



CASE STUDY:

ALBION PARK RAIL BYPASS

**ALBION PARK RAIL, NEW SOUTH WALES
OCTOBER 2019**

MIRAFI® PET

Mirafi PET high strength woven geotextiles have been engineered for long term reinforced soil applications, such as embankments on soft soils. They are manufactured using high tenacity polyester filaments for high tensile strength at low working extensions with minimal creep over the entire design life of up to 120 years.

Mirafi PET woven geotextiles provide the highest ultimate tensile and long term design strengths (LTDS) when compared to most other geotextiles.

High tenacity Polyester reinforcement is available in tensile strength from 100 kN/m to 2000 kN/m. The fabrics achieve their ultimate strength at elongations of 8% and mobilise 50% of ultimate strength at 5% strain making them the reinforcement of choice on major projects throughout Australia and New Zealand for over twenty years.

Roads and Maritime Services, New South Wales were looking at constructing a Bypass between Yallah and Oak Flats to bypass the Albion Park Rail suburb. The project was funded by The NSW Government, forecasted to be a \$630 million project.

When completed, the bypass would be removing the 'missing link' between Sydney and Bomaderry.

The subgrade condition warranted the use of geosynthetics to speed up the construction process including bidim geotextile for a drainage blanket, Prefabricated Vertical Drains (PVDs) for accelerating the consolidation process and TenCate PET high strength geotextile for improving the stability of embankments.

A total of 142,500 m² of Tencate Mirafi PET high-strength geotextile over six grades, 450,000m² of bidim geotextile over five grades and 250,000 lineal metres of Alidrain were installed by Fulton Hogan with support provided by Geofabrics.

The ongoing construction of the 9.8 km extension of the Princes Motorway between Yallah and Oak Flats bypassing Albion Park Rail allowed the removal of numerous heavy vehicles passing the suburban streets. To make the vehicle movements more efficient, 13 bridges will also be constructed.

> Albion Park Rail Bypass



Albion Park Rail Bypass construction photos - June 2019



Albion Park Rail Bypass construction photos - August 2019



Albion Park Rail Bypass construction photos - October 2019

All the bridge approaches are supported by high quality TenCate Mirafi PET high-strength geotextile. TenCate Mirafi PET products are made from high tenacity polyester yarn offering exceptional stress/strain behavior with low creep effects, long term properties for performance over the lifetime of the structure and longer rolls including custom made sizes to facilitate ease of installation.

This is just one of the iconic projects by Fulton Hogan to accelerate the construction process by using different geosynthetics in major highway construction. Products offered by Geofabrics are high quality and meet RMS specification. Geofabrics also offered Quality Assurance certificates to ensure the process was without delay.

Geofabrics worked closely with the project engineers of Fulton Hogan to finalise the supply schedule of different geosynthetics products and supplied on time which further avoided any delay in construction. The Bypass estimated to be complete in 2022, will improve the efficient movement of freight, locals and tourists, save up to 30% of travel time and increase overall road capacity.

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