

Title	Describe the characteristics of, and sources that affect wastewater		
Level	4	Credits	6

Purpose	People credited with this unit standard are able to describe: the characteristics of wastewater, and their effects on health and the environment; and sources that affect wastewater composition.
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Classification	Water Industry > Wastewater Treatment
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Available grade	Achieved
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Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable legislative and industry requirements.
- 2 Legislation relevant to this unit standard includes: Health and Safety at Work Act 2015, Water Services Act 2021, Resource Management Act 1991, Hazardous Substances and New Organisms Act 1996, and subsequent amendments.
- 3 Definitions
Industry requirements include manufacturers' specifications; and enterprise requirements which may include documented workplace policies, procedures, specifications, business, and quality management requirements relevant to the workplace in which assessment is carried out.
Trade waste bylaws are those found in regional and district plans, and regulatory authority requirements relating to trade waste
Wastewater may include stormwater and sewage systems.
- 4 Learning and assessment activities for this unit standard must be informed by Te Mana o te Wai (refer to [Taumata Arowai](#)) and the *National Policy Statement for Freshwater Management 2020* available from <https://environment.govt.nz/>.

Outcomes and performance criteria

Outcome 1

Describe the characteristics of wastewater, and their effects on health and the environment.

Range wastewater constituents that make up characteristics include but are not limited to – Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), helminths, protozoa, bacteria, viruses, indicator organisms, organics, inorganics, pH, oil and grease.

Performance criteria

- 1.1 Wastewater constituents are described in terms of their features.
- 1.2 Wastewater constituents are described in terms of the ways in which they are modified or treated by primary, secondary, tertiary, and alternative treatment processes.
- 1.3 Wastewater constituents are described in terms of the likely concentrations which impact on public health.
- 1.4 Wastewater constituents are described in terms of their impact on the ecosystems, and the concentrations which have a significant impact.
- 1.5 Wastewater is described in terms of the common waterborne diseases it may contain, and the use of indicator organisms in water quality monitoring.

Outcome 2

Describe sources that affect wastewater composition.

Performance criteria

- 2.1 The sources and composition of wastewater are described in terms of permitted and prohibited substances, volumes and concentrations.

Range domestic origin, industrial origin, trade waste bylaws.
- 2.2 The sources and composition of wastewater are described in terms of domestic loading, and domestic loading equivalence.
- 2.3 The sources and composition of wastewater are described in terms of extraneous loading levels and timing.

Range includes but is not limited to – stormwater, groundwater.

Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 September 2008	31 December 2018
Review	2	16 March 2017	31 December 2023
Review	3	28 April 2022	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>.

Comments on this unit standard

Please contact Waihangā Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@waihanga.nz if you wish to suggest changes to the content of this unit standard.