

Bloomington, IL Sanitary Sewer Interceptor and Manhole Lining

PROJECT OVERVIEW

A 54" concrete sewer in Bloomington, IL, was beginning to show signs of corrosive deterioration above the flow line of the sewer. To prevent the corrosion from reaching the steel framework of the reinforced concrete pipe, the Bloomington and Normal Water Reclamation District (BNWRD) wanted a 1" maximum corrosion resistant lining installed to extend the useful life of the existing pipeline. They had additional constraints on project footprint and traffic disruption. Milliken Infrastructure Solutions provided BNWRD with thickness and specification recommendations as well as test reports that demonstrated corrosion resistance and long-term performance of GeoSpray®.

SOLUTION

The BNWRD was interested in a spray-on lining system alternative to CIPP. At the 2015 WEFTEC Conference in Chicago, IL, the BNWRD learned of the GeoSpray mortar's capabilities as a geopolymer mortar. Compared to the CIPP system, GeoSpray mortar allowed for a cost-effective and quick lining solution to achieve the BNWRD's rehabilitation goals.

The preventative maintenance had to be performed under a roadway in a congested area with limited access at freezing temperatures. The sewer was cleaned with a high-pressure wash and active leaks were sealed at the pipe joints to stop unwanted infiltration of the pipe. During the repair, the sewage was rerouted and a temporary lane closure was required.

RESULTS

Michels Pipeline Services was the low bidder on the project and it began work in early December 2017. They spray applied 422,000 pounds of GeoSpray mortar on approximately 2,800 linear feet of the sewer and manholes over a three-week period. The installation conditions were difficult due to the ambient temperatures around 5-15°F during the entire project. To ensure proper installation conditions the contractor used heated tents above ground to maintain all equipment, water and mortar temperatures above the freezing conditions. The GeoSpray mortar lining combined with GeoTree's AMS System as a protective coating will extend the life of this sewer for a minimum of 50 years by protecting it from corrosion and abrasion.

PROJECT DETAILS

Location: Bloomington, IL

Application: Sanitary Sewer Interceptor and Manhole Lining

Client: Bloomington and Normal Water Reclamation District (BNWRD)

Installation: December 2017

Installer: Michels Pipeline Services



Complete GeoSpray mortar rehab.



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CASE STUDY: Bloomington, IL Sanitary Sewer Interceptor and Manhole Lining



CCTV footage of RCP pipe prior to repair, showing corrosion.



CCTV footage of completed rehabilitation.



CCTV footage of curved section of pipe repaired.



Rehabilitated vertical manhole structure.



Completed manhole rehabilitation.