

City of Fredericksburg Public Works-Utilities division is responsible for repair and maintenance of OVER 80 MILES of public sewer lines within the sewer collection system.

Who is Responsible for the Sewer Line (lateral) to a Home or Business?

City of Fredericksburg property owners are responsible for the sewer service line that runs from the property and connects to the main sewer line (*see graphic below*). **Only the main sewer line is owned and maintained by the City.** The City of Fredericksburg, per the authority of the Public Works Director [Code § 74-131] considers **all of the sewer lateral to be the property and responsibility of the homeowner or business owner.** Privately owned portions of the sewer system include the drains inside the home or business, the "sewer lateral" beneath the property to which those drains connect, and the pipe and components necessary to connect the sewer lateral to the City-owned sewer main in the street or alley.

What are Sewer Laterals and Why are They Sometimes Pollution Sources?

A **sewer lateral** is all of the line, including components, connections, and all underground pipe, that connects a residence or business to a main, or City, sewer line (*see graphic below*).

Unfortunately, the underground lateral is often taken for granted, and generally ignored, until a problem occurs that can't be ignored -- such as raw sewage backing up into a home or business.

A number of things can compromise a lateral. Foreign substances or objects such as grease or disposable diapers flushed down a toilet can sometimes create a clog. Improper digging over a lateral without proper Miss Utility compliance can damage utility lines. **Tree roots occasionally infiltrate an already damaged lateral, but WILL NOT cause initial damage.** Or, over time, a very old sewer lateral pipe can simply corrode and crack.

The problems caused by failing pipes are broken into three categories:

- **Inflow:** when rain water directly enters the pipe system
- **Infiltration:** when groundwater enters the system
- **Exfiltration:** when wastewater gets out of the pipe system and enters the surrounding ground

Occurrences of **exfiltration** are more limited than inflow and infiltration. For exfiltration to occur, the sewer pipes must be located above the groundwater. Where it does occur, however, **exfiltration can threaten groundwater aquifers that are a source of drinking water.** Coastal areas generally have shallow groundwater tables, and inflow and infiltration tend to be more problematic as flood conditions can saturate the ground around and above sewer pipes and laterals.

Inflow is stormwater that enters into sanitary sewer systems at points of direct connection to the systems. Various sources contribute to inflow, including footing/foundation drains, roof drains or leaders, downspouts, drains from window wells, outdoor basement stairwells, drains from driveways, groundwater/basement sump pumps, and even streams. These sources are typically improperly or illegally connected to sanitary sewer systems, via either direct connections or discharge into sinks or tubs. An improper connection lets water from sources other than sanitary fixtures and drains to enter the sanitary sewer system, when it should be entering the stormwater sewer system or allowed to soak into the ground instead.

Improper connections can be made in either residential homes or businesses and can contribute a significant amount of water to sanitary sewer systems.

Infiltration is groundwater that enters sanitary sewer systems through cracks and/or leaks in the sanitary sewer pipes or laterals. Groundwater can enter these cracks or leaks wherever the pipes lie beneath water tables or the soil above the sewer systems becomes saturated, as happens often in coastal areas after rain events and during flooded conditions.

Why is Inflow and Infiltration a Problem?

Sanitary sewer systems are designed to carry wastewater from toilets, dish-washers, sinks, or showers in homes or businesses. Inflow and infiltration add clear water (not wastewater) to sewer systems increasing the load on the systems. As the ground becomes saturated during rain events, inflow and infiltration can sometimes fill the sewer systems to capacity, or even overload systems. Once this happens, either the wastewater flow moves backwards through the pipes, flooding basements or homes, or it moves forwards, to the sewage treatment facility where it can overwhelm and disrupt treatment processes resulting in poorly treated wastewater being discharged into the environment.

