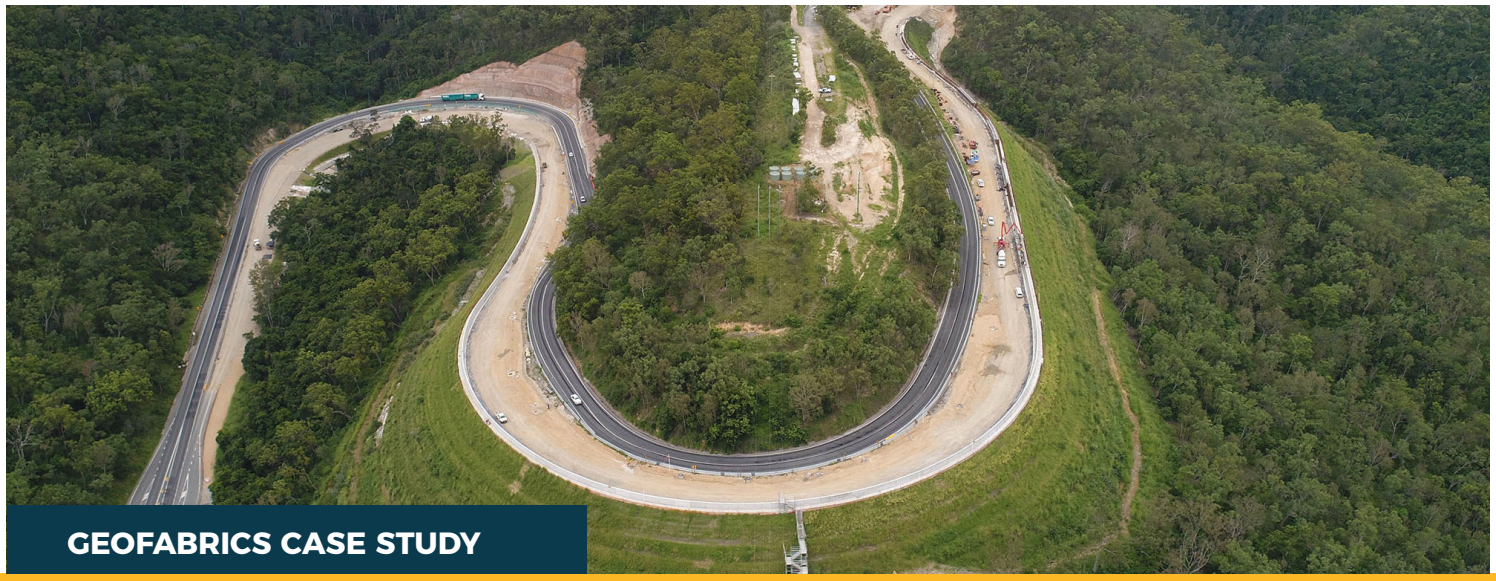

GEOFABRICS CASE STUDY

VEGETATED WIRE MESH SYSTEM DELIVERS SAFER TRAVELS THROUGH ETON RANGE

PRODUCTS USED

WIRE MESH SYSTEM WITH VEGETATED FACE

- A modular wire system designed to create an angled vegetated finish that integrates naturally with the surrounding landscape
- Manufactured for an expected working life of up to 120 years, ensuring long-term durability and performance
- High-grade polymer-coated wire mesh provides exceptional corrosion resistance and structural strength, ensuring reliable performance in harsh climates
- Features an integrated erosion control blanket lining to support fast, natural plant establishment

SUGGESTED PRODUCT

Geofabrics® Geomesh™ Natural wire mesh system

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 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. To support this, the design incorporated 16,274 custom-made wire mesh units. At its deepest point, the structure was built with 54 stacked units, reaching a total height of 33 metres from the foundation to the top of the wall.

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 wire mesh system remain unscathed.

> By utilising wire mesh systems, the design reduced delivery costs, increased the use of local quarry materials, improved construction safety, and significantly mitigated the potential destructive impact of tropical rainfall on landscaping during the construction period.

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