



Market

Water / Utilities

Challenge

A Colorado water treatment facility identified multiple compromised joints within a steel raw water transmission line, including areas where joints had become offset and separated. Portions of the pipe had previously been lined with both mortar and epoxy, but sections of these liners had deteriorated, further exposing the pipe to damage. The system was actively leaking and at risk of corrosion.

In addition, localized defects were discovered, including a 1-inch active leak and an unused 6-inch fire hydrant lateral that required sealing. The facility required a solution that could restore system integrity within a tight timeline of less than one month, while working within confined access points and without extensive system disruption.

Engineered Solution

HydraTech recommended the HydraTite® Internal Pipe Joint Seal system to rehabilitate the compromised joints and eliminate leaks. A combination of standard-wide, extra-wide, and double-wide seals was selected to match varying joint conditions and provide appropriate coverage across the system.

To address localized defects, stainless steel backing plates were incorporated beneath select seals to span irregularities and provide a stable sealing surface. In areas where liner deterioration exposed the pipe, epoxy coating was applied to protect against further corrosion and restore the integrity of the substrate.

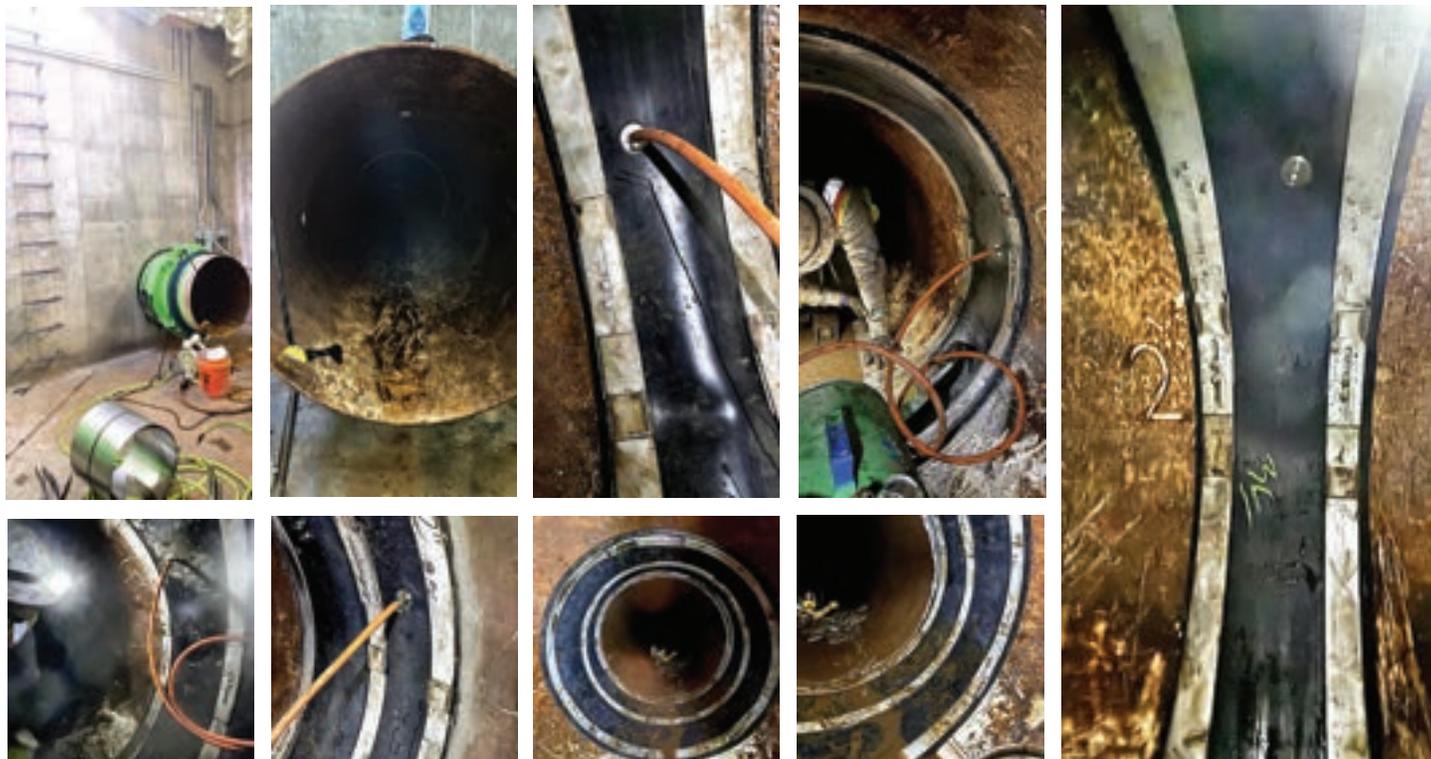
Scope

The facility dewatered the pipeline ahead of the arrival of HydraTech's four-person field crew. The crew would access the raw water line through a concrete vault. HydraTech's technicians entered the system, crawling through a butterfly valve, and worked within confined conditions to complete the installation.

A total of nine HydraTite® seals were installed over two days, including three standard-wide, three extra-wide, and three double-wide seals. Most installations occurred within a 36-inch steel pipe, with one seal installed in a 42-inch line. The 42-inch joint required additional preparation, as an existing liner had to be chipped away to allow proper seal seating.

Two locations required additional structural support using backing plates. At one joint, an unused 6-inch hydrant lateral was filled with mortar; a backing plate was positioned over this area prior to sealing. At another location, a 1-inch active leak was identified and sealed using a backing plate beneath a double-wide HydraTite® seal. The seals were each air tested to ensure a proper installation.

Throughout the installation, areas of compromised liner were addressed by applying epoxy coating to exposed sections of the pipe, helping to mitigate corrosion risks and ensure long-term performance.



Solution

All nine points were successfully sealed, eliminating active leaks and restoring the integrity of the raw water transmission line. The HydraTite® system provided a rapid, trenchless repair that met the facility's timeline requirements while addressing both joint separation and localized defects.

By combining internal joint sealing, backing plate reinforcement, and targeted liner repair, HydraTech delivered a comprehensive, long-term solution that protected the pipeline from further deterioration and ensured reliable operation of this critical water treatment infrastructure.



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