

PROJECT OVERVIEW

The town of Cheektowaga began rehabilitating its manholes by trying out an assortment of products in extremely dry conditions. The township found that Ordinary Portland Cement (OPC) and Calcium Aluminate Cement (CAC) liners were prematurely cracking only hours after installing the lining. After testing GeoSpray geopolymer, which did not crack, the town decided to specify GeoSpray mortar on future manhole projects

SOLUTION

GeoTree Solutions reached out to the township's design engineer and suggested using GeoSpray geopolymer, which is less sensitive to cracking in dry manhole conditions. Compared to OPC linings, GeoSpray geopolymer has about double the compressive strength (8000 psi) and about triple the flexural strength (1500 psi). This added strength, coupled with its resistance to sulfuric acid corrosion often found in sanitary sewer systems, gives the geopolymer mortar a 70- to 100-year life cycle.

The town engineer decided to test out a pilot study with a truckload of GeoSpray geopolymer mortar to line about 700 vertical linear feet. MIS provided technical assistance to the township and the installation contractor National Water Main Cleaning Company (NWMCC) powerwashed the manhole, mixed the GeoSpray mortar and pumped it down into the hole to apply it with a handheld spray nozzle.

"GeoSpray geopolymer mortar has a noticeable product consistency and quality that my crew and I appreciated during the project," said Dennis Sullivan, Vice President and General Manager of NWMCC.

RESULTS

GeoSpray mortar went on quickly and easily and did not crack. The township was pleased with the pilot application and specified GeoSpray mortar on a 5000 vertical linear foot manhole 2018 project, which NWMCC will install this summer.

"This product's unique, user-friendly application characteristics lead to efficiency in the field," said Sullivan. "These characteristics make it a preferred product on certain future projects."

PROJECT DETAILS

Location: Cheektowaga, NY

Application: Manhole Rehabilitation

Client: Town of Cheektowaga

Installation: October 2017

Installer: National Water Main Cleaning Company (NWMCC)



Completed manhole rehabilitation.



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Concrete manhole prior to rehabilitation.



Brick manhole prior to rehabilitation.



Typical manhole application in right-of-way with tripod set up.



GeoSpray mixed and prepared to send for application.



Completed manhole rehabilitation.