The ground beneath our city streets is quickly reaching saturation with services—sewers, stormwater lines and power and communication cables.

Future services will need to be installed deeper in the way of tunnels. Some of the world’s larger cities have even prepared underground district plans to try to co-ordinate future demand.

From concept study to construction administration, we provide expertise in geotechnical and civil components of tunneling.

**Expertise**

**Our work includes:**
- Hard rock and soft ground tunnels
- Shafts
- Portals and openings.

**Our specialist services include:**
- Desktop geological studies, route selection, concept design, preliminary groundwater take and settlement assessment, consultation, AEE preparation and consent processes
- Detailed geotechnical investigations and assessment of effects on groundwater table and surface settlement
- Preparation of geotechnical interpretive reports and geotechnical baseline reports
- Design of tunnel liners and temporary support, finite element analysis and wedge drop out analysis.

**And we provide additional expert support in the form of:**
- Project management
- Value and risk management
- Preparation of contract documentation
- Administration of tender processes
- Construction administration
- Engineer-to-the-Contract appointments
- Expert witness services.

**Experience**

**Our reputation for quality work includes:**
- High Street power tunnel, Auckland – concept design, investigations, consents, detailed design and construction administration
- Victoria Park motorway tunnel, Auckland – feasibility study and concept design
- Britomart Station tunnel, Auckland – investigations and detailed design
- Hobson Bay sewer tunnel, Auckland – concept design, investigations and consents
- Mount Eden loop rail tunnel, Auckland – feasibility study and concept design
- Royal Oak sewer tunnel, Auckland – investigations and detailed design
- Cosseys Tunnel, Auckland – investigations and concept design
- Vector Tunnel, Auckland – concept design, investigations, consents, detailed design, design management and construction administration
- North Shore sewer outfall tunnel, Auckland – concept designs, investigations, consents and preliminary design
- Waierwa motorway tunnels, Auckland – concept design, investigations, design management and construction administration
• Rotowara Coal Mine, Huntly - risk assessment of likelihood of old mining tunnels collapse
• Cobb hydropower diversion tunnel - condition survey
• Waterview motorway tunnels, Auckland - feasibility and concept studies, detailed geotechnical design and construction monitoring
• Parnell rail tunnel, Auckland - tunnel floor lowering detailed design and construction administration for electrification
• Purewa rail tunnel, Auckland - tunnel floor lowering detailed design and construction administration for electrification
• Southern Interceptor sewage tunnels, Auckland - concept investigation
• Caversham rail tunnel, Otago - condition assessment
• Wingatui rail tunnel, Otago - condition assessment
• Manapouri second tailrace tunnel, Manapouri - dewatering and temporary support design
• AGH water supply tunnel, Manila - investigations and detailed design
• Port Vila sewer tunnel - geotechnical investigations
• Komarindi hydropower intake tunnel, Guadalcanal in the Solomon Islands - feasibility study, investigations and detailed design
• Bakun hydropower intake tunnel, Bakun in Malaysia - expert geotechnical witness after tunnel collapse
• Yen Chow and Nam Cheong underground rail stations, Kuala Lumpur in Malaysia - geotechnical design and construction supervision.