

PEZZIMENTI TUNNELBORE



Specialising in: **Highly Accurate, Laser-Guided Microtunnels.**

Marrangaroo



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WEBSITE | www.pezzimenti.com.au



The 974m long double track Marrangaroo Rail Tunnel is situated on the Great Western Railway Line between Lithgow and Bathurst, NSW. The surrounding geology is sandstone and siltstone up to 100MPa in strength. There is a considerable flow of underground water which has led to drainage problems within the tunnel.

+ Pezzimenti Tunnelbore

After the award of the tender, Pezzimenti worked with the ARTC to redesign the drainage line to minimise risk to the rail line.

Client / Head Contractor

ARTC

Location

Marrangaroo

Length

178m

Manufacturer

Pezzimenti Laserbore™

Categories

**Railway Crossing
Sandstone / Siltstone
Freebore
Long Distance**



+ Beneath the Rail

The new design focussed on keeping all microtunnelling out of embankment fill and crossing the rail line at a depth of 6m in stable sandstone. A portion of the drainage line was to be laid in open cut due to fill ground and shallow depths.

The new design required a microtunnel 178m long at 1% grade run from the edge of the rail tracks at the end of the cutting and breakthrough in the proposed drainage pit at the end of the tunnel portal.

+ Flexibility & Freeboring

The flexibility of the freeboring technique, which enables the head to be withdrawn back through the self-supporting ground, made the design feasible as it was not possible to remove the head at the tunnel portal.

Very high ground water inflows were experienced during construction.

The microtunnelling was completed and the 500mm diameter S-Series jacking pipes from Humes were inserted.

Excavation of the pits, laying of the open cut sections and construction of the concrete drainage pits was completed by Roberts Civil.



+ Proximity of shaft to Railway Line



+ Boreline beneath track and exit point indicated close to tunnel entrance.

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For all inquiries – including Job Inspections,
Quotations and Project Feasibilities –
please don't hesitate to contact Pezzimenti
Tunnelbore. We are confident we'll hit the
mark on your next microtunneling project.

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When Accuracy Matters.