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<b>Revision:</b> 1.0	<b>Subject:</b> Roof Access	

**1. Introduction**

The Standard Operating Procedure (SOP) for Roof Access was developed by the Department of Environmental Health & Safety in accordance with the University's Policy Statement on Health and Safety and to ensure compliance with the Ontario Occupational Health and Safety Act and Regulations.

**2. Scope**

This SOP applies throughout the University. This SOP also applies to all faculty, staff, and students.

Access to all roofs, will be under the care and control of Physical Plant Services.

**3. Applicable Legislation**

Ontario Occupational Health and Safety Act  
CSA Standards – Z259 Series

**4. Responsibilities**

**4.1 Responsibilities of Associate Vice-Principal (Facilities) and Physical Plant Directors**

Ensure that pertinent construction project managers, supervisors and employees are notified of their responsibilities concerning roof access and working on roof tops.

Ensure that all employees are given adequate supervision and instruction on the hazards of working on rooftops, and have been instructed on the proper care and use of any fall arrest equipment.

Ensure that assessments have been done in areas that may have fume hood discharges on the roof.

**4.2 Responsibilities of the Director of Environmental Health & Safety**

Ensure that departments are aware of their responsibilities under this SOP.

Review this SOP periodically and amend as necessary.

Prior to giving permission to staff from other departments for rooftop access, ensure that assessments have been completed, rooftop access is essential, staff are aware of this policy and are trained in the use of fall protection equipment if required.



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**4.3 Responsibilities of Director of Campus Security and Emergency Services**

Ensure that all employees, and external emergency service groups (Kingston Police, OPP, RCMP) are given adequate supervision and instruction on the hazards of working on rooftops and they do not enter the control zone.

**4.4 Responsibilities of Physical Plant Construction Project Managers**

Prior to calling for tenders for any construction-related activity, or repair work on equipment or machinery, an assessment must be done if there are fume hood discharges on the roof.

Ensure that all employees of the contractor have required fall arrest training and are aware of this policy.

**4.5 Responsibilities of Physical Plant Managers and Supervisors**

Ensure that all workers are aware of this policy

Ensure that all workers working in or passing through the control zone are protected from fall hazards by either guard rails, or that they have been trained and are using required fall arrest equipment.

Ensure that workers who use ladders to access rooftops have received Queen’s University Ladder Safety Training.

**5. Definitions**

**Buffer zone** - The area immediately outside the inner edge of the control zone and extending a further two meters in from that edge.

**Control Zone** – The two (2) meter border around the edge of a flat roof or platform. The use of a control zone is not permitted as a fall protection system on any sloped roof.

**Flat Roof** – Roof system with a slope less than or equal to 4% (1/2 inch change in vertical elevation versus 12 inches of horizontal run).

**Safe Zone** – An area inside the control zone where it is safe to work without using fall protection equipment.



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**Sloped Roof** - Roof system with a slope greater than 4% (1/2 inch change in vertical elevation versus 12 inches of horizontal run).

## 6. Access Control

All access points to rooftops must be locked unless there are workers on the roof.

If work must take place in the buffer or control zone, then a roof work permit (Appendix A) must be completed by the Physical Plant manager/supervisor prior to the work beginning.

Contractors requiring rooftop access must have a roof work permit (Appendix A) completed by a Physical Plant Manager/supervisor. The roof work permit must be completed prior to signing out keys from Physical Plant Services.

Any other person (Faculty, staff, students etc.) requiring rooftop access must get permission from both the Department of Environmental Health & Safety and Physical Plant Services. Physical Plant Services and the Department of Environmental Health and Safety will assess the need for roof top access and will assess the associated risk.

Access points to rooftops must have danger warning signs. Rooftops with fume hood exhausts must also be signed with additional warnings and the requirement to contact the Department of Environmental Health & Safety for approval to access the roof.

### Emergency Access

In the case of after hours emergencies, the call in person will sign out keys from Security. All work must comply with section 9 of this policy.

## 7. Emergency Notification System

Emergency Notification System sirens are currently installed on the roof tops of Stauffer Library, Humphrey Hall and Chernoff Hall. Before accessing these areas the Emergency Report Centre (ERC 36080) must be notified. Upon leaving these areas, the ERC operator must be notified

The access points to these roof tops are equipped with contact switches which will notify the ERC operator that the door has been opened. If the ERC operator is unable to ascertain



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who is working or who accessed the roof, the ERC will dispatch Security staff to that location.

### 8. Access to Roof with Ladders

If a fixed ladder is greater than twenty feet in length, it must be equipped with a cage. The cage must start at a point eight feet from the bottom of the ladder.

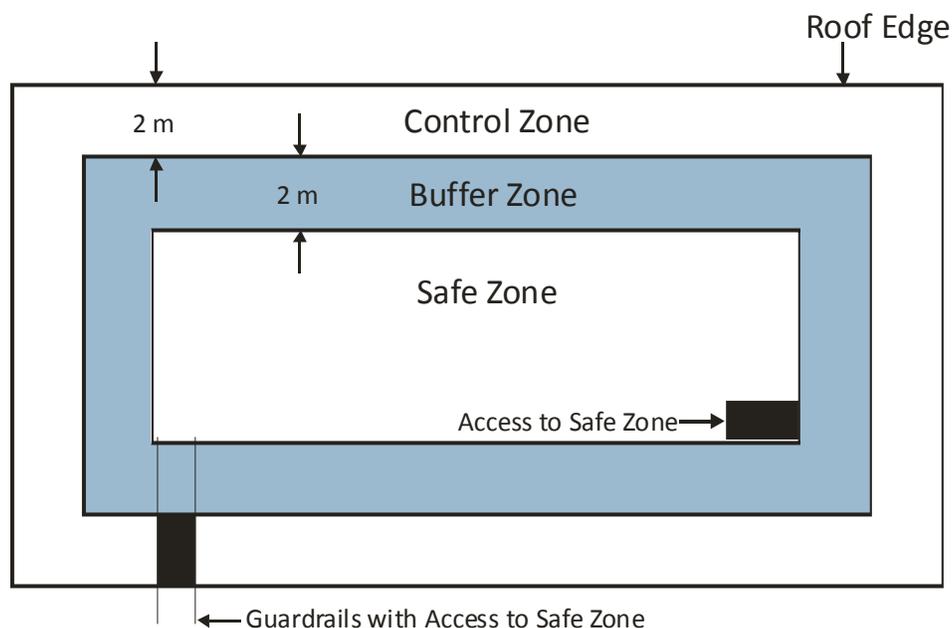
Extension ladders must extend three feet above roof. Workers must have taken Queen's University Ladder Safety Training.

Tools/equipment should not be carried by a worker as they ascend or descend a ladder. Tools should be placed in a bucket and raised or lowered with a rope.

### 9. Working on Flat Roof

If there are no guard-rails around perimeter of the roof, a control/buffer/safe zone must be utilized.

If there is a parapet wall of at least 42 inches in height a control/buffer/safe zone is not required.





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If roof top access opens into the control zone, guard rails must be installed to protect the worker until they have entered the safe zone.

When working in the control zone, fall protection equipment must be used. Fall Protection must meet CSA Z129 standards.

The width of the control zone must be expanded if:

- The working slope is slippery
- If there windy conditions or anticipated windy conditions
- The work is carried out at an elevation relative to the unguarded edge
- The risk is increased by the use of equipment near the control zone

If workers are to work within the buffer zone, either fall protection or a raised warning barrier/bump line must be used, and must be put in place prior to work starting in the buffer zone.

Warning barriers/bump lines must:

- Be set up around work area at least 2 meters from unprotected edges
- Be 1.07 (42 inches) high
- Be supported with weighted posts or supports adequately anchored in place
- Be made of fiber rope with flags or signs along their entire length.

For work of short duration, where workers may have to enter the buffer zone a safety monitoring system may be used. A Physical Plant manager/supervisor must appoint a competent person to act as a safety monitor. The safety monitor's sole duty is to monitor the safety of workers and must not have any other duties that may distract from the monitoring.

The safety monitor will:

- Warn employees when it appears that they are unaware of a fall hazard or are acting in an unsafe manner;
- Warn employees if they are approaching the control zone;
- Be located on the same walking/working surface as the employees;
- Be located close enough to other workers to communicate with them orally.

If workers will be further than the boundary of the buffer zone (in safe zone) at all times, a raised warning barrier/bump line or fall protection is not required.

When working on rooftops workers should **not**



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- Work with their back to the roof edge while in or near the control zone
- Walk backwards

## 10. Skylights

Skylights are made of various products and transparent materials, including polycarbonates, glass, plastics or some other combination of transparent materials.

Skylights are normally designed to withstand forces such as the weight of snow; however, they can fail under the weight of a worker. This can result in a worker falling through the skylight to a surface below.

A plastic skylight's composition and strength may deteriorate over time due to the effects of sunlight and atmospheric contaminants. Unless a skylight's ability to support all loads to which it may be subjected (including the impact of a falling worker) can be determined, it must be treated as a fall hazard.

### Specific controls for skylights:

Every skylight must be considered to be a fall hazard when workers are on a roof. The only exception is to obtain an opinion from an Ontario-licensed Professional Engineer that the skylight can withstand any load to which it may be subjected and is not likely to endanger a worker.

A Fall Protection Program must be established and implemented to protect workers who work near a skylight and may include the following fall protection measures:

- temporary guardrails or barriers around a skylight to prevent a worker from falling through or stepping/walking on a skylight
- a temporary skylight screen, grate or cover of material capable of handling any load imposed by a worker
- travel restraint systems to prevent a worker from stepping on or falling onto the skylight
- a fall restricting system designed to limit a worker's free fall.

## 11. Contractors

Contractors who take control of a site must have their own policy/rules which must meet the requirements of this policy. The contractor's policy must be approved by Physical Plant Services before control of the site is given to the contractor.



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Revision History

1.0: Initial Release

**ROOF ACCESS PERMIT**

Date: \_\_\_\_\_

Building: \_\_\_\_\_

Describe work to be done: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Workers requiring access:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Safety Monitor (if used): \_\_\_\_\_

Potential Hazardous Work	Y/N	Special Safety Precautions
Work on or near fume stacks/vents		
Work on or near high voltage equipment or overhead power lines		
Work on or near an unprotected roof edge (i.e. within 2 meters from edge)		
Work in buffer zone (area that starts 2 meters from edge and 2 meters wide)		
Work where it is possible that objects or materials may fall from the roof		
Other hazards:		

I verify that all workers are aware of and understand policy '*SOP-Safety-18 Roof Access*' and have been made aware of all potential hazards and all safety precautions.

\_\_\_\_\_  
 PPS Manager/Supervisor.