

OVERVIEW: Spring Flooding of Basements

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Every spring basements get flooded with water and I get flooded with letters about basements turned into swimming pools. Although there is a lot of information on this site about the problem, let me summarize and link it together. For solutions, see [PREPARING FOR A FLOOD](#)

The spring thaw is the obvious cause of this annual ritual of flooded basements, a time when there is both rain and melting snow and ice and the general mechanisms of water flow don't work as they usually do because the ground is frozen and there is ice in the rivers.

There are actually 4 direct sources for water to get into your basement

- 1- water from your roof and yard that is flowing to the foundation wall and overloading your basement system's capacity to get rid of it;
- 2- a rising water table under the house;
- 3- overloaded city drainage systems that back up through the basement floor drain or even the plumbing system;
- 4- local flood conditions usually coming from ice clogged rivers or ice blocked city street drains -- especially problematic with down sloped driveways.

1) SURFACE WATER

The spring thaw on your own lot can usually be effectively controlled with well placed rain gutters and downspouts that get the roof water far away from the house -- combined with good landscaping that slopes away from the foundation. Downspouts going underground are usually totally blocked with ice in the early spring. During the spring thaw nothing soaks into the frozen soil around the house so control of run-off is critical -- and I believe good preparation in the fall will solve 80% of all basement water problems in the spring. See [Landscaping](#).

In the photos you can see where the snow has knocked off the run-off part of the downspout, all hidden under the snow laden deck. All the water from the roof is dumping right into the corner of the house. The crack in the parging shows that this is not the first winter that this has happened, saturated frozen soil often cracks the parging, and only occasionally cracks the foundation. (Don't let a contractor talk you into doing an expensive fix of a foundation when the crack is only in the decorative covering outside.) In the second half of that photo, the temporary spring run-off fix is to open up the downspout higher up and put in a temporary run-off right over the snow, even over the fence. In the second photo you can see the efforts to take this water away from the house. After the thaw, the downspout can be put back into service more elegantly, but in the meantime that corner and the basement will be protected during the period of time that the ground is frozen and the water is flowing.

Finally a permanent solution – extend the downspout all the way to the front yard, discharging in the air, free of ground snow and ice. With this long slope in freeze thaw conditions, the downspout will quickly ice up solid and you are back to everything overflowing in the back corner and into the basement. To be fully functional in the spring it was necessary to install a roof de-icing cable, in this case in the rain gutter and downspout only. With an automatic controller, any time it is both wet and cold, the de-icing cable opens a flow path inside the full length of both the rain gutter and downspout. It is working perfectly, using electricity only when needed.

2) RISING WATER TABLE

A high water table under the house requires sump pumps to control the situation. See [Sump Pumps](#).

3) MUNICIPAL DRAINAGE OVERLOAD

You can protect your house from overloaded city drainage and sewage systems with backflow valves.

The greatest improvements in this field are the Full Flow Backflow Valves.

4) LOCAL FLOOD CONDITIONS

Flooding from rivers is tougher in that you need to combine many of these things with water pumps, backflow valves and barricading your house. If you only put sandbags around your house you will discover water getting past this barrier via the drain pipes. Follow these links for a lot of details about BASEMENT FLOODING. See the Pumping section in PREPARING FOR A FLOOD for tips on how to use sandbags, or sandless sandbags to improve the efficiency of a water pump in the basement.

On the safety and health questions

Don't run water or flush toilets in the house while the drains are blocked -- all that water, and sewage, just can't go anywhere and will simply come up out of the basement floor drain or basement level plumbing. If you must walk through standing water do not touch anything connected to the electrical system. Don't touch the laundry machines, they may be electrified!

Turn off all electrical circuits that could come into contact with the water -- but **DO NOT STAND IN WATER AND REACH FOR THE ELECTRICAL PANEL**. If possible, wear rubber boots and in all cases reach for the electrical panel switches with a dry wooden or plastic broom stick -- or leave that job to an electrician if one is available.

Mold can set in within 48 hours of having standing water, faster if it is contaminated sewage water. Get rid of the water as fast as possible. Dry out the area as fast as possible. If the drywall is wet, cut out the wet portions and throw them away allowing you to blow fans and install dehumidifiers to dry out everything else as fast as possible. Do not wait for the insurance adjusters -- they will be very busy in times of crises. Take photos with dates on the image and then get rid of the water. For all about mold and cleaning up mold follow this link: **MORE THAN YOU EVER WANTED TO KNOW ABOUT MOLD**.

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