Programme of geotech works underway for Takitimu North Link – Stage One

Geotechnical investigations between Tauranga and Te Puna start this month for Stage One of the Takitimu North Link project.

These activities will happen across the project length beginning in areas near Cambridge Road, Minden Road and Takitimu Drive. In order to complete these assessments, our contractors will request consent from some property owners to enter their properties. We will be in touch directly if this affects you.

These investigations involve robust testing of the soil and rock at individual sites within the future construction area, and look at:

- ground conditions, including soil and rock types
- groundwater depths
- strength of soil and rock
- gathering soil and rock samples to assess.

There are many things we must do before we start construction – and a lot of this work won't be seen. We do this work so we can understand what the ground is like to help us design and plan how to build the road.

Tests will begin in May 2021 and continue for several months, taking place at various sites along the project corridor.

They will be arranged and supervised by contractors Fulton Hogan and HEB Joint Venture, on behalf of Waka Kotahi NZ Transport Agency. While site investigation activities do generate some noise, we will minimise disruption where possible.

Geotech investigations kicked off with a blessing at Harrison Road, Bethlehem this month.

WHAT TESTS ARE BEING DONE?

Cone penetrometer tests (CPTs)

- **Standard CPTs** are carried out by pushing a cone (approximately 40–50mm diameter) up to 40m into the ground to gather information about the soil.

CPT cone, with pore pressure sensor

- **Dissipation tests** use the same CPT cone fitted with a pore pressure sensor. This test is used to measure how the water within the soil pores disperses over time, which is useful for assessing areas of road which will pass over low-lying, swampy ground.

A CPT rig is about the size of a small truck.

- **Seismic CPTs** this test provides additional information on the characteristics underlying geology using the behaviour of shear waves. Seismic CPTs are undertaken at the same time as standard CPTs, by striking a source at the surface which is picked up by a receiver on the CPT cone.

This type of geotechnical testing is relatively low impact with no samples taken. The areas are covered on completion of each of these tests, and do not leave an open hole.

Test excavation pits

Test pits are holes dug by a digger to allow observation of the soil layers and to facilitate strength testing and sampling. The holes are typically rectangular in shape, approximately 2m x 5m, and up to 4m in depth. Each test pit is backfilled immediately following testing and sampling.

Hand auger boreholes and scala penetrometer tests

Hand auger boreholes are performed by manually drilling a 50mm auger, up to five metres in depth to gather soil information. They are backfilled with removed soil once completed.

Scala penetrometer tests use a standard weight dropped at a standard height to measure soil strength within the boreholes.

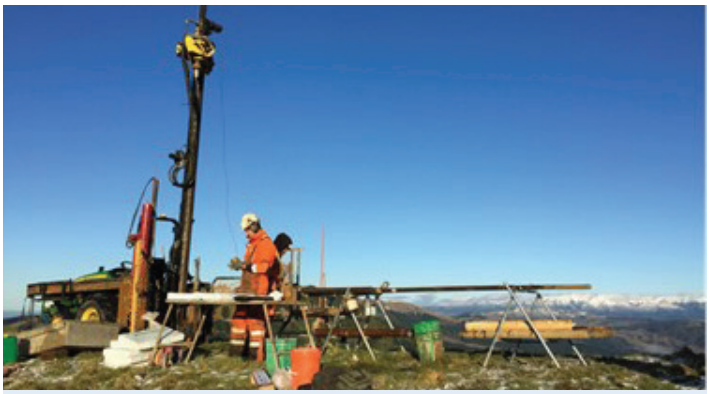
Hand auger

Scala Penetrometer

Machine boreholes

Machine boreholes are drilled using a rig, typically the size of a small truck. The drill holes are about 100mm in diameter and drilled vertically, to a maximum depth 60m below the ground. Boreholes provide soil and rock data and facilitate collecting samples. The boreholes will be cased during drilling and backfilled and sealed with a clay grout on completion.

Water for drilling boreholes will be sourced from local drains. During and following drilling, water will be discharged across grass away from local water sources.



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