

PPC-1 PROJECT

PROJECT PIPE PACIFIC CABLE-1 INSTALLATION

CLIENT PIPE NETWORK

TIME 2 MONTHS



SYDNEY



PIPE: **STEEL**
1540M CONDUIT
LONG FIBRE
D N 150 OPTICAL
CABLE

GEOLOGY:
HARD ROCK
FROM 110M
ABOVE SEA LEVEL

INSTALLATION:
HORIZONTAL
DIRECTIONAL DRILLING
FROM **ONSHORE**

RIG:
COEDRILL
550
250T CAPACITY
HDD RIG

Coe Drilling's comprehensive approach to project management gave consideration to all aspects of the PPC-1 Horizontal Direction Drilled (HDD) Shore Crossing from engineering and risk management through to marine and environmental analysis to deliver a considered methodology that accounted for the highly complex nature of the project.

PPC-1 is the first independent submarine cable in Australia and the single largest investment in Australia's competitive telecommunications infrastructure sector. The 6,900 kilometre long cable links Australia, PNG and Guam. Coe Drilling was engaged to provide specialist knowledge and experience in the delivery of this complex international project, for the design and construction of the HDD shore crossing.

The project location and geology presented unique challenges when it came to the installation of the crossing in a way that was cost-effective, environmentally sensitive and satisfied the client's specifications. The complexity of the project was determined by the installation conditions, which required the drill rig be installed at a park 110 metres above sea level in Sydney's Northern Beaches, drilling to an offshore HDD exit location in 21 metres of water through Hawkesbury Sandstone rock. Coe undertook a geotechnical investigation of the proposed route pre-design to ensure the planned borehole was located within competent bedrock and to ensure the marine end of the conduit had sufficient sand coverage to allow the offshore cable laying to be performed.

Coe Drilling's collaborative, early engineering approach to mitigating complex constructability issues delivered a detailed design solution that met and exceeded the client's requirements. The CoeDrill 550, a 250 tonne capacity HDD rig was used to install 5inch outer diameter steel casing 1540 metres in length. The conduit terminations onshore included the supply and installation of a precast concrete manhole for cable termination and jointing, whilst the offshore conduit was surveyed and located with a marker buoy for the client's cable ship to access and install the fibre optic cable.

Drilling operations commenced from the onshore location in September 2008. Throughout construction down hole pressures were continuously monitored, using a down hole pressure probe, to ensure that no Hydrofracture occurred.

PIONEERING PROJECT DELIVERY
MINIMISED PROJECT RISK
THROUGH UPFRONT
ENGINEERING

CONSISTENT ENVIRONMENTAL OUTCOMES
PRESERVED AND
PROTECTED ONSHORE AND
OFFSHORE ENVIRONMENT

PROVEN CONSTRUCTION APPROACH
DELIVERED A 1540M CROSSING
THROUGH HARD ROCK
GEOTECHNICAL CONDITIONS



TELECOMMUNICATIONS A QUANTA SERVICES COMPANY