

# TIMBER POLE DEEP PILE FOUNDATION



## New commercial building, Waltham, Christchurch, NZ

A Deep Pole Foundation was installed to provide the foundation for a concrete slab for a commercial building in earthquake-affected Christchurch.

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## Project background: New commercial building, Waltham, Christchurch, NZ

- A new commercial building was required on an industrial site.
- The site was an area that had been affected by the devastating Christchurch earthquakes.
- The project was completed in 2014.

## Project challenge:

- The commercial building needed to be able to withstand any future earthquakes.
- It required a foundation solution that could support a concrete slab and meet the regulatory requirements.
- H5 treated Radiata Pine timber piles were determined as the best solution to be installed down to the founding layer.
- There were multiple dense intermediate layers that had to be driven through.
- Piles had to be installed close to adjacent buildings, but installation was not allowed to impact on these neighbouring properties.
- Multiple contractors would be working concurrently on site to reduce construction time, so pile installation could not impact on the health, safety, or quality of other contractors.
- Installation needed to be rapid.
- Unloading and handling needed to be easy.

## The NZ Ground Control solution:

- MultiPole SED poles, 6.0m x 225mm, were identified as being able to satisfy the stringent design specifications of the Deep Pile Foundation for the Commercial Building.
- The unique hollow core of the MultiPole allowed for fast installation via high frequency vibration.
- MultiPoles were installed through the dense intermediate layers until the founding layer was reached.
- Once the founding layer had been reached the poles were cut off above ground at the level required for placement of the commercial buildings concrete slab.
- Installation was successfully carried out without disturbing other contractors working on site.
- The subcontractor, Markovina Pile Driving South Island, was able to install the MultiPoles in close proximity to adjacent structures without having any effect on them.

