

Sir Edmund Hillary Alpine Centre MOUNT COOK

SUBSOIL DRAINAGE SYSTEMS FOR PLAZA / GREEN ROOF APPLICATIONS

Product: VersiCell

Problem

Due to the naturally exposed location of this building site, reliable and durable drainage materials would be needed to help meet the excess demands from the elements that this site would faced.

Rather than have excess loading on the roof structure below or the possibility of entrapped moisture which could expand when frozen and can cause greater damage to structure and plants, a good drainage system was an area identified from the beginning that would be need for this site due to its climatic conditions.

Overall, the design was to keep the environmental footprint of this tourist asset down while keeping in harmony with the surrounding beauty.

Solution

A built-up "green" area was designed to act as a natural stormwater filter while providing a more pleasant outlook and viewing area, to the outstanding surrounding mountain views.

VersiCell a high flow (16ltr/mtr/sec) & high strength (100tonne/m²) drainage cell, was chosen for several reasons. One being its light weight (3kgs/m²) for ease of freight to this remote site and another being its ease of use on site re handling, placing and fitting (see photographs on the right hand-side).

As indicated with the center illustration (to the right) the **VersiCell** (1) was simply clipped together and laid directly on top of the waterproofing membrane (2) which now forms a sound protection layer for the membrane. A light grade of Bidim geotextile / filter cloth, (3) was then fitted. A moisture wick / strip (4) of geotextile (optional) can be laid to help aid water flow on low pitched areas.

VersiCell will typically span a standard pipe outlet (5). A light layer of wash sand approx 25mm thick (6) can act as a reversed filter between the soil cover / growing medium over (7) and the **Bidim** geotextile helping to hold back larger soil particles. 30mm thickness of **VersiCell** typically will replace up to 200mm of drainage aggregate.

Site name:

Sir Edmund Hillary Alpine Centre - Mt Cook

Consultants name:

Michael Wyatt Architect

Contractor installing:

ARROW INTERNATIONAL Queenstown

Products used:

VERSiCELL 500 - Interlocking Drainage Units

Construction date:

NOVEMBER 2007

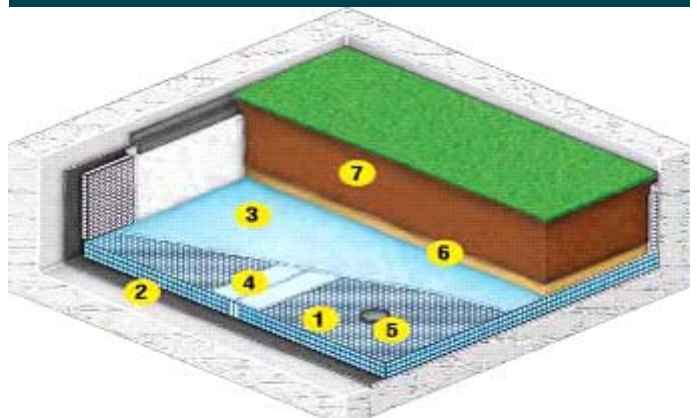
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Placement of VersiCell

Date: November 2007



Cross section design

Date: November 2007



Placement of soil for grass area

Date: November 2007

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