

GEOSPRAY®

Geopolymer Mortar



CASE STUDY:

CMP Culvert Centennial, Colorado

PROJECT OVERVIEW

In the fall of 2019 after removal of sediment, SEMSWA (Southeast Metro Stormwater Authority) engineers carried out an assessment and identified heavy wear and abrasion to the metal of a 108-inch culvert.

SOLUTION

Having used geopolymer material as a repair method previously, the engineers were familiar with the technology and believed it provided the best solution for this large diameter pipe. By using a spin-cast geopolymer, they could create a new pipe within the existing pipe and create a long-term solution to the issue.

Through an open bid process, Insituform Technologies, LLC was the lowest bidder and was awarded the contract to rehabilitate the culvert.

RESULTS

A certified installer of GeoTree's GeoSpray geopolymer material, Insituform opted for the material due to its high-performance properties while being extremely contractor friendly and easy to use.

GeoSpray is a rehabilitation system made of a fiber-reinforced geopolymer mortar, specifically formulated, and engineered as an environmentally friendly solution for rehabilitating pipes, culverts, and containment areas.

GeoTree's Doug McMann, an expert of GeoSpray application, reviewed the project plan with the Insituform team before heading to the culvert's location at Cherry Street and Forrest Drive, where Doug remained on hand to offer advice and guidance during the install.

Using specialized equipment, the Insituform six-man-team installed 2-inches of GeoSpray material to the interior of the 157-foot long culvert. Due to the large diameter of the culvert and challenging access, it was decided to hand spray versus using a spin-casting process. The flexibility of the GeoSpray material to be applied with either method allowed the contractor to choose the most efficient method for the unique aspects of the project. The entire install took just one-and-a-half-days, and the culvert was quickly placed back into service.

GeoTree's President John Hepfinger said: "GeoSpray geopolymer is the ideal material to use when rehabilitating culverts due to the small equipment footprint, quick installation, and fast return to service. By efficiently creating a new structural solution, SEMSWA can have peace of mind that the culvert is going to be sound and operational for many decades to come."

PROJECT DETAILS

Application: CMP Culvert

Client: SEMSWA (Southeast Metro Stormwater Authority)

Location: Cherry Street and Forrest Drive, Centennial, Colorado

Installation: September 2020

Contractor: Insituform Technologies, LLC



Due to the size of the culvert, GeoTree's GeoSpray geopolymer was hand spray applied.



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GEOSPRAY

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WATER/WASTEWATER

CASE STUDY:

CMP Culvert
Centennial,
Colorado



Before: Heavily worn culvert running under Cherry street and Forrest Drive in Centennial, Colorado that required rehabilitation



During: Application of GeoSpray takes the shape of the host pipe. Corrugations can be filled if desired to create more hydraulic capacity.

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