

**UNDERGROUND SOLUTIONS
YOU CAN RELY ON,
BRANDS YOU CAN TRUST**

CORPORATE OVERVIEW

Waterline Renewal Technologies (WRT) is a leading provider of engineered technologies used in the trenchless rehabilitation of wastewater/stormwater infrastructure for municipal, commercial, industrial and residential applications and provides a unique portfolio of products and services through its brands AP/M Permaform, ConShield Technologies, LMK Technologies and Perma-Liner Industries.

We provide trenchless rehabilitation of degraded infrastructure through differentiated products, technologies and services, to prevent inflow and infiltration of sewer systems and potable water pipelines.

WRT offers unique industry products through its core brands - AP/M Permaform, Centripipe, ConShield Technologies, LMK Technologies and Perma-Liner Industries - to revolutionize the water industry. The brands' experience in designing, patenting and manufacturing trenchless technology continues to rise while producing

products that are cost-effective solutions to rehabilitating, without excavation, existing sewer systems and potable water pipelines.

With a combined eighty-five years of global industry experience through its core brands, WRT continues to transform the water industry through intentional platform development, design and execution, while being one of the most comprehensive sources of education and information in the industry.

WRT's pioneering approach to trenchless rehabilitation is changing how municipal, commercial, industrial and residential sectors repair their water and wastewater infrastructure. Our goal is nothing short of completely revolutionizing the water industry to get water to where it is needed, when it is needed, and to get the right quality of water to satisfy the specific demand.

MARKETS SERVED



Waterline Renewal Technologies™

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APM

The trenchless solutions company

CASE STUDY: 2017 TOP PROJECT: NEW YORK COUNTY REHABILITATES SANITARY SEWERS

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2017 TOP PROJECT: NEW YORK COUNTY REHABILITATES SANITARY SEWERS



Rockland County in southern New York called for major sanitary sewer interceptor projects. The county has completed its second project, which required rehabilitating a failing sanitary sewer interceptor and pipes using cost- and labor-efficient means without disrupting rail or the New York state highway traffic overhead. In addition, the project aimed to prevent future microbiologically induced corrosion.

Had the team planned to dig under the tracks and the state highway, the project would have been much more difficult and costly. Instead, centrifugally cast concrete pipe offered a more efficient approach to repairing the sanitary sewer.

"It was by no means an easy project, but the crew excelled during the course of the job," said Dan Nuzzie, project manager for National Water Main Cleaning Co.

During rehabilitation, the crews had to manage multiple challenges. "The badly deteriorated existing pipeline, easement locations and heavy flow rates complicated the work," Nuzzie said.

Crews installed parallel interceptors to divert flows, and residual flow was managed with 4- to 6-ft pumps. In addition, crews needed to work with mother nature. Rain events can cause the flow to exceed 20,000 gal per minute—and the interceptors average 150,000 gpm. The flow had to be diverted to an interceptor and eventually surcharge the system.

Finally, crews discovered a 10-ft collapsed section of pipe and an adjacent sinkhole. This required stabilizing the pipe and centrifugally casting fine aggregate cementitious composite for structural rehabilitation.

"The project is important because it allowed for the trenchless rehabilitation of a pipeline that would have been extremely costly and burdensome to have repaired in a conventional manner," Nuzzie said.

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The defects in the pipeline were addressed and repaired with minimal impact to property located above. Rail operations were not affected, and no detours were needed on the highway. According to Nuzzie, inspections have shown that the centrifugally cast concrete pipe has good adherence and is in good condition.

"Because the sanitary sewer was repaired with such minimal impact to the surrounding environment, I feel the project accomplished its goals," Nuzzie said.

PROJECT YEAR: 2017

CONTRACTOR: National Water Main Cleaning Co. of New Jersey, ACE Pipe Cleaning Inc.

DESIGNERS: Sewer district

MANUFACTURERS: AP/M Permaform

OWNER: Rockland County Sewer District No. 1, N.Y.

LOCATION: Orangeburg, N.Y.

COST: \$474,625

SIZE: 1,840 linear ft of 36-in. diameter sanitary sewer