



DN1400 Stirling Trunk Main Duplication

Client:
Water Corporation

Location:
Waroona WA

Construction Period:
Feb 12 – Mar 13

Project overview

The existing Stirling Trunk Main is a DN1400 pipeline that runs from Harvey Dam to the Perth metro area where it links in with Water Corporation's existing infrastructure.

In order to accommodate the increased volume required from the upgraded Southern Seawater Desalination Plant in Binningup, we were contracted to duplicate a 23km section of DN1400 MSCL main from Yarloop to Coolup. Timing of the pipeline was critical as it had to be completed and commissioned in advance of the desalination plant upgrade. This would allow for the plant to be put into service as soon as it was available.

Given the large number of key stakeholders, we undertook a thorough consultation process to ensure a seamless transition from planning through to commissioning of the project.

The entire alignment ran alongside the existing DN1400 trunk main which remained operational throughout the project. Tie ins to the existing infrastructure were completed under tight shutdown periods.

57,000m³ of material was field tested and treated for acid sulphate soils and backfilled on the same day. NATA lab testing confirmed results. This provided Water Corporation with a significant reduction in offsite treatment costs.

Significant achievements and benefits

DM Civil used effective construction methods, specific management plans and worked closely with Water Corporation to ensure the existing pipeline continued to maintain Perth's water supply during construction of the duplication main.



Water Corporation required the pipeline to be fully operational before the desalination plant's commissioning. Therefore, construction of the pipeline needed to continue through winter. The soil type in the Harvey-Waroonna area gets heavily waterlogged in the wet winter months. Given this, after assessing the programme, DM Civil approached Water Corporation with a revised schedule that allowed for work primarily in road verges during winter. This change was critical to meeting the Water Corporation's completion timeframe.

Due to a moving construction front, we offered an alternative method that tested and treated acid sulphate soils (ASS) on site, which could then be backfilled immediately based on field results and confirmed by lab tests the following week. This methodology proved to be 100% successful, with no re-excavation for further treatment required. Water Corporation received considerable cost savings, given 57,000m³ was treated.

Two major tie ins were completed into the existing DN1400 trunk main and the DN900 Samson Brook Main. These were required to be completed under strict shut-down periods and were methodically planned and executed by DM Civil to ensure Water Corporation's ongoing operations weren't affected.

This project won the 2013 Civil Contractors Federation (CCF) WA Earth Award Category 4 and was a finalist in the National CCF Earth Awards for the same category.

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Perth's water supply can now be supported with additional volume from the upgraded Southern Seawater Desalination Plant.

Contact DM Civil to discuss your pipeline projects.

GUARANTEED PERFORMANCE

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