

<b>Title</b>	<b>Demonstrate knowledge of the installation and maintenance of foulwater drains</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	<p>This unit standard is for people who work in the drainlaying industry.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> <li>– demonstrate knowledge of legislation, regulations, concepts, and principles underpinning the installation of foulwater drains;</li> <li>– describe the purpose, operation, and maintenance of sewer gas interceptor traps in accordance with standard AS/NZS 3500.2:2015; and</li> <li>– demonstrate knowledge of materials and fittings relevant to drainlaying.</li> </ul>
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<b>Classification</b>	Plumbing, Gasfitting and Drainlaying > Drainlaying
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<b>Available grade</b>	Achieved
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## Guidance Information

### 1 References

Plumbers, Gasfitters, and Drainlayers Act 2006;  
 Health and Safety at Work Act 2015;  
 Building Act 2004;  
 Health Act 1956;  
 Resource Management Act 1991;  
 Plumbers, Gasfitters, and Drainlayers Regulations 2010;  
 The following standards, which are available at <http://www.standards.govt.nz>:  
 AS/NZS 1547:2000 *On-site domestic wastewater management*  
 AS/NZS 1546.1:2008 *On-site domestic wastewater treatment units – Septic tanks*,  
 AS/NZS 3500.2:2015 *Plumbing and drainage – Sanitary plumbing and drainage*,  
 The following clauses, and any related compliance documents, which are available at <https://www.building.govt.nz/>:  
 New Zealand Building Code Clause E1 Surface Water  
 New Zealand Building Code Clause G12 Water Supplies  
 New Zealand Building Code Clause G13 Foul Water;  
 and all subsequent amendments and replacements.

### 2 Definitions

*Access point* – a place where access may be made to a drain or discharge pipe for inspection, cleaning or maintenance, and includes inspection point, rodding point, and cleaning eye.

*Inspection point* – a removable cap at drain level through which access may be made for cleaning and inspecting the drainage system.

*Rodding point* – a removable cap at ground level through which access may be made for cleaning or inspecting the drainage system.

*Cleaning eye* – a small diameter access point.

*Job specifications*, for the purposes of this unit standard, refer to instructions (oral, written, graphic) and may include any of the following: manufacturers' instructions; design drawing detail specifications; specifications from a specialist source such as an architect, designer, engineer, or a supervisor; and site or work specific requirements. Where job specifications are in conflict with applicable legislation, standards, and/or codes, such legislation, standards, and/or codes shall take precedence for the purpose of assessment.

*Other services* – any existing installed services such as water, gas, electricity, or telephone network cables.

- 3 All practical activities are to be carried out in a way that avoids harm to people and damage to property, environment, other services, materials, tools, and equipment.
- 4 Candidates must hold a current limited certificate or exemption under supervision as issued under the Plumbers, Gasfitters, and Drainlayers Act 2006.

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## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of legislation, regulations, concepts, and principles underpinning the installation of foulwater drains.

### Performance criteria

- 1.1 Describe relevant sections of legislation, standards, and codes in terms of their application to the installation of foulwater drain systems.
- 1.2 Explain the application of underpinning concepts and principles to the installation of foulwater drains.  
  
Range      gradient and sizing, venting, bedding, coverage and protection, material selection, overflow relief, approved outfall.
- 1.3 Explain the purpose, features, and requirements of access points, other than inspection chambers.  
  
Range      inspection points, rodding points, cleaning eyes.
- 1.4 Describe types of access points that are appropriate for different purposes, and their positioning in the drainage pipework system.
- 1.5 Describe the purpose of thrust/anchor and anti scour blocks in a drainage system.

**Outcome 2**

Describe the purpose, operation, and maintenance of sewer gas interceptor traps in accordance with standard AS/NZS 3500.2:2015.

Range boundary traps.

**Performance criteria**

- 2.1 Describe reasons for the installation of sewer gas interceptor traps.
- 2.2 Describe location, components, and operation of sewer gas interceptor traps.
- 2.3 Explain diagnosis processes for faults in sewer gas interceptor traps.
- 2.4 Explain processes for the maintenance and removal of sewer gas interceptor traps.

**Outcome 3**

Demonstrate knowledge of materials and fittings relevant to drainlaying.

Range pipework includes pipes and associated fittings.

**Performance criteria**

- 3.1 Describe the job situation in which types of new pipe and pipework would be appropriate.  
  
Range pipes – uPVC, polyethylene, earthenware, concrete, steel, ABS.
- 3.2 Describe the environment in which different types of existing pipe and pipework would be encountered.  
  
Range pipes – uPVC, polyethylene, earthenware, concrete, steel, ABS.  
Asbestos or other hazardous material, cast iron, copper, brass.
- 3.3 Describe the characteristics of different types of pipes according to the material of which they are constructed.  
  
Range pipes – uPVC, polyethylene, earthenware, concrete, steel, ABS;  
durability, rigidity/flexibility, load bearing capacity.
- 3.4 Describe jointing methods appropriate for the materials being joined, including the jointing of pipes of different materials.  
  
Range band clamped sleeve, plaster /epoxy mortar (epoxy resin),  
compression, glue /solvent cement/ solvent weld, electrofusion  
weld, rubber ring.
- 3.5 Explain methods of conducting soundness tests of different types of drainage systems.

- 3.6 Explain the requirements to conduct soundness tests in accordance with relevant legislation, regulations, codes, and standards.
- 3.7 Describe methods and requirements for the protection of pipework prior to covering.
- 3.8 Describe precautions and procedures to be adopted with potentially hazardous materials.

Range includes but is not limited to – asbestos, concrete dust, cement, solvent fumes.

- 3.9 Describe precautions and procedures to be adopted with pipes conveying potentially hazardous materials.

Range may include but is not limited to – foul water, hot water, corrosive liquid, petrol oil lubricants.

<b>Replacement information</b>	This unit standard and unit standard 30531 replaced unit standard 1114, unit standard 1115, unit standard 1117, and unit standard 27336.
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<b>Planned review date</b>	31 December 2022
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 September 2017	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0003
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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 The Skills Organisation [reviewcomments@skills.org.nz](mailto:reviewcomments@skills.org.nz) if you wish to suggest changes to the content of this unit standard.