The City of

# Redlands

# Fall Protection/ Prevention Program

Rev. March 2017

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# Fall Protection/Prevention Program

## I. Policy

It is the policy of the City of Redlands, insofar as is reasonable and practical, to ensure that employees safeguard themselves from all fall hazards. Employees who work in areas that have a potential for falls, shall be informed about the hazards and shall be trained in fall protection and preventative measures. It is the policy of City of Redlands to use substitution and engineering controls as the first line of defense against falls. When engineering controls and substitution are not feasible, administrative controls, training, and personal fall protection/prevention systems must be instituted. No employee shall engage in or be required to perform any task which is determined to be unsafe or reasonably hazardous.

Due to the complexity of jobs and work sites in the City of Redlands' various departments, it is impractical for the Fall Protection/Prevention Program to address every situation where an employee might be exposed to a fall hazard. Therefore, this Program will provide the resources needed by each department to identify fall hazards unique to those departments and establish means of addressing those hazards.

## II. Authority

California Code of Regulations, Title 8, Sections:
1620-21 (Standard Railings)
1670 (Fall Protection Systems)
3209-3214 (Guardrails- Stair Rails)
3276-3278 (Ladders)
3648 (Aerial Devices)

## III. Scope

This Fall Protection/Prevention Program shall apply to all employees exposed to unprotected sides or edges of surfaces that present a falling hazard of four feet or more to a lower level, including the use of elevated work platforms.

## IV. Definitions

A. **Access**- a means of reaching a work space of a work area.
B. **Anchorage**- a secure point of attachment for lifelines, lanyards or deceleration devices. An anchor point must be capable of supporting at least 5000 pounds per person and must be independent of any anchorage being used to support or suspend platforms.
C. **Authorized person**- a person approved or assigned by the employer to perform a specific type of duty or duties or to be at a specific location or job site (i.e. building maintenance, roof repair, etc.)
D. **Body belt (safety belt)** - a strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device.
E. **Body harness**- straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.
F. **Buckle**- any device for holding the body belt or body harness closed around the employee's body.
G. **Competent person**- a person capable of identifying existing and predictable hazards in the surroundings or working conditions, which are hazardous or dangerous to employees. A person who has the authorization to take prompt corrective action to eliminate such hazards.

H. **Connector**- a device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabiner, or it may be an integral component of part of the system (such as a buckle or dee-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).
I. **Construction work**- work for construction, alteration, and/or repair, including painting and decorating.
J. **Controlled access zone (CAZ)** - an area in which certain work (e.g., overhand bricklaying) may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems and access to the zone is controlled.
K. **Dangerous equipment**- equipment (such as pickling or galvanizing tanks, degreasing units, machinery, electrical equipment, and other units) which, as a result of form or function, may be hazardous to employees who fall onto or into such equipment.
L. **Deceleration device**- any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.
M. **Deceleration distance**- the additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured as the distance between the location of an employee's body belt or body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.
N. **Engineering control**- physical changes to the work area or process that effectively minimize a worker's exposure to a hazard.
O. **Equivalent**- alternative designs, materials, or methods to protect against a hazard which the employer can demonstrate will provide an equal or greater degree of safety for employees than the methods, materials or designs specified in the standard.
P. **Failure**- load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.
Q. **Free fall**- the act of falling before a personal fall arrest system begins to apply force to arrest the fall.
R. **Free fall distance**- the vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance, and lifeline/lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur.
S. **Guardrail system**- a barrier erected to prevent employees from falling to lower levels.
T. **Hole**- a gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, roof, or other walking/working surface.
U. **Infeasible**- that it is impossible to perform the construction work using a conventional fall protection system (i.e., guardrail system, safety net system, or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection.
V. **Lanyard**- a flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

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

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

Y. **Low-slope roof**- a roof having a slope less than or equal to 4 in 12 (vertical to horizontal). Approximately a roof with a 19.5 degree slope or less.

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

AA. **Mechanical equipment**-all motor or human propelled wheeled equipment used for roofing work, except wheelbarrows and mopcarts.

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

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

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

EE. **Positioning device system**- a body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.

FF. **Qualified person**- An individual, who by possession of a recognized degree, certificate, or professional standing or who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems relating to the subject matter, work, or project.

GG. **Rope grab**- 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.

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

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

JJ. **Self-retracting lifeline/lanyard**- 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.

KK. **Snaphook**- a connector comprised of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object. Snaphooks are generally one of two types:
    1. The locking type with a self-closing, self-locking keeper which remains closed and locked until unlocked and pressed open for connection or disconnection; or
    2. The non-locking type with a self-closing keeper which remains closed until pressed open for connection or disconnection. As of January 1, 1998, the use of a non-locking Snaphook as part of personal fall arrest systems and positioning device systems is prohibited.

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

MM. **Suspension trauma**- also known as harness hang syndrome (HHS), is an effect which occurs when the human body is held upright without any movement for a period of time.

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

OO. **Tota**l **Fall Distance**- 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.

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

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

RR. **Work area**- that portion of a walking/working surface where job duties are being performed.

## V. Responsibilities

*RISK MANAGEMENT*

A. Provide technical information and assist departments in implementing an effective fall protection/prevention program.
B. Provide and/or coordinate fall protection training as needed.
C. Provide assistance to departments on purchasing fall prevention equipment.
D. Review and revise the Fall Protection/Prevention Program:
    1. On an annual basis;
    2. When changes occur to CCR T8, that prompt revision of this document;
    3. When operational changes occur that require a revision of this document;
    4. When there is an accident or near miss that relates to this section; and
    5. Anytime the fall protection procedures fail.
E. Assist, as needed, in the investigation of accidents and near misses.

*DIRECTORS, MANAGERS, AND SUPERVISORS*

A. Evaluate Department activities to determine which activities are covered by the Fall Protection/Prevention Program.
B. Create list of fall hazard locations including control measures.
C. Designate individual(s) who will act as competent persons responsible for the implementation of the Fall Protection/ Prevention Program.

D. When Department employees engage in activities covered by the Fall Protection/Prevention Program:
    1. Ensure that competent and/or authorized persons are adequately trained; and
    2. Ensure the Fall Protection/ Prevention Program is implemented and maintained within the department.
E. Ensure that employees are informed, trained, and provided with the appropriate fall protection systems and equipment to be protected from potential fall hazards associated with job tasks.
F. Ensure rescue plans are in place prior to use of fall arrest system.
G. Coordinate the correction of fall hazards brought to their attention by employees.
H. Investigate and document all reported accidents and near misses related to fall hazards and recommend corrective actions.
I. Should an incident occur, complete a Report of Employee Injury or Incident form and any additional documentation needed to investigate work related injuries and illnesses.
J. Collect all components used in a fall arrest system after fall.
   Note: Self Retracting Lanyards used in fall arrest systems shall be sent back to manufacturer for service after fall takes place.

*COMPETENT PERSONS*

A. Receive training to achieve and maintain "competent person" status.
B. Act as the "competent person" for job sites under their control that contain fall hazards.
C. Evaluate fall hazards in work areas under their control.
D. Ensure that employees are informed, trained, and provided with the appropriate fall protection systems and equipment to be protected from potential fall hazards.

*AUTHORIZED EMPLOYEES*

A. Comply with the Fall Protection/Prevention Program and any further safety recommendations provided by the supervisor and Risk Management.
B. Complete fall protection training requirements and request further instruction if unclear.
C. Conduct assigned tasks in a safe manner and properly wear all assigned personal protective equipment.
D. Report to immediate supervisor any frequently accessed work platforms, including roofs that are not protected by guardrails or some other fall protection system.

*CONTRACTORS*

A. Contractors who perform work on City property must adhere to the City's Fall Protection/Prevention Program. It is the responsibility of the Project Manager to ensure these measures are carried out.
B. Contractors must also submit a copy of their Fall Protection/Prevention Program to Risk Management for review.
C. Contractors with an insufficient program will not be allowed to begin work until their program meets or exceeds the requirements of the City's program.
D. Contractors are expected to enforce these guidelines at all times while performing work for the City.
E. If there is a conflict in procedures between Contractor and City programs, notification will be sent to Risk Management for support.

## VI. Program

*IDENTIFICATION OF FALL HAZARDS*

Fall hazards from elevations include, but are not limited to, unprotected sides and edges of roofs, excavations, skylights, floor holes, wall openings, and all other walking or working surfaces where personnel can have a potential fall of four feet or more to a lower level.

A. Each department shall be responsible to inspect for potential fall hazards and to have each potential fall hazard evaluated by a competent person.
B. Employees should alert their supervisors of potential fall hazards not already identified and controlled. Typical work areas requiring a fall hazard assessment and appropriate fall protection may include, but are not limited to:
    1. Work areas which expose them to falling in excess of 7 ½ feet from the perimeter of a structure;
    2. Unprotected sides and edges;
    3. Leading edges;
    4. Shaft ways and openings;
    5. Sloped roof surfaces steeper than 7:12; and
    6. Other sloped surfaces steeper than 40 degrees not adequately protected under these provisions.
C. The following must also be considered when identifying fall protection hazards:
    1. Placement of toe boards;
    2. Need for hard hats;
    3. Storage of equipment within four feet of an unprotected edge; and
    4. Protection for high traffic areas from falling objects. The area to which objects could fall must be barricaded or a canopy must be built.
D. Work in unprotected elevated areas requires approval by supervisor prior to start.

*HIERARCHY OF CONTROLS*

A. Engineering Controls

    A competent person must determine if engineering controls can adequately eliminate the hazard in the work area. If the hazard is not eliminated completely, other controls, such as Personal Protective Equipment, must be added for additional protection. Engineering controls for fall hazards consist of the following:

    1. Guardrails
        a. The use of guardrails apply to temporary controls on job sites as well as permanent fixtures in general work areas.
        b. The standard railing consists of a top rail, mid rail or equivalent protection, and posts and is 42-45 inches high from the upper surface of the top rail to the floor, platform, runway or ramp level. Nominal height of the mid rail shall be approximately midway between the top rail and the floor.
        c. The top rail shall be smooth-surfaced throughout the length of the railing.
        d. The ends of the rails shall not overhang the terminal posts, except where such overhang does not constitute a projection hazard.
        e. The anchoring of posts and framing of members for railings of all types must be of such construction that the completed structure is capable of withstanding a load of 200 pounds applied in any direction at any point on the top rail.

f. When guardrail systems are in hoisting areas, a chain gate or removable guardrail section shall be in place when not being used.

2. Guardrail Specifications
    a. In wooden construction, the posts to be of at least 2-inch by 4-inch nominal material spaced not to exceed 6 feet. The top rails to be smooth with corners rounded and less than 2-inch by 4-inch nominal material. The posts may be spaced on 8-foot centers if the top rails consist of double 1-inch by 4-inch nominal boards, provided that 1 board is fastened in a flat position on top of the posts and the other is fastened in an edge-up position to the inside of the posts and the side of the top board. Single mid rails, where permitted, shall be not less than 2-inch by 4-ich nominal material and installed on the contact side of the guardrail.
    b. If constructed of standard metal pepe, the top rails and single mid rail, where permitted, to be 1 1/2- inch outside diameter or larger. The posts to be 1 ½-inch outside diameter or larger, the spacing not to exceed 8 feet.
3. Toe Boards
    a. Where toe boards are required, they shall be constructed of wood, concrete, metal, or other suitable material. Where constructed of metal grille, mesh shall not exceed 1-inch. The top of the toe board shall be not less than 3 ½ inches above the platform, walkway, or other working level and the bottom clearance shall not exceed 1/4-inch.
3. Floor Openings, Floor Holes, and Skylights
    a. Every floor and roof opening shall be guarded by a cover, a guardrail, or equivalent on all open sides. While the cover is not in place, the openings shall be constantly attended by someone or shall be protected by guardrails. Toe boards shall be installed around the edges at openings where persons may pass below the opening.
    b. Covers for holes, including grates, shall be capable of supporting at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time.
    c. Covers located on roadways and vehicular aisles shall be capable of supporting at least twice the maximum axle load of the largest vehicle expected to cross over it.
    d. All covers shall be secured when installed so as to prevent accidental displacement by the wind, equipment, or employees.
    e. Covers shall have a written sign “Opening-Do Not Remove,” with legible letters no less than 2 inches high, to provide warning of the hidden hazard.
    f. Any employee approaching within 6 feet of any skylight shall be adequately protected from falling through the skylight or skylight opening.

B. Administrative Controls
    1. Training (Detailed list of training requirements in Training Section)
    2. Buddy System
    3. Warning signs on areas requiring use of Fall Protection
    4. Housekeeping
    5. Enforcement of Fall Protection/Prevention Program

C. Personal Protective Equipment (PPE)
    1. Use of PPE will be the last measure considered in the hierarchy of controls. Personal protective equipment is acceptable as a control method in the following situations:
        a. Engineering controls do not eliminate the hazard;

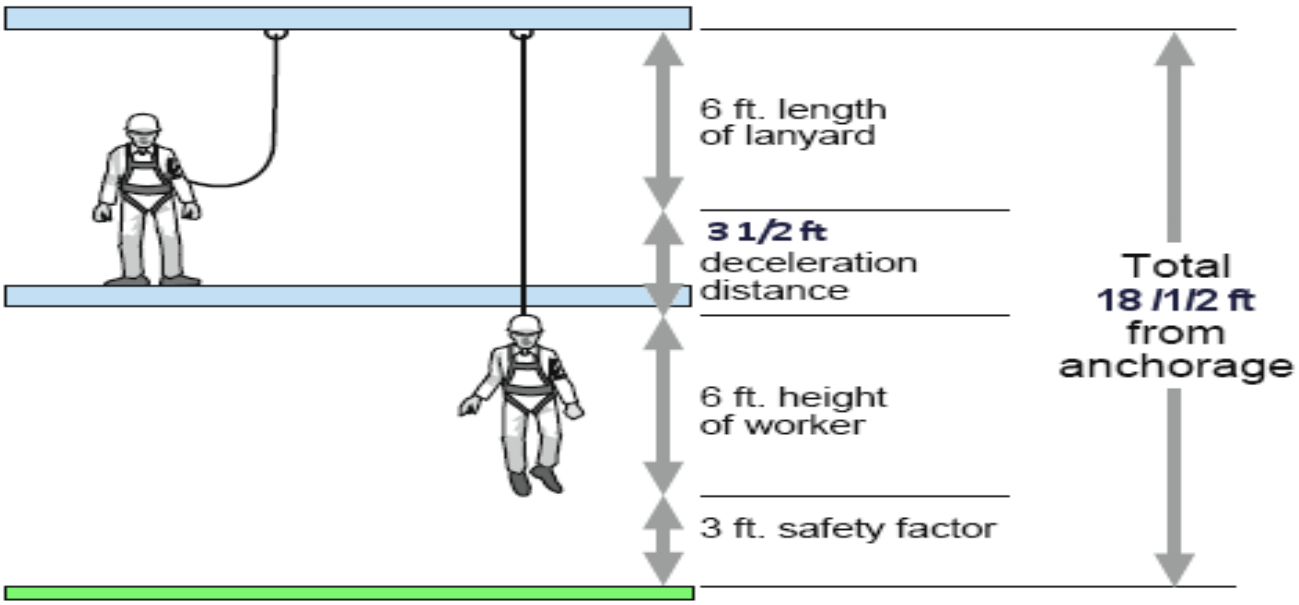
b. While engineering controls are being developed;
c. Administrative controls and safe work practices are not sufficient protection; and
d. During emergencies.

2. Fall Arrest System

All fall protection equipment shall meet or exceed appropriate American National Standards Institute (ANSI) standards. All fall protection equipment must bear the marking of the manufacturer and approvals for specified use.

Components of a personal fall arrest system include but are not limited to the following:

a. Selection of an appropriate fall arrest system requires considerations of both user and site-specific characteristics; these systems are not universal. Only "qualified persons" are authorized to select a particular fall arrest system for a given situation.
b. Of paramount importance is fall clearance. There must be sufficient clearance below the user to allow the system to arrest a fall before the user strikes the ground or other obstruction. This requires consideration of several user and site-specific factors, as depicted in the following illustration.




*How to determine total fall distance with a shock-absorbing lanyard.*

c. Fall clearance distance is greatly affected by the location of the anchorage point. An anchorage point lower than the height of the body will calculate to a greater fall clearance.
d. Use only the designated anchorage points and fall arrest systems specified for a particular location and application.

e. Consult with a representative of a fall protection supply distributor during your selection process to ensure the appropriate system for the intended application.
f. Only full-body harnesses shall be used in a fall arrest system. The use of a body belt is prohibited in a fall arrest system.
g. Lanyards and vertical lifelines shall have a minimum breaking strength of 5000 pounds.
h. Lifelines shall be protected against cutting and abrasions.
i. Personal fall arrest systems shall not be attached to guardrail systems or hoists.
j. A rescue plan must be established prior to use of a fall arrest system.
k. Personal fall arrest systems shall be inspected prior to use for wear, damage, and other deterioration, and defective components shall be removed from service.
l. Each personal fall arrest system shall be inspected not less than twice annually by a competent person in accordance with the manufacturer's recommendations. The date of each inspection must be documented.
m. Self-retracting lifelines and lanyards which automatically limit free fall distance to 2 feet or less shall be capable of sustaining a minimum tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.
n. Self-retracting lifelines and lanyards which do not limit free fall distance to 2 feet or less (ripstich lanyards, tearing, and deforming lanyards), shall be capable of sustaining a minimum tensile load of 5,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.
o. Fall arrest system should limit maximum arresting force on an employee to 1800 pounds when used with a body harness.
p. Be rigged such that an employee can neither free fall more than 6 feet, nor contact any lower level, and, where practicable, the anchor end of the lanyard shall be secured at a level not lower than the employee's waist.
q. Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet.
r. Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet, or the free fall distance permitted by the system, whichever is less.

3. Positioning Device

   A positioning device is not a substitute for a personal fall arrest system and is limited to use for employees on an elevated vertical surface, such as a wall, and work with both hands free while leaning. Where positioning device is used, it shall comply with the following:
   a. Both a full-body harness and body belt can be used for this system.
   b. Positioning devices shall be rigged such that a free fall cannot be more than 2 feet.
   c. Positioning devices shall be secured to an anchorage point capable of supporting at least twice the potential impact load of an employee's fall or 3,000 lbs., whichever is greater

4. Restraint System

   A restraint line is a device which is attached between the employee and an anchorage point to prevent the employee from walking or falling off an elevated surface. Thus, it prevents the employee from leaving the elevated surface or work position. Restraint lines are preferred over the use of fall arrest systems due to their ability to prevent free fall and reduce the need for a rescue team. Components of this system include:

a. Body belts and full body harnesses acceptable.
b. Body belts shall be at least one and five-eights (1-5/8) inches wide.
c. Anchorage points used for fall restraint shall be capable of supporting 4 times the intended load.
d. Restraint protection shall be rigged to allow the movement of employees only as far as the sides of the working level or working area.

*EQUIPMENT MAINTENANCE*

A. Full Body Harnesses
    1. Inspect before each use.
        a. Closely examine all of the nylon webbing to ensure there are no burn marks, which could weaken the material.
        b. Verify there are no torn, frayed, broken fibers, pulled stiches, or frayed edges anywhere on the harness.
        c. Examine D-ring for excessive wear, pits, deterioration or cracks.
        d. Verify that buckles are not deformed, cracked and will operate correctly.
        e. Check to see that all grommets (if present) are secure and not deformed from abuse or a fall.
        f. Harness should never have additional punched holes.
        g. All rivets should be tight, not deformed.
        h. If a harness is used to arrest a fall, it should be immediately discarded and destroyed as well as all accompanying components. Most harnesses come with indicators that signify the harness has seen impact. It might be plastic designed to break, loose D-rings with an exposed alert color, or popped stitches on the back strap.
    2. If any piece of equipment shows signs of wear it must be immediately removed from service and reported to supervisor.
    3. A competent person must perform and document inspections twice annually for equipment used in this category.
B. Lanyards/Shock Absorbing Lanyards
    1. Inspect before each use.
        a. Check lanyard material for cuts, burns, abrasions, kinks, knots, broken stitches and excessive wear.
        b. Inspect the Snaphooks for hook, locks, and eye distortion.
        c. Check carabiner for excessive wear, distortion, and lock operation.
        d. Ensure that all locking mechanisms seat and lock properly.
        e. Once locked, locking mechanisms seat and lock properly.
        f. Once locked, locking mechanism should prevent hook from opening.
        g. Visually inspect shock absorber for any signs of damage, paying close attention to where the shock absorber attaches to the lanyard.
        h. Verify that points where the lanyard attaches to the Snaphooks are free of defects.
    2. A competent person must perform and document inspections twice annually for equipment used in this category.
    3. All lanyards involved in a fall must be destroyed and disposed of.
C. Snaphooks
    1. Inspect before each use.

a. Inspect Snaphook for any hook and eye distortions.
b. Verify there are no cracks, pitted surfaces, and eye distortions.
c. The keeper latch should not be bent, distorted, or obstructed.
d. Verify that the keeper latch seats into the nose without binding.
e. Verify that the keeper spring securely closes the keeper latch.
f. Test the locking mechanism to verify that the keeper latch locks properly.

2. A competent person must perform and document inspections twice annually for equipment used in this category.
3. All Snaphooks involved in a fall must be destroyed and disposed of.

D. Self-Retracting Lanyards
1. Inspect before <u>each use</u>.
a. Visually inspect the body to ensure there is no physical damage to the body.
b. Make sure all nuts and rivets are tight.
c. Make sure the entire length of the nylon strap/wire rope is free from any cuts, burns, abrasions, kinks, knots, broken stitches/strands, excessive wear and retracts freely.
d. Test the unit by pulling sharply on the lanyard/lifeline to verify that the locking mechanism is operating correctly.
e. If the manufacturer requires, make certain the retractable lanyard is returned to the manufacturer for scheduled annual inspections.
2. A competent person must perform and document inspections twice annually for equipment used in this category.
3. If a fall occurs using a SRL, the unit must be returned to the manufacturer for service.

E. Tie-Off Adapters/Anchorages
1. Inspect for integrity and attachment to solid surface.
2. A competent person must perform and document inspections twice annually for equipment used in this category.
3. All tie-off adapters and anchorages involved in a fall must be destroyed and disposed of.

F. Storage and Maintenance
1. Hang equipment in a cool, dry location in a manner that retains its shape.
2. When needed, fall protection devices should be washed in warm water using a mild detergent, rinsed thoroughly in clean warm water and allowed to dry at room temperature.
3. Follow the manufacturer's recommendations for cleaning, maintenance and storage information.
4. Never force dry or use strong detergents in cleaning.
5. Never store in area with exposures to fumes or corrosive elements.
6. Never store personal fall arrest equipment in toolbox, on the ground, or outdoors exposed to the elements (i.e., sun, rain, snow, etc.).
7. Once exposed to a fall, remove equipment from service immediately.

*<u>Training</u>*

All employees exposed to fall hazards shall be trained in the recognition and minimization of such hazards. Training shall take place prior to work associated with fall hazards and on a two-year basis after initial training. The employee shall be trained in the following areas:

A. Nature of fall hazards in the work area;
B. Hazards associated with working near fall hazards;

C. The correct procedures for erecting, maintaining, disassembling and inspecting fall protection systems;
D. The use and operation of guardrail systems, personal fall arrest systems, warning line systems controlled access zones, and other protection to be used; and
E. The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection.

*RESCUE PROCEDURES*

A. Self-Rescue
    1. In the unlikely event that a fall arrest occurs, self-rescue is possible with the proper selection and use of fall protection equipment.
    2. Self-rescue will be the first line of defense in response to all fall arrest situations.
    3. In this event, the fallen individual (if conscious) shall either use equipment designed to help with suspension trauma, or keep limbs in motion to promote blood flow throughout the body.
    4. Once safe on ground, employee must be evaluated for possible medical attention.
    5. All components involved in a fall arrest must be returned to supervisor for review.
    6. If self-rescue is not possible, immediately contact Redlands Fire (911) for assisted rescue.

*AERIAL LIFTS*

A. Aerial lifts include the following types of vehicle mounted aerial devices used to elevate personnel to job sites above ground:
    1. Extensible boom platforms;
    2. Aerial Ladders;
    3. Articulating boom platforms;
    4. Vertical towers;
    5. Vehicle mounted bucket lifts; and
    6. A combination of any of the above.
B. A fall arrest or restraint system must be used when operating an aerial lift.
C. For detailed information on aerial devices, see Aerial Lift Safety Program.

*LADDERS*

A. Safe Work Practices for Ladder use:
    1. Select a ladder that is the proper length and duty rating for the intended work.
        a. Type III (Light Duty)- Rated for 200 pounds
        b. Type II (Medium Duty)- Rated for 225 pounds
        c. Type I (Heavy Duty)- Rated for 250 pounds
        d. Type IA (Extra Heavy Duty)- Rated for 300 pounds
        e. Type IAA (Extra Heavy Duty)- Rated for 375 pounds
    2. All non-self-supported ladders should extend a minimum distance of 3 feet past the edge they rest against.
    3. Extension ladders should have proper overlap, depending on their length:
        a. Three foot overlap for 16 to 32 foot ladder
        b. Four foot overlap for 32 to 36 foot ladder
        c. Five foot overlap for 36 to 48 foot ladder
        d. Six foot overlap for 48 foot ladder

4. Stepladders should be fully opened and the spreaders locked. The top two rungs should not be used for standing or sitting.
5. Do not use electrically conductive (e.g. aluminum) ladders for electrical work or near live electrical parts.
6. Inspect the ladder for broken or defective parts prior to each use.
7. Remove damaged or defective ladders from use and notify department management of the problem ladder. Damaged ladders must be red-tagged to avoid use until repairs are made.
8. A ladder placed in any location where it can be displaced by other work activities must be secured to prevent displacement or a barricade must be erected to keep traffic away from the ladder.
9. If the ladder is used in an area where anyone could walk under it, the area must be roped off with a visual barrier such as yellow caution tape to alert pedestrians to the hazard of something falling from the ladder.
10. Ladders must not be placed in passageways, doorways, driveways, or any location where they may be displaced by activities conducted on any other work, unless protected by barricades or guards.
11. Tie, block, or otherwise secure portable ladders while in use.
12. Do not splice ladders together.
13. Always face the ladder while ascending and descending.
14. Do not place planks on the top cap or any other part of a ladder.
15. Do not use a stepladder as an extension ladder.
16. Always use a tool belt and other 'hands-free' carrying devices when ascending and descending a ladder.

## VII. Records

All training records and documents prepared in association with the Fall Protection/Prevention Program will be maintained by the Office of Human Resources/Risk Management.
Fall Hazard Assessments and control measures will be maintained by department designees.

## VIII. Additional References

**https://www.dir.ca.gov/title8/1670.html**
**https://www.dir.ca.gov/title8/3209.html**
**https://www.dir.ca.gov/title8/3648.html**
**https://www.dir.ca.gov/title8/3276.html**