

FALL PROTECTION PROGRAM



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REGULATORY AUTHORITY FOR IMPLEMENTATION OF FALL PROTECTION

The Occupational Safety and Health Act under 29 CFR, Subpart M establishes requirements relating to Fall Protection. In response to the regulatory mandate, Steingass Mechanical Contracting, Inc. has developed and will maintain this Fall Protection Program to provide proper and safe procedures for all applicable employees.

Prior to the consignment of any work to be performed under the scope of their fall protection policy, the lead person shall ensure that provisions have been made for the prompt rescue and any medical attention in the event of a fall.

PURPOSE

This document is primarily intended to outline methods of protecting and/or informing all employees whose job duties would put them in a situation where Fall Protection would be applicable to prevent injury. In addition, it is intended that Steingass Mechanical Contracting, Inc. will be in full compliance with this subpart **"M"**.

Due to the serious nature of this policy, Steingass Mechanical Contracting, Inc. shall continually monitor this policy for its workability and/or inadequacies or deficiencies.

In the event of an accident and/or near miss resulting from a fall, Steingass Mechanical Contracting, Inc. will follow the guidelines outlined in **Steingass Mechanical Contracting, Inc.'s Incident Investigation Policy**, and shall implement any changes to the Fall Protection Plan as necessary.

RESPONSIBILITY

(Managers Commitment)

Steingass Mechanical Contracting, Inc. shall instruct all appropriate employees in the safety significance of the Fall Protection Program and/or procedures. In addition, Steingass Mechanical Contracting, Inc. considers these requirements to be of critical importance in helping to ensure that the applicable provisions of the Fall Protection Program are known, understood, and strictly adhered to by all employees. Strict enforcement of this program is required as a condition of employment. Any variations from these set procedures shall be considered a work rule violation and because of the serious nature of this program, disciplinary action will be taken in accordance with the disciplinary guidelines described in **Steingass Mechanical Contracting, Inc.'s Safety Rules and Regulations.**

DEFINITIONS APPLICABLE TO THIS SECTION

Anchorage: A secure point of attachment for lifelines, lanyards or deceleration devices.

Body belt (safety belt): A strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device.

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

Buckle: Any device for holding the body belt or body harness closed around the employee's body.

Connector: A device that is used to couple (connect) parts of the personal fall arrest system and positioning device system and positioning device systems together. It may be an independent component of the system, such as a carabineer, or it may be an integral component of part of the system, (such as a buckle or dee-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).

Controlled access zone (CAZ): An area in which certain work (e.g. overhead bricklaying) may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems and access to the zone is controlled.

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

Deceleration device: Any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

Deceleration distance: The additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured as the distance between the locations of an employee's body belt or body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.

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

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

Free fall: The act of falling before personal fall arrest system begins to apply force to arrest the fall.

Free fall distance: The vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance, and lifeline/lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur.

Guardrail system: A barrier erected to prevent employees from falling to lower levels.

Hole: A gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, roof, or other walking/working surface.

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

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

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

Lifeline: A component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest systems to the anchorage.

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

Lower levels: Those areas or surfaces to which an employee can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.

Mechanical equipment: All motor or human propelled wheeled equipment used for roofing work, except wheelbarrows and mop carts.

Opening: A gap or void 30 inches (76 cm) or more high and 18 inches (48 cm) or more wide, in a wall or partition, through which employees can fall to a lower level.

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

Personal fall arrest system: A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these. As of **January 1, 1998**, the use of a body belt for fall arrest is prohibited.

Positioning device system: A body belt or body harness system 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.

Rope grab: A deceleration device that travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.

Roof: The exterior surface on the top of a building. This does not include floors or formwork, which, because a building has not been completed, temporarily become the top surface of a building.

Roofing work: The hoisting, storage, application, and removal of roofing materials and equipment, including related insulation, sheet metal, and vapor barrier work, but not including the construction of the roof deck.

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

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

Snaphook: A connector comprised of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.

Snaphooks are generally one of two types:

- (1) The locking type with a self-closing, self-locking keeper, which remains closed and locked until unlocked and pressed open for connection or disconnection; or
- (2) The non-locking type with a self-closing keeper, which remains closed until pressed open for connection or disconnection. As of **January 1, 1998**, the use of a non-locking snaphook as part of personal fall arrest systems and positioning device systems is prohibited.

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

Toeboard: A low protective barrier that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel.

Unprotected sides and edges: Any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or guardrail system at least 39 inches (1.0 m) high.

Walking/working surface: Any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, formwork and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

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

Work area: That portion of a walking/working surface where job duties are being performed.

GENERAL REQUIREMENTS

1. Steingass Mechanical Contracting, Inc. shall determine if the walking/working surfaces on which employees are to work, have the strength and structural integrity to support employee's safety. Jobsite Superintendents shall have the responsibility of continually monitoring this to ensure employee's safety.
2. No employee shall be permitted on a walking/working surface with an unprotected side or edge which is six feet (1.8 m) or more above a lower level without protection from falling by the use of guardrails, safety nets, or personal fall arrest systems.

The criteria for these systems are described within this document under the Section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this work place situation should arise, employees shall be required to inform their immediate supervisor at once.

3. No employee shall be permitted to construct a leading edge six feet (1.8 m) or more above lower levels without being protected by guardrails, safety nets, or personal fall arrest systems.

The criteria for these systems are described within this document under the section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

4. No employee shall be permitted on a walking/working surface where leading edges are under construction who is not engaged in the leading edge work six feet (1.8 m) or more above the lower level without being protected by guardrails, safety nets, or personal fall arrest systems.

The criteria for these systems are described within this document under the section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

5. No employee performing overhand bricklaying and related work 6 feet (1.8 m) or more above lower levels, without being protected by guardrail systems, safety net systems, personal fall arrest systems or in a controlled access zone. No employee shall be permitted to reach more than ten inches (25 cm) below the lower level of the walking/working surface on which they are working without being protected from falling by a guardrail, safety net, or personal fall arrest systems.

Note: Bricklaying operations performed on scaffolds are regulated by Subpart L - Scaffolds of this part.

The criteria for these systems are described within this document under the section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

6. No employee shall be permitted on, at, or near wall openings (including those with chutes attached) where the outside bottom edge of the wall opening is six feet (1.8 m) or more above lower levels and the inside bottom edge of the wall opening is less than thirty-nine inches (1.0 m) above the walking/working surface without protection from falling by the use of guardrails, safety nets, or personal fall arrest systems.

The criteria for these systems are described within this document under the section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

7. No employee shall be permitted in a hoist area where the walking/working surface is six feet (1.8 m) or more above the lower level without being protected by the use of guardrails, safety nets, or personal arrest system. If guardrail systems, chain, gate or guardrails are in place and any portion thereof are removed to facilitate the hoisting operation and the employee must lean through the access opening or out over the edge of the access opening, that employee shall be protected from falling hazards by a personal fall arrest systems.

The criteria for these systems are described within this document under the section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

8. No employee shall be permitted on a walking/working surface where there is a danger of falling through holes, (including skylights), more than six feet (1.8 m) above lower levels without being protected by personal fall arrest systems, covers, or guardrails systems erected around such holes.

The criteria for these systems are described within this document under the Section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

9. No employee shall be permitted on a walking/working surface where there is a tripping in or stepping into or through and/or objects falling through holes, (including skylights), without adequate covers, guardrails, safety nets, or personal fall arrest systems in place.

The criteria for these systems are described within this document under the section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

10. In the event a hazard from falling objects would arise, **all exposed employees** will be required to wear a hard hat.

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

Steingass Mechanical Contracting, Inc. shall also implement one of the following measures:

- 1.) Erect toeboards, screens, or guardrail systems.
 - 2.) Erect a canopy structure.
 - 3.) Barricade the area and prohibit employee access.
11. No employee shall be permitted on a ramp, runway, or other walkway where the surface is six feet (1.8 m) above the lower level without protection from guardrail systems, safety nets, or personal fall arrest systems.

The criteria for these systems are described within this document under the section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

SPECIAL CONDITIONS AND APPLICATIONS

1. No employee shall be permitted on the face of formwork or reinforcing steel without being protected from falling six feet (1.8 m) or more to lower levels by personal fall arrest systems, safety net systems, or positioning device system.

The criteria for these systems are described within this document under the section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

2. No employee shall be permitted at the edge of an excavation six feet (1.8 m) or more in depth where there is plant growth or other visual barrier without being protected from falling by guardrail systems, fences, or other barricades.

The criteria for these systems are described within this document under the Section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

3. No employee shall be permitted at the edge of a well, pit, shaft and/or similar excavation six feet (1.8 m) or more in depth without protection from falling by guardrail systems, fences, barricades, or covers.

The criteria for these systems are described within this document under the section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

4. No employee shall be permitted to work above dangerous equipment without being protected from falling into or onto the dangerous equipment-by-equipment guards, guardrails, safety nets, or personal fall arrest systems.

The criteria for these systems are described within this document under the Section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

5. No employee shall be permitted to construct, including any related operation of precast concrete members, (including but not limited to the erection of wall panels, columns, beams, floors, and roof tees) without being protected from falling by guardrails, safety nets, or personal fall arrest systems.

The criteria for these systems are described within this document under the section titled, "**Standardization Requirements for Fall Protection.**"

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

WORK PERFORMED ON LOW SLOPED ROOFS

Refer to Steingass Mechanical Contracting, Inc.'s definition of low sloped roofs.

No employee shall be permitted to become engaged in activities on low sloped roofs without unprotected sides and edges six feet (1.8 m) or more above lower level without being protected from falling by guardrail, safety net, personal fall arrest system, or a combination of:

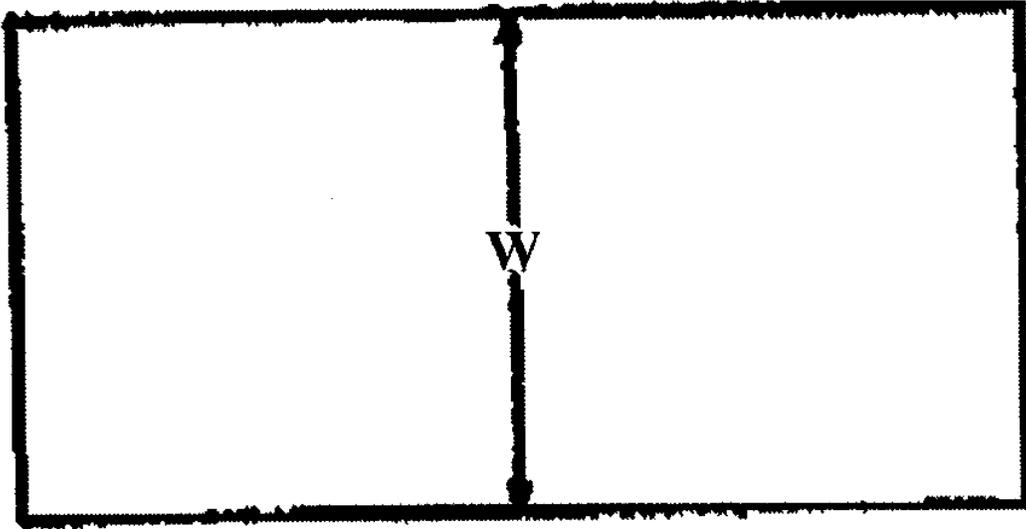
- 1.) Warning line system and guardrail system,**
- 2.) Warning line system and safety net system, or**
- 3.) Warning line system and personal fall arrest system, or**
- 4.) Warning line system and safety monitoring system.**

On roofs 50-feet (15.25 m) or less in width, Steingass Mechanical Contracting, Inc. may use a safety monitoring system alone as a means of providing fall protection.

The following diagrams are some examples, and show a roof plan/plans and indicate where each roof or roof area is to be measured to determine its width. In all examples, the dimensions selected to be the width of an area is the lesser of the two primary dimensions of the area as viewed from above.

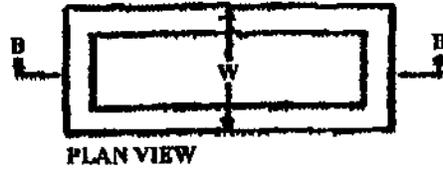
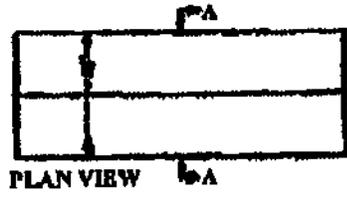
Steingass Mechanical Contracting, Inc. is aware that the process of dividing a roof area can produce many different configurations. The intention of the diagrams is to assist Steingass Mechanical Contracting, Inc. and our lead man in evaluating the areas where safety-monitoring systems alone will provide adequate protection from falling.

Rectangular Shaped Roofs

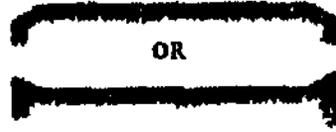


PLAN VIEW

Example B
Sloped Rectangular Shaped Roofs



Section A-A

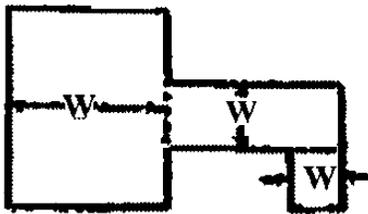


Section B-B

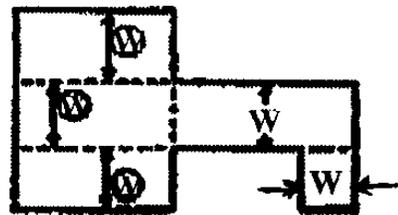
Example C

Irregularly Shaped Roofs With Rectangular Shaped Sections

Such roofs are to be divided into sub-areas by using dividing lines of minimum length to minimize the size and number of the areas which are potentially less than or equal to 50 feet (15.25 meters) in width, in order to limit the size of roof areas where the safety monitoring system alone can be used. Dotted lines are used in the examples to show the location of dividing lines. W denotes incorrect measurements of width.



Correct



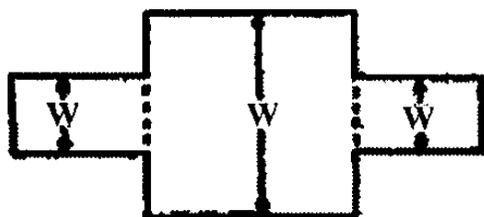
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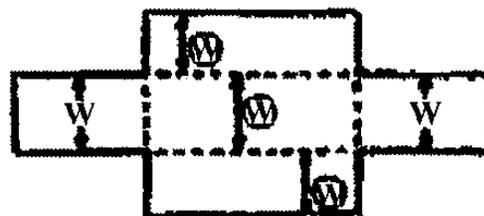
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Incorrect



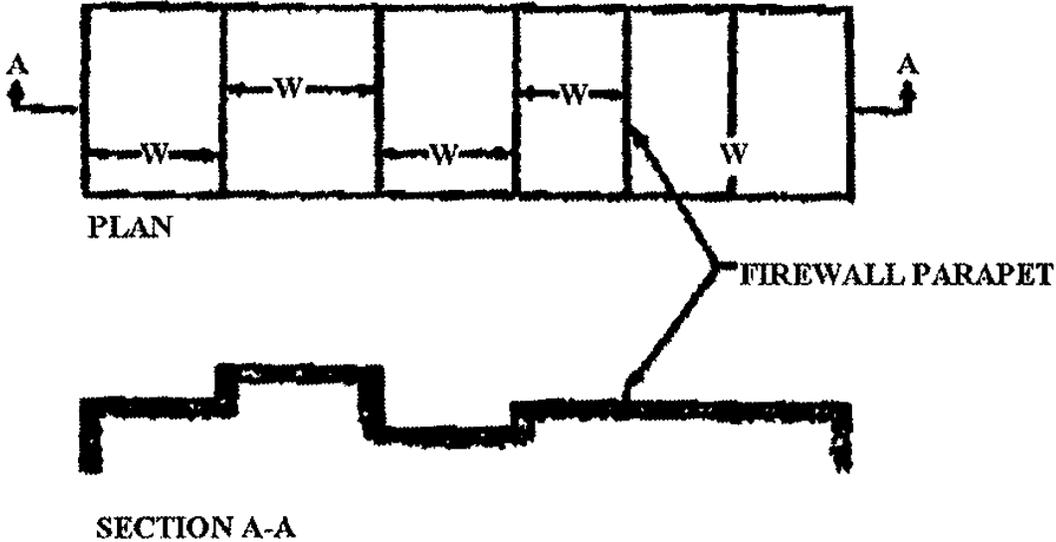
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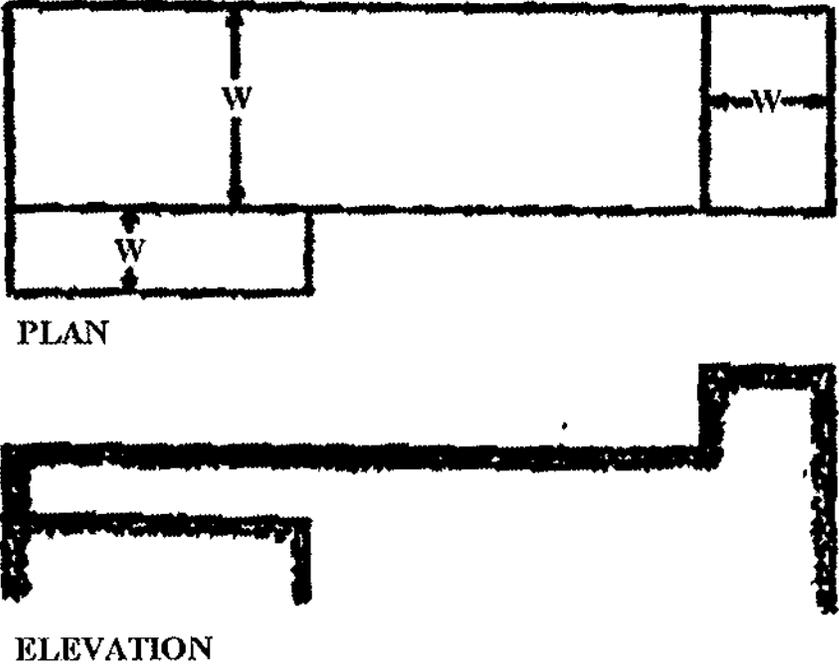
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Example D
Separate, Non-Contiguous Roof Areas

1.



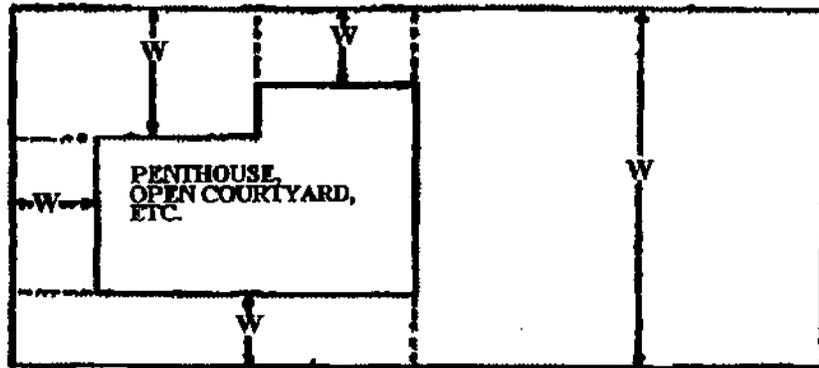
2.



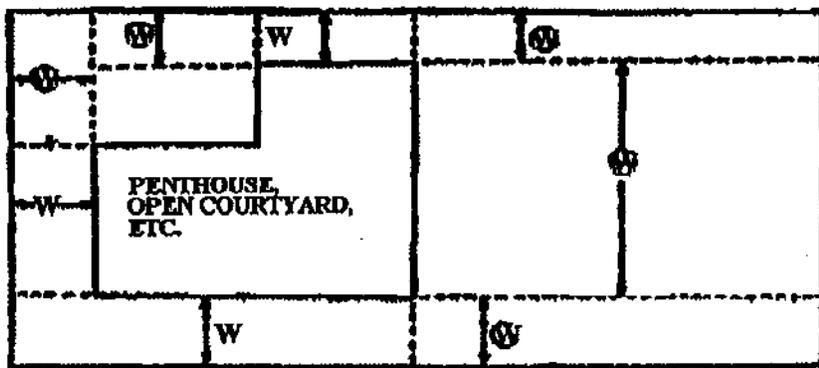
Example E

Roofs With Penthouses, Open Courtyards, Additional Floors, etc.

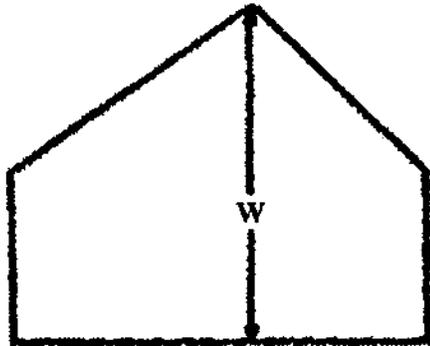
Such roofs are to be divided into sub-areas by using dividing lines of minimum length to minimize the size and number of the areas which are potentially less than or equal to 50 feet (15.25 meters) in width, in order to limit the size of roof areas where the safety monitoring system alone can be used. Dotted lines are used in the examples to show the location of dividing lines. W denotes incorrect measurements of width.



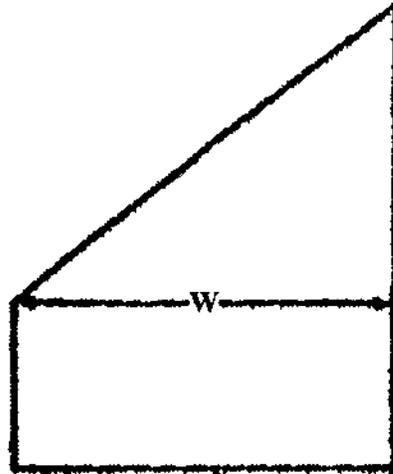
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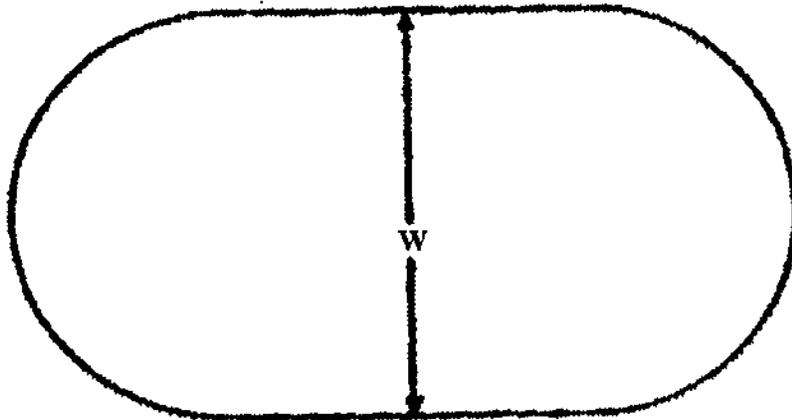
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PLAN



PLAN



PLAN

WORK PERFORMED ON STEEP ROOFS

No employee shall be permitted to work on a steep roof with unprotected sides and edges six feet (1.8 m) or more above lower levels without being protected from falling by guardrail systems with toeboards, safety net systems, or personal fall arrest systems.

STANDARDIZATION REQUIREMENTS FOR FALL PROTECTION SYSTEMS CRITERIA AND PRACTICES

Steingass Mechanical Contracting, Inc. realizes that there may be situations where a fall hazard may be unique or **"one of a kind."** In this situation a Fall Protection Plan will be prepared by a qualified person for the specific work site. The supervisor is ultimately in the best position based upon his/her knowledge of the construction and/or configuration of the hazard, to judge or determine if any additional/alternative protection or protective measures need to be taken.

In the event that this workplace situation should arise, employees are required to inform their immediate supervisor at once.

Steingass Mechanical Contracting, Inc. shall implement a Fall Protection Plan as outlined within this document under the section titled, **"Alternative Measures."**

All other Fall Protection Systems shall meet the following criteria, and shall be implemented prior to the employee beginning work that necessitates the Fall Protection. These systems, equipment and materials used for Fall Protection shall be inspected by a competent person prior to the commencement of work.

GUARDRAIL SYSTEMS

To ensure the integrity of all guardrail systems Steingass Mechanical Contracting, Inc. would opt to use as Fall Protection, the construction and configuration shall meet the following minimum criteria set forth below:

1. Top edge of top rails, or equivalent guardrail system members, shall be 42 inches (1.1 m) plus or minus 3 inches (8cm) above the walking/working level. When conditions warrant, the height of the top edge may exceed the 45-inch height, provided the guardrail system meet all other criteria outlined by this section.

<p>NOTE: When employees are using stilts, the top edge height of the top rail, or equivalent member, shall be increased an amount equal to the height of the stilts.</p>

2. Mid rails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members shall be installed between the top edges of the guardrail system and the walking/working surface when there is no wall or parapet wall at least 21 inches (53 cm) high.
 - (i) Mid rails, when used, shall be installed at a height midway between the top edge of the guardrail system and the walking/working level.

- (ii) Screens and mesh, when used, shall extend from the top rail to the walking/working level and along the entire opening between top rail supports.
 - (iii) Intermediate members (such as balusters), when used between posts, shall be not more than 19 inches (48 cm) apart.
 - (iv) Other structural members (such as additional mid rails and architectural panels) shall be installed such that there are no openings in the guardrail system that are more than 19 inches wide.
3. Guardrail systems shall be capable of withstanding, without failure, a force of at least 200 pounds applied within 2 inches of the top edge, in any outward or downward direction, at any point along the top edge.
 4. When the 200 pound load is applied in a downward direction, the top edge of the guardrail shall not deflect to a height less than 39 inches (1.0 m) above the walking/working level.
 5. Mid rails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall be capable of withstanding, without failure, a force of at least 150 pounds applied in any downward or outward direction at any point along the mid rail or other member.

6. Guardrail systems shall be so surfaced as to prevent injury from punctures or lacerations, and to prevent snagging of clothing.
7. The ends of all top rails and mid rails shall not overhang the terminal posts except where such overhang does not constitute a projection hazard.
8. Steel banding and plastic banding shall not be used as top rails or mid rails.
9. Top rails and mid rails shall be at least one-quarter inch nominal diameter or thickness to prevent cuts and lacerations. If wire rope is used for top rails, it shall be flagged at not more than 6-foot intervals with high-visibility material.
10. When guardrail systems are used at hoisting areas, a chain or removable guardrail section shall be placed across the opening between guardrail sections when hoisting operations are not taking place.
11. When guardrail systems are used at holes, they shall be erected on all unprotected sides or edges of the hole.
12. When guardrail systems are used around holes used for the passage of materials, the hole shall have not more than two sides provided with removal guardrail sections to allow the passage of materials. When the hole is not in use, it shall be closed over with a cover, or a guardrail system shall be provided along all unprotected sides or edges.

13. When guardrail systems are used around which are used as points of access (such as ladder ways), they shall be provided with a gate, or be so offset that a person cannot walk directly into the hole.
14. Guardrail systems used on ramps and runways shall be erected along each unprotected side or edge.
15. Manila, plastic or synthetic rope being used for top rails or mid rails shall be inspected as frequently as necessary to ensure that it continues to meet the strength requirements.
16. Guardrail systems when used as falling object protection, shall have all openings small enough to prevent passage of potentially falling objects.

TOEBOARDS

In the event that employees need additional protection from falling objects, Steingass Mechanical Contracting, Inc. shall install toeboards. To ensure the integrity of all toeboards, they shall be constructed to meet the following minimum criteria set forth below:

1. Toeboards, when used as falling object protection, shall be erected along the edge of the overhead walking/working surfaces for a distance sufficient to protect employees below.
2. Toeboards shall be capable of withstanding without failure, a force of at least 50 pounds applied in any downward or outward direction at any point along the toeboard.
3. Toeboards shall be a minimum of 3 1/2 inches (9 cm) in vertical height from their top edge to the level of the walking/working surface. They shall be solid or have openings not over 1 inch (2.5 cm) in greater dimension. They shall have not more than 1/4 inch (0.6 cm) clearance above the walking/working surface.
4. Where tools, equipment, or materials are piled higher than the top edge of a toeboard, paneling or screening shall be erected from the walking/working surface or toeboard to the top of a guardrail system's top rail or mid rail, for a distance sufficient to protect employees below.

COVERS

In the event that employees need additional protection from falling through holes, Steingass Mechanical Contracting, Inc. shall construct and install covers. To ensure the integrity of all covers, they shall meet the following minimum criteria set forth below:

1. Covers located in roadways and vehicular aisles shall be capable of supporting, without failure, at least twice the maximum axle load of the largest vehicle expected to cross over the cover.
2. All covers shall be capable of supporting, without failure, at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time.
3. All covers shall be secured when installed so as to prevent accidental displacement by the wind, equipment, or employees.
4. All covers shall be color coded or they shall be marked with the word **"HOLE"** or **"COVER"** to provide warning of the hazard.

<p>Note: This provision does not apply to cast iron manhole covers or steel grates used on streets or roadways.</p>
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SAFETY NETS

To ensure the integrity of any safety net system, Steingass Mechanical Contracting, Inc. would opt to use as fall protection, safety nets, and safety net installations, safety nets shall be inspected at least once a week for wear, damage, and other deterioration. In addition, they shall be drop tested at the jobsite after initial installation and before being used, or at any time the safety net system is relocated and/or repaired. If the safety net system is left in one place it shall be tested at six- month intervals. Defective nets shall not be used.

The most recent certification of inspection and drop test for each net and net installation shall be kept up to date and available at each jobsite.

Please see the following documents:

1. Safety nets shall be installed as close as practicable under the walking/working surfaces on which employees are working, but in no case more than 30 feet (9.1 m) below such level. The potential fall area from the walking/working surface to the net shall be unobstructed.

2. Safety nets shall extend outward from the outermost projection of the work surface as follows:

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

3. Safety nets shall be installed with sufficient clearance under them to prevent contact with the surface or structures below when subjected to an impact force equal to the drop test.
4. Safety nets and their installations shall be capable of absorbing an impact force of a drop test consisting of a 400 pound bag of sand 30 inches in diameter from the highest walking/working surface at which workers exposed, but not less than 42 inches above the level **"before being used as a fall protection system"**, whenever relocated, after major repair, and at 6 month intervals if left in one place.
5. Items that have fallen into safety nets including - but not restricted to, materials, scrap, equipment, and tools - must be removed as soon as possible and at least before the next work shift.

Steingass Mechanical Contracting, Inc.
754 Progress Drive
Medina, Ohio 44256
(330) 725-6090

SAFETY NET WEEKLY INSPECTION

Date: _____

Time: _____

Competent person performing inspection: _____

(Signature)

Manufacturer of Safety Net: _____

Model/Serial Number: _____

Has safety net been modified and/or repaired? Yes ___ No ___

If Yes, When: _____

Steingass Mechanical Contracting, Inc.
754 Progress Drive
Medina, Ohio 44256
(330) 725-6090

SAFETY NET DROP TEST

Date: _____

Time: _____

Competent person performing test: _____

(Signature)

Manufacturer of Safety Net: _____

Model/Serial Number: _____

Has this net been modified and/or repaired? Yes___ No___

If Yes, When: _____

Environmental conditions at time of test: _____

Vertical distance from walking/working level to horizontal plan of
Safety Net: _____ feet.

Horizontal distances of outer edge of Safety Net from the edge of the
walking/working surface: _____ feet.

Drop test medium

_____ 400 pound bag of sand 30 ± 2 inches in diameter

_____ Other

Vertical distance from the surface to the horizontal plan of the Safety Net that the test medium was dropped: _____ feet

Remarks following test: Pass _____ Fail _____

Repairs or modifications made following the drop test: _____

If for any reason all or part of the safety net did not meet or pass the drop test, no employee shall be permitted on the walking/working surface until it is retested.

PERSONAL FALL ARREST SYSTEMS

To ensure the integrity of Personal Fall Arrest Systems, Steingass Mechanical Contracting, Inc. will only use equipment that meets the requirements of applicable ANSI & ASTM Standards or OSHA requirements and its uses shall comply with the following provisions set forth below.

1. Connectors shall be drop forged, pressed or formed steel, or made of equivalent materials.
2. Connectors shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to interfacing parts of the system.
3. Dee-rings and snaphooks shall have a minimum tensile strength of 5,000 pounds.
4. Dee-rings and snaphooks shall be proof-tested to a minimum tensile load of 3,600 pounds without cracking, breaking, or taking permanent deformation.
5. Snaphooks shall be sized to be compatible with the member to which they are connected to prevent unintentional disengagement of the snaphook by depression of the snaphook keeper by the connected member, or shall be a locking type snaphook designed and used to prevent disengagement of the snaphook by the contact of the snaphook keeper by the connected member.

6. On suspended scaffolds or similar work platforms which horizontal lifelines, which may become vertical lifelines, the devices used to connect to a horizontal lifeline shall be capable of locking in both directions on the lifeline.
7. Horizontal lifelines shall be designed, installed, and used, under the supervision of a qualified person, as part of a complete personal fall arrest system, which maintains a safety factor of at least two.
8. Lanyards and vertical lifelines shall have a minimum breaking strength of 5,000 pounds.
9. Lifelines shall be protected against being cut or abraded.
10. Self-retracting lifelines and lanyards, which automatically limit free fall distance to 2 feet (0.61 m) or less shall be capable of sustaining a minimum tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.
11. Self-retracting lifelines and lanyards, which do not limit free fall distance to 2 feet (0.61 m) or less, rip stitch lanyards, tearing and deforming lanyards shall be capable of sustaining a minimum tensile load of 5,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.

12. Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body harnesses shall be made from synthetic fibers.

13. Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached, or shall be designed, installed, and used as follows:
 - (i) As part of a complete personal fall arrest system which maintains a safety factor of at least two; and

 - (ii) Under the supervision of a qualified person.

14. Personal fall arrest systems, when stopping a fall, shall:
 - (i) Limit maximum arresting force on an employee to 900 pounds when used with a body belt;

 - (ii) Limit maximum arresting force on an employee to 1,800 pounds when used with a body harness;

 - (iii) Be rigged such that an employee can neither free fall more than 6 feet (1.8 m), nor contact any lower level;

 - (iv) Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet (1.07 m); and,

- (v) Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet (1.8 m), or the free fall distance permitted by the system, whichever is less.

Note: If the system is used by an employee having a combined tool and body weight of 310 pounds (140 kg) or more, then the system shall be modified to provide proper protection for such heavier weights.

- 15. The attachment point of the body harness shall be located in the center of the wearer's back near shoulder level, or above the wearer's head.
- 16. Body harnesses, and components shall be used only for employee protection (as part of a personal fall arrest system or positioning device system) and not to hoist materials.
- 17. Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until inspected and determined by a competent person to be undamaged and suitable for reuse.
- 18. Steingass Mechanical Contracting, Inc. shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.
- 19. All employees shall be required to inspect prior to use of personal fall arrest systems for wear, damage and other deterioration, and defective components shall be removed from service.

20. Personal fall arrest systems shall not be attached to guardrail systems, nor shall they be attached to hoists, except as specified in this policy.

21. When a personal fall arrest system is used at hoist areas, it shall be rigged to allow the movement of the employee only as far as the edge of the walking/working surface.

POSITIONING DEVICE SYSTEMS

To ensure the integrity of any positioning device system, Steingass Mechanical Contracting, Inc. would opt to use as fall protection, the positioning device system, and its use shall comply with the following minimum provisions set forth below.

1. Positioning devices shall be rigged such that an employee cannot free fall more than 2 feet (.9 m).
2. Positioning devices shall be secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or 3,000 pounds, whichever is greater.
3. Connectors shall be drop forged, pressed or formed steel, or made of equivalent materials.
4. Connectors shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to interfacing parts of this system.
5. Connecting assemblies shall have a minimum tensile strength of 5,000 pounds.
6. Dee-rings and snaphooks shall be proof-tested to a minimum tensile load of 3,600 pounds without cracking, breaking, or taking permanent deformation.

7. Snaphooks shall be sized to be compatible with the member to which they are connected to prevent unintentional disengagement of the snaphook by depression of the snaphook keeper by the connected member, or shall be a locking type snaphook designed and used to prevent disengagement of the snaphook by the contact of the snaphook keeper by the connected member.
8. All employees shall be required to inspect prior to use any positioning device system for wear, damage, and other deterioration, and defective components shall be removed from service.
9. Harnesses and components shall be used only for employee protection (as part of a personal fall arrest system or positioning device system) and not to hoist materials.

WARNING LINE SYSTEMS

To ensure the integrity of any warning line system, Steingass Mechanical Contracting, Inc. would opt to use as fall protection, the warning line system, and its use shall be constructed to meet the following minimum criteria set forth below.

1. The warning line shall be erected around all sides of the roof work area.
 - (i) When mechanical equipment is not being used, the warning line shall be erected not less than 6 feet (1.8 m) from the roof edge.
 - (ii) When mechanical equipment is being used, the warning line shall be erected not less than 6 feet (1.8 m) from the roof edge which is parallel to the direction of mechanical equipment operation, and not less than 10 feet (3.1 m) from the roof edge, which is perpendicular to the direction of mechanical equipment operation.
 - (iii) Points of access, materials handling areas, storage areas, and hoisting areas shall be connected to the work area by an access path formed by two warning lines.
 - (iv) When the path to a point of access is not in use, a rope, wire, chain, or other barricade, equivalent in strength and height to the warning line, shall be placed across the path at the point where the path intersects the warning line erected around the work area, or the path shall be offset such that a person cannot walk directly into the work area.
2. Warning lines shall consist of ropes, wires, or chains, and supporting stanchions erected as follows:

- (i) The rope, wire, or chain shall be flagged at not more than 6 foot (1.8 m) intervals with high-visibility material;
 - (ii) The rope, wire, or chain shall be rigged and supported in such a way that its lowest point (including sag) is no less than 34 inches (.9 m) from the walking/working surface and its highest point is no more than 39 inches (.9 m) from the walking/working surface;
 - (iii) After being erected, with the rope, wire, or chain attached, stanchions shall be capable of resisting, without tipping over, a force of at least 16 pounds applied horizontally against the stanchion, 30 inches (.8 m) above the walking/working surface, perpendicular to the warning line, and in the direction of the floor, roof, or platform edge;
 - (iv) The rope, wire, or chain shall have a minimum tensile strength of 500 pounds and after being attached to the stanchions, shall be capable of supporting, without breaking, the loads applied to the stanchions and;
 - (v) The line shall 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.
3. No employee shall be allowed in the area between a roof edge and a warning line unless the employee is performing roofing work in that area.
4. Mechanical equipment on roofs shall be used or stored only in areas where employees are protected by a warning line system, guardrail system, or personal fall arrest system.

CONTROLLED ACCESS ZONES

To ensure the integrity of all controlled access zones, which Steingass Mechanical Contracting, Inc. would opt to use to control access to areas where leading edge and other operations are taking place, the controlled access zone shall conform to the following minimum provisions.

1. The controlled access zone shall be defined by a control line or by any other means that restricts access.
 - (i) When control lines are used, they shall be erected not less than 6 feet (1.8 m), nor more than 25 feet (7.7 m) from the unprotected or leading edge; except when erecting pre-cast concrete members.
 - (ii) 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.
 - (iii) The controlled line shall be connected on each side to a guardrail system or wall.
2. Control lines shall consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:
 - (i) Each line shall be flagged or otherwise clearly marked at not more than 6-foot (1.8 m) intervals with high-visibility material.

- (ii) Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches (1 m) from the walking/working surface and its highest point in not more than 45 inches (1.3 m), (when overhand bricklaying operations are being performed) from the walking/working surface.
 - (iii) Each line shall have a minimum breaking strength of 200 pounds.
- 3. On floors and roofs where guardrail systems are not in place prior to the beginning of work, controlled access zones shall be enlarged, as necessary, to enclose all points of access, material handling areas, and storage areas.
- 4. On floors and roofs where guardrail systems are in place, but need to be removed to allow leading edge work to take place, only that portion of the guardrail necessary to accomplish that day's work shall be removed.

SAFETY MONITORING SYSTEMS

To ensure the integrity of all safety monitoring systems in which Steingass Mechanical Contracting, Inc. would opt to use as fall protection, their use shall comply with the following minimum provisions set forth below.

1. Steingass Mechanical Contracting, Inc. shall designate a competent person to monitor the safety of other employees.
 - (i) Safety monitors shall be competent to recognize fall hazards;
 - (ii) Safety monitors shall warn the employee when it appears that the employee is unaware of a fall hazard or is acting in an unsafe manner;
 - (iii) Safety monitors shall be on the same walking/working surface and within visual sighting distance of the employee being monitored;
 - (iv) Safety monitors shall be close enough to communicate orally with the employee;
 - (v) Safety monitors shall not have other responsibilities, which could take the monitor's attention from the monitoring function.

2. Mechanical equipment shall not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations on low sloped roofs.
3. No employee, other than an employee engaged in the work activity shall be allowed in an area where an employee is being protected by a safety monitoring system.
4. All employees working shall be directed to comply promptly with fall hazard warnings from safety monitors.

ALTERNATIVE MEASURES

In the event that Steingass Mechanical Contracting, Inc. feels that the use of conventional fall protection is infeasible or creates a greater hazard, the following Fall Protection Plan will be prepared and implemented by a qualified person designated by Steingass Mechanical Contracting, Inc.. Any changes to this plan will be approved by Steingass Mechanical Contracting, Inc.'s qualified person.

**Steingass Mechanical Contracting,
Inc.
FALL PROTECTION PLAN**

CONTRACTOR'S NAME: Steingass Mechanical Contracting, Inc.
CONTRACTOR'S ADDRESS: 754 Progress Drive
CITY, STATE ZIP: Medina, Ohio 44256
PHONE: (330) 725-6090

DATE PREPARED: _____

PLAN PREPARED BY: _____

PLAN APPROVED BY: _____

DATE MODIFIED: _____

PLAN SUPERVISED BY: _____

PLAN MODIFIED BY: _____

JOBSITE ADDRESS: _____

I. POLICY STATEMENT

The purpose of this document is to supplement Steingass Mechanical Contracting, Inc.'s Fall Protection Policy. As stated previously, Steingass Mechanical Contracting, Inc. is dedicated to the prevention of work related injuries.

A discussion took place with the intent to isolate areas and/or activities on the above-mentioned jobsite where conventional Fall Protection seemed infeasible or created a greater hazard and employees needed additional protection.

The people involved in this discussion were:

_____	_____
_____	_____
_____	_____

Date: _____ Time: _____

Notes Regarding Discussion:

Why we feel that conventional fall protection will be infeasible or create a greater hazard:

Specific locations where conventional fall protection cannot be used: These areas will be defined as a control access zone.

- | | |
|-----------|------------|
| 1.) _____ | 6.) _____ |
| 2.) _____ | 7.) _____ |
| 3.) _____ | 8.) _____ |
| 4.) _____ | 9.) _____ |
| 5.) _____ | 10.) _____ |

Specific activities and/or job duties where conventional fall protection is infeasible and/or creates a greater hazard. The areas that these activities will take place shall also be defined as a control access zone:

- | | |
|-----------|------------|
| 1.) _____ | 6.) _____ |
| 2.) _____ | 7.) _____ |
| 3.) _____ | 8.) _____ |
| 4.) _____ | 9.) _____ |
| 5.) _____ | 10.) _____ |

II. FALL PROTECTION SYSTEMS TO BE USED

1) **Specific locations:** _____

2) **Controlled Access Zone #** _____

How will the controlled access zone be defined: _____

Who will be permitted to enter the controlled access zone:

Tasks to be completed while in a controlled access zone: _____

Safety Monitor assigned to this controlled access zone: _____

Discussion of measures to be taken to reduce or eliminate fall hazards within this controlled access zone has been completed. Below is a list of specific activities and the means of protection to be implemented when employees are performing these tasks.

<u>Activity</u>	<u>Means of protection</u>
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____

The following individuals were present and understood their responsibilities under this plan:

Date: _____ **Time:** _____

- | | |
|----------|-----------|
| 1) _____ | 7) _____ |
| 2) _____ | 8) _____ |
| 3) _____ | 9) _____ |
| 4) _____ | 10) _____ |
| 5) _____ | 11) _____ |
| 6) _____ | 12) _____ |

1) **Specific locations:** _____

2) **Controlled Access Zone #** _____

How will the controlled access zone be defined?

Who will be permitted to enter the controlled access zone:

_____ _____
_____ _____
_____ _____

Tasks to be completed while in a controlled access zone: _____

Safety Monitor assigned to this controlled access zone: _____

Discussion of measures to be taken to reduce or eliminate fall hazards within this controlled access zone has been completed. Below is a list of specific activities and the means of protection to be implemented when employees are performing these tasks.

<u>Activity</u>	<u>Means of protection</u>
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____

The following individuals were present and understood their responsibilities under this plan:

Date: _____ **Time:** _____

- | | |
|----------|-----------|
| 1) _____ | 7) _____ |
| 2) _____ | 8) _____ |
| 3) _____ | 9) _____ |
| 4) _____ | 10) _____ |
| 5) _____ | 11) _____ |
| 6) _____ | 12) _____ |

1) **Specific locations:** _____

2) **Controlled Access Zone #** _____

How will the controlled access zone be defined: _____

Who will be permitted to enter the controlled access zone:

_____	_____
_____	_____
_____	_____

Tasks to be completed while in a controlled access zone: _____

Safety Monitor assigned to this controlled access zone: _____

Discussion of measures to be taken to reduce or eliminate fall hazards within this controlled access zone has been completed. Below is a list of specific activities and the means of protection to be implemented when employees are performing these tasks.

<u>Activity</u>	<u>Means of protection</u>
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____

The following individuals were present and understood their responsibilities under this plan:

Date: _____ **Time:** _____

- | | |
|----------|-----------|
| 1) _____ | 7) _____ |
| 2) _____ | 8) _____ |
| 3) _____ | 9) _____ |
| 4) _____ | 10) _____ |
| 5) _____ | 11) _____ |
| 6) _____ | 12) _____ |

Steingass Mechanical Contracting, Inc. Employee Training and Information

Steingass Mechanical Contracting, Inc. shall instruct all applicable employees whose scope of work is covered, or intended to be covered by this Subpart M.

Consequently, the Standard for Fall Protection deals with both the human and equipment related issues in protecting workers from fall hazards.

It is the intent that by training employees in Steingass Mechanical Contracting, Inc.'s Fall Protection Policy, individuals shall be capable of understanding and recognizing the hazards of falling and shall understand the procedures to follow to minimize these hazards.

Steingass Mechanical Contracting, Inc. shall provide retraining when the following are noted:

- 1) Deficiencies in training
- 2) Work place changes
- 3) Fall protection systems or equipment changes that render previous training obsolete.

Steingass Mechanical Contracting, Inc. shall maintain written certification showing who was trained, dates trained, signature of person who conducted training, and date Steingass Mechanical Contracting, Inc. determined training was adequate.

Steingass Mechanical Contracting, Inc. Employee Training Statement

The purpose of this training is to gain an understanding of established Steingass Mechanical Contracting, Inc.'s Fall Protection Procedures. **You** are accountable for ensuring that you understand by asking questions and seeking clarification during training and day-to-day practical job applications.

These Policies have been developed to be as workable as possible while accomplishing our safety goals and complying with current OSHA regulations. You are welcome to suggest changes to these procedures. All suggestions will be evaluated based on their workability, impact on safety, and compliance with OSHA regulations.

As one of Steingass Mechanical Contracting, Inc.'s Employees, I have reviewed the latest copy of Steingass Mechanical Contracting, Inc.'s Fall Protection Program, and in addition, I have received the following training:

- A. The nature of fall hazards in the work area.
- B. The correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems.
- C. The use and operation of controlled access zones and guardrail, personal fall arrest, safety net, warning line, and safety monitoring systems.
- D. The role of each employee in the safety monitoring system when the system is in use.

E. The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs.

F. The correct procedures for equipment and materials handling and storage and the erection of overhead protection.

G. Employees' role in fall protection plans.

Employee Signature _____

Date: ____ / ____ / ____

Time: _____

Employers Signature: _____

Fall Protection Quiz

Please Print

Company Name: _____

Employee Name: _____

Employee Number: _____

Test Date: _____

Please Circle the correct answer:

- 1.) Fall protection must be provided when workers are how far above a lower surface?

A.) 5 Feet	C.) 8 Feet
B.) 6 Feet	D.) 10 Feet

- 2.) Toeboards must be what minimum height?

A) 2.5 inches	C) 6.5 inches
B) 3.5 inches	

- 3.) Worker protection from falling objects include:

A) Hard Hats	D) Barricades
B) Toeboards	E) All of the above
C) Canopy	

- 4.) Any employee less than 6 feet above dangerous equipment, does not have to be fall protected, because they are not working above 6 feet.

A) True	B) False
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**Fall Protection Quiz
Page Two**

- 5.) The conventional fall protection systems are:
- A) **Guardrail systems**
 - B) **Safety net systems**
 - C) **Fall arrest systems**
 - D) **Any of the above**
- 6.) Fall protection applies to which of the following areas:
- A) **Ramps/runways, roofs (low and steep)**
 - B) **Formwork/Rebar, holes, excavations**
 - C) **Leading edges, decking, hoist areas, wall openings**
 - D) **Unprotected sides and edges**
 - E) **All of the above**
- 7.) If guardrails are removed to feed material through hoist areas, any employees leaning into the opening with a potential fall of 6 feet or more, must be protected by a fall arrest systems or equivalent.
- A) **True**
 - B) **False**
- 8.) All employees on walking/working surfaces, shall be protected from falling through holes (including skylights) by guardrails, covers, or personal fall arrest systems.
- A) **True**
 - B) **False**
- 9.) Roofing work on low sloped roofs, over 6 feet above lower levels, with unprotected sides and edges, requires that employees must be protected by guardrails, safety net systems, personal fall arrest systems, warning line systems, safety monitoring systems, or by a combination of these fall protection systems.
- A) **True**
 - B) **False**
- 10.) Employees working on steep roofs with unprotected sides and edges 6 feet above lower levels, shall be protected by guardrails with toeboards, safety nets or personal fall arrest systems.
- A) **True**
 - B) **False**

**Fall Protection Quiz
Page Five**

24.) Controlled Access Zones (C.A.Z.), warning line systems, and safety monitoring systems can only be used where conventional fall protection systems are not feasible.

A) True

B) False

25.) Floor hole covers do not need to be secured in place, marked and be strong enough to support the maximum intended load.

A) True

B) False

26.) Any employee who is exposed to a fall hazard, must be trained and receive certification of the training.

A) True

B) False

Instructor: _____
(Competent Person Signature)

Test Score: _____