



GEOFABRICS CASE STUDY



SAFER TRAVELS THROUGH THE ETON RANGE WITH MACCAFERRI TERRAMESH

PRODUCTS USED

MACCAFERRI® TERRAMESH® REINFORCED SOIL WALL WIRE MESH

- Gabion type facing with integral woven mesh soil reinforcement panels
- Versatile and modular system used to build reinforced slope systems and mechanically stabilised earth walls
- Improves corrosion resistance and enhances durability through the unique Galmac and Polymer coated Double Twist Mesh
- Geogrids can be included in system to augment the strength of the integral woven mesh soil reinforcement



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PROJECT DESCRIPTION

The Peak Downs Highway is a key transport route connecting the regional city of Mackay to the mining and agricultural areas of central Queensland. Eton Range is used heavily by trucks servicing the mining and agricultural industries, with a fuel tanker crossing the range every seven minutes to supply the mines within the Bowen Basin Coalfields. The range is also used by motorists travelling to and from work.

The Eton Range Realignment Project endeavoured to make the area safer by upgrading the existing range crossing to two lanes in each direction, with a split carriageway for the section of the Peak Downs Highway between Mackay and Nebo through Spencer's Gap. The project was jointly funded by the Australian Federal Government and Queensland Government, receiving a total investment of \$189.26 million.

OUR SOLUTION

The Eton Range crossing had tight bends and a steep grade (maximum 11%), rising 130 metres in less than 1.5 kilometres. The steep embankment required detailed safety control measures and innovative thinking to create an irrigation system which would ensure vegetation growth through the dry season.

Major earthworks with geotechnically designed embankments over 30 metres high were required, including excavation to existing cut faces and construction of two dual lane carriageways. The Geofabrics solution included a total of 16,274 custom made Maccaferri Green Terramesh Reinforced Soil Wall Wire Mesh units. The structure consists of 54 units at its deepest point, creating a height of 33 metres from foundation to the highest basket.

During installation in March 2017, the project encountered the severity of Cyclone Debbie. Despite the damage and challenges presented to local topography, including slips on the Peak Downs Highway, the Maccaferri Green Terramesh system remain unscathed.

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Sustainable solutions

As part of their submission for the Queensland Major Contractors Association Awards, Fulton Hogan spoke about the value that Green Terramesh added to the Eton Range Realignment Project:



By utilising Green Terramesh, the design reduced delivery costs of the project, increased the use of local quarry materials, reduced construction safety risks and significantly mitigated the potential destructive impacts of tropical rainfall on landscaping during the construction period.



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