

Projects / Geotechnical Engineering

Our Geotechnical Team provided highly specific services for this office building.

Welles Street / Christchurch



The Project

For this two storey commercial building development in central Christchurch the Babbage Geotechnical Team provided specific services including:

- Review and re-assessment of previous geotechnical information and foundation advice
- Supplementary geotechnical investigations
- Advice on viable, cost effective and appropriate foundation systems

In addition to conventional cone penetration testing techniques we used dynamic probing which is a relatively new technique used in Christchurch.

We had previously developed Christchurch-specific correlations between results of these tests and those provided by conventional machine boreholes (standard penetration test N values). This enabled us to undertake the required fieldwork rapidly, cost-effectively and with confidence.

The Approach

The client had been provided advice regarding foundation systems in this liquefaction prone area of Christchurch prior to our input, which resulted in doubts around financial viability of the proposed development.

The project was in a liquefaction-susceptible area and like many areas of Christchurch the ground conditions were variable across the site. The challenge was to devise an alternative but robust foundation system that was cost-effective, low risk and acceptable to Christchurch City Council.

Using our detailed knowledge of the area we critically examined the geotechnical information, undertook risk analysis, re-interpreted previous and new geotechnical information and developed a robust foundation system.

The costs for this could be sustained by the development budget and the scheme was able to proceed with building consent.

Key details

Project

Project: Commercial Building Development

Client: Miles Construction

Location: Welles Street, Christchurch

Cost: \$1,000,000

Completion: September 2014

Project team

Consulting Engineer: Graham Dean

Disciplines

Geotechnical Engineering