

ALKIMOS WATER DISTRIBUTION MAIN

Peet Alkimos / Water Corporation

Location

Alkimos, WA

Commencement

May 2010

Completion

Nov 2010

Contract Value

\$0.55 million

Client

Peet Alkimos



Zero Harm

The project is 100% complete and there have been no lost time injuries.

LTIs: 0

MTIs: 0

Overview

The Alkimos Water Distribution Main is located along Marmion Ave near Alkimos in the northern suburbs of Perth. The project, which consisted of DN700 to DN900 MSCL pipelines, enables new subdivision development to proceed to cater for Perth's growing population.

Contract Supervision

The contract was managed by a Design Consultant with Cobey as Main Contractor.

Scope

Cobey was awarded the contract to construct 440m of DN900 to DN700 welded and rubber ring joint MSCL pipe to be installed below ground.

The works required were:

- Locate/Protect existing services
- HV Power Supervision
- Excavation & Backfill works
- Rock Excavation
- Importing of suitable fill
- Pipe handling & installation
- Supply of MSCL pipe fittings
- Supply of DN900 – DN700 valves
- Site welding of pipe joints
- Traffic Management
- Hydrostatic Pressure Testing
- Pipe Disinfection
- Full site reinstatement

Project challenges

Delays of several months were encountered as a result of larger diameter butterfly valves with long lead times not pre-ordered by the Principal.

Hard rock was expected and was found in some areas along the pipeline route.

The DN700 section of this pipeline was designed as unrestrained (RRJ) and this presented a challenge for hydrostatic pressure testing.

Existing services in the area were accounted for in the pipeline design. The crossing of HV Power cables and a dormant water reticulation main was required for the DN700 & DN800 pipeline sections.

Traffic flows had to be maintained whilst constructing the pipeline and limited the extent of road closures.

Managing the challenge

We managed the job successfully working with the Design Consultant and Water Corporation by providing quick and efficient responses to changes.

Cobey ensured valve delays and rock would not be a threat to the completion date by continuing construction of the pipeline without the section valves prior to the long lead time valves arriving.

Together with the Design Consultant and Water Corporation, Cobey provided and implemented a solution to restraining the last 80mtrs of DN700. By using a revised design of existing weld bands, Cobey quickly manufactured and site welded restraints to RRJ pipe joints to allow testing to commence.

Careful excavation and pipe installation using Western Power was required from Cobey when installing the water main under the existing HV Power cable.

Adding Value

We added significant value by pro-active approaches to site changes.

MSCL fittings were fabricated by Cobey's at their workshop and combined with valves or other combination bends and transported to site. This maximised workshop fabrication and minimised site welding, reducing time and safety risks.

With Cobey's knowledge of Water Corporation standards, Cobey ensured that recent standard design changes were implemented during construction. Items such as valve bypass arrangements not previously allowed for were added.

Cobey also ensured that a better means of site welding was used by deleting designed convex banded joints and carrying out internal render reinstatements.

