GABION BASKETS SECURES MAJOR HIGHWAY AFTER CYCLONE AND HEAVY RAINFALL

PRODUCTS USED

Gabion Basket

- Constructed with double-twisted steel wire mesh to create flexible, permeable, and continuous structures, ideal for gravity retaining walls, erosion control, channel linings, revetments, and hydraulic structures.

- Manufactured for an expected working life of up to 120 years, ensuring long-term durability and performance

- High-grade polymer coating provides exceptional corrosion resistance and structural strength

- Can be built up to 5–10 metres in height

Similar Product

Geofabrics® Geobox™ Gabion Basket

Bidim® Green Non-Woven Geotextile

- A strong three-dimensional structure with high elongation and equal biaxial strength properties in both directions

- Made with a combination of recycled PET and virgin plastic materials

- Provides excellent filtration, separation, drainage and protection performance

- Reduced need for quarried fill materials and reduced construction times

PROJECT DESCRIPTION

In January 2025, a cyclone brought torrential rainfall to the Tramway Gully region on New Zealand's Corromandel Peninsula. This resulted in a slope slip forming adjacent to Culvert 22 on State Highway 25, located between Hikuai and Whangamatā. The stability of the subgrade was compromised, posing a risk to the road's structural integrity and the safety of drivers.

Given the consistently high rainfall in this area, a solution that prioritised effective water management was required. It was essential to implement a system that would allow rainwater to drain efficiently through the soil beneath the road while also managing surface runoff.

OUR SOLUTION

The terrain presented significant challenges due to limited working space for machinery and the steep gradient of the slip. These constraints required careful planning, the use of specialised equipment and techniques to ensure safe and effective construction.

A total of 44 gabion baskets were installed by the contractor in accordance with Geofabrics' installation instructions. The baskets were lined with Bidim Green A39 non-woven geotextile, covering 750 m², which provided separation between the soil and the gabion baskets. This facilitated drainage and prevented erosion, ensuring the long-term stability and performance of the structure.

Rock mattresses were placed at the base of the culvert to reduce stormwater velocity before it entered the stream, minimising erosion and scour downstream.

Geogrid reinforcement was connected to the gabion baskets and rolled out behind the structure. Soil was compacted between the layers of geogrid, forming a friction connection that stabilised the structure and reduced the risk of sliding, overturning, or bearing failure.

The project was completed within two weeks, and the solution successfully met the dual requirements of slope stability and drainage in a high-rainfall environment. The gabion baskets provided both structural support and permeability, while integrating with the surrounding landscape.

GEOFABRICS®
Sustainable solutions

44
**gabion
baskets**
installed

**Completed within
two
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