

MIN-4261 Pūhoi to Warkworth land stability

18 July 2023

Provide background information on land stability risks and issues for the Ara Tūhono – Pūhoi to Warkworth motorway.

Waka Kotahi NZ Transport Agency's response:

- On 17 July 2023, Waka Kotahi NZ Transport Agency responded to an official information request from Radio New Zealand s9(2)(a) Waka Kotahi released two recent engineering reports in relation to land instability for the Pūhoi to Warkworth motorway.
- The response to s9(2)(a) noted that the reports were dated from April 2023 and significant work has been undertaken since to address and remediate the issues identified in the reports.
- The response to s9(2)(a) has been published on the Waka Kotahi website at: www.nzta.govt.nz/assets/About-us/docs/oia-2023/oia-12642-response-letter.pdf

N1A Remediation Options report

- The N1A Remediation Options report has been published on the Waka Kotahi website at: www.nzta.govt.nz/assets/About-us/docs/oia-2023/oia-12642-attachment-1.pdf
- The report was produced for Waka Kotahi in response to preliminary options that had been proposed for remediation of a landslide at the location N1A at the northern end of the main alignment of the motorway. Since the date of this report, NX2¹ has developed a design solution that is now being implemented.
- While works at this location are ongoing, concrete barriers are in place and a temporary traffic management plan has been instituted. These measures ensure the remedial works pose no risk to the public travelling on the motorway.
- The N1A solution, once constructed, will comply with all the works requirements including, required factors of safety, independent review and sign-off for the relevant safety and works completion tests, including the provision of design certification. These works are forecast to be completed in October 2023 (weather dependent).
- Option 1 from the report is the option being implemented – albeit a further developed design (eg there are no permanent carriageway closures required for this solution, all works are being completed from a shoulder closure – behind a safety barrier).

¹ NX2 is the Contractor responsible for designing, constructing, and maintaining the motorway under the Public Private Partnership arrangements

- The repairs are being completed to the account of the Contractor, NX2, and as such we do not have visibility of this cost. Under the Public Private Partnership, NX2 are the entity responsible for financing, designing, constructing and maintaining the motorway for the next 25 years. NX2 is responsible for ensuring the project meets necessary quality and safety standard including the required maintenance standards during the 25-year operation period at no additional cost to Waka Kotahi.

Geotechnical Review of Cut Slopes and Landslide Risks report

- The Geotechnical Review of Cut Slopes and Landslide Risks report has been published on the Waka Kotahi website at: www.nzta.govt.nz/assets/About-us/docs/oia-2023/oia-12642-attachment-2.pdf
- The report was produced for NX2 to provide a geotechnical assessment of landslide risks for the motorway. The identification and management of engineering risk through the commissioning of work like this is standard good practice in the delivery and ongoing management of a complex piece of civil engineering such as the Pūhoi to Warkworth motorway.
- The report highlights one high risk location which is the subject of the N1A Remediation Options report and another moderate to high risk location at Cut CS13. In respect of CS13 a section approximately 30m long x 4m wide was cut steeper than 2H:1V as a result of the creation of a cut off drain. The localised section of CS13 has since been reshaped to a compliant slope with an average gradient of 2.2H:1V to 2.3H:1V.

Steepness of cuttings

- The cuttings along the route for Ara Tūhono Pūhoi to Warkworth have been excavated to the main earthworks profiles set by the motorway design. These profiles determine the form and shape of the cut slopes, which are as designed. Within the main earthworks profile, there are a few localised areas where formed faces are marginally steeper than the global value of 2:1, for example, at transitions from cut to fill, where natural features are incorporated within or about the wider slope, and at the boundary of rock/soil cut materials. At such locations, the resulting profile has been objectively assessed and determined as being compliant to the works requirements, for example the Cut CS13 as described above.