EPOXYTEC™

I&I Damage Resolved using CPP Sprayliner MH

Nestled in Florida's panhandle, along the St. Joseph Bay, is the City of Port St. Joe. This quaint beach town entrusted the rehabilitation of this unique repair situation to Gulf Coast Underground (GCU).

GCU has been repairing America's infrastructure for over 20 years. Its "design build" capabilities lend themselves well to both assessment and repair. Upon visual inspection of several City of Port St. Joe sanitary sewer manholes, it was determined that one in particular with exposed rebar was the most severely degraded. This manhole stands as evidence of the damage that inflow and infiltration (I&I) can cause, not only to infrastructure, but to vulnerable surrounding areas. Large voids in influent and effluent piping were found in this manhole. Furthermore, a 6" by 8" hole exposed exterior soil and was creating a sinkhole from the surrounding dirt outside. Therefore, this manhole (measuring approximately 4' in diameter, with 7' tall walls) was given priority over the other City of Port St. Joe manholes that needed rehabilitation.

The surface preparation specification was to remove all loose materials, deteriorated concrete, laitance, and existing coatings materials from the surface using a 7,000 psi high pressure water cleaning (HP-WC) with a 0-degree rotating nozzle to a minimum surface profile of ICRI-CSP4. However, due to the severe state of the substrate, GCU was unable to achieve the required surface prep using this method. Therefore, an angle grinder with diamond blade was used to remove the existing coating and provide the surface profile. The walls were then high pressure cleaned with water to accomplish the specified surface profile.

Rapid set grout was used to resurface the manhole floor, which was built up approximately 4" to the bottom of the inlet and outlet pipes. Once the grout was applied and allowed to cure for one hour, GCU began spray-applying Series 451 CPP Sprayliner MH to the manhole substrate at the recommended

(continued on next page)

Featured Products

Series 451 CCP Sprayliner MH

Project Information

Location
City of Port St. Joe, Florida

Completion Date
June 2023

Structure
Sanitary Sewer Manhole

Owner
City of Port St. Joe, Florida

Applicator
Gulf Coast Underground (GCU)

Above: City of Port St. Joe manhole and adjacent sinkhole

Manhole prior to surface preparation with visible pre-existing coating and rebar.

EPOXYTEC™

I&I Damage Resolved using CPP Sprayliner MH (cont.).

dry film thickness (DFT) range of 125–250 mils. Due to the amount of damage experienced within this manhole, the spray application resulted in 200-250 mils DFT. Epoxytec's ECAN mobile spray unit was utilized for this application, with the pump operating at 2000 psi using a 525-spray tip (with a 0.025 orifice).

Sinkholes are one of many examples of the damaging effects of I&I. Maintenance of manholes can help mitigate problems like this and prevent sinkholes and other damage from occurring. However, if the severe effects of I&I do occur, using Series 451 CPP Sprayliner MH can provide a formidable solution, as was the case for this Port St. Joe manhole. GCU was able to return this asset back to service and provide the City of Port St. Joe with a solution to rehabilitate, preventing the City from being left with the costly alternative of replacing these manholes.

Above: Manhole after concrete restoration.

Manhole after Series 451 CPP Sprayliner MH installation.