



PREVENTATIVE MEASURES TO BE TAKEN BY THE OWNER FOR BASEMENT FLOODING OF A RESIDENCE

The flooding of numerous basements that occurs has led municipal authorities to identify measures that residents can undertake to reduce the risks of reoccurrence. We have identified some points outlined below for your consideration and corrective measures, if necessary.

The objective of this notice is to help you identify and eliminate surface water that drains towards your house, as well as to indicate how to protect your residence from a sewer back up.

Management of Surface Water:

1. Landscaping around your house

It is important to ensure that the slope of the lot around your house is such that rainwater or runoff from thawing snow is directed to the ditches and not towards the foundation. For an older property it is not unusual to observe that some settlement of the land around the foundation has occurred. This will cause unwanted additional water to flow to the french drains located at the base of the foundation, which will direct it into the sump pump pit. This situation must be avoided.

2. Water originating from the roof

Rainwater from a sloping roof will generally be captured by the eavestrough. These eavestroughs must never be connected to the french drain. They must be directed to flow as far away as possible from the foundation of the house and drained to the surface of the land so that water does not flow toward the foundation wall, to be eventually captured by the French drain.

If your residence has a flat roof, rainwater is directed towards a central roof drain connected to a pipe bringing the water to the interior of the house. This pipe must be connected to the public ditch or storm sewer via the sump pump pit or other arrangement, but never to the sanitary sewer.

3. *The Sump Pump*

Verify the state of your sump pump on a regular basis. It is recommended to occasionally add water to the sump pit to test the operation of the pump. Should the motor burn out during a rainfall, the pump will not be useful. As a precautionary measure, we recommend that you have a second sump pump on standby, ready to take over.

Depending on the type of your sump pump system, several companies offer annual maintenance services.

4. *The Capacity of the Sump Pump*

It is important to know the capacity of your sump pump. The manufacturer generally supplies a chart indicating the maximum capacity of the pump according to the diameter of the pipe and the height of the water back up pipe. It is important to ensure that the maximum capacity of water evacuated by your pump is at least equal to or greater than the maximum quantity of water that the french drain might direct to the sump pit. Also, make sure that the electrical circuit running the sump pump can carry the load.

There are many brands and models available on the market so ask your plumber, as prices and qualities vary.

5. *The Outlet of the Sump Pump to the ditch*

Please make sure that the pipe carrying water to the ditch is in good condition. The outlet of the pipe to the ditch must never be blocked by any material whatsoever. The pipe must also have a continuous slope towards the ditch, in order to prevent any water from accumulating in the pipe and potentially freezing in winter. A damaged joint in the pipe or other abnormality may result in water being re-directed to the drains of the foundation, with the negative result of the same water being pumped several times.

6. *The sump pump alarm for a high water level*

An interesting precautionary measure you may take is the installation of an alarm on the sump pump to indicate a high water level in the sump pit. There are several types on the market. In all cases, this alarm alerts you to a potential danger when the pump no longer seems capable of removing the water supplied by the french drain. In this case, a second pump can be used to help the main one.

7. *Emergency Power Supply*

Even though you may have taken all the precautionary measures previously mentioned, an electrical blackout may occur during a heavy rainfall. In such a case, your sump pump operating on electricity will be useless. For this reason, we recommend that you have an auxiliary battery or water pressure operated sump pump, or a portable generator that can supply power to your pump.

8. *The Rear or Side Ditch of your property*

If you have a ditch located at the rear or side of your property, chances are that the ditch belongs to you in part.

Generally speaking, these old ditches were used by farmers to drain their fields. These ditches are still being used to drain your lot as well as those of your neighbours. Property owners with these ditches have Civil Code responsibility to clean and maintain them in a proper condition.

9. *Cracks in the Foundation*

Water may infiltrate inside the building through cracks in foundation walls. Therefore it is important to have the cracks repaired, depending on the size, using the most appropriate techniques available on the market.

10. *Snow removal*

When the snow is removed from your driveway or walkway, it is important that you do not let the snow accumulate near the foundation wall. In spring, during a fast snow thaw, a large quantity of water can find its way to the sump pit.

Many residents hire a contractor to clear their driveways. Without knowing the consequences, some contractors push the snow to cover both ends of the culvert, making it difficult for the water to flow freely in the ditch. It is important that you indicate to your contractor alternate locations where you want the snow to be stockpiled.

11. *Maintenance of the Culvert*

Maintenance of the culvert is the responsibility of the homeowner. Routine maintenance such as dead leaves pick-up in the fall that can accumulate inside the culvert or papers, bottles, etc. is your responsibility. Setting up any physical obstacles (shrubs or other) at any end of the culvert is forbidden.

If the culvert needs to be replaced, you can get one by paying the purchase cost at the Public Works Department. The installation work of the new culvert is however the responsibility of the owner.

Regarding your Sanitary Sewer:

1. Check Valve

It is possible that the sanitary sewer or your septic tank can back up for various reasons. When this situation occurs, the check valve is essential in order to prevent the sanitary sewer from backing up into your house. While not infallible, it provides additional security against back ups.

There are any brands or models available on the market. Ask your plumber, as prices and qualities vary.

The check valve must be accessible for regular maintenance in order to ensure its proper operation.

In addition, please note that if modifications to the plumbing have been done in the past, it is important to ensure that there are no connections located in front of the check valve. In such cases, a second check valve may be necessary.

How the check valve operates:

Usually, the valve allows your sanitary waters to flow into the sewer system of the Town. If the Town's sewer system is backed up the valve closes, thus preventing sewer back up into your home. During this period it also blocks your access to the sanitary sewer to dispose of your used water. When this happens it is important to stop using your plumbing fixtures. Once the sewer back up is finished, the situation returns to normal.

Given the importance of such a valve for the plumbing system, municipal by-laws have always required the installation of this unit in a house.

2. Connection of the Sump Pump to the Sanitary Sewer

The existing Town sanitary sewer system was not designed to receive storm waters. For this reason, it is strictly forbidden and illegal to connect the outlet of the sump pump to the sanitary sewer.

The connections of sump pumps and/or foundation drains and/or roof drains to the sanitary sewer can be contributing causes of local sewer back up problems.

Given that storm water volumes are significantly greater than those of the sanitary sewer, municipal by-laws have always disallowed this practice.