Manton Dam to Return to Service Pipeline Project

Project: Manton Dam Return to Service pipeline project

Principal: Power Water Corporation (N.T.)

Construction Contractor: Exact Contracting Pty Ltd

Completion: December 2024

Supplied: 22km - MSCL SINTAKOTE® 660 OD Sintajoint® & Sintalock-I® Pipe & Fittings

Project Need

A 22km pipeline to provide water from Manton Dam to the Strauss Water Treatment Plant was funded by the Australian Federal and Northern Territory Governments to help Power and Water Corporation deliver crucial water infrastructure to the Darwin Region. The pipeline was contracted by Exact Contracting Pty Ltd, with Steel Mains being selected to manufacture and deliver the pipe for the Darwin territory.

With demand for water in the region expected to double by 2050, and water storage levels in Darwin River Dam becoming increasingly affected by climate change and evaporation, the Manton Dam project is needed for critical water infrastructure to facilitate the City of Darwin's future water security.

Once complete, the dam will deliver an additional 7,300 ML of water per year to the Darwin region water supply system, supporting the Northern Territory to continue their operational service for drinking water through refurbishment of the existing intake tower, a new pumping station and water treatment plant and recreation management plans.

Solution

Steel Mains Sintakote® MSCL was chosen as the optimum pipeline system based on proven performance, quality and fast installation, using locally sourced materials to manufacture pipe that tailors to the specific requirements of the project at hand.

The project required approximately 22 km of Mild Steel Cement Lined (MSCL) pipe. Steel Mains supplied 660 OD × 5 mm wall thickness × 12.2 m length Sintakote® cement-lined piping, comprising:

- 1,620 lengths (19.7 km) of Sintajoint® Rubber Ring Joint pipe
- 206 lengths (2.5 km) of Sintalock-1® Welded Rubber Ring Joint pipe
- 29 fabricated mitre bends to accommodate the site's unique layout and operational requirements.

Pipe manufacturing was completed at Steel Mains Somerton (VIC) and Kwinana (WA) facilities, with most deliveries accomplished via triple-trailer road trains. Close coordination with Power & Water Corporation and Exact Contracting ensured the installation schedule aligned with existing infrastructure requirements. The inherent flexibility of Steel Mains unique jointing systems supported efficient installation while delivering long-term durability, industry leading design life, and future water security for the region.

A key installation challenge was the pipeline's proximity to high-voltage power lines. In this environment, Sintajoint® provided a significant safety advantage. Sintakote® features excellent insulating properties, effectively isolating each pipe length, minimising electrical continuity, and ensuring any electrical path across the joint is negligible (limited only to the conveyed water). Because the coating is continuous and holiday free across the entire external surface, each pipe is completely insulated from the surrounding soil, delivering exceptional corrosion protection while inhibiting induced electrical currents. This design enabled compliance with Australian Standard AS4853:2000 – Electrical Hazards on Metallic Pipelines, which provides means to determine voltages generated and mitigation methods for pipelines near electrical infrastructure. Qualified electrical engineers applied the standard to ensure safe construction adjacent to the power lines. Exact Contracting implemented additional safety controls including laser curtains for plant, electrically earthed equipment, and enhanced protective measures during welding.

To support safe and efficient installation in these conditions, Steel Mains provided comprehensive on-site installation training, ensuring the construction team was fully equipped to work with the unique jointing systems and safety requirements. This was complemented by ongoing technical support throughout construction, enabling rapid issue resolution, maintaining quality assurance, and ensuring the pipeline was installed in accordance with best practice and project specifications.

Steel Mains commitment to local sourcing not only supports Australian manufacturing and jobs, but also ensures shorter lead times, reduced transport costs, and greater responsiveness to project requirements. With manufacturing facilities based in Somerton and Kwinana, Steel Mains was able to provide tailored solutions with consistent quality control and compliance with national standards. The Sintakote® MSCL system offers superior corrosion protection and structural integrity, making it ideal for challenging environments and long-term infrastructure planning, providing a reliable pipeline system for the Manton Dam Return to Service Pipeline Project. Combined with decades of experience in delivering water infrastructure across the country, Steel Mains stands out as the trusted partner for reliable, sustainable, and future-ready pipeline solutions.

Achievement

The Manton Dam project demonstrates why the Steel Mains Sintakote® Steel Pipeline System remains a leading choice in the water industry, delivering Australian made infrastructure tailored to each client's specific requirements. Steel Mains ability to provide a pipeline system that ensures long-term safety and sustainability despite significant environmental and infrastructural challenges highlights the success of its collaboration with Exact Contracting and Power & Water Corporation.

The completed pipeline strengthens the long-term water security of the Darwin region, providing a robust, corrosion resistant solution designed to meet the needs of both current and future generations. This project stands as a testament to the reliability, sustainability, and innovation that underpin Steel Mains approach to water infrastructure.