

CASE STUDY

Cellular Confinement

Project: DOC Root Protection Walkway
Date: August 2009
Client: Department of Conservation
Location: Bay of Islands



Geoweb® Cellular Confinement

It is common for visitors to our National Parks and conservation areas to want to get close to Kauri trees, but the tree's sensitive surface rooting system is happier living under deep, undisturbed mulch rather than coping with the stress of hundreds of tramping feet trying to get up close.

Department of Conservation was looking for solutions to protect Kauri tree roots and prevent the spread of the phytophthora that attacks Kauri, where spores are spread by roots and water through damage to vulnerable roots. **Geoweb®** cellular confinement system for permeable pavements was one of the products trialled for this application.

Geoweb® is a cost effective alternative to hard surface pavements and at the same time offers the advantage of providing an unrestricted movement of water from the surface through the infill material to the root system below. By confining the infill, the system improves load distribution thereby reducing stresses on the foundation soil and root system and reduces long-term maintenance requirements and associated costs.

The 150mm deep **Geoweb®** was placed on top of the existing track surface and was filled with GAP50 and bark nuggets. With this trial, bent rebar was used to pin the **Geoweb®**. However, ATRA clips and 400mm **Geoweb®** pins form the ATRA Anchor system which maintains the alignment and level of the **Geoweb** system during the filling operation as well as improving long term resistance to sliding and uplift. A surface layer of GAP20 and 10% clay was lightly compacted to create a walking surface.

Geoweb® is very versatile and can be cut, stretched and shaped to match the path or pavement geometric layout. **Geoweb®** is also available in a range of panel depths with 100mm and 150mm the most commonly used for load bearing applications.

Geoweb® is well suited for handling and transportation as it is supplied in collapsed form that can easily be expanded once out on site. The light weight of each panel, flexibility in handling and ease of transporting makes it an ideal product for sites where access is difficult and where the use of construction equipment is limited. The trials are ongoing and results for root penetration and water movements will be monitored and recorded in future case studies.

The information contained herein is general in nature. In particular, the content herein does not take account of specific conditions that may be present at your site. Site conditions may alter the performance and longevity of the product. Actual dimensions and performance may vary. This document should not be used for construction purposes and in all cases, we recommend that advice be obtained from a suitably qualified consulting engineer or industry specialist before proceeding with installation. © Copyright held by Geofabrics New Zealand Ltd. All rights are reserved and no part of this publication may be copied without prior permission.



Expansion of Geoweb sections



Placement of combination of GAP50 and bark



Geoweb melds with the undisturbed track

QUALITY - SUPPORT - EXPERTISE

GEOFABRICS.CO.NZ

GEOFABRICS®