

<b>Title</b>	<b>Demonstrate knowledge of and carry out structural foundation site operations</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>15</b>

<b>Purpose</b>	People credited with this standard are able to demonstrate knowledge of and carry out structural foundation site operations.
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<b>Classification</b>	Infrastructure Works > Structural Foundations
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<b>Available grade</b>	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](http://www.nzgs.org);
  - *Excavation Safety: Good Practice Guidelines 2016*, available from Worksafe [www.worksafe.govt.nz](http://www.worksafe.govt.nz);
  - *Operator Safety Manual for Earthmoving Machinery 2017*, available from Civil Contractors New Zealand <https://civilcontractors.co.nz/>.

- Definitions

*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.

*Operating process* may include but is not limited to layout, levels, positioning, drilling shaft, reinforcing, casing installation and removal, tremie pour, over pour, piling, soil removal.

*Quality plan* refers to any contract specific policy, processes, procedures, testing or certification requirements.

*Site safety plan* refers to the comprehensive plan dealing with issues relating to health, safety, and the environment. This plan may be generic or site specific and will include an emergency plan. It may include a hazard register.

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

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## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of structural foundation site operations.

#### Performance criteria

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| 1.1   | The optimum layout of the worksite is explained in terms of the work area and staying in sight of the plant operator relevant to structural foundation site operations.  |
| Range | spoil area, crane operation, attachments, site marks, cages, raft area.  |
| 1.2   | Site conditions that might impact on site operations are explained in terms of the tasks to be completed and in accordance with the site safety plan.  |
| 1.3   | Types of plant, equipment, piles, and materials associated with site operations are identified in terms of the requirements of the work plan.  |
| 1.4   | The importance of the groundsmen and spotter roles are explained in terms of site awareness, personal safety, and the safety of the structural foundations crew.   |
| Range | groundsmen role includes – spoil removal, breaking down piles, laying out equipment, water removal, hosing, communications with the operator and crew, regular maintenance, cleaning equipment, oil checks;<br>spotter role includes – concentration, communication, patience, peripheral vision, safety zones, visual barriers, reference points, placement tolerance checks, alignment, site awareness, hand signals, unusual noises, staying on task. |
| 1.5   | The operating process for the structural foundation site is explained in terms of the requirements of the work plan and delegated authorities.   |
| 1.6   | The impact of variations and unusual findings are explained in terms of productivity, meeting deadlines, and the quality plan.   |
| 1.7   | The requirement for integrity testing during the site operations is explained in accordance with the work and quality plan.  |
| 1.8   | The value of crew members to the business is explained in terms of industry expectations for down time, reducing variations and meeting deadlines.   |

- 1.9 Environmental concerns that may impact on the completion of the work plan are explained in terms of risk to the crew and the local environment.

Range environmental concerns include – noise, dust, hazardous substances, soil erosion, de-watering, liquefaction.

## Outcome 2

Carry out structural foundation site operations.

### Performance criteria

- 2.1 Pre-start checks, and meetings are completed and directions for the day are implemented.
- 2.2 Work plan tasks are completed in terms of own role and quality plan.
- 2.3 Changing and checking of attachments are completed and any safety issues are communicated to the team leader and crew.
- 2.4 Any communication barriers between crew members are addressed.
- Range timely and accurate.
- 2.5 Debrief and end of day checks are completed in terms of the safety procedures for the site, plant, end of day checks, and equipment checks.
- 2.6 Issues and recommendations for improvements to site operations are discussed with a leading hand or supervisor.
- 2.7 Timelines and documentation requirements are met.

<b>Planned review date</b>	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

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

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### Comments on this unit standard

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