

UNITY WATER SEWER RISING MAIN UPGRADE

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

PROJECT OVERVIEW

UEA completed a 1,100 metre design and construct pipe bursting upgrade for Unity Water in Deception Bay, Queensland. The existing main varied from a combination of 150mm-200mm pipes that were replaced with 250mm PE PN16.



LOCATION

Deception Bay QLD



CLIENT

Unity Water



PIPE

250mm PE



GEOLOGY

Sand & silty clay



LENGTH

1,100 metres



TECHNIQUE

Pipe bursting

SCOPE OF WORKS

Unity Water chose pipe bursting as the preferred method to replace the defective main for several reasons:

- Proximity to two schools and the need to reduce impact on local area
- The main was located under a footpath
- Proximity of the main to the root system of a large Moreton Bay fig tree
- Work was to be carried out close to main roads
- There was a possibility of working in contaminated or acid sulphate soils

Little was known of the exact location and depth of the existing main, so the first stage of the project was to pothole, locate and record this information using vacuum excavation. One finding from the investigation was that the actual pipe depth was significantly shallower than the depths supplied by the client at tender time – less than one metre deep as opposed to three metres deep. Due to the upsizing aspect of the project, without careful operation and monitoring during the bursting process, major damage could occur to the existing footpath.

CHALLENGES

- Project works were broken into 100 metre runs, with a pit located at either end for the machine and the other to launch the pipe into. Difficulties were apparent with the very first run, with minimal cover and the proximity to the local school.



- The potential to 'heave' the existing footpath during the bursting process (due to the minimal cover) was very high if the installation wasn't managed correctly. UEA's skilled staff limited this damage to less than 5% of the route, including the launch and receipt pits.
- Another issue identified during construction was the continual change in the existing pipe material. Sections of DICL were found at each of the road crossings, so specialised tooling was shipped from Germany to complete the bursting process.

COMPLETION

Once the new pipe was installed, the connections were completed and the new main was pressure tested. A commissioning plan was then developed and completed in conjunction with Unity Water and their maintenance crew.