



## GEOFABRICS CASE STUDY



# BUILDING A RAILWAY LINE FROM MELBOURNE DIRECT TO BRISBANE

## PRODUCTS USED

### Triaxial Geogrid

- A multi-axial geogrid made from punched polypropylene sheets, forming a unique hexagonal structure with triangular apertures that confine and interlock with aggregate for soil stabilisation and ground improvement
- Reduces aggregate layer thickness by up to 50% without compromising performance, lowering excavation and fill costs
- Enhances layer stiffness to allow the use of lower-quality or recycled fill materials, reducing material costs
- Speeds up installation, offering a fast, cost-effective stabilisation solution for roads, working platforms and heavy-vehicle pavements

### Similar Product

Geofabrics® Geogrid™ Triaxial

### Bidim® Green Non-Woven Geotextile

- Premium non-woven geotextile made with a combination of Australian recycled PET and virgin plastic material
- Used in the construction of roads, railways and embankments where ground is soft and unstable
- Separates soft ground from fill material, providing filtration for drainage, increasing the life span of the road and reducing long-term maintenance costs

## PROJECT DESCRIPTION

Inland Rail is a once-in-a-generation project, building a railway line from Melbourne direct to Brisbane through Parkes NSW. It will allow double stacked containers to travel in a transit time of 24 hours or less, competing directly with road transport. This project completes the national freight network between Melbourne and Brisbane via regional Victoria, NSW and Queensland.

5.3 kilometres of new rail was required to be constructed at Parkes to allow a link with the Sydney, Broken Hill and Perth railway lines. The remainder of the project required upgrading 98.4 kilometres of existing rail track, including a full rebuild of the rail tracks, rail formation and supporting structures in the existing rail corridor.

Geofabrics met with the designers on numerous occasions to refine the foundation design of the railway, as construction was required to pass over weak subgrades. Various options were considered including the removal of poor subgrades.

## OUR SOLUTION

Lime stabilisation and Bidim A44 were used as a separation layer, while triaxial geogrid acted as a mechanical stabilisation layer under the capping layers.

Bidim A44 and triaxial geogrid can be flexibly deployed to reduce cost and save time compared to digging out soft subgrades and replacing with granular fill.

In total, 120,000 m<sup>2</sup> of Bidim A44 and 14,250 m<sup>2</sup> of triaxial geogrid were used in the project. By using products sourced by Geofabrics, the project was constructed on time and within budget.



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