

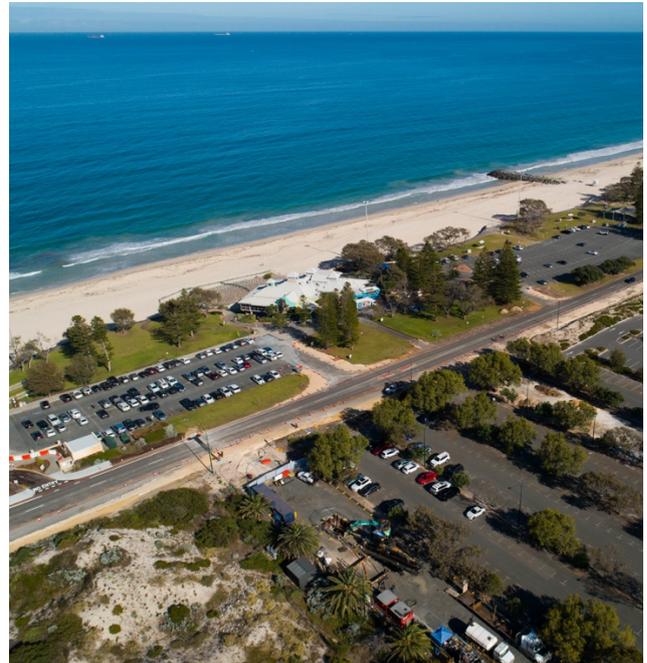


Oman-Australia Cable – City Beach, Perth Ocean Outfalls

OIL/GAS | SEWER | STORMWATER | POWER | WATER | [TELCO](#)

PROJECT OVERVIEW

As international business continues to grow, the need for fast and reliable telecommunications becomes ever more crucial. The Oman-Australia Cable (OAC) – laid between Perth, Australia and Muscat, Oman – is a high-speed fibre optics cable designed to increase the available volume of digital traffic transferred between Australia and EMEA (Europe, Middle East, America). Laid across the Indian Ocean and at approximately 9800 kilometres long, this cable avoids the somewhat unstable environmental and political conditions in the Asia-Pacific region. As a part of this network expansion, UEA was awarded two ocean outfall bores in Perth, Western Australia, to receive the incoming fibres into the Australian continent.



LOCATION

City Beach, Perth WA



CLIENT

SUB.CO



PIPE

149mm steel conduit



GEOLOGY

Sand, limestone & gravel



LENGTH

2 x 730m



TECHNIQUE

HDD

SCOPE OF WORKS

UEA was engaged as one of Australia's leading HDD and ocean outfall contractors. Having successfully completed similar bores within the same local council area in which the OAC works would occur, UEA was considered with favour and as a low-risk contractor. UEA's scope included the design and drilling of two HDD bores of approximately 730 metres in length, construction of an underground access chamber/manhole, proving and capping of installed steel conduits, works as executed survey and full site restoration. UEA engaged specialist dive teams to assist in all underwater activities at the exit site such as drill head removal and proving of the steel conduit.



CHALLENGES

Ocean outfall ventures present unique challenges not encountered during land-to-land HDD works. Working within sensitive marine environments requires crews to be extra vigilant when drilling to minimise any risk of drilling fluid loss. As a part of this, UEA's experienced drilling fluid engineers employed specialised products that presented little to no harm if lost to the marine environment.

UEA encountered several unexpected ground conditions throughout the project, including a gravel layer approximately 500 metres along the bore path on both bores, and several pockets of varying material within the limestone strata along the second bore. Though progression of the first bore was relatively unobstructed by the varying strata, high torque and drag resistance was experienced during the subsequent bore. In response, UEA installed wash over casing along a significant length of the bore to relieve pressure and resistance on the drill rods. UEA quickly adapted to these conditions and was able to continue to bore through each of these strata changes.

Other challenges faced throughout the project included:

- Uncertainties in accessibility and materials acquisition due to changing COVID-19 conditions
- Mandatory quarantine for workers when entering WA
- Working within popular community social hubs
- Sandy and unstable ground at the entry site required installation of steel conductor casing
- Design and construction of a custom pre-cast beach manhole pit to accelerate project handover.

COMPLETION

UEA utilised extensive knowledge of the local area and ground conditions to streamline the project throughout design, installation and handover. UEA's highly trained and experienced team was able to work through any and all challenges that presented themselves and used these as opportunities to further develop and refine their skills. The site was handed over to the client to schedule and with zero incidents.