



# Reducing Sewer Costs by Controlling Infiltration and Inflow

Infiltration and Inflow (I/I) is extraneous flow that enters the sewer system through damaged and defective pipe, and improper connections. The Town of Upton is taking steps to control I/I and provide better and less expensive sewer service. This document will further describe I/I, present ongoing efforts of the Town and identify what you can do to help.

## Why is I/I Control Important?

Excessive I/I can cause many problems in the sewer system.

Although most sewers

are designed to carry some I/I, excessive quantities can overwhelm pipes, cause backups into private homes or in extreme cases cause overflows of untreated sewage into the environment and backups into private homes. Upton residents must also pay to pump and treat this clean water as if it were sewage once it enters the sewer system. Along with additional operation and maintenance costs resulting from I/I, the Town may need to construct costly improvements to upgrade and expand its wastewater treatment facility, in part to allow it to handle high wet weather flows partly caused by I/I. As these improvements are constructed, Upton residents will pay increased sewer costs.



*Sewer system overflow*

## Infiltration:

Groundwater that enters the sewer system through broken or defective pipes and manholes.

## Inflow:

Stormwater that enters the sewer system from catch basins, roof downspouts and basement sump pumps.



*Upton WWTF*

## How the Sewer System Works

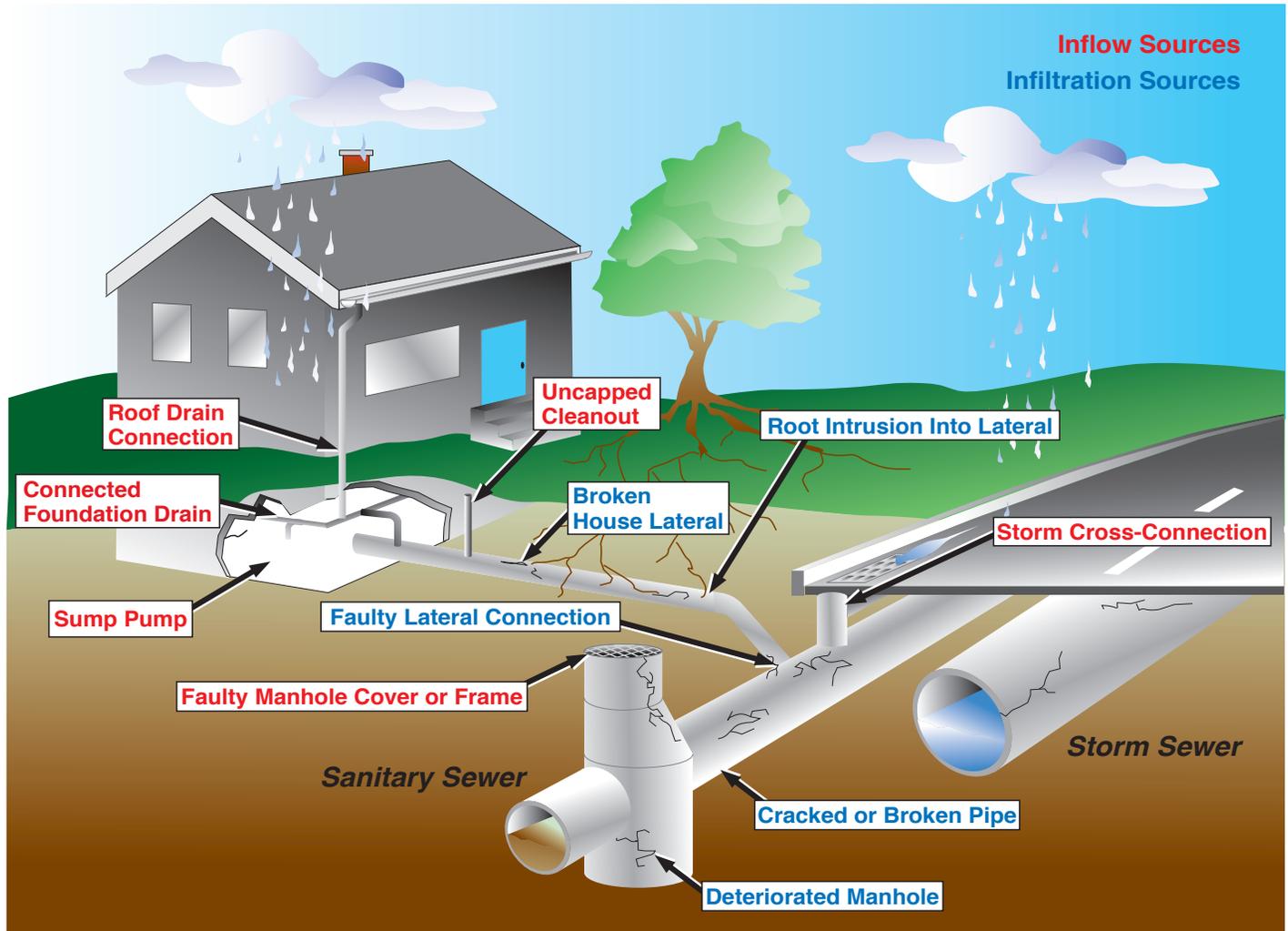
Sewage from homes and businesses enters the sewer system from building connections. Sewers and pumping stations transport the wastewater to the Upton Wastewater Treatment Facility (WWTF) at 43 Maple Avenue. The Town then treats the sewage and discharges the treated effluent to a tributary stream of the West River.

## Private Inflow Sources

Inflow from private sources such as sump pumps and downspouts has a significant impact on the sewer system. During a rain event, these sources discharge large volumes of clean water to the sewer and can quickly overwhelm the system resulting in potential overflows to the environment or backups into homes. It only takes a few sump pumps to cause major problems in the sewer system.



*Sump pump*



Sources of I/I in a sewer collection system

### What is being done to control I/I

Locally, Upton has performed several tasks to identify and control excess I/I including:

- Repaired a significant leak at the WWTF
- Performed smoke testing on the collection system to locate leaks and sump pump/downspout connections
- Disconnected private sump pumps from the collection system
- Rehabilitated and sealed sewer manholes to reduce/prevent leaking
- Flushed the collection system using a jetting process
- Video inspected the collection system after the jetting process to locate potential leaks

The Town has also established a program to assist property owners to redirect private inflow sources from the sewer system to the drain system or surface waters. The program includes the disconnection of sump pumps and roof downspouts from the sewer collection system to stormwater facilities. Upton is also jetting sewers and clearing roots that intrude sewer pipes to prevent potential collection system overflows.

### You can help!

- Contact the DPW at (508) 529-3067 if you believe you have a private inflow source
- Remove sump pump and downspout discharges from the sewer system
- Report backups and overflows to the DPW to help identify sewer system problem areas.