

Mascot Gas Main Installation

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

PROJECT OVERVIEW

Good design and responsible delivery assured success on the recently completed SGW Jemena East HDD project, delivered as part of the Sydney Gateway Motorway Upgrade.

The 300 metre HDD crossing, required to install a 559mm steel gas pipe for the major project, was situated adjacent to Sydney Airport, between the busy Airport Drive and critical rail infrastructure. The crossing was delivered for Jemena via a joint venture between John Holland and Seymour Whyte, with HDD contractors UEA and pipeline specialist Wasco engaged to deliver the HDD scope of works.



LOCATION

Mascot, NSW



CLIENT

John Holland



PIPE

559mm steel



GEOLOGY

Sand, Marine Mud, ASS



LENGTH

300 metres



TECHNIQUE

HDD

SCOPE OF WORKS

Once HDD was determined as the preferred method, a feasible design was the next step. Given the proximity to Sydney Airport and the busy road and rail corridors, a fit-for-purpose, achievable design was a must in minimising risk to this vital infrastructure. “Prioritising HDD design geometry played a major role in this approach. “The vertical geometry in particular was vital to ensure we gained sufficient depth of cover to mitigate hydrofracture risk to the critical road and rail infrastructure, while minimising our drilling in the more challenging geotechnical layers and the deeper harder layers,” said Stephen Sullivan, Senior Project Engineer – Utilities Stage 1 for the Sydney Gateway Project.

With design and approval stages complete, and UEA’s Maxi rig spread mobilized, drilling commenced. Almost immediately after punching in, an uncommon obstacle arose in the form of significant quantities of large shells and timber fragments returning in the drilling fluid. “While some shell and timber fragments



were picked up in geotechnical reports, the quantity and size of these materials coming back in fluid returns was remarkable,” Jonathan de Vos, UEA Operations Manager, said.

Despite the difficult ground conditions the pipe was installed without a hitch much to the satisfaction of the client. “When incorporating several parties into crucial HDD operations, the importance of clear knowledge and consensus on the end goal and how to get there cannot be overstated,” said Stephen Sullivan “This project going off so successfully is a testament to that and a credit to all involved.”