines</i>	<p>Unlike vertical lifelines, the horizontal lifeline stretches between two anchors. When you connect to the line with a body harness, lanyard, or deceleration device, you can move freely across a flat surface.</p> <p>Horizontal lifelines and their anchors are subject to much greater loads than vertical lifelines. However, if not anchored correctly, horizontal lifelines can fail at the anchor points. For these reason, 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 (2) – twice the potential impact force of a worker free-falling six (6) feet.</p> <ul style="list-style-type: none">▪ Horizontal lifelines must support at least 5,000 pounds per attached worker.▪ Protect all self-retracting lifelines against cuts or abrasions.▪ Never use a self-retracting lifeline made from natural fiber; the fibers deteriorate.
After a fall-arrest system stops a fall, it will be removed from service immediately, destroyed, and the pieces properly disposed of.	

4.0 Body Harnesses

4.1 Classification of Harnesses

Harnesses, which meet ANSI standards, are classified according to their intended use as follows:

Class	Description
Class II	Chest Harnesses ; are used where there are only limited fall hazards (no vertical free-fall hazard) and for retrieval purposes, such as removal of a person from a tank, bin, or other enclosed place.
Class III	Body Harnesses ; used to arrest the most severe free-falls. This harness is ideal for workers on elevated sites. During a fall, distributes the fall impact over the body.
Class IV	Suspension Belts ; independent work supports are used to suspend or support the worker.

4.2 Minimum Requirements & Standards For Harnesses and Related Equipment:

- 4.2.1 When a body harness is used the arresting forces must be limited to 1800 pounds. Rigging should limit the free-fall distance to no more than six feet, nor contact any lower level.
- 4.2.2 The lanyard shall be a minimum ½” nylon rope or equivalent, with a maximum length to provide for a fall of no greater than 6 feet. The rope shall have a normal breaking strength of 5400 lbs.
- 4.2.3 Synthetic fibers must be used in the strength components of body harnesses.
- 4.2.4 All harness and lanyard hardware assemblies are to be capable of withstanding a tensile loading of 4,500 lbs. without cracking, breaking, or permanent deformation, and are to conform to the requirements of American National Standards Institute (ANSI) A10.14-1975. Each piece of equipment is to be certified as meeting these standards (common rock climbing equipment is not certified by ANSI.) Check the equipment’s product information sheet, or attached tag, to verify certification. Do not remove this tag at any time. If the tag is missing from the piece of equipment you are inspecting for use, give the piece of equipment to the Site Supervisor immediately. Do not use a piece of equipment that is missing this manufacturer’s information tag.
- 4.2.5 Harnesses shall be chosen for the hazard. It shall be securely buckled and worn tightly enough to prevent any possibility of the wearer slipping out.
- 4.2.6 A body harness’s attachment point should be at the center of the wearer’s back near shoulder level or above the wearer’s head.
- 4.2.7 Side, front and chest D-rings should be used for positioning only. Shoulder D-rings should be used for retrieval only.

4.3 Equipment Inspection & Maintenance:

- 4.3.1 Each harness, lanyard and associated equipment assembly shall be visually inspected according to the manufacturer’s recommendations and guidelines, before each use.
 - Each six (6) months all fall protection equipment is to be tested in accordance with the manufacturer’s standards.

4.0 Body Harnesses (cont.)

- Before each use every piece of fall protection equipment shall be visually inspected for wear, deterioration, exposure to chemicals, fraying, cracking, cuts, worn areas. Damaged lifelines, harnesses and associated equipment, shall be immediately destroyed and the pieces discarded, and replaced.

PERSONAL FALL ARREST SYSTEM

Inspection Report

(Complete Prior To Usage)

User/Inspector Name:			
Harness Serial No.:			
Deceleration Lanyard Serial No.:			
	Check Appropriate Box (✓)	Yes	No
1.	Are fibers and stitching in good condition?		
2.	Are buckles and metal hardware free of corrosion and in good condition?		
3.	Are manufacturer's labels attached and in good condition?		
4.	Is the deceleration device intact and in good condition?		
5.	Are the locking snap hooks in good condition?		
6.	Is the equipment free of corrosion, burn marks, deterioration, or chemical damage?		
NOTE: Any "NO" answers require that the equipment be discarded & replaced.			
Comments:			
Signature:		Date:	

INSPECTION STEPS

- Inspect harness hardware (i.e. buckles, D-rings, back pad, keepers, etc.); these items must not be damaged, broken, deformed, or have any sharp edges, burns, cracks, worn parts, or corrosion. Check any PVC coated hardware for cuts, rips, tears, holes, etc. in the coating. Make sure buckles work freely.
- Inspect webbing; material must be free of frayed, cut, or broken fibers; check for tears, abrasions, mold, burns, discoloration, etc. Inspect stitching; check for pulled or cut stitches. Broken stitches may be an indication that the harness has been impact loaded and must be removed from service.
- Inspect labels; all labels should be present and fully legible. Labels must be replaced if illegible or missing.
- Inspect each system component or subsystem per associated manufacturer's instructions.
- Record the inspection date and results on the above form. If inspection reveals a defective condition, remove unit from service immediately and destroy or contact factory authorized service center for repair.

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Fall Arrest

In construction eliminating the risk of falls may not be possible. It then becomes essential to select the proper form of fall protection. Fall arrest is the most common system. It stops a fall within a few feet of the worker's original position. A full body harness is required with a fall-arrest system.

A typical system consists of the following parts connected together:

- ▶ Full body harness;
- ▶ Lanyard (with locking snap hooks or D-clips);
- ▶ Rope grab;
- ▶ Lanyard;
- ▶ Shock absorber;
- ▶ Lifeline;
- ▶ Lifeline Anchor

- Personal fall-arrest systems subjected to impact loading shall be immediately destroyed and the pieces discarded.
- Personal fall-arrest systems subjected to static load (constant and steady) may be used.
- After an accidental freefall, the lanyard shall be immediately destroyed and the pieces discarded.

5.0 Positioning-Device Systems

5.1 Positioning-Device Systems:

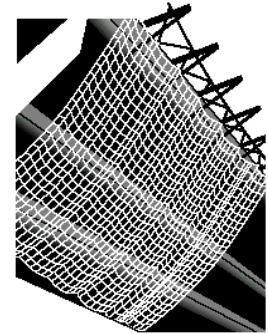
- 5.1.1 Positioning-device systems use a body harness rigged to allow an employee to be supported on an elevated vertical surface, such as a wall and work with both hands free while leaning.
- 5.1.2 Rig positioning devices so employees can not free-fall more than two (2) feet.
- 5.1.3 Anchorage should be capable of supporting twice the potential impact load, or 3000 pounds, whichever is greater.
- 5.1.4 All Equipment is to conform to the requirements of American National Standards Institute (ANSI) A10.14-1975. Each piece of equipment is to be certified as meeting these standards (common rock climbing equipment is not certified by ANSI.)
- 5.1.5 Connectors should follow the same criteria as for fall-arrest equipment.
- 5.1.6 Inspection and maintenance follows the same basic criteria as outlined in section 4.3 of this plan.

6.0 Safety Nets

Where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety harnesses are impractical, safety nets shall be provided when work places are more than 25 feet above the ground, water surface, or other surfaces.

Safety-net systems consist of mesh nets, panels, and connecting components. They're typically used as protection for those who work 25 feet or more above lower levels on bridges and at building construction sites. The maximum net opening can't be more than six inches on a side, center-to-center.

When safety nets are utilized, no operations shall be performed until the nets are in place and inspected.



A safety-net system

6.1 Safety Net Installation Guidelines:

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

6.2 Nets shall be hung with sufficient clearance to prevent the user's contact with the surface of the structure below. Hilscher-Clarke will only install nets capable of absorbing the impact force of a drop test, which should be performed and documented at the jobsite by the Safety Director and/or the Supervisor.

NOTE: The drop test consists of a 400-pound bag of sand, 30 inches, plus or minus two (2) inches in diameter, dropped from the highest walking/working surface where employees are exposed to fall hazards, but not from less than 42 inches above that level.

6.3 If Hilscher-Clarke can demonstrate that a drop test is unreasonable, a "Competent Person" can prepare a certification record that the net can withstand the impact force equal to the drop test.

6.4 Safety nets shall be inspected, at a minimum, once a week. This inspection will include, but not be limited to:

- Visible signs of wear, damage and other deterioration;
- Nets found to be defective will be immediately removed from service;
- Material, scrap and equipment caught in the safety net will be removed as soon as possible and at least before the start of the next work shift. When the material, scrap and/or equipment is removed from the net, the net should be re-examined for visible signs of damage.

6.5 The maximum opening of the safety net should not exceed 36 square inches and be no longer than six (6) inches on any side. When measuring center to center, the rope or webbing should not exceed six (6) inches.

6.6 The breaking strength of border rope should be 5,000 pounds minimum. Connectors need to be as strong as the integral net and spaced not more than six (6) inches apart.

7.0 Warning Line System

- 7.1** A barrier erected on a roof to warn employees they are approaching an unprotected roof side or edge. The system also designates an area in which roofing work may take place without the use of guardrail, body harness or safety-net systems to protect employees in the area.
- 7.2** Place the warning line on all sides of the roof work area, and erect it not less than six feet from the edge.
- 7.3** When using mechanical equipment, place the warning line not less than six feet from the edge parallel to the direction the equipment is operating, and not less than 10 feet from the roof edge perpendicular to the direction of travel.
- 7.4** An access path using two (2) warning lines is a good way to connect material-handling, storage, and hoisting areas to the work area. When the path is not used, place a rope, wire, chain or other barricade across the point of access, or offset the path so employees cannot walk directly into the work area.
- 7.5** Warning lines should consist of ropes, wires or chains with supporting stanchions. Flagging the rope, wire or chain at six (6) foot intervals with high-visibility material adds to its effectiveness.
- 7.6** The lowest point of the warning line, including sag, should not be less than 34 inches and the highest point not more than 39 inches from the walking/working surface.
- 7.7** Stanchions should be capable of resisting a force of at least 16 pounds applied horizontally against the stanchion, 30 inches above the walking/working surface, perpendicular to the warning line, and in the direction of the edge.
- 7.8** Employees shall be prohibited from the area between the warning line and the roof edge unless they are performing roof work in that area.
- 7.9** Use and store mechanical equipment only in areas where employees are protected by a warning-line system, guardrail system or PFAS.

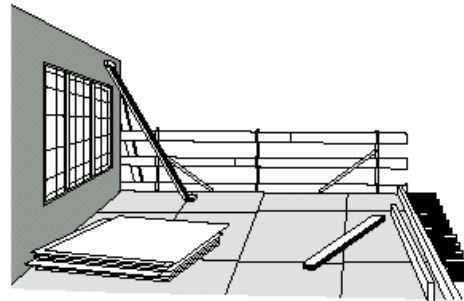
8.0 Controlled-Access Zone (CAZ)

- 8.1 CAZ is an area where certain work may take place without the use of guardrail systems or safety net systems, and access to the zone is controlled. A CAZ may be used in overhand bricklaying, leading edge and precast-concrete erection operations.
- 8.2 Where leading edge and other operations are taking place, define the CAZ shall be defined by a control line, or any other means, that restricts access.
- 8.3 When control lines are used, they shall be erected not less than six (6) feet but no more than 25 feet from the unprotected edge.
- 8.4 When erecting precast-concrete members, erect the control line not less than six (6) feet but no more than 60 feet or half the length of the member to be erected, whichever is less.
- 8.5 The control line shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge. Limit access to the CAZ to employees involved in overhand bricklaying.
- 8.6 Control lines shall consist of ropes, wires, tapes or equivalent materials attached to support stanchions as control lines. Each line shall be flagged or otherwise clearly marked not more than six (6) foot intervals (with high visibility materials). Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches from the walking/working surface and its highest point is not more than 45 inches from the walking/working surface (50 inches for overhand bricklaying from the walking/working surface.) Each line should have a minimum breaking strength of 200 pounds.
- 8.7 On walking/working surfaces where overhand bricklaying begins and the guardrail system is not in place, make the CAZ large enough to enclose all points of access, material-handling areas and storage areas.

9.0 Guardrail Systems

Guardrail Systems

Guardrail systems are vertical barriers consisting of top rails, midrails, and intermediate vertical members. Guardrail systems can also be combined with toeboards, which are barriers that prevent materials and equipment from dropping to lower levels.

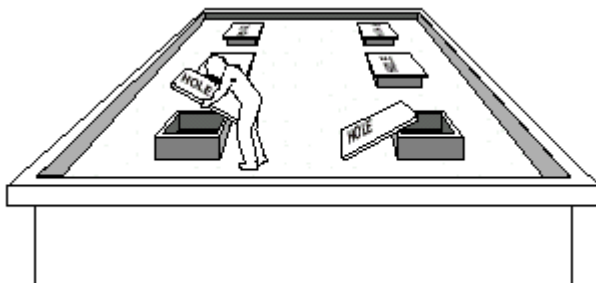


A guardrail system with toeboards

- 9.1** A barrier erected to prevent employees from falling to lower levels. Only guardrails constructed in accordance with Appendix B, 29 CFR 1926, subpart M will be utilized on Hilscher-Clarke's location(s).
- 9.2** Standard guard railing shall be constructed as a substantial barrier, securely fastened in place and free from protruding objects such as nails, screws, and bolts, to protect openings or prevent accidental contact with some object.
- 9.3** The barrier will consist of a top rail not less than 42 inches above the working level, and unless the space between the top rail and the working level is covered with substantial material, an intermediate rail. Minimum material requirements are:
- 9.3.1 Metal;**
- For pipe railings, the top rail, intermediate rail and uprights shall be no less than 1-1/2 inches nominal diameter with uprights spaced no more than eight (8) feet on centers;
 - For structural steel railings, the top rail, intermediate rail and uprights shall be of 2 inch by 2 inch by 3/8 inch angles or other metal shape of equivalent bending strength with uprights spaced no more than eight (8) feet on centers.
- 9.3.2 Wood;**
- For wood railings, the uprights shall be of no less than 2 inch by 4 inch (nominal) stock spaced not to exceed eight (8) feet; the top rail shall be of no less than 2 inch x 4 inch (nominal) stock; the intermediate rail shall be of no less 1 inch x 6 inch stock (nominal).
- 9.3.3** Intermediate members, midrails, screens and mesh should be able to withstand 150 pounds in any outward or downward direction.
- 9.3.4** Manila, plastic or synthetic rope will be subjected to frequent and regular inspections to ensure that they will withstand a force of 200 pounds applied in a downward or outward direction.
- 9.4** A standard toeboard shall be constructed of substantial material. It shall be 4 inches minimum in vertical height from its top edge to the level of the floor, platform, runway or ramp. It shall be securely fastened in place, with a clearance of no more than 1/4 inch above the floor, platform, runway or ramp.
- 9.5** Use a chain, gate or removable guardrail section at hoist openings, and replace it when not in use. When using a PFAS, rig it so employee movement is restricted to the edge of the walking/working surface.

10.0 Guarding Of Walking & Working Surfaces

- 10.1** Floor openings, floor holes, ladderway floor openings, skylight openings, pits or trap-door openings, manhole floor openings must be protected by standard guardrails or “*secured*” cover.
- 10.2** Where employees are working above or adjacent to machinery in operation, open vats, hoppers, or tanks, railroad tracks with moving equipment below the work, live electrical conductors (unless de-energized and effectively grounded), or similar sources of dangers, open-sided floors, walkways platforms, or runways, regardless of height, shall be provided with standard guard railing and toeboards.
- 10.3** Standard guard railing and toeboards will be provided on every open-sided floor or platform six (6) feet or more above adjacent floor or ground level, except where there is entrance to a ramp, stairway or fixed ladder.
- 10.4** 3/8 inch wire rope and toeboard, substantially secured in place, may be used in lieu of standard guard railing. The wire rope guardrail system shall have no deflection in excess of 3 inches.
- 10.5** Where there are runways, standard guard railings and toeboards will be provided on all open sides of runways four (4) feet or more above floor or ground level.
- 10.6** Runways used exclusively for special purposes may have the railing on one side omitted where operating conditions necessitate such an omission, providing the falling hazard is minimized by using a runway no less than 18 inches wide.
- 10.7** Ladderway floor opening entrances must be provided with a swing gate or so offset that a person cannot walk directly into the opening.
- 10.8** Any wall opening where there is a drop of more than four (4) feet, and the bottom of the opening is less than three (3) feet above the working surface, shall be protected by standard guardrail protection (as described in Section 9.0 of this plan) which will reduce the danger of falling.
- 10.9** “*Hole*” means a gap or void at least 2 inches in its least dimension in a floor or other walking/working surface. Install guardrail systems that protect holes on all open sides. No more than two sides of a guardrail system should be removable. Offset the guardrail system at points of access, or provide a gate so employees cannot walk directly into the hole.
- 10.10** “*Covers*” are a method of protection for holes. Covers in roadways should support at least twice the maximum axle load of the largest vehicle crossing the hole.



Installing covers over roof openings

A cover includes any rigid object used to overlay openings in floors, roofs, and other walking and working surfaces. Covers must be able to support at least twice the maximum anticipated load of workers, equipment, and materials.

Covers should have full edge bearing on all four sides.

All covers must be marked with the word “*HOLE*” or “*COVER*” and must be secured to prevent accidental displacement.

- 10.11** “*Covers*” will be secured to prevent displacement by wind, equipment or employees. Color code or mark with the words “*HOLE*” or “*COVER*” to provide maximum hazard warning.

11.0 Working Over Or Near Water

- 11.1** Employees working over or near water, where the danger of drowning exists will be provided with U.S. Coast Guard approved life jackets or buoyant vests. Prior to each use, the buoyant work vest or life preserver shall be inspected for defects and any defective units shall not be used.
- 11.2** Ring Buoys with at least ninety (90) feet of line shall be provided and available for emergency rescue operations; the distance shall not exceed 200 feet.
- 11.3** At least one lifesaving jacket skiff shall be immediately accessible at locations where employees are working over or adjacent to water.

12.0 Safety Monitoring System

- 12.1** A system where a “Competent Person” (designated as the “Safety Monitor”) who has been chosen, approved and listed on the “Fall Protection Work Plan” form by the Safety Director or Supervisor, is responsible for recognizing fall hazards and warning employees when they appear to be unaware of a fall hazard or are acting in an unsafe manner.
- 12.2** To be an effective means of “fall protection” the designated Safety Monitor will be easily identified by wearing a “Hunter Orange” hard hat. He/she will perform the following duties;
- Be on the same walking/working surface as the monitored employees and within visual unobstructed sighting distance of the monitored employees;
 - Be close enough to communicate orally with the monitored employees;
 - Be competent in recognizing fall hazards;
 - Warn monitored employees, by voice, when they appear to be unaware of a fall hazard;
 - Make the monitored employees aware when they are in a dangerous area;
 - Warn monitored employees, by voice, when they are approaching an open edge in an unsafe manner;
 - Warn monitored employees, by voice, if there is a dangerous situation developing which cannot be seen by another person involved with product placement, such as a truss getting out of control;
 - Not allow other responsibilities to encumber monitoring. If the safety monitor becomes too encumbered with other responsibilities, the monitor shall (1) put an immediate stop to the work being done; and (2) turn over other responsibilities to a designated “Competent Person” (3) turn over the safety monitoring function to another designated “Competent Person.”
 - See Appendix C-1 for Hilscher-Clarke’s Fall Protection Monitor Sub-Policy.
- 12.3** The Safety Monitoring System shall not be used when the wind is strong enough to cause loads with large surface areas to swing out of radius, or result in loss of control of the load, or when weather conditions cause the walking-working surfaces to become icy or slippery.
- 12.4** Do not use mechanical equipment on low-sloped roofs where a Safety Monitoring System is the method of protection.
- 12.5** Only employees performing low-slope roofing work or employees covered by a fall protection plan should be in areas guarded by a Safety Monitoring System.
- 12.6** Employees who are being protected by the Safety Monitoring System, shall be instructed to comply with the warning(s) from the Safety Monitor(s). Violators will be immediately removed from the work area and subject to the company’s Disciplinary Program. Each employee who is to be protected by the Safety Monitoring System will receive his/her instructions verbally as well as in writing (*See Appendix C-2*).

13.0 Aerial Lifts/Extensible & Articulating Boom Platforms

- 13.1** A body harness shall be worn and a lanyard attached to the boom or basket when working from an aerial lift.
- 13.2** “Tying” off to an adjacent pole, structure, or equipment while working from an aerial lift will not be permitted.

14.0 Suspended Personal (Working) Platforms

- 14.1 Riding on the crane load or hook is prohibited.
- 14.2 The use of a crane or derrick to hoist employees on a personnel platform is prohibited, except when the erection, use, and dismantling of conventional structures used to reach the worksite would be more hazardous, or is not possible because of structural design or worksite conditions.
- 14.3 Except over water, employees occupying the suspended personnel platform shall use a body harness system with lanyard appropriately attached to the lower load block or overhaul ball, or to a structural member within the personnel platform capable of supporting a fall impact for employees using the anchorage.
- 14.4 The working platform shall be of girder or truss construction and will be capable of supporting its rated load under any position of loading.
- 14.5 Each piece of equipment will bear the manufacturer's load rating plate, conspicuously posted and must be legible, stating the maximum permissible load.
- 14.6 The vertical speed of a working platform, suspended by less than four hoisting ropes shall be no more than thirty-five (35) feet per minute.
- 14.7 The working platform will be not less than 24 inches wide.
- 14.8 The working platform shall be provided with toeboards and with permanent guardrails no less than 36 inches high, and no more than 42 inches high at the front (building side). At the rear, and on the sides, a standard guardrail and toeboard shall be provided. An intermediate guardrail shall be provided around the entire platform between the top guardrail and the toeboard.
- 14.9 The platform flooring shall be of the nonskid type.
- 14.10 Where access gates are provided, they shall be self-closing and self-locking. Such gates are required where access to the working platform is not over the roof area.
- 14.11 A means shall be provided to prevent inadvertent horizontal movement of the working platform.
- 14.12 The operating device controlling vertical movement shall be operable only when all electrical protective devices and interlocks on the working platform are in normal operating position, and the roof car is at an established operating point.
- 14.13 On roof-powered platforms, an emergency electric operating device shall be provided near the hoisting machine for use in the event of failure of the normal operating device for the working platform or failure of the traveling cable system. This emergency device shall be mounted in a locked compartment and shall have a legend mounted thereon reading: "For Emergency Operation Only. Establish Communication With Personnel On Working Platform Before Use." A key for unlocking the compartment housing the emergency operating device shall be mounted in a break-glass receptacle located near the device.

15.0 Excavation Fall Protection

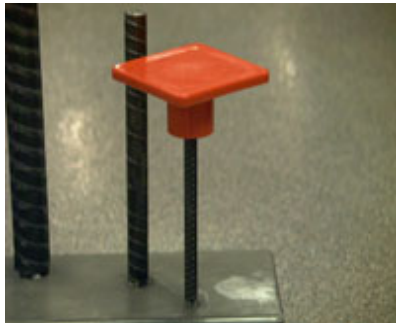
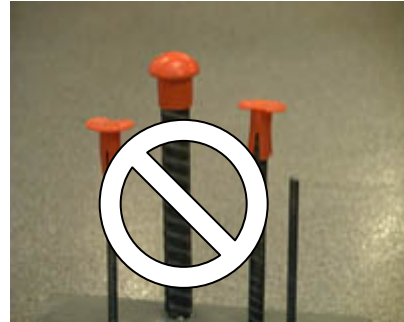
- 15.1** Employees entering bell-bottom pier holes, or similar deep and confined footing excavations, shall wear a body harness with a lifeline securely attached.
- 15.2** Where employees are required or permitted to cross over excavations, walkways, or bridges standard guardrails are required.
- 15.3** Adequate physical barrier protection shall be provided at all remotely located excavations and all wells, pits, shafts, etc..., shall be barricaded or covered.

16.0 Concrete & Masonry Construction Fall Protection

- 16.1** All protruding reinforcing steel (rebar), onto and into which employees could fall shall be guarded with a metal re-inforced 3"x 3" plastic cap.
- 16.2** Employees are not permitted to place or tie reinforcing steel without the use of safety harnesses or equivalent.

Rebar Caps

The OSHA Standard requires that rebar "be guarded to eliminate the hazard of impalement." [Not all guards provide that level of protection.](#) In some circumstances, the force of a fall can cause rebar to push clear through a plastic cap and still impale a worker, or the worker can be impaled by the rebar and the cap together.



Only rebar caps designed to provide impalement protection, such as those containing steel reinforcement, should be used.

17.0 Stairways & Ladders

- 17.1** Stairways or ladders shall be provided at all points of access where there is a break in elevation of 19 inches or more, and no ramp, runway, sloped embankment, or personnel hoist is provided.
- 17.2** Temporary stairs shall have a landing no less than 30 inches in the direction of travel at every twelve feet of vertical rise.
- 17.3** Temporary stairways shall be fitted with substantial treads, securely fastened and shall have tightly floored landings or gratings.
- 17.4** Temporary stairways shall have a stair railing of construction similar to a standard guard railing (see section 9.0 of this Plan), except that the vertical height shall be no more than 34 inches and no less than 30 inches from the upper surface of the top rail to the surface of the tread in line with the face of the riser at the forward edge of the tread.
- 17.5** Temporary stairways shall have a handrail of construction similar to a standard guard railing (see section 9.0 of this Plan) except that it is mounted to a wall or partition, and does not include an intermediate rail. It shall have a smooth surface along the top and both sides of the handrail. Ends of the handrail shall be constructed so as not to constitute a projection hazard.
- The height of handrails shall be no more than 34 inches and no less than 30 inches from the upper surface of the handrail to the surface of the tread, in line with the face of the riser or to the surface of the ramp.
 - Handrails and railings shall be provided with a clearance of approximately 3 inches between the handrail or railing and any other object.
- 17.6** Stairways having four or more risers more than 30 inches, whichever is less, must be protected by standard stair railings on each unprotected side.
- 17.7** Ladders, secured in place, should be provided when stairways are not in place. If the distance between elevations greater than 20 feet, rest platforms need to be installed in increments approximately every 20 feet. These rest platforms must include guard railing and toeboards (as outlined in section 9.0 of this Plan).
- 17.8** Fixed ladders, straight ladders and extension ladders must extend three (3) feet above the landing surface. If this is not possible, a grabrail must be put in place to assist in mounting and dismounting the ladder. When erecting one of these ladders the base should be out one (1) foot for every four (4) feet of height. Both siderails need to rest securely against the top support. The ladder should be secured to prevent slippage.
- 17.9** Fixed ladders where the top of the ladder is in excess of twenty-four (24) feet must be provided with cages, wells, ladder safety climbing device, or self-retracting lifelines.
- 17.10** When personnel are working off portable ladders and their work position locates the employees adjacent and above standard guardrail protection, personal equipment or equivalent must be utilized.

18.0 Protection From Falling Objects

- 18.1** When toeboards are used, erect them along the edge of the working surface for a distance sufficient to protect employees below. Toeboards should be at least 3.5 inches high and capable of withstanding a force of 50 pounds in a downward or outward direction.
- 18.2** When tools, equipment or materials are piled higher than the toeboards, use screening or paneling erected from the toeboard to the top of the guardrail system to protect employees below.
- 18.3** Openings in screen should be small enough to prevent objects from falling through.
- 18.4** Canopies used to protect employees from falling objects should be strong enough to prevent collapse or penetration by any object falling onto the canopy.
- 18.5** When overhand bricklaying operations are taking place, do not store material or equipment within four (4) feet of the working edge. Remove excess mortar, broken masonry units and debris at regular intervals.
- 18.6** During roofing, do not store work materials and equipment within six feet of the roof edge unless a guardrail system is installed. Materials piled or stacked near the roof edge should be stable and self-supporting.

19.0 Catch Platforms

19.1 During roofing, a substantial “Catch Platform” shall be installed below the working area of roofs more than 20 feet from ground to eaves without a parapet, or 16 feet from ground to eaves with aslope greater than 4 inches in 12 without a parapet. The platform shall extend two (2) feet in width beyond the projection of the eaves and shall be provided with a safety rail, mid-rail, and toeboard. This provision shall not apply where employees engaged in work upon such roofs are protected by a safety belt attached to a lifeline.

20.0 Crawling Boards or Chicken Ladders

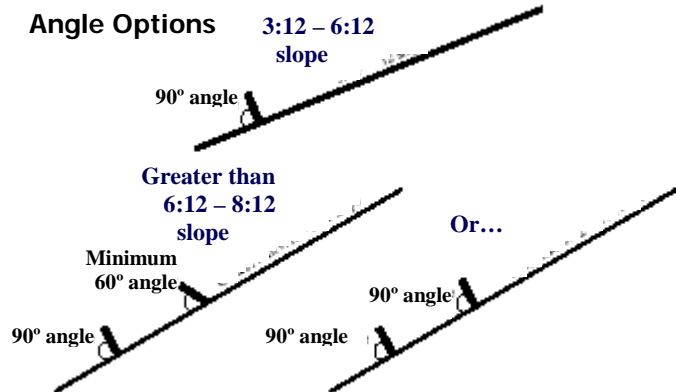
- 20.1** Crawling boards shall not be less than 10 inches wide and 1 inch thick, having cleats 1x1½ inches. The cleats shall be equal in length to the width of the board and spaced at equal intervals not to exceed 24 inches. Nails shall be driven through and clinched on the underside. The crawling board shall extend from the ridge pole to the eaves when used in connection with roof construction, repair, or maintenance.
- 20.2** A firmly fastened lifeline of at least ¾ inch rope shall be strung between each crawling board for a handhold.
- 20.3** Crawling boards shall be secured to the roof by means of adequate ridge hoods or equivalent effective means.

21.0 Roofing Brackets

Roof Brackets & Slide Guards

Roofers who install sheeting and related materials frequently use roof brackets and slide guards as fall protection. OSHA permits workers to use 2"x6" roof brackets and slide guards for fall protection *on residential type structures* under the following conditions:

- On roof sloped 3:12 through 6:12, the ground-to-eave height must not exceed 25 feet
- On roofs sloped greater than 6:12 and less than or equal to 8:12, the ground-to-eave height must not exceed 25 feet and the roof brackets and slide guards must be used in multiples, spaced no more than every eight feet vertically. *All roof brackets and slide guards must bear on solid surfaces.*



- The roof bracket and slide guard along at the lower edge of the slope must be at least six inches from the roof edge and perpendicular to the floor surface. Other brackets and slide guards above the lower edge may be installed at a 60-degree angle to the roof surface. *All roof brackets and slide guards must bear on solid surfaces.*

21.2 In addition to the pointed metal projections, brackets shall be secured by nailing in place. The nails shall be driven full length into the roof. When rope supports are used, they shall consist of first-grade manila of at least $\frac{3}{4}$ inch diameter, or equivalent.

22.0 Use of Hoisting Lines

- 22.1** When hoisting lines are used to raise tools or materials to a roof greater than sixteen (16) feet from ground to eaves without a parapet (or with a parapet less than 30 inches in height), the employee on the roof shall be secured by a PFAS.
- 22.2** The PFAS shall meet all the requirements of this policy and procedure.

23.0 Housekeeping & Safe Work Practices

- 23.1** Good housekeeping will help to prevent a majority of the slips, trips, and falls from occurring. Some general good housekeeping guidelines include:
- 23.2** Place “walkoff” mats at building entrances. These mats should be cleaned as necessary to prevent materials from being tracked into the building. Mats should be secured to the floor using adequate materials to ensure that they will not move when stepped on. All edges should be taped or fastened down to prevent the edges from creating a tripping hazard.
- 23.3** Hard surface floors and walkways should be swept on a regular basis, adequate for the amount of traffic, to prevent the build-up of dust, dirt, or other materials that could make the floor surface slick.
- 23.4** Any surface which poses a temporary slipping hazard, such as newly washed, waxed, or cleaned floors, wet entry ways, or spills should have barriers and/or signs placed in a manner which clearly indicates the hazards present to all employees until the hazard is removed. If possible, these areas should be isolated so that traffic will not pass through the unsafe area.
- 23.5** Spills should be cleaned up immediately.
- NOTE: Any spills involving chemicals or biological agents should be cleaned up by personnel who are trained in the handling and cleanup of such materials. When in doubt, contact your Supervisor.
- 23.6** Any tripping hazard such as uneven pavement, fixed objects, excess materials, improper storage, broken stairs, etc. should be immediately reported to your Supervisor.
- 23.7** Do not rush, especially in inclement weather or on slick surfaces.
- 23.8** Be aware of changes in surface heights (a projection of even ¼ inch could cause a fall.)
- 23.9** Do not run wires, cables, or other materials across a walkway without proper protection. If you do, make sure to:
- Use cable chases and/or duct tape to secure the wires to the ground;
 - Provide a highly visible sign which indicates the hazards and can be seen from all approaches;
 - Minimize the height of the cable chases or hazards to less than 1 ½ inch.
 - NOTE: *Wires cannot be run across the main path to or from a fire exit or in such a way as to block a fire door;*
 - Wires should never be run under a mat or other floor covering that was not specifically designed for such purpose due to the potential fire hazard that this practice may create.
- 23.10** All walking areas should be provided with adequate lighting. Take special care in walking through dimly lit areas.
- 23.11** When walking up or down stairs, always use the handrails provided for support, especially in dark or inclement weather conditions.
- 23.12** Special care should be taken whenever the walking surface is very smooth, such as with marble or similar flooring materials. Under certain conditions these floors can be slippery as ice!

Appendix



Fall Protection Work Plan (part 1)

Job Name	Job Location
Job Supervisor	Job Dates (Start Date/End Date)
Potential Fall Hazards	
Methods to be used for fall protection/restraint	
Description of Procedures	
Assembly of Protective Equipment	
Maintenance of Protective Equipment	
Inspection of Protective Equipment	
Disassembly of Protective Equipment	
How Tools & Materials Are To Be Stored & Secured	
Method For Providing Overhead Protection Of Ground Workers	
Rescue Procedures For Injured Workers	



Fall Protection Work Plan (Part 2)

Post at Work Site

Use this checklist to identify the fall protection system training each employee received at a worksite:

Fall-Protection Systems Checklist					
Employee Name:	Worksite/Location of Training:				Date:
Fall-Protection System	Training Received				
	N/A	Installation	Maintenance	Inspection	Disassembly
Guardrail Systems					
Personal Fall-Arrest Systems (PFAS)					
Safety-Net Systems					
Controlled-Access Zones (CAZ)					
Roof Brackets					
Covers					
Fences and Barricades					
Safety-Monitoring Systems					
Other:					
Other:					
Notes:					
Name of Trainer:	Signature of Trainer:				Date:



Fall Protection Monitor Sub-Policy

In accordance with USDOL – OSHA CFR Standard 1926.500/501/502/503 regarding fall protection – due to prevailing circumstances, fall protection engineering cannot be achieved to provide 100% fall protection. Therefore, a “Monitor” has been assigned.

As “Monitor,” it shall be your responsibility to observe all workers who are not capable of being provided 100% fall protection. The following criteria shall be followed:

1. Stay within 25 feet of the working area.
2. Use color coded hard hat (hunter orange).
3. Be very visible at all times.
4. Do not find yourself distracted by any other activity.
5. Be specific regarding safety instructions to employees working without 100% fall protection.
6. No horse play permitted!!
7. All provided Personal Protective Equipment (PPE) shall be worn.
8. Any personnel failing to obey your specific orders shall be removed from the job and the General Superintendent/Supervisor notified immediately.
9. Use of warning tape/lines should be considered if possible.
10. As monitor, it is your responsibility to exercise all safety efforts possible to eliminate potential falls.

I agree to fulfill the job requirements of Fall Protection Safety Monitor and have received written and verbal instructions of such responsibility.

Employee Name

Employee Signature

Date

Witness Name

Witness Signature

Date



Employee Fall Protection Work Agreement

In accordance with USDOL – OSHA CFR Standard 1926.500/501/502/503 regarding fall protection – due to prevailing circumstances, fall protection engineering cannot be achieved to provide 100% fall protection. Therefore, a "Monitor" has been assigned.

I shall accept, without exception, and obey all of the monitor's direction and instruction while in this particular job assignment.

My monitor shall be equipped with a Hunter Orange hard hat to signify his/her authority.

I have received these instructions, both in writing and verbally.

Employee Name

Employee Signature

Date

Witness Name

Witness Signature

Date

PROGRESSION OF SUSPENSION TRAUMA

Suspension Trauma can occur when a person remains suspended at height for a period of time and blood pools in the veins of the legs. Suspension Trauma is a very real risk and can lead to death if the person is not rescued within 15 minutes.

A harnesses can become deadly whenever a worker is suspended for durations over five minute in an upright posture, with the legs relaxed straight beneath the body.

1	Fall arrested by harness.
2	Legs suspended, blood flow is impeded by leg straps and by gravity.
3	Blood collects in large leg muscles.
4	Blood return to heart declines.
5	Stress plus pain causes heart rate increase and hormone release
6	Heart pumping action reduced because of decreased blood return.
7	More blood collects in legs.
8	Body reflex reduces heart rate and blood pressure.
19	Blood flow to brain decreases.
10	Victim loses consciousness.
11	Blood flow to brain continues to fall.
12	Brain damage.
13	Eventual death.



After a Fall:

1. Workers should be trained to try to move their legs in the harness and try to push against any footholds.
2. Workers hanging in a harness should be trained to try to get their legs as high as possible and their heads as close to horizontal as possible (this is nearly impossible with many commercial harnesses in use today, so a suspension trauma safety strap should be utilized).
3. If the worker is suspended upright, emergency measures must be taken to remove the worker from suspension or move the fallen worker into a horizontal posture, or at least to a sitting position.



The suspension trauma safety strap is easily installed to most harness sizes, styles, and brands. To attach, simply choke the pack around the harness web at the hip. After a fall, the packs are quickly unzipped deploying the web loop and hook straps. These are easily connected and adjusted to provide a strap for the foot to conveniently step into. This allows the worker to stand in their harness and relieve the pressure on the legs while awaiting rescue.

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