

Title	Demonstrate knowledge of the materials used in road formation		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: describe materials used during road formation; demonstrate knowledge of material compaction; and demonstrate knowledge of testing of materials used in road formation.
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Classification	Infrastructure Works > Road Construction
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Available grade	Achieved
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Explanatory notes

- 1 The following legislation and regulations must be complied with: Health and Safety in Employment Act 1992; and Health and Safety in Employment Regulations 1995.
- 2 Assessment against this unit standard may take place in a workplace and/or provider environment. Assessment parameters will depend on company and site specific equipment, procedures, and practices. Practices must reflect industry best practice and comply with legislative requirements.
- 3 Definition
Contract specifications include plans, diagrams, and special technical conditions. They do not include special administrative conditions.

Outcomes and evidence requirements

Outcome 1

Describe materials used during road formation.

Evidence requirements

- 1.1 Local materials used in road formation are described.
- 1.2 Unsuitable materials for road formation are described in accordance with local conditions.
- 1.3 Likely cut-and-fill materials are described in accordance with local conditions.
- 1.4 Subgrade materials are described in accordance with contract specifications and local conditions.

- 1.5 Sub-base materials are described in accordance with contract specifications and local conditions.
- 1.6 Base course materials are described in accordance with contract specifications and local conditions.
- 1.7 Geotextile filters are described in accordance with contract specifications.
- 1.8 Filter materials are described in accordance with contract specifications and local conditions.
- 1.9 Bedding materials are described in accordance with contract specifications and local conditions.
- 1.10 Quarried material is described in terms of its origin and use.
- Range river, hardrock, pit.

Outcome 2

Demonstrate knowledge of material compaction.

Evidence requirements

- 2.1 The Optimum Moisture Content is identified in accordance with material compaction.
- 2.2 Maximum Dry Density is described in terms of the degree of compaction as measured by density.
- 2.3 Plant is described in terms of achieving optimum compaction of materials.
- Range plant includes – rubber, steel, vibrating, sheepsfoot, grid rollers; material includes – asphalt, base course, clay, rock.

Outcome 3

Demonstrate knowledge of testing of materials used in road formation.

Evidence requirements

- 3.1 Tests are identified and described for earthworks and subgrade.
- Range Scala penetrometer, nuclear densometer, Benkleman beam.
- 3.2 Tests are identified and described for sub-base and base course.
- Range grading, crushed-face, Clegg hammer, Benkleman beam, nuclear densometer.

Planned review date	31 December 2019
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 December 1998	31 December 2014
Review	2	30 May 2000	31 December 2014
Review	3	25 September 2006	31 December 2016
Review	4	19 February 2015	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>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact the Infrastructure ITO qualifications@infrastructureito.org.nz if you wish to suggest changes to the content of this unit standard.