QUADEX® A VORTEX COMPANY | REPAIR MATERIALS

CASE STUDY

MANHOLE REHABILITATION

Snapshot

Project Name:

Grand Chute - Menasha West Interceptor Lines - Manhole Relining

Project Location:

Butte Des Morts Beach Rd., Neenah, WI

Project Summary:

14 manholes relined with GeoKrete® only one year after Polyurea coating failed. 10 years later, manholes are in excellent condition.

Owner/Entity:

Grand Chute - Menasha West Sewer Commission

Project Contact:

Rodney Manthey

920-450-4632

Manhole Rehabilitation Contractor:

Hydro-Klean (formerly Infratech)

GEOKRETE®

CERTIFIED REDUCED CARBON FOOTPRINT SCS GLOBAL SERVICES ™

Compared to Baseline for Trenchless Repair Systems for Structural Rehabilitation of Civil Infrastructure

MANHOLES REHABILITATED WITH QUADEX® GEOKRETE® STILL LOOKING GOOD AFTER 10 YEARS.

Same Manholes originally lined with Polyurea coating failed after one year.

PROJECT DETAILS

In 2006 an annual inspection of manholes on Butte Des Morts Beach Road in Neenah, WI, revealed a lining failure of more than a dozen manholes that had been rehabilitated with a polyurea coating just one year prior. Extensive flaking and peeling was already present indicating a complete failure was imminent.

Rather than re-coat the manholes with the same material, the Grand Chute- Menasha West Sewer Commission instead chose to reline them with a much more robust material, GeoKrete Geopolymer, manufactured by Quadex LLC., as recommended by a local manhole rehabilitation specialty company, Hydro-Klean (formerly Infratech).

Once the manholes were properly prepped, GeoKrete was applied using a spin-casting apparatus to ensure a consistent and even coating from top to bottom. Only one pass was required for specified coverage. Then the contractor used trowels to smooth out the finish. GeoKrete has an excellent cure rate, and the manholes do not have to be taken out of service.

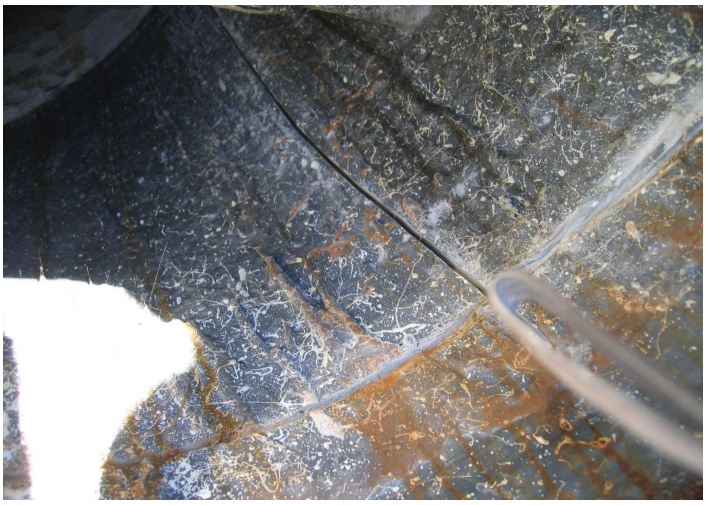
2016 UPDATE ON THE CONDITION OF THE MANHOLES

Rodney Manthey, from the Grand Chute-Menasha West Sewer Commission recently inspected the same manholes and reported that after 10 years the manholes show no signs of failure and are still in excellent condition.

WHAT IS GEOKRETE?

GeoKrete is specifically designed to provide extraordinary corrosion resistant protection in high hydrogen sulfide environments, add structural integrity and stop the infiltration of groundwater. Unlike cementitious liners, which hydrate to harden, the reaction mechanism in GeoKrete is polymerization which yields superior strength and chemical resistance. GeoKrete exhibits less than <1% mass loss when submerged in a sulfuric acid bath with a pH of 1.0 over an 8-week test. It can be applied in one pass up to three inches thick on vertical surfaces by low pressure spraying or centrifugal spinning.

2006



Polyurea coating peeled and flaked, exposing the concrete manholes to hydrogen sulfide gas and consequential corrosion.

Failed Polyurea coating was removed before new GeoKrete coating was applied.

2016

Same manholes 10 years after being relined with GeoKrete.

No visible evidence of manhole deterioration.