

# TIMBER POLE DEEP PILE FOUNDATION



## Fonterra Picasso & Otakiri Irrigation Tank & Silo Facility, Edgecumbe, NZ

Deep Pile Foundations using MultiPoles were installed for large storage tanks and silos as part of a new Fonterra facility.

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REVOLUTIONARY  
FOUNDATION  
SYSTEMS



DEEP  
PILE



GROUND  
IMPROVEMENT



RAFT

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## Project background: Fonterra Picasso & Otakiri Tank & Silo Facility, Edgecumbe, NZ

- The main contractor, Techo Limited, required a design and install solution.
- Deep Pile Foundations for new storage tanks and silos were required.
- The project was completed in 2017.

## Project challenge:

- The foundations needed to be able to support the weight of 3000 tonne storage tanks.
- Concrete rings needed to be installed around the base of the tanks to an accuracy of +/- 3mm.
- The foundations needed to be able to support the weight of 200m<sup>3</sup> silos.
- The ground condition was abrasive pumice sand.
- H5 treated Radiata Pine timber piles were determined as the best solution to be installed down to the founding layer.
- The original design was for 18.0m long poles which was revised based on the results of extensive test piling.
- Geotechnical investigation was carried out to verify the pile design.
- Pile Driver Analyzing (PDA) testing to verify pile capacity needed to be carried out.
- Piles had to be installed with specific accuracy.
- Installation needed to be rapid.
- The strict health and safety requirements of Fonterra needed to be met.
- The site was extremely busy with numerous contractors working on site at the same time.

## The NZ Ground Control solution:

- MultiPole Uglie poles, 4.5m x 300mm, 686 pieces, were identified as being able to satisfy the stringent design specifications of the Deep Pile Foundations required.
- The unique hollow core of the MultiPole allowed for fast installation via vibration and pile driving.
- Any design changes on site were responded to quickly due to NZ Ground Control's involvement with the design.

