

Manage wastewater reticulation systems and critical points

Level 5

Credits 8

Purpose People credited with this unit standard are able to: identify and manage the factors relating to wastewater reticulation systems that can cause contamination of ground and surface waters; identify and manage the procedures for taking wastewater gravity or rising main out of service, cleaning or repairing it, and putting it back into service; and identify critical points, hazards, preventive actions, and corrective actions of wastewater reticulation systems.

This unit standard is for people who work in wastewater reticulated services.

Subfield Water Industry

Domain Water Reticulation

Status Registered

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Accreditation Evaluation of documentation and visit by NZQA, industry and teaching professional in the same field from another provider.

Standard setting body (SSB) Primary Industry Training Organisation

Accreditation and Moderation Action Plan (AMAP) reference 0179

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

Special notes

- 1 Reference
Legislation relevant to this unit standard includes but is not limited to the Resource Management Act 1991, Health and Safety in Employment Act 1992, and Hazardous Substances and New Organisms Act 1996.

2 Definitions

Organisational procedures – instructions to staff, and procedures which are documented in memo or manual format and are available in the workplace. These requirements include but are not limited to – site specific requirements, manufacturers' specifications, product quality specifications, and legislative or regulatory requirements.

Critical points – points in a process or in equipment where failure to function correctly can lead to a public health hazard.

Wastewater includes stormwater and sewage systems.

Elements and performance criteria

Element 1

Identify and manage the factors relating to wastewater reticulation systems that can cause contamination of ground and surface waters.

Performance criteria

- 1.1 The potential for affecting public health through contamination of ground and surface waters by wastewater reticulation systems is explained in terms of public health risks and methods to reduce the risks.
- 1.2 Factors leading to contamination of ground and surface waters are identified and managed in terms of reticulation problem areas.
- Range includes but is not limited to – flat grades, wastewater velocity in sewers, deposition of solids, blockages and leaks.
- 1.3 The causes of corrosion and odours are identified, and their impacts managed in accordance with the characteristics of wastewater.
- Range includes but is not limited to – domestic wastewater, industrial wastewater, pollution concentration of wastewaters, sewer velocities, sewer construction material.
- 1.4 The opportunities for surface and groundwater contamination during maintenance are identified and managed in terms of public health risks, and methods to reduce these risks.
- Range includes but is not limited to – timing of maintenance, low or high flow periods, cleaning and flushing techniques, removal and disposal of debris taken from the sewer, pH risk.
- 1.5 The opportunities for surface and groundwater contamination due to inadequate pump station maintenance are identified and managed in terms of public health risks, and methods to reduce these risks.
- Range includes but is not limited to – time frame for maintenance, pump maintenance, removal and disposal of debris taken from the pump station.

- 1.6 Inflow and infiltration are described in terms of their features as sources of contamination.

Range causes, results, methods of detection, methods of prevention.

Element 2

Identify and manage the procedures for taking wastewater gravity or rising main out of service, cleaning or repairing it, and putting it back into service in accordance with organisational procedures.

Performance criteria

- 2.1 Health and safety requirements are identified and managed.

Range includes but is not limited to – safety plan(s) for confined space entry, trench safety, traffic, excess height access, hazardous chemicals use; health – personal hygiene.

- 2.2 The procedures for taking the mains out of service are described.

- 2.3 The procedures for repair and flushing of mains leading to or directly from a pump station or treatment plant are described.

- 2.4 The procedures for mains refill, and mains put back into service are managed.

Element 3

Identify critical points, hazards, preventive actions, and corrective actions of wastewater reticulation systems.

Range includes but is not limited to – gravity or pumped reticulation systems, pump stations, reticulation components.

Performance criteria

- 3.1 The critical points in wastewater reticulation systems are identified in accordance with organisational procedures.

- 3.2 The hazards at each critical point are identified in terms of the causes of the events leading to their occurrence, and the risk level.

- 3.3 The preventive and corrective actions for persistent problems or events related to each hazard are identified in accordance with organisational procedures.

Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP 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 Primary Industry Training Organisation standards@primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.