

Helping you **identify**
and **manage risk**

Burst Pipe or Fire Sprinkler Malfunction in Your School

Steps to take if this happens

After a water pipe burst in a Toronto school, the entire floor of a recreational facility had to be replaced... When water freezes at a temperature of 0°C (32°F) or below, it expands up to 10 percent in volume... a 0.32 centimeter (1/8th inch) crack in a pipe can send out more than 1.14 cubic meters (250 gallons) of water a day, causing flooding, severe structural damage and the potential for fungus and mould. Knowing where the water shut-off valves are... and how to quickly shut them off... can reduce damages significantly.

Losses resulting from water damage are a growing problem, especially in colder climates. Extreme and unpredictable weather fluctuations [cold > thaw > cold], older infrastructures, faulty fire sprinkler system installation, improper insulation around pipes and poor or irregular maintenance are all contributing factors.

Burst water pipes and broken fire sprinkler heads can very quickly cause a serious amount of damage and equally serious consequences. When it comes to school facilities, this can become an especially difficult and complex situation.

The following are some of the damages and their potential outcomes:

Damages	Potential Outcomes
Major property damage	Disruption to facility caused by cleanup, restoration, new construction, etc.
Damage to valuable belongings, contents, decorative architectural details, etc.	Replacement of books, sports equipment, teaching material, computers
Interruption to curriculum and extracurricular activities	Relocation of students to unfamiliar premises, teachers and coaches
Unsafe conditions	Accidents and personal injuries to students, teachers, visitors and staff
Growth of fungus and mould	Various health hazards
Negative publicity	Damaged reputation
Loss of confidence	Lost business
Business interruption	Loss of Income/Financial Instability

A speedy response is key to damage control and containment

Mitigating water damage in the most effective way depends, in large part, on how prepared your organization is and how quickly you can identify and handle the situation. The following are some best practices to consider:

1. Working with your Human Resources Manager, Occupational Health and Safety Officer, or with a special committee or management team, establish a set of Emergency Water Shut-Off Procedures and Protocols to deal with a burst water pipe or fire sprinkler system malfunction.
2. Develop a training program for designated employees. By acting quickly and knowledgeably, these employees can significantly reduce water damage to your building and its contents. Select employees who work during different hours/shifts to ensure that your facility can be protected during all hours of operation.
3. Enlist professionals to provide training. For example, instruction on how to shut off the sprinkler system should be delivered by your authorized sprinkler maintenance contractor or a qualified sprinkler technician. Instruction on how to identify and shut off the main domestic water line valve should be provided by a qualified plumber.
4. Provide designated employees with a Site Plan of your building, indicating where the main domestic water supply valve and sprinkler valves are located. Include photos or drawings of valves along with instructions. Mark the locations of the main valve, as well as all shut off valves (on each floor, if applicable) so that they are easy to find. A quick solution is to paint markers or place stickers on the floor and ceiling, and add a hangtag on the main valve.
5. Create a ‘Contact Tree’ that includes telephone numbers for your local emergency services, senior management, your facility’s manager or caretaker, fire alarm monitoring company, sprinkler maintenance professionals, and your insurance company. Post this list where designated employees can access it easily. Identify who should be contacted once the sprinkler system or water supply line has been closed.

6. At all times, the welfare and safety of your building's occupants is the first priority. Before shutting any valves off, designated employees must be able to determine if the emergency is an actual fire loss or other life-threatening situation. If it is, employees must follow a different set of

Emergency Response Protocols. If, on the other hand, the incident is deemed to be a burst pipe or sprinkler system malfunction – a *non life-threatening emergency* – employees should locate and shut off the main water supply valve and/or sprinkler valve as quickly as possible.

It is important to note that under the Fire Code, your facility will be responsible to provide a Fire Watch of your property while the water supply line or sprinkler valve is closed and until an authorized sprinkler technician reactivates the system.

An ounce of prevention...

When it comes to water damage, an ounce of prevention is truly worth a pound of cure. You can significantly reduce the likelihood of suffering a burst pipe by following some simple steps:

- Make sure the furnace or boiler and heating system are serviced regularly and check that the thermostat is working correctly
- Check the insulation on your water pipes; those in the attic or other vulnerable spaces should be protected
- Make sure any external taps are turned off and disconnect any hoses

Devices are available which can detect excessive water flow and either send a warning or automatically turn off the water. Leak detection systems are also available. These send a warning to a designated person/s enabling them to take appropriate action.

For more information about Fire Sprinkler systems, please see Ecclesiastical's White Paper, 'Avoiding Freeze-Ups And Malfunctions Of Automatic Fire Sprinkler Systems'.

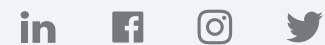
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