
Water Main Rehabilitation Cured-in-Place Pipe (CIPP) Project

Madison Water Board Presentation

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CIPP Project Overview

- Madison was the first city in Wisconsin to rehabilitate aging water mains using Cured-In-Place Pipe (CIPP) relining methods in 2011.
- CIPP relining involves creating new pipe inside of deteriorated pipe, with minimal excavation – both cost-effective and less invasive/disruptive.
- The structural liner is designed to meet physical strength properties of a new pipe and adhere the National Sanitation Foundation (NSF) Standard 61 for drinking water health and safety.
- During construction, residents are provided clean water through an above-ground, temporary water main system.



Cured-in-Place Pipe (CIPP) Lining Process

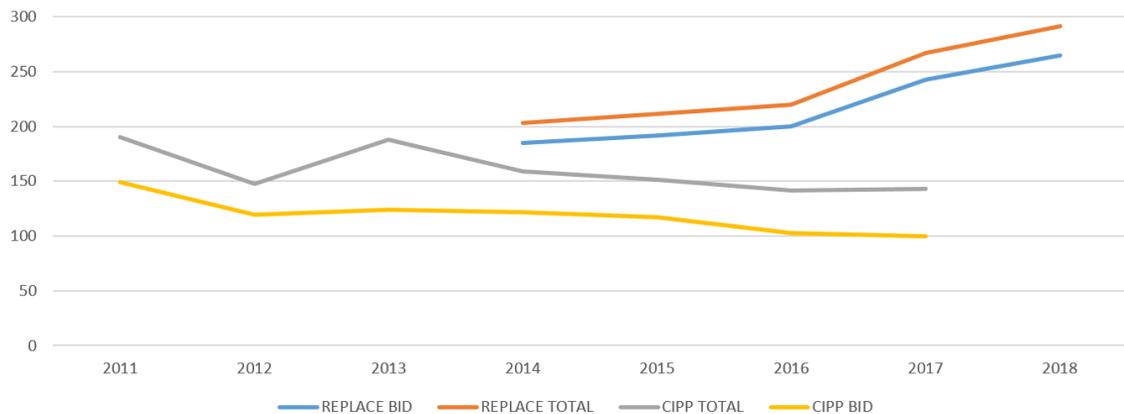


1. Woven fabric tubing, saturated with a liquid epoxy resin is pulled through the inside of the deteriorated water main between two small excavations at each end of the pipe segment.
2. The tube is pressurized to adhere tightly against the existing pipe-walls and heat is applied to harden the resin, forming a new continuous pipe inside the old pipe.
3. The CIPP consists of two polyester layers and a durable water-tight surface layer with full structural strength – expected to last at least 50 years before additional maintenance is considered.
4. Service connections are re-cut from within the pipeline using a small robotic drilling system to allow reconnection to the main.

Madison Water Utility CIPP Projects

- Collaborative planning and construction efforts between MWU staff, crews, and contractors.
- Nearly 10 miles of pipe now lined in Madison.
- Project locations identified based on need – i.e., aging pipes with frequent leak issues over the last several years.
- No structurally cured-in-place pipe in Madison has required additional maintenance.

RECENT CIPP WATER MAIN REHABILITATION
vs. OPEN TRENCH REPLACEMENT COSTS
(Madison, WI)



2600 and 2700-blocks of East Johnson St

~100 years old/approx. 1200 feet of lined pipe



Pontiac Trl, Nokomis Ct, Rosewood Cir

~70 years old/approx. 2800 feet of lined pipe



2021

CIPP Project Overview Video

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