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REFERENCE PROJECT

Geotechnical: Soil Nails & Rockfall Netting

Location:	SH1 Kaikoura South SR30
Date:	June 2017 – April 2018
Client:	NCTIR

The rock slope at site SR30 on SH1 south of Kaikoura was significantly affected by landslide instability during the November 2016 Kaikoura Earthquake. Rockfall source treatment in the form of anchored steel mesh secured with soil nails was required to mitigate rockfall potential and to a) allow access to the lower reaches of the slope for further remedial work, and b) allow the rail and road corridor to re-open.

Abseil Access was contracted to install over 550 hollow-bar anchors, up to 6m deep through layers of varying ground conditions. The work was carried out with a 'top-down' methodology, due to the potential risk of rockfall.

Three suspended A-frame top-hammer, self-drilling rigs were used to install the soil nails, with high-pressure grout plants and heliportable power supplies.

The first phase of the works involved scaling & blasting and vegetation removal. All site works were co-ordinated with KiwiRail approved RPO's and a traffic management team for road control.

The slope itself presented significant problems regarding access, with all deliveries of materials needing to helicopter lifts to the site. As the anchors got completed the slope was overlaid with 8500m² of rockfall netting.

10% of the anchors were subject to load tests, and 9 samples per day of grout were taken as part of the QA management plan. Each anchor was tensioned to 40Nm using a calibrated torque wrench.

Hollow Bar type:	DSI R32N & Titan 40 Combi-coat
Hole Diameter:	76mm and Titan 40 90mm diameter
Maximum Depth:	6.0m
Design Grout Strength:	40MPa after 28 days