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SUNY CORTLAND
ENVIRONMENTAL HEALTH
AND SAFETY OFFICE

WALKING & WORKING SURFACES AND FALL PROTECTION PLAN

PROGRAMS, POLICIES, AND PROCEDURES

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Table of Contents

I. Introduction

Slips, trips and falls are consistently the leading cause of injury across all occupational sectors and are second only to transportation related incidents as the cause of work place fatality. Accidents and injuries on walking or working surfaces can occur on a variety of surfaces ranging from at-grade walkways to extreme elevations.

The EH&S office keeps detailed records on work-related injuries, illnesses and accidents that occur at the College. Slips, trips and falls to the same level have historically represented the leading cause of injuries at the College. In addition to regulatory mandated fall protection protocols, this program focuses on safe work practices on same level walking and working surfaces.

Much of the information in this program can be directly traced to requirements set forth in various regulations set forth by the Occupational Safety and Health Administration (OSHA) related to fall protection. Also referenced in this program are building code "Means of Egress" standards developed by the Building Code of New York State and International Building Code (IBC).

On January 17, 2017 OSHA's General Industry, final standard on Walking-Working Surfaces and Fall Protection Standard went into effect. Prior to the final rule OSHA had separate fall protection standards for general industry (CFR 1910) and the construction industry (CFR 1926). Although most operations at the College would fall under the umbrella of "general industry", there are some activities where the "construction industry" rules would apply. As a best practice, regardless of the work task being performed, the most conservative requirements should be followed.

II. Objective

The objective of this program is to prevent and protect University employees, students, visitors and contractors from falls from elevation and, to the extent feasible, reduce slips, trips and falls to the same level on non-elevated walking and working surfaces.

III. Application and Scope

This program was primarily designed for SUNY Cortland employees with necessary information and safe work practices associated with walking & working surfaces and fall protection. The applicability of this program also extends to non-employee members of the College community including students, visitors, and contractors.

The program does not cover activities associated with athletics, recreation sports or outdoor pursuits. Specific safety protocols have been developed and implemented by competent and qualified individuals of the departments overseeing these activities.

The scope of this program is wide ranging and covers at-grade walking and working surfaces to elevated surfaces. The fall protection aspect of this program focuses on safe work practices when walking or working on elevated surfaces that have the potential for an individual to free-fall greater than 4 feet to a lower level.

A complete listing of walking and working surfaces covered in this program is provided in Section VII.

IV. Definitions

Walking and working surface and fall protection nomenclature include an extensive list of definitions. These definitions are included in Appendix A attached at the end of this program.

V. References

- 29 CFR 1926 Subpart M Fall Protection
- 29 CFR 1910 Subpart D Walking and Working Surfaces
- 29 CFR 1910 Subpart F Powered Platforms, Man lifts, and Vehicle Mounted Platforms
- 29 CFR 1926 Subpart E Personal Protective and Life Saving Systems
- 29 CFR 1926 Subpart L Scaffolds
- 29 CFR 1926.1053 Ladders
- 29 CFR 1910.25 Portable Wood Ladders
- 29 CFR 1910.26 Portable Metal Ladders
- 29 CFR 1910.27 Fixed Ladders
- 29 CFR 1910.268 Subpart R Telecommunications
- Building Code of New York State, Chapter 10 Means of Egress
- International Building Code (IBC), Chapter 10 Means of Egress

VI. Credentials and Responsibilities

OSHA's definitions standard (CFR 1926.32) define three tiers of responsibility an individual can possess based on their level of experience, training and knowledge. These apply across all OSHA regulations. The hierarchy include the following listed in increasing level of required responsibility:

- **Authorized Person**: A person approved or assigned 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.).
- **Competent Person**: A person capable of identifying existing and predictable hazards in the surroundings or working conditions who has the authorization to take prompt corrective action to eliminate such hazards.
- **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.

Campus groups who engage in work on elevated surfaces (>4 feet) require both walking & working surfaces and fall protection training. Other campus groups who will not be engaged in work on elevated surfaces will receive safety training on general walking and working surfaces including slip, trip and fall prevention and awareness provided during the new employee training as part of the on-boarding process. An individual will only be deemed Authorized after they have attended formal training for the tasks they perform. Specific information on authorized use and access is provided in Section 9 of this program.

Competent persons include the EH&S staff and department managers who have the necessary experience and knowledge to supervise their authorized staff.

Individuals deemed Qualified in walking & working surfaces and fall protection include select individuals of the EH&S office as well as outside professionals. EH&S's role in this level of responsibility include developing and implementing this walking & working surface and fall protection program, annual fall protection infrastructure and PPE condition inspections, fall protection PPE selection, and safety training. The FPDC office retain the services of qualified engineers and fall protection experts to design and oversee the installation of fall protection infrastructure to confirm these meet specifications and ratings required by regulation or code.

Specific Group Responsibilities

EH&S Office – The EH&S Office is responsible for representing SUNY Cortland as both competent and qualified with respect to; 1) Identifying hazards associated with walking and working surfaces; 2) Providing

guidance on safe work practices and required PPE to safely accomplish a specific task; 3) Providing training to campus groups who perform tasks on elevated surfaces or use of equipment designed to elevate an individual (ladders, lifts, scaffolds, etc.); 4) Conducting condition inspections of fall protection infrastructure and personal fall protection equipment; 5) Reviewing and providing recommendations to the FPDC office for fall protection infrastructure upgrades and additions during renovation and construction projects; 6) Overseeing the program; 7) Evaluating the program's effectiveness; 8) Conducting periodic reviews and updates of the program; and 9) Maintaining records.

Facilities Operations and Services Office (FOS) - The Facilities Operations and Services Office is responsible for: 1) Ensuring all staff have been trained on this program; 2) Ensuring staff who use lift devices have attended formal lift safety training; 3) Ensuring staff who work on elevated surfaces use personal fall protection gear where required; 4) Inspecting personal fall protection equipment (each time it is used) and reporting deficiencies or adverse condition issues to the EH&S office of walking and working surfaces, fall protection infrastructure or personal fall protection PPE.

Facilities Planning Design and Construction Office (FPDC) - The Facilities Planning Design and Construction Office is responsible for: 1) Providing contractors copies of this program; 2) Informing the EH&S Office of upcoming projects involving work on elevated surfaces; 3) Retaining qualified engineers and fall protection experts to design and specify new or replacement fall protection infrastructure; 4) Include the EH&S office during project design for recommendation and feedback on fall protection infrastructure; 5) Request EH&S attend pre-construction meeting(s) to answer questions and provide a review of the college's policies on walking & working surfaces and fall protection.

Contractors – Contractors are responsible for: 1) Conforming with the policies and procedures outlined in this program when working on campus; 2) Having their own walk & working surfaces and fall protection program; 3) Ensuring that their employees, and subcontractors, are supplied with proper fall protection equipment, trained in the proper use of fall protection systems, and are working under the direction of a competent or qualified person; 4) Ensuring that their fall protection equipment is in good working order and meet regulatory requirements; 5) Conducting their own job hazard analysis (JHA) and evaluations exposure assessment.

VII. Walking & Working Surfaces

Walking & working surfaces represent a wide variety of settings ranging from building corridors to high pitched roofs and can be categorized into four general categories:

1. Elevated surfaces and equipment with the potential to free-fall greater than 4 feet to a lower level
2. Elevated surfaces and equipment with the potential to free-fall less than 4 feet to a lower level
3. Stairways, bleachers, and grandstands
4. Non-elevated, same level, flat, or at-grade surfaces

The following include listings of the types of surfaces within each category that are present on the SUNY Cortland campus.

1. Elevated surfaces with the potential to free-fall greater than 4 feet to a lower level

- Roofs (campus buildings and Structures - peaked, sloped, flat)
- Elevated structures (building frame, bridges)
- Holes and openings (roofs, hatches, sumps, manholes)
- Pits, shafts and lower levels (campus wide in building mechanical and utility areas)
- Fixed and portable ladders (campus wide)
- Light poles (Street lights, high-mast stadium and athletic field light poles)
- Catwalks (Dowd theater, Park Center ice arena and pool, Heating Plant, Cooling Towers)
- Mezzanines and Balconies (Commissary, Corey Union, Motor Pool, Bowers)

- Ledges (Casey & Smith Towers, Corey Union)
- Elevated walkways and ramps (Cornish-Van Hoesen, Dowd, Miller, Old Main Attic)
- Attics and above ceiling spaces (throughout campus)
- Aerial lift equipment (portable, indoor/outdoor, campus wide)
- Equipment Platforms (Lusk HVAC, Brockway Attic, Cooling Towers, Roof equipment)
- Scaffolds, work platforms and portable stairs (FOS, Warehouse, Dowd)
- Excavations and trenches (temporary)

2. Elevated surfaces with the potential to free-fall 4 feet or less to a lower level

- Loading Docks (Alger, Brockway, Casey, Commissary, Chemical Management Facility, Cornish-Van Hoesen, Dowd, Memorial Library, Miller, Neubig, Old Main, Student Life Center, Warehouse)
- Entertainment Stages (Dowd, Old Main, Corey Union)

3. Stairways, Bleachers and Grandstands

- Stairways (campus wide - indoor and outdoor)
- Bleachers and Grandstands (Park Center, Dowd, Athletic Venues, Stadium)

4. Non-elevated, flat or at-grade surfaces (no potential for a free-fall to a lower level)

- At-Grade or Level Infrastructure - Paved areas, concrete walkways, sidewalks, ramps, parking lots, driveways roads, & courtyards located throughout campus
- Building Interior Walking and Working Surfaces – Any surface within a building or structure designed for human travel, work or occupancy. These include corridors, lobbies, entryways, classrooms, lecture halls, offices, conference rooms, toilets and bathrooms, closets, storage areas, auditoriums, theaters, event spaces, cafeterias, ramps, maintenance, mechanical, utility spaces, or any other space designed for such use.
- Natural or Manicured Landscape – Outdoor grassed or wooded areas, athletic fields, earthen and graveled pathways

VIII. Slips, Trips and Falls – Identifying and Recognizing the Hazards

Slips, trips and falls are undesired results that can occur on any walking or working surface. To minimize these from occurring it is critical that individuals be able to identify and recognize the hazards associated with each walking or working surface prior to engaging in an activity. Three key identifiers of a hazardous condition are:

- **Recognition** of an imminent fall hazard setting;
- **Presence** of adverse conditions; and
- **Avoidance** of Improper personal actions.

1. Imminent Fall Hazard Settings

Imminent fall hazard settings represent those that should be evident and immediately recognized as very dangerous with the potential to result in severe injury or death in the event of a fall from elevation.

- Unprotected Edges: Working or walking too close to unprotected edges on elevated surfaces is extremely hazardous and should be avoided unless personal fall protection equipment is used. An unprotected edge is any edge that does not have a physical barrier to stop a person from falling over the edge. Physical barriers typically include parapet walls or guard railing and, in order for an edge to de defined as "protected" these barriers must be at least 39" high with a target height of 42". It should be noted that many campus roofs and other elevated surfaces do not have currently have regulatory

compliant protected edges. Visitors to elevated surfaces should never go within 6 feet of an unprotected edge without using personal fall protection equipment.

- High Sloped Roofs: High sloped roofs are those with a pitch greater than 4:12. Most high sloped roofs do not have any form of edge protection and personal fall protection must be used regardless of a visitor's proximity to an unprotected edge.
- Unstable Surfaces or Surfaces with Poor Structural Integrity: Any elevated surface that is unstable or in poor condition may not have sufficient integrity to support a person (and their equipment). These conditions typically develop over time as a result of degradation, corrosion, weathering or water damage. When these conditions are observed they should never be entered, worked or walked on. Visitors to elevated surfaces should always err on the side of caution and not proceed if conditions such as visibly damaged roofing (heaved or sagging), rotted wood, corroded metal and holes. These settings also include attic and above ceiling spaces with surfaces that are not designed to support the weight of a person.
- Using Damaged, Broken, Malfunctioning or Uncertified Equipment: Equipment and tools used to access and safely walk and work on elevated surfaces must be in good working condition. Any equipment, tools or PPE that are damaged, broken or malfunctioning should not be used and should be reported and tagged "Out of Service". All lift devices must be periodically inspected and certified to ensure they are in good working order. This also includes fall protection infrastructure and personal protective equipment.
- Unauthorized Use or Access: Roofs, catwalks, elevated platforms, light poles and use of scaffolding, fixed ladders, aerial lifts and suspension devices are all restricted and only permitted to be accessed or used by those persons who have been formally trained. Unauthorized use or access of the fore mentioned areas and devices represent a serious fall hazard.

2. Adverse Conditions

Adverse conditions range widely and include weather and seasonal changes that effect the slickness of a surface to damages weather and seasonal can represent a hazardous condition that a user of a walking or working surface might encounter on an otherwise normally safe trip free surface. Many of these are seasonal or weather related conditions that affect the coefficient of friction while others are damages that occur over time. There are also unique settings including abrupt changes of surface type, surface texture transitions, awkward spaces, elevation changes, housekeeping and lighting.

- High Wind, Lightning and Darkness: Working on roofs and any building exterior elevated surface during high wind, lightning or at night is very dangerous and should be avoided.
- Slippery Surfaces: Any surface that normally provides sure footing can become slick or slippery if freshly mopped or waxed, covered or coated with water, ice, snow, spilled food, oil, leaves, mud and organic growths. These not only apply to floor surfaces but also stairways, ladder rungs, roof coverings, and any other surface subject to this condition.
- Uneven and Damaged Surfaces: These conditions are wide ranging and include heaved, cracked, broken, missing or spalled concrete or asphalt, missing or loose floor tile, delaminated or curled carpet and stair tread, protruding objects and animal burrows.
- Confined and Restrictive Spaces: These include pits, shafts, lower levels, crawl spaces, attics and above ceiling spaces that are designed for human entry. The risk of a slip, trip or fall in a confined space is greatly increased due to adverse walking and work surface conditions including marginal ceiling heights, equipment and utility blockages, uneven walking surfaces and narrow passageways. Those who physically access attics and above ceilings spaces need to pay special attention to the integrity of the walking surface and stay on designated pathways.

- Transition Zones: These represent abrupt changes to a surface texture, covering type or elevation. Common examples are sudden changes of surface type including floor coverings, curbs, curb ramps, curb lips, threshold plates, ramps and steps.
- Poor Housekeeping and Clutter: Slips, trips and falls commonly occur as a result of the placement of items on walking pathways that are otherwise anticipated to be free of such items.
- Inadequate or Poor Lighting: Working or walking under inadequate lighting conditions can inhibit a person's visibility to safely navigate a normally safe surface and may lead to unrecognition of an adverse condition that could lead to a slip, trip or fall.

3. Improper Personal Actions:

These are actions taken by an individual that can greatly increase the probability of a slip, trip or fall. Improper personal actions likely result in the greatest number of slip, trip and fall accidents. The following include the most common improper actions.

- Distractions and Inattentiveness: All should avoid distractions and pay attention when navigating any walking or working surface. Any distraction that results in lack of attentiveness such as phone use, texting, or not paying attention can significantly increase the likelihood of a slip, trip or fall.
- Improper Footwear: Wearing footwear with improper design for conditions or terrain can significantly increase the risk of a slip, trip or fall.
- Unsafe Acts: Unsafe acts are wide ranging and can greatly increase the risk of a slip, trip or fall. Common examples include:
  - Running up or down stairs;
  - Horseplay;
  - Failure to use hand railings;
  - Climbing, leaning on, or sitting on or over guard railing;
  - Carrying an item that blocks your vision;
  - Standing or climbing on unsafe objects;
  - Working in an aerial lift without personal fall protection equipment;
  - Working on a roof or elevated surface within 6 feet of an unprotected side, edge, skylight, hole or opening without personal fall protective equipment;
  - Working on a roof or elevated surface with unsafe or questionable surface integrity to support the weight of the person and their equipment; and
  - Walking or crawling in an above ceiling space or attic that has a surface not designed to support the weight of a person.

IX. Authorized Use and Access

Use and access to walking and working surfaces are divided into two basic classifications:

1. Unrestricted Access
2. Restricted Access

Unrestricted access walking and working surfaces are those open to the public and include:

- Non-elevated, flat or at-grade surfaces with no potential for a free-fall to a lower level
- Most stairways, bleachers and grandstands
- Most Elevators (normal operation travelling inside the cab)
- Balconies with edge protection intended for public access

Restricted access walking and working surfaces are not open or accessible to the general public and are only permitted to be used by authorized persons. Restricted access campus locations include:

- All mechanical, maintenance or utility space
- Construction and excavation zones
- Elevated surfaces with a potential to free-fall greater than (>) 4 feet to a lower level such as:
  - Roofs
  - Mezzanines
  - Catwalks
  - Ledges
  - Confined and Restrictive Spaces (Pits, Shafts, Crawl Spaces, Lower Levels, Attics, Above Ceilings)
  - Aerial lift devices
  - Light Poles
  - Ladders
  - Scaffolds
  - Excavations and Trenches
- Elevated surfaces with unprotected edges with a potential to free-fall less than 4 feet to a lower level:
  - Entertainment Stages
  - Loading Docks

Groups who, through training, are authorized to access or engage in use of restricted access areas are as follows:

- Maintenance Staff who access and work on roofs, aerial lifts, ladders, catwalks, elevated platforms, pits, lower levels, crawl spaces, light poles, scaffolding, attics, above ceiling spaces or over dangerous equipment.
- Grounds Staff who use portable ladders, aerial lifts, visit roofs, and work around excavations.
- Custodial Staff who use portable ladders and aerial lifts.
- Motor Vehicle Maintenance Staff who use portable and fixed ladders and visit select roofs to service emergency generators.
- Warehouse staff who use portable ladders, work around loading docks, and use forklifts.
- Facilities Planning Design and Construction staff who visit, and escort design teams, to a wide variety of walking and working surfaces.
- Information Technology Staff who use ladders (fixed or portable) and access mezzanines, attics, and mechanical spaces.
- Performing Arts who use aerial lifts, ladders, catwalks, elevated platforms, stages and loading docks.

- Select campus individuals who are trained to access select roofs and elevated surfaces for the purposes of filming, photography, or astronomical viewing.
- Outside Contractors and Professionals who perform various tasks such as entering elevator and dumb waiter shafts, re-roofing campus buildings, climbing high mast stadium light poles, working in and around excavations and trenches, inspections, and other services and activities on elevated surfaces.

All of the above listed groups are required to be trained on fall hazard prevention and protection specific to the tasks they perform or areas they are authorized to visit. Walking & working surfaces and fall protection training is provided by the SUNY Cortland EH&S office. Specialized training in the safe use and operation of fork lifts and aerial lifts are provided by either EH&S or an outside qualified professional. Outside contractors and professionals are expected to comply with applicable OSHA regulations, have their own fall protection programs, train their staff on fall protection, and provide their own personal fall protection equipment as necessary.

X. Surface Specific Safe Practices and Procedures

This section will provide practices and procedures that all should follow to reduce or eliminate slips, trips and falls on each type of walking and working surface.

GENERAL SAFETY GUIDELINES (APPLIES TO ALL WALKING AND WORKING SURFACES)

- ✓ Pay attention to not only your own actions but the actions of others
- ✓ Avoid distractions and do not use phone or text while walking
- ✓ Wear footwear appropriate for the walking or working surface
- ✓ Be aware of potentially slippery surface conditions and pay attention for wet floor signs and operations involving floor maintenance and cleaning
- ✓ Do not engage in unsafe acts
- ✓ Avoid walking on any surface in dark or low light conditions without the aid of a flashlight.
- ✓ Report any unsafe conditions
- ✓ Do not enter restricted areas or use equipment that you are not authorized to access or use.

NON-ELEVATED, FLAT OR AT-GRADE SURFACES (UNRESTRICTED ACCESS)

- ✓ Stay within the confines of designated pathways
- ✓ Cross vehicle travelled roads at designated cross walks
- ✓ Identify and anticipate changes in floor texture and elevation at transition zones
- ✓ Be aware of animal burrows, ground protrusions and uneven surfaces on natural walking surfaces such as fields, lawns and wooded settings
- ✓ Wear footwear appropriate for the weather conditions
- ✓ Report any damages to walking surfaces that could lead to a slip, trip or fall
- ✓ Do not sit on or climb retaining walls
- ✓ Do not climb or stand on unapproved items to reach something (use a ladder)

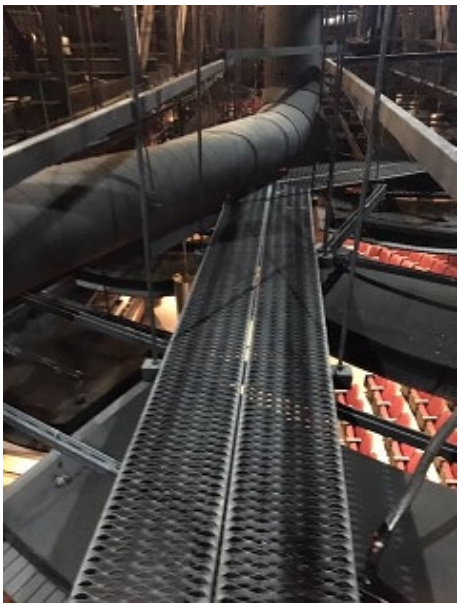
NON-ELEVATED, FLAT OR AT-GRADE SURFACES (RESTRICTED ACCESS)

- ✓ These include mechanical, maintenance or utility spaces and access is only permitted by authorized persons
- ✓ Care should be taken when walking or working inside these areas in that obstructions, utilities, conduit, ducting, plumbing and machinery may be present at the floor level
- ✓ Beware of raised areas, lower levels and pits which may be present in these areas
- ✓ Do not work over dangerous equipment
- ✓ Slippery or wet floor conditions may be encountered
- ✓ Secure these areas when done working (lock door)

STAIRS, BLEACHERS AND GRANDSTANDS

- ✓ Use handrails when present
- ✓ Do not lean or climb on guard railing
- ✓ Do not crawl under riser openings
- ✓ Do not use seat foot planks as steps on bleachers and grandstands if designated stairways are present
- ✓ Always be aware of the potential for slippery and icy conditions.
- ✓ Never engage in unsafe acts on stairs, bleachers or grandstands.

CATWALKS & MEZZANINES



- ✓ Only authorized persons are permitted to access and use catwalks & mezzanines
- ✓ Use care on fixed ladders used to access catwalks & mezzanines (see ladder section)
- ✓ Stay within the confines of the catwalk or mezzanine
- ✓ Do not lean on, lean over or climb on guard railings
- ✓ Catwalks are typically installed to safely access and service suspended utilities and equipment. Do not climb into or enter suspended equipment or utilities such as ducts and HVAC chambers. Remember the load ratings of that equipment or utility may be less than the catwalk.
- ✓ Secure catwalk or mezzanine access when done

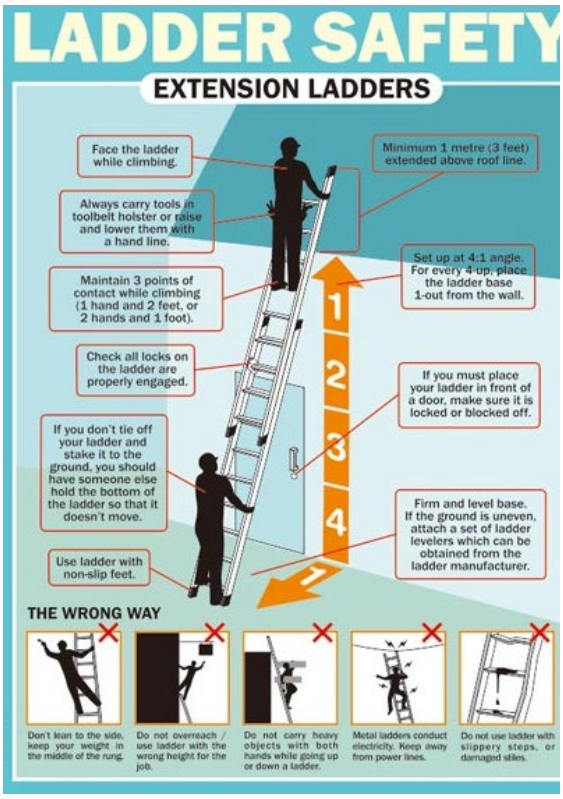
LADDERS (APPLIES TO ALL LADDER USAGE)

- ✓ Only authorized persons are permitted to use ladders
- ✓ Use the correct ladder type for the situation
- ✓ Always inspect ladders before use and do not use a ladder that appears unsafe or has signs of damage, lose or broken parts
- ✓ Never use a ladder on an unstable or uneven surface
- ✓ Keep 3 points of contact at all times when climbing a ladder (hands and feet)
- ✓ Wear appropriate footwear
- ✓ Always be aware of slippery rungs

Fixed Ladders (Vertical, Ships, Lapeyre)

- ✓ Most fixed ladders are used to gain access to restricted areas such as roofs, catwalks, elevated platforms and mezzanines.
- ✓ Be aware of potentially hot rungs and rails on roof mounted ladders during summer season (wear gloves)
- ✓ Be aware of potentially slippery conditions on ladder rungs and railings during wet or icy conditions (wear slip resistant shoes)
- ✓ Use assist bar(s) if they are present
- ✓ Make sure access to fixed ladders is secured after use (hatch locks, ladder guards)

Portable Ladders (Step, Step Rolling, Extension, Straight)



Portable Ladder Use Do's

- ✓ Use appropriate type and length ladder for the elevation needed to access
- ✓ Only climb step ladders on the side of the ladder intended for use
- ✓ Use extension ladders with the rungs oriented in the correct upright position
- ✓ Make sure extension ladder rung locks are fully engaged
- ✓ Make sure step ladders are fully open with the spreader assembly engaged on both sides
- ✓ Always try to maintain at least 3 points of contact when climbing or on a ladder. If you must use both hands to complete a task press your knees against the inner side of the ladder rails for extra point of contact.
- ✓ Step rolling ladder feet should be locked in place if the ladder is equipped with a locking device
- ✓ Use the correct foot orientation on an extension or straight ladder for the surface type (earthen or solid)
- ✓ Use 4:1 rule for extension or straight ladders (for every 4 foot rise position the base 1 foot out from the side wall)

- ✓ If the ladder is being used to access a roof or elevated surface, make sure the top of the ladder extends at least 3 feet above the surface
- ✓ Avoid using any ladder alone. Use the buddy system with 1 person at ground level to foot and provide ladder stability
- ✓ If ladder use is necessary near dangerous equipment (moving parts, etc.) make sure the equipment is de-energized prior to ladder usage.

Portable Ladder Use Don'ts

- ✓ Do not use portable ladders in full vertical positions or as a horizontal working platform
- ✓ Do not step above the designated step threshold height (as marked on the ladder) and never step on the top of the ladder
- ✓ Do not lean off the sides of a ladder
- ✓ Do not use a step ladder as straight ladder
- ✓ Do not use ladders near power lines or adjacent to high voltage electrical equipment

LOADING DOCKS

- ✓ All campus loading docks are 4 feet or less in height and no fall protection barriers are present at the working dock face.
- ✓ Only authorized persons are allowed to walk or work on loading docks
- ✓ Use extreme caution when walking, working on loading docks. All campus loading docks have unprotected edges and resulting injuries from falls off loading docks can be severe.
- ✓ Some loading docks have visual barrier chains designed to warn users of the presence of the unprotected edge. It should be noted that these do not provide physical protection in the event of a fall.
- ✓ Visual barrier chains should be re-attached after loading dock use.

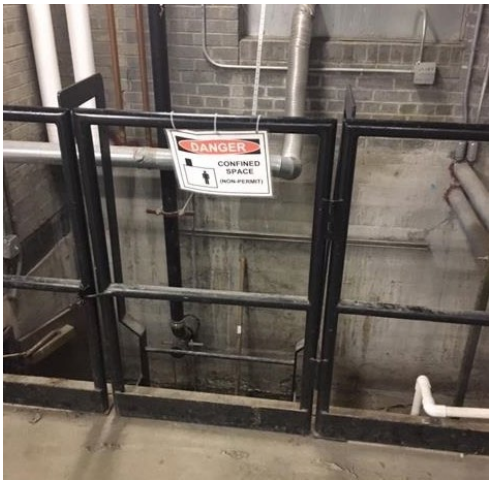
LIGHT POLES

- ✓ Street lights are serviced only by authorized SUNY Cortland maintenance staff.
- ✓ Any elevated work on a street light is performed using an aerial lift and no light poles are climbed.
- ✓ All users of aerial lifts must attend formal lift training prior to using a lift.
- ✓ Use of fall protection PPE is mandatory for all who will be in the aerial lift (body harness and lanyard). See Portable Aerial Lifts
- ✓ High Mast Stadium Light Poles located at the athletic fields and stadium are serviced by outside contractors and no SUNY Cortland staff are permitted to climb these poles.

ENTERTAINMENT STAGES

- ✓ Campus entertainment stages are located at:
    - Dowd Fine Arts main theater;
    - Old Main theater; and
    - Corey Union function room.
- ✓ Stages are permitted to be used by either authorized persons such as performing arts faculty and production staff or by persons performing, presenting, or working on stages under the direction of authorized persons.
- ✓ Campus stages are less than 4 feet but none have edge protection.
- ✓ Use extreme caution when walking, working and performing on stages and stay away from the edge

CONFINED & RESTRICTIVE SPACES (PITS, SHAFTS, LOWER LEVELS, CRAWL SPACES, ATTICS AND ABOVE CEILINGS)



- ✓ Only authorized persons are permitted to access confined or restrictive spaces. Depending on the nature of the space a variety of slip, trip and fall hazards may be present.
- ✓ Entry to vertical elevator and dumb waiter shafts is prohibited by University staff. Any work required within vertical shafts is performed by outside elevator service professionals.
- ✓ Entrants to confined spaces must comply with additional safety measures outlined in the confined space program and the buddy system must be employed
- ✓ Many confined and restrictive spaces have awkward and even walking surfaces, obstructions, low ceiling heights and poor lighting. Users should always wear proper footwear, don hardhat and carry a flashlight when working in these areas.
- ✓ Use care on ladders (fixed or portable) used to access pits, lower levels and crawl spaces (see ladder section).
- ✓ Permanent pits and lower levels within campus buildings have either guard railing or grated covers. Those with guard railing may have an operable door or safety chain. After use doors must be closed and secured or chains re-attached. All grate covers should be put back in place.
- ✓ Pits, lower levels and crawl spaces may have slippery or wet surface conditions and may also contain trip hazards including piping, conduit and other utilities.
- ✓ Never assume a surface in an attic or above ceiling space has the integrity to support your weight and stay within the designated walking pathway.

EXCAVATIONS AND TRENCHES

- ✓ Only authorized persons are permitted to work at or near open excavations and trenches.
- ✓ These areas are typically associated with active construction or repair work zones and barriers (barricades/fencing/warning tape) must be in place to prevent the general public from entering the work zone.
- ✓ In addition to the threat of falling into an open excavation or trench there also exists the potential of a sudden side wall collapse or cave-in. Never stand close to the edge of an excavation or trench.
- ✓ Be aware of uneven working surfaces and loose sediment around excavations and trenches and always wear proper footwear
- ✓ Excavations deeper than 4 feet must be benched and trenches deeper than 5 feet must have worker protective systems in the form of trench boxes or other types of shoring to protect entrants from soil cave-ins. Ladders, or other appropriate means, must be used for entry and exit of excavations and trenches meeting the corresponding 4 or 5 foot depth threshold.
- ✓ When entering an excavation or trench use a ladder of appropriate length in the same manner as one would access a roof.

SCAFFOLDS AND TEMPORARY WORK PLATFORMS (STANDING)

The University owns several sets of scaffolding as well as work platforms and portable stairs for maintenance purposes, theatrical uses and warehouse storage access.

- ✓ Only authorized persons are allowed to walk or work on
- ✓ Erect & assemble scaffolds in accordance with manufacturer's instructions.
- ✓ Scaffolds must be able to support at least 4 times the scaffolds intended load weight.
- ✓ Install on a firm foundation with base plates and mudsills and plumbed level.
- ✓ Rolling casters (if present) must be in good condition and in the locked position when scaffold is being occupied.
- ✓ Platforms must be at least 18" wide with no more than 1" gap between planks if multiple planks are used.
- ✓ Scaffolds that have a height to base width ratio of more than 4:1 need to be restrained from tipping by use of guys, braces or tying.
- ✓ Scaffolds must be kept at least 10' from any power line and check for overhead objects.
- ✓ Scaffolds 2' or higher must have proper access provided by ladders, stair tower, ramps/walkways or by use of integral pre-fabricated frames.
- ✓ Scaffolds and working platforms must have either full OSHA compliant perimeter guard railing or personal fall protection used if the platform is greater than 10' in height to a lower level.
- ✓ Do not use scaffolds if any component is defective.
- ✓ Do not use outdoor scaffolds or working platforms during rain, ice, snow or other slippery conditions.

SUNY Cortland staff do not use suspension scaffolds, any type of rope descent systems or other scaffold variations such as catenary, float, needle beam, crawling board or ladder & pump systems. If work is necessary involving these types of scaffolding the work will be performed by an outside contractor.

PORTABLE AERIAL LIFTS

Aerial lifts are used by multiple campus groups to access elevated surfaces for periodic maintenance. The University owns several types and styles of lifts for use both indoors and outdoors including Multiple Genie style single person lifts, platform scissor lift, and truck mounted single person basket cherry picker style lift. In addition to these, specialized lifts such as articulating boom lifts may be rented and used by the University FOS staff.

- ✓ Aerial lifts can only be used or operated by authorized persons who have attended formal lift safety training.
- ✓ Must be at least two people present when working in an aerial lift with one person on the ground in the event of operations or machinery failure.
- ✓ The use of personal fall protection equipment is mandatory for aerial lift use. Required equipment is described in detail in Section XI of this program.
- ✓ Always follow manufacturer's instructions when using an aerial lift. This includes the overall operation of the lift, moving, positioning and stabilization.
- ✓ Aerial lifts should always be inspected (by the user) prior to each use to make sure the equipment is in good condition and lift controls operate properly.
- ✓ All aerial lifts are subject to an annual inspection by an outside qualified professional.
- ✓ Never belt-off to an adjacent pole, structure or other equipment while working on an aerial lift.
- ✓ Stand firmly on the floor of the basket and stay within the confines.
- ✓ Do not sit, climb on or lean over the edge of the basket.
- ✓ Do not exceed the load capacity of the boom and basket.

ROOFS

SUNY Cortland has in excess of 100 roofed buildings and structures located on the main campus, west campus, McDonald building and Alumni House. Additional buildings and structures are present at Antlers, Camp Huntington, and Brauer Field Station.

Most visitations to roofs by University staff are generally low frequency and short duration to perform periodic maintenance and service related tasks on HVAC and other equipment. Other activities include patching roofs and cleaning drains of accumulated debris.

Larger scale, longer duration projects on roofs involving construction, major equipment installations, solar array maintenance and roof replacements are performed by outside contractors.

In March 2020 the EH&S office completed a campus wide Roof Fall Protection Assessment report. The purpose of this document was to report general information about each roof, inventory the status fall protection infrastructure present and identify fall hazards.

Based on the results of the assessment roof were categorized into either "Permitted Access" and "Prohibited Access".

The following practices and protocols have been implemented for walking and working on roofs:

- General Safe Practices and Procedures for "Permitted Access" roofs
- Rules for working on "Permitted Access" Roofs with Unprotected Edges
- Prohibited Access Roofs

General Safe Practices and Procedures (applies to all roofs with "Permitted Access")

The following apply to all roofs with permitted access:

- ✓ Only authorized persons are allowed to work or walk on "Permitted Access" roofs.
- ✓ Determine what roof or roof elevation you need to visit and the required location or proximity of work you are to perform.
- ✓ If you are not familiar with the roof you need to visit review the Roof Fall Protection Assessment Report before hand to determine roof access locations, slopes and the status of roof fall protection infrastructure.
- ✓ Always wear appropriate non-slip footwear.
- ✓ Navigate roofs on designated pathways if present (walking pads).
- ✓ If your work requires you to go within 6 feet of an unprotected roof edge you must wear personal fall protection equipment. See Section 11 for details on the personal fall protection required.
- ✓ If a designated pathway is not present either walk down the centerline of the roof or stay at least 15 feet from any unprotected edges, skylights, holes or openings.
- ✓ Always approach any ladder (fixed or extension) straight-on and not from an angle.
- ✓ Avoid going on roofs during adverse weather conditions (rain, snow, ice).
- ✓ Never go on roofs during thunder, lightning or during periods of high wind.
- ✓ Do not go on roofs at night (darkness) or during heavy fog conditions.
- ✓ Do not lean or climb on parapet walls or railings.
- ✓ Never stand, lean or climb on any skylight.
- ✓ Secure roof access when done to prevent unauthorized use.
- ✓ Do not use portable ladders on roofs in areas where the height of the ladder exceeds the distance to the closest roof edge. This applies to any roof edge, protected or unprotected.
- ✓ Wear gloves when climbing access ladders.
- ✓ Do not walk on any roof, or section of roof, that is heaved, rotted or appears to have poor integral strength.

Rules for Working on "Permitted Access" Flat or Low Sloped Roofs with Unprotected Edges

The following rules must be followed when working on roofs with unprotected edges

Less than 6' from an unprotected edge:

- Personal fall protection is mandatory.
- Don harness and attach self-retracting fall restraint lanyard to anchor point or lifeline.

6 to 15 feet from an unprotected roof edge:

1. When the work is both infrequent or temporary (short duration)
   - Use personal fall protection equipment; or
   - Establish a designated work area using stanchions and visible barrier tape and stay within the work area for the duration of work.
2. When the work is frequent or of long duration
   - Personal fall protection is mandatory.
   - Don harness and attach self-retracting fall restraint lanyard to anchor point or lifeline.

More than 15 feet from an unprotected roof edge or side

- Use personal fall protection equipment; or
- Maintain a 15 foot or more separation distance between yourself and the unprotected edge.

Some roof mounted fixtures (powered vents, etc.) may be present near the 6 foot threshold distance to an unprotected edge. These fixtures may contain equipment that require periodic maintenance and service (belt, motor, lube) by FOS staff. If either anchor points or lifeline cabling are present then personal fall protection body harness and lanyard must be used with the lanyard secured to both the body harness and anchor of lifeline when servicing these. If there are no provisions for anchoring and one side of the fixture is greater than 6 feet away from the unprotected edge, then you should approach the fixture from the inward side of the roof and perform the maintenance task from that position.

Detailed information on personal fall protection devices and equipment is provided in Section XI

"Prohibited Access" Roofs

University staff are not permitted to physically stand, walk or work directly on any high slope, slate, metal, glass, plastic, clay tiled roof or any other roof deemed dangerous. The following campus building roofs are prohibited for physical access and, if university staff need to perform any work on these roofs, the work must be performed out of an aerial lift.

- Cheney Hall (entire roof - slate)
- DeGroat Hall (entire roof – slate and elevator tower)
- Brockway Hall (slate roofed sections)
- McDonald Building (slate roofed sections)
- Old Main (slate sections, west roof above theater, center roof)
- Lusk Field House (entire domed roof)
- Moffett (front slate roof section and center metal/glass roof)
- President's Residence (main high sloped roof)
- Route 281 house (high sloped roofs)
- Berlew Building (high sloped roofs)
- Broadway House (high sloped roof)
- Cornish-Van Hoesen (metal roof at education building main entry)
- Student Life Center (sloped membrane roof above loading dock – deemed dangerous)
- Grounds Pole Barn (metal)
- Ground Storage Garage (metal)
- Skylights (all – do not stand, lean or work on)
- Sheds, shelters, overhangs, ledges (all)
- Bowers Greenhouse (all)
- Leadership house (all)
- West Campus Apt. Buildings (all 15 buildings)
- Dragon Hall Cooling Tower Enclosure Roof and East Stairwell Roof
- Alumni House (clay tiled roof)
- Soccer Press Box (deemed dangerous due to integrity)

XI. Personal Protective Equipment for Fall Protection

This section will provide information on the types, usage requirements and locations of personal protective equipment to be used where this equipment is required.

Personal Fall Protection Equipment

There are two primary components that make up personal fall protection equipment. These include a body harness and a lanyard. Body harnesses are generally universal fit sized but body specific sizes are available for use. Several types of lanyards are available for use including fixed length, fixed length with shock absorber, and self-retracting.

Body harness with fixed length lanyard

Self-retracting lanyard

Proper use of harness w/lanyard fixed to a permanent anchor point

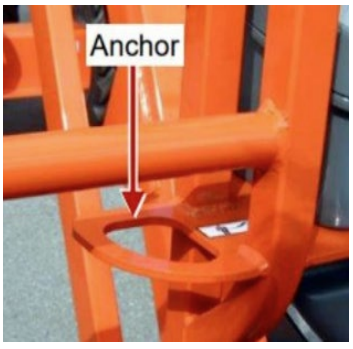
Anchorage Points

Lanyards, whether fixed length or self-retracting, must be attached to a suitable anchorage point. Suitable anchorage points include:

- Permanent anchor points located on campus building roofs
- Permanent combination anchor points with life-line cables located on campus roofs
- Attachment points on aerial lift baskets

Typical permanent roof anchor point

Typical permanent combination anchor point and lifeline



Typical anchor point on aerial lift basket/platform

Fall Protection - Harness and Lanyard Use Guidelines

Aerial Lifts:

Genie Style, Articulating Boom, Cherry Picker:

- PPE Type: Body harness and lanyard
- Usage Requirements: Mandatory for person in lift bucket or basket
- Location of PPE: Each aerial lift has a dedicated harness and lanyard

Scissor Lift:

- PPE Type: Body harness and self-retracting lifeline lanyard
- Usage Requirements: Mandatory for each person on lift platform (max 2 persons on lift)
- Location of PPE: In custodial supervisor office in Park Center

"Permitted Access" Roofs:

- PPE Type: Body harness with either self-retracting lifeline lanyard or fixed length lanyard
- Usage Requirements: Mandatory for anyone working within 6'of an unprotected roof edge
- Location of PPE: In designated personal fall protection PPE bags located in Service Group records storage room. Additional harnesses and lanyards are available in the equipment lockers located in the warehouse.

Scaffolding:

- PPE Type: Body harness with either self-retracting lifeline lanyard or fixed length lanyard
- Usage Requirements: Mandatory for anyone working on a scaffold with unprotected edges (no railing) 10' or higher
- Location of PPE: In designated personal fall protection PPE bags located in Service Group records storage room. Additional harnesses and lanyards are available in the equipment lockers located in the warehouse.

XII. Equipment Condition Inspections and Certifications

This section will provide information on inspections and certifications of:

- Roof Fall Protection Infrastructure
- Aerial Lifts
- Personal Fall Protection Equipment and Devices

Roof Fall Protection Infrastructure

The EHS office performs an annual inspection of the condition of roof fall protection infrastructure. Items inspected include:

- Roof Railings
- Fixed Ladders
- Hatch guards
- Assist Bars
- Roof mounted stairs and platforms
- Anchorage points
- Lifelines
- Overall qualitative assessment of the roof integrity

The inspection includes a visual and physical assessment of the equipment. Any deficiencies are noted and repairs or replacements are made. A final report is issued to facilities management.

Aerial Lifts

Aerial lifts are all subject to an annual inspection by a qualified outside firm. This is facilitated by the EHS office. Upon satisfactory inspection, each inspected lift is stickered by the firm and paper records of the inspections are kept on file by the EHS office.

In addition, all users of aerial lifts must perform an inspection of the lift prior to using the lift. The purpose of this inspection is to ensure the equipment is in good operating order at the time of use.

Personal Fall Protection Equipment

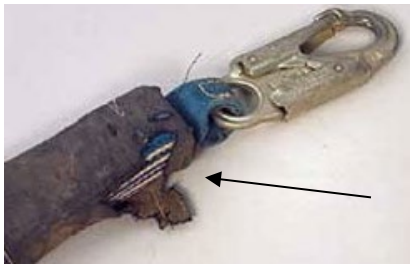
The EHS office performs an annual inspection of the condition of personal fall protection equipment and any equipment deemed damaged or unfit for use it taken out of service and replaced with new equipment.

In addition, each user of personal fall protection is required to inspect the equipment at the time of use. Common issues to look for are:

- Tears, cuts, frays, burns, or holes on harnesses, straps, and lanyards
- Knots in Lanyards
- Damaged lanyard shock absorber pouch
- Broken harness fall arrest indicators
- Broken, bent, missing, or non-functional clasps, carabiner clips, and connectors
- Rust and corrosion on metal parts

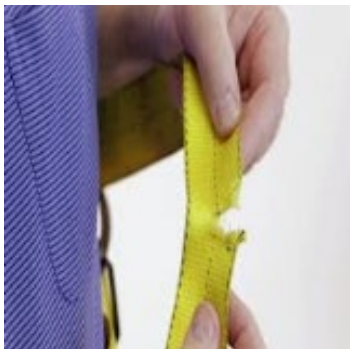
Any personal fall protection equipment exhibiting these conditions should not be used.

Below are examples of **damaged** personal fall protection equipment that **should not be used**



Damaged lanyard shock absorber pouch

Knots in lanyard



Torn or frayed material on either lanyard or harness

XIII. Training and Recordkeeping

The EHS office provides training on walking and working surfaces and fall protection to select campus groups. The extent of training depends on the type of work conducted by each group. All groups on the list below receive general unrestricted access walking and working surface training and ladder safety. In addition, the groups listed below will also receive training on safe work practices for specific walking and working surfaces:

- Maintenance Staff: Non-elevated restricted access areas, roofs, lower levels, aerial lifts, catwalks, mezzanines, loading docks, scaffolding, and confined and restrictive spaces.
- Grounds Staff: Roofs, aerial lifts, catwalks, mezzanines, loading docks, confined and restrictive spaces, and excavations and trenches.
- Custodial Staff: Aerial lifts (if the building they work in requires aerial lift use) and loading docks.
- Motor Vehicle Maintenance Staff: Roofs, mezzanines, loading docks
- Warehouse staff: Loading docks
- Facilities Planning Design and Construction staff: Roofs, catwalks, mezzanines, lower levels, loading docks, confined and restrictive spaces, excavations and trenches.
- Information Technology Staff: Roofs, catwalks, mezzanines, confined and restrictive spaces, lower levels, and non-elevated restricted access spaces.
- Performing Arts: Aerial lifts, catwalks, scaffolding, stages, and loading docks.
- Select Campus Individuals or Groups: Roofs (for those who visit select roofs for the purposes of filming, photography, or astronomical viewing)

The majority of this training is provided during initial hire safety training. Some groups receive separate confined space training that meets the requirement for confined and restrictive area training.

Proper use of personal fall protection equipment is included in the training for those who work and visit roofs and other elevated surfaces that require personal fall protection equipment.

Aerial lift training is specialized and is provided before an individual is permitted to use a lift.

Appendix A

Anchor Point - A secure point of attachment for lifelines, lanyards and deceleration devices.

Assist Bar – A retracting vertical bar, attached to a ladder, that extends above the ladder and is designed to provide both a grasp point and support for person exiting or entering the ladder.

Authorized Person – A person who has been trained and approved to perform a specific task, permitted to access an area or use a specific piece of equipment.

Authorized Access – For the purposes of this program this is a walking or working surface open to the general public with no restrictions.

Body Belt - A strap with means both for securing about the waist and for attaching to other components such as a lanyard used with positioning systems, travel restraint systems, or ladder safety systems.

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

Cage - An enclosure mounted on the side rails of a fixed ladder or fastened to a structure behind the fixed ladder that is designed to surround the climbing space of the ladder. A cage also is called a "cage guard" or "basket guard."

Carabiner - A connector generally comprised of a trapezoidal or oval shaped body with a closed gate or similar arrangement that may be opened to attach another object and, when released, automatically closes to retain the object.

Competent Person - A person who is capable of identifying existing and predictable hazards in any personal fall protection system or any component of it, as well as in their application and uses with related equipment, and who has authorization to take prompt, corrective action to eliminate the identified hazards.

Connector - A device used to couple (connect) parts of the fall protection system together.

D-ring - A connector used:

- In a harness as an integral attachment element or fall arrest attachment;
- In a lanyard, energy absorber, lifeline, or anchorage connector as an integral connector; or
- In a positioning or travel restraint system as an attachment element.

Dangerous Equipment - Equipment, such as vats, tanks, electrical equipment, machinery, equipment or machinery with protruding parts, or other similar units, that, because of their function or form, may harm an employee who falls into or onto the equipment.

Deceleration Device - Any mechanism that serves to dissipate energy during a fall.

Deceleration Distance - The vertical distance a falling employee travels from the point at which the deceleration device begins to operate, excluding lifeline elongation and free fall distance, until stopping. It is measured as the distance between the location of an employee's 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.

Designated Area - A distinct portion of a walking-working surface delineated by a warning line in which employees may perform work without additional fall protection.

Dockboard - A portable or fixed device that spans a gap or compensates for a difference in elevation between a loading platform and a transport vehicle. Dockboards include, but are not limited to, bridge plates, dock plates, and dock levelers.

Extension Ladder - A non-self-supporting portable ladder that is adjustable in length.

Failure - A load refusal, breakage, or separation of component parts. A load refusal is the point at which the ultimate strength of a component or object is exceeded.

Fall Hazard - Any condition on a walking-working surface that exposes an employee to a risk of harm from a fall on the same level or to a lower level.

Fall Protection - Any equipment, device, or system that prevents an employee from falling from an elevation or mitigates the effect of such a fall.

Fixed ladder - A ladder with rails or individual rungs that is permanently attached to a structure, building, or equipment. Fixed ladders include individual-rung ladders, but not ship stairs, step bolts, or manhole steps.

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

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

Grab Bar - An individual horizontal or vertical handhold installed to provide access above the height of the ladder.

Guardrail System - A barrier erected along an unprotected or exposed side, edge, or other area of a walking-working surface to prevent employees from falling to a lower level.

Handrail - A rail used to provide employees with a handhold for support.

Hole - A gap or open space in a floor, roof, horizontal walking-working surface, or similar surface that is at least 2 inches (5 cm) in its least dimension.

Ladder - A device with rungs, steps, or cleats used to gain access to a different elevation.

Ladder Safety System - A system designed to eliminate or reduce the possibility of falling from a ladder. A ladder safety system usually consists of a carrier, safety sleeve, lanyard, connectors, and body harness. Cages and wells are not ladder safety systems.

Low-Slope Roof - Means a roof that has a slope less than or equal to a ratio of 4 in 12 (vertical to horizontal).

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

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

Lower Level - A surface or area to which an employee could fall. Such surfaces or areas include, but are not limited to, ground levels, floors, roofs, ramps, runways, excavations, pits, tanks, materials, water, equipment, and similar surfaces and structures, or portions thereof.

Maximum Intended Load - The total load (weight and force) of all employees, equipment, vehicles, tools, materials, and other loads the employer reasonably anticipates to be applied to a walking-working surface at any one time.

Mobile - Manually propelled or moveable.

Mobile Ladder Stand (ladder stand) - A mobile, fixed-height, self-supporting ladder that usually consists of wheels or casters on a rigid base and steps leading to a top step. A mobile ladder stand also may have handrails and is designed for use by one employee at a time.

Mobile Ladder Stand Platform - A mobile, fixed-height, self-supporting unit having one or more standing platforms that are provided with means of access or egress.

Open Riser - The gap or space between treads of stairways that do not have upright or inclined members (risers).

Opening - A gap or open space in a wall, partition, vertical walking-working surface, or similar surface that is at least 30 inches (76 cm) high and at least 18 inches (46 cm) wide, through which an employee can fall to a lower level.

Permitted Access Roof – Are roofs with flat or low slope that have been deemed safe to work and visit by authorized users provided they are trained and safety rules outlined in this program are followed.

Personal Fall Arrest System – A system used to arrest an employee in a fall from a walking-working surface. It consists of a body harness, anchorage, and connector. The means of connection may include a lanyard, deceleration device, lifeline, or a suitable combination of these.

Personal Fall Protection System - A system (including all components) an employer uses to provide protection from falling or to safely arrest an employee's fall if one occurs. Examples of personal fall protection systems include personal fall arrest systems, positioning systems, and travel restraint systems.

Platform - A walking-working surface that is elevated above the surrounding area.

Portable Ladder - A ladder that can readily be moved or carried, and usually consists of side rails joined at intervals by steps, rungs, or cleats.

Positioning System (work-positioning system) - A system of equipment and connectors that, when used with a body harness or body belt, allows an employee to be supported on an elevated vertical surface, such as a wall or window sill, and work with both hands free. Positioning systems also are called "positioning system devices" and "work-positioning equipment."

Prohibited Access Roofs – Are roofs that have high slope with no fall protection infrastructure or other adverse condition and have been deemed too dangerous for physical access.

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

Ramp - An inclined walking-working surface used to access another level.

Riser - The upright (vertical) or inclined member of a stair that is located at the back of a stair tread or platform and connects close to the front edge of the next higher tread, platform, or landing.

Roof: the exterior surface on top of a building

Roofing Work – The hoisting, storage, application and removal of roofing materials and equipment, including the construction of the roof deck.

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

Rung, Step, or Cleat - The cross-piece of a ladder on which an employee steps to climb up and down.

Runway - An elevated walking-working surface, such as a catwalk, a foot walk along shafting, or an elevated walkway between buildings.

Safety Factor - The ratio of the design load and the ultimate strength of the material.

Safety Monitoring System – A safety system in which a competent person is responsible for recognizing and warning employees of fall hazards. All other fall protection systems must be deemed "Infeasible" as a result of a study in order to utilize a safety monitoring system.

Scaffold - Any temporary elevated or suspended platform and its supporting structure, including anchorage points, used to support employees, equipment, materials, and other items. For purposes of this subpart, a scaffold does not include a crane-suspended or derrick-suspended personnel platform or a rope descent system.

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

Ship Stair (ship ladder) - A stairway that is equipped with treads, stair rails, and open risers, and has a slope that is between 50 and 70 degrees from the horizontal.

Side-Step Ladder - A type of fixed ladder that requires an employee to step sideways from it in order to reach a walking-working surface, such as a landing.

Snaphook - A connector comprised of a hook-shaped body with a normally closed gate, or similar arrangement that may be manually opened to permit the hook to receive an object. When released, the snaphook automatically closes to retain the object. Opening a snaphook requires two separate actions and are generally one of two types:

- Automatic-locking type (permitted) with a self-closing and self-locking gate that remains closed and locked until intentionally unlocked and opened for connection or disconnection;
- Non-locking type (prohibited) with a self-closing gate that remains closed, but not locked, until intentionally opened for connection or disconnection.

Spiral Stairs - A series of treads attached to a vertical pole in a winding fashion, usually within a cylindrical space.

Spreaders – Devices that hold the front and back sections of a step ladder in the open position.

Stair Rail or Stair Rail System - A barrier erected along the exposed or open side of stairways to prevent employees from falling to a lower level.

Stairway (Stairs) - Risers and treads that connect one level with another, and includes any landings and platforms in between those levels. Stairways include standard, spiral, alternating tread-type, and ship stairs.

Standard Stairs - A fixed or permanently installed stairway. Ship, spiral, and alternating tread-type stairs are not considered standard stairs.

Stepladder - A self-supporting, portable ladder that has a fixed height, flat steps, and a hinged back.

Stepstool - A self-supporting, portable ladder that has flat steps and side rails. For purposes of the final rule, stepstool includes only those ladders that have a fixed height, do not have a pail shelf, and do not exceed 32 inches (81 cm) in overall height to the top cap, although side rails may extend above the top cap. A stepstool is designed so an employee can climb and stand on all of the steps and the top cap.

Through Ladder - A type of fixed ladder that allows the employee to step through the side rails at the top of the ladder to reach a walking-working surface, such as a landing.

Tieback or Tie-Off - An attachment between an anchorage (e.g.,structural member) and a supporting device (e.g.,parapet clamp or cornice hook).

Toeboard - A low protective barrier that is designed to prevent materials, tools, and equipment from falling to a lower level, and protect employees from falling.

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

Travel Restraint (Tether) Line - A rope or wire rope used to transfer forces from a body support to an anchorage or anchorage connector in a travel restraint system.

Travel Restraint System - A combination of an anchorage, anchorage connector, lanyard (or other means of connection), and body support that an employer uses to eliminate the possibility of an employee going over the edge of a walking-working surface.

Tread - A horizontal member of a stair or stairway, but does not include landings or platforms.

Unauthorized Access – For the purposes of this program these are a walking or working surfaces that that are not open to the general public and require special key to access.

Unauthorzied Person - A person who has not been trained and approved to perform a specific task, is not permitted to access an area or use a specific piece of equipment.

Unprotected Sides and Edges - Any side or edge of a walking-working surface (except at entrances and other points of access) where there is no wall, guardrail system, or stair rail system to protect an employee from falling to a lower level.

Walking-Working Surface - Any horizontal or vertical surface on or through which an employee walks, works, or gains access to a work area or workplace location.

Warning Line - A barrier erected to warn employees that they are approaching an unprotected side or edge, and which designates an area in which work may take place without the use of other means of fall protection.

Well - A permanent, complete enclosure around a fixed ladder.

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