

WAYS&MEANS

Pumping up sewer rehab

City eliminates overflows with extensive infrastructure repairs.

Much of Ruston, La.'s sewer system was built 60 to 80 years ago, and over the last decade, it had begun to show its age through line breaks, overflows and sewage backups into residents' homes. Often, just a quarter-inch of rainfall could result in eight to 10 lift station overflows. Population growth further stressed the system and the city staff charged with managing sewage treatment.

In 1999, Ruston Mayor Dan Hollingsworth and council members began to study the operation to better understand the condition of the city's 136 miles of collection system, 37 lift stations and 25-year-old treatment plant. Working with local engineering firm Riley Co. of Louisiana, the Ruston Department of Water Utilities and the mayor's administration developed a three-step, 15-year plan to repair and improve the efficiency of the city's sewer system.

The plan called for changes to the transmission system to deliver flow directly to the treatment plant instead of overflowing to the environment, treatment plant expansion, and evaluation and repairs to the collection system. The city discovered many of the aging pumps were worn, and others literally were held together with duct tape and baling wire. Many of the pump configurations had just one functional pump remaining, and others had manual and totally inoperable controls. In other situations, dry pit pumps were completely submerged under six feet of water.

The city replaced the lift station pumps with larger, more efficient equipment from Gorman-Rupp, which allowed the city to decrease the number of lift stations from 37 to 30. Treatment plant expansion began immediately after the lift station repairs to accommodate 6 million gallons per day (mgd) instead of the previous 4 mgd. On Dec. 28, 2007, wastewater was directed through the nearly completed North Treatment Plant for the first time.

Over the next seven years, the department will rehabilitate seven major collection basins. Ruston has contracted with Dallas-based Pipeline Analysis to evaluate all 3,800 manholes and each basin.

The number of compliance and administrative orders from the Louisiana Department of Environmental Quality for sewer overflows has significantly decreased from

Project:
Sewer system rehabilitation

Jurisdiction:
Ruston, La.

Agency:
Department of Water Utilities and Mayor's Office

Vendor:
Mansfield, Ohio-based Gorman-Rupp; Locally based Riley Co. of Louisiana; Dallas-based Pipeline Analysis; Denham Springs, La.-based Delta Process; Kansas City, Mo.-based Black & Veatch

Date began:
2000

Cost:
\$18 million



AMERICAN CITY & COUNTY

Part of Ruston, La.'s sewer rehabilitation project involved replacing worn out pumps with larger, more efficient equipment. The city also expanded its treatment plant and is repairing its collection basins.

18 in 2000, to zero in 2007. And, sewer backups into homes now are uncommon. "If there is one house with a sewer backup, it can likely be explained by line failure or blockage somewhere else — not because there is too much sewer water. For us, it's a best case scenario," says Richard Aillet, director of the Department of Water Utilities.

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