

WESTERN SYDNEY RECYCLED WATER MAIN PROJECT

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

PROJECT OVERVIEW

The Replacement Flows project is part of the Western Sydney Recycled Water initiative – a joint venture between McConnell Dowell, United Group Infrastructure and General Electric (Deerubbin Water Futures) with Sydney Water as the principal client. The completed project takes tertiary treated effluent from the existing sewage treatment plants at Quakers Hill, St Marys and Penrith and treats it further in an Advanced Water Treatment Plant; the plant produces highly treated recycled water, discharged to the Hawkesbury-Nepean River to replace flows of drinking water from Warragamba Dam. The St Marys plant produces up to 18 billion litres of recycled water a year. To complete the upgrade, a total of 55kms of pipeline was installed and divided into five different operating lines.



LOCATION

Various locations in Western Sydney NSW



CLIENT

McConnell Dowell



PIPE

355 & 560mm SDR 11 polyethylene



GEOLOGY

OTR, shale & rock



LENGTH

Various lengths up to 380 metres



TECHNIQUE

HDD

SCOPE OF WORKS

Working closely with McConnell Dowell and Sydney Water, UEA successfully constructed the large majority of trenchless crossings on the Replacement Flows Project using HDD. There were a number of bores on the project, with the most significant being:

- Old Windsor Road, Seven Hills – 144m of 355mm
- M7 Motorway crossing – 345m of parallel 355mm and 560mm
- Prospect Highway, Seven Hills – 384m of 355mm
- James Ruse Drive, North Parramatta – 133m of 355mm
- Bells Creek/Richmond Road crossing, Dean Park – 300m of parallel 355mm and 560mm
- Sunnyholt Road, Blacktown – 110m of 355mm



CONSTRUCTION

UEA utilised several HDD rig types to successfully deliver this project: Vermeer D300, Vermeer D100, Vermeer D50 and Vermeer 36x50. Due to exacting grades, difficult access, busy arterial roads and requirements of pinpoint accuracy, the use of Paratrak HDD guidance technology was required on four crossings:

- Underneath the newly constructed M7 motorway
- The busy intersection of Old Windsor Road and Powers Road
- Prospect Highway from Seven Hills train station to Powers Road
- A crossing of James Ruse Drive exiting parallel to the Caltex multi products pipeline

OUTCOMES

Despite the complex nature of the bores, high service density, tight timeframes and difficult ground conditions, UEA delivered all of the HDD crossings on time, within tolerance and to budget.