Geotechnical Investigations

Geotechnical investigation program outline

VicGrid is continuing a program of geotechnical field studies across the VNI West project area. This work involves drilling a number of boreholes to gather information about the soil, rock and ground conditions in the area.

Why we're conducting geotechnical investigations

We are undertaking survey activities to help us understand the current state of the land, particularly the ground conditions of properties where transmission towers may be situated. We are undertaking geotechnical investigations to understand the subsurface conditions of land where project infrastructure may be located, including transmission towers. This information will help inform project planning and design and support the Environment Effects Statement (EES) for VNI West.

Geotechnical investigations

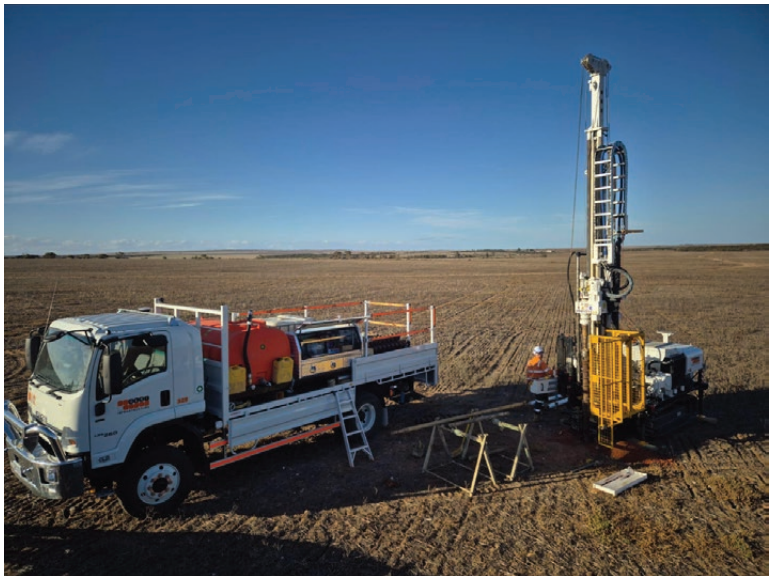
Each borehole will be about 150mm in diameter and reach depths of no more than 35m.

Groundwater level monitoring is conducted during drilling works.

Each borehole investigation typically involves one drill rig, one support vehicle, and one ute on site.

Field investigations generally occur between 8am and 6pm; however, work hours can be adjusted to suit landholder requirements. Drilling one borehole can take up to three days to reach the required depth.

Geotechnical drilling related field work may take place on private property, public land or land owned by VicGrid VNI West.



Borehole drill rig setup - Isuzu FTS 4x4 and Boart Longyear LX6 Geo-technical Drill

Public land geotechnical investigations

For public land works, the VNI West project team requires Works Within the Road Reserve (WWRR) permits from the relevant shire council prior to contractors commencing surveys. Crews have copies of these permits at each survey site. Permits for works on shire council road reserves do not specify any biosecurity measures be undertaken. Where these works take place on public land, all required permits are obtained from the relevant local authorities. Crews will be visible on roadsides as investigations take place. For public land surveys, the VNI West website is regularly updated to inform communities of upcoming survey activity.

Once sites are identified as suitable for geotechnical drilling – engineering and cultural heritage specialists may assess the area for any potential issues before any survey drilling activities begin. Geotechnical investigations may take place within a fenced off work zone to ensure field investigations can be completed safely. There will be multiple vehicles at each survey site including traffic management (on public land), pumping and drilling equipment. On private property, landholders are notified of upcoming works per the conditions of their access agreements.



Borehole drill rig fenced off for safety

Borehole reinstatement

Each borehole is reinstated following the completion of drilling activities. Boreholes are backfilled and sealed in accordance with relevant Australian Drilling Industry Association guidelines to help prevent water seepage and ground instability.

Reinstatement on private land

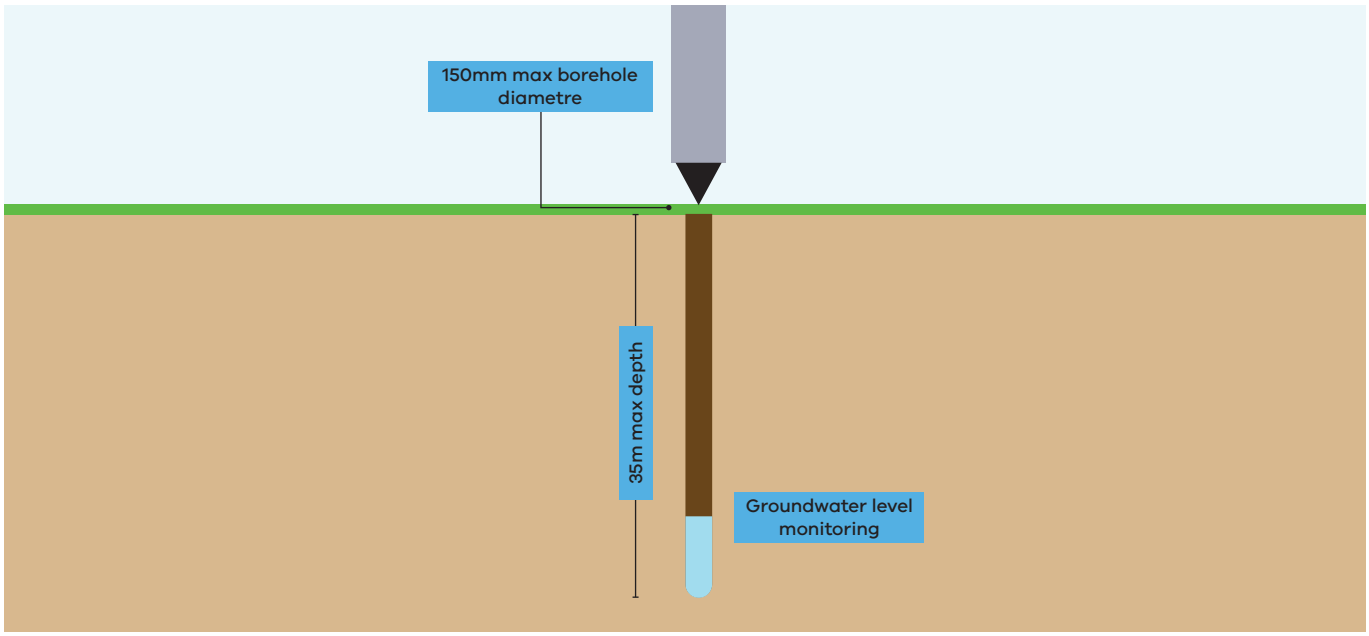
On private land, boreholes are backfilled using the soil and rock removed during drilling and sealed at the surface. Reinstatement methods will, where practicable, be selected in consultation with the landholder to minimise interference with existing land use and activities, particularly on farming land. This may include avoiding the use of surface cement grout where this would interfere with farming equipment or operations.

Reinstatement on public land

On public land, boreholes are sealed and backfilled using methods suited to the soil conditions at the site. This may include grout or bentonite to properly seal the borehole below ground and ensure it is safe and stable. The remainder is then backfilled with compacted material from the drilling process.

Safety and biosecurity

All vehicles, except for the geotechnical drill rig, are removed from site at the end of each day's activities. Landholders can request that rigs left in place overnight, over open bore holes, are fenced off for safety, during the works period. VNI West will also enact strict biosecurity procedures for surveys on crown land or private properties, such as vehicle and boot washdowns with common farming disinfectants.



Side view of borehole drilling showing maximum depth and diameter

Geotechnical drill rig

Approx. 6.8m long, 2m wide and 2.7m high (up to 8m when the mast is raised).

Around 6.5 tonnes – similar to a medium-sized farm tractor.

Crawler tracks provide stability and safe movement across uneven or softer ground.

Includes protective barriers and equipment designed to support safe operation by trained specialists.

Noise levels are comparable to typical agricultural machinery. Work is carried out during agreed daytime hours, usually 8am-6pm.



Email: **enquiries@vniwproject.com.au**
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Need an interpreter? Call 13 12 50 and quote VNI West. If you have hearing difficulties or trouble speaking on the phone, contact NRS on 1300 555 727 (voice), 133 677 (TTY), or 0423 677 767 (SMS).