



CASE STUDY:

Aurora, CO Highway Culverts and Box Culvert

PROJECT OVERVIEW

In January of 2016, the Colorado Department of Transportation (CDOT) placed a project for public bid, which included the repair of several large diameter highway culverts and a single box culvert. CDOT had specified a spray-applied culvert lining under a special revision to Section 603 of its standard specifications. To bid, contractors were required to be prequalified with significant lining experience and all products were required to be listed on the CDOT approved products list.

SOLUTION

The project was awarded to Inland Pipe Rehab, LLC (IPR) as the low bidder. IPR had submitted qualification on over 50,000 linear feet of large diameter pipe lining with GeoSpray geopolymer mortar. The project consisted of seven pipes spread across Jefferson, Douglas and Arapahoe counties.

The full project consisted of:

- (a) 1100 linear ft of 48-inch CMP
- (b) 252 linear ft of 50-inch CMP
- (c) 900 linear ft of 60-inch CMP
- (d) 124 linear ft of 6 ft x 7 ft concrete box culvert

RESULTS

Stamped engineering designs for the project specified a range of application thicknesses between 1 inch and 1.5 inches, depending on pipe diameter and if GeoSpray material could provide either a fully structural design for the CMP culverts or a structural enhancement for the box culvert, which would return the pipes to like-new condition. The project took approximately six weeks to complete and the CDOT is currently bidding several additional lining projects with spray-applied liners.

PROJECT DETAILS

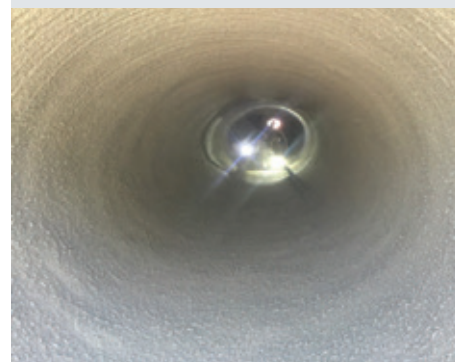
Application: Highway Culverts and Box Culvert

Client: Colorado DOT

Location: Aurora, CO

Installation: September 2016

Installer: Inland Pipe Rehab, LLC



Completed lining of one out of three highway culverts included in the project.



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WATER/WASTEWATER

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Corroded invert.



Damaged paved invert from previous repair.



Example of corrosion near joints.



Example of joint separation in CMP culvert.



Completed rehabilitation using GeoSpray mortar.



Completed repair over a formerly separated joint.



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