



## Quinns DN1950 Main Sewer

**Client:** Multiplex Macmahon  
Zeublin Joint Venture

**Location:**  
Alkimos

**Construction Period:**  
Jan 09 – Apr 09

### Project overview

The overall project consisted of approximately 5.2km of HDPE plastic lined DN1950 reinforced concrete sewer pipe, a wastewater treatment plant (WWTP), an ocean outfall and a further 1km of DN1950 sewer pipe to connect the WWTP to the ocean outfall. The construction of the sewer pipe line was carried out with a combination of open cut trenching and pipe jacking.

We were engaged by Multiplex Macmahon Zeublin Joint Venture (MMZJV), who form part of the Alkimos Water Alliance, as the preferred contractor for the construction of the open cut sections of the DN1950 sewer line. This was split into two sections totalling 1.1km.

The excavations were generally through a top layer of sand and a lower layer of very hard limestone and ranged up to a depth of 12m. A significant amount of survey was required to maintain the tight tolerance of 30mm and to provide a detailed as-constructed drawing for the Alliance. Each pipe weighed 5t, was 2.2m long and was HDPE lined.

**DM Civil successfully installed the DN1950 reinforced concrete pipes with a 28 degree curve over 202m. This eliminated the need for a purpose built manhole.**

## Significant achievements and benefits

One of the key elements to this project was installing the large diameter pipes to the smallest alignment and level tolerances. This was achieved by using our in-house survey team, who provided positions for each pipe on a daily basis.



We began this project in early January 09 and completed the works by the end of April 09, on time and on budget. This was due to the meticulous on site supervision and hands on approach from our Project Manager and site crew. A lot of forward planning and preparation ensured that the project ran smoothly.

The pipe alignment included a 28 degree curve over 202m or 84 pipes. Sewer mains are generally installed in straight runs, with changes in alignment achieved through manholes. Each pipe had to be deflected by 0.3 degrees to construct the curve as designed. This required significant survey and precision alignment and position for every single pipe.

As the main is gravity fed, the tolerance on each pipe had a maximum of 30mm and required constant survey checking to ensure this was achieved. Not a single pipe had to be re-laid and they tied in perfectly at each end to the bored sections done by MMZJV. This demonstrated the commitment of our crew to deliver a high quality result.

Our methodologies, safety and environmental systems ensured that this project was completed without any environmental incidents or lost time injuries.

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**The successful completion of the open cut sections of the project ensured the Multiplex Macmahon Zueblin Joint Venture were able to complete and commission their works as part of the new Alkimos Wastewater Treatment Plant. This necessary piece of sewerage infrastructure meets the needs of the growing population in Perth's northern suburbs.**

**Contact DM Civil to discuss your pipeline projects.**

**GUARANTEED PERFORMANCE**

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