

<b>Title</b>	<b>Apply knowledge of hydraulic design methods to design a farm dairy effluent system</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	<p>This unit standard is for people employed in the design and installation of farm dairy effluent systems. It includes the designing of farm effluent hydraulic systems and follows on from unit standard 29161.</p> <p>People credited with this unit standard are able to apply knowledge of hydraulic design methods to design a farm dairy effluent (FDE) system.</p>
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<b>Classification</b>	Mechanical Engineering > Dairy Systems Engineering
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<b>Available grade</b>	Achieved
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<b>Recommended skills and knowledge</b>	29161 <i>Demonstrate knowledge of farm dairy effluent hydraulic design methods</i> or demonstrate equivalent knowledge and skills.
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### Explanatory notes

- References.  
New Zealand Food Safety Council  
NZCP1: Code of Practice for the Design and Operation of Farm Dairies. Available at:  
<http://www.foodsafety.govt.nz/elibrary/industry/dairy-nzcp1-design-code-of-practice/amdt-2.pdf>  
Farm Dairy Effluent (FDE) Design Code of Practice, available at  
<http://www.dairynz.co.nz/publications/environment/farm-dairy-effluent-fde-design-code-of-practice/>.  
Farm Dairy Effluent (FDE) Design Standards, available at  
<http://www.dairynz.co.nz/publications/environment/farm-dairy-effluent-fde-design-standards/>.
- Definitions.  
*Farm Dairy Effluent (FDE)* system refers to an installation of apparatus or components, which captures and applies FDE to land to maximise the beneficial use of nutrients for plant growth, and minimises contamination of groundwater and surface water bodies.
- Range  
The design must comply with the FDE Design Code of Practice and the FDE Design Standards listed in the references.

Candidates will be provided with a design brief. The design brief should include:- project details, specifications, and farm maps.

The design project requires candidates to apply the knowledge acquired in unit standard 29161 demonstrate knowledge of farm dairy effluent hydraulic design methods.

Candidates are required to demonstrate a good methodical approach to design work and understanding of essential concepts.

Design outcomes will vary depending on components selected.

CAD, other design software and calculators may be used.

Candidates are encouraged to use other literature such as course notes.

## Outcomes and evidence requirements

### Outcome 1

Apply knowledge of hydraulic design methods to design a farm dairy effluent system.

### Evidence requirements

- 1.1 An effective farm dairy effluent system is designed in accordance with the design brief.

<b>Planned review date</b>	31 December 2020
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### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	15 October 2015	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	CMR 0013
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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.

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### Comments on this unit standard

Please contact the Competenz [qualifications@competenz.org.nz](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.