

HIRINI RD / PORT RD LOGGING STORAGE UNDERPASS GISBORNE

REINFORCED WALL

Products: Tensar Geogrids, Hessian Bags and Bidim Geotextile

Problem

A new timber mill was built near Gisborne in 2009, as the storage requirements at the Port of Gisborne were being under utilised with the existing layout. This required a total redesign of the log storage yard incorporating part of the wharf section and the construction of a new underpass and access roads. The roads had to be elevated and located as close as possible to Kaiti Hill to maximise the log storage area between the road and wharf. The designers of the road embankment had to consider a narrow footprint as well as the requirement to support heavy logging traffic loads.

Solution

The new logging area is in full view Gisborne city, so it was important the new structure had to be vegetated, for it to blend into the surrounding hillside. The harsh coastal environment combined with high logging activity and requirement for steep sided slopes suited a wrap around solution of Tensar RE geogrids that could be vegetated.

Construction was undertaken on a 5 day per week basis, using a total of 6 staff. A light plate compactor, a 2 tonne roller and a 12 tonne digger were used. Hessian bags were initially used with the Tensar RE wrap around. This enabled good compaction and evenness of each layer. This was later changed to a knitted tube system, which was pumped full with a topsoil matrix. The thickness of each layer was 0.15m, with 4 lifts required for each geogrid wrapped layer at 0.6m centres. A secondary layer of Tensar SS geogrid was placed midway between the layers of Tensar RE to improve face stability. Approximately 240 square metres of reinforced slope was constructed per week. The 70 degree slope was hydro seeded at the completion of the work.

Client name:

GISBORNE DISTRICT COUNCIL

Main contractor:

QUALITY ROADING & SERVICES LTD

Consultant:

OPUS CONSULTANTS GISBORNE

Products used:

TENSAR RE & SS GEOGRIDS, HESSIAN BAGS & BIDIM A29

Construction date:

DECEMBER 2007 - FEBRUARY 2008



New underpass

Date: November 2007



Wrapped slope with hessian bags

Date: December 2007



Typical logging truck

Date: February 2008

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Quality System AS/NZS ISO 9001:2000

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