

2023 / Port Kembla Lateral Looping Pipeline Project

Methods - Design types

HDD - Complex Geometry

Complex HDD geometry using horizontal and additional vertical radii

AUGR - Horizontal Auger Boring

Limited-steerability trenchless method for straight crossings

AUGR - Laser guided Auger Boring

Auger boring with precision and tolerance compliance

HYBRID - Pilot Tube Method - Reaming

Pilot tube guided and reaming to enlarge bore hole for pipe

HAMR - Simple Arrangement

Non-steerable but with zero annulus borehole

Crossing types

ROAD, RAIL, SVC, ENV

Location

Port Kembla, NSW, Australia

Date

2023

Method

HDD, AUGR, HAMR

Pipe utilisation

Telecommunications Cables, High/ Transmission Pressure Gas

Borehole Diameter

12.25" - 32"

Crossing length

18m - 951m

Pipe types

Steel, Steel Coated

The Port Kembla Lateral Looping Project involved the construction of a 7.8 km buried gas pipeline linking the proposed Port Kembla Gas Terminal at Spring Hill with Jemena's Eastern Gas Pipeline at Kembla Grange. This new section of pipeline was built to strengthen gas supply security for New South Wales and the broader east coast market, supporting heavy industry, local businesses, and communities that depend on reliable energy.

To complete the project safely and efficiently, trenchless construction methods were applied at multiple locations along the alignment. These methods made it possible to cross environmentally sensitive areas, major roads, rail lines, and existing utility easements without large-scale excavation. By using trenchless techniques, the project team avoided road closures, reduced the impact on local residents and businesses, and protected natural environments in the corridor.

The trenchless sections of work required careful planning and complex methodology to manage risks and keep costs under control. Special attention was given to the design of each crossing to ensure the pipe could be installed without compromising its long-term performance. This approach allowed the project to be delivered with minimal disturbance to the community while still meeting strict safety, environmental, and engineering requirements.

The Port Kembla Lateral Looping Project shows how trenchless construction can provide practical solutions for building critical energy infrastructure. By using these techniques, the project team ensured that the pipeline was installed in a way that balanced efficiency, cost, safety, and environmental responsibility.

Crossings

	Name	Month/Year	Location	Crossing	Method	Length	Depth	Diameter	Pipe type	Geology
1	HDD01 - PKCT U/G CONVEYOR	2022	Port Kembla, NSW, AU	Road	HDD	330m	17m	28"	Steel Coated	OTR/Gravels
2	MRL01 - PKCT U/G CONVEYOR	2022	Port Kembla, NSW, AU	Road	HDD	330m	17m	12.25"	HDPE	OTR/Gravels
3	HDD02 -GURUNGATY CREEK	2023	Port Kembla, NSW, AU	Road	HDD	303m	16m	28"	Steel Coated	OTR/Gravels
4	MRL02 - GURUNGATY CREEK	2023	Port Kembla, NSW,AU	Road	HDD	303m	16m	12.25"	HDPE	OTR/Gravels
5	HDD03 - BLUESCOPE NORTHGATE	2023	Port Kembla, NSW, AU	Environmental	HDD	309m	20m	26"	Steel Coated	Rock/OTR /Gravels
6	MRL03 - BLUESCOPE NORTHGATE	2023	Port Kembla, NSW, AU	Road	HDD	309m	20m	12.25"	HDPE	Rock/OTR /Gravels
7	HDD04 - SOUTH COAST RAIL & SPRINGHILL RD	2023	Port Kembla, NSW, AU	Rail	HDD	408m	28m	26"	Steel Coated	Rock/OTR
8	MRL04 - SOUTH COAST RAIL & SPRINGHILL RD	2023	Port Kembla, NSW, AU	Rail	HDD	408m	28m	12.25"	HDPE	Rock/OTR
9	HDD05 - BLUESCOPE ENTRY RD &LINFOX FACILITY	2023	Port Kembla, NSW, AU	Environmental	HDD	478m	15m	26"	Steel Coated	OTR/Gravels
10	HDD06 - ALLANS CREEK	2023	Port Kembla, NSW, AU	Road	HDD	412m	23m	28"	Steel Coated	Rock/OTR /Gravels
11	MRL06 - ALLANS CREEK	2023	Port Kembla, NSW, AU	Road	HDD	412m	23m	12.25"	HDPE	Rock/OTR /Gravels
12	HDD07 - FIVE ISLANDS RD & WAYNOTE PL	2023	Port Kembla, NSW, AU	Service	HDD	366m	25m	26"	Steel Coated	Rock/OTR /Gravels
13	HDD08 - BERKELEY RD	2022	Port Kembla, NSW, AU	Service	HDD	463m	17m	26"	Steel Coated	Rock/OTR /Gravels
14	MRL08 - BERKELEY RD	2023	Port Kembla, NSW, AU	Service	HDD	463m	17m	12.25m	HDPE	Rock/OTR /Gravels
15	HDD09 - NOLAN ST	2023	Port Kembla, NSW, AU	Service	HDD	76m	3m	26"	Steel Coated	Rock/OTR
16	HDD10 - PRINCES MWAY/HWAY & SOUTH COAST RAIL	2022	Port Kembla, NSW, AU	Service	HDD	951m	32m	26"	Steel Coated	Rock/OTR
17	MRL10 - PRINCES MWAY/HWAY & SOUTH COAST RAIL	2022	Port kembla, NSW, AU	Service	HDD	951m	32m	12.25"	HDPE	Rock/OTR
18	OTM11 - PKCT ROAD 1	2023	Port Kembla, NSW,AU	Service	AUGR	18m	4m	29"	Steel Coated	OTR/Gravels
19	OTM12 - TOM THUMB RAIL BORED CROSSING	2023	Port Kembla, NSW, AU	Rail	HAMR	20m	5m	32"	Steel Coated	OTR/Gravels
20	OTM13 - TOM THUMB ROAD BORED CROSSING	2023	Port Kembla, NSW, AU	Road	HAMR	23m	4m	32"	Steel Coated	OTR/Gravels