

SECTION 7 – FALL PROTECTION

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FALL PROTECTION POLICY

It is GRD Construction Ltd. policy to have all workers who work at heights protected from fall by establishing a 100% fall protection goal meaning that no exposure to an elevated fall is permitted on a GRD construction Ltd. worksite.

A site specific fall protection plan will be developed and implemented, whenever a fall hazard of 25 feet or more exists or whenever site specific work procedures are utilized as a means of preventing a fall. All persons involved in this development must be qualified and competent with this information, procedures and training plan.

All employees are required to comply with this fall protection policy whenever they are on a GRD Construction Ltd. worksite. Failure to do so will result in disciplinary action.

All fall protection equipment and systems must meet all applicable OH&S, WCB, CAN/CSA and ANSI standards for fall protection.

All fall protection equipment and systems used by anyone involved in work for GRD Construction Ltd. will be maintained in accordance with the manufacturer's instructions and requirements.

Company issued fall protection equipment will be inspected at the time of issue and before each use inspected by the employee using the equipment.

All fall protection equipment that is of questionable reliability, damaged or in need of service or repair must be removed from service immediately.

No piece of fall protection equipment will be modified or changed contrary to manufacturer's instructions of specifications or legislated regulations.

If elevated work cannot be performed safely and without exposure to a fall, then the work will not be performed.

Note: The information in this policy does not take precedence over applicable government legislation with which all employees should be familiar.

RESPONSIBILITIES AND PLANNING

Responsibilities

GRD Construction Ltd. believes that protection from fall is a fundamental right and responsibility when working at elevations. For those reasons alone, responsibilities for health and safety of any person involved in GRD Construction Ltd. projects include the establishment and maintenance of an effective communication system between workers, foreman and management.

Pre-job Safety Instruction (PSI)

PSI is delivered to each person assigned to work in elevated areas or other areas that present any potential of fall. It is the foreman's responsibility to ensure all tasks have been completely analyzed for individual fall potential prior to the commencement of work activities and furthermore to ensure that adequate fall protection systems are in place. It is also the foreman's responsibility to question their workers knowledge of the system(s) including proper methods of use and emergency procedures, as well as ensure through observation that competency for each system is demonstrated consistently.

Fall Protection Planning

One way to ensure adequate pre-job safety instruction is through thorough planning and communication of a fall protection plan. Fall protection planning is required at any time work is being performed at a site in which a 3 meters or more may occur and guardrails do not protect workers from risk of fall. OH&S regulations require that the plan be in writing and available to workers, on the site, before the risk of falling begins.

An individual and unique fall protection is not required for each individual size if the same fall hazards exist at multiple sites and the fall protection equipment and rescue procedures are identical at each work site. In this situation, a general fall protection plan covers all of the fall hazards likely to be encountered during normal operations may be developed and implemented with only site specific changes made as require.

FALL PROTECTION WORK PLAN FORM

Project: _____

Project Location: _____

Supervisor (Please Print): _____

Employees: _____

Building Description: Height: _____ Width: _____ Length: _____

Roof Hazards: _____

Roof Pitch: 4/12 and over Under 4/12 Openings Signs

Skylights Fiberglass Light Panels

Canopy Description: Height: _____ Width: _____ Length: _____

Roof Hazards: _____

Roof Pitch: 4/12 and over Under 4/12

Roof Hazards: _____

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Con't Section 7 – Fall Prevention Work Plan Form

Open Wall:

Location: _____

Openings in floor or mezzanine:

Location: _____

Stair openings:

Location: _____

Scaffold erection:

Location: _____

review company policy and regulation requirements for the assembly and dismantling.

Ladders:

Location: _____

NOTE: Extension ladders are to be tied off at all times. Ladders serve as a means of access to a high level. They are not for the use of hoisting equipment or supplies. When available use a crane, manlift or rope.

Signature: _____

Date: _____

EMPLOYEE RESPONSIBILITIES FORM – FALL PROTECTION

1. All employees will observe the requirements for 100% fall protection. NO EXCEPTION!
2. Understand the requirements and use of Fall Restraint and Fall Arrest Systems.
3. Use workplace specific job procedures provided when working in fall hazards areas.
4. Control or restrict access, or apply engineering controls when working below, around or above other trades.
5. Offer suggestions which will improve the Fall Protection Procedures.
6. Participate in all training programs and safety meetings.
7. Observe all safety rules and directives.
8. Ensure that all communications received on the job site is understood prior to work.
9. Report ALL unsafe conditions immediately.
10. Be responsible for all fall protection equipment. Always inspect for defects prior to work. Report all damaged and defective equipment.
11. Understand the correct procedures for **HANDLING, STORAGE, and SECURING** Fall Protection equipment.
12. Describe the methods used for the prompt, safe removal of injured worker relating to fall hazards.

No one will be required at any time to expose themselves to a potential fall to a lower elevation without some form of required protection. If this is not followed to the letter, then the job will not be performed.

I have received the appropriate Fall Protection Instructions relating to the specific job hazards which may be applicable to my working area. I have read and acknowledged my responsibilities towards the company Fall Protection Plan.

Employee’s Signature: _____ Date: _____

Supervisor Signature: _____ Date: _____

DEFINITIONS

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

Buckle – Any device for holding the full body harness closed around the employee's body.

Connector – A device that is used to couple (connect) parts of the personal fall arrest systems, and positioning device system together. It may be an independent component of the system (such as a buckle or D-ring sewn into a full body harness or snap hook spliced or sewn to a lanyard or retractable lifeline).

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

Deceleration Distance – The additional vertical distance of falling employee travels, excluding the 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 full harness attachment point (D-ring) 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.

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

Free-fall Distance – The vertical displacement of the fall protection attachment point on the employees full 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.

Full Body Harness – Straps that 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 the other components of a personal fall arrest system.

Guardrail System – A barrier erected to prevent employees from falling to lower areas.

Hole – A gap or void two inches or more in its least dimension in a floor or roof or other walking/working surface.

Lanyard – A flexible line of wire rope or nylon strap that generally has a connector at each end for connecting a full body harness to a deceleration device, lifeline, or anchorage.

Leading Edge – The edge of the floor, roof, or form work for a floor or other walking/working surfaces (such as a deck) that changes location as additional floor, roof, decking, or form work sections are placed, formed and constructed. A leading edge is considered to be an “unprotected side and edge” during periods when it is not actively and continuously under construction.

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

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

Lower Levels – Those areas of 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 thirty inches or more high and eighteen inches or more wide, in a wall or partition, through which employees can fall to a lower level.

Personal Fall Protection System - A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a full body harness, and a shock absorbing lanyard and may include a deceleration device, lifeline, or suitable combinations of these.

Primary Fall Protection – Elimination of fall exposures through a use of guardrail systems, aerial lifts, scaffolds or alternate work methods such as pre assembly at ground 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 learning. These systems must prevent fall potential of greater than 3 feet and be supported with a secured personal fall protection system.

Roof – The exterior surface on the top of building. This does not include floors or form work that, because a building has not been completed, temporarily becomes 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 vapour barrier work, but not including the construction of the roof deck.

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.

Secondary Fall Protection – Utilization of fall arrest equipment as a backup to primary fall prevention systems or in the absence of primary fall prevention systems.

Self-Retracting Lifeline/Lanyard – A deceleration device containing drum would like that can be slowly extracted from or retracted onto the drum under slight tension during normal employee movement, and that, after the onset of a fall automatically locks the drum and arrests the fall.

Snap-hook – a connector comprised of a hook to receive an object and, when released, automatically closes to retain the object. The locking type with a self-closing keeper that remains closed and locked until unlocked pressed open for connection is the only authorized snap-hook. Non locking snap-hooks are expressly forbidden for fall prevention/protection purposes.

Steep Roof – A roof having a slop greater than 4 in 12 (vertical to horizontal).

Toe Beard – A low protective barrier (minimum of 3 ½ inch clearance above the walking/working surface that will prevent the fall of materials and equipment to lower levels and provide protection from fall to workers.

Unprotected Sides and Edges – Any side or edge (except entrances to points of access) of a walking/working surface where there is no wall or guardrail system at least 39 inches high.

Walking/Working Surface – Any surface, weather vertical or horizontal on which an employee walks or works, including but not limited to, floors, roofs, ramps, bridges, runways, from work and concrete reinforcing steel but not including ladders, vehicles or trailer, on which employees must be located to perform their duties.

Warning Line System – A barrier erected on a low pitch roof, to warn employees that they are approaching an unprotected side or edge, and that designates an area in which roofing work may take place without the use of a guardrail, full body harness, or safety net systems, to protect employees within that enclosed area.

Work Area – The portion of a walking/working surface where duties are being performed.

PRIMARY FALL PREVENTION SYSTEM

Temporary Work Platforms

- All efforts shall be made to ensure that temporary platforms/walkways are equipped with solid decking free of openings and including standard guard rail systems.
- All persons working or traveling on temporary elevated work platforms shall wear an approved safety harness/lanyard system at all times. Unless it is specified by the manufacturer of the work platform that is not required.
- All persons working or traveling on a temporary work platform with a fall exposure shall secure their fall protection lanyard to an anchorage point capable of supporting a minimum of 5,000 pounds or designated as a part of a complete personal fall arrest system.
- All persons working or traveling on a complete temporary platforms, free from openings and equipped with standard guardrails are not required to secure their fall protection lanyard as long as they remain within the confines of the temporary platform and guardrail system.
- All temporary platforms shall meet engineering and manufacturer's specifications, prior to any person using the platform.
- Temporary work platforms shall be inspected weekly by a designated competent person prior to the use by any personnel. A tag shall be placed on the platform to readily identify the platform as inspected and safe for use with or without other precautionary measures or requirements.
- Every temporary platform shall be provided with a safe means of access/egress. Retractable lifelines shall be used while ascending or descending ladders of temporary work platforms or walkways with a fall hazard greater than twenty feet.

Guardrail System

- Guardrail systems are an integral part of many primary fall prevention systems and whenever used, must comply with all acceptable provincial and federal legislation for construction, use, care and maintenance at all times.

Ladders

- Permanent caged ladders being used to access complete structures where no fall exposure exists, may be ascended/descended without wearing fall protection.
- Temporary construction ladders whenever used must comply with the applicable provincial and federal legislation for construction, use, care and maintenance at all times.
- Absolutely no tools, object or materials are to be carried in hands while ascending/descending ladders
- Ladders are not yet secured at the top must have another person holding the ladder at the bottom until it can be properly secured. This also includes the last top down the ladder after it has been untied at the top.

Warning Lines – Control Zones

- Warning lines are designed to be utilized while performing work on non-sloped roofs. The warning line warns workers of their safe working distance from the edge of the roof.

- Warning lines are to be constructed no less than ten feet from the edge of the roof on all sides and should be constructed of material such as rope, wire or chain so that it is easily identifiable and prohibits personnel from entering the ten foot area before the edge of the roof. Alternate identification such as a painted line on the roof can be used where there is absolutely no question of visibility and identification of the line.
- A worker working outside of the warning line/control zone shall be protected by either a fall protection system or safety net system at all times where there is a fall potential of ten feet or more.
- A warning line does not allow workers to be unprotected from potential exposures.

Personal Restraint System

- Restraint systems are designed to restrain movement so that fall is not possible. A personal restraint system must have the capacity to withstand no less than 3000 pounds, or twice the maximum expected force that is needed to restrain the person from exposure to the fall hazard.

SECONDARY FALL PROTECTION SYSTEM

These systems must be used at all times in the absence of primary fall protection systems.

Full Body Harness, Shock Absorbing/Retractable Lanyards

- All of the above need to meet all applicable CSA/ANSI standards, as well as provincial and federal legislation for, use, care and maintenance at all times.
- A full body harness and shock absorbing or retractable lanyard must be work at all times where there is a fall potential of ten feet or greater or where a fall of any distance would be immediately dangerous to the life and health of the worker due to the condition of the ground below.
- If at any time a worker is required to reach or position any part of their body beyond the plane of a structure's boundaries and/or primary fall protection system (ex. Guardrail system), a full body harness and shock absorbing or retractable lanyard must be work and secured to ensure 100% fall protection.
- Retractable lifelines are devices that when properly used, will serve to stop the free fall of a worker prior to the worker striking a lower surface. ROPE (SYNTHETIC OR NATURAL FIBER) MUST NEVER BE USED TO SECURE A RETRACTABLE DEVICE.
- Any personnel using fall protection equipment shall be trained in the use, care and maintenance of each piece of equipment they must use.
- All defective full body harnesses and shock absorbing/retractable lanyards must be tagged "Defective – DO NOT USE" and immediately removed from service.
- All full body harnesses and shock absorbing/retractable lanyards must be stored in an area free from exposure to heat, chemicals and anything else that may deteriorate the materials of which they are constructed.

Anchorage Points

- The strength of a personal fall arrest system is based on its being attached to an anchorage system that does not reduce the strength of the system. All anchorage points must meet all applicable CSA/ANSI standards as well as provincial and federal legislation for use, care and maintenance at all times.
- The following equipment and structure will not meet the requirements of this fall protection program and therefore must not be used for anchorage points at any time.
 - Screw Pipe
 - Conduit
 - Cable Tray
 - Welded pipe less than 2 inches in diameter
 - Wooden Handrails
 - Scaffolding handrails and Rosettes (unless approved by the manufacturer's specifications)

Lifeline Systems

- Lifeline systems are points of attachment for fall protection lanyards and harnesses. Lifelines may be mounted either vertically or horizontally and provide fall protection for personnel working in elevated areas.
- Lifelines shall not be used for any other purpose than fall protection and must be protected against being cut or abraded at all times.
- Lifelines shall be inspected by a competent person before use and then once per week to ensure system and equipment integrity. Lifeline system shall be used and maintained according to the manufactures specifications.

Lifeline Placement/Installation

- All lifelines must be designed and approved by a registered professional engineer. Absolutely no lifelines shall be used without the receipt and review of all engineering documentation and specifications on the project site for which they are required.
- Lifelines must only be installed and used under the direct supervision of a qualified and competent person who is familiar with the engineered documentation and specification as indicated above. Written documentation on personnel qualified to install and inspect a lifeline must be kept on this site.

Horizontal Lifelines

- All horizontal lifelines must be designated and approved by a registered professional engineer with safety factor of two.

Vertical Lifelines

- All horizontal lifelines must be designated and approved by a registered professional engineer with a breaking strength of no less than 5,000 lbs.

Safety Net Systems

- Safety nets may be used as a last resort when it is determined either infeasible or impossible to use other forms of secondary.
- All Safety net systems must be designed and approved by the registered professional engineer with the drawings for each system kept on a file at the project site for which they are required.
- Safety nets should be placed as close as practical under working/walking surfaces on which employees are working, but in no case more than thirty feet below such level.
- All safety nets must be installed with sufficient clearance underneath to prevent contact with the structures or surface below.
- Safety nets must be drop tested as per engineering requirement(s) after initial installation, after relocation, after major repairs and/or six month intervals if let in on continuous place. All drop test records must be kept at the project for which they are required.
- Nets must be inspected on a regularly schedules basis of no less than once weekly or immediately upon any occurrence that could adversely affect the integrity of this system and detective nuts shall not be used.

Connector Toggles

- Connector toggles are devices which lock into structural steel bolts to provide anchorage points for shock absorbing lanyards. They are to be used only by structural iron workers (connectors) and bolt-up personnel during steel erection activities.
- Connector toggles must be able to withstand a minimum of 5000 pounds impact load or twice the potential impact load of an engineered fall protection system.

Structural Steel Erection

- All personnel erecting skeletal steel structures shall maintain %100 fall prevention/protection through the use of personal fall protection system, retractable lifelines, connector toggles and aerial work platforms.
- Access to structural steel must be obtained by use of ladder, aerial work platforms, or other approved hoisting devices. Climbing of structural steel members which as columns and diagonal braces is forbidden.
- Prior to the and during lifeline system placement, personnel shall crawl steel members with personal fall protection in place. In appropriate situation, retractable lifeline systems secured at higher elevations can be utilized.

Personal Lifts/Hoisting Device

- Personal riding or working from aerial work platforms must be secure their safety lanyard to the supplied anchorage point or lift basket at all times, except where the manufactures' specifications indicate that this is not an operator/passenger requirement.

Crane Hoisted Personnel Baskets

- Personnel riding in or working from personnel baskets must secure their lanyard to an overhead attachment point, above the crane ball independent of the suspension and attachment for the basket at all times while aloft.

ROOFING**Slope Roof Applications:**

- Employees engaged in work activities on sloped roofs with unprotected sides and edges that are 10 feet or more about the lower level must utilize 100% fall protection such at all times. This can be achieved through the use of systems such as guardrails, personal fall protection, safety net or warning lines/control zone.

High Slope Roof Applications:

- Employees engaged in work activities on sloped roofs with unprotected sides and edges that are 10 feet or more about the lower level must utilize 100% fall protection such at all times. This can be achieved through the use of systems such as guardrails, personal fall protection, safety net or warning lines/control zone.
- Guardrail system must meet engineered drawing and technical specifications.

Personal fall protection system must remain secured at all times while the fall exposure of ten feet or more is present.

- Employees shall receive PSI prior to beginning any task located on a high slope.

*** On a flat roof or low sloping roof anyone outside the control zone of 12 ft must be 100% tied off. ***

FALL PROTECTION EQUIPMENT INSPECTION FORM

Inspection Date: _____ Inspector: _____

Issued to: _____ Date of Issue: _____

Equipment Inspected: Full Body Harness Lanyards Rope Grab
 Horizontal Life Line Stanchions Tensioners

****If the equipment below has arrested a fall the harness and lanyard must be retired and destroyed. Retractable must be inspected before being used again for fall protection. ****

Harness Information	Lanyard Information	Rope Grab Information
Make:	Make:	
Model:	Type: Single <input type="checkbox"/>	
Serial #:	Double <input type="checkbox"/>	
	Length:	
	Shock Absorber: Yes <input type="checkbox"/> No <input type="checkbox"/>	

Inspect the following	Full Body Harness	Lanyard/Lifelines	Rope Grab
Hardware: (Include snap hooks, carabiners, D-rings, adjusters, keepers & thimbles). Look for distortion, sharp edges, burrs, cracks, corrosion & proper operation.	Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:	Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:	Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:
Labels/Equipment Info: Inspect to ensure all labels are present and held securely in place, all text is legible, directional indicator is visible.	Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:	Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:	Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:
Webbing: Inspect for cuts, burns, tears, abrasions, trays, excessive soiling, written on and discoloration. Deployment of shock absorber.	Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:	Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:	Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:
Stitching: Inspect for pulled of cut stiches	Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:	Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:	
Ropes: Includes slings, lifelines and lanyards. Inspect for broken threads, loose eye connections, excessive abrasions, crushing and stretching.		Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:	
Mechanical Components: Locking mechanism functioning, All connectors present and functioning Gates open/close. System operates as designed.			Good <input type="checkbox"/> No Good <input type="checkbox"/> Notes:

