

Title	Demonstrate knowledge of subgrade for infrastructure civil works		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to describe: subgrade; the shaping and protecting of subgrade; methods of improving weak subgrade; compaction equipment used on subgrade; and shaping of the final surface for infrastructure civil works.
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Classification	Infrastructure Works > Infrastructure Civil Works
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Available grade	Achieved
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Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with relevant legislative and industry requirements.
- 2 Legislation and references relevant to this unit standard include:
 - Health and Safety at Work Act 2015;
 - TNZ F/1:1997 *Specification for Earthworks Construction*; available from www.nzta.govt.nz; and all subsequent amendments and replacements.
- 3 Definition
Industry requirements refer 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.

Outcomes and performance criteria

Outcome 1

Describe subgrade for infrastructure civil works.

Performance criteria

- 1.1 Description of subgrade level is in accordance with TNZ F/1: 1997 *Specification for Earthworks Construction*.

1.2 Description includes methods and differences of excavating an area to subgrade level.

Range excavator and dump truck, motor scraper, loader and truck; evidence of two excavation types is required.

Outcome 2

Describe the shaping and protecting of subgrade for infrastructure civil works.

Performance criteria

2.1 Description includes reasons for shaping subgrade.

2.2 Description includes means of protecting subgrade and the site.

Range water control and environmental protection.

Outcome 3

Describe methods of improving weak subgrade for infrastructure civil works.

Performance criteria

3.1 Description includes using geotextiles.

3.2 Description includes stabilising methods.

Range lime, cement, chemical, grading improvement.

3.3 Description includes undercutting and importing higher quality fill.

3.4 Description includes the importance of subsoil drainage.

3.5 Description includes ripping, disking, drying, and recompaction.

Outcome 4

Describe compaction equipment used on subgrade for infrastructure civil works.

Performance criteria

4.1 Compaction is described in terms of job instructions and hold points.

4.2 Description identifies and explains equipment for use on cohesive materials.

Outcome 5

Describe shaping of the final surface for infrastructure civil works.

Performance criteria

- 5.1 Description includes the use of stakes, boning rods, global positioning system, and spot levels in shaping the final surface.
- 5.2 Description compares the use of grader, bulldozer, and excavator in shaping the final surface.

Replacement information	This unit standard replaced unit standard 6481.
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Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	30 May 2000	31 December 2014
Review	2	25 September 2006	31 December 2016
Review	3	19 February 2015	31 December 2023
Review	4	30 September 2021	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 Connexis - Infrastructure Industry Training Organisation qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.