CASE STUDY: MWRD CHICAGO INTERCEPTOR

The existing sewer to be rehabilitated was approximately 80 years old and was located 20 ft. below ground in Evanston, Illinois, a northern suburb of Chicago. The sewer started at a river edge overflow chamber in a school parking lot. It continued down the middle of the road to the start of the down-town business district. This project also included ten 4-foot-diameter manholes that were to be coated with Spraywall, a structural coating.

The project was originally set up to run in two shifts around the clock. However, it was discovered that the project was in a residential area and the bypass system set at 5000 gpm could not keep up with the flows. Night work was not allowed, and it was determined that the East Sections floor needed extensive repair. All these issues needed to be addressed before Team Elmer's could apply Spraywall in the manholes and sewer sections.

SOLUTION

The age and depth of the sewer line, combined with a project design that assumed 15 ft. of hydrostatic water pressure above the invert with an engineered safety factor of 1.5, led to a Spraywall by Sprayroq application thickness of 1,250 ml. This coating was determined to be able to overcome the earth load, with applicable live load and the assumed hydrostatic load above the pipe.

Due to the condition of the pipe, it was determined that if the system were to be placed back in service after the preparation, the patch compound would wash away. With a little persuasion, the city allowed the equipment to be used for one night only, after Team Elmer's supplied decibel readings of 30 ft. and 50 ft. around all sides of the equipment.

After the floor repair was complete, along with the removal and preparation of an unanticipated coffer dam, Spraywal was ready for application. Some of the 10-foot sections required the use of a swing harness. Applied at 1,250 ml. using concrete nails to measure the thickness, the sewer section would take up to 16 hours of continuous spraying to complete. The east and west sections would take 32 continuous spraying hours to finish.

RESULTS

The final tally of Spraywall material used: 25,000 lbs. over two days. 10 manholes were completed and the sewer rehabilitation was completed on time.



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