University of Vermont

Department of Environmental Health and Safety
Occupational Health and Safety Office

321 Ryan Street
Essex, Vermont 05452

FALL PROTECTION PROGRAM

In accordance with
OSHA 29 CFR 1910 Subpart D
OSHA 29 CFR 1910 Subpart F
OSHA 29 CFR 1910 Subpart I
OSHA 29 CFR 1910 Subpart R
OSHA 29 CFR 1926 Subpart L
OSHA 29 CFR 1926 Subpart M
OSHA 29 CFR 1926 Subpart X

REVISED AND DISTRIBUTED BY:

THE UNIVERSITY OF VERMONT
DEPARTMENT OF ENVIRONMENTAL HALTH AND SAFETY
OCCUPATIONAL HEALTH AND SAFETY OFFICE

REVIEWED BY:

DEPARTMENT OF ENVIRONMENTAL HALTH AND SAFETY
OCCUPATIONAL HEALTH AND SAFETY OFFICE

Occupational Health and Safety Manager
Occupational Health Program Coordinator

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EMERGENCY AND ASSISTANCE

POST FALL RESCUE & EMERGENCY TELEPHONE NUMBERS

No work will be performed where an emergency cannot be immediately observed and/or prompt rescue assistance summoned.

A rescue plan shall be in place prior to beginning any work where a fall hazard exists. The rescue plan must be well thought out and documented in the "Written Site-Specific Fall Protection Plan" (*Appendix A*). All individuals involved must thoroughly understand the rescue plan. Prompt rescue will be provided for personnel who have fallen.

FIRE – POLICE – RESCUE – EMERGENCY MEDICAL SERVICE……. 9-1-1

If you dial 911 from ANY phone, it will now be answered by a State of Vermont e911 dispatcher. Tell them you are at the University of Vermont. Provide them with your building address, building name, and room number as well as the details of your emergency.

CALL IMMEDIATELY FOR ANY EMERGENCY
INCLUDING CHEMICAL SPILL, FIRE, INJURED,
TRAPPED, OR SICK PERSON.

UVM POLICE SERVICES…… (802) 656-3473
FIRE – POLICE – RESCUE – EMERGENCY MEDICAL SERVICE

CALL IMMEDIATELY FOR ANY EMERGENCY
INCLUDING CHEMICAL SPILL, FIRE, INJURED,
TRAPPED OR SICK PERSON.

Department of Environmental Health and Safety……. (802) 656-7233
Occupational Health and Safety Office

Service Operations Support……. (802) 656-2560
(Physical Plant Department, Chemical cleanup, disposal and storage)

Department of Risk Management…… (802) 656-3242
(Accident investigations, insurance services)

Champlain Medical Urgent Care……. (802) 448-9370
(Medical Consultation and Evaluation)

PROGRAM STATEMENT

I. Purpose

The University of Vermont, Department of Environmental Health and Safety, Occupational Health and Safety Office is dedicated to providing safe work facilities for UVM employees (faculty/staff), students, and visitors, including contractors and consultants (UVM Personnel) and complying with federal and state occupational health and safety standards.

All UVM Personnel, including administrators and union representatives, share a responsibility to reduce the hazards associated with fall hazards.

Fall hazards must first be controlled through engineering controls where feasible. When engineering controls are not feasible or incapable of eliminating the hazard, then administrative controls, training, and personal fall arrest systems must be implemented.

II. Standards

This written program is a means to analyze elevated work tasks and determine appropriate personal protection against falls in accordance with regulations set by Vermont Occupational Safety and Health Administration (VOSHA) and U.S. Department of Labor Occupational Safety & Health Administration (OSHA):

OSHA 29 CFR 1910 Subpart D – Walking-Working Surfaces
OSHA 29 CFR 1910 Subpart I – Personal Protective Equipment
OSHA 29 CFR 1910 Subpart F – Powered Platforms, Man-lifts, and Vehicle-Mounted Platforms
OSHA 29 CFR 1910.268 Subpart R – Telecommunications
OSHA 29 CFR 1926 Subpart L – Scaffolds
OSHA 29 CFR 1926 Subpart M – Fall Protection
OSHA 29 CFR 1926 Subpart X – Stairways and Ladders

Both OSHA's General Industry (29 CFR 1910) and Construction Industry (29 CFR 1926) Fall Protection standards may simultaneously apply to the same work site and job tasks.

Standards that govern General Industry safety regulations apply to most work sites and refer to all industries not included in agriculture, construction or maritime. Examples include routine operations and maintenance, small scale tasks such as equipment minor repair,

Construction Industry standards apply to construction work meaning "work for construction, alteration, and/or repair, including painting and decorating" (1910.12).

III. Scope

The University of Vermont (UVM), Department of Environmental Health and Safety, Occupational Health and Safety Office Fall Protection Program shall apply to all UVM Personnel who are exposed to unprotected sides or edges of a working surfaces of four (4) feet (1.2m) for General Industry application and six (6) feet (1.8m) for Construction Industry or more above a lower level that present a falling hazard.

Additionally, the Fall Protection Program shall also apply to all UVM Personnel in order to minimize slips, trips, and falls on the same elevation. All UVM Personnel shall control fall hazards in their work area by maintaining good housekeeping and shall report conditions that may lead to slips, trips, and falls to the appropriate facilities maintenance unit.

UVM Personnel will not be required, nor allowed to perform any duties which require the employee to get closer than six (6) feet (1.8m) to an unprotected edge, platform, and walkway of any building or utilize elevated equipment unless the employee is properly secured from falling.

Exceptions to this requirement include the exposed perimeters of entertainment stages. Following proper training, UVM Personnel may use portable ladders without fall protection system(s) up to sixty (60) feet (18.3m). UVM Personnel may use fixed ladders without fall protection system(s) up to twenty-four (24) feet (7.3m). UVM Personnel may work on scaffolds and aerial lifts up to six (6) feet (1.8m) in height and on the edge of an excavation up to six (6) feet (1.8m) in depth without fall protection.

Contractors for the University of Vermont are required to comply with all applicable state and federal regulations and shall have their own fall protection program.

IV. Roles and Responsibilities

To successfully achieve UVM's goal of Academic Excellence, individual members of our campus community must understand their roles and accept responsibility as described in UVM policies and plans. Please use the resource of UVM's Safety website to increase your personal awareness and minimize your risk for injury both on and off campus. These are summarized on the webpage Health and Safety Roles and Responsibilities | Environmental Health and Safety | The University of Vermont (uvm.edu) .

We look to all members of the University community to do their part in helping to meet this goal.

A. Department Administration

1. Maintain and update Design Guidelines requiring that projects be designed according to current VOSHA standards and that engineering controls for fall protection, such as guardrails and anchorage points, for occupant use, and maintenance work be designed into projects wherever feasible.
2. Provide administrative and financial support for this program within individual units.
3. Ensure that Fall Protection is implemented and maintained within the department.
4. Support disciplinary action in the event that proper procedures are neglected and/or obviously not followed.

B. Occupational Health and Safety Office

1. Designate and empower individuals who will act as competent and/or qualified person(s) who will be responsible for the preparation and implementation of the Fall Protection Program.

2. Ensure that UVM Personnel who will act as competent and/or qualified person(s) are adequately trained and/or qualified.
3. Ensure the Fall Protection Program is implemented and maintained within the departments.
4. Consult with outside entities on fall protection designs as needed.
5. Review Fall Protection Program annually.

C. Designated Competent Person

1. Implement all aspects of the Fall Protection Program for work areas under their control.
2. Receive training for "competent person" as defined by VOSHA for fall protection.
3. Act as the "competent person" for job sites under their control that contain fall hazards.
4. Evaluate fall hazards in work areas under their control.
5. Ensure that UVM Personnel are informed, trained, and provided with the appropriate fall protection systems and equipment to be protected from potential fall hazards associated with job tasks.

D. Designated Qualified Person

1. Maintain professional certification or other requirements in their subject field.
2. Provide design, analysis, evaluation and specification in their subject field.
3. Maintain records of their designs, analyses, evaluations, and specifications according to the requirements of the Fall Protection Program.

E. Managers and Supervisors

1. Ensure that UVM Personnel are informed, trained, and provided with the appropriate fall protection systems and equipment to be protected from potential fall hazards associated with job tasks.
2. Coordinate the correction of fall hazards brought to their attention by UVM Personnel.
3. Complete a "First Report of Injury" report and produce any additional documentation needed to investigate and work-related injuries and illnesses.

F. UVM Personnel

1. Comply with the Fall Protection Program and any further safety recommendation provided by the supervisor and/or the Occupational Health and Safety Office regarding fall protection.
2. Complete fall protection training requirements and request further instruction if unclear.
3. Conduct assigned tasks in a safe manner and wear all assigned personal protection equipment; and
4. Report any unsafe or unhealthy work conditions and job-related injuries or illnesses to the supervisor immediately.

INFORMATION AND TRAINING

For assistance, contact the Occupational Health and Safety Office at (802) 656-SAFE (7233) or send electronic mail to ohso@uvm.edu. Information and training will be provided or arranged by the Occupational Health and Safety Office or the Academic Research and Safety Office to any unit or individual requesting guidance or training to satisfy implementation of this program.

I. UVM Personnel who work on Ladders

UVM Personnel who use ladders shall be knowledgeable of the following:

A. The manufacturer's instructions;
B. How to inspect ladders for visible defects;
C. How to use ladders properly; and
D. How to properly store and maintain ladders.
E. How to fill out the UVM's Ladder Inspection Checklist (*Appendix B*)

II. UVM Personnel who use Personal Protective Equipment

UVM Personnel who use personal protective equipment to control fall hazards in their work area should be knowledgeable of the following:

A. The manufacturer's instructions;
B. The application limits of the equipment;
C. The proper hook-up, anchoring and tie-off techniques including determination of elongation and deceleration distance;
D. Methods of use;
E. Inspection and storage of equipment; and
F. How to fill out the UVM's Site-Specific Fall Protection Plan (*Appendix A*).
G. How to fill out the UVM's Harness Inspection Checklist (*Appendix B*)

III. UVM Personnel who use Aerial Lifts

UVM Personnel should be knowledgeable of the following:

A. The manufacturer's operating instructions;
B. Always close lift platform chains or doors;
C. Pre-start inspection of the lift;
D. How to fill out the UVM's Aerial Lift Inspection Checklist (*Appendix B*);
E. Inspection of the work area for dangerous conditions such as uneven surfaces, overhead obstructions such as power lines, and severe weather;
F. Load capacities of the equipment;
G. How to safely move the equipment;
H. How to prevent falls and use appropriate fall protection personal protective equipment (full body harness required);
I. Non-electrical workers must stay a minimum of ten (10) feet (3.05m) away from energized power lines; and

J. If working near pedestrian or vehicle traffic, setup work zone warnings, such as cones and signs;
K. How to fill out the UVM's Site-Specific Fall Protection Plan (*Appendix A*).

IV. UVM Personnel Assigned as Scaffold Competent Person

UVM Personnel who act as a scaffold competent person for a work area or job site shall be trained and certified. To be considered a competent person, an OSHA 7405 "Fall Hazard Awareness for Construction Industry" (or equivalent) training class and an OSHA NCSH 406 "Scaffold User Course" (or equivalent) must be completed. In addition, the competent person must be knowledgeable of the following:

A. The proper selection of scaffold for the task based upon the type of work to be conducted and the working load to be supported;
B. The correct procedures for the erection of scaffolds;
C. The correct procedures for the dismantling of scaffolds;
D. The correct procedures for the moving of scaffolds;
E. The correct procedures for the altering of scaffolds; and
F. The VOSHA standards.
G. Completing UVM's Site-Specific Fall Protection Plan (*Appendix A*).

V. UVM Personnel who work on Scaffolds

Site specific training given by the scaffold competent person is required in the following:

A. The proper use of the scaffold, and the proper handling of materials on the scaffold;
B. Permissible access points and all walking working surfaces;
C. The maximum intended load and the load carrying capacities of the scaffolds;
D. The nature of all job site hazards and correct procedures for dealing with, including any physical, electrical, fall, falling object hazards, and approaching severe weather;
E. The correct procedures for erecting, maintaining, and dissembling the fall protection systems and falling object protection systems being used; and
F. How to fill out the UVM's Site-Specific Fall Protection Plan (*Appendix A*).

VI. UVM Personnel Assigned as Fall Protection Competent Person

UVM Personnel who act as the competent person for a work area or job site shall be trained and certified. To be considered a competent person, an OSHA 7405 "Fall Hazard Awareness for Construction Industry" (or equivalent) training class and an OSHA NCSH 406 "Scaffold User Course" (or equivalent) must be completed. In addition, the competent person must be knowledgeable of the following:

A. The nature of falls in the work area;
B. The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems used;
C. The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used;

D. The role of each employee in the safety monitoring system when this system is used;
E. The limitations on the use of mechanical equipment during the performance of roofing work on low sloped roofs;
F. The correct procedures for the handling and storage of equipment and material, and the erection of overhead protection;
G. The role of UVM Personnel in fall protection plans;
H. The appropriate VOSHA standards; and
I. Completing UVM's Site-Specific Fall Protection Plan (*Appendix A*).

VII. Retraining

UVM Personnel will require retraining under any of the following conditions:

A. Changes in the workplace render previous training obsolete;
B. Changes in the types of fall protection systems or equipment to be used render previous training obsolete;
C. Inadequacies in an employee's knowledge of use of fall protection systems or equipment or observed behavior indicate that the employee has not retained the required training.
D. Not following the written Site-Specific Fall Protection Plan (*Appendix A*) before work begins.

Training records will be maintained at the Occupational Health and Safety Office. Contact Occupational Health and Safety Office at (802) 656-SAFE (7233) or ohso@uvm.edu for more information on training requirements and scheduling.

FALL HAZARDS

Each UVM Personnel shall be responsible to inspect for potential fall hazards and to have each potential fall hazard evaluated by a competent person.

Fall Hazards may be classified into four general categories:

1. Slips,
2. Trips,
3. Falls on same level, and
4. Falls from elevations.

Slips and trips are generally caused by a lack of good housekeeping and inadequate maintenance of walking and working surfaces. UVM Personnel should keep their area clean and orderly. If they are not equipped to eliminate a hazard, they should contact the appropriate manager, supervisor, and/or maintenance personnel to correct the problem. These hazards may include icy sidewalks, wet floors, torn floor coverings and stair treads, and missing or broken handrails and guard rails.

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 possibly fall four (4) feet (1.2m) for General Industry application and six (6) feet (1.8m) for Construction Industry or more to a lower level.

Personnel should alert their manager and/or supervisor to potential fall hazards not already identified and controlled. The following are fall hazards that require protection:

- Open sided floors, platforms, and runways.
- Open sided floors, ramps, walkways etc. that are adjacent to or above dangerous operations must be guarded, regardless of height.
- Wall openings from where there is a drop to a lower level.
- Open windows from which there is a drop of more than four (4) feet (1.2m) and the bottom of the window is less than three (3) feet (0.9m) above the floor or platform.
- Hatchways, chutes, and other floor openings.
- Any opening where a significant portion of the body is leaning over or through to perform work.
- Skylights that are even with the roof surface or that may otherwise serve as a walking/working surface.
- Scaffolds over six (6) feet (1.8m).
- Aerial lift devices.
- Protection from overhead falling hazards must be provided.
- Placement of toeboards and the use of hard hats shall be required.
- Equipment shall not be stored within six (6) feet (1.8m) of an unprotected edge.
- Canopy structures may be required in high traffic areas.
- The area to which objects could fall must be barricaded and individuals prohibited from entering.
- If individuals need to access the barricaded area, then all overhead work must cease.

RECORDKEEPING

I. Equipment and Device Inspections

Fall Protection equipment and devices are subject to prior to use, annual, and periodic inspections. Inspections should be completed as per the manufacturers' recommendations. Included in ***Appendix B*** are provided examples of inspection checklists for typical fall protection equipment and devices that are on UVM campus.

Annual inspection checklists shall be completed by a competent person and submitted to the Department Managers(s) and/or Occupational Health and Safety Office ohso@uvm.edu.

Additionally, inspection checklists shall be completed by a competent person any time there is a hazardous event, near miss, illness, or injury resulting from use of fall protection equipment or devices.

If a fall protection equipment or device is damaged or needs repairs IMMEDIATELY pull out of service, label "Do Not Use", and notify your supervisor.

II. Training Records

Training records will be maintained within personnel training files within the department the UVM Personnel works in. Applicable training records can be filed and stored within the Occupational Health and Safety Office.

The training record must include the date and time of training, name of trainer/instructor, and name of UVM Personnel.

Contact Occupational Health and Safety Office at (802) 656-SAFE (7233) or ohso@uvm.edu for more information on training requirements and scheduling.

ENGINEERING CONTROLS

Each UVM Personnel shall have a competent person to determine if engineering controls can eliminate or lessen the hazard of the work area or job site. Engineering controls shall be provided where possible to minimize fall hazards.

Engineering controls of fall hazards consist of the following:

I. Guardrails and Toeboards

These requirements apply to temporary controls on job sites as well as permanent fixtures in general work areas.

A. A standard railing consists of a top rail, mid rail, and posts and is forty-two (42) inches (107 cm) high from the top of the rail to the floor, platform, runway or ramp. Nominal height of the mid rail is twenty-one (21) inches (54 cm), erected in manner to be adequate to the working level, such as stilts, raised working surface or ladder, and to prevent materials, tools, and/or materials from falling below.

B. Standard toeboards must be a minimum of three and a half (3.5) inches (8.9 cm) high, no more than a quarter (1/4) inch (0.6 cm) clearance to the floor. If a mesh material is used, the opening must be less than one (1) inch (2.5 cm).

C. Toeboards shall be erected along edges of walking/working surfaces to prevent objects from falling below.

D. 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 two-hundred (200) pounds applied in any direction at any point on the top rail, toeboards capable of withstanding fifty (50) pounds of force in any downward or outward direction.

E. Guardrail systems have a surface that prevents injuries such as punctures and lacerations and prevents snagging of clothing; and

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

G. Guardrail systems shall be inspected as frequently as necessary to ensure that they continue to meet condition and strength requirements.

II. Skylights

Skylights in the work zone must be protected by:

A. a standard railing, standard skylight screen, grill work with four (4) inches by four (4) inches (10 cm x10 cm) openings or slatwork with two (2) inch (5 cm) openings; and

B. standard skylight screens must be capable of withstanding minimum load of two hundred (200) pounds applied perpendicular to any point on the screen and will not deflect under ordinary loads and impacts and break glass.

III. Covers

A. Covers for holes, including grates, shall be capable of supporting, without failure, at least twice the weight of UVM Personnel, equipment, and materials that may be imposed on the cover at any one time.
B. Covers located on roadways and vehicular aisles shall be capable of supporting, without failure, at least twice the maximum axle load of the largest vehicle expected to cross over it.
C. All covers shall be secured when installed so as to prevent accidental displacement by the wind, equipment, or UVM Personnel.
D. Covers shall be marked with the word "HOLE" or "COVER" to provide warning of the hazard when it is not readily apparent.
E. While a cover is not in place, the pit or trap opening shall be constantly attended by someone or shall be protected on all exposed sides by removable standard railings.

IV. Safety Net Systems (not applicable to this written program)

Safety Net Systems are only applicable if specified in a Written Site-Specific Fall Protection Plan (***Appendix A***) and approved by the Occupational Health and Safety Office. If approved, Safety Net Systems shall be provided when workplaces are more than twenty-five (25) feet (7.6 m) above the ground or water surface, or other surfaces where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety harness is impractical. Where safety net protection is required, operations shall not be undertaken until the net is in place and has been tested.

V. Designated Areas and Controlled Access Zone

As an alternative to installing guardrails, a controlled access zone may be established, and are only applicable if specified in a Written Site-Specific Fall Protection Plan (***Appendix A***) and approved by the Occupational Health and Safety Office. The following conditions and requirements must be met in order to use designated areas and controlled access zones in lieu of other fall protection measures:

A. Work within the controlled access zone with a Fall Protection Plan and a safety monitor must be pre-approved by the Occupational Health and Safety Office.
B. The work must be of a temporary nature, such as maintenance on roof top equipment.
C. Designated areas shall be established only on surfaces that have a slope from horizontal of ten (10) degrees or less.
D. The designated area shall consist of an area surrounded by a warning line system of rope, wire, or chain and supporting stanchions.
    1. When control lines are used, they shall be erected not less than six (6) feet (1.8m) nor more than twenty-five (25) feet (7.6 m) from the unprotected or leading edge.
    2. The controlled access zone shall be defined by a control line erected not less than ten (10) feet (3.05 m) nor more than fifteen (15) feet (4.6 m) from the working edge.
    3. Each line shall be flagged or otherwise clearly marked at not more than six (6) foot (1.8 m) intervals with high visibility material.

4. Each line shall be installed in such a manner that its lowest point is no less than thirty-four (34) inches (86 cm) nor more than thirty-nine (39) inches (99 cm) from the work surface.
5. After being erected with the waring line attached, stanchions shall be capable or resisting, without tipping over, a force of at least sixteen (16) pounds applied horizontally against the stanchion.
6. Each line shall have a minimum breaking or tensile strength or two hundred (200) pounds;
7. Each line shall be attached at each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in adjacent sections before the stanchion tips over.
8. Each line forming the designated area shall be clearly visible from any unobstructed location within the designated area up to twenty-five (25) feet (7.62 m) away.
9. The stanchions shall be erected as close to the work area as is permitted by the task.
10. The perimeter of the designated area shall be erected no less than six (6) feet (1.8 m) from the unprotected side or edge; and
11. Access to the designated area shall be by a clear path formed by two (2) lines attached to stanchions.

E. For Safety Monitoring Systems, a competent person will be designated to monitor the safety of other UVM Personnel, and no mechanical equipment shall be used or stored in these areas where UVM Personnel are conducting roof work.
   1. Safety monitor(s) shall be able to recognize fall hazards and warn and correct UVM Personnel that are unaware of a fall hazard or acting in an unsafe manner.
   2. The safety monitor works on the same walking/working surface, maintains visual sighting distance, and is able to communicate orally to UVM Personnel.
   3. The safety monitor has no other responsibility other than ensuring that UVM Personnel avoid and are aware of fall hazards.

PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) shall be used to minimize fall hazards where engineering controls do not eliminate the hazard or in conjunction with engineering controls. Additional details are described under the PPE Program.

Any other PPE deemed necessary for the task under the UVM Personal Protective Equipment Program, state and federal regulations must be worn by UVM Personnel. This includes but is not limited to hard hats, gloves, safety glasses, and safety toed boots. Hard hats shall be worn within an area where there is danger of head injury from impact, or from flying or falling objects. Hard hats shall be worn beneath elevated work where objects could fall from a height and strike a worker.

Fall protection equipment includes I. Restraint, II. Fall Arrest, III. Positioning, and IV. Suspension.

I. Restraint

A restraint line is a device that is attached between the employee and an anchorage point to prevent the employee from walking or falling off an elevated surface. It does not support an employee at an elevated surface, but rather, prevents the employee from leaving the elevated surface or work position. Must be capable of sustaining a tensile load of at least 5,000 pounds.

II. Personal Fall Arrest Systems

A personal fall arrest system consists of a full-body harness, connector(s), lanyard, and anchor point OR a full-body harness, lanyard, connector(s), lifeline, anchor point, and deceleration/grabbing device. All fall protection equipment shall meet or exceed appropriate American National Standards Institute (ANSI) standards. UVM Personnel shall use only commercially manufactured equipment specifically designed for fall protection and certified by a nationally recognized testing laboratory. All fall protection equipment must bear the marking of the manufacturer and approvals for specified use.

Requirements for a personal fall arrest system include but not limited to the following:

A. Personal Fall Arrest Systems

1. Shall limit the maximum arresting forces to one thousand eight hundred (1,800) pounds with a full body harness.
2. The maximum free fall distance is six (6) feet (1.8 m) for all systems.
3. The maximum deceleration distance is three and a half (3.5) feet (1.06 m).
4. Personal fall arrest systems shall have sufficient strength to withstand twice the potential impact energy of the falling employee.
5. Systems and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until inspected and determined by a competent person to be undamaged and suitable for reuse.
6. Shall be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service.

7. Personal fall arrest systems shall not be attached to guardrail systems, nor shall they be attached to hoists except as specified in other regulations.
8. When used at hoist areas, it shall be rigged to allow the movement of the employee only as far as the edge of the walking/working surface.

B. **Body Harness**

1. Only full-body harnesses shall be used. The use of a body belt is prohibited.
2. Used only for employee protection (as part of a personal fall arrest system or positioning device system) and not to hoist materials.

C. **Lanyards and Lifelines**

1. Shall have a minimum breaking strength of five thousand (5,000) pounds.
2. Self-retracting lifelines and lanyards that automatically limit free fall distance to two (2) feet (0.6 m) or less must have components capable of sustaining a minimum tensile load of three thousand (3,000) pounds applied to the device with the lifeline or lanyard in the fully extended position.
3. Lanyards shall not exceed six (6) feet (1.8 m) in length. Lanyards used on aerial lift devices should not exceed four (4) feet (1.2 m) in length to reduce slack.
4. Ropes and straps (webbing) used in lanyards, lifelines, and strength components of body harnesses shall be made from synthetic fibers.
5. Self-retracting lifelines and lanyards shall have a tensile strength of at least three thousand (3,000) pounds and limit free fall to two (2) feet (0.6 m) or less (five thousand (5,000) pounds for rip-stitch lanyards tearing and deforming lanyards).
6. Lifelines shall be protected against cutting and abrasions.
7. Horizontal lifelines shall be designed, installed and used under the supervision of a qualified person, as part of a complete personal fall arrest system, which maintains a safety factor of two.
8. On suspended scaffolds or similar work platforms with horizontal lifelines which may become vertical lifelines, the devices used to connect to a horizontal lifeline shall be capable of locking in both directions on the lifeline.
9. Each employee shall be attached to a separate lifeline when vertical lifelines are used.

D. **Connectors**

1. Shall be drop forged, pressed, or formed steel, or made of equivalent materials.
2. Shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to interfacing parts of this system.
3. Connecting assemblies shall have a minimum tensile strength of five thousand (5,000) pounds.

Anchorage Point and Anchorage Connector

4. Anchorages used for personal fall arrest systems shall be independent of any anchorage being used to support or suspend platforms and be capable of supporting at least five thousand (5,000) pounds per employee attached, or shall be designed, installed (temporarily or permanently), and used as part of a complete fall arrest system which maintains a factor of two and under the supervision of a qualified person.
5. A qualified person shall determine all anchor points, both temporary and permanent. All anchor points shall be properly marked.
6. The following items and structures should NEVER be utilized as anchorage points or connections:
    i. Guardrails
    ii. Wiring harness
    iii. Railings
    iv. Rebar
    v. Ladder rungs or rails
    vi. Lanyards
    vii. Unistrut
    viii. Vents
    ix. Light Fixtures
    x. Conduits, Pipes, or Plumbing
    xi. Fans
    xii. Roof or Chimney Stacks
    xiii. Ductwork
    xiv. Any item or structure not capable of load requirements

III. Positioning

Positioning system (work-positioning system) means 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 windowsill, and work with both hands free.

A. **Positioning devices**

1. Used only in conjunction with a Personal Fall Arrest System, and shall be inspected prior to each use for wear, damage, and other deterioration, and defective components shall be removed from service.

IV. Suspension (not applicable to this written program)

A suspension system is designed to lower and/or raise a worker and support the worker while in that position.

V. Inspections and Maintenance

A. **Impact Loading**

Any fall arrest system or component that has been used to arrest a fall (impact loading) shall be immediately removed from service.

B. **Inspection**

Visual equipment inspections shall be conducted by personnel prior to each use. If, upon inspection, a piece of equipment shows any signs of wear it must immediately be removed from service and the supervisor notified.

C. **Maintenance**

When needed, fall protection devices should be washed as directed by the manufacturer’s recommendations, such as warm water using a mild detergent, rinsed thoroughly in clean warm water, and allowed to dry at room temperature. Stow equipment in clean areas away from strong sunlight and extreme temperatures which could degrade materials. Check the manufacturer's recommendations for cleaning, maintenance, and storage information.

ROOF WORK AND ACCESS

The hazards associated with work on roofs include falling through openings and falling off edges. The protection of openings is discussed in the Engineering Controls section of this program.

Effective roof work fall protection techniques are intended to protect UVM Personnel while providing the mobility and comfort necessary to perform work tasks. Site specific evaluations shall be conducted to determine the most feasible fall protection method. The Occupational Health and Safety Office prefers the utilization of engineering controls to eliminate fall hazards. Several techniques are available and are described below.

I. Low-slope or Flat Roofs

UVM Personnel that have obtained permission to engage in roofing activities on low-slope roofs, with unprotected sides and edges six (6) feet (1.8m) or more above lower levels shall be protected from falling by:

1. Guardrail systems,
2. Restraint system,
3. Personal fall arrest systems, and/or
4. Warning line system and safety monitoring system (must be pre-approved).

The UVM Policy - Roof and High Place Access for Academic or Research Use states "All facility roofs on the University campus are off limits for academic or research purposes except for use of the Votey Hall, Aiken Center, and Adams Building/ROTC roofs". Approved areas must abide by Engineering Controls as per this program.

II. Steep roofs

UVM Personnel that have obtained permission to conduct work on a steep roof with unprotected sides and edges six (6) feet (1.8 m) or more above lower level(s) shall be protected from falling by personal fall arrest systems and/or in combination with guardrail systems with toeboards.

SCAFFOLDS

Use of Scaffolds can be selected for use in a provided Fall Protection Plan and approved by the Occupational Health and Safety Office.

I. Selection

All scaffolds used shall be designed by a qualified person. The proper scaffold selected for the task by the competent person is based upon the type of work to be conducted and the workload to be supported. Eash scaffold component shall be capable of supporting, without failure, its own weight and the least four (4) times the maximum intended load applied or transmitted to it.

1. Light duty scaffolds are intended for workers and tools only. The design load should be that it will support a working load of twenty-five (25) pounds per square foot.
2. Medium duty scaffolds are intended for workers, tools and construction materials. The design load should be that it will support a working load of fifty (50) pounds per square foot.
3. Heavy duty scaffolds are intended for workers, tools, stored materials, and construction materials. The design load of the scaffold should be that it will support a working load of seventy-five (75) pounds per square foot.

Scaffold components from different manufacturers cannot be used in conjunction, forced to fit together, or modified in assembly unless determined by a competent person and the structural integrity is not compromised.

II. General Requirements

Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection, moving, dismantling, or alteration. Such activities shall be performed only by experienced and trained UVM Personnel selected for such work by the competent person. Follow all manufacturer's guidelines and special warnings if the scaffold is commercially produced.

1. Areas on, around, and below scaffolds shall be barricaded and only authorized personnel provided access.
2. Fall Protection System(s) that meet state and federal regulations are required for all scaffold use six (6) feet (1.8 m) above a lower level to prevent UVM Personnel, materials, or objects from falling below.
3. Scaffolds and components shall not be loaded more than intended purpose.
4. Scaffolds shall be assembled on level, rigid, and firm foundations. Legs, poles, posts, frames, and uprights shall be on base plates, mud sills, or other adequate footing.
5. Working platforms should be stable, fully planked or decked, with no more than one (1) inch (2.5cm) space between the platform and the uprights, and have a nonslip surface.
6. All work platform planking shall be compliance grade lumber, wood, aluminum, plywood planking, steel or expanded metal for the full width of the scaffold, except for necessary protected openings.

7. Planks shall be overlapped a minimum of twelve (12) inches (30 cm) and extended over supports no less than twelve (12) inches (30 cm).
8. Working platforms can be no less than eighteen (18) inches (46 cm) wide.
9. Work platforms shall be secured in position.
10. The platform surface should be kept clear of extraneous tools and materials.
11. All scaffolds, where work is conducted in excess of six (6) feet (1.8 m) in height, shall have at least a three and one half (3.5) inches (9 cm) toeboards or mesh netting.
12. Toeboards should be sized based on objects or materials on the scaffolding.
13. The maximum work level height shall not exceed four (4) times the least base dimension of the scaffold, otherwise bracing, tying, or guying is required.
14. The supporting structure for the scaffold must be rigidly braced, using adequate cross bracing or diagonal bracing with rigid platforms at each work level.
15. Follow all manufacturer guidelines in the assembly of the scaffold. Do not use or assemble the scaffold, if unsure of the correct assembly procedure.
16. Hard hats must be worn at and within an area beneath elevated work where objects could fall from a height and strike a worker.
17. A scaffold shall not be moved while personnel are on it.
18. Mobile scaffolds shall not be moved unless the surface of travel is within 3 degrees of level and free of pits, holes and obstructions. Employee shall not be on scaffold while being moved.
19. Scaffolds will not be erected, used, dismantled, altered, or moved to where conductive components are close to or in contact with powerlines or other energized equipment.
20. No work will be conducted on or around scaffolds during storms or high winds.
21. Portable ladders will not be used on scaffolds to increase height to working level(s).

III. Inspection of Scaffolds

Prior to the use of any scaffold, an inspection must be conducted, and then daily during usage of the scaffold by a competent person.

1. Carefully examine the scaffold for broken or missing cross bracing, broken supporting structure, working platform, and other damaged parts. In addition, all walking and working surfaces must be free of grease, oil, paint, or other slippery substances.
2. Mobile scaffolds should be equipped with positive wheel lock casters that are secured in place.
3. The joint between the working platform and supporting structure must be tight, and all hardware and fittings should be attached firmly. Movable parts should operate freely without binding or undue play.
4. All wood parts must be free of sharp edges and splinters. Visually inspect the scaffold to be free of shakes, warpage, decay, or other irregularities. Metal parts must be free of sharp edges, burrs, and corrosion. Inspect for dents or bends in supporting structure, cross braces, and walking/working surfaces.

5. Check all working platforms to support structure connections, hardware connections and rivets. If a scaffold tips over, inspect the scaffold for damage before continuing work.
6. Damaged scaffolds must be withdrawn from service and either repaired, replaced, or destroyed. When a defect or unsafe condition is found, personnel shall tag or mark the scaffold so that it will not be used until corrective action is taken.
7. Defective or unsafe situations shall be reported to the supervisor. Field repairs and the fabrication of improvised scaffold are prohibited.

IV. Maintenance of Scaffolds

All scaffold repairs must be done by a qualified person.

V. Storage of Scaffolds

Scaffolds should be disassembled prior to storage. Scaffolds should be stored where they can be inspected easily and can be reached without causing accidents. The storage area should be well ventilated and away from sources of heat and moisture.

AERIAL LIFTS

Aerial lifts include the following types of vehicle mounted aerial devices used to elevate personnel to job sites above ground:

- **Articulating boom platforms** are designed to reach up and over obstacles.
- **Extensible or telescoping boom platforms** may extend over one hundred feet.
- **Vehicle mounted bucket lifts.**
- **Scissor lifts** extend into the air via a series of crisscross supports.
- **Personal man lifts** are lightweight and designed for one person to use indoor.

Aerial lifts can be selected for use in a provided Fall Protection Plan and approved by a competent person or the Occupational Health and Safety Office.

I. General requirements

A. Aerial equipment may be made of metal, wood, fiberglass reinforced plastic (FRP), or other material; may be powered or manually operated.
B. Aerial lifts shall not be used other than the intended purpose by the manufacturer.
C. Pre-operational checklist shall be completed before start.
D. A barricade or barrier shall be established to limit access to the work area.

II. Specific requirements

A. Aerial ladders shall be secured in the lower traveling position before the truck is moved for highway travel.
B. Lift controls shall be tested each day prior to use.
C. Controls shall remain clearly marked as to their function.
D. Only properly trained personnel authorized by a fall protection competent person shall operate an aerial lift.
E. UVM Personnel shall always stand firmly on the floor of the basket and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.
F. A full-body harness shall be worn, and a lanyard attached to the boom or basket when working from an aerial lift (exception: a harness is not required in a scissor lift or personal man lift with surrounding guardrail system and closing gate or latch chain).
G. Belting off to an adjacent pole structure, or equipment while working from an aerial lift shall not be permitted.
H. Boom and basket load limits specified by the manufacturer shall not be exceeded.
I. An aerial lift truck shall not be moved when the boom is elevated in a working position, except for equipment which is specifically designed for this type of operation.
J. The brakes shall be set and when outriggers are used, they shall be positioned on pads or other solid surface. Wheel chocks shall be installed when using an aerial lift on an incline.
K. Articulating and extensible boom platforms shall have both platform and ground controls.

L. Before moving an aerial lift for travel, the boom shall be inspected to ensure that it is properly cradled, and outriggers are in the stowed position.

III. Minimum Safe Approach Distances (M.S.A.D)

The minimum safe approach distances to energized power lines and parts must be ten (10) feet (3m) and maintained at all times. When working within the ten (10) feet (3m) range contact local utilities to insulate the power line.

PORTABLE LADDERS

I. Use of Portable Ladders

The proper ladder must be selected for the task.

II. General Requirements

General rules include the following:

A. The ladder chosen must be long enough to provide access to the work area without necessitating standing on the top two steps and platform of a stepladder or the top three rungs of a straight ladder; top two steps and platform of a stepladder or the top three rungs of a straight ladder shall not be used.

B. The ladder selected must be sufficient for the weight of the employee plus the weight of any tools and materials; and not be loaded beyond manufacturer's rated capacity:

   i. TYPE 1AA – Special Duty, Rugged Ladder. Supports 375 lbs.
   ii. TYPE 1A – Extra Heavy Duty, Industrial Ladder. Supports 300 lbs.
   iii. TYPE 1 – Heavy Duty, Industrial Ladder. Supports 250 lbs.
   iv. TYPE 2 – Medium Duty, Commercial Ladder. Supports 225 lbs.
   v. TYPE 3 – Light Duty, Household Ladder. Supports 200 lbs.

C. Wood ladders or on-job-made ladders shall not be selected for use without submitting a Fall Protection Plan and permission from the Occupational Health and Safety Office.

D. When a straight ladder is used to gain access to a roof or upper working level, the side rails should extend at least three (3) feet (1 m) above the support point at the eave, gutter, or roof line.

E. Never splice together short ladders to form a longer ladder. Ladders and sections shall not be tied or connected to add additional length to reach working level.

F. Never place ladders on boxes, barrels, or other unstable bases for additional height.

G. Ladders must be placed on level surfaces. Although ladder feet or shoes provide an important measure of safety, they cannot compensate for uneven ground unless they are designed with adjustable feet.

H. Ladder rungs, steps, and cleats should be parallel, level, and uniformly spaced when positioned for use.

I. Be alert to slippery surfaces. Nonslip bases are not a substitute for safety in placing, lashing, or holding a ladder on oily, metal, concrete, or other slippery surfaces.

J. Do not use a self-supporting ladder (A-frame, stepladder) as a single/straight ladder or in a partially closed position. Spreaders should be in a locked position.

K. Do not use ladders for unintended purposes.

L. Do not use a metal ladder when working on or near electrical equipment, only a properly rated non-conductive ladder should be used.

M. The lean ratio for a straight ladder shall be four to one (4:1); the distance from the bottom of a straight ladder to its support wall shall be one-quarter the working length of the ladder.

N. Where possible, straight ladders should be secured with a rope or wire at the top and blocked at the bottom.
O. Do not over-reach, jump, or slide a ladder while on it. Ladders shall not be moved, shifted, or extended while occupied.
P. Always face the ladder and use both hands while ascending and descending.
Q. Three points of contact must be achievable while ascending and descending the ladder.
R. Tools or materials should be raised by means of a rope after the climber has reached the working position. Carrying heavy loads up or down ladders is prohibited.
S. Ladders should be secured and/or barricades and warning signs should be posted when ladders are placed near doors, walkways, or other locations where they could be struck or displaced.
T. Two workers shall handle and set up all extension ladders.
U. Ladders should not be used by more than one (1) person at a time unless they are designed for such use.
V. The bracing on the back side rails of stepladders is designed only for increasing stability, not for climbing.
W. Ladders shall not be used horizontally as platforms, runways, or scaffolds.
X. Extension ladders must have proper overlap.

i. Three (3) foot overlap for 32-foot ladder,
ii. Four (4) foot overlap for 32-to-36-foot ladder,
iii. Five (5) foot overlap for 36-to-48-foot ladder, and
iv. Six (6) foot overlap for 48-foot ladder.

Y. Make certain that both automatic locks of the extension ladder are in proper position before ascending the ladder.
Z. Straight ladders and stepladders that exceed ten (10) feet (3 m) may be held by another person for steadying.
AA. The area around the top and bottom of the ladder shall be kept clear.
BB. Hard hats must be worn within an area beneath elevated work where objects could fall from a height and strike a worker.

III. Inspection of Portable Ladders

Ladders should be inspected by a competent person on a regular basis. Prior to use of any ladder, an inspection must be performed:

A. Carefully examine the ladder for broken or missing rungs or cleats, broken side rails, and other damaged parts.
B. All cleats, rungs, and side rails must be free of grease, oil, paint, or other slippery substances.
C. The ladder should be equipped with feet that are secured in place.
D. The joint between steps and side rails must be tight, and all hardware and fittings should be attached firmly. Movable parts should operate freely without binding or undue play.
E. All parts must be free of sharp edges, burrs, splinters, and corrosion.

F. Visually inspect the ladder to be free of shakes, warpage, decay, or other irregularities.
G. Inspect for dents or bends inside rails, rungs, or cleats.
H. Check step to side rail connections, hardware connections, and rivets.
I. If a ladder tips over, inspect the ladder for damage before continuing work.

IV. Maintenance of Portable Ladders

Damaged ladders must be withdrawn from service and either repaired or destroyed. When a defect or unsafe condition is found, personnel should tag or mark the ladder "Do Not Use" so that it will not be used until corrective action is taken. Defective or unsafe conditions must be reported to the supervisor.

A. Field repairs and the fabrication of improvised ladders are prohibited.
B. Never try to straighten a bent or bowed ladder. Remove it from service immediately.
C. Do not paint wooden ladders with solid color paints. This may mask cracks in the wood and make them hard to see. Clear wood preservative can be used to protect bare wood.
D. If exposed to grease, oils, or other slippery substances, the ladder must be cleaned of the substance with solvents or steam. If the slippery substance is not completely removed, the ladder must be removed from service.

V. Storage of Portable Ladders

Ladders should be stored where they can be inspected easily and can be reached without causing accidents or injuries.

FIXED LADDERS

Fixed ladders need to be capable of supporting their maximum intended load.

I. General Requirements

In additional to Portable Ladder, general rules include the following:

A. Fixed ladders should be designed to withstand a single concentrated load of at least two hundred (200) pounds.
B. The preferred pitch for a safe descent is 75 to 90 degrees. Ladders with 90-degree pitch must have two and one half (2.5) feet (0.8 m) of clearance on the climbing side. There must be a three-foot clearance on ladders with a 75-degree pitch;
C. Rungs of metal ladders must have minimal diameter of three quarters (3/4) inch (2 cm). Rungs must be at least sixteen (16) inches (41 cm) wide and be spaced twelve (12) inches (30.5 cm) apart.
D. Fixed Ladders, when their location so demands, must be painted or treated with a preservative to resist deterioration.
E. There must be at least a seven (7) inch clearance in back of the ladder to provide adequate toe space.
F. There must be a clear width of fifteen (15) inches (38 cm) on each side of the center line of the ladder, unless the ladder is equipped with a cage or well.
G. Fixed ladders must have cages if they are longer than twenty (20) feet (6 m). Landing platforms must be provided on ladders greater than twenty (20) feet (6 m) long. A platform is required every thirty (30) feet (9 m) for caged ladders and every twenty (20) feet (6 m) for unprotected ladders; and
H. A cage is still permissible for existing fixed ladders erected before November 19, 2018, up until the time a cage, well, or any ladder section requires replacement, at which time a ladder safety or personal fall arrest system must be installed, or until November 19, 2036, when all fixed ladders must have a personal fall arrest or ladder safety system.
I. Side rails must extend at least forty-two (42) inches (107 cm) above the landing.
J. The area around the top and bottom of the ladder shall be kept clear.
K. Always face the ladder and use both hands while ascending and descending.
L. Three points of contact must be achievable while ascending and descending the ladder.
M. Fixed ladders that extend greater than twenty-four (24) feet (7.3m) will either have a ladder safety system installed, personal fall arrest system used, cage, or well equipped.

II. Inspection and Maintenance of Fixed Ladders

Fixed ladders should be inspected by a competent person on a periodic basis. Damaged ladders must be withdrawn from service and either repaired or destroyed. When a defect or unsafe condition is found, personnel should block and/or tag or mark the ladder “Do Not Use” so that it will not be used until corrective action is taken. Defective or unsafe conditions must be reported to the supervisor.

A. Repairs shall restore the ladder to the original function and condition.
B. If exposed to grease, oils or other slippery substances, the ladder must be cleaned of the substance with solvents or steam. If the slippery substance is not completely removed, the ladder must be removed from service.

STAIRWAYS

The following applies to all stairs around equipment, machinery, tanks etc. They do not apply to stairs used for fire exits. Additional Fall Protection Systems are required where there are unprotected edges and sides along stairs and landings.

I. General Requirements

A. Each flight of stairs having at least three (3) treads and at least four (4) risers is equipped with stair rail systems and handrails.
B. Handrails and top rails of stair rail systems shall be capable of withstanding, without failure, a force of at least two hundred (200) pounds applied within two (2) inches (5 cm) of the top edge, in any downward or outward direction, at any point along the top edge.
C. Handrails shall be between thirty (30) inches (76 cm) to thirty-seven (37) inches (94 cm) in height and have a minimum clearance if three (3) inches (8 cm) from the wall or other objects.
D. Midrails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members, shall be provided between the top rail of the stair rail system and the stairway steps.
E. Riser height and tread width of fixed industrial stairs should be uniform throughout any flight of stairs.
F. All treads must be reasonably slip resistant.
G. Minimum tread width is twenty-two (22) inches (56 cm), minimum tread depth is nine and one half (9.5) inches, and maximum riser height is nine and one half (9.5) inches (24 cm).
H. The minimum permissible size of a stairway landing or platform is twenty-two (22) inches (56 cm) by thirty (30) inches (76 cm).
I. The angle to the horizontal made by the stairs must be between 30 and 50 degrees.
J. All stairs should have adequate lighting, free of hazardous projections, such as protruding nails, or other causes of punctures or lacerations, and snagging of clothing.
K. and
L. Each stair can support at least five times the normal anticipated live load, but never less than a concentrated load of one thousand (1,000) pounds applied at any point.

II. Spiral, Ship, or Alternating Tread Stairs

Spiral, ship, or alternating type stair treads are permitted if they are installed, used, and maintained according to the manufacturer's recommendations.

A. Spiral Stairs shall have:
    i. Minimum clear width of 26 inches (66 cm),
    ii. Maximum riser height of 9.5 inches (24 cm),
    iii. Minimum headroom above of at least 6 feet, 6 inches (2m), and
    iv. Minimum tread depth of 7.5 inches (19 cm).

B. Ship Stairs shall:

i. Be installed at an angle of 50 to 70 degrees,
ii. Have open risers with a vertical rise between tread surfaces of 6.5 to 12 inches (17 to 30 cm),
iii. Have minimum tread depth of 4 inches (10 cm), and
iv. Have a minimum tread width of 18 inches (46 cm).

C. Alternating Stairs shall:
i. Be installed at an angle of 50 to 70 degrees,
ii. The stairs must be equipped with a handrail at each side to assist the workers in climbing or descending,
iii. Have a minimum tread depth of 8.5 inches (22 cm),
iv. Have open risers if the tread depth is less than 9.5 inches (24 cm), and
v. Have a minimum tread width of 7 inches (18 cm).

WALKING AND WORKING SURFACES

UVM Personnel shall be protected from where there is potential or identified fall hazards at or above four (4) feet along walkways, ramps, and other typical working surfaces. In general, all areas of the workplace should be kept clean, orderly, sanitary, and as dry as possible.

These guidelines apply to work areas, passageways, storerooms, and service rooms:

A. All spills should be cleaned promptly. Floors in work areas must be kept free of gross debris, scraps, chips, oil spills, and other debris.
B. Boxes, chairs, buckets, desks, or any other device not specifically intended for use in extending reach shall not be used.
C. Areas which are constantly wet should have non-slip surfaces or mats where workers may walk or work. Where wet processes are used good drainage must be maintained.
D. Every floor, working place, and passageway must be maintained free from protruding nails, splinters, holes, and loose boards.
E. Where mechanical handling equipment is used, such as lift trucks, sufficient safe clearance must be provided for foot and vehicular traffic.
F. Areas where there is dangerous equipment must be guarded and fall protection systems in place to prevent UVM Personnel or objects from falling into or onto equipment.
G. No obstructions that could create a hazard are permitted in aisles. All permanent aisles must be easily recognizable.
H. Loading docks greater than four (4) feet (1.2m) above the ground must be protected. The approved method of protection is the installation of a standard guardrail system. The guardrail may have removable sections to provide access for loading, but rails must remain in place when access is not required.
I. Surfaces should be inspected periodically, or as necessary.
J. For areas where hazards cannot be eliminated or repaired immediately, the area must be barricaded to prevent use of the walking/working surface until appropriate corrections can be made by a competent person.
K. As a general condition, a standard toe board or mesh netting, and guardrail are required wherever people walk near or beneath the open sides of a platform or similar structures; where things could fall from a structure; or where things could fall from a structure into machinery below.

SITE SPECIFIC FALL PROTECTION PLAN

It is possible that during leading edge work (29 CFR 1926.501(b) (2)), precast concrete erection (29 CFR 1926.501(b)(12)), or residential construction (29 CFR 1926.501(b)(13)), it may be infeasible or may create a greater hazard to use conventional fall protection for a specific task. In those circumstances, employers may implement a fall protection plan that complies with 29 CFR 1926.502(k).

While OSHA only requires a written fall protection plan for employees engaged in leading edge work, precast concrete erection work, or residential construction work who can demonstrate that it is infeasible or it creates a greater hazard to use conventional fall protection equipment, the Center for Construction Research and Training (CPWR)[1] believes that developing and implementing a detailed fall protection plan is essential to protect all workers at risk for a fall. Refer to ***Appendix A*** to view UVM's written Site Specific Fall Protection form.

RESCUE PLANS AND EQUIPMENT

UVM Personnel cannot stay suspended for long and are at risk of reduced blood flow, oxygen deprivation, brain damage, cardiac arrest and death. According to the American National Standards Institute (ANSI) Standard Z359, rescue should be completed within six minutes of a fall arrest. All workers using fall arrest systems must be monitored and promptly rescued in the event of a fall. In addition to rescue equipment available onsite, use of self-rescue devices is recommended.

The following must be established and are important components of a rescue plan:

- Competent person(s) must be onsite and understand the physical environment.
- A rescue team of trained personnel, or 9-1-1, must be determined, and estimated response time known, such as is the team onsite or on standby.
- The team understands the type of rescue that may be necessary in case of a fall.
- A Job Hazard Analysis (JHA) of the rescue must be performed.

Fall arrest rescue equipment that need to be available onsite when fall arrest equipment used include:

- First aid kit and defibrillator
- Anchor straps and connectors
- Lifting or lowering device
- Ladders
- Rescue poles
- Rescue ropes
- Rescue wrench
- Crane
- Aerial lift
- Scaffold

[1] CPWR serves as the National Construction Center for the National Institute for Occupational Safety and Health (NIOSH), CPWR's objective is to continue to reduce injuries and illnesses in the construction industry.

DEFINITIONS

29 CFR 1910 General Industry	standards that govern general industry safety regulations applied to most work sites and refers to all industries not included in agriculture, construction or maritime.
29 CFR 1926 Construction Industry	standards that govern construction industry safety regulations including roofing.
Aerial Lift Device	means equipment such as powered platforms, vehicle-mounted elevated and rotating work platforms, extensible boom platforms, aerial ladders, articulating boom platforms, vertical towers and powered industrial truck platforms.
Anchorage/ Anchor Point	a secure point of attachment for lifelines, lanyards, or deceleration (grabbing) devices.
ANSI	means American National Standards Institute.
Body Belt	a strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration (grabbing) device. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.
Body Harness (also referred as Full-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.
Buckle	means any device for holding the body belt or body harness closed around the employee's body.
Competent Person	means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to UVM Personnel, and who has authorization to take prompt corrective measures to eliminate them. Additionally, a person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as in their application and use with related equipment. To be considered a competent person, an eight (8) hour training class must be completed for general fall protection and an additional four (4) hour training class must be completed. To be considered a competent person for equipment inspections, the manufacturer's training guidelines shall be followed.
Connector	a device that is used to connect parts of a personal fall arrest system together (i.e. D-rings, and snap-hooks).
Controlled Access Zone (CAZ)	means 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.

Deceleration Device	any mechanism, such as a rope, grabbing device, rip-stitch lanyard, specially woven lanyard, or automatic self-retracting lifeline/lanyard, which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limits the energy imposed on an employee during fall arrest.
Deceleration Distance	the additional vertical distance a falling person travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which a deceleration device begins to operate.
Defect	means any characteristic or condition which tends to weaken or reduce the strength of the tool, object, or structure of which it is a part.
Designated Area	a space which has a perimeter barrier erected to warn UVM Personnel when they approach an unprotected side or edge and serves also to designate an area where work may be performed without additional fall protection.
Failure	means load refusal, breakage, or separation of components parts. Load refusal is the point where the ultimate strength is exceeded.
Fixed Ladder	a ladder, including individual rung ladders, which is permanently attached to a structure, building, or equipment. It does not include ship's stairs or manhole steps.
Free Fall	means the act of falling before personal fall arrest system begins to apply force to arrest the fall.
Free Fall Distance	means the vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall. 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.
Guardrail	a barrier erected to prevent personnel from falling to lower levels.
Hole	a gap or a void 2 inches (5.1 cm) or more in its least dimension in a floor, roof, or other walking/working surface.
Horizontal Lifeline	a flexible line between two horizontal fixed anchorages to which a fall arrest device is connected.
Infeasible:	means 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.

Ladder	a device typically used to gain access to a different elevation consisting of two or more structural members crossed by rungs, steps, or cleats.
Lanyard	a flexible line of rope or strap that generally has a connector at each end for connecting the body harness to a deceleration device, lifeline or anchor point.
Leading Edge	means 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.
Lifeline	means 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.
Lower Levels	means those areas or surfaces to which an employee can fall. Such areas include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits tanks, material, water, equipment, structures, or portions thereof.
Low-Slope Roof	means having a slope less than or equal to 4 in 12 (vertical to horizontal).
Mechanical Equipment	means all motor or human propelled wheeled equipment used for roofing work, except wheelbarrows and mop carts.
Opening	A gap or void 30 inches (76 cm) or higher and 18 inches (48 cm) or more wide, in a wall or partition, through which UVM Personnel or personnel can fall to a lower level.
Overhand Bricklaying and Related Work	means the process of laying bricks and masonry units such that the surface of the wall to be jointed is on the opposite side of the wall from the mason, requiring the mason to lean over the wall to complete the work. Related work includes mason tending and electrical installation incorporated into the brick wall during the overhand bricklaying process.
Personal Fall Arrest System	means a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.

Positioning Device system	means a body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.
Qualified Person	one with a recognized degree or professional certificate, and knowledge and experience in the subject field who is capable of design, analysis, evaluation and specifications in the subject work, project, or product.
Restraint line	a device which is attached between the employee and an anchorage to prevent the employee from walking or falling off an elevated surface.
Rope Grab	means a deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.
Roof	means 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.
Roofing work	means 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.
Rope grab (grabbing device)	A deceleration device that travels on a lifeline and automatically, by friction, engages the lifeline and locks to arrest a fall.
Safety Factor	Means the ratio of the ultimate breaking strength of a member or piece of material or equipment to the actual working stress or safe load when in use.
Safety-Monitoring System	means a safety system in which a competent person is responsible for recognizing and warning UVM Personnel of fall hazards.
Scaffold	means any temporary elevated or suspended platform, at its supporting structures, used for supporting UVM Personnel or materials or both.
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 movement and which, after onset of a fall, automatically locks the drum and arrests the fall (usually within two (2) feet (0.6m) or less).
Snaphook	A connector consisting 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. **Only locking snap hooks are permitted at the University of Vermont.**

	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 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.
Standard Railing	a vertical barrier erected along exposed edges of a floor opening, wall opening, ramp, platform, or runway to prevent falls of persons.
Steep Roof	means a roof having a slope greater than 4 in 12 (vertical to horizontal).
Toeboard	a low protective barrier that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel.
Tie-Off	a procedure of connecting directly or indirectly to an anchorage point.
Unprotected Sides and Edges	means any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or guardrail system at least 39 inches (1.0 m) high.
Vertical Lifeline	a component consisting of a flexible line for connection to an anchor point at one end to hang vertically and that serves as a means for connecting other components of a personal fall arrest system to the anchor point.
Walking/ Working Surface	means any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, form work and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which UVM Personnel must be located in order to perform their job duties.
Warning Line System	means a barrier erected on a roof to warn UVM Personnel that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body belt, or safety net systems to protect UVM Personnel in the area.
Work Area	means that portion of a walking/working surface where job duties are being performed.

APPENDIX A

Written Site-Specific Fall Protection Plan

Department of Environmental Health & Safety
Occupational Health & Safety Office

321 Ryan Street,
Essex, Vermont 05452

Site-Specific Fall Protection Plan

Identifying Fall Hazards

In accordance to OSHA regulations and industry best work practices, any time UVM Personnel (employees (faculty/staff), students, and visitors, including contractors and consultants) is occupying or working exposed to unprotected sides or edges of a working surfaces of four (4) feet (1.2m) for General Industry (29 CFR 1910) application and six (6) feet (1.8m) for Construction Industry (29 CFR 1926) or more above a lower level, a fall hazard exists.

When a hazard can be eliminated, it is the employer's obligation to do so either by changing procedures, redesigning the work environment, or using passive fall protection (e.g., guardrails, handrails, etc.). When this is not possible, use of a personal fall protection system such as restraint or fall arrest may be required.

Applicable VOSHA Regulation:

- VOSHA 29 CFR 1910 Subpart D
- VOSHA 29 CFR 1910 Subpart I
- VOSHA 29 CFR 1910 Subpart F
- VOSHA 29 CFR 1910 Subpart R – 1910.268
- VOSHA 29 CFR 1926 Subpart L
- VOSHA 29 CFR 1926 Subpart M
- VOSHA 29 CFR 1926 Subpart X

Project Number	**Description**	
Department	**Building/Location**	
Plan Prepared By		
Print Name	Email	Phone
Plan Approved By		**Date:**
Print Name	Email	Phone
Project Details		
Start Date	Estimated Completion Date	
Site Address		
Site Description/Work Area		
Tasks		
Designated Fall Protection Competent Person		

Print Name	Email	Phone

Roof Work Related Fall Hazards	☐ YES	☐ NO	☐ N/A
Roof or Elevated Surface 6ft. above ground or lower level	☐ YES	☐ NO	☐ N/A
Roof or Elevated Surface 4ft. above a hazard	☐ YES	☐ NO	☐ N/A
Unprotected sides and edges	☐ YES	☐ NO	☐ N/A
Unprotected opening (wall opening, hole, skylight, etc.)	☐ YES	☐ NO	☐ N/A
Roofing Work	☐ YES	☐ NO	☐ N/A
Roof Type	☐ SLOPED	☐ FLAT	☐ N/A
Roof Slope (if applicable):	(degrees or ratio)		☐ N/A
Max. Working Height:	(feet)		☐ N/A
Proximity to powerlines (if applicable):	(feet)		☐ N/A

Site Specific Fall Hazards	☐ YES	☐ NO	☐ N/A

☐ Ladder Use	☐ Aerial/Scissor Lift	☐ Skylight	☐
☐ Wall Opening	☐ Roof Opening	☐ Falling Objects/ Debris	☐
☐ Elevator Shaft	☐ Mobile Platform	☐ Sharp Edges	☐
☐ Excavation/Trench	☐ Floor Opening	☐ Dangerous Equipment	☐
☐ Stairways	☐ Scaffold	☐ Other (specify)	☐

Describe Other Identified Fall Hazards:

Comments:

Type of Engineering Controls Used	☐ YES	☐ NO	☐ N/A

☐ Guardrail System	☐ Skylight Guards, Screens	☐ Covers	☐
☐ Toeboards	☐ Safety Net System	☐ Catch Net	☐
☐ Barricades	☐ Warning Signs	☐ Other (specify)	☐

Comments:

Type of Personal Protective Equipment Used	☐ YES	☐ NO	☐ N/A

☐ Fall Restraint	☐ Fall Arrest	☐ Full Body Harness	☐ Other (specify)
☐ Vertical Lifeline	☐ Lanyards	☐ Rope Grab	☐
☐ Horizontal Lifeline	☐ Decelerating Device	☐ Anchors	☐
☐ Hard Hats	☐ Eye Protection/ Safety Glasses	☐ Gloves (specify)	☐

Comments: *Click here to enter text.*			
Designated Work Area and Controlled Access Zone	☐ YES	☐ NO	☐ N/A
☐ Warning Line System	☐ Safety Monitor(s) Assigned	☐	
☐ Temporary Guardrail System	☐ Toeboards	☐	
☐ Signage	☐ Other (Specific Below)	☐	
Comments:			

Prior to Accessing Work Area			
Occupant Notification Sent	☐ YES	☐ NO	☐ N/A
Comments:			
Equipment Checklist(s) Completed (*Appendix B*)	☐ YES	☐ NO	☐ N/A
Comments:			
PPE Available	☐ YES	☐ NO	☐ N/A
Comments:			
First Aid Attendant/Facilities/Equipment	☐ YES	☐ NO	☐ N/A
Comments:			
Barricades in Place	☐ YES	☐ NO	☐ N/A
Comments:			
Rescue Plan	☐ YES	☐ NO	☐ N/A
Comments:			
Other (specify)	☐ YES	☐ NO	☐ N/A
Comments:			

Provide Diagram or Attach Site Plan indicating fall hazard locations, anchor point locations, and other important information pertaining to fall protection.

Project Number	Description
Department	**Building/Location**

EMERGENCY AND ASSISTANCE – POST FALL RESCUE & EMERGENCY TELEPHONE NUMBERS

No work will be performed where an emergency cannot be immediately observed and/or prompt rescue assistance summoned.

A rescue plan shall be in place prior to beginning any work where a fall hazard exists. The rescue plan must be well thought out and documented in the "Job Specific Emergency Action Plan" (*Appendix A*). All individuals involved must thoroughly understand the rescue plan. Prompt rescue will be provided for personnel who have fallen.

FIRE – POLICE – RESCUE – EMERGENCY MEDICAL SERVICE……. 9-1-1

If you dial 911 from ANY phone, it will now be answered by a State of Vermont e911 dispatcher. Tell them you are at the University of Vermont! Provide them with your building address, building name and lab room number as well as the details of your emergency.

CALL IMMEDIATELY FOR ANY EMERGENCY
INCLUDING CHEMICAL SPILL, FIRE, INJURED,
TRAPPED, OR SICK PERSON.

UVM POLICE SERVICES…… (**802) 656-3473**
FIRE – POLICE – RESCUE – EMERGENCY MEDICAL SERVICE

CALL IMMEDIATELY FOR ANY EMERGENCY
INCLUDING CHEMICAL SPILL, FIRE, INJURED,
TRAPPED OR SICK PERSON.

Department of Environmental Health and Safety……. (802) 656-7233
Occupational Health and Safety Office

Service Operations Support……. (802) 656-2560
(Physical Plant Department, Chemical cleanup, disposal and storage)

Department of Risk Management…… (802) 656-3242
(Accident investigations, insurance services)

Champlain Medical Urgent Care……. (802) 448-9370

EMERGENCY and RESCUE PLAN

Workers cannot stay suspended for long and are at risk of reduced blood flow, oxygen deprivation, brain damage, cardiac arrest and death. According to the American National Standards Institute (ANSI) Standard Z359, rescue should be completed within six (6) minutes of a fall arrest. All workers using fall arrest systems must be monitored and promptly rescued in the event of a fall. In addition to rescue equipment available onsite, use of self-rescue devices is recommended.

Prior to Accessing Work Area				
Fall Arrest Rescue Equipment Onsite		☐ YES	☐ NO	☐ N/A
☐ Ladder	☐ Rescue Pole	☐ Rescue Rope		
☐ Rescue Winch	☐ Crane	☐Aerial Lift		
☐ Scaffold	☐ Self-Rescue Device(s)	☐ Other (specify)		
Comments:				
Safety Monitor Onsite		☐ YES	☐ NO	☐ N/A
Comments:				
Adequately Trained Rescue Personnel Onsite		☐ YES	☐ NO	☐ N/A
Comments:				
Other Rescue Procedures		☐ YES	☐ NO	☐ N/A
Comments:				

Worker Sign-Off

I acknowledge that I have reviewed the fall protection requirements and procedures for this site with my supervisor and understand my responsibilities, specifically the requirement to use personal fall protection.

Project Number	**Description**

Date

Worker Name (please print)	**Signature**

Site Supervisor/Manager/Designated Fall Protection Competent Person:		**Date:**
Print Name	Email	Phone

University of Vermont

APPENDIX B

Inspection Checklists

Department of Environmental Health & Safety
Occupational Health & Safety Office

321 Ryan Street,
Essex, Vermont 05452

STAIRWAY INSPECTION CHECKLIST

- Include and submit checklist(s) to UVM Project Supervisor(s) and Occupational Health and Safety Office ohso@uvm.edu.
- If repairs are needed, IMMEDIATELY pull out of service, label "Do Not Use", and notify your supervisor.

Project Number	**Description**	
Department	**Building**	**Location**
Inspection Completed By (Signature):		**Date:**
Print Name	Email	Phone

Stairway Type (select all that apply)			
☐ Permanent	☐ Temporary	☐ Standard	☐ Other (specify):
☐ Spiral	☐ Ship	☐ Alternating	☐
Stairway Material (select all that apply)			
☐ Fiberglass	☐ Metal	☐ Wood	☐Other (specify):

Stairway Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
1	Stairways with four (4) or more stairs are equipped with stair rails or handrails.	☐	☐	☐	☐
2	Handrails are 30-34 inches above the stair treads	☐	☐	☐	☐
3	Stairways are at least 22 inches wide	☐	☐	☐	☐
4	Steps are uniform from top to bottom	☐	☐	☐	☐
5	Steps are slip resistant	☐	☐	☐	☐
6	Landing platforms are at least 22 inches by 30 inches.	☐	☐	☐	☐
7	Handrails have at least 3 inches open space from wall	☐	☐	☐	☐

Stairway Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
8	Handrails can withstand a load of 200 pounds within 2 inches of the top edge	☐	☐	☐	☐
9	Stair exists that open into vehicle traffic have barriers and warning signs	☐	☐	☐	☐
10	Other (specify):	☐	☐	☐	☐
Corrective Actions Taken		☐	☐	☐	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
Other Comments:					

Department of Environmental Health & Safety
Occupational Health & Safety Office

321 Ryan Street,
Essex, Vermont 05452

LADDER INSPECTION CHECKLIST

- Include and submit checklist(s) to UVM Project Supervisor(s) and Occupational Health and Safety Office ohso@uvm.edu.
- If repairs are needed, IMMEDIATELY pull out of service, label "Do Not Use", and notify your supervisor.

Project Number	**Description**	
Department	**Building**	**Location**
Inspection Completed By (Signature):		**Date:**
Print Name	Email	Phone

Ladder Type			
☐ Step	☐ Straight	☐ Extension	☐ Specialty (specify):
Ladder Material			
☐ Fiberglass	☐ Metal	☐ Wood	☐Other (specify):

Ladder Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
1	Ladder has Underwriter's Laboratory (UL) - approved seal and designed to carry worker weights	☐	☐	☐	☐
2	Ladder has instructions and warning label that is legible	☐	☐	☐	☐
3	Ladder is only used for designed purpose	☐	☐	☐	☐
4	Ladder is in good repair; no loose, cracked, split, dented, rusted, corroded, broken, or missing components	☐	☐	☐	☐
5	Ladder is clean and not painted in a way that hides defects	☐	☐	☐	☐
6	Ladder is used on a flat, hard, level, stable, non-movable base, and non-slippery surface	☐	☐	☐	☐

Ladder Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
7	Feet, shoes, and/or cleats are free of grease and mud	☐	☐	☐	☐
8	Moveable parts operate freely without binding or undue play	☐	☐	☐	☐
9	Metal ladders are not used around power lines or near electrical equipment	☐	☐	☐	☐
10	Ladder is secured, tied off, and/or spreaders and locks fully engaged before use	☐	☐	☐	☐
11	Lean ratio 4:1 for straight and extension ladders	☐	☐	☐	☐
13	Workers always face the ladder when ascending or descending, and working	☐	☐	☐	☐
14	Workers travel up and down ladders using 3-point contact always; tool belts or hand lines used to keep hands free	☐	☐	☐	☐
15	Workers keep body inside the side rails (do not lean out beyond the side rails)	☐	☐	☐	☐
16	Ladder rails extent 3 feet above work level access point	☐	☐	☐	☐
17	Straight ladder Don't climb higher than the third rung from the top	☐	☐	☐	☐
18	Step Ladder Don't climb higher than the second step from the top; never stand on top cap or top step	☐	☐	☐	☐
19	Employee is trained on proper ladder use	☐	☐	☐	☐
Corrective Actions Taken		☐	☐	☐	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
Other Comments:					

Department of Environmental Health & Safety
Occupational Health & Safety Office

321 Ryan Street,
Essex, Vermont 05452

GUARDRAIL INSPECTION CHECKLIST

- Include and submit checklist(s) to UVM Project Supervisor(s) and Occupational Health and Safety Office ohso@uvm.edu.
- If repairs are needed, IMMEDIATELY pull out of service, label "Do Not Use", and notify your supervisor.

Project Number	**Description**	
Department	**Building**	**Location**
Inspection Completed By (Signature):		**Date:**
Print Name	Email	Phone

Guardrail Type (select all that apply)			
☐ Job-Built	☐ Temporary	☐ Manufactured	☐ Other (specify):
Guardrail Material (select all that apply)			
☐ Wood	☐ Metal	☐ Rope/Wire	☐Other (specify):

Guardrail Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
1	Guardrail is 39 to 45 inches above walking/working level	☐	☐	☐	☐
2	Mid-rail 21 inches above working level	☐	☐	☐	☐
3	Toeboard 3.5 inches high (required where working level above 6 feet)	☐	☐	☐	☐
4	Guardrails can withstand 200lbs, Midrails 150lbs, and/or toeboard 50lbs	☐	☐	☐	☐
5	Top-rail and mid-rails at least ¼ inch in diameter	☐	☐	☐	☐
6	If wire or rope used, flagged every 6 feet with high visibility material	☐	☐	☐	☐
7	Openings between railings does not exceed 19 inches	☐	☐	☐	☐

Guardrail Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
8	If screen or mesh used, extends from the top-rail to the walking/working surface, and entire opening between rail supports	☐	☐	☐	☐
9	Gates used at access points	☐	☐	☐	☐
10	No rough or jagged edges or surfaces that would cause puncture, lacerations, or snag clothing	☐	☐	☐	☐
Corrective Actions Taken		☐	☐	☐	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
Other Comments:					

University of Vermont

Department of Environmental Health & Safety
Occupational Health & Safety Office

321 Ryan Street,
Essex, Vermont 05452

ANCHOR INSPECTION CHECKLIST

- Include and submit checklist(s) to UVM Project Supervisor(s) and Occupational Health and Safety Office ohso@uvm.edu.
- To be completed by a competent person.
- If repairs are needed, IMMEDIATELY pull out of service, label "Do Not Use", and notify your supervisor.

Project Number/	**Description**	
Department	**Building**	**Location**
Inspection Completed By (Signature):		**Date:**
Print Name	Email	Phone
Anchor Type (select all that apply)		
☐ Permanent	☐ Temporary	☐ Manufactured ☐ Other (specify):
Make:	Model:	Install Date:

Anchor Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
1	Label(s) intact and legible	☐	☐	☐	☐
2	Appropriate ANSI/OSHA/Other pertinent markings, ID, or labels intact and legible	☐	☐	☐	☐
3	Installed by QUALIFIED PERSON	☐	☐	☐	☐
4	Good condition; no physical damage, cracks, sharp edges, burrs, dents, breaks, etc.	☐	☐	☐	☐
5	Good condition; no corrosion, pitting, nicks affecting operation and/or strength.	☐	☐	☐	☐
6	Fasteners and connectors in good condition; no corrosion, tightness, cracks, other damage, or distortion	☐	☐	☐	☐
7	Capable of supporting a 5,000-pound load per worker attached	☐	☐	☐	☐
8	Welds and rivets are in good condition.	☐	☐	☐	☐

Anchor Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
9	Other (specify):	☐	☐	☐	☐
Corrective Actions Taken		☐	☐	☐	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
Other Comments:					

University of Vermont

Department of Environmental Health & Safety
Occupational Health & Safety Office

321 Ryan Street,
Essex, Vermont 05452

AERIAL LIFT INSPECTION CHECKLIST

- Include and submit checklist(s) to UVM Project Supervisor(s) and Occupational Health and Safety Office ohso@uvm.edu.
- To be completed by a competent person.
- If repairs are needed, IMMEDIATELY pull out of service, label "Do Not Use", and notify your supervisor.

Project Number	**Description**	
Department	**Building**	**Location**

Inspection Completed By (Signature):		**Date:**
Print Name	Email	Phone

Lift Type (select all that apply)			
☐ Extensible Boom	☐ Aerial Ladder	☐ Articulating Boom	☐
☐ Vertical Tower	☐ Scissor Lift	☐ Other (specify):	☐
Make:	Model:		

Aerial Lift Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
1	Aerial lifts are operated by a trained and qualified person in accordance with manufacturer's instructions	☐	☐	☐	☐
2	Aerial lifts are in good repair and inspected by a competent person prior to use	☐	☐	☐	☐
3	All open sides have a guardrail with a mid-rail or full enclosure	☐	☐	☐	☐
4	Operators use a body harness with lanyard attached to the boom or basket (Note: this is recommended with scissor lifts as well)	☐	☐	☐	☐
5	Lift is not moved with a worker elevated (unless permitted by manufacture)	☐	☐	☐	☐

Aerial Lift Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
6	Aerial lifts are properly stabilized on firm, level surfaces and away from hazards	☐	☐	☐	☐
7	Lifts are operated at least 10 feet away from energized overhead power lines	☐	☐	☐	☐
8	Brakes are set and wheels chocked when on an incline	☐	☐	☐	☐
9	Outriggers are used, if provided	☐	☐	☐	☐
10	Load limits are not exceeded	☐	☐	☐	☐
11	No work is performed during windy conditions (e.g., winds above 27 mph)	☐	☐	☐	☐
12	No fuel odor present	☐	☐	☐	☐
13	Oil, fuel and coolant levels checked	☐	☐	☐	☐
14	Tire Pressure and Condition checked	☐	☐	☐	☐
15	Hydraulic level checked	☐	☐	☐	☐
16	No visible leaks	☐	☐	☐	☐
17	Horn operational	☐	☐	☐	☐
18	Backup and warning buzzer/alarms operational	☐	☐	☐	☐
19	Gauges operational	☐	☐	☐	☐
20	Safety and warnings label present and legible	☐	☐	☐	☐
21	Lights and warning lights operational	☐	☐	☐	☐
22	Other (specify): *Click here to enter text.*	☐	☐	☐	☐
23	Other (specify): *Click here to enter text.*	☐	☐	☐	☐
Corrective Actions Taken		☐	☐	☐	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
Other Comments:					

Department of Environmental Health & Safety
Occupational Health & Safety Office

321 Ryan Street,
Essex, Vermont 05452

SCAFFOLD INSPECTION CHECKLIST

- Include and submit checklist(s) to UVM Project Supervisor(s) and Occupational Health and Safety Office ohso@uvm.edu.
- To be completed by a competent person.
- If repairs are needed, IMMEDIATELY pull out of service, label "Do Not Use", and notify your supervisor.

Project Number	**Description**	
Department	**Building**	**Location**
Inspection Completed By (Signature):		**Date:**
Print Name	Email	Phone

Scaffold Type (select all that apply)			
☐ Job-Built	☐ Temporary	☐ Manufactured	☐ Other (specify):
Scaffold Material (select all that apply)			
☐ Wood	☐ Metal	☐ Rope/Wire	☐Other (specify):

Scaffold Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
1	Scaffolds were designed by a licensed professional engineer competent in scaffolding	☐	☐	☐	☐
2	Scaffolds were erected under the supervision of a trained and competent person	☐	☐	☐	☐
3	Scaffolds are in good repair and inspected by a competent person prior to use	☐	☐	☐	☐
4	Planking is made of 2 x 10 inch scaffold grade lumber or metal	☐	☐	☐	☐
5	Planking spans no more than 10 feet for light trades (25 pounds per square foot, psf), 8 feet for medium trades (50 psf) or 6 feet for heavy trades (75 psf)	☐	☐	☐	☐

Scaffold Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
6	Planks overhang supports by 6 (minimum) to 12 inches (maximum)	☐	☐	☐	☐
7	Uprights are plumb (vertical) and securely braced to prevent swaying	☐	☐	☐	☐
8	The scaffold is tied off and secured to a stable structure	☐	☐	☐	☐
9	All open sides above 4 feet have 42-inch high guardrails with a 21-ich mid-rail	☐	☐	☐	☐
10	Guardrail supports are no more than 8 feet apart	☐	☐	☐	☐
11	All open sides above 10 feet have a 4-inch high toe-board	☐	☐	☐	☐
12	Ladders for access extend 3 feet above the platform and are securely attached	☐	☐	☐	☐
13	No work is performed during windy conditions	☐	☐	☐	☐
14	Other (specify):	☐	☐	☐	☐
Corrective Actions Taken		☐	☐	☐	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
Other Comments:					

University of Vermont

Department of Environmental Health & Safety
Occupational Health & Safety Office

321 Ryan Street,
Essex, Vermont 05452

BODY HARNESS INSPECTION CHECKLIST

- Include and submit checklist(s) to UVM Project Supervisor(s) and Occupational Health and Safety Office ohso@uvm.edu.
- If repairs are needed, IMMEDIATELY pull out of service, label "Do Not Use", and notify your supervisor.

Project Number	**Description**	
Department	**Building**	**Location**
Inspection Completed By (Signature):		**Date:**
Print Name	Email	Phone

Harness Type (select all that apply)			
☐ Full Body	☐ Other (specify):	☐	☐
Make:	Model:		

Body Harness Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
1	Used as intended per manufacture recommendations. No modifications made.	☐	☐	☐	☐
2	No missing straps.	☐	☐	☐	☐
3	Webbing in good condition:	☐	☐	☐	☐
4	No cuts, nicks, tears, broken fibers, cracks.	☐	☐	☐	☐
5	No deterioration, fraying, abrasions, or undue stretching.	☐	☐	☐	☐
6	No discoloration, hard or shiny spots indicating damage.	☐	☐	☐	☐
7	No uneven thickness or excessive hardness, or brittleness.	☐	☐	☐	☐
8	No burnt, charred, or melted fibers.	☐	☐	☐	☐
9	Stitching in good condition:	☐	☐	☐	☐
10	No missing, frayed, cut, or pulled stitching.	☐	☐	☐	☐

Body Harness Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
11	No discoloration, hard or shiny spots indicating damage.	☐	☐	☐	☐
12	Hardware in good condition:	☐	☐	☐	☐
13	No distortion, cracks, breaks, twists, or bends	☐	☐	☐	☐
14	No rust or corrosion	☐	☐	☐	☐
15	No rough or sharp edges.	☐	☐	☐	☐
16	Buckles in good condition.	☐	☐	☐	☐
17	Tagging System – labels present and legible.	☐	☐	☐	☐
18	Within expiration date, if applicable.	☐	☐	☐	☐
19	Appropriate cleaning and storage options available.	☐	☐	☐	☐
20	Other (specify): *Click here to enter text.*	☐	☐	☐	☐
Corrective Actions Taken		☐	☐	☐	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
Other Comments:					

Department of Environmental Health & Safety
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TEMPLATE INSPECTION CHECKLIST

- Include and submit checklist(s) to UVM Project Supervisor(s) and Occupational Health and Safety Office ohso@uvm.edu.
- If repairs are needed, IMMEDIATELY pull out of service, label "Do Not Use", and notify your supervisor.

Project Number	**Description**		
Department	**Building**	**Location**	
Inspection Completed By (Signature):			**Date:**
Print Name	Email		Phone
Type			
☐	☐	☐	☐
Make:	Model:		
Material			
☐	☐	☐	☐

Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
1		☐	☐	☐	☐
2		☐	☐	☐	☐
3		☐	☐	☐	☐
4		☐	☐	☐	☐
5		☐	☐	☐	☐
6		☐	☐	☐	☐
7		☐	☐	☐	☐
8		☐	☐	☐	☐
9		☐	☐	☐	☐

Inspection Checklist					
Item #	**Item**	**YES**	**NO**	**N/A**	**NEEDS REPAIR**
10		☐	☐	☐	☐
Corrective Actions Taken		☐	☐	☐	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
#	Describe:			Date:	
Other Comments:					