

CASE STUDY

KIWI RAIL JOHNSONVILLE TUNNEL 1 AND 2

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INTRODUCTION

From November 2019 to February 2020, Abseil Access undertook its sixth major rockfall mitigation project for KiwiRail on the Johnsonville Line, between Tunnels 1 and 2 in Wellington. The steep slopes of the Ngaio Gorge and the proximity to the live rail line required a carefully engineered and executed solution designed in collaboration with Aurecon.

PROCESS

Work began with targeted vegetation removal and rock scaling during designated line closure days. A cliff face A-frame drill rig was used to drill 75mm holes for the installation of 32mm and 25mm glass reinforced plastic (GRP) anchors, chosen for their corrosion resistance and reduced electrical hazard risk near the high-voltage catenary.

Access was established from the top of the slope, minimising the need for hi-rail vehicles and further rail closures. Geofabrics double twist PVC-coated mesh was installed prior to drilling to mitigate the risk of rockfall during anchor installation. Operations were conducted under an active rail environment with the use of safety stop boards and rail protection protocols.

OUTCOME

The project was completed with minimal disruption to rail services and commuters. The combination of corrosion-resistant GRP anchors and double twist mesh provided a durable, low-maintenance rockfall protection system. The top-down access approach improved efficiency and safety while eliminating unnecessary rail traffic interruptions.

