



# CASE STUDY

## Veneer Reinforcement for Landfill Capping System



- ▼ **LOCATION:** Queenstown, New Zealand
- ▼ **PROJECT TYPE:** Product supply for landfill cap
- ▼ **PRODUCT USED:** Pyramid Grid™ geogrid and LLDPE geomembrane

### ▼ **PROBLEM:**

Landfill capping generally involves covering the landfill cell with a thick layer of clay, followed by a protective geomembrane liner, then a layer of soil over top as a veneer cover. Occasionally, the soil veneer slides down the slopes and breaks apart because of its weight, but climactic conditions and slope steepness are also contributing factors. When this happens, it puts a strain on the geomembrane liner increasing the risk of rupture. These were real risk considerations in the design of a capping system for a landfill in Queenstown, New Zealand, which featured steep slopes (2.5:1) and was located in an area with high winds funneling through a gorge.

### ▼ **THE TITAN SOLUTION:**

Titan's Pyramid Grid™ was used as a veneer reinforcement solution placed directly over the LLDPE geomembrane then covered with 500mm of scalping (a protective stone layer) and 150mm of topsoil mulch. The goal of this solution is to increase the interface friction between the geomembrane and scalping, so tension is in one direction only - along the length of the geogrid. This is eliminating transfer of stresses across the width significantly reducing the strain on the liner.

### ▼ **ACHIEVEMENT:**

Using Pyramid Grid™ as a veneer reinforcement solution at this site is mitigating the risk of liner rupture and improving environmental safety. It also allowed for the construction of steeper landfill slopes resulting in increased landfill capacity.



Contact us for more information:

### TITAN ENVIRONMENTAL CONTAINMENT

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