

FITZROY RIVER TO YEPPOON WATER PIPELINE PROJECT

OIL/GAS | SEWER | STORMWATER | POWER | **WATER** | TELCO

LOCATION	Rockhampton to Yeppoon QLD
CLIENT	Rockhampton Regional Council
PIPE	600mm & 750mm DICL
GEOLOGY	OTR, shale and rock
LENGTH	Ranging from 24 metres to 60 metres
TECHNIQUE	Thrust boring



PROJECT OVERVIEW

The Rockhampton to Yeppoon pipeline transports up to 15,000 mega litres per annum to the Capricorn Coast, and provides significant environmental benefits as it removes the need to extract water supplies from the Sandy Creek coastal dune system. UEA was contracted by Rockhampton Regional Council to install steel casing where the pipeline crossed under the State highway and Yeppoon Road.

DESIGN

The designs specified the installation of a 1025mm diameter steel case to accommodate the 750mm DICL at the two state highway crossings and a 900mm diameter steel casing to accommodate the 600mm DICL for seven Yeppoon Road crossings. A 450mm diameter steel case was also required to accommodate a 355mm polyethylene pipe. The allowable tolerances for the crossings were +/- 300mm in the horizontal, +/- 100mm in the vertical and +/-0.5mm grade.

CONSTRUCTION AND PRESSURE TESTING

UEA used its 80 tonne and 160 tonne auger boring machines, capable of drilling 300mm to 1025mm diameter holes, and engaged local surveyors and construction companies who brought invaluable local knowledge. The bore lengths ranged from 24 metres to 60 metres in length. The client required the drilling phase of the project to be completed in readiness for the open cut contractors to connect all crossings. UEA encountered several difficulties along the way:

- Monsoon season commenced 18 metres into the first bore with a subsequent 8 week delay
- Large cobble was encountered on several bores – not previously picked up in the geotechnical data
- Changing ground conditions required innovation around cutting heads and the installation process

A unique requirement for this project was that each installation had to be independently pressure tested to 1600kpa prior to connection to the open cut sections. In conjunction with the DICL supplier, an end cap was designed and constructed. A reduced pressure test requirement of 800 Kpa was agreed upon with the final test to be completed as part of the overall pipeline test.