



Public Education Committee

This municipal water quality educational material was sponsored by the **Public Education Committee** of the **Pennsylvania Water Environment Association (PWEA)**. PWEA is a Member Association of the **Water Environment Federation (WEF)**.

Please visit our **Public Education Toolbox** on PWEA's website for other public educational material for the municipal water quality industry.



PO Box 3367
Gettysburg, PA 17325
www.pwea.org

Inflow & Infiltration

*Municipal Water Quality
Public Educational Information*



www.pwea.org

Inflow & Infiltration

“**I&I**” is a short acronym for a huge problem most sewer communities face, Inflow and Infiltration. **Inflow** occurs when rainwater is misdirected into the sanitary sewer system instead of storm sewers. Examples are: roof leaders, footer drains, sump pumps, manhole covers, and cross connections from storm drains. The remedy for inflow is to remove improper connections to the sanitary sewer system.

Infiltration occurs when ground water seeps into the sanitary sewer system through cracks or leaks in sewer pipes. The cracks or leaks may be caused by age related deterioration, loose joints, damage or root infiltration. The remedy for infiltration is repairing or replacing the leaking infrastructure. Ignored I&I results in excessive flows in the sewers and into the wastewater treatment plant. This becomes a very costly problem for all of us. I&I affects the quantity of wastewater that needs to be treated, the capacity of your community’s sewer pipes, wastewater treatment plant and ultimately, the rates that we pay to operate and maintain them.



The worst impact of I&I is the likelihood that the sewage can overflow out of the sewer pipe and into our environment. This yucky, gross runoff of untreated sewage, contaminated with fecal matter, urine, and toilet paper, is often referred to as SSO (Sanitary Sewer Overflow). I&I takes up valuable capacity in the wastewater treatment plant and may limit future sewer connections. I&I adversely affects the nutrient loadings for the plant discharge. If ignored, I&I can cost your community many millions of dollars.

You, as a homeowner, can reduce I&I from your property.

- Check that gutters and outside drains are not connected to sanitary sewers.
- Avoid planting trees and shrubs over building sewers. The roots can damage the structure of the sewer pipe and cause leaks.
- Keep caps on your cleanouts. Lawn mowers have a tendency to break the plastic caps. Replacement lids are available at your local hardware store.
- Ensure that basement drains and sump pumps are not connected to the sanitary sewer.
- Replace any known broken, leaky or problem sections of sewer pipe that are located on your property.