



Fall Protection Plan

**An Employee Guide to Safety
Policies and Procedures to
Support a Safety-Conscious
Work Environment**

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Objective

The objective of the Trio Masonry, Inc. Fall Protection Program is to identify and evaluate fall hazards to which employees will be exposed and to provide specific training as required by the Occupational Safety and Health Administration (OSHA) Fall Protection Standard, 29 CFR 1926, Subpart M.

Policy

It is the policy of Trio Masonry, Inc. to protect its employees from occupational injuries by implementing and enforcing safe work practices and appointing a competent person(s) to manage the Fall Protection Program. The Trio Masonry, Inc. Fall Protection Program shall comply with the OSHA requirements. A copy of the OSHA Fall Protection Standard shall be made available to all employees and may be obtained from **Responsible Person**.

Assignment of Responsibility

Employer

It is the responsibility of Trio Masonry, Inc. to provide fall protection to affected employees, and to ensure that all employees understand and adhere to the procedures of this plan and follow the instructions of the competent person.

Competent Person

It is the responsibility of program manager to implement this program by:

1. Hereby referred to as **Responsible Person**.
2. Performing routine safety checks of work operations.
3. Enforcing Trio Masonry, Inc. safety policy and procedures.
4. Correcting any unsafe practices or conditions immediately.
5. Training employees and supervisors in recognizing fall hazards and the use of fall protection systems.
6. Maintaining records of employee training, equipment issue, and fall protection systems.
7. Investigating and documenting all incidents that result in employee injury.

Employees

It is the responsibility of all employees to:

1. Understand and adhere to the procedures outlined in this Fall Protection Program.
2. Follow the instructions of the program manager and competent person.
3. Bring to management's attention any unsafe or hazardous conditions or practices that may cause injury to either themselves or any other employees.
4. Report any incident that causes injury to an employee, regardless of the nature of the injury.

Training

All employees who may be exposed to fall hazards are required to receive training on how to recognize such hazards, and how to minimize their exposure to them. Employees shall receive training as soon after employment as possible, and before they are required to work in areas where fall hazards exist.

1. A record of employees who have received training and training dates shall be maintained by **Responsible Person**. Training of employees by **Responsible Person** shall include:
 - Nature of fall hazards employees may be exposed to.
 - Correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems.
 - Use and operation of controlled access zone, guardrail, personal fall arrest, safety net, warning line and safety monitoring systems.
 - Role of each employee in the Safety Monitoring System (if one is used).
Limitations on the use of mechanical equipment during roofing work on low-slope roofs (if applicable). Correct procedures for equipment and materials handling, and storage and erection of overhead protection.
 - Role of each employee in alternative Fall Protection Plans (if used).
Requirements of the OSHA Fall Protection Standard, 29 CFR 1926, Subpart M.
 - Trio Masonry, Inc. requirements for reporting incidents that cause injury to an employee.

Controlled Access Zones

1. Masons are the only authorized employees permitted to enter controlled access zones and areas from which guardrails have been removed. All other workers are prohibited from entering controlled access zones.
2. Controlled access zones shall be defined by control lines consisting of ropes, wires, tapes, or equivalent material, with supporting stanchions, and shall be:
 - Flagged with a high-visibility material at six (6) foot intervals.
 - Rigged and supported so that the line is between 39 and 50 inches (including sag) from the walking/working surface.
 - Strong enough to sustain stress of at least 200 pounds.
 - Extended along the entire length of an unprotected or leading edge.
 - Parallel to the unprotected or leading edge.
 - Connected on each side to a guardrail system or wall.
 - Erected between six (6) feet and 25 feet from an unprotected edge, except:

When performing overhand bricking and related work: between ten (10) feet and 15 feet from the working edge.

Excavations

Fall protection will be provided to employees working at the edge of an excavation that is six (6) feet or deeper. Employees in these areas are required to use the fall protection systems as designated in this program.

1. Excavations that are six (6) feet or deeper shall be protected by guardrail systems, fences, barricades, or covers.
2. Walkways that allow employees to cross over an excavation that is six (6) feet or deeper shall be equipped with guardrails.

Fall Protection Systems

Covers

1. All covers shall be secured to prevent accidental displacement.
2. Covers shall be color-coded or bear the markings "HOLE" or "COVER".
3. Covers located in roadways shall be able to support twice the axle load of the largest vehicle that might cross them.
4. Covers shall be able to support twice the weight of employees, equipment and materials that might cross them.

Guardrail Systems

Guardrail systems shall be erected at unprotected edges, ramps, runways, or holes where it is determined by **Responsible Person** that erecting such systems will not cause an increased hazard to employees. The following specifications will be followed in the erection of guardrail systems.

1. Top rails shall be:
 - At least 1/4 inch in diameter (steel or plastic banding is unacceptable).
 - Flagged every six (6) feet or less with a high visibility material if wire rope is used.
 - Inspected by **Responsible Person** as frequently as necessary to ensure strength and stability.
 - Forty-two (42) inches (plus or minus three (3) inches) above the walking/working level.
 - Adjusted to accommodate the height of the stilts if they are in use.
2. Mid rails, screens, mesh, intermediate vertical members, and solid panels shall be erected in accordance with the OSHA Fall Protection Standard.
3. Gates or removable guardrail sections shall be placed across openings of hoisting areas or holes when they are not in use to prevent access.

Personal Fall Arrest Systems

1. Personal fall arrest systems shall be issued to and used by employees as determined by **Responsible Person** and may consist of anchorage, connectors, body harness, deceleration device, lifeline, or suitable combinations.
2. Personal fall arrest systems shall:
 - Limit the maximum arresting force to 1800 pounds.
 - Be rigged so an employee cannot free fall more than six (6) feet or contact any lower level.
 - Bring an employee to a complete stop and limit the maximum deceleration distance traveled to three and a half (3.5) feet.
 - Be strong enough to withstand twice the potential impact energy of an employee free falling six (6) feet, or the free fall distance permitted by the system, whichever is less.
 - Be inspected prior to each use for damage and deterioration.
 - Be removed from service if any damaged components are detected.
3. All components of a fall arrest system shall meet the specifications of the OSHA Fall Protection Standard and shall be used in accordance with manufacturer's instructions.
4. The use of non-locking snap hooks is prohibited.
5. Dee-rings and locking snap hooks shall:
 - Have a minimum tensile strength of 5000 pounds; and
 - Be proof-tested to a minimum tensile load of 3600 pounds without cracking, breaking, or suffering permanent deformation.
6. Lifelines shall be:
 - designed, installed and used under the supervision of **Responsible Person**
 - Protected against cuts and abrasions; and
 - Equipped with horizontal lifeline connection devices capable of locking in both directions on the lifeline when used on suspended scaffolds or similar work platforms that have horizontal lifelines that may become vertical lifelines.
 - Self-retracting lifelines and lanyards must have ropes and straps (webbing) made of synthetic fibers, and shall:
 - i. Sustain a minimum tensile load of 3600 pounds if they automatically limit free fall distance to two (2) feet; or
 - ii. Sustain a minimum tensile load of 5000 pounds (includes rip stitch, tearing, and deforming lanyards).
7. Anchorages must support at least 5000 pounds per person attached and shall be:
 - Designed, installed and used under the supervision of **Responsible Person**.
 - Capable of supporting twice the weight expected to be imposed on it; and
 - Independent of any anchorage used to support or suspend platforms.

Positioning Device Systems

Body harness systems shall be set up so that an employee can free fall no farther than two (2) feet and shall be secured to an anchorage capable of supporting twice the potential impact load or 3000 pounds, whichever is greater. Requirements for snap hooks, dee-rings and other connectors are the same as detailed in this Program under *Personal Fall Arrest Systems*.

Safety Monitoring Systems

In situations when no other fall protection has been implemented, **Responsible Person(s)** shall monitor the safety of employees in these work areas. The **Responsible Person(s)** shall be:

1. Competent in the recognition of fall hazards.
2. Capable of warning workers of fall hazard dangers.
3. Operating on the same walking/working surfaces as the employees and able to see them.
4. Close enough to work operations to communicate orally with employees.
5. Free of other job duties that might distract from the monitoring function.

No employees other than those engaged in the work being performed under the Safety Monitoring System shall be allowed in the area. All employees under a Safety Monitoring System are required to promptly comply with the fall hazard warnings of the **Responsible Person(s)**

Safety Net Systems

1. Safety net systems must be installed no more than 30 feet below the walking/working surface with sufficient clearance to prevent contact with the surface below and shall be installed with sufficient vertical and horizontal distances as described in the OSHA Fall Protection Standard.
2. All nets shall be inspected at least once a week for wear, damage, or deterioration by **Responsible Person**. Defective nets shall be removed from use and replaced with acceptable nets.
3. All nets shall be in compliance with mesh, mesh crossing, border rope, and connection specifications as described in the OSHA Fall Protection Standard.
4. When nets are used on bridges, the potential fall area from the walking/working surface shall remain unobstructed.
5. Objects that have fallen into safety nets shall be removed as soon as possible, and at least before the next working shift.

Warning Line Systems

Warning line systems consisting of supporting sanctions and ropes, wires, or chains shall be erected around all sides of roof work areas.

1. Lines shall be flagged at no more than six (6) foot intervals with high-visibility materials.
2. The lowest point of the line (including sag) shall be between 34 and 39 inches from the walking/working surface.
3. Sanctions of warning line systems shall be capable of resisting at least 16 pounds of force.
4. Ropes, wires or chains must have a minimum tensile strength of 500 pounds.
5. Warning line systems shall be erected at least six (6) feet from the edge, except in areas where mechanical equipment is in use. When mechanical equipment is in use, warning line systems shall be erected at least six (6) feet from the parallel edge and at least ten (10) feet from the perpendicular edge.

Tasks and Work Requiring Fall Protection

Unless otherwise specified, **Responsible Person(s)** shall evaluate the worksite(s) and determine the specific type(s) of fall protection to be used in the following situations.

Framework and Reinforcing Steel

- Fall protection will be provided when an employee is climbing or moving at a height of over 24 feet when working with rebar assemblies.

Hoist Areas

- Guardrail systems or personal fall arrest systems will be used in hoist areas when an employee may fall six (6) feet or more.
- If guardrail systems must be removed for hoisting, employees are required to use a personal fall arrest system.

Holes

- Covers or guardrail systems shall be erected around holes (including skylights) that are six (6) feet or more above lower levels.
- If covers or guardrail systems must be removed, employees are required to use a personal fall arrest system.

Leading Edges

- Guardrail systems, safety net systems, or personal fall arrest systems shall be used when employees are constructing a leading edge that is six (6) feet or more above lower levels.
- An alternative Fall Protection Plan shall be used if **Responsible Person(s)** determines that the implementation of conventional fall protection systems is infeasible or creates a greater hazard to employees. All alternative Fall

Protection Plans for work on leading edges shall:

- i. Be written specific to the particular jobsite needs.
- ii. Include explanation of how conventional fall protection is infeasible or creates a greater hazard to employees.
- iii. Explain what alternative fall protection will be used for each task.
- iv. Be maintained in writing at the jobsite by **Responsible Person**
- v. Meet the requirements of 29 CFR 1926.502(k).

Overhand Bricklaying and Related Work

Guardrail systems, safety net systems, personal fall arrest systems, or controlled access zones shall be provided to employees engaged in overhead bricklaying or related work six (6) feet or more above the lower level. All employees reaching more than ten (10) inches below the walking/working surface shall be protected by a guardrail system, safety net system or personal fall arrest system.

Ramps, Runways, and Other Walkways

Employees using ramps, runways, and other walkways six (6) feet or more above the lower level shall be protected by guardrail systems.

Precast Concrete Erection

Guardrail systems, safety net systems, or personal fall arrest systems shall be provided to employees working six (6) feet or more above the lower level while erecting or grouting precast concrete members. An alternative Fall Protection Plan shall be used if **Responsible Person(s)** determines that the implementation of conventional fall protection systems is infeasible or creates a greater hazard to employees.

All alternative Fall Protection Plans for precast concrete erection shall:

- Be written specific to the particular jobsite needs.
- Include explanation of how conventional fall protection is infeasible or creates a greater hazard to employees.
- Explain what alternative fall protection will be used for each task.
- Be maintained in writing at the jobsite by **Responsible Person**.
- Meet the requirements of 29 CFR 1926.502(k).

Residential Construction

Guardrail systems, safety net systems, or personal fall arrest systems shall be provided to employees working six (6) feet or more above the lower level on residential construction projects. However, certain tasks may be performed without the use of conventional fall protection if **Responsible Person** has determined that such fall protection is infeasible or creates greater hazards to employees. **Responsible Person** shall follow the guidelines of 29 CFR 1926, Subpart M, Appendix E in the development of alternative Fall Protection Plans for residential construction projects (see Attachment A).

Roofing

1. Low-Slope Roofs
 - Fall protection shall be provided to employees engaged in roofing activities on low-slope roofs with unprotected sides and edges six (6) feet or more above lower levels.
 - The type(s) of fall protection needed shall be determined by **Responsible Person**, and may consist of guardrail systems, safety net systems, personal fall arrest systems, or a combination of a warning line system and safety net system, warning line system and personal fall arrest system, or warning line system and safety monitoring system.
 - On roofs 50 feet or less in width, the use of a safety monitoring system without a warning line system is permitted.
2. Steep Roofs
 - Guardrail systems with toe boards, a safety net system, or a personal fall arrest system will be provided to employees working on a steep roof with unprotected sides and edges six (6) feet or more above lower levels, as determined by **Responsible Person**.

Wall Openings

Guardrail systems, safety net systems, or a personal fall arrest system will be provided to employees working on, at, above or near wall openings when the outside bottom edge of the wall opening is six (6) feet or more above lower levels and the inside bottom edge of the wall opening is less than 39 inches above the walking/working surface. The type of fall protection to be used will be determined by **Responsible Person**.

Protection from Falling Objects

When guardrail systems are in use, the openings shall be small enough to prevent passage of potential falling objects. The following procedures must be followed by all employees to prevent hazards associated with falling objects.

1. No materials (except masonry and mortar) shall be stored within four (4) feet of working edges.
2. Excess debris shall be removed regularly to keep work areas clear.
3. During roofing work, materials and equipment shall be stored no less than six (6) feet from the roof edge unless guardrails are erected at the edge.
4. Stacked materials must be stable and self-supporting.
5. Canopies shall be strong enough to prevent penetration by falling objects.
6. Toe boards erected along the edges of overhead walking/working surfaces shall be:
 - Capable of withstanding a force of at least 50 pounds; and solid with a minimum of three and a half (3.5) inches tall and no more than one quarter (1/4) inch clearance above the walking/working surface.
 - Equipment shall not be piled higher than the toe board unless sufficient paneling or screening has been erected above the toe board.

Changes to the Plan

Any changes to the Fall Protection Program (and alternative Fall Protection Plans, if in place) shall be approved by **Responsible Person** and shall be reviewed by a qualified person as the job progresses to determine additional practices, procedures or training needs necessary to prevent fall injuries. Affected employees shall be notified of all procedure changes, and trained if necessary. A copy of this plan, and any additional alternative Fall Protection Plans, shall be maintained at the jobsite by **Responsible Person**.

Enforcement

Constant awareness of and respect for fall hazards, as well as compliance with all safety rules, are considered conditions of employment with Trio Masonry, Inc. The crew supervisor or foreman, as well as **Responsible Person** or company management, reserve the right to issue disciplinary warnings to employees, up to and including termination, for failure to follow the guidelines of this Plan.

Accident Investigations

All incidents that result in injury to workers and near misses, regardless of their nature, shall be reported and investigated. All incidents shall be investigated as soon as possible by **Responsible Person** to identify the cause and means of prevention to prevent future occurrences.

In the event of such an incident, this Fall Protection Plan shall be reviewed to determine if additional practices, procedures, or training should be implemented to prevent similar incidents in the future.

Glossary

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

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

Connector: A device that is used to couple (connect) parts of a personal fall arrest system or positioning device system together.

Controlled access zone: a work area designated and clearly marked in which certain types of work (such as overhand bricklaying) may take place without the use of conventional fall protection systems (guardrail, personal arrest or safety net) to protect the employees working in the zone.

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

Deceleration distance: the additional vertical distance a falling person travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which a deceleration device begins to operate.

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

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

Lanyard: a flexible line of rope, wire rope, or strap that 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 a deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or 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), that serves as a means for connecting other components of a personal fall arrest system to an anchorage.

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

Opening: a gap or void 30 inches (76 centimeters) or higher, and 18 inches (46 centimeters) or wider, in a wall or partition, through which employees can fall to a lower level.

Personal fall arrest system: a system including but not limited to an anchorage, connectors, and a body harness used to arrest an employee in a fall from a working level.

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 backwards.

Rope grab: a deceleration device that travels on a lifeline and automatically, by friction, engages the lifeline and locks to arrest a fall.

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

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

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

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

Toe board: a low protective barrier that prevents material and equipment from falling to lower levels and which protects personnel from falling.

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 meter) 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. Does not include ladders, vehicles, or trailers on which employees must be located to perform their work 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.