

Title	Install bored piles for onsite piling and deep foundation works		
Level	4	Credits	15

Purpose	People credited with this unit standard are able to install bored piles for onsite piling and deep foundation works.
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Classification	Infrastructure Works > Structural Foundations
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Available grade	Achieved
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Guidance Information

- Learning and assessment within this unit standard must be carried out in a construction or infrastructure works environment in accordance with industry requirements and the following legislation, as relevant to the role, and any subsequent amendments:
 - Health and Safety at Work Act 2015;
 - Resource Management Act 1991;
 - Heritage New Zealand Pouhere Taonga Act 2014;
 - Hazardous Substances and New Organisms Act 1996;
 - Traffic Regulations 1976;
 - Land Transport Rule: Vehicle Dimensions and Mass 2016;
 - Land Transport Rule: Heavy Vehicles 2004;
 - *Structural Engineering Society New Zealand (SESOC), New Zealand Geotechnical Society (NZGS) Construction Specification Bored and Driven Piles 2022*, available from www.nzgs.org;
 - *Excavation Safety: Good Practice Guidelines 2016*, available from Worksafe www.worksafe.govt.nz;
 - *Operator Safety Manual for Earthmoving Machinery 2017*, available from Civil Contractors New Zealand <https://civilcontractors.co.nz/>.

2 Definitions

Bored piles refer to cast in place elements using a kelly bar and auger system with or without reinforcement often using permanent or temporary steel liners/casings.

Industry requirements may refer to but are not limited to relevant policies, processes, methodologies, industry codes of practice, site specific health and safety plans, standard operating procedures, site safety plans, quality plans, work plans, traffic management plans, contract work programmes, job safety analysis, safe work method statements, job instructions, manufacturer's requirements, contract specifications, manuals, procedural documents.

Job specifications are instructions given to the operator prior to undertaking a job. They may include site safety instructions, contract drawings, and written memos.

Work plan refers to any job specifications or plans given to the operator prior to undertaking a job.

Outcomes and performance criteria

Outcome 1

Install bored piles for onsite piling and deep foundation works.

Performance criteria

- 1.1 Advantages of using bored piles are explained in terms of suitability for the context.
- Range site conditions, rock layer, stability, strength, noise, access, length, capacity.
- 1.2 A stable platform for the piling rig is prepared.
- 1.3 Set out for bored piles is completed in terms of positioning and in accordance with the requirements of the site plan and surveyor requirements.
- Range off set pegs, datum line, string lines, required levels.
- 1.4 Communication requirements including hand signals are determined.
- 1.5 Positioning of the pile is monitored throughout the pile installation process and meets the requirements of the job specifications.
- 1.6 Reinforcing cage is checked in terms of spacing and slippage and installed to engineer's specifications.
- 1.7 Casing is installed to specifications, and if temporary, is removed in terms of reducing delays and ensuring there is no separation of the pile shaft.
- 1.8 Quality of the concrete pile is monitored including placement, continuous pour, straight sides, uniformity, and contact with the ground over the full length.
- 1.9 Loose, disturbed, or softened spoil is removed using an appropriate method and in accordance with job specifications.
- 1.10 Pile card is completed and submitted on time to stakeholders in accordance with the work plan and job specifications.
- 1.11 Issues are recorded and discussed with a supervisor.
- Range overbreak, site conditions, unknown soil, water, changing rock levels.
- 1.12 Engineer inspections of the excavation and pile quality are completed, and outcome documented in accordance with job specifications.

Planned review date	31 December 2028
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 July 2018	31 December 2026
Review	2	27 July 2023	N/A

Consent and Moderation Requirements (CMR) reference	0101
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Waihangara Rau Construction and Infrastructure Workforce Development Council at qualifications@WaihangaraRau.nz if you wish to suggest changes to the content of this unit standard.