





Table of Contents

About UEA	04
✓ Our People	04
✓ Our Systems	04
✓ Core Values	05
✓ Operations	05
Our Services	07
Maxi Rig Capabilities	09
Our Maxi Rig Expertise	12
Ocean Outfall HDD Capabilities	15
Our Ocean Outfall HDD Expertise	18
Key Equipment	21





About UEA

UEA is one of the most recognised and highly regarded Horizontal Directional Drilling (HDD) contractors in Australia. Over 25 years of experience, across all major utility sectors, has enabled UEA to provide a quality of service and engineering matched by few others.

Often working in technically challenging environments, UEA has built a reputation for turning the complex into simple.

Complex projects are our forte, and our management team thrives on the demands associated with building the difficult. Through a combination of state-of-the-art equipment, the best personnel in the industry, a consistent commitment to HSEQ and working closely with our clients, UEA prides itself on a track record of delivering successful projects.

We understand our client's requirements. We are highly skilled. We embrace the challenge. We are proud of our people. We deliver our projects on time – always. We provide quality every step of the way.

Our People

Our best assets are our people

UEA develops training systems and programs that ensure our people are equipped with the latest tools to conduct their work, and to deliver a best-for-project solution each and every day. UEA embraces the competency and education systems within our business. By adopting these practices, UEA is investing in the future of its business and providing our employees with every opportunity to progress within the industry.

Our Systems

UEA adopts a common-sense approach to our daily safe work practices, environmental protection and project quality.

At UEA, we take the ongoing health, safety and wellbeing of our staff and stakeholders very seriously, with a proactive commitment to zero harm. Each project has specific management plans developed, providing a solid framework for site compliance and building excellence.

UEA has fully accredited safety, environmental, and quality management systems:



Core Values

A company can purchase state-of-the-art equipment and machinery, but it is the people behind the wheel that really count.



Safety & Wellbeing



Integrity & Respect



Reliability & Accountability



Teamwork & Excellence



Balance & Fun

Operations

In our 25+ years of operating, UEA has consistently delivered – and continues to deliver – high quality HDD projects for our clients around Australia.







Our Services

UEA's horizontal directional drilling skillsets have been developed on the back of the delivery of significant and complex projects over the last 25 years.

A pioneer of the industry, UEA matches state-of-the-art technology with old-fashioned know-how to get the job done smoothly and simply. Both lessons learned and experiences gained enable UEA to provide its client base with simple solutions to what are sometimes deemed difficult or even impossible projects. This is what makes UEA an honest and reliable option when considering horizontal directional drilling as a solution.

UEA owns and operates four HDD maxi rig set ups from 150 tonnes to 300 tonnes and provides HDD installations to meet a variety of needs.

Our experienced Project Management team assesses each project on its individual merits and develop strategies to suit the technologies and equipment available. Working closely with the client, projects are delivered on time and within budget, providing sound advice around machine selection, bore design and tooling requirements.

Services and Capabilities

- ✓ Carrier pipe outside diameters up to 1,200mm (48 inches)
- ✓ Installation distances up to 2,000 metres
- ✓ Walkover & wire line tracking systems
- ✓ Multi-conduit installations
- ✓ Ocean outfalls
- ✓ All utilities catered for
- ✓ Renewables installations
- ✓ Major oil and gas pipeline installations

Turnkey Capabilities

UEA has the ability to provide some turnkey solutions as part of the HDD scope.

- ✓ HDD bore design services – whether a complete design or just verification
- ✓ Experienced project engineering and management solutions
- ✓ ECI opportunities on key projects
- ✓ PE pipe supply and welding







Maxi Rig Capabilities

UEA currently owns and operates several HDD maxi rig spreads all supported by state of the art drill mud cleaning technology and fit for purpose mud pumps. UEA can deliver long, large and complex HDD installations in varying ground conditions. UEA's experienced drill crews have significant experience in delivering successful projects. From concept through to delivery, you can rely on UEA's professional team to live up to expectations.

Featured Project: Shoalhaven River Crossing

Project Overview

Shoalhaven Water's "Reclaimed Water Management Scheme" (REMS) Stage 1B involved major upgrades to Bomaderry and Nowra WWTPs to increase both the capacity and level of treatment at each site to achieve high quality reclaimed water suitable for either beneficial reuse or discharge to receiving waters. UEA's scope of work included a 2.9km transfer main to allow reclaimed water to be transferred between Bomaderry and Nowra WWTPs.

Key Project Highlights

- ✓ Successful completion of 1,410m HDD river crossing without environmental issues
- ✓ Installation of 130m of steel conductor casing through silt, sand, gravel and cobble
- ✓ Use of an Australian-first PN32 HSCR PE112
- ✓ Delivery of a defect free, turnkey design and construct pipeline

Scope of Works

UEA's engagement specifically involved two distinct deliverables: Milestone 5, the performance of the Pipeline Design Development Services, and Milestone 6, including the construction and commissioning of the proposed pipeline connecting the Bomaderry WWTP to the Nowra WWTP. Construction works comprised the 1,410m Shoalhaven River crossing with 130m of conductor casing through poor soils, three land based HDDs up to 200m, open cut trenching, fittings, pipe supply and welding.

Outcomes

The project was delivered ahead of schedule and incident free, without a single defect on the new pipeline.

Carmel Krogh OAM, the Director of Shoalhaven Water at the time, said of the project: "a great achievement by UEA - you have done a fabulous job and were the epitome of professionalism".



Location

Shoalhaven River,
Bomaderry to
Nowra



Client

UGL



Pipe

400mm PN32
HDPE pipe



Geology

Sand, silt, gravel/
cobble, meta-siltstone/
meta-sandstone



Length

1,410 metres



DANGER
POWER LINES
OVERHEAD
HEIGHT

ERDEM KECHT
LIFTING

CONTROLHIRE CONTROLHIRE CONTROLHIRE CONTROLHIRE

CONTROLHIRE
LIFTING SYSTEMS

CONTROLHIRE



Featured Project: Port Kembla Lateral Pipeline Project

Project Overview

Jemena's Port Kembla Lateral pipeline involved the construction of a 12km DN450 buried gas transmission pipeline to connect the new Australian Industrial Energy Port Kembla Gas Terminal to Jemena's existing Eastern Gas Pipeline. UEA's scope of works included installing 4km of the pipeline via Horizontal Directional Drilling. The 4km was split into ten separate underbores, eight of which included a drilled mud return line.

Key Project Highlights

- ✓ Installation of a significant crossing requiring a two-day pipe installation with tie in welds
- ✓ Innovative methodology to overcome excessive volumes of contaminated ground water
- ✓ Utilisation of gyro to successfully pilot as per the design project tolerance for an underbore that did not have alignment access
- ✓ 100% compliance with Jemena and Nacap's specification

Scope of Works

UEA mobilised three maxi rig spreads to complete the package of ten underbores. UEA utilised two Herrenknecht 250C's, a Vermeer D330, a Gallagher 660 and D100 across the three crews to successfully bore and install the 4kms of drilling.

Three steering engineers were designated to the works at the height of the project. Paratrack2 was utilised as the preferred method of tracking for eight of the ten underbores. Due to access restrictions for one of the sites, the methodology was changed, and a Gyro module was utilised to ensure the accurate steering of the pilot bore.

Outcomes

Following the completion of each underbore, a coating integrity test was conducted by a NACE Certified Cathodic Protection Specialist, with all installed pipes receiving a successful result. UEA delivered the underbores on time and were able to overcome the various challenges that each separate underbore posed.



Location

Port Kembla, NSW



Client

Nacap



Pipe

18" steel



Geology

Marine mud, clay, slag, coalwash, hard rock



Length

4,043 metres across 10 HDD crossings

Our Maxi Rig Expertise

Power

Lake Conjola NSW



Client
Endeavour Energy



Pipe
180mm PN25



Geology
Sand & sandstone



Length
920 metres

Recycled Water

Upper South Creek NSW



Client
John Holland



Pipe
1,000mm, 900mm
& 450mm SDR9



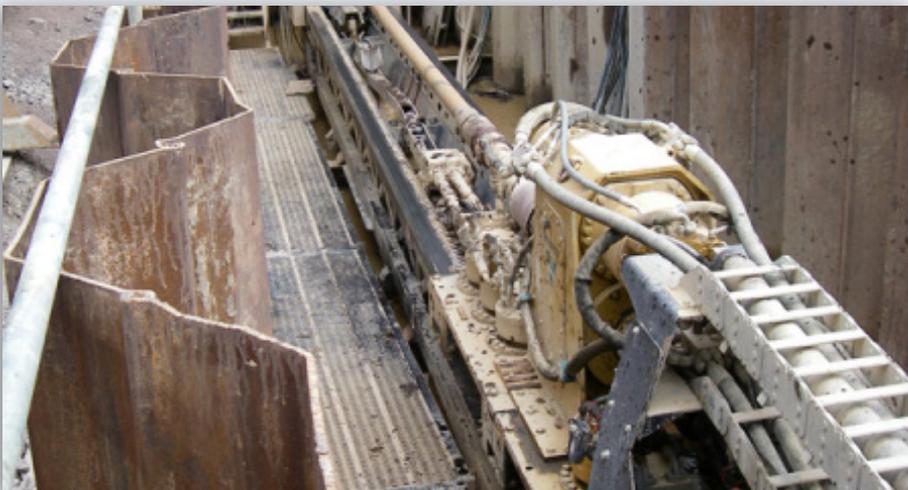
Geology
Shale and Sydney
sandstone



Length
3,562 metres

Rising Main/Sewer

Brightmore Park, Neutral Bay NSW



Client
Sydney Water
SewerFix Alliance



Pipe
500mm SDR 11
polyethylene



Geology
Sydney sandstone



Length
1,403 metres

Oil
KWOL WA



Client
Spiecapag



Pipe
324mm (13 inch)
steel main



Geology
Limestone & sand



Length
3,800 metres

Gas
Tallawarra, Yallah NSW



Client
Nacap



Pipe
272mm steel



Geology
Sandstone &
broken ground



Length
763 metres

Multi
Batemans Bay NSW



Client
John Holland



Pipe
63mm/110mm
140mm/160mm
180mm/400mm



Geology
Clay, sand &
sandstone



Length
2,000 metres of
river crossings,
1,600 metres of
land based HDD





Ocean Outfall HDD Capabilities

UEA has become a contractor of choice for complex ocean outfall works. Using its fleet of maxi rigs, UEA has the ability to install significant outfalls for desalination, power and communication projects. Working closely with the designers and diving companies has ensured that these difficult outfall projects have been delivered successfully.

Featured Project: Hawaiki HDD Ocean Outfall

Project Overview

The project at large involved a new submarine cable linking Australia and New Zealand to Hawaii and mainland United States, which will help eliminate the distance between all Pacific communities and boost socio-economic development through the provision of broadband access.

Key Project Highlights

- ✓ 1,300 metre installation
- ✓ 60 metres of cover at its deepest point
- ✓ Punch out at 32 metres water depth
- ✓ All design works and assistance with marine permits provided by UEA's team
- ✓ UEA managed all co-ordination works with marine diving teams

Scope of Works

UEA was engaged to design and install the 1,300 metre conduit from its ocean landing point close to Coogee Beach into the beach manhole at Trenerry Reserve.

Outcomes

- ✓ Project delivered on time and on budget
- ✓ Drill punch out only 500mm offline from proposed exit location
- ✓ No service hits
- ✓ The client was suitably impressed with UEA's performance, stating that "completing the 1,300 metre bore without a single wireline fault or trip was a great result and a testament to the crew on site following all due processes and the quality of their work."



Location

Coogee, NSW



Client

Hawaiki Submarine Cable



Pipe

Steel conduit, 103mm ID



Geology

Hawkesbury sandstone & sand



Length

1,300 metres





Featured Project: Kemerton Brine Ocean Outfall

Project Overview

As part of the construction of an industrial water processing plant in Kemerton, Western Australia an 11km brine pipeline had to be installed between the Indian Ocean at Binningup and the plant location.

UEA's scope involved the design and installation of a 1083 metre single outlet diffuser outfall. The ocean outfall, installed via Horizontal Directional Drilling, is located 400 metres from the shoreline, with the outlet pipe fitted with a jet diffuser protruding above the seabed.

Key Project Highlights

- ✓ Efficient management and training of the diving crew to communicate with the drill operator when working around the exposed HDD tooling assembly on the seabed
- ✓ Communication with the local Bunbury Port to organise the towing and removal of the tooling disassembled on the seabed
- ✓ Installation of the 1,083 metres of pipe completed by two crews working 24 hours a day, 7 days a week

Scope of Works

The location of the project was within an environmentally sensitive area and comprised of difficult sand and limestone ground conditions. In order to reduce project risk, two crews were mobilised to allow operations to run 24 hours a day, 7 days per week. UEA's Herrenknecht 250C was the machine of choice to deliver the complex bore. A combination of on-site and remote steering was used to fit in with the requirement to work 24 hours per day.

The alignment extended approximately 400 metres from the shoreline. On the morning of the installation day, the pipe string was floated out to sea by UEA's diving crew. The pipe was successfully connected to the drill string by mid-morning, with the pull back running smoothly and completed within 12 hours. Effective planning and timing were crucial in managing the pipe installation due to the added layer of complexity with floating the pipe out to sea in the limited window of calm weather conditions.

Outcomes

- ✓ Project delivered in line with the program
- ✓ Project completed incident free
- ✓ Effective assessment of the weather conditions and timing surrounding the pipe installation



Location

Bunbury, WA



Client

Harvey Water and
ADDS



Pipe

280mm PN25



Geology

Sand & limestone



Length

1,083 metres

Our Ocean Outfall Expertise

Water

Agnes Waters / 1770 QLD



Client
Trility



Pipe
630mm PN 16
PE100 HDPE



Geology
Rock



Length
610 metres

Communications

Narrabeen, Northern Beaches NSW



Client
Telstra



Pipe
149mm steel
conduit



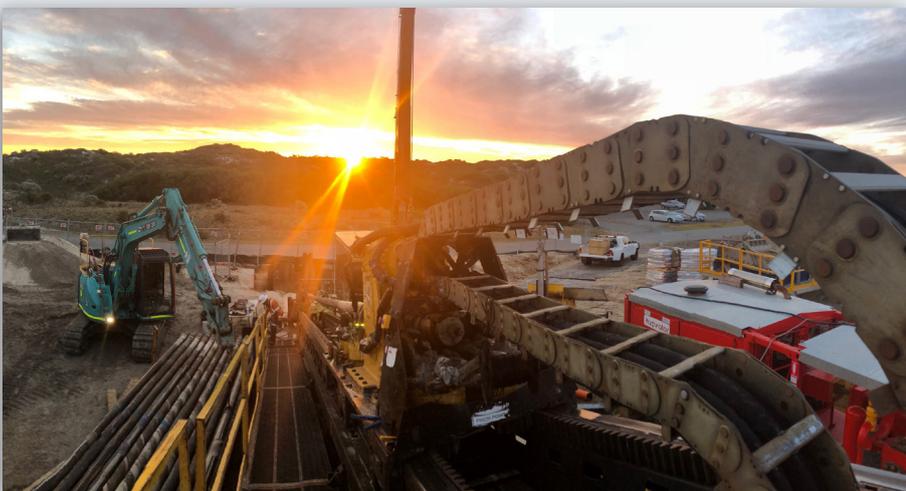
Geology
Sand & sandstone



Length
811 metres

Communications

Floreat Beach, Perth WA



Client
Telstra



Pipe
149mm steel
conduit



Geology
Sand & limestone



Length
800 metres

Power

Scotland Island NSW



Client
AusGrid



Pipe
225mm SDR 9



Geology
Hawksbury
sandstone & sand



Length
530 metres

Communications

City Beach WA



Client
SUB.CO



Pipe
149mm steel
conduit



Geology
Sand, limestone &
gravels



Length
2 x 730 metres





2015
RSC1712087
EX016
74376 D

UEA

74376 D

LEFT
HAND
DRIVE

EX016

EX016
CX35C SR

E
KK28 023

Key Equipment



HDD Rigs

- ✓ Range from 150 tonnes to 300 tonnes thrust and pullback
- ✓ Distances up to 2,000 metres achievable
- ✓ Carrier pipe diameters up to 1,200mm
- ✓ All ground conditions catered for



Pumps

- ✓ Full range of electric and diesel - high pressure, return and mixing pumps
- ✓ Up to 600 gallons per minute offboard
- ✓ Comprehensive spares packages maintained



Cleaning Systems

- ✓ Trailer mounted, mobile and skid mounted units
- ✓ Standalone mixing and recycling units
- ✓ Capable of processing 150 gallons per minute through to 1,000 gallons per minute
- ✓ Allows significant waste reduction and reduced truck movements
- ✓ Centrifuge systems also available to work alongside cleaning systems where required



Vacuum Trucks

- ✓ 6-wheel, 8-wheel and semi-trailer units
- ✓ Range from 6,000 to 20,000 litre capacity
- ✓ In-house potholing and positive service location
- ✓ All waste transported to EPA licensed facilities



www.uea.com.au