



GEOFABRICS CASE STUDY



# CONNECTING PAPUA NEW GUINEA TO INDONESIA WITH MIRAFI RSI

## PRODUCTS USED

### SOLMAX MIRAFI® RSI MULTIFUNCTIONAL WOVEN GEOTEXTILE

- Superior separation and filtration capability with effective prevention of aggregate mixing and loss of sub-base material into soft subgrade
- Material cost savings of up to 33% by reducing the amount of base material required
- Double layer construction made from high-tenacity polypropylene filament, provides superior reinforcement strength and soil interaction capabilities by allowing high water flow and soil retention within a roadway system
- High permeability with efficient release of pore water pressure which makes it suitable for installation over soft wet soils

### BIDIM® GREEN NON-WOVEN GEOTEXTILE

- Made with a combination of recycled PET and virgin plastic materials
- Provides excellent filtration, separation, drainage and protection performance (or properties)
- Reduced need for quarried fill materials and reduced construction times
- A strong three-dimensional structure with high elongation and equal biaxial strength properties in both directions

## PROJECT DESCRIPTION

The PNG Department of Works and Highways proposed the construction of Oriomo to Wimpim road with the aim of providing a vital link for commuters travelling between Papua New Guinea and the Indonesian border. The project site for the works posed challenges due to a weak subgrade caused by waterlogging. To assist with improving the ground conditions, the consultant sought the expertise of Markham Culverts to provide a solution.

## OUR SOLUTION

Markham Culverts recommended Mirafi RSi to improve and stabilise the conditions of the ground. On sections of Oriomo to Wimpim road which had poor California Bearing Ratio (CBR), Leon Enterprise Ltd, the contractor installed a total of 5,060 m<sup>2</sup> Solmax Mirafi RS380i with a compacted backfill of 100mm thickness. In areas where good CBR were identified, 12,000m<sup>2</sup> of Bidim Green A44 was used as a separation and filtration layer.

The client was satisfied with the solution implemented as it effectively addressed concerns related to subgrade conditions on this section of the highway. The utilisation of Mirafi RSi not only met the project requirements but also resulted in significant cost savings for the contractor by eliminating the need to transport gravel and aggregates from Port Moresby to the site. Leon Enterprise expressed their commitment to use Mirafi RSi on additional sections of the highway to achieve a robust and resilient road network.



**12,000m<sup>2</sup>**  
Bidim Green  
A44 used

**5,060m<sup>2</sup>**  
of Mirafi RS380i  
installed



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**GEOFABRICS**<sup>®</sup>  
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