



Earthquake strengthening and stabilisation of retaining wall

PROJECT DESCRIPTION

Halverson Civil Ltd were awarded the contract to stabilise a failing retaining wall above residential houses in Mt Victoria Wellington.

The project specification also called for the wall to be brought up to current earthquake strengthening standards.

GHD Group engineers provided the steel reinforcement specification and used a combination of steel bar and wiremesh. There were rock anchors drilled and anchored into the hill to support the structure and contribute to the overall anchor strength.

There was a concern that even with the steel reinforcement level there was a possibility that in an earthquake small bits of the concrete may rupture or spall and break away from the wall.

The decision was made to use FORTA FERRO 54 mm macro fibre in the shotcrete to reduce plastic and hardened concrete shrinkage, improve impact strength, and increase fatigue resistance and concrete toughness. This extra heavy duty fibre also offers maximum long term durability, and guarantees that within the concrete there is a high level of 3D Fibre reinforcement to hold the small bits of concrete together if subjected to a catastrophic event like an earthquake.

KEY POINTS

- Innovative Solution
- Enhanced Performance
- Long-term durability

DETAILS

Date: February 2018

Location: Mt Victoria, Wellington

Fibre: Forta Ferro®

Dosage: 5kg/m³

Concrete Details: 200mm thick, 40MPa.

Concrete Supplier: Allied Concrete

Contractor: Halverson Civil Ltd

Contact us for more details