

# OCEAN OUTFALL HDD FOR A MAJOR AUSTRALIAN TELECOMMUNICATIONS COMPANY

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

<b>LOCATION</b>	Narrabeen NSW
<b>PRODUCT</b>	Communications cable
<b>PIPE</b>	Steel
<b>GEOLOGY</b>	Sandstone and sand
<b>LENGTH</b>	800 metres
<b>TECHNIQUE</b>	HDD



## PROJECT OVERVIEW

Two major Australian telecommunications companies, along with Spark New Zealand, formed a joint venture partnership to deploy an undersea telecommunications cable system between New Zealand and Australia, known as the Tasman Global Access (TGA). The cable provides a 2,300 kilometre link between Raglan, in New Zealand, and the Northern Beaches, in Australia. The system will provide an alternative route for trans-Tasman communication traffic, significantly improving New Zealand’s international connectivity, as well as strengthening links into fast-growing Asian markets.

One of the telecommunications companies engaged UEA to construct a new access chamber in the Northern Beaches and install a 5-1/2 FH steel conduit from the access chamber 800 metres southeast to a location on the seabed off of one of the Northern Beaches.

## SCOPE OF WORKS

During the course of the project, UEA was tasked with the following work:

- Erect a sound proofing compound around the work site. UEA erected a scaffold system four metres high, enclosed the entire site and installed a sound attenuation system (from Echo Barriers) over the scaffolding – providing up to 50% reduction of noise.
- Use UEA’s Vermeer D300 HDD rig to complete the 800 metre ocean outfall bore installing a 5-1/2 FH drill pipe. This was left in situ as the telecom company’s required conduit.
- Employ and manage a suitable qualified diving company to remove UEA’s tooling equipment from the ocean and install a termination piece on the end of the drill string. This was finished when the bore was complete for the company to link up to when installing their cable.
- Construct a reinforced concrete pit within the street as the access chamber to pull the TGA cable into at a later date.



## 24 HOUR WORKS

Due to the ground conditions (sand), at tender stage UEA advised that they would have to drill 24 hours a day for five days in order to ensure a successful bore. Local residents needed to be advised and notified suitably of the intended works, so UEA liaised with local council and produced a Community Liaison Plan, placed an advertisement in the Manly Daily, and placed and manned an information stall on the corner of the street over one weekend. UEA also posted information letters to all residents within 100 metres of the project, and finally held an evening information session for residents. As all involved parties were properly advised of UEA's plan in advance, UEA's mobilisation to site was very smooth and there were no issues.

## TECHNIQUES USED

Techniques on site included:

- D300 HDD Rig to install mild steel case using wash over method to assist with steer of drill pipe during installation and to eliminate the risk of fluid frac out on Pittwater Road
- D300 HDD rig to install 800m of 5-1/2 FH drill pipe
- Steering Engineer employed to monitor pipe install and provide feedback to drill rig

## CHALLENGES

This bore presented a number of challenges from the onset, such as:

- Closing off the street and erecting the compound
- Drilling down the street and maintaining a safe distance from the existing previously installed conduit
- Drilling from sand ground conditions entering into rock ground conditions, while maintaining steer and grade, to achieve the agreed exit point location (the most technical challenge)

The scaffold and sound attenuation system were erected in three days, fully enclosing the site, and the steel case was installed in two days. 800 metres of 5-1/2 FH drill pipe was installed in six days and UEA managed to complete this by working 14 hour shifts, satisfying all concerned and avoiding the need to disturb residents at night.

The client was delighted with UEA's capabilities, the completed works and the accuracy of the installation. The site set up was professionally managed with very little impact on residents, and very few concerns or complaints were received. From inception to completion, UEA successfully completed the project in 23 days.