

|              |  |                |           |
|--------------|--|----------------|-----------|
| <b>Title</b> | <b>Carry out maintenance operations on wastewater networks</b> |                |           |
| <b>Level</b> | <b>3</b>   | <b>Credits</b> | <b>20</b> |

|                |  |
|----------------|--|
| <b>Purpose</b> | People credited with this unit standard are able to: demonstrate knowledge of wastewater networks; demonstrate knowledge of materials, fittings, and techniques used for wastewater networks; and carry out maintenance operations on wastewater networks. |
|----------------|--|

|                       |  |
|-----------------------|--|
| <b>Classification</b> | Infrastructure Works > Pipeline Construction and Maintenance |
|-----------------------|--|

|                        |          |
|------------------------|----------|
| <b>Available grade</b> | Achieved |
|------------------------|----------|

---

### Guidance Information

- 1 Legislation and references relevant to this unit standard include: Health and Safety at Work Act 2015 and Resource Management Act 1991; *Excavation Safety – Good Practice Guidelines*, available from <https://worksafe.govt.nz>; NZS 4404:2010 *Land Development and Subdivision Infrastructure*, available from <http://www.standards.govt.nz>.
- 2 Assessment against this unit standard must take place in a workplace environment and the context must be specific to the candidate's own role on site. Assessment may be by simulation. Assessment parameters depend on company and sit-specific equipment, procedures, and practices. Practices must reflect industry best practice and comply with legislative requirements.
- 3 Definitions  
*Company requirements* include the policy, procedures, and methodologies of the company. They include legislative and regulatory requirements that may apply across the company or to a specific site. Requirements are documented in the company health and safety plans, traffic management plans, contract work programmes, quality plans, policies, and procedural documents.  
*Job instructions* are instructions given to the operator prior to undertaking a job. They may include site safety instructions, contract drawings, and written memos.  
*PVC* means polyvinyl chloride, a commonly-used pipe material.

---

### Outcomes and performance criteria

#### Outcome 1

Demonstrate knowledge of wastewater networks.

**Performance criteria**

- 1.1 Wastewater networks are described in terms of their purpose and public health considerations.
- 1.2 Components of wastewater networks are explained in terms of their purpose and function.
- 1.3 Hydraulics of wastewater networks are explained in terms of causes and impacts of flow rate changes, and techniques for flow measurement.
- 1.4 Inflow, infiltration, and exfiltration are explained in terms of their causes, effects, and prevention.
- 1.5 Quality control operations for wastewater network operation is explained in accordance with company requirements.
- 1.6 Internal and external causes of pipe blockage or failure are explained in terms of their effects and prevention.

**Outcome 2**

Demonstrate knowledge of materials, fittings, and techniques used for wastewater networks.

**Performance criteria**

- 2.1 Types of wastewater pipe are described in terms of their features, handling, fittings, jointing requirements, and uses.  
  
Range concrete, polyvinyl chloride (PVC), polyethylene (PE), acrylonitrile-butadiene-styrene (ABS), stainless steel, ceramic.
- 2.2 Types of pipe that may be encountered in older wastewater networks are described in terms of their maintenance requirements.  
  
Range brick, cast iron, asbestos, concrete lined steel.
- 2.3 Techniques for joining wastewater pipes and access chambers are described, including use of special couplers and flexible joints.
- 2.4 Rehabilitation and replacement of pipes are described in terms of their requirements and procedures.  
  
Range two rehabilitation techniques, two replacement techniques.
- 2.5 Procedures when shutting down a wastewater network for maintenance are described in accordance with company requirements.
- 2.6 Pipe unblocking, overflow management, and bypass pumping are described in accordance with company requirements.

### Outcome 3

Carry out maintenance operations on wastewater networks.

#### Performance criteria

- 3.1 Job instructions are checked and confirmed, and materials and tools are selected in accordance with company requirements.
- 3.2 Network flow is reduced or stopped to allow work to take place in accordance with job instructions and company requirements.
- 3.3 Excavation and any required groundwater control are carried out safely and in accordance with company requirements.
- 3.4 Pipe cleaning and unblocking is carried out in accordance with job instructions and company requirements.
- 3.5 Pipes, components, and joints are installed and tested in accordance with job instructions and company requirements.
- 3.6 Backfill, compaction and reinstatement are completed in accordance with job instructions and company requirements.
- 3.7 Maintenance of access chambers is completed in accordance with job instructions and company requirements.
- 3.8 Spills and overflow are managed, and contaminated debris is disposed of in accordance with legislative and company requirements.

|                                |  |
|--------------------------------|--|
| <b>Replacement information</b> | <p>This unit standard and unit standard 31451 were replaced by unit standard 32814 and unit standard 32815.</p> <p>This unit standard replaced unit standard 19213, unit standard 19214, unit standard 19215, unit standard 22098, unit standard, and unit standard 22111.</p> |
|--------------------------------|--|

**This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.**

#### Status information and last date for assessment for superseded versions

| Process      | Version | Date              | Last Date for Assessment |
|--------------|---------|-------------------|--------------------------|
| Registration | 1       | 27 September 2018 | 31 December 2025         |
| Review       | 2       | 26 August 2021    | 31 December 2025         |
| Revision     | 3       | 29 September 2022 | 31 December 2025         |

|  |      |
|--|------|
| <b>Consent and Moderation Requirements (CMR) reference</b> | 0101 |
|--|------|

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

This unit standard is expiring