36” PCCP Transmission Main Upgrade

When an Acoustic Fiber Optic System (AFO) alerted the City of Baltimore that a 36″ PCCP pipe section experienced 21 wire breaks within a 10-day period in Arbutus, MD, the transmission main was shut down for investigation.

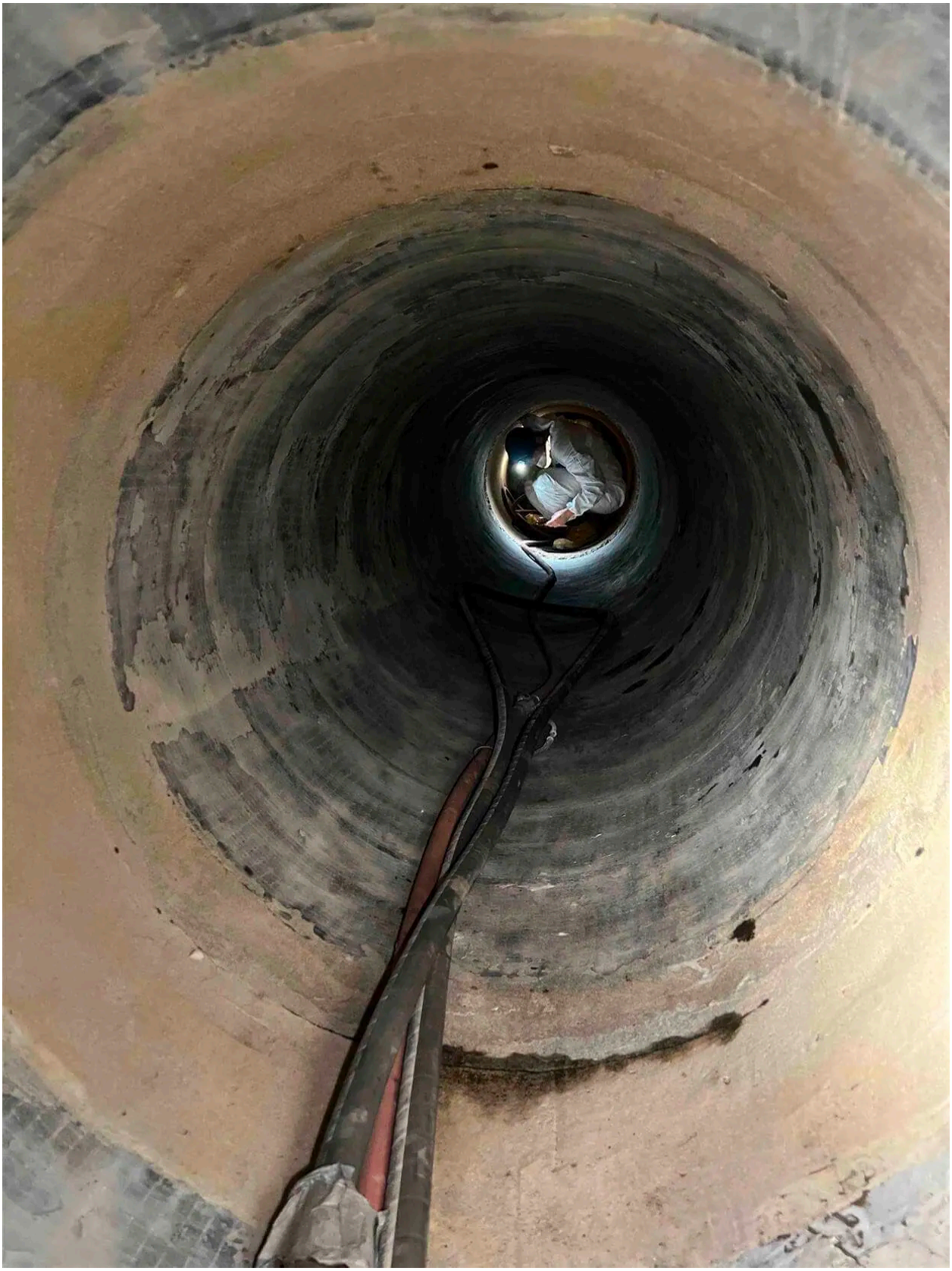
The affected pipe section had been repaired previously in the early 2000’s but did not conform to current standards.

Completed StrongPIPE® V-Wrap™ installation restores the pipe’s structural capacity.

Pipe section before repairs.

Access point to affected pipe section.

StrongPIPE® V-Wrap™ is internally applied to 16 LF of the pipeline.



Crews abrasive blast pipe to prepare for installation of upgrade solution.

Project Overview

- Internal PCCP upgrade to 16 LF of transmission main
- Application of StrongPIPE® V-Wrap™ Carbon Fiber System
- Client avoided a water main break and proactively repaired an individual section of pipe with a high risk of failure.

When an Acoustic Fiber Optic System (AFO) alerted the City of Baltimore that a 36″ PCCP pipe section experienced 21 wire breaks within a 10-day period in Arbutus, MD, the transmission main was shut down for investigation.

The affected pipe section had been repaired previously in the early 2000's but did not conform to current standards. Due to the pipe's location running near several major rail lines, excavating and replacing was not an option as it would impact railroad operations. Therefore, the city sought an internal repair solution to restore the pipeline's capacity.

STRUCTURAL TECHNOLOGIES StrongPIPE® V-Wrap™ was ultimately selected as the repair solution. Crews internally applied the system on pipe segment 18-17, approximately 16 LF.

During the repair of this single pipe section, the team faced several access challenges. In a typical repair scenario, two access points are used to allow for proper ventilation. However, in this case, the repair location was 250 ft from a single 24" access point.

Since the repair location was limited to one access point, a 6" drain valve located 300 LF on the other side of the repair location remained open throughout the project.

Also given the project's location, safety was of the utmost importance. The team received special certification to perform work alongside the railroad. In addition, personnel and equipment remained within the 10 ft lay down corridor and 25 ft from the edge of both tracks to perform work safely.

The individual pipe section was successfully upgraded preventing the risk of future failure.

PROJECT INFO

- **Owner:** City of Baltimore Department of Public Works
- **Location:** Arbutus, MD
- **Engineer of Record:** SGH

- **General Contractor:** Anchor Construction
- **Specialty Contractor:** STRUCTURAL
- **Material Supplier:** STRUCTURAL TECHNOLOGIES

SOLUTIONS

StrongPIPE® V-Wrap™ Carbon Fiber