



GEOFABRICS CASE STUDY



PROTECTING A SLOPE FROM EROSION WITH GRASSROOTS

PRODUCTS USED

GRASSROOTS® SYNTHETIC EROSION CONTROL MAT

- Made in Australia from heavy synthetic UV stabilised fibres which are needle-punched together into an open weave three-dimensional structure
- A reduction in the loss of soil during moderate to heavy rainfall events
- Strong erosion control in channel lining and road edge rehabilitation applications which requires increased resistance to soil loss, as a result of hydraulically induced shear stresses
- Proven UV resistance due to stabilised fibres, ensuring that no degradation occurs from exposure to sunlight – shows no loss in tensile strength even after 1,000 hours of accelerated testing
- Improved plant establishment by 555% increase in biomass after 21 days compared with control pots showed that it provides a stable environment for seeds to grow



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PROJECT DESCRIPTION

A new processing plant in Lae was under development in the Morobe Province in Papua New Guinea. The lead contractor on the project noticed an opportunity to create a green area around the offices that were to be constructed.

OUR SOLUTION

The construction site for the new processing plant presented significant challenges due to the region's rainy climate, resulting in high flooding and erosion of the plain soil ground. The slope in the area was unstable and prone to erosion, which could potentially cause blockage to the spoon drain that needed to be placed at the foot of the slope, leading to increased flooding. The site plans included a proposal for an office driveway located a meter away from the slope.

Without any control or water filtration measures in place, the topsoil remains exposed to water and wind erosion. This would lead to soil instability and land that is not fertile for vegetation regrowth.

Following an assessment, the Grassroots Synthetic Erosion Control Mat was recommended for its suitability due to the angle of the slope and climate conditions. This solution was chosen as it effectively protects the underlying soil from erosion and provides a reinforcing matrix to facilitate vegetative root growth.

The client received complimentary technical support and on-site training to ensure a smooth installation process. They were notably impressed with both the product and the comprehensive support provided by Markham Culverts and their continuing interest in regularly checking the site's progress, long after the material was laid.



Grassroots

provides permanent
vegetative
reinforcement



It looks very appealing, and the product has proven to protect the under-lying soil on steep slopes from moderate water flows, whilst allowing seeds to germinate successfully and grow through the matting to provide a permanent vegetative reinforcement. I know it's a process to see the full potential of the product after six months or a year, but I have great trust in geosynthetic products as they last longer. I cannot wait to see the results and look forward to recommending this solution for use on other sites.

Client



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Sustainable solutions