

## What is a Foundation Drain?

Also known as weeper, weeping tile, or French drain

A foundation drain is a perforated pipe installed at the base of a foundation in order to drain away excess groundwater. This prevents groundwater from building up against a foundation, thus protecting the foundation from leaking or shifting.

## Why are foundation drains discharging to the sanitary sewer an issue?

During rainfall events and snow melts, foundation drain connects are a major source of flow to the sanitary sewer system. These flows can overwhelm the sanitary sewer system and cause raw sewage backups into basements or overflows to the environment. These connections also direct groundwater (that is uncontaminated and does not require treatment) to a wastewater treatment facility, which increase the cost of conveying and processing wastewater.

Given the potential impacts associated with foundation drain flows to the sanitary sewer, the City of Peterborough prohibits new foundation drain connects to sanitary sewers, and promotes the disconnection of existing foundation drains from the sanitary sewer wherever possible.

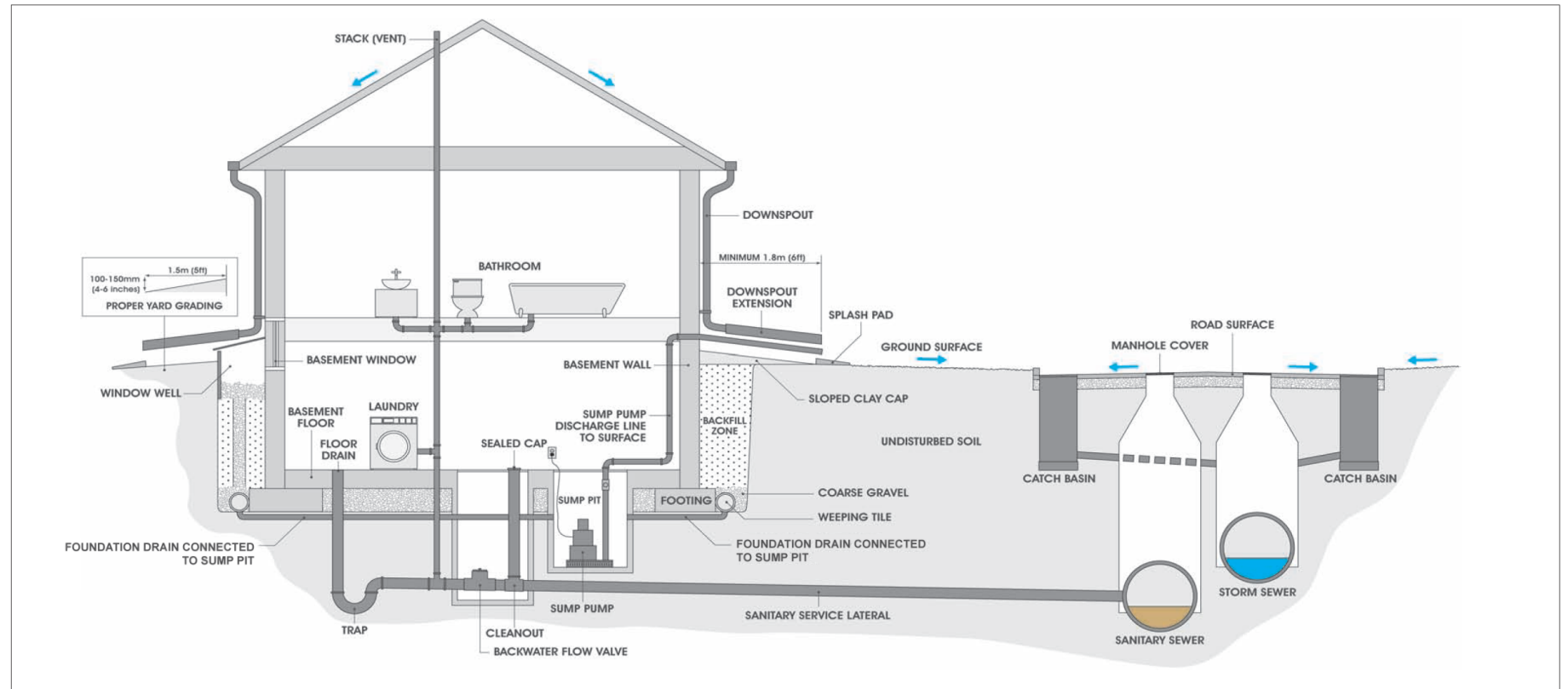
The Flood Reduction subsidy program provides financial incentives for home owners willing to disconnect foundation drain and also install sump pit and pump if needed.

For more information please refer to:

[www.Peterborough.ca/  
FloodReduction](http://www.Peterborough.ca/FloodReduction)



# Typical Measures to Reduce Basement Flooding



The home in this image has been retrofitted with typical measures to reduce basement flooding.

### To reduce sewer backup:

- A mainline, normally open backwater valve has been installed in the sanitary sewer lateral.
- The downspouts have been disconnected from the municipal sewer system.
- Foundation drain is directed into a sump-pit, and water is pumped from the basement to the lot's surface using a sump-pump.
- Cracks and loose joints in the sanitary sewer lateral have been repaired.
- The storm sewer lateral has been disconnected from the municipal sewers.

### To reduce infiltration flooding:

- Cracks in the foundation walls and basement floor have been sealed.
- Foundation drain has been repaired and is in good working order.

### To reduce overland flooding, infiltration flooding and sewer backup:

- A properly graded yard directs water away from the home.
- The backfill zone has been capped with an impermeable soil.
- Extension of the eavestrough downspouts and sump-pump discharge pipe keep water away from the home.
- A cover has been placed on the window well.

Source: [www.ICLR.org](http://www.ICLR.org)

# What is the Inflow and Infiltration Reduction Project?

The Inflow and Infiltration (I&I) Reduction Project is the City of Peterborough's effort to reduce the amount of I&I entering the sanitary sewer. Following the 2004 flooding incident, Flood Reduction Strategy was developed. The I&I Reduction project is implementing the strategy recommendations.

Installation of sump-pits, sump-pumps, and backwater valves are recommended by the strategy and funded by the Flood Reduction Subsidy Program.

# What is the Flood Reduction Subsidy? What is it Funding?

The Flood Reduction Subsidy Program provides financial assistance to landowners for fixing identified problems within their property. Even though most problems will be identified through the I&I reduction program, residents are encouraged to advise City about suspected issues.

The subsidy program will cover the following:

- Backwater prevention valve installation to a maximum of \$1,000.00;
- Sump pit & pump to isolate drainage leads to a maximum of \$1,500.00; and,
- Both Backwater Valve & Sump Pit & Pump (as above) to a maximum of \$3,000.00.

For more information please refer to:

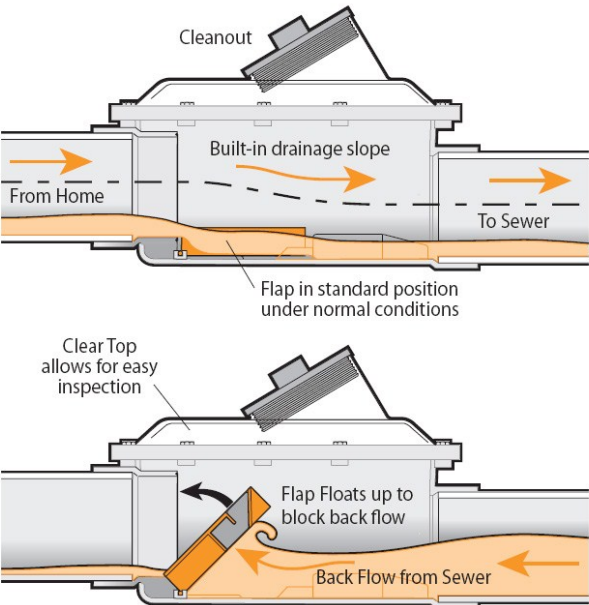
[www.Peterborough.ca/FloodReduction](http://www.Peterborough.ca/FloodReduction)

# Backwater Prevention Valve

The most effective method to prevent the backflow of sewer water is a simple device called a backwater valve. Installation of a backwater valve prevents sewage from travelling back into your home by shutting the pipe opening. The figure below shows how a backwater valve works.

It is important to note that:

- Proper placement and installation of the valve is extremely important and requires expertise;
- You should only install the type of valve that is recommended by the City;
- Inadequate valve or improper installation may result in damage to the existing plumbing, damage to the basement floor, and basement flooding; and,
- The valve must be regularly inspected and properly maintained.



Source: [www.backwatervalve.com](http://www.backwatervalve.com)

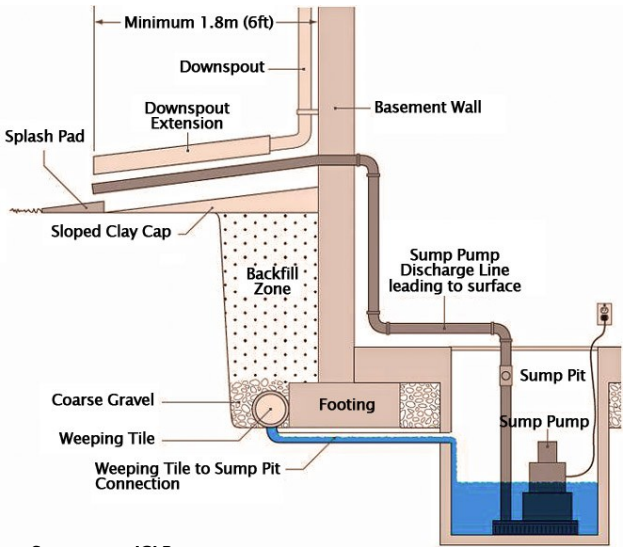
# Sump-pits and Sump-pumps

When a foundation drain is disconnected from sewer laterals, a sump-pit and sump-pump must be installed. The sump-pump is used to pump water from the foundation drain to the lot's surface. In some case, the City may recommend using the sump-pump to discharge water to the municipal storm sewer.

Care must be taken to ensure that:

- the discharge point is at least 1.8 meters away from the home;
- the pumped water does not affect neighboring properties; and,
- any sump-pump blockage or possible failure is identified and treated immediately.

The figure below illustrates a sump-pump installation designed to discharge to the surface.



Source: [www.ICLR.org](http://www.ICLR.org)

# Sump-pit, Sump-pump, and Backwater Prevention Valve



Pictures: Peterborough, July 2004



**Protecting our City from sanitary sewer overflows is everyone's responsibility.**

