

CASE STUDY

CERTA-FLO® HELPS MARYLAND WATER AND WASTEWATER UTILITY MINIMIZE DISTURBANCE IN CONGESTED AREAS

The Washington Suburban Sanitary Commission (WSSC), serving close to two million residents with 5,500 miles of fresh water pipeline and 5,400 miles of sewer pipeline in the Maryland suburbs of Washington, DC, is the nation's eighth largest water and wastewater utility. With a congested population and affluent neighborhoods in its service area, the WSSC is constantly looking for new ways to perform water and sewer main maintenance projects without disturbing neighborhoods, businesses and roadways.

CHALLENGE

The area had been serviced by an abundance of 70-year-old clay pipe that outlived its useful life, according to Mike Trail, construction manager for WSSC. However his teams were all too familiar with the pitfalls of the traditional, open-trench method of replacing water and sewer pipe: uprooted trees and landscaping, blocked driveway access and at times, forced closures of multiple lanes on busy roadways.

"One of the biggest complaints we receive on our water and sewer projects is the footprint they leave on the community," he adds.

APPLICATION

Faced with the fallout caused by open trench, the WSSC turned to the less-invasive trenchless pipe replacement method of pipe bursting.

With pipe bursting, contractors burst water and sewer mains under roads, sidewalks, yards, creeks, trees and congested or sensitive areas without disturbing the surface, except for re-tapping services and excavating pits at the start and finish points.

Pipe bursting uses hydraulically powered machinery to split existing pipe with a specially designed cutter head while simultaneously pulling new pipe back through the annular space previously occupied by the original pipe. In some projects, including many undertaken by WSSC, an expander head is added to the pull string directly behind the cutter immediately ahead of the new pipe string. This allows the annular space to be increased during pull back, forcing the original pipe fragments out into surrounding soil to make room for the larger diameter new pipe being pulled in behind it.

Pipe bursting is more cost-effective than open-trench installation under asphalt or landscaped areas at any depth. Plus, it's more affordable than open trench any time the depth requires trench safety devices, regardless of surface materials or conditions. Pipe bursting also reduces a contractor's carbon footprint since it requires far less excavation or disruption of landscaping, and fewer loads of dirt and rock transported to dump sites, compared to open-trench jobs.



Application:
Gravity Sewer

Project Type:
Static Pipe Bursting

Owner:
Washington Suburban
Sanitary Commission
(WSSC)

Product Used:
Certa-Flo® PVC Sewer Pipe

Contractor:
Midas Utilities Inc.,
College Park, MD

SOLUTION

Initially, WSSC crews used static pipe bursting with high-density polyethylene (HDPE) pipe, but this led to new “footprint” problems. Before each pipe pull, separate lengths of HDPE had to be fusion-welded together into a single, 500-foot string of pipe which ultimately blocked businesses and frustrated homeowners.

WSSC’s trenchless contractor, Midas Utilities of College Park, Maryland, recommended Certa-Flo from Westlake Pipe & Fittings, a restrained-joint polyvinyl chloride (PVC) sewer pipe. Available in 10-foot and standard 20-foot lengths, Certa-Flo pipe decreases the likelihood of disturbance to surroundings. Besides occupying less space, the restrained-joint PVC pipe can be quickly assembled as pipe pullback continues.

Midas Utilities installed roughly 1,500 feet of restrained-joint PVC sewer pipe in three WSSC projects using a TT Technologies Grundoburst 800G Static Bursting System, an 80 metric-ton machine with 176,000 pounds of pullback. The projects caused minimal disruption and provided WSSC teams the evidence they needed to use pipe bursting with restrained-joint PVC sewer pipe on future projects.

“On one particular job, we went under yards, mature trees, a slate driveway and retaining wall that otherwise would have to be torn out,” adds David Ventresca, owner of Midas Utilities. “Homeowners were thrilled when we completed the project with minimal digging. It worked out great for everybody.”