



GEOFABRICS CASE STUDY



GABION AND ROCK MATTRESS SECURES ERODING EMBANKMENT

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

Rock Mattress

- Made with double-twisted steel wire mesh filled with rock to form thin, flexible cages designed to resist movement in high-flow conditions
- Proven to be over 50% more effective than rip-rap in high shear stress conditions
- Permanent solution for hydraulic applications such as weirs, riverbank scour protection, and embankment stability in channel linings

Similar Products

Geofabrics® Geobox™ Gabion Basket

Geofabrics® Geomattress™ Rock Mattress

PROJECT DESCRIPTION

At Pine Rivers Park in Strathpine, a concrete pipe was responsible for directing stormwater overflow towards downstream holding ponds. Due to heavy rainfall, both sides of the embankment experienced ongoing erosion, putting the surrounding land at risk. With river flow levels reaching and exceeding 5 metres per second, it was crucial to implement a reliable erosion control solution to protect the embankment and prevent further land loss.

OUR SOLUTION

To stabilise the area and manage high flow conditions, gabion basket and rock mattress were selected. These systems provided robust protection against scour and erosion, both at the riverbed and along the embankment slopes.

Geofabrics supported the project by offering design advice and on-site assistance to ensure the correct placement of the gabion baskets and rock mattresses. The gabion baskets were installed on either side of the concrete flume, directly beyond the culvert outlet, to protect the riverbed from erosion. Rock mattresses were used along both sides of the embankment to stabilise the slopes and guide water flow effectively downstream.

The client, SEQ Water expressed satisfaction with the final outcome. Even after subsequent heavy rainfall, the system continues to perform well, with no visible signs of scour on the embankment or riverbed. The combined use of gabion baskets, rock mattresses, and expert on-site support delivered a cost-effective, long-term erosion control solution.

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Sustainable solutions

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