1.0 INTRODUCTION

This Fall Prevention Program is to clearly identify guidelines to protect all employees engaged in outdoor or indoor work activities that expose them to potential falls from elevations.

2.0 OBJECTIVES AND METRICS

The purpose of this Fall Prevention Program is to protect people, property, and the environment by providing a process for ensuring compliance with OSHA’s General Industry, Construction Industry standards, and the New York State Department of Labor.

This section also defines the process by which the Fall Prevention Program will be audited internally.

- This written program will be audited by Environmental Health & Safety annually.
- The Fall Prevention audit forms (Appendix A-E) shall be used for periodic audits of the Fall Prevention Program.
- Results of all audits shall be retained by Environmental Health & Safety for three years.
- Internal and external fall protection auditors shall be approved by Environmental Health & Safety.
- When there is an accident or close-call that relates to falls from heights, Environmental Health & Safety must be notified by calling 255-8200.

### 3.0 APPLICABILITY

This Fall Prevention Program applies to all Cornell University employees on the Ithaca campus.

This program does not apply to employees when they are making an inspection, investigation, or assessment of workplace conditions prior to the actual start of construction work or after all construction work has been completed.

### 4.0 ROLES AND RESPONSIBILITIES

#### 4.1 UNIVERSITY ADMINISTRATION

University Administrators provide senior management support for implementing the Fall Prevention Safety Program and ensure that resources are allocated for implementing this program.

#### 4.2 ENVIRONMENTAL HEALTH & SAFETY

The Cornell University Department of Environmental Health & Safety develops and oversees implementation of the Fall Prevention Program, and supports the program by:

4.2.1 Ensuring the Fall Prevention Safety Program is integrated into the daily operations of Cornell University.
4.2.2 Approving all Fall Protection training and instructors
4.2.3 Developing and maintaining the various written components comprising the Fall Protection Safety Program.

Environment Health & Safety has the authority to enforce the Fall Prevention Safety Program requirements.

#### 4.3 SUPERVISORS

Cornell University supervisors will support the Fall Prevention Safety Program by:
4.3.1 Ensuring the Fall Prevention procedures are implemented with their employees when maintenance is performed in or on buildings they maintain.

4.3.2 Providing necessary resources to support the activities of the Fall Prevention Program.

4.3.3 Ensure Cornell University employees are in compliance with this Fall Prevention Program.

4.3.4 Ensuring that all affected department personnel attend required training as defined in this program.

4.3.5 Communicating to the appropriate individuals all pertinent Fall Prevention safety information (e.g., major incidents, product recalls, product notices, and safety bulletins).

4.3.6 Ensuring that all fall protection equipment is inspected every 6 months and maintaining written records for review. (Appendix A-E)

4.4 EMPLOYEES

Cornell University employees will comply with the Fall Prevention Program by:

4.4.1 Attending all applicable training. If a written exam is given the employee must pass with a 70%.

4.4.2 Recognizing and reporting unsafe fall protection hazards to their supervisors.

4.4.3 Make sure their own activities and their own projects are in compliance with this Fall Prevention Safety Program.

4.4.4 Performing work activities in compliance with the Cornell University Fall Prevention Safety Program.

4.4.5 Wearing the fall protection equipment as required by the Fall Prevention Program.

4.5 FACILITIES SERVICES PROFESSIONALS

Cornell University Facilities Services Professionals will support the Fall Prevention Program by:

4.5.1 Providing necessary resources to support the activities of the Fall Prevention Program.

4.5.2 Ensure projects implemented are in compliance with this program.

4.5.3 Communicate to the appropriate individual pertinent fall protection information.
4.6 **BUILDING COORDINATOR**
Cornell University Building Coordinators will comply with the Fall Prevention Safety Program by:

4.6.1 Ensuring that all roofs are secure from unauthorized persons.

### 5.0 REQUIREMENTS

The workplace will be assessed before each assigned job for potential fall hazards. When fall hazards cannot be eliminated and the use of a guardrail, fall-protection system and distance cannot be applied, then administrative controls must be used. When administrative controls are used, then the Fall Prevention Hazard Assessment Plan (Appendix F) will be completed and approved by Environmental Health and Safety or their designee.

The following guidelines shall be used in this order when planning work at elevated heights:

1. **Fall prevention methods**, such as guardrails.
2. **Fall protection systems**, such as a restraint system, positioning system and or fall-arrest system.
3. **Distance protection**, providing a safe distance from the unprotected sides and edges. *(maintenance work ONLY)*.
4. **Fall prevention plans**, which are administrative controls that rely on special training and work practices.

Determine what type of work will be done:

5.1 A fall protection system at 4 feet or more doing work will be required for **Maintenance activities (General Industry Standard)**: See definition

5.2 A fall protection system at 6 feet or more doing work will be required for **Construction work (Construction Industry Standard)**: See definition

### 6.0 FALL PREVENTION METHODS

6.1 **Guardrail System:**

Cornell University’s **first option** is to use a guardrail system to protect workers from falls. When utilized, a guardrail system shall meet the following criteria: See diagram
6.1.1 **Toprails**

6.1.1.1 Must be 42 inches (General Industry) above the walking/working level and 39-45 inches (Construction Industry) above the walking/working level.
6.1.1.2 Must be capable of withstanding a force of at least 200 pounds (applied within 2 inches of the top edge in any outward or downward direction).
6.1.1.3 Must be inspected as frequently as necessary to ensure strength and stability.
6.1.1.4 Must protect workers from punctures or lacerations and made to prevent clothing from snagging.

6.1.2 **Midrails**

6.1.2.1 Must be installed at a height midway between the top edge of the guardrail system and the walking/working level.
6.1.2.2 Must be capable of withstanding a force of at least 150 pounds (applied in any downward or outward direction).

6.1.3 **Toeboards**

6.1.3.1 Are always required in Industrial but only required in Construction if the area below cannot be protected from people entering.
6.1.3.2 Shall be 4 inches nominal in vertical height from its top edge to the level of the floor, platform, runway, or ramp.
6.1.3.3 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.
6.1.3.4 Shall be securely fastened in place and with not more than 1/4-inch clearance above floor level.
6.1.3.5 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 midrail, for a distance sufficient to protect employees below.
7.0 FALL PROTECTION SYSTEMS

7.1 Restraint System:

Cornell University’s second option is to use a Restraint System to protect workers from falls. A restraint system is rigged to allow workers to move only as far as the sides of the work area and prevents the wearer from reaching a fall hazard.

A restraint is a full-body harness, lanyard, cable or rope with a rope grab at a predetermined length, which is connected to the anchorage and the user, and is shorter than the distance to the unprotected edge. The system will let the employee walk around and be able to reach the edge but will not let the employee fall off the edge. See diagram

When utilized, a Restraint System shall meet the following criteria:

7.1.1 Must be visually inspected by the trained user prior to using.

7.1.2 The user is physically prevented from reaching an unprotected edge and/or fall from or through the structure. See Diagram.

7.1.3 Protection shall be rigged to allow the movement of employees only as far as the sides of the working level or working area.

7.1.4 The anchor point must have an ultimate load capacity in any direction in which a load may be applied of at least 800 lbs or a structure that cannot be moved or pulled over by the employee.

7.1.5 The anchorage point for the lanyard may be placed at foot level, provided there is no likelihood of damage to the equipment.

7.1.6 Lanyards or rope grab shall be secured to a substantial member of the structure.
7.1.7 All Employees must be trained.

7.1.8 A restraint line is not necessarily designed to withstand forces resulting from a fall therefore the rope or cable does not have to be (5000 lbs) rated.

7.1.9 No provisions need to be made for rescue.

7.2 Positioning System:

Cornell University’s **third option** is to use a Positioning System to protect workers from falls if possible. When utilized, a positioning system shall meet the following criteria:

A positioning system consists of an anchorage point, energy shock absorber, and full-body harness and a device that shall be rigged such that an employee cannot free fall more than 2 feet. See diagram

![Diagram showing correct and incorrect use of positioning system](image)

7.2.1 Must be visually inspected by the trained user prior to using.

7.2.2 Must only be used in a **vertical** position.

7.2.3 Provisions must be made for rescue. (**Appendix G**)

7.2.4 Anchorages used to attach the positioning devices shall be capable of supporting at least 3,000 pounds per person attached.

7.2.5 Connecting assemblies shall have a minimum tensile strength of 5,000 pounds.

7.2.6 Positioning devices shall be rigged such that an employee cannot free fall more than 2 feet (.9 m).

7.2.7 The fixed anchorage shall be rigid, when force is applied.
7.2.8 A single double locking lanyard shall have one end attached to a fixed anchorage and the other end connected to a body.

7.2.9 A double locking lanyard shall be used to maintain a 100% tie-off when moving.

7.2.10 A retractable lifeline may be considered when working in areas such as on roofs and scaffolds, or in tanks, towers, vessels, and manholes. The retractable lifelines must automatically limit free fall distance to 2 feet.

7.2.11 All Employees must be trained.

7.3 Personal Fall Arrest System:

Cornell University’s fourth option is to use a Personal Fall Arrest System to protect workers from falls. When fall hazards cannot be eliminated through any other means and a guardrail or restraint positioning device is not feasible, then a Personal Fall Arrest System can be used to control falls.

A Personal Fall Arrest System consists of: an anchor strap (1), anchorage point (2), double-locking lanyard, energy shock absorber (3), and full-body harness (4). See diagram

When utilized, a Personal Fall Arrest System shall meet the following criteria:

7.3.1 All users must be trained.

7.3.2 Provisions must be made for rescue. (Appendix G)

7.3.3 Anchorages used to attach a personal fall arrest system shall be capable of supporting at least 5,000 pounds per person attached.

7.3.4 Must be rigged so that employees can neither free fall more than 6 feet or contact any lower level below.
7.3.5 Must be inspected by the user prior to each use for wear, damage or other deterioration.

7.3.6 Any defective components must be removed from service.

7.3.7 Must be inspected every 6 months by a competent person.

7.3.8 If Anchorages are installed they shall be designed under the supervision of a qualified person. This person is someone who, by possession of a recognized degree, certificate or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.

7.4 Distance Protection (Maintenance work ONLY):

Cornell University’s fifth option is to use distance to protect workers from falls. This is determined by how close the employees can work near the unprotected sides and edges and is only approved for maintenance work.

When utilizing Distance Protection, it shall meet the following criteria:

7.4.1 The area where the employee is working shall be at least 15 feet back from the unprotected sides and edges.

7.4.2 The work must be of a temporary nature, such as maintenance on roof top equipment.

7.4.3 The working surface must be free of snow and ice and have a surface that does not pose a slipping hazard.

7.4.4 Designated surface areas shall be as flat as possible and cannot have a slope of 10 degrees or more.

7.4.5 The designated area shall consist of an area surrounded by a rope, wire or chain and supporting stanchions erected in accordance with these criteria:

7.4.5.1 Strength criteria.

a) Stanchions shall be capable of resisting, without tipping over, a force of at least 16 pounds applied horizontally against the stanchion in the direction of the unprotected side or edge.

b) Rope, wire or chain shall have a minimum breaking or 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.
c) Rope, wire or chain 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.

7.4.5.2 **Height criteria.**
   a) Rope, wire or chain shall be installed in such a manner that its lowest point (including sag) is no less than 34 inches and no more than 39 inches from the work surface.

7.4.5.3 **Visibility criteria.**
   a) Rope, wire or chain forming the designated area shall be clearly visible from any unobstructed location.

7.4.5.4 **Location criteria.**
   a) Stanchions shall be erected as close to the work area as is permitted by the task.

7.4.6 Access to the designated area shall have a clear path, formed by two lines, attached to stanchions, which meet the strength, height and visibility requirements of this paragraph.

7.4.7 No provisions need to be made for rescue.

**8.0 FALL PREVENTION ASSESSMENT PLAN**

In some cases, hazards may be managed by a Fall Prevention Hazard Assessment Plan (administrative controls) that rely on special training and work plans. These plans may only be used for leading edge work or precast concrete work only if conventional fall protection equipment cannot be used or creates a greater hazard.

**8.1 Fall Prevention Assessment Plan shall meet the following requirements:**

8.1.1 Be prepared by a qualified person and developed specifically for the site where the work is being performed using the Fall Prevention Hazard Assessment Plan. (Appendix F)

8.1.2 Explain why the use of conventional fall protection systems, such as guardrail systems and personal fall arrest systems, restraint systems, positioning systems and/or fall-arrest systems are infeasible or why the use would create a greater hazard.

8.1.3 Explain the measures that will be taken to reduce or eliminate the fall hazard for workers who cannot be provided with protection from the conventional fall protection system. For example, the extent to which scaffolds, ladders or
vehicle-mounted work platforms can be used to provide a safer working surface and reduce the hazard of falling.

8.1.4 Identify each location where conventional fall protection methods cannot be used. These locations must be classified as Controlled Access Zones.

8.1.5 Maintain up-to-date records with any changes approved by a qualified person.

8.1.6 A copy of the Fall Prevention Hazard Assessment Plan (Appendix F) with all approved changes must be available at the jobsite.

8.1.7 The plan shall be reviewed and signed by the "competent person"

8.1.8 Once the Fall Prevention Hazard Assessment Plan form (Appendix F) is completed, the form will need to be approved by Environmental Health and Safety or their designee before work starts.

9.0 FALL PROTECTION EQUIPMENT

9.1 Retractable Lifelines:

9.1.1 A Retractable Lifeline is a fall arrest device used in conjunction with other components of a Fall Arrest System.

9.1.2 Retractable Lifelines should be used by only one person at a time.

9.1.3 Retractable Lifelines must be properly inspected and maintained. (Appendix E)

9.1.4 Retractable lifelines must be installed properly to automatically stop a person’s descent in a short distance after the onset of an accidental fall.

9.1.5 If the limit free fall distance is 2 feet or less the lifeline anchor point shall be capable of sustaining a minimum tensile load of 3,000 pounds.

9.1.6 If the free fall distance is more than 2 feet than the lifeline anchor point shall be capable of sustaining a minimum tensile load of 5,000 pounds.

9.2 Dee-rings and Snaphooks;

9.2.1 Dee-rings and Snaphooks must have a minimum tensile strength of 5,000 pounds.

9.2.2 Dee-rings and Snaphooks shall be double locking.
9.2.3 Dee-rings and Snaphooks must be properly inspected and maintained (Appendix C)

9.2.4 Unless the Snaphook is designed for the following connections, Snaphooks shall not be connected:

9.2.4.1 directly to webbing, rope, or wire rope
9.2.4.2 to each other
9.2.4.3 to a Dee-ring to which another snaphook or other connecter is attached
9.2.4.4 to a horizontal lifeline
9.2.4.5 to any object incompatible in shape or dimension relative to the snaphook, thereby causing the connected object to depress the snaphook keeper and release unintentionally

9.3 Anchorage Points:

9.3.1 Anchorage points shall be designed and installed under the supervision of a qualified person.

9.3.2 Anchorage points used to attach restraint systems shall be capable of supporting at least 800 pounds per person attached.

9.3.3 Anchorage points used to attach a positioning system shall be capable of supporting at least 3,000 pounds.

9.3.4 Anchorage points used to attach personal fall arrest systems shall be capable of supporting at least 5,000 pounds per person attached.

9.3.5 Permanent Anchorage points shall be labeled as to their design capacity.

9.3.6 Anchorage points must be properly inspected and maintained per manufactured recommendation. (Appendix D)

9.4 Boatswain's Chair

The device is used to suspend a person from a rope in a chair in order to perform work aloft.
9.4.1 The use of a full body harness must also be used and connected independent of the boatswain's chair device, and its support system, so that any failure of the boatswain’s chair, support line, or anchorage system will not affect the ability of the fall arrest system to operate and quickly stop the fall.

9.4.2 When attaching the personal fall arrest system it shall be independent of any anchorage being used to support or suspend the boatswain’s chair.

9.4.3 The equipment must be inspected each day before use with emphasis on providing tiebacks when counterweights, cornice hooks, or similar non-permanent anchorage systems are used.

9.4.4 Employees must be trained in the use.

9.4.5 All lines installed (such as by using knots, swages or eye splices) when rigging descent control devices shall be capable of sustaining a minimal tensile load of 5,000 pounds.

9.4.6 Provisions must be made for rescue. (Appendix G)

9.4.7 Ropes must be effectively padded where they contact edges of the building, anchorage, obstructions or other surfaces which might cut or weaken the rope.

9.4.8 When suspension heights exceed 130 feet and where rigging must be suspended by hand, mechanical means shall be provided for raising and lowering lines (wire rope, fiber and cable) when the entire line’s weight exceeds 55 pounds.

10.0 ADDITIONAL FALL PROTECTION REQUIREMENT

10.1 Scaffold:

10.1.1 Guardrails or a fall-protection system at 6 feet will be required at all times while erecting and dismantling scaffolding unless the competent person can prove that fall protection is infeasible.

10.1.2 Once erected, scaffolding, 6 feet or more in height that employees are working off of, shall be required to have a guardrail or a fall-protection system.

10.1.3 The manufacturer’s guidelines pertaining to guardrail or a fall-protection system may vary. Scaffold may need fall protection at lower heights.

10.1.4 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 to the top of the guardrail system's top rail, or midrail, to protect employees below.

10.1.5 The scaffold must be properly inspected by a trained competent person at the beginning of the shift before the scaffold can be accessed, and if the scaffold integrity is changed.

10.1.6 The inspection tags (Appendix H) must be hanging by the scaffolding access.

10.1.7 If scaffold is used for a fall protection catch platform then:

10.1.7.1 The platform shall be placed where the employee can not fall more than 6 feet (construction) 4 feet (general industry) to the scaffold platform.
10.1.7.2 Netting and a guardrail system shall be used on the scaffold platform.
10.1.7.3 The platform shall be completely planked.
10.1.7.4 All employees must be trained before accessing scaffold.

10.2 Mobile Equipment:

10.2.1 Articulating boom lift:

This type of lift consists of a number of jointed sections which can be controlled to extend the lift in a number of different directions, which can often include 'up and over' applications. See Picture.

10.2.1.1 A full body harness attached to a proper anchor shall be required when operating the lift at any height.
10.2.1.2 All gates or chains must be closed or latched, and secured, when lift is being used.
10.2.1.3 If you get out of the lift (basket) at heights you must connect to a separate rated anchor point (not the lift).
10.2.1.4 All employees must be trained before using an Articulating Boom Lift.
10.2.1.5 All controls and warning stickers in or on the lift must be legible.

10.2.2 Scissor Lift:

This type of lift consists of a mechanical-type platform which only moves in a vertical plane. (straight up and down – See Picture.)
10.2.2.1 A full body harness attached to a proper anchor shall be required when operating the lift at any height if the Scissor is supplied with a proper restraint anchor to anchor to.

10.2.2.2 All gates or chains must be closed or latched, and secured, when lift is being used.

10.2.2.3 Feet must remain on the floor at all times (no standing on rails).

10.2.2.4 No ladders are permitted on the Scissor Lift platform.

10.2.2.5 All employees must be trained before using a Scissor Lift.

10.2.2.6 All controls and warning stickers in or on the lift must be legible.

10.3 **Ladders:**

10.3.1 **General Requirements for Ladders:**

10.3.1.1 All Ladders must be clearly identified with the type and capacity of the Ladder.

a) Type I-A 300 pounds (extra heavy duty)
b) Type I 250 pounds (heavy duty)
c) Type II 225 pounds (medium duty)
d) Type III 200 pounds (light duty)

**type III ladders are not allowed for use at Cornell University**

10.3.1.2 The Ladder shall be maintained in good condition at all times, the joint between the steps and side rails shall be tight, all hardware and fittings securely attached, and the movable parts shall operate freely without binding or undue play.

10.3.1.3 Ladders should not be used to gain access to a roof or platform unless the top of the Ladder extends 3 feet above the point of support, at eave, gutter, or roofline, and secured to prevent accidental movement.

10.3.1.4 The Ladder shall be inspected frequently, and those which have developed defects shall be withdrawn from service for repair and tagged or marked as “Do Not Use”, and reported to your supervisor. If the ladder cannot be repaired the ladder must be destroyed and disposed of.

10.3.1.5 The feet of the ladder and other auxiliary equipment shall be kept in good condition to insure proper performance.

10.3.1.6 No ladder should be used to gain access to a roof or platform unless the top of the ladder extends 3 feet above the point of support, at eave, gutter, or roofline.

10.3.1.7 Do not lean outside of the ladder rails. If the center line of the body cannot be maintained between the ladder rails while working on a ladder then a personal fall arrest system shall be required.

10.3.1.8 When climbing always Use the "3-Point Rule": At least two hands and one foot, or two feet and one hand, should be in contact with the ladder at all times.
10.3.2 **Stepladders:**

An A-shaped, self-supporting ladder which has two sets of hinged supports. The supports meet at the top and are held together by collapsible hinges.

10.3.2.1 A stepladder longer than 20 feet shall not be used.
10.3.2.2 Do not stand on top 2 steps of a stepladder.
10.3.2.3 Stepladders must be used in the locked-open position.

10.3.3 **Extension Ladder:**

A non-self-supporting ground ladder that consists of two or more sections traveling in guides, brackets, or the equivalent arranged so as to allow length adjustment.

10.3.3.1 A two-section extension ladders longer than 60 feet shall not be used.
10.3.3.2 To ensure a safe position, the horizontal distance from the support structure to the foot of the ladder is 1/4 the working length of the ladder.
10.3.3.3 The extension ladder shall be secure from accidental movement or held in position.
10.3.3.4 The extension ladder shall not be used in a horizontal position as platforms or runways.

10.3.4 **Fixed Ladder:**

A fixed ladder is a vertical ladder mounted permanently to a structure.

10.3.4.1 Metal ladders and appurtenances shall be painted or otherwise treated to resist corrosion and rusting when location demands
10.3.4.2 Cages, wells, ladder safety devices, or self-retracting lifelines shall be provided on ladders of more than 20 feet.
10.3.4.3 When ladders are used to ascend to heights exceeding 20 feet landing platforms shall be provided for each 30 feet of height or fraction thereof, except that, where no cage, well, or ladder safety device is provided, landing platforms shall be provided for each 20 feet of height or fraction thereof.
10.3.4.4 Each ladder section shall be offset from adjacent sections. Where installation conditions (even for a short, unbroken length) require that adjacent sections be offset, landing platforms shall be provided at each offset.
10.3.4.5 Ladder safety devices may be used on tower, water tank, and chimney ladders over 20 feet in unbroken length in lieu of cage protection. No landing platform is required in these cases. All ladder safety devices such as those that incorporate full body harness, friction brakes, and
sliding attachments shall meet the design requirements of the ladders which they serve.

10.4 Openings:

An opening is a gap or void in a walking/working surface, platform, roof, wall and floor which materials or a person can fall through or into.

- **(Construction Industry)** The opening is a gap or void 2 inches or more in its least dimension, in a floor, roof, or other walking/working surface.
- **(General Industrial)** The opening measuring less than 12 inches but more than 1 inch in its least dimension, in any floor, platform, pavement, or yard, through which materials but not persons may fall; such as a pipe opening, or slot opening.

10.4.1 Hole Covers:

10.4.1.1 Covers located in traffic areas must be able to support at least twice the maximum axle load of the largest vehicle expected to cross over them.
10.4.1.2 Other covers must be able to support at least twice the weight of employees, equipment, and materials that may be imposed on them.
10.4.1.3 Covers must be secured to prevent accidental movement by wind, equipment, or employees.
10.4.1.4 Temporary covers must be marked with the word "HOLE" or "COVER" to provide warning of the hazard.
10.4.1.5 While the cover is not in place, the floor hole shall be constantly attended by someone or shall be protected by a standard railing.

10.4.2 Wall Openings:

Working on, at, above, or near wall openings (including those with chutes attached) where the outside bottom edge of the wall opening is 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, must be protected from falling by the use of either guardrail systems, restraint systems, or positioning systems.

10.4.3 Skylights:

10.4.3.1 If there is an exposure of falling through a skylight to a lower level, the skylight shall be guarded by a standard skylight screen or a fixed standard railing on all exposed sides or:

   a) some other type fall protection system or a fall protection plan must be used.
1) Skylight screens shall be of such construction and mounting that they are capable of withstanding a load of at least 200 pounds applied perpendicularly at any one area on the screen. They shall also be of such construction and mounting that under ordinary loads or impacts they will not deflect downward sufficiently to break the glass below them. The construction shall be of grillwork with openings not more than 4 inches long or of slat work with openings not more than 2 inches wide with length unrestricted.

### 11.0 FALL PROTECTION TASKS

#### 11.1 Roofing Work (Construction):

11.1.1 Activities on flat roofs, low slop roofs and high sloped roofs with unprotected sides and edges 6 feet or more above lower levels shall be protected from falls by a guardrail system, restraint system, positioning system and or a personal fall arrest system only.

11.1.2 Materials and equipment shall not be stored within 6 feet of a roof edge unless guardrails are erected at the edge, and materials piled, grouped, or stacked near a roof edge must be stable and self-supporting and secured.

11.1.3 If conventional fall protection systems- guardrail, restraint, positioning, personal fall arrest systems cannot be used then a fall protection plans can be used and the Fall Protection Hazard Assessment Plan form (Appendix F) needs to be filled out and approved by Environmental Health and Safety before work starts.

#### 11.2 Exterior Window Cleaning Work:

11.2.1 Exterior window cleaning at Cornell University is regulated by the NYS Department of Labor. All exterior windows cleaning operations (except for the exception below) must be coordinated through a building care representative, and then submitted to Environmental Health and Safety or their designee for review.

11.2.2 A written plan shall be developed by the contractor that is doing the work. The plan will be submitted to the Building Care representative who in turn will submit the plan to Environmental Health & Safety for review then the plan will be sent to NYS DOL for final approval before work begins. This applies to Cornell University employees, as well as Non Cornell University employees hired to perform this work.

**Exception:** Multiple dwellings (dorms) six stories or less in height and any building three stories or less in height does not have to submit a written plan to the NYSDOL for approval but Cornell Employees must still perform in compliance with the Cornell University Fall Prevention Program.
11.3 Excavations Work:

11.3.1 Each employee at the edge of an excavation 6 feet or more deep shall be protected from falling by guardrail systems, fences, barricades, or covers.

11.3.2 Where walkways are provided to permit employees to cross over excavations, guardrails are required on the walkway if the fall would be 6 feet or more in depth and the excavation is wider than 30 inches at the top.

11.3.3 A stairway, ladder, ramp or other safe means of egress shall be located in excavations that are 4 feet or more in depth so as to require no more than 25 feet of lateral travel for employees.

11.4 Formwork and Reinforcing Steel Work

11.4.1 While moving vertically and/or horizontally on the vertical face of rebar assemblies built in place, fall protection is not required if the employees are moving and are less than 24 feet.

11.4.2 While the employee is stationary, fall protection and a positioning device is required at heights above 6 feet if three points of contact cannot be maintained.

11.4.3 Fall protection is required when climbing or otherwise moving at a height more than 24 feet

11.5 Overhand Bricklaying

11.5.1 Each employee performing overhand bricklaying 6 feet or more above lower levels and reaching more than 10 inches below the level of the walking/working surface shall be protected by guardrail systems, restraint systems, or positioning systems.

12.0 FALL PROTECTION RESCUE PLAN

Any fall protection rescue plan should take as little time as possible to bring a fallen worker to safety. When a fall occurs, any number of factors can create challenges to the effective rescue of the victim. Weather conditions, physical obstacles and the condition of the victim can consume time and create hindrances for rescue personnel. All rescue plan (Appendix G) should be reviewed by the employees doing the work to ensure that the procedures are manageable and realistic.

If a positioning system and or fall-arrest system is not used than the Fall Protection Plan form (Appendix F) must be used. All employees involved with any part of the fall protection system must be informed of the plan.
12.1 Rescue guidelines to consider:

12.1.1 Rescue suspended workers as quickly as possible.

12.1.2 Be aware of the potentially life threatening risks of orthostatic intolerance and suspension trauma.

12.1.3 Be aware of signs and symptoms of orthostatic intolerance.

12.1.4 Be aware suspended workers who are unconscious or have head injuries are particularly at risk for orthostatic intolerance.

12.1.5 Be aware of the factors that can increase the risk of suspension trauma.

13.0 INSPECTION AND MAINTENANCE

To maintain their service life and high performance, fall protection equipment shall be inspected.

Visual inspection of all fall protection equipment being used shall be inspected by the trained wearer before each use.

13.1 Inspecting the Personal Fall Arrest System prior to using:

13.1.1 All personal fall arrest system such as full body harnesses, lanyards/shock absorbing lanyards, hooks / carabiners, tie-off adapters/anchorages plates, self retracting lifeline and temporary guardrails must be inspected.

13.1.1.1 Prior to using the personal fall arrest system the trained user must inspect each piece of equipment used.

13.1.1.2 Appendix A-E can be used as a reference

13.1.1.3 Any defective components must be removed from service and reported to your supervisor. Turn the equipment into Environmental Health and Safety for disposal.

13.2 Inspecting the Personal Fall Arrest System every 6 months:

13.2.1 A trained competent person will complete an annual inspection of all the Personal Fall Arrest System equipment and documentation will be maintained at each individual department and be available for Environmental Health and Safety to review.

13.2.2 Every 6 months the equipment will be logged and color coded.

13.2.2.1 Form (Appendix A-E) will be used to log each piece of the Personal Fall Arrest System equipment
13.2.2.2 The Personal Fall Arrest System equipment will be identified with a color July though December would be Yellow, January through June would be Pink, July though December would be Blue, January through June would be Orange. Every 6 months a new color will be added to each piece of fall protection equipment and the old color will be removed.

13.2.3 The Inspection Checklist/Log (Appendix A-E) must used to log each piece of the Personal Fall Arrest System equipment and will be used for tracking inventory.

13.2.4 If equipment is exposed to a fall, remove equipment from service immediately, tag the equipment and turn the equipment into Environmental Health and Safety for disposal.

13.3 Maintenance and Storage of Fall Protection Equipment:

13.3.1 Always follow the manufacturer’s guidelines first.

13.3.2 Hang equipment in a cool, dry location in a manner that retains its shape.

13.3.3 Clean with a mild, nonabrasive soap and hang to dry.

13.3.4 Never force dry or use strong detergents in cleaning.

13.3.5 Never store equipment near excessive heat, chemicals, moisture, or sunlight.

13.3.6 Never store in an area with exposures to fumes or corrosive elements.

13.3.7 Avoid dirt or other types of build-up on equipment.

13.3.8 Never use this equipment for any purpose other than personal fall arrest.

13.3.9 Never store the personal fall arrest equipment in the bottom of a toolbox, on the ground, or outdoors exposed to the elements (i.e., sun, rain, snow, etc.).

14.0 TRAINING

14.1 Initial Training.

The purpose of this section is to establish a continuous training schedule and to outline the types of training required by personnel. Cornell University will provide training to ensure that the purpose, function, and proper use of all fall protection is understood by employees, and that the knowledge and skills required for the safe application and usage is acquired by employees. This section applies to all University personnel that may be required to use fall protection. The training will include, as a minimum the following:
14.1.1 Become familiar with different types of fall protection equipment appropriate for use.

14.1.2 Must be able to identify fall hazards associated with the work locations and the work to be completed.

14.1.3 Understand the procedures for removal of protection devices from service for repair or replacement.

14.1.4 All other employees whose work operations are or may be in an area where fall protection devices fall may be utilized, will be instructed to an awareness level concerning hazards associated with fall protection operations.

14.1.5 Will know how to preserve and keep equipment in working order.

14.1.6 Will understand equipment inspection requirements.

14.1.7 Know the procedures of donning and doffing equipment

14.1.8 Understand the equipment strengths and limitations.

14.1.9 Recognize some other options such as safety nets, guardrails, controlled access zones, and safety monitoring system.

14.2 Refresher Training.

Refresher training will be conducted every three years. The frequency of refresher training may be more often, if a need is identified annual self-assessment or when the following conditions are met, whichever event occurs sooner.

14.2.1 Change in equipment or hazards. Retraining will be provided for all authorized and affected employees whenever there is a change in the type of fall protection equipment used, or when a known hazard is added to the work environment which affects the fall prevention program.

14.2.2 Inadequacies in employee knowledge. Additional retraining will also be conducted whenever a periodic inspection reveals, or whenever this employer has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of fall protection equipment or procedures.

14.2.3 If the fall protection procedure fails.

14.2.4 Proficiency and Procedures. The retraining will reestablish employee proficiency and introduce new or revised methods and procedures, as necessary.
14.3 Certification:

All training shall be documented and training records made available for audits and self-assessments. Attendance records shall be kept with sign-in sheets showing the name of attendees, date, instructor, and type of training. These records shall be sent to EH&S (Attn: East Hill Office Building) and will be electronically stored on the Cornell University training record database (CU Learn).

15.0 RECORDS AND DOCUMENT CONTROL

All Fall Hazard Assessment forms (Appendix F) and the fall protection rescue form (Appendix G) will be stored at each individual department and a copy must be given to Environmental Health & Safety. The fall protection equipment inspection forms (Appendix A-E) will be kept at each individual department and be available for Environmental Health & Safety to review.

16.0 DEFINITIONS

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

Anchor Point means a secure point of attachment for lifelines, lanyards or deceleration devices. An anchor point must be capable of supporting at least 5,000 pounds (3,600 pounds if engineered/certified by a qualified person) per person and must be independent of any anchorage being used to support or suspend platforms.

Boatswain's Chair The device is used to suspend a person from a rope in a chair in order to perform work aloft.

Body harness means 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.

Competent person means someone who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Connector means a device which is used to couple (connect) parts of the personal fall arrest system and positioning device system together. It may be an independent component of the system, such as a carabineer, or it may be an integral component or part of the system.

Construction work means work for construction, alteration, and/or repair, including painting and decorating.

Controlled access zone (CAZ) means an area in which certain work (e.g., overhand bricklaying) may take place without the use of a guardrail system, personal fall arrest system, or safety net system and access to the zone is controlled.
**Deceleration device** means any mechanism with a maximum length of 3.5 feet, such as a rope grab, ripstitch lanyard, tearing or deforming lanyard, self-retracting lifeline, etc. 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.

**Designated area** means a space which has a perimeter barrier erected to warn employees when they approach an unprotected side or edge, and serves also to designate an area where work may be performed without additional fall protection.

**Energy shock absorber** means a device that limits shock-load forces on the body.

**Fall arrest system** means a system specifically designed to secure, suspend, or assist in retrieving a worker in or from a hazardous work area. The basic components of a fall arrest system include anchorage, anchorage connector, lanyard, shock absorber, harness, and self-locking snap hook.

**Fall or fall hazard** means the act or circumstances that could result in the possibility of slipping or tripping on or falling off a surface.

**Free fall** means the act of falling before a personal fall arrest system begins to apply force to arrest the fall.

**Free fall distance** means 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 (maximum of 6 feet). 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.

**Hole** means a gap or void 2 inches or more in its least dimension in a floor, roof, or other walking/working surface.

**Lanyard** means 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** means the edge of a floor roof, or formwork for a floor or other walking/working surface 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 construction.

**Lifeline** means a component consisting of a flexible line for connection to an anchorage at one end to hang vertically or for connection to anchorages at both ends to stretch horizontally and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.
Low-slope roof means a roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

Maintenance activity means making or keeping a structure, fixture or foundation (substrates) in proper condition in a routine, scheduled, or anticipated fashion. This definition implies "keeping equipment working in its existing state" i.e. preventing its failure or decline.

Opening means a gap or void 30 inches or more high and 18 inches or more wide, in a wall or partition, through which employees can fall to a lower level.

Overhand bricklaying and related work means 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 means 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 combination of these. As of January 1, 1998 the use of a body belt for fall arrest is prohibited.

Positioning device system means 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.

Qualified person means someone who, by possession of a recognized degree, certificate or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.

Restraint (tether) line means a line from an anchorage, or between anchorages, to which the employee is secured in such a way as to prevent the employee from walking or falling off an elevated work surface.

Retractable lifeline means a fall arrest device that allows free travel without slack rope, but locks instantly when a fall begins.

Rope grab means a deceleration device which 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.

Safety-monitoring system means a safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.
Scaffold means any temporary elevated platform (supported or suspended) and its supporting structure (including points of anchorage) used for supporting employees, materials or both.

Skylight screens means a screen or grill that is capable of withstanding a load of at least 200 pounds applied perpendicularly at any one area on the screen or grill. The screen or grill shall also be of such construction and mounting that under ordinary loads or impacts it will not deflect downward sufficiently to break the glass below them. The openings of screen or grill must not be more than 4 inches and the slat openings not more than 2 inches wide.

Self-retracting lifeline/lanyard means 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.

Snap hook means a connector comprised of a locking type 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.

Steep roof means a roof having a slope greater than 4 in 12 (vertical to horizontal). A roof with a slope greater than 19.5 degrees

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

Total Fall Distance means the maximum vertical change in distance from the bottom of an individual's feet at the onset of a fall, to the position of the feet after the fall is arrested. This includes the free-fall distance and the deceleration distance.

Unprotected sides and edges means any side or edge of a surface, except at entrances to points of access, where there is no wall or guardrail system.

Walking/Working surface means 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 means 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, harness, or safety net system to protect employees in the area.

Work area means that portion of a walking/working surface where job duties are being performed.
17.0 REFERENCES

29 CFR 1910.21-30 Subpart D (walking working surfaces) of the Occupational Safety and Health Administration (OSHA).
29 CFR 1910.66 Subpart F (powered platforms) of the Occupational Safety and Health Administration (OSHA).
29 CFR 1926.104 Subpart E (personal protected and life saving equipment) of the Occupational Safety and Health Administration (OSHA).
29 CFR 1926.450 Subpart L (scaffold) of the Occupational Safety and Health Administration (OSHA).
29 CFR 1926.500 Subpart M (fall protection) of the Occupational Safety and Health Administration (OSHA).
29 CFR 1926.1050 Subpart X (ladders) of the Occupational Safety and Health Administration (OSHA).
New York State Department of Labor Part 21 Window Cleaning
American National Standards Institute (ANSI) Z359 Fall Protection Code

18.0 APPENDIX

Appendix A – Full Body Harness Inspection Checklist / Log
Appendix B – Lanyards Inspection Checklist / Log
Appendix C – Hooks / Carabiners Inspection Checklist / Log
Appendix D – Tie-Off Adaptors/Anchorage Plates Inspection Checklist / Log
Appendix E – Self Retracting Lifelines Inspection Checklist / Log
Appendix F – Fall Protection Hazard Assessment Plan
Appendix G – Rescue Plan
Appendix H – Daily Scaffold Safety Inspection Tags
## Appendix A – Full Body Harness Inspection Checklist / Log

**Full Body Harness Inspection Checklist / Log**

Full Body Harness Model: _____________________   Manufacture/Lot Date: ________________________

Serial Number: __________________________    Purchase Date__________________________________

<table>
<thead>
<tr>
<th>General Factors</th>
<th>Check Box</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 1) **Hardware:**  
  (Includes D-rings, buckles, keepers, and back pads)  
  Inspect for damage, distortion, sharp edges, burns, cracks and corrosion. | | |
| 2) **Webbing:**  
  Inspect for cuts, burns, tears, abrasion, frays, excessive soiling, and discoloration. | | |
| 3) **Stitching:**  
  Inspect for pulled or cut stitches. | | |
| 4) **Labels:**  
  Make certain all labels are securely held in place and legible. | | |
| 5) **Other:** | | |
| 6) **Other:** | | |
| 7) **Other:** | | |

Inspected By: ___________________________

Date Inspected: _________________________

If any part of the inspection is rejected, the harness must be taken out of service and destroyed.

Removed from service and destroyed by: ____________________________

--

*Departments must keep this record on file for one year and available for Environmental Health & Safety to review*
## Appendix B – Lanyards Inspection Checklist / Log

### Lanyards

**Inspection Checklist / Log**

- **Lanyard Model:** _______________________
- **Manufacture/Lot Date:** _______________________
- **Serial Number:** _______________________
- **Purchase Date:** _______________________

<table>
<thead>
<tr>
<th>General Factors</th>
<th>Check Box</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) <strong>Hardware:</strong> Include snap hooks, carabiners, adjusters, keepers, thimbles, and D-rings. Inspect for damage, distortion, sharp edges, burrs, cracks, corrosion and proper operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) <strong>Webbing:</strong> Inspect for cuts, burns, tears, abrasion, frays, excessive soiling and discoloration.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) <strong>Stitching:</strong> Inspect for pulled or cut stitches.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) <strong>Synthetic Rope:</strong> Inspect for pulled or cut yarns, burns, abrasion, knots, excessive soiling and discoloration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5) <strong>Wire Rope:</strong> Inspect for broken wires, corrosion, kinks, and separation of strands.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6) <strong>Energy Absorbing Component:</strong> Inspect for elongation, tears, and excessive soiling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7) <strong>Labels:</strong> Make certain all labels are securely held in place and legible.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8) <strong>Other:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Inspected By:** _______________________

**Date Inspected:** _______________________

If any part of the inspection is rejected, the lanyard must be taken out of service and destroyed.

Removed from service and destroyed by: _______________________

---

Departments must keep this record on file for one year and available for Environmental Health & Safety to review.
# Appendix C – Hooks / Carabiners Inspection Checklist / Log

## Hooks / Carabiners Inspection Checklist / Log

Hook/Carabiner Model: ____________________________  Manufacture/Lot Date: ______________________

Serial Number: ________________________________  Purchase Date: ________________________

<table>
<thead>
<tr>
<th>General Factors</th>
<th>Check Box</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.) <strong>Hardware:</strong>  (Includes D-rings) Inspect for damage, distortion, sharp edges, burrs, cracks, and corrosion.</td>
<td>☑️</td>
<td></td>
</tr>
<tr>
<td>2.) <strong>Webbing:</strong>  Inspect for cuts, burrs, tears, abrasions, frays, excessive soiling and discoloration.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.) <strong>Stitching:</strong>  Inspect for pulled or cut stitches.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.) <strong>Labels:</strong>  Make certain all labels are securely held in place and legible.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.) <strong>Other:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.) <strong>Other:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Inspected By:** ____________________________

**Date Inspected:** _________________________

If any part of the inspection is rejected, the Hooks / Carabiner must be taken out of service and destroyed.

**Removed from service and destroyed by:** ____________________________

---

**Date Issued:**

*March 25, 2010*

**Page:**

*30 of 36*
## Appendix D – Tie-Off adaptors/Anchorage Plates Inspection Checklist / Log

### Tie-Off Adaptors/Anchorage Plates
Inspection Checklist / Log

- **Tie-Off Adaptor/Anchorage Plate Model:** ______________
- **Manufacture/Lot Date:** ______________
- **Serial Number:** ____________________________
- **Purchase Date:** ______________

<table>
<thead>
<tr>
<th>General Factors</th>
<th>Check Box</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.) <strong>Physical Damage:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspect for cracks, sharp edges, burrs, deformities, and locking operation.</td>
<td>[ ] Accepted</td>
<td>[ ] Rejected</td>
</tr>
<tr>
<td>2.) <strong>Excessive Corrosion:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspect for corrosion which effects the operation and/or strength.</td>
<td>[ ] Accepted</td>
<td>[ ] Rejected</td>
</tr>
<tr>
<td>3.) <strong>Fasteners:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspect for corrosion, tightness damage and distortion. If welded, inspect weld for corrosion, cracks and damage</td>
<td>[ ] Accepted</td>
<td>[ ] Rejected</td>
</tr>
<tr>
<td>4.) <strong>Markings:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make certain marking(s) are legible.</td>
<td>[ ] Accepted</td>
<td>[ ] Rejected</td>
</tr>
<tr>
<td>5.) <strong>Other:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[ ] Accepted</td>
<td>[ ] Rejected</td>
<td></td>
</tr>
<tr>
<td>6.) <strong>Other:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[ ] Accepted</td>
<td>[ ] Rejected</td>
<td></td>
</tr>
</tbody>
</table>

**Inspected By:** ____________________________

**Date Inspected:** ____________________________

*If any part of the inspection is rejected, the Tie-Off Adaptor must be taken out of service and destroyed.*

**Removed from service and destroyed by:** ____________________________

*Departments must keep this record on file for one year and available for Environmental Health & Safety to review.*

---

**Date Issued:**
*March 25, 2010*
## Appendix E – Self Retracting Lifelines Inspection Checklist / Log

### Self Retracting Lifelines

**Inspection Checklist / Log**

Self Retracting Lifeline Model: __________________________   Manufacture/Lot Date:  ___________

Serial Number: ______________________________________  Purchase Date: ______________________

<table>
<thead>
<tr>
<th>General Factors</th>
<th>Check Box</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 1.) **Impact Indicator:**  
Inspect indicator for activation  
(rupture of red stitching,  
elongated indicator, etc.) | [ ] Accepted  
[ ] Rejected |  |
| 2.) **Screws/Fasteners:**  
Inspect for damage and make certain all screws and fasteners  
are tight. | [ ] Accepted  
[ ] Rejected |  |
| 3.) **Housing:**  
Inspect for distortion, cracks and other damage.  
Inspect anchoring loop for distortion and damage. | [ ] Accepted  
[ ] Rejected |  |
| 4.) **Lifeline:**  
Inspect for cuts, burns, tears, Abrasion  
, frays, excessive soiling and discoloration, broken wires (see impact indicator section). | [ ] Accepted  
[ ] Rejected |  |
| 5.) **Locking Action:**  
Inspect for proper lock-up of brake mechanism. | [ ] Accepted  
[ ] Rejected |  |
| 6.) **Retraction/Extension:**  
Inspect spring tension by pulling lifeline out fully and allowing it to retract fully (no slack). | [ ] Accepted  
[ ] Rejected |  |
| 7.) **Hooks/Carabiners:**  
Inspect for physical damage, corrosion, proper operation and markings (see separate checklist/log for hooks & carabiners). | [ ] Accepted  
[ ] Rejected |  |
| 8.) **Reserve Lifeline:**  
Inspect reserve lifeline retention systems for deployment. | [ ] Accepted  
[ ] Rejected |  |
| 9.) **Labels:**  
Make certain all labels are securely held in place and legible. | [ ] Accepted  
[ ] Rejected |  |

**Inspected By:** ___________________________  
**Date Inspected:** _________________________

---

Departments must keep this record on file for one year and available for Environmental Health & Safety to review

If any part of the inspection is **rejected**, the **Self Retracting Lifelines** must be taken out of service and destroyed.

**Removed from service and destroyed by:** ___________________________
### Appendix F – Fall Protection Hazard Assessment Plan

#### Fall Protection Hazard Assessment Plan

<table>
<thead>
<tr>
<th>Building:</th>
<th>Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Wanting Assess:</td>
<td>Related Operating Procedures Reviewed: Yes □ No □</td>
</tr>
</tbody>
</table>

| Location Marked and Entry Controlled: Yes □ No □ |

#### FALL HAZARD ASSESSMENT CHECKLIST

1. Can an employee enter the area without restriction and perform work? □ Yes □ No
2. Are fall prevention systems such as cages, guardrails, toeboards, and manlifts in place? □ Yes □ No
3. Have slipping and tripping hazards been removed or controlled? □ Yes □ No
4. Have visual warnings of fall hazards been installed? □ Yes □ No
5. Can the distance a worker could fall be reduced by installing platforms, nets etc.? □ Yes □ No
6. Have any permanently installed floor coverings, gratings, hatches, or doors missing? □ Yes □ No
7. Does the location contain any other recognized safety and or health hazards? □ Yes □ No
8. Is the space designated as a Permit Required Confined Space? □ Yes □ No
9. Working near telecommunication equipment? □ Yes □ No
10. Working near fume hood stacks? □ Yes □ No
11. Have anchor points been designated, tested, and inspected? □ Yes □ No
12. Is work being preformed (above or below) power lines? □ Yes □ No
13. Are the weather conditions acceptable to work in: i.e. wind, wet footing, lighting, snow: □ Yes □ No
14. Other:

**Assessment Information:** (indicate specifics with initials)

<table>
<thead>
<tr>
<th>Initials</th>
<th>Hazard</th>
<th>Remarks/Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total potential fall distance:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of workers involved:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of task:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obtainable anchor point strength:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Required anchor point strength:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional Requirements:**

- Potential environmental conditions that could impact safety:

<table>
<thead>
<tr>
<th>Initials</th>
<th>Condition</th>
<th>Remarks/Recommendations</th>
</tr>
</thead>
</table>

- Possible required structural alterations:

<table>
<thead>
<tr>
<th>Initials</th>
<th>Alteration</th>
<th>Remarks/Recommendations</th>
</tr>
</thead>
</table>

- Possible task modification that may be required:

<table>
<thead>
<tr>
<th>Initials</th>
<th>Task</th>
<th>Remarks/Recommendations</th>
</tr>
</thead>
</table>
• Breakdown of vertical and horizontal movement: (sketch out work task):

• Training requirements:

<table>
<thead>
<tr>
<th>Initials</th>
<th>Requirement</th>
<th>Remarks/Recommendations</th>
</tr>
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</table>

• Personal protective equipment required:

<table>
<thead>
<tr>
<th>Initials</th>
<th>Requirement</th>
<th>Remarks/Recommendations</th>
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<tbody>
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</table>

□ Approved

**AUTHORIZATION**

I certify that I have conducted the Fall Protection Hazard Assessment Plan of the above designated location and have detailed the findings of the assessment on this form. * Further detailed on attachment: □ Yes  □ No

Name:  
Signature:  
Title:  
Date:  
Time:  

**ASSESSMENT FORM RETENTION INFORMATION**

<table>
<thead>
<tr>
<th>Permanent Retention File:</th>
<th>Location:</th>
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Date Filed:  
Filed By:  

□ Approved by EH&S

<table>
<thead>
<tr>
<th>Name:</th>
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**ATTACHMENTS**

<table>
<thead>
<tr>
<th>Approved by EH&amp;S</th>
<th>Date:</th>
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</table>
# Appendix G – Rescue Plan

## Fall Protection Rescue Plan

Rescue suspended workers as quickly as possible!

<table>
<thead>
<tr>
<th>Building:</th>
<th>Location:</th>
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<tbody>
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</table>

<table>
<thead>
<tr>
<th>Date job started:</th>
<th>Type of work being performed:</th>
<th>Number of Employees that could need rescue:</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

### FALL PROTECTION EQUIPMENT THAT WILL BE USED

1. Ladder? Type Extension Straight Step Truck Rope
   - Yes
   - No

2. Scissor lift? Height
   - Yes
   - No

3. Reticulating Boom Lift? Height
   - Yes
   - No

4. Scaffold?
   - Yes
   - No

5. Self rescue?
   - Yes
   - No

6. Rope and pulley system? Lower Down Rise Up
   - Yes
   - No

7. Controlled Decent Device?
   - Yes
   - No

8. Self Raising / Self Lowering System?
   - Yes
   - No

9. Self-retracting lifeline capable of raising and lowering?
   - Yes
   - No

10. Other Explain
    - Yes
    - No

### Assessment potential Hazards: (indicate specifics with initials)

<table>
<thead>
<tr>
<th>Initials</th>
<th>Hazard</th>
<th>Remarks/Recommendations</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Total potential fall distance:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of workers involved:</td>
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</tr>
<tr>
<td></td>
<td>Ground not level:</td>
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<td></td>
<td>Underground tunnel:</td>
<td></td>
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<td></td>
<td>Electrical:</td>
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</tr>
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<td></td>
<td>Traffic: People Automobile Both</td>
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</tr>
<tr>
<td></td>
<td>Water</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vegetation:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non obtainable anchor point:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anchor point not strong enough for rescue and rescuer:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weather:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

- Cornell Trained rescue personal:

<table>
<thead>
<tr>
<th>Name</th>
<th>Equipment Needed</th>
<th>Phone Number</th>
<th>Remarks/Recommendations</th>
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</thead>
<tbody>
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☐ Approved

### AUTHORIZATION

I certify that I have conducted the rescue Plan of the above designated location and have detailed the findings of the assessment on this form.  
* Further detailed on attachment: ☐ Yes ☐ No

<table>
<thead>
<tr>
<th>Name:</th>
<th>Signature:</th>
<th>Date:</th>
<th>Time:</th>
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Departments must keep this record on file for one year and a copy must be given to Environmental Health & Safety.

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**Program Title:** Fall Prevention Program  
**Program No.:**  
**Classification:** Occupational Safety & Health

**Date Issued:** March 25, 2010

**Page:** 35 of 36
Appendix H – Daily Scaffold Safety Inspection Tags

Have all personnel been trained in the safe use of the scaffold being used?
Is a “Competent Person” in charge of scaffold erection, dismantling, moving, or alteration?

Have hazardous conditions been identified and guarded against, such as: Overhead power lines, Wind loading, Possible washout of footings, Uplift

Is the frame spacing and mud sills size capable of carrying intended load?
Are scaffold components and planking in safe condition for use and is planks graded for scaffold use?
Are mud sills properly placed and of adequate size?
Have screw jacks been used to level and plumb scaffold instead of unstable objects such as: concrete blocks, loose bricks, etc.?
Are base plates and/or screw jacks in firm contact with mud sills and frame?

Is scaffold level and plumb?
Are all scaffold legs braced and are all braces properly attached?

Has proper access been provided?
  a) Ladder type maximum spacing between rungs of 16 ½ inches
  b) Ladder (end frames) shall line up vertically

Is the working level platform(s) fully planked?
Does the platform planking extend 6” to 12” beyond the supports points of the scaffold frame?

Is the scaffold platform free of makeshift devices or ladders to increase the working height of the scaffold?
Are guardrails in place on all open sides and ends of scaffold platforms above 6’ in height?

Manually propelled mobile scaffold considerations:
  a) Is tower height less than 4 times the minimum base width?
  b) Are casters of proper size and do they have effective locking devices?
  c) Are casters and all frames locked together?
  d) Are screw jacks extended to less than 12 inches?
  e) Has horizontal diagonal bracing been installed at the base of the scaffold and at intermediate levels of 20 feet?

Has scaffold been secured to building or structure at least every 30’ in length and 20’ in height?
Have free standing towers been guyed or tied every 26’ in height?
The current version of this document is maintained in the Insert Folder Name folder on EHS’ network drive.