

## Rehabbing Culverts Without Disrupting Traffic

In 2013, an annual inspection in Grottoes, Va., uncovered serious problems with the town's storm water system. A large set of elliptical corrugated metal pipe (CMP) culverts did not pass inspection. There was severe corrosion, and individual sections were failing and misaligned. The town's consultants recommended replacement. Complicating the issue, the failing pipe consisted of four parallel 70-by-44-in. culverts running directly underneath Dogwood Avenue, one of Grottoes' two main thoroughfares.

The town initially obtained cost estimates for trench-and-replace. The price was high and the plan called for significant and lengthy traffic disruptions. Fortunately, Grottoes Town Manager Jeff Nicely had seen a process called CentriPipe at a Rural Water Assn. conference that looked like it could be useful in this situation.

The process is a centrifugally cast concrete pipe (CCCP) solution based on spincasting technology developed by AP/M Permaform. The CentriPipe spincaster is pulled back through failing pipe while spraying strong, highly adhesive, fiber-reinforced cementitious grout in thin layers. As the layers build up, they form a new, structurally sound concrete pipe within the old pipe. Sewer flow capacity is

minimally affected and no annular space is left between the old and new pipe, so there is no ground-water or storm water

flow in that area. Most importantly for Nicely, CentriPipe provided a trenchless solution, was 15% less expensive than digging up the old sewers and replacing them, and saved the town an incalculable but significant benefit by eliminating the hassles of disrupted traffic. The new culverts are smooth, seamless, watertight and structurally strong, with a long projected service life.

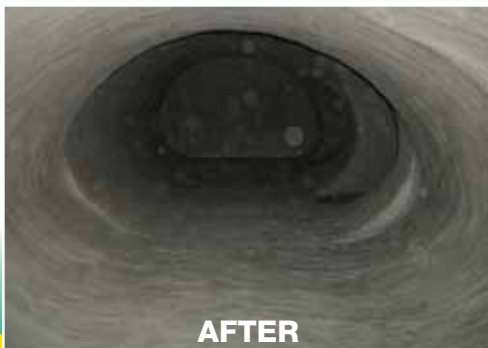


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