

Benefits

Trenchless Technology vs. Excavation

DPU-Water sanitary sewer rehabilitation programs primarily utilize trenchless no-dig technologies, which are generally more cost-effective and less disruptive than conventional excavation.

Life Expectancy of at least 50 years

Sewer mains and service lines that are lined with CIPP have a life expectancy of at least 50 years.

Working in Partnership with Contractors

Department of Public Utilities employees work in coordination with rehabilitation contractors, which saves money and produces better results than outsourcing the entire scope of work.

Did You Know?

- DPU-Water has lined more than 65 miles of sanitary sewer mains since 1992, and more than 3,000 sewer service lines since 2003.
- Sanitary sewer rehabilitation is already paying off. The ongoing elimination of groundwater infiltration has resulted in a measurable decrease in incoming flow at the Springbrook wastewater treatment plant, which translates into lower operating costs.
- For residents who live in older neighborhoods, their sewer service lines are primarily made of vitrified clay pipe. This type of pipe requires periodic maintenance by a qualified plumber to prevent root blockages. This maintenance is the homeowner's responsibility. Services that are lined with CIPP require significantly less maintenance.

The City of Naperville's Department of Public Utilities-Water (DPU-Water) is now in the ninth year of a comprehensive sewer rehabilitation program. The goal of this program is to eliminate sewer backups by finding and fixing defects that allow rainwater and groundwater into the system.

Pinpointing areas:

DPU-Water maintains a network of 39 flow monitoring devices that are strategically located within the sewer system to pinpoint areas where system rehabilitation is needed. The sewer inspection team uses state-of-the-art camera equipment to identify pipelines needing rehabilitation.

Progress:

Based on the flow monitor results, the primary focus of sewer rehabilitation programs have been, and will continue to be in the older residential areas near downtown Naperville. Work is completed in the West Highlands, Maplebrook South and Naperville Height areas. We are now working in the East Highlands, Century Hills, Huntington Commons, and Saybrook areas.

Customers who need more information on the sanitary sewer rehabilitation program should call (630) 420-6137 or visit the City website at Naperville.il.us

Sanitary Sewer Service Line Rehabilitation-East Highlands



The City of Naperville is committed to eliminating sanitary sewer backups that are caused by heavy rainfall. Backups occur during heavy rains because water enters the sanitary sewer system through cracks and other defects in sewer mains, manholes, and residential service laterals.

Residential service laterals are a major point of entry for unwanted rainwater and groundwater. The Department of Public Utilities-Water is using cured-in-place-pipelining (CIPP) to create a strong, durable, and seamless lining inside of the existing residential service laterals. This three-step process involves very little excavation.

Locating and Inspecting the Pipeline

The first step in service lateral rehabilitation is locating and inspecting the pipeline. The City uses video technology to inspect the pipe. Naperville's sewer inspection truck is



Locating the pipe

capable of launching a small camera up the service line from the city main. This method, which does not require entry into the residence, is successful in most cases. However, service lines with a series of sharp bends, tree root obstructions, or other defects require the service lateral to be inspected from inside the house.

If the Service Line Must be Inspected From Inside the House

The camera crew will make an appointment with the homeowner to enter the residence and insert the camera through an access cleanout located in the basement wall or floor. In some cases, it may be necessary for the City to hire a plumber to clear out root blockages that obstruct the camera. This is done at no cost to the resident. Once the service line has been inspected, the crew uses a locator device attached to the camera to trace the service line from the house to the city main. The camera crew will document the location of the service line so the excavation crew can easily locate it when they install the cleanout.

Installing the Exterior Cleanout

The second step in service lateral rehabilitation is to install a cleanout in the front yard. The excavation crew carefully removes the sod and saves it to be reinstalled after the cleanout is in place. Then they create a driveway across the front yard, using plywood sheets, so the vacuum excavator truck will not damage the grass. Alternative excavation may be required depending on soil conditions, utility conflicts, and equipment accessibility.



Vacuum excavator

Next, they use the vacuum excavator to create a hole, roughly 2'x 2', to expose the service lateral. High pressure water is shot from the vacuum excavator to loosen the soil, and the powerful vacuum deposits the material into a holding tank. When the service line is exposed, the crew cleans the exterior of the pipeline and



Cleanout

installs the cleanout. In most installations, there is little evidence that the crew has worked in the yard. The cleanout cap is level with the ground and are usually installed in the front yard.

Installing the Liner

The final step in service lateral rehabilitation is the installation of the liner. Prior to lining, the contractor will thoroughly clean the lateral pipeline to remove all tree roots and other obstructions. The contractor returns later to install the lining tube, which is launched from inside the city main. To ensure a perfect fit, the contractor uses video technology to monitor the installation. When the process is complete, the resident has a leak free service line that is virtually maintenance free, from the end of the liner to the city main.

