

CASE STUDY

Double Twist Mesh

Project: Haven Rd Slip Repair
Date: March – Sept 2013
Client: Haven Partnership
Location: Nelson



Green Terramesh

Haven road is the main road out of Nelson that heads south past the Port. In December 2011 Nelson experienced a 1 in 500 year rainfall event with three days of solid rain causing floods and widespread slips including an area above Haven road which threatened three commercial properties below. This slip was amongst 900 EQC claims in the region associated with flooding.

Geofabrics New Zealand assisted Nelson Consulting Engineers to develop a solution incorporating Green Terramesh, a soil reinforcement system combining double twist mesh facing units with geogrid. Green Terramesh was selected as it offered the advantage of a planted face and could be designed to accommodate a sloping crest enabling the final shape to contour well with the existing slope profile.

The aim was for the work to be carried out in summer to allow excavation to be done in a safe manner. However, part way through the construction, the region was hit with another extreme rainfall event (April 2013) with more than 100mm falling in the space of 90 minutes in some places. This resulted in construction being done on an active slip. Strict OSH and safety standards had to be met during this process. Construction workers were harnessed to the structure for safety. Challenges by the weather and other slips were addressed through the installation of temporary anchors and catch fences.

The project required 3 to 5 staff on site, including 5 & 18 tonne excavators with finishing work completed with a 1½ tonne excavator. Construction was interrupted by a further major rain event, hence the reason for the longer than usual construction time. The batter slope above the Green Terramesh wall had 200 cubic metres of fill, with approx. 1000 cubic metres forming the reinforced fill. In the words of the consultant, "this was one of the most challenging, complex landslip remediation projects they have ever dealt with, with a successful conclusion."



Installation of Green Terramesh Slope



Green Terramesh slope supporting the slip area above



Close up of Green Terramesh Slope

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