



GEOFABRICS CASE STUDY



VERTI-BLOCK RETAINING WALL SUPPORTS ROAD WIDENING IN REDBANK

PRODUCTS USED

VERTI-BLOCK® PRECAST MODULAR CONCRETE BLOCK

- A perfectly proportioned precast modular concrete block used for reinforced soil and mass gravity walls in various applications across civil engineering and landscaping projects
- Easy installation with the ability to move blocks and put them into place with smaller equipment, there's no need for heavy machines like a crane
- Engineered for strength, Verti-Block's hollow structure improves its ability to retain earth, even in poor soil conditions thanks to its interlocking connection design to ensure a secure fit
- It is lighter than solid blocks, which lowers labour, equipment and transportation costs



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PROJECT DESCRIPTION

In Redbank North Richmond, a 180-hectare site was developed into a residential community comprising 1,400 homes. In response to the anticipated increase in traffic and surrounding development, Hawkesbury City Council identified the need to widen the main road located along a slope.

To accommodate this upgrade, an 8-metre-high retaining wall with a wide crest was required to support the road widening and alignment works.

OUR SOLUTION

The client selected Verti-Block concrete block for the project due to its Canyon Ledge natural rock finish, which complemented the surrounding environment. Geofabrics supported the design engineer by conducting a stability analysis to ensure both internal and external stability of the retaining wall complied with the minimum factor of safety for all failure mode checks. This analysis also determined the required geogrid reinforcement grade and lengths. The piled foundation was designed and provided by the consulting engineer to mitigate the risk of global slope failure.

The retaining wall was constructed using approximately 800 m² of Verti-Block over a total length of 125 metres. The contractor maintained an installation rate of 60 to 80 m² of wall face per day, including the placement of Solmax Miragrid® GX geogrid and compaction of structural fill.

The rapid installation of Verti-Block significantly reduced both construction time and labour costs. With its 125 millimetre protrusion, the Canyon Ledge natural rock finish provides a distinctive and refined appearance to the wall face.



8m x 125m
long geogrid reinforced
retaining wall

**Natural
rock finish**
with engineered strength



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or **geofabrics.co.nz** or call 0800 60 60 20 (NZ)

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