

County Keeps Newly Paved Road Intact Despite Failing Culvert Underneath

Douglas County, Kansas

The Problem

In Douglas County, Kansas, a 48-inch diameter, 82-foot long corrugated metal pipe (CMP) culvert started to fail. The culvert was located under a newly-paved road. The Douglas County Department of Public Works had to act quickly to repair the culvert without digging up or disturbing the road above.

The Solution

As a solution to repairing the culvert without digging up the road, Snap-Tite® representative Steve Cooney spoke with the Douglas County Highway Department Manager Mike Perkins and recommended the use of a 42-inch diameter Snap-Tite® culvert lining pipe.

The no-dig HDPE Snap-Tite® culvert-lining pipe, which has a patented male/female machining at each end of the HDPE, is 'snapped' together,



One section of the liner is first inserted into the CMP and then snapped to another section.



Inside the old CMP culvert, showing signs of wear and deflection.

piece-by-piece, and pushed into the full length of an existing pipe. Any annular space and voids between the old culvert and new liner are filled in with grout. The pipe liner is available in lengths from two feet to 50 feet, and is available for culverts with diameters from eight inches to 84 inches. Snap-Tite® also meets American Association of State Highway and Transportation Officials (AASHTO) Standard M326 for rehabilitating culverts.

"We used the pipe liner on a county route road that recently received a 3R type treatment with full depth patching and a complete mill and overlay project," said Perkins. "The defective pipe was found during this construction project and it was determined that we would make repairs after the contractor completed his work. The other obstacle was to make long-term repairs without disturbing the recently rehabilitated roadway."

The Installation

Cooney and Perkins decided to also showcase the installation as a demonstration for local county personnel, contractors and engineers. The installation began at 8 a.m. and by 9:30 a.m. that day, all the pipe had been snapped and pushed through the existing pipe. At 10:30 a.m. the crew built both of the bulkheads needed to pump grout into the space between the old culvert and new Snap-Tite® pipe. The ready-mix trucks for the grout arrived in the afternoon and the pipe and liner were grouted in place, also on the same day.

“The product (Snap-Tite®) went together as advertised,” said Perkins. “In less than one hour we had the pipe liner installed in the existing tube and began to build the bulk head. By 12:30 p.m. we began to fill the voids around the pipe and the installation was completed by the end of the work day. We are extremely pleased with the way the installation went.”

There were several benefits to using the Snap-Tite® pipe lining system to repair the old damaged culvert. First, the installation method eliminated the need to dig up or disturb the

newly paved road. Second, the installation took only one day to complete. Third, the county was able to use its own maintenance crew without having to contract out the work; and finally, the only equipment items needed to line the culvert were a come-a-long, chains and an excavator to push the pipe through.

The county saved money by not having to repave the road and by only taking one day to complete the repair. At the end of the day, the installation was a success.

About Snap-Tite®

- Meets AASHTO Standard M326 for rehabilitating culverts.
- Offers flexibility for insertion into misaligned concrete or rusted deteriorated corrugated metal pipe.
- Offers a safe method for installers and doesn't require traffic control.
- Tough but lightweight, the Snap-Tite® joint makes a solid water-tight mechanical connection that can be pushed or pulled.

Due to the Snap-Tite® system's installation flexibility and cost-effectiveness, it continues to provide successful results for many projects throughout the U.S. and internationally.

For more information on Snap-Tite® please visit www.culvert-rehab.com.



Grout is pumped in to fill in any voids in the annular space between the liner and CMP.

SnapTite®

1-800-CULVERT
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