

What is I/I in a Sewer System?

Inflow and infiltration (I/I) is a situation whereby stormwater and groundwater enter the wastewater system. This water, which should drain into the ground or be routed to storm drains, can overload the wastewater system causing sewage overflows to creeks, backups in basements and impaired operations.

Inflow

Inflow is stormwater that enters the sewer collection system through direct connections such as roof leaders, yard drains, catch basins, defective manhole covers and frame seals, sump pumps or throughout indirect connections with storm sewers. It can also be caused when foundation drains are improperly connected to a sewer line.

Inflow occurs as a result of heavy storm events such as rainfall, snowfall and/or snow melt, each of which contribute to excessive sewer flows – resulting in hydraulic backups and the pooling of water. Inflow is generally measured during wet weather.

Infiltration

Infiltration is groundwater that enters sewer pipes (e.g., interceptors, collectors, manholes or side sewers) through cracks, leaky pipe joints, connection failures and deteriorated manhole covers. Infiltration amounts vary by season and in response to groundwater levels. Storm events can trigger a rise in groundwater levels and increase infiltration flows.

Because they are designed as direct connections, sump pumps and foundation drains are considered inflow sources. Yet, they act very similar to infiltration due to their nature of draining the groundwater surrounding a structure.

The highest infiltration flows often result from significant storm events or extended precipitation. It's generally measured in wet weather seasons during seasonally high groundwater conditions.

Homeowners are responsible for maintaining their sewer system on their private property. You, as a homeowner, can reduce I&I from your property.

1. Check that gutters and outside drains are not connected to the sewer system. Disconnect any drains that are found to be connected.
2. Avoid planting trees and shrubs over building sewers. The roots can damage the structure of the sewer pipe and cause leaks.
3. Make sure that the caps are on your cleanouts. Lawn mowers have a tendency to break the plastic caps. Replacement lids are available at your local hardware store.
4. Replace any known broken, leaky or problem sections of sewer pipe that are located on your property.