

Project: Burwood Hospital Building Platform
Date: May - June 2014
Client: Canterbury District Council
Location: Christchurch



Tensar TriAx®

Major redevelopment is underway at Burwood Hospital to provide a purpose-built health facility for Canterbury's older people. The project will also help to take the pressure off other Canterbury health facilities that were damaged during the 2010 and 2011 earthquakes.

The combined redevelopment of Burwood and Christchurch Hospitals will cost more than \$650 million and make up the largest health-building project in New Zealand's history. When it is completed, the 30,000 square metre Burwood redevelopment will include three three-storey ward blocks featuring 230 new inpatient beds, an extended radiology department, a new outpatient department, a new main entrance and a new back of house area.

Part of the foundation improvement works for the redevelopment was construction of a granular hard fill layer, reinforced with multiple layers of geogrid, in a 6m wide strip under the perimeter of the buildings. The intention of having this layer is to reduce the risk of differential settlement as a result of seismic activity and liquefaction. It creates a non-liquefiable section under the building perimeter and a transition layer between the stiff concrete foundation and soft ground below the building.

The original geogrid specification was a 40kN biaxial geogrid in regular spacing of three layers, within the 1.2m thickness of the AP40 granular fill, compacted in 150mm layers. Further communication with the engineer, through the earthwork contractor, resulted in the change of specification to **Tensar TriAx®** geogrid which outperforms the older biaxial geogrid version. **Tensar TriAx®** geogrid works by interlocking with the granular material and creating a stiffer layer within its influence depth.

Geofabrics provided sufficient technical information and literature on the use of **Tensar TriAx®** geogrid for the engineer's approval for use in this project. Prior to laying the **Tensar TriAx®** geogrid, **bidim® A29** geotextile was first laid between the sub-grade soil and subsequently the initial layer of **Tensar TriAx®** geogrid. **Bidim®** geotextile serves as a separator to mitigate mixing of fine grained soil into the gravel raft in the event of liquefaction.



Beginning the building platform



During construction



After construction

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