

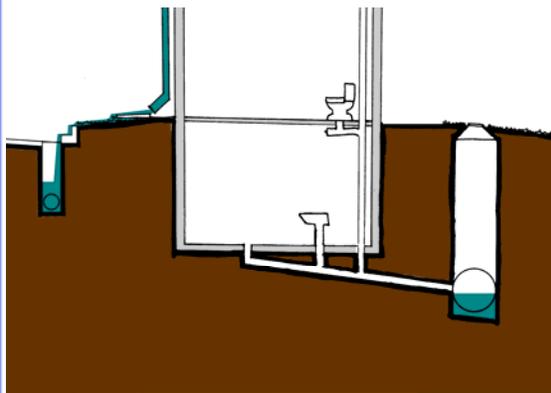


## PROTECT YOUR HOME

# PREVENTING SEWER BACKFLOWS

Storm sewers and sanitary sewers are separate systems. Drains from washbasins, toilets, bathtubs as well as the drain in the basement floor in a home are connected to one sanitary service line that runs from the home to a sanitary sewer main. This main then carries the sewage to a treatment plant. Storm sewers collect surface water from streets and yards and discharges into detention basins or other surface waters. In some situations, sump pump discharges are connected to the storm sewer system. Note that it is illegal to connect downspouts or foundation drain sump pumps to sanitary lines or sewers.

### Storm Sewer

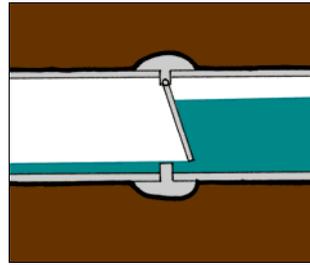


### Sanitary Sewer

Sometimes, sanitary sewers become overloaded, or broken, and can cause sewage to flow "back up" into your home through your drains. These backups or backflows occur when the sewage level in the sanitary sewer system are higher than the drain openings in a home. These backflows can lead to flooded basements and/or fixtures like toilets and washbasins.

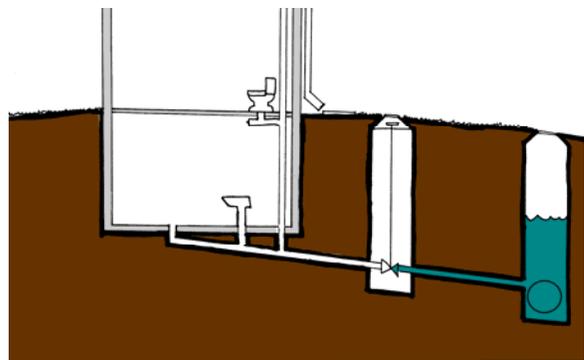
Following are a number of options available to homeowners to control and/or protect themselves from this happening.

### Check Valves



This is an automatic valve installed in the sanitary service line between the home and the sanitary sewer. It may be installed in the yard, house, or if conditions allow, may be installed in the basement. Access to clean bi-annually is required.

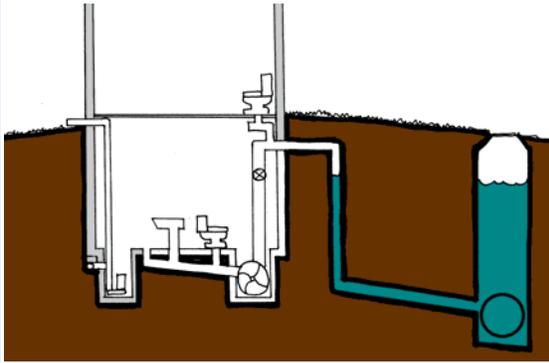
### Backwater Valve



The Backwater valve is often used, but has its disadvantages.

- The valve can get jammed open
  - The house sewer should not be used when the valve is closed.
  - The resident must be awake and/or home to close the valve manually.
- You can get an automatic system for approximately double the price of the manual system.

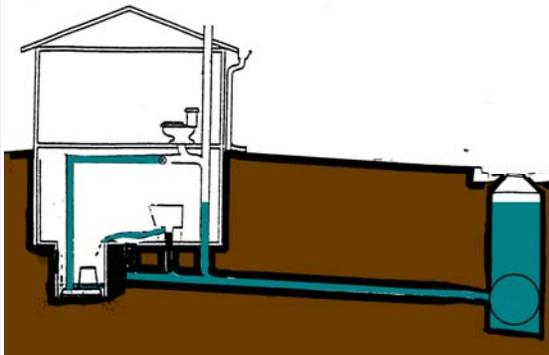
## Overhead System



This system is not likely to flood. However due to the potential high cost this system is generally used by a person with a substantial investment in their basement. Points of interest for this system include:

- It is generally considered a "worry free" system.
- A regular sump pump may be used in place of an injector pump if there is no toilet installed in the basement.
- This system requires it be installed when the building is built, or when the plumber modifies existing piping inside. There is also excavation required outside.

## Modified Overhead System



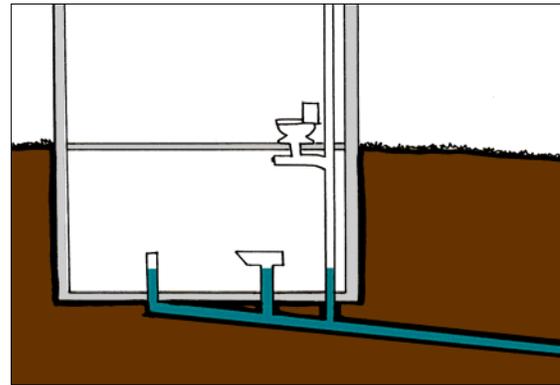
To modify an existing house sewer to overhead sewers the following must be done:

- plug off floor drains with concrete.
- Install sanitary sump pit and sump pump (injector pump instead of sump pump is needed if a toilet is in the basement)
- Run piping from sanitary sump to sanitary sewer pipe (with check valve prior to connection).
- Run pipe or hose from washtub and/or

water softener into sanitary sump pit. Plumbers price will depend on type of pump used and length of pipe. A sump pump/pit and 20 feet of pipe would probably cost \$1200. The price also depends on whether a basement is finished or unfinished.

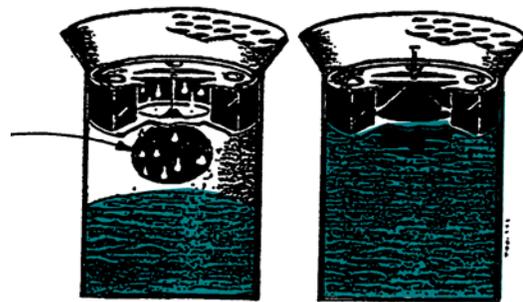
## INEXPENSIVE OPTIONS FOR "SLIGHT OR MODERATE" FLOODING

### STAND PIPES



A standpipe is often used to control flooding in basements where only a small amount of backflow occurs from the floor drain. This method simply raises the lowest drain opening in the home to a level that is higher than the sewage elevation reached in the sewer line.

### SEWER PLUG



A sewer plug is inserted into the floor drain and is a very inexpensive precaution. When sewage starts to rise in the drain, the plug is pushed against the drain opening preventing sewage from entering the home. This does not prevent sewage from backflowing into other drains such as washbasins or toilets that are in the basement.