



Public Works Fact Sheet

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Reducing Basement Flooding/Sewer Back ups

Prevention is the key

Understanding the sewer system

The Village's sewer system is designed to match the capacity of the Metropolitan Water Reclamation District (MWRD) system, which serves the region. Since the Oak Park sewer system connects directly to the MWRD system, the maximum capacity of the Village municipal sewer system is limited to the capacity of the MWRD system. When rainfall exceeds the capacity of both the Oak Park and MWRD systems, localized flooding and sewer back ups are likely in some homes in the community. The impact of heavy rainfall is especially problematic in the northeast quadrant of the Village because this is the lowest point in the community.

Why the Back ups occur

Almost all the homes in Oak Park were built with gravity sewer systems. This means the house sewer lines, which typically are only four-to-six inches in diameter, run directly into the main sewer in the street. Many homes also have all internal drain lines from toilets, sinks and other fixtures, as well as gutter downspouts, connected to their sewer system, which leads to the main system in the street. When the main sewer line in the street is full, the flow of house sewer lines into the main sewer line is greatly diminished. As rainfall levels exceed the municipal system capacity, the sewer lines cannot handle the additional loads from downspouts and water use inside the home, sometimes causing them to back up into the house.

Reducing the chances of a back up

Steps can be taken to reduce the chances of a sewer back up in the home. These include the following:

- **Disconnect gutter downspouts from the sewer line and run them into the yard.** A one-inch rainfall on a 1,000-square-foot roof can produce 600 gallons of water. By eliminating the water from the gutters that is flowing into the sewer system, this simple step can help reduce the chances of a sewer back up into lower areas of the home. Some communities require property owners to disconnect their gutters from the sewer system.
- **Limit water use inside the home during a heavy rainfall.** Washing machines, dishwashers, toilets and sinks all feed into the sewer system. Postponing their use during a heavy rainfall could help ease the sewer load.
- **Seal basement foundation walls and floors.** When rainfall reaches levels that tax the capacity of the sewer system, chances are those areas most susceptible to flooding also will encounter seepage, as the pressure of the water in the soil finds cracks and small openings where water can seep inside the structure. A good commercial sealer properly applied can help reduce the changes of seepage.
- **Install perimeter drain tiles and a sump pump.** Perimeter drain tiles – sometimes called a French drain – is a perforated pipe in a trench covered with gravel or rock that redirects surface and groundwater away from an area. A sump pump is an electric pump placed in a basement floor pit to collect water and pump it outside the home.
- **Replace the original gravity sewer system with overhead sewer plumbing.** These systems raise the building's original lowest drain, which usually is the basement floor drain, to a higher level and include a check valve that prevents back up from the municipal sewer. Since each system must be customized to an individual home, it can be a somewhat costly undertaking. However, for a homeowner intending to use a below-grade space for living quarters, this type of system could be a wise investment. These types of systems are required on all new construction.

Permits May Be Needed

Most changes to plumbing systems in homes require permits from the Village of Oak Park's Building & Property Standards Department, including installing drain tiles and sump pumps. Be sure to consult with the Village when considering any work. Call 708.358.5430 or e-mail building@oak-park.us for more information.