

WAIMAKARIRI DISTRICT COUNCIL

WASTEWATER BYLAW 2015

The Wastewater Bylaw 2015
was adopted at a Council meeting
held on 4 August 2015



Chief Executive



Governance Manager



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RELATED DOCUMENTS

Reference is made in this document to the following:

NEW ZEALAND STANDARDS

- NZS 9201:Model General Bylaws Part 22:1999 Wastewater Drainage
- NZS 9201:Model General Bylaws Part 23:1999 Trade waste
- NZS 4304:2002 Management of Healthcare Waste

NEW ZEALAND LEGISLATION

- Building Act 2004
- Building Regulations 1992 (including the New Zealand Building Code)
- Health Act 1956
- Land Transfer Act 1952
- Local Government Act 2002
- Property Law Act 2007
- Local Government (Rating) Act 2002
- Resource Management Act 1991
- Hazardous Substances and New Organisms Act 1996
- Land Transport Rule Dangerous Goods 2005

OTHER PUBLICATIONS

- Waimakariri District Council Engineering Code of Practice

WAIMAKARIRI DISTRICT COUNCIL WASTEWATER BYLAW

In pursuance of the powers vested in it by Sections 145 and 146 of the Local Government Act 2002 the Waimakariri District Council makes this Bylaw to control wastewater discharges.

1. TITLE

This Bylaw may be cited as the Waimakariri District Council Wastewater Bylaw 2015.

2. COMMENCEMENT

This Bylaw supersedes the Waimakariri District Council Wastewater Bylaw 2009 and comes into force on 10 August 2015.

3. INTRODUCTION

This Bylaw covers the discharge of domestic wastewater and trade waste into the wastewater reticulation within the jurisdictional area of the Waimakariri District Council. The purpose of this Bylaw can be briefly described as follows:

- a) To ensure the protection of Council personnel and the general public.
- b) To protect the ability of the Council to meet the requirements of the Resource Management Act.
- c) To protect the investment in the existing and any future infrastructure, treatment plant and disposal facilities.
- d) To protect the ability of the customer to use the public wastewater reticulation network in an approved manner.

3.2 This Bylaw is subject to Acts and Regulations and nothing in this Bylaw derogates from any of the provisions of the Resource Management Act 1991, the Building Act 2004, the Health Act 1956, The Hazardous Substances and New Organisms Act 1996 or their subsequent amendments or other relevant statutory or regulatory requirements. In the event of any inconsistency between this Bylaw and such legislation, the more stringent applies.

4. DEFINITIONS

For the purposes of this Bylaw the following definitions shall apply:

ACCEPTABLE WASTEWATER DISCHARGE means a wastewater with physical and chemical characteristics which comply with the requirements of the Council as scheduled in Appendix 1.

AGREEMENT means an agreement approved in writing by the Council, either by resolution of the Council or by an officer of the Council authorised for that purpose.

BURIED SERVICES means all public wastewater reticulations, rising mains, trunk wastewater reticulations and other underground utilities under the responsibility of the Council.

CERTIFICATE OF TITLE means a certificate registering the freehold ownership of land available to any owner(s) under the Land Transfer Act 1952 or a computer register created under the Land Transfer (Computer Registers and Electronic Lodgement) Amendment Act 2002.

CHARACTERISTIC means any of the physical or chemical characteristics of wastewater referred to in Appendix 1.

COMMON DRAIN means that section of private sewer reticulation between a group of customer's premises and the point of discharge through which wastewater is conveyed from the premises. This section of sewer reticulation is owned and maintained by the group of customers.

COUNCIL means the Waimakariri District Council.

CUSTOMER means a person who either discharges, or has obtained agreement from the Council to discharge or direct the manner of discharge of wastewater from any premises to the public wastewater reticulation of the Council.

DESIGN FLOOD LEVEL means that the level calculated by the Council as a consequence of an appropriate rainfall intensity.

DISCONNECTION means the physical cutting and sealing of the sewer reticulation from a premise.

DOMESTIC WASTEWATER means either that wastewater which is discharged from premises used solely for residential activities or wastes of the same character discharged from other premises, provided that the characteristics of the wastewater are an Acceptable Discharge. Such activities shall include the draining of domestic swimming and spa pools subject to any discharge meeting the requirements outlined in Appendix 1.

DRAINLAYER means a person who is registered as a drainlayer under the Plumbers, Gasfitters and Drainlayers Act 2006 and any amendments.

EASEMENT means a right to use the land or premises of another person without having the right to possession of that land.

GRAVITY MAIN means a wastewater pipeline that conveys wastewater driven by the force of gravity.

EFFLUENT means the liquid discharge from any primary treatment tank.

GROUNDWATER includes all water bodies below the ground surface i.e. subsoil water and artesian water.

INFILTRATION means unwanted water entering a public wastewater reticulation or private sewer reticulation from groundwater through defects such as poor joints, and cracks in pipes or manholes. It does not include inflow.

INFLOW means unwanted water that flows into a public or private sewer reticulation from defects in the reticulation system or from non-complying connections. It includes storm water entering through illegal downpipe connections or from low gully traps.

LATERAL means that section of sewer reticulation between the customer's premises and the point of discharge through which wastewater is conveyed from the premises.

LEVEL OF SERVICE means the measurable performance standards on which the Council undertakes to receive wastewater from its customers.

PERSON includes a corporation sole and also a body of persons whether incorporated or unincorporated.

POINT OF DISCHARGE means the connection between the public wastewater reticulation and private sewer reticulation.

PREMISE means either:

- a) A property or allotment which is held under a separate certificate of title or for which a separate certificate of title may be issued and in respect to which a building consent has been or may be issued, or
- b) A building that has been defined as an individual unit by a cross-lease, unit title or company lease and for which a certificate of title is available, or
- c) Land held in public ownership (e.g. reserve) for a particular purpose.
- d) Individual units in a building which are separately occupied and/or leased.

PROHIBITED CHARACTERISTICS means those characteristics that would lead to a wastewater not being permitted to discharge into the Council system, as defined by Appendix 2.

PROHIBITED WASTEWATER means a wastewater that either does not have the characteristics defined in Appendix 1 or does have the characteristics defined in Appendix 2, but excluding wastewater that is approved for discharge into the Council wastewater network by a specific agreement with Council.

PUBLIC WASTEWATER RETICULATION means that section of public sewer reticulation from the point of discharge through which wastewater is conveyed from the customer to the wastewater treatment plant. This section of sewer reticulation is owned and maintained by the Council.

RISING MAIN means that section of a wastewater reticulation through which wastewater is pumped.

SANITARY FIXTURE means any fixture which is intended to be used for sanitation, personal washing or excretion.

SCHEDULE OF RATES AND CHARGES means the list of items, terms and prices for services associated with the discharge of wastewater as approved by the Council.

SERVICE OPENING means a manhole, or similar means for gaining access for inspection, cleaning or maintenance, of a public wastewater reticulation.

SPECIAL WASTEWATER means a wastewater with physical characteristics that discharge from a domestic or non-domestic premise which does not fall within the characteristics in Appendix 1 and Appendix 2

STORMWATER means all surface water run-off resulting from precipitation.

TRADE PREMISES means any premise used or intended to be used for carrying on any trade or industry, and includes any land or premises wholly or mainly used for agricultural or horticultural purposes or that discharges wastewater other than domestic wastewater.

TRADE WASTE means any liquid, with or without matter in suspension or solution, that is or may be discharged from a trade premises in the course of any trade or industrial process or operation, or in the course of any activity or operation of a like nature, but does not include condensing water, stormwater or domestic wastewater. Condensing or cooling waters and stormwater which cannot practically be separated from wastewater may be included subject to specific agreement.

TRADE WASTE AGREEMENT means an agreement in writing given by the Council authorising a person to discharge trade waste to the wastewater system.

TRUNK WASTEWATER RETICULATION means a wastewater reticulation, generally greater than 150mm in diameter, which forms a part of the principal wastewater network.

WASTEWATER means water or other liquid, including waste matter in solution or suspension, discharged from premises to the wastewater reticulation system.

WASTEWATER RETICULATION OR WASTEWATER SYSTEM means the main public wastewater pipes, fittings, pump stations and lateral connection that carry away wastewater from the point of discharge. The public wastewater reticulation is owned and maintained by the Council.

5. ACCEPTANCE OF DISCHARGE

5.1 Domestic Wastewater

Every domestic premise shall be entitled to have its wastewater accepted by the Council subject to:

- a) The premise meeting the criteria in the "Application for Extension to Water Supply and Sewage Disposal Policy" (S-CP 5610); and
- b) Meeting all of the applicable criteria specified in the "Wastewater Policy" (S-CP 5001); and
- c) Payment of the appropriate rates and charges in respect of that premises in general and wastewater services in particular; and
- d) Payment of an appropriate share as determined by Council of the actual cost of the connection; and
- e) Payment of the appropriate Development Contribution levied under the Local Government Act (2002) and the financial contribution levied under the Resource Management Act (1991); and
- f) Fulfilment of the requirements of this Bylaw (refer Appendix 1).

5.2 Trade Waste

All trade waste that discharges into the wastewater reticulation must comply with Appendix 1 of this Bylaw unless a separate prior written agreement has been obtained from the Council. If compliance with provisions of Appendix 1 is not demonstrated by the customer to the satisfaction of the Wastewater Asset Manager, then the Council may choose to charge the customer for the discharges on an individual basis as specified within a Trade Waste Agreement.

5.3 Approval to Connect

No person other than an authorised agent of the Council, shall without prior Council agreement, make any connection to or otherwise interfere with any part

of the Council's wastewater system, unless under the direct supervision of an appropriate Council Officer. Every application for approval for a wastewater connection shall be made in writing using the specified form "Application to Connect to the Council's Sewer" (available on the Council website), be accompanied by payment of the prescribed charge, and approved by the Wastewater Asset Manager prior to connection.

6. CONTINUITY OF DISCHARGE

The Council does not guarantee to receive wastewater without interruption, however the Council will use all reasonable endeavours to ensure that any disruption is kept to a minimum.

No allowance or compensation will be made or paid by the Council if the wastewater system is restricted, disrupted or stopped for any reason.

7. CONDITIONS OF DISCHARGE

7.1 General

All wastewater discharges shall comply with the requirements set out in Appendix 1 to this Bylaw.

7.2 Flow Rate

The maximum instantaneous flow rate discharged from a domestic premise shall not exceed 2.0 litres per second, unless with the prior written agreement of the Council.

7.3 Swimming Pools

Swimming pools and spa pool drains must be fitted with a flow limiting device to ensure the discharge does not exceed a maximum instantaneous flow of 2.0 litres per second.

7.4 Prescribed Charges

The Council shall have the ability to prescribe charges that apply at the time of connection which may include:

- a) An application fee, and
- b) A charge for providing the connection; and
- c) A Development Contribution charge levied under the provisions of the Local Government Act;
- d) A Financial Contribution charge levied under the provisions of the Resource Management Act.

The Council may also from time to time by resolution prescribe such charges for other services supplied or that are necessary to ensure compliance with this Bylaw.

7.5 Prohibited Characteristics

No wastewater with prohibited characteristics (as scheduled in Appendix 2) shall be discharged into the wastewater reticulation.

8. POINT OF DISCHARGE

8.1 Responsibility for Maintenance

The Council owns and is responsible for the maintenance of the public wastewater system including the pipe and fittings up to the point of discharge. It may partially or completely shut down the wastewater system on notice for maintenance or repair or without notice when it is not practical to provide affected customers with prior notice.

The customer owns and shall be responsible for all repairs to the private lateral within the customer's property and on the customer's side of the point of discharge, except where the private lateral lies within public land the Council is responsible for the renewal of the lateral and repair of structural faults. Structural faults include broken or collapsed pipes, but do not include blockages caused by foreign objects or any material or substance whatsoever that is generated from within a customer's premises, or tree roots originating from private property. Structural faults also include private laterals on public land that have been installed at insufficient grade (grade requirements for lateral installation are specified in the Council's Engineering Code of Practice).

Where the private lateral lies within public land, the customer shall be responsible for clearing of blockages resulting from non-structural faults up to the point of discharge.

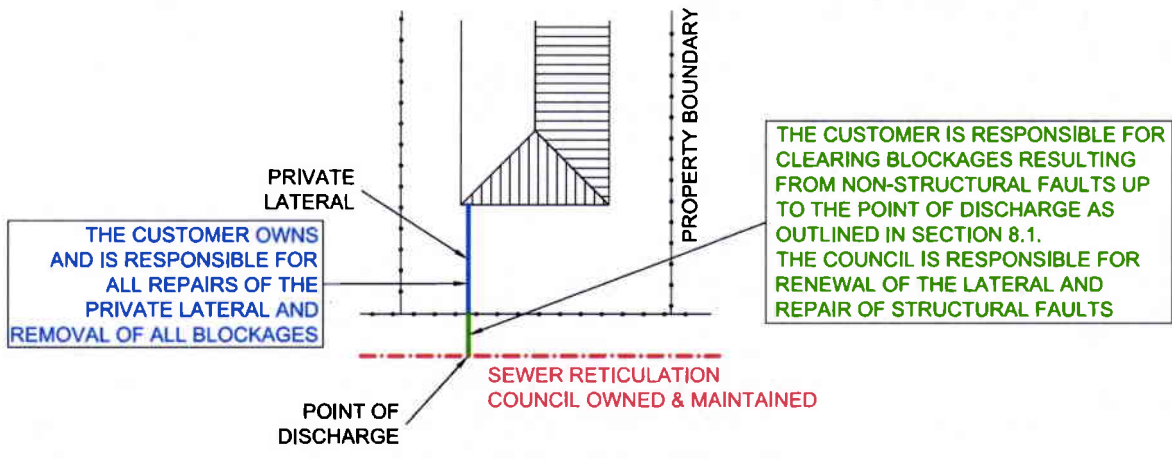
There may only be one point of discharge for each premise unless prior written agreement is provided by the Council.

8.2 Location of Point of Discharge

For individual customers the point of discharge must be located generally in accordance with figures 1, 2, 3, 4, 5, 6 and 7, whichever is appropriate, or as close as possible to the points shown.

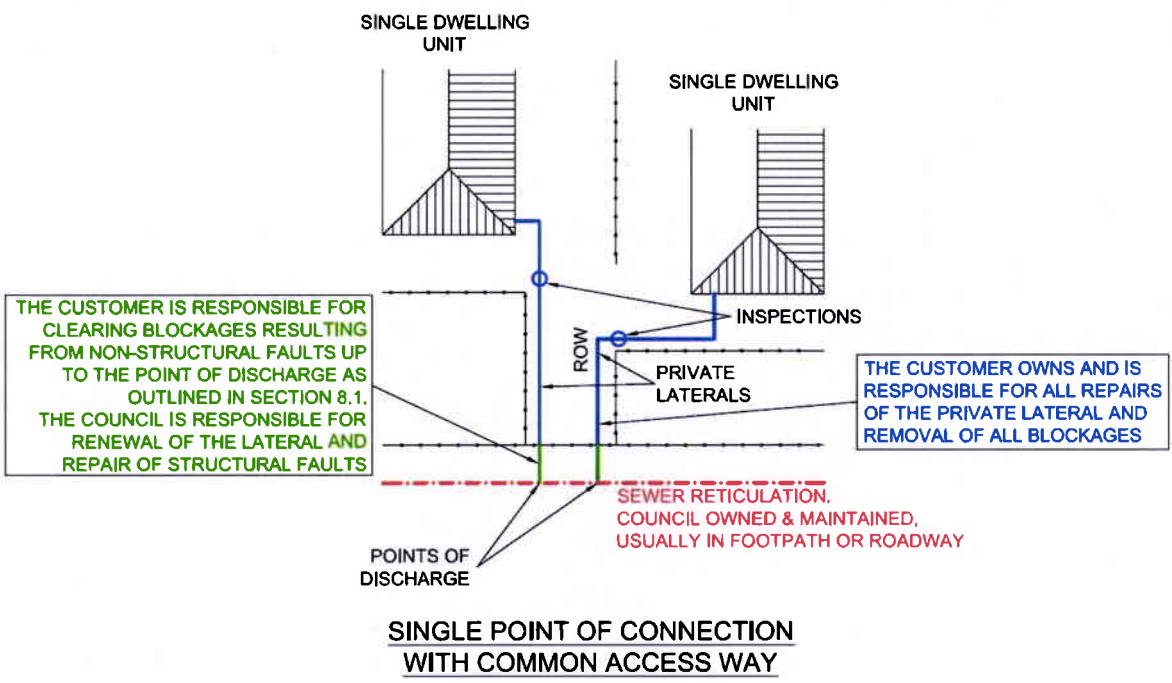
8.3 Extension of Private Lateral

No property shall connect to an existing private sewer lateral, by pipe or any other means without the prior written agreement of the Wastewater Asset Manager.



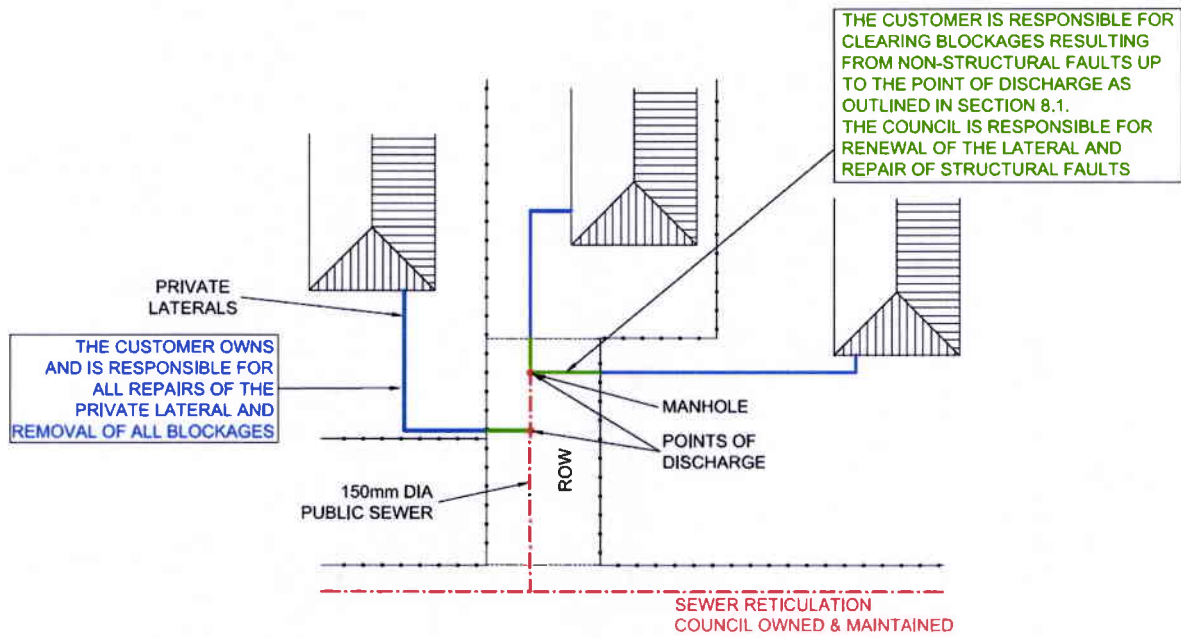
SINGLE POINT OF CONNECTION

Figure 1: Single point of connection



SINGLE POINT OF CONNECTION WITH COMMON ACCESS WAY

Figure 2: Single point of connection with common access way



MULTIPLE POINTS OF CONNECTION ON RIGHT OF WAY

Figure 3: Multiple connections to a Public Sewer in a Private Right of Way – Easement required

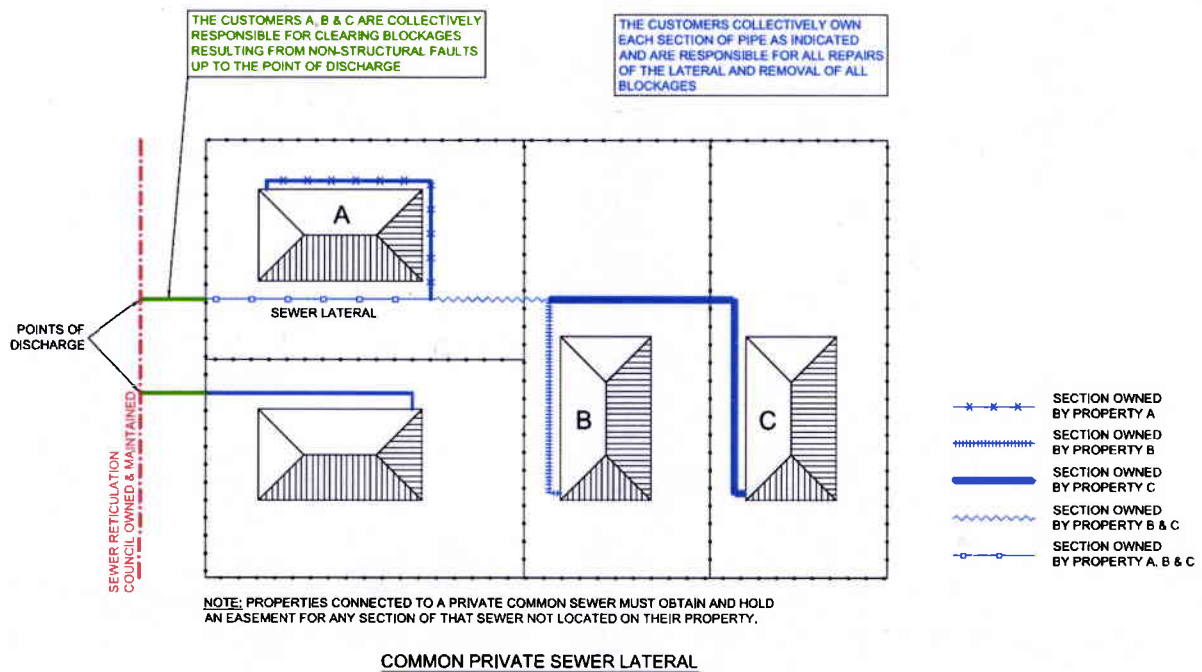
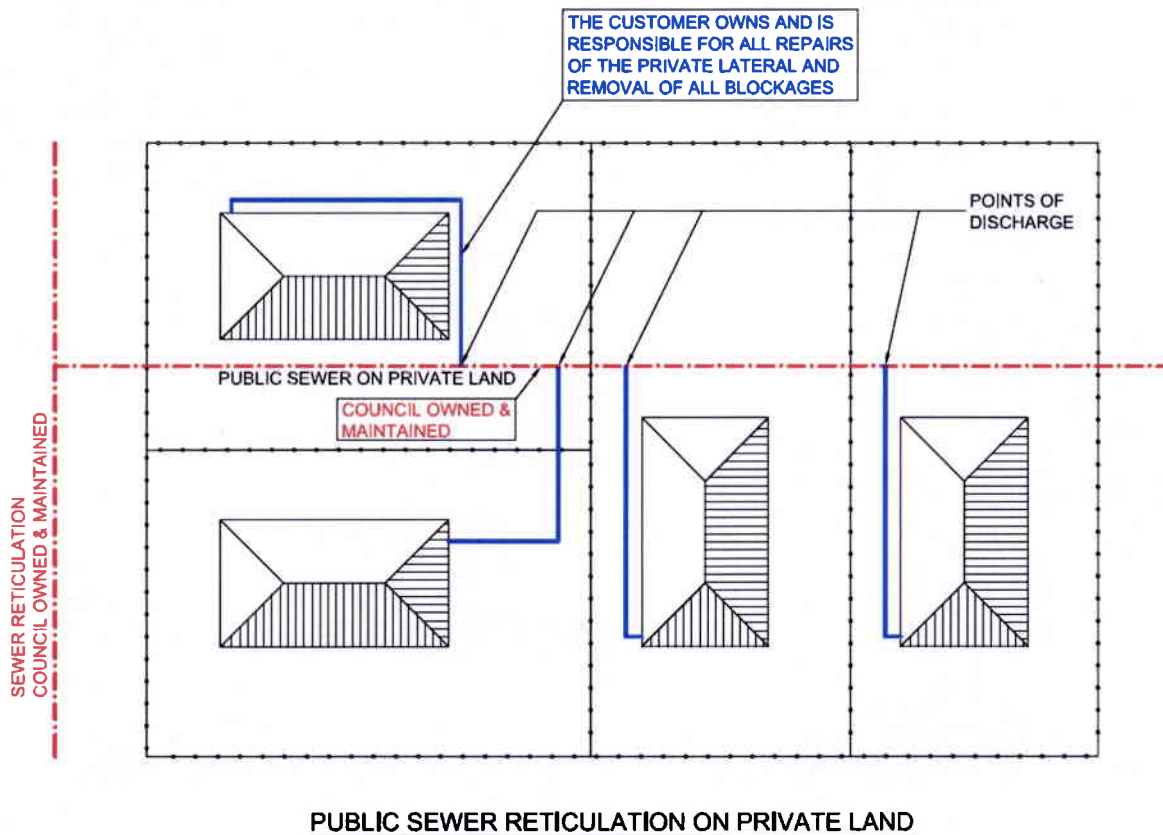


Figure 4: Multiple Connections to a Common private sewer lateral

Common private sewer laterals established after 1 December 2009 may serve a maximum of five single dwelling units and may have one common point of discharge.



PUBLIC SEWER RETICULATION ON PRIVATE LAND

Figure 5: Public sewer reticulation on private land

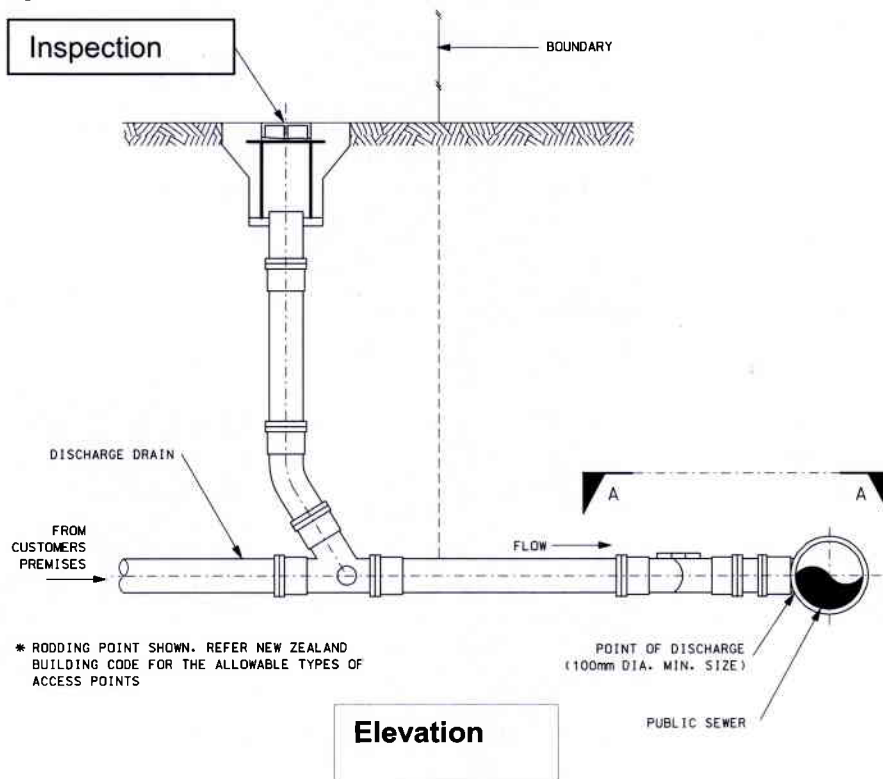


Figure 6: Typical layout at a point of discharge (Elevation)

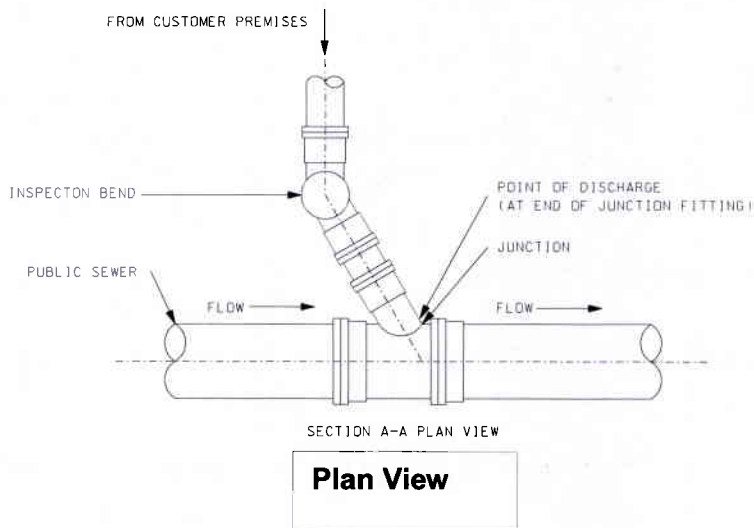


Figure 7: Typical layout at a point of discharge (Plan View)

9. ACCESS

9.1 Access to the Public Wastewater Reticulation System

No person other than the Council and its authorised agents may access any part of the public wastewater system, except to:

1. Make approved connections to the point of discharge; or
2. Clear blockages,

provided such work is undertaken by persons approved by the Council to do so.

9.2 No Person to Connect to, Interfere with Wastewater System

No person may make any connection to, or otherwise interfere with, any part of the wastewater system except when approved by the Council.

9.3 Access for Inspection

The customer shall allow the Council, or its agents, immediate access to and about the point of discharge for the purposes of inspecting, monitoring, testing, and planned maintenance work at any time on any day. The Council shall comply with the Powers of Entry requirements set out in sections 171 to 173 and 182 of the Local Government Act 2002.

9.4 Non-complying Connections

The customer shall allow the Council with any necessary equipment, access to any area of a customer's premises for the purposes of ascertaining whether non-complying connections have been made. The Council shall comply with the Powers of Entry requirements set out in sections 171 to 173 of the Local Government Act 2002.

9.5 Access to Public Mains on Private Property

The property owner or occupier shall allow unimpeded access to any Council Officer or Council Contractor where a public wastewater main, manhole or access point is within private property. The Council shall comply with the Powers of Entry requirements set out in sections 171 to 173 of the Local Government Act 2002.

10. WORKING AROUND BURIED SERVICES

Any person causing damage or disruption to the wastewater system is liable for the full cost of repairs and any other costs incurred as a result of the damage or disruption.

Any damage or disruption to the wastewater system must be reported to Council immediately.

No person may excavate to a depth of greater than 0.5 metres and within 2 meters of any part of the wastewater reticulation, except with the prior written agreement of the Council.

Should the Council grant approval for excavation work near the wastewater system, the Council may impose such conditions as it considers necessary.

11. PREVENTION OF INFLOW AND INFILTRATION

All reasonable steps must be taken to prevent groundwater infiltration and stormwater from entering the wastewater system.

To ensure that stormwater is excluded from the wastewater system:

- a) No stormwater pipe or drain may be connected to the wastewater system;
- b) Gully trap surrounds must be set to prevent the ingress of stormwater. The gully trap shall be set a minimum of 100mm above the surrounding ground or 25mm above the surrounding sealed area;
- c) Inspection covers must not be permanently removed and must be appropriately sealed;
- d) Septic tanks connected to the Council's wastewater system must be fully sealed to prevent ingress of stormwater and groundwater in accordance with the Council's specifications at the time of Building Code Compliance. For the avoidance of any doubt, any septic tank systems installed after the adoption of the 2015 Wastewater Bylaw must have any lid or access point set to a level of 100mm above finished ground level.

Large impervious areas greater than 10m² (such as stock yards or truck washing facilities), must be managed to prevent water from outside the facility entering the wastewater system by the installation of a nib wall, speed humps or appropriately graded surrounds, or using other appropriate methods subject to prior written agreement of the Council.

Private sewer reticulation including laterals must be maintained in a good state of repair and free from cracks and other defects which may allow infiltration.

12. BLOCKAGES

Gully traps must be kept clear and free of obstructions and in accordance with the New Zealand Building Code.

Any person who causes a blockage in the public sewer, by discharging prohibited wastewater, or by forcing a blockage downstream into the public sewer in the course of clearing a private sewer reticulation, is liable for the full cost of unblocking the public sewer system and any associated costs and damage.

13. PAYMENT

The customer is liable to pay the Council's Rates, Fees and Charges for the discharge of wastewater and related services in accordance with the Council fees and charges prevailing at the time.

The Council may recover all wastewater rating charges in accordance with sections 57 to 82 of the Local Government (Rating) Act 2002.

14. DISCONNECTION

A customer shall give seven working days notice in writing to the Council of his or her intention to demolish or remove a building connected to the wastewater reticulation. The demolition or removal shall not commence until the property has been disconnected from the wastewater reticulation and inspected by the Council. This work must be undertaken as part of the building consent process. Disconnection is at the customer's cost.

A customer shall give two working days notice in writing to the Council of his or her requirement for disconnection of the discharge connections if relaying of the private sewer reticulation is required.

15. PUBLIC WASTEWATER SYSTEM

15.1 General

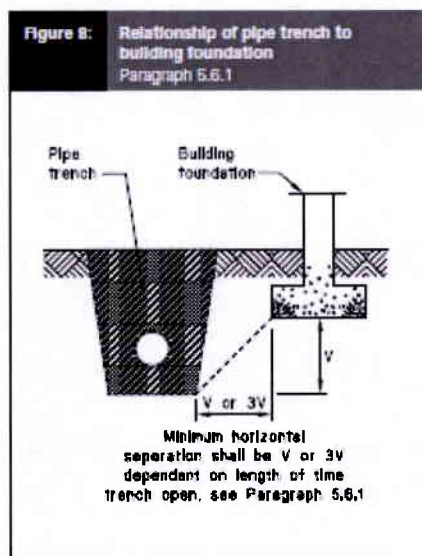
With respect to building or loading over buried services, or excavation near public wastewater reticulations, the restrictions described in 15.2 to 15.3 shall apply. Other restrictions may be applied by the Council for the protection of the public wastewater reticulation after consideration of proposed work methods, depth of excavation, soil physical properties, and other site specific factors.

15.1.1 Proximity of Trench to Building

All building work must comply with Clause G13 of the Building Code with respect to proximity of works undertaken adjacent to wastewater services, as outlined in Figure 8 and section 5.6.1 of the Code:

For light timber framed and concrete masonry *buildings* constructed to NZS 3604 or NZS 4229 in accordance with B1/AS1, pipe trenches which are open for no longer than 48 hours shall be located no closer than V to

the underside of any *building* foundation, as shown in Figure 8. Where the trench is to remain open for periods longer than 48 hours the minimum horizontal separation shall increase to 3V in all ground except rock.



15.1.2 Minimum Separation between Trench and Building

Notwithstanding clause 15.1.1, no building or part of a building may be located any closer than 1.5 metres to the centre of any pipe.

15.2 Building Over or Diversion of Wastewater System

No person may build over or divert any part of the wastewater system or easement except with the prior agreement of the Council.

The Council may grant such agreement subject to any conditions it considers necessary.

All costs arising from such work must be met by the person seeking to undertake the building work or diversion prior to such work commencing.

15.3 Loading or Material over Public Wastewater Reticulation

No person shall cause the crushing load imposed on a public wastewater reticulation to exceed that which would arise from the soil overburden plus a HN-HO-72 wheel or axle load (as defined by the NZTA Bridge Manual).

15.4 Damage or Obstruction of the Public Wastewater Reticulation

Manholes shall not be covered or obstructed in any way unless approved by the Council in writing. The owner of the property is liable for the removal of any unauthorised covering material or repair of a manhole that Council determines is necessary.

Any tree that causes or is likely to cause damage or nuisance to the public wastewater system shall be removed at the property owner's expense.

15.5 Spillages and Adverse Events

The occupier of premises at which wastewater is spilt, or where any other event occurs which may have an adverse effect on the wastewater system, must notify the Council immediately, and may be liable for the cost of clean-up of the spillage and repair of any damage to the Council network.

15.6 Storage of Hazardous Materials

The occupier shall not store raw material, products or wastes containing corrosive, toxic, biocidal, radioactive, flammable, or explosive materials, or any material which, when mixed with the wastewater stream, is likely to generate toxic, flammable, explosive or corrosive materials in quantities likely to be hazardous, or any other material likely to be deleterious to the Council wastewater system or the health and safety of Council staff and the public in such a way that could affect the wastewater reticulation by unforeseeable mishap, without taking all steps to prevent entry into the Council wastewater reticulation from leakage, spillage or other mishap.

16. BREACHES AND REMEDIES

16.1 Defect Notices

In the event of a breach of statutory or other legal requirements including this Bylaw, the Council may serve a defect notice on the customer advising the nature of the breach and the steps to be taken within a specified period to remedy it. If, after the specified period, the customer has not remedied the breach, the Council may charge a re-inspection fee.

If however the breach is such that public health, or safety considerations, or risk of consequential damage to Council assets is such that delay would create or be likely to create unacceptable results, the Council may take immediate action to rectify the defect, and recover all reasonable costs and damages from the customer as set out in 16.2.

16.2 Remedial Work

At any time after the specified period set out in 16.1 has elapsed, the Council may carry out any remedial work required in order to make good the breach, and recover from the person committing the breach all reasonable costs incurred in connection or associated with the remedial work together with any resulting damages.

16.3 Offences and Penalties

Every person who fails to comply with this Bylaw commits an offence under section 239 of the Local Government Act 2002 and is liable on summary conviction to a fine not exceeding \$20,000 pursuant to section 242 of the Local Government Act 2002.

Every person commits an offence who:

- a) Contravenes this Bylaw.
- b) Fails to repair a damaged or broken private sewer reticulation on his or her property.

- c) Knowingly causes or allows inflow or infiltration into the public sewer system.
- d) Discharges more than 2.0 litres per second of wastewater into the public sewer system without the Council's prior written agreement.
- e) Discharges prohibited wastewater into the public wastewater reticulation system.
- f) Fails to comply with any temporary use restrictions or prohibitions imposed by the Council on the use of the wastewater system.
- g) Makes a connection to the wastewater system without the Council's prior written agreement.
- h) Interferes with the wastewater system.
- i) Fails to comply with the acceptable discharge characteristics as specified in Appendix 1.

17. REVOCATION AND SAVINGS

This Bylaw supersedes the Waimakariri District Council Wastewater Bylaw 2009.

18. REVIEW OF BYLAW

This Bylaw shall be reviewed by 10 August 2025.

This Bylaw can be reviewed at any time before 10 August 2025 at the discretion of the Council.

APPENDIX 1 - ACCEPTABLE WASTEWATER DISCHARGE CHARACTERISTICS

Introduction

1. The nature and levels of the characteristics of any wastewater discharged to the Council's wastewater network shall comply at all times with the following requirements, except where the nature and levels of such characteristics are varied by the Council as part of a written agreement to discharge a trade waste.
2. The Council shall take into consideration the combined effects of wastewater discharges and may make any modifications to the following acceptable characteristics for individual discharges that Council believes are appropriate.
3. The nature and levels of any characteristic may be varied to meet any new resource consent or other legal requirement imposed on the Council.

Physical Characteristics

1. Flow

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
a) The 24-hour flow volume shall be less than 5 m ³ b) The maximum instantaneous flow rate shall be less than 2.0 L/s.	Flows larger than the Bylaw requirements should be controlled or a conditional Trade Waste Agreement may be required. Trade Waste Agreements will be dependent on the contaminant concentration/mass load.

2. Temperature

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
The temperature shall not exceed 40 °C	Higher temperatures: <ul style="list-style-type: none"> • Cause increased damage to wastewater reticulation structures; • Increase the potential for anaerobic conditions to form in the wastewater; • Promote the release of gases such as H₂S and NH₃ • Can adversely affect the safety of operations and maintenance personnel • Reflect poor energy efficiency. A lower maximum temperature may be require for large volume discharges

3. Solids

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
<p>a) Non-faecal gross solids shall have a maximum dimension that shall not exceed 15mm and gross solids shall have a quiescent settling velocity which shall not exceed 500 mm/minute.</p> <p>b) The suspended solids content of any Trade Waste shall have a maximum concentration that shall not exceed 2000 g/m³. For significant industry this may be reduced to 600 g/m³.</p> <p>c) The settle-able solids content of any Trade Waste shall not exceed 50mL/L.</p> <p>d) The total dissolved solids concentration in any Trade Waste shall be subject to the agreement of Council, having regard to the volume of the waste to be discharged, and the suitability of the wastewater network and the Wastewater Treatment Plant to accept such waste.</p> <p>e) Fibrous, woven, or sheet film or any other materials which may adversely interfere with the free flow of wastewater in the wastewater network or Wastewater Treatment Plant shall not be present.</p>	<p>Gross solids can cause wastewater reticulation blockages. In case of conditional agreements fine screening may be appropriate.</p> <p>High suspended solids contents can cause wastewater reticulation blockages and overload the treatment processes. Where potential for such problems is confirmed, a lower limit appropriate to the risk may be set. A lower limit may be set between 2000 g/m³ and 600 g/m³. The ANZECC Guidelines recommend a limit of 600 g/m³.</p> <p>High total dissolved solids reduce effluent disposal options and may contribute to soil salinity. Where potential for such problems exists, a limit of 10,000 g/m³ may be used as a guideline.</p>

4. Oil and grease

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
<p>a) There shall be no free or floating layer.</p> <p>b) A Trade Waste with mineral oil, fat or grease unavoidably emulsified, which in the opinion of Council is not biodegradable, shall not exceed 200 g/m³ as petroleum ether extractable matter when the emulsion is stable at a temperature of 15 °C, and when the emulsion is in contact with and diluted by a factor of 10 by raw wastewater, throughout the range of pH 6.0 to pH 10.0.</p> <p>c) A Trade Waste with oil, fat or grease unavoidably emulsified, which in the opinion of WDC is biodegradable, shall not exceed 500 g/m³ when the emulsion is stable at a temperature of 15 °C and when the emulsion is in contact with and diluted by a factor of 10 by raw wastewater throughout the range of pH 4.5 to pH 10.0.</p> <p>d) Emulsified oil, fat or grease shall not exceed 100 g/m³ as petroleum ether extractable matter when the emulsion is unstable at a temperature of 15 °C and when the emulsion is in contact with and diluted by a factor of 10 by raw wastewater throughout the range of pH 4.5 to pH 10.0.</p>	<p>Oils and greases can cause wastewater reticulation blockages, may adversely affect the treatment process, and may impair the aesthetics of the receiving water. Where the Wastewater Treatment Plant discharges to a sensitive receiving water lower values should be considered.</p> <p>If the wastewater effluent only has screening and/or primary treatment prior to discharge, it is recommended that oil and grease be reduced to 100 g/m³.</p> <p>In terms of oil and greases, biodegradable refers to the bio-availability of the oil and greases and the biochemical's thereby produced, and means the oil and grease content of the waste decreases by 90% or more when the wastewater is subjected to a simulated wastewater treatment process which matches the wastewater treatment system.</p> <p>If quick break detergents are being used, it should be ensured that proper separation systems are being used by the agreement holder. If not, oil will reappear in drainage (wastewater) systems as a free layer.</p>

5. Solvents and other organic liquids

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
<p>a) There shall be no free layer (whether floating or settled) of solvents or organic liquids.</p>	<p>Some organic liquids are denser than water and will settle in wastewater reticulations and traps.</p>

6. Emulsions of paint, latex, adhesive, rubber, plastic

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
<p>a) Where such emulsions are not treatable these may be discharged into the wastewater network subject to the total suspended solids not exceeding 1000 g/m³ or other concentration approved by the Council.</p> <p>b) Council may determine that the need exists for pre-treatment of such emulsions if they consider that Trade Waste containing emulsions unreasonably interferes with the operation of Council's Wastewater Treatment Plant, e.g. reduces % UVT (ultra violet transmission).</p> <p>c) Such emulsions of both treatable and non-treatable types, shall be discharged to the wastewater network only at a concentration and pH range that prevents coagulation and blockage at the mixing zone in the public wastewater network.</p>	<p>'Treatable' in relation to emulsion wastewater, means the Total Organic Carbon content of the waste decreases by 90% or more when the wastewater is subjected to a simulated wastewater treatment process that matches the wastewater treatment system.</p> <p>Emulsions vary considerably in their properties and local treatment works may need additional restrictions depending on the experience of the specific treatment plant and the quantity of emulsion to be treated.</p> <p>Emulsion may colour the wastewater treatment plant influent such that % UVT is unacceptably reduced. Emulsions will coagulate when unstable and can sometimes cause wastewater reticulation blockage. Emulsions are stable when dilute or in the correct pH range.</p>

7. Radioactivity

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
<p>Radioactivity levels shall not exceed National Centre for Radiation Science Guidelines</p>	<p>Refer National Centre for Radiation Science Guidelines Code of Safe Practice for the use of unsealed radioactive materials NCRS C1.</p>

8. Colour

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
No waste shall have colour or colouring substance that causes the discharge to be coloured to the extent that it impairs wastewater treatment processes or compromises the treated wastewater discharge agreement.	Colour may cause aesthetic impairment of receiving waters, and adverse effects on lagoon treatment processes and ultra-violet disinfection. Where potential for such problems exists, a level of colour that is rendered not noticeable after 100 dilutions may be used as a Guideline. Where UV disinfection is used special conditions may apply.

Chemical Characteristics

1. pH value

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
<p>The pH shall be between 6.0 and 10.0 at all times.</p>	<p>Extremes in pH:</p> <ul style="list-style-type: none"> • Can adversely affect biological treatment processes • Can adversely affect the safety of operations and/or maintenance personnel • Cause corrosion of wastewater reticulation structures and • Increase the potential for the release of toxic gases such as H₂S and HCN <p>Relaxation of these limits to 5.5 and 11.0 is acceptable for low volume premises which discharge into a large flow. Significant industries may need to be restricted to limits between 6.0 and 9.0.</p>

2. Organic Strength

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
<p>The Biochemical Oxygen Demand (carbonaceous BOD₅) shall be less than 10 kg/day</p>	<p>The loading on a treatment plant is affected by Biochemical Oxygen Demand BOD₅ rather than Chemical Oxygen Demand (COD). For any particular waste type there is a fixed ratio between COD and BOD₅. For domestic wastewater it is about 2.5:1 (COD: BOD₅), but can range from 1:1 to 100:1 for Trade Waste. Therefore BOD₅ is important for the treatment process and charging, but because of the time taken for testing, it is often preferable to use COD for monitoring. However, the use of COD testing shall be balanced by the possible environmental effects of undertaking such tests due to the production of chromium and mercury wastes. Where a consistent relationship between BOD₅ and COD can be established the discharge may be monitored using the COD test.</p> <p>If the treatment plant BOD₅ capacity is not limited, and sulphides are unlikely to cause problems, there may be no need to limit BOD₅. High COD may increase the potential for the generation of sulphides in the wastewater.</p> <p>A BOD₅ limit which is too stringent may require the installation of Pre-treatment systems by some agreement holders, imposing unnecessary costs because the most cost effective treatment method may be the wastewater treatment plant.</p> <p>The concentration and mass loads of BOD₅ may be set to reflect wastewater treatment plant capacity e.g. ARMCANZ/ANZECC Guidelines for wastewater reticulation use a concentration of 600 g/m³.</p>

3. Maximum concentrations

Bylaw Requirements	Commentary from NZS 9201: Part 23: 2004
<p>The maximum concentrations permissible for the chemical characteristics of an acceptable discharge are set out in the following tables:</p> <p>Table 1 - General Chemical Characteristics</p> <p>Table 2 - Heavy Metals</p> <p>Table 3 - Organic Compounds and Pesticides</p>	<p>Where appropriate, maximum daily limits (kg/day) for mass limit Permitted Discharges may also be given.</p>

Table 1 – General Chemical Characteristics

Characteristic	Maximum concentration (g/m ³)	Mass Limits (kg/day)	Reason for Limit
MBAS (Methylene blue active substances)	300	1.5	<p>MBAS is a measure of anionic surfactants. High MBAS can:</p> <ul style="list-style-type: none"> Adversely affect the efficiency of activated wastewater sludge plants and Impair the aesthetics of receiving waters. <p>For Wastewater Treatment Plants that suffer from the effects of surfactants the maximum concentration could be reduced significantly, e.g. Sydney Water utilise a level of 100 g/m³</p>
<p>Ammonia (measured as N)</p> <ul style="list-style-type: none"> free ammonia Ammonium salts 	<p>50</p> <p>200</p>	<p>0.25</p> <p>1.0</p>	<p>High ammonia</p> <ul style="list-style-type: none"> May adversely affect the safety of operations and maintenance personnel, and May significantly contribute to the nutrient load to the receiving environment.
Kjeldahl nitrogen	250	1.0	<p>High Kjeldahl nitrogen may significantly contribute to the nutrient load of the receiving environment. A value of 50 g/m³ should be used as a guideline for sensitive receiving waters.</p>
Total phosphorus (as P)	150	0.75	<p>High phosphorus nitrogen may significantly contribute to nutrient load of the receiving environment. A value of 10 g/m³ should be used as a guideline for sensitive receiving waters.</p>
Sulphate (measured as SO ₄)	<p>500</p> <p>1500</p> <p>(with good mixing)</p>		<p>Sulphate</p> <ul style="list-style-type: none"> May adversely affect the wastewater network, and May increase the potential for the generation of sulphides in the wastewater, if the wastewater network is prone to becoming anaerobic.
Sulphite (measured as SO ₂)	15	0.075	<p>Sulphite has potential to release SO₂ gas and thus adversely affect the safety of operations and maintenance personnel. It is a strong reducing agent and removes dissolved oxygen thereby increasing the potential for anaerobic conditions to form in the wastewater.</p>
Sulphide — as H ₂ S on acidification	5	0.025	<p>Sulphides in wastewater may:</p> <ul style="list-style-type: none"> Cause corrosion of the wastewater network, particularly the top non-wetted part of a wastewater reticulation Generate odours in wastewater reticulations which could cause public nuisance, and Release the toxic H₂S gas that could adversely affect the safety of operations and maintenance personnel. <p>Under some of the conditions above sulphide should be <2.0 g/m³</p>

Characteristic	Maximum concentration (g/m ³)	Mass Limits (kg/day)	Reason for limit
Chlorine (measured as Cl ₂) Free chlorine Hypochlorite	3 30	0.015 0.15	Chlorine: • Can adversely affect the safety of operations and maintenance personnel; and • Can cause corrosion of the wastewater network. ARMCANZ/ANZECC Guidelines for sewerage systems utilize a figure of 10 g/m ³ .
Dissolved aluminium	300	1.5	Aluminium compounds, particularly in the presence of calcium salts, have the potential to precipitate on a scale that may cause a wastewater reticulation blockage.
Dissolved iron	300	1.5	Iron salts may precipitate and cause a wastewater reticulation blockage. High concentrations of ferric iron may also present colour problems depending on local conditions.
Boron (as B)	25	0.125	Boron is not removed by conventional treatment. High concentration in wastewater may restrict irrigation applications. Final wastewater use and limits should be taken into account.
Bromine (as Br ₂)	5	0.025	High concentrations of bromine may adversely affect the safety of operations and maintenance personnel.
Fluoride (as F)	30	0.15	Fluoride is not removed by conventional wastewater treatment, however pre-treatment can easily and economically reduce concentrations to below 20 g/m ³ .
Cyanide — weak acid dissociable (as CN)	1	0.005	Cyanide may produce toxic atmosphere in the wastewater reticulation and adversely affect the safety of operations and maintenance personnel.

Table 2 – Heavy Metals

Metal	Maximum Concentration¹ (g/m³)	Mass Limit² (kg/day)	Metal	Maximum Concentration (g/m³)	Mass Limit (kg/day)
Antimony	5.0	0.025	Manganese	5.0	0.025
Arsenic	5.0	0.025	Mercury	0.005	0.0001
Barium	5.0	0.025	Molybdenum	5.0	0.025
Beryllium	0.005	0.0001	Nickel	5.0	0.050
Cadmium	0.5	0.001	Selenium	5.0	0.025
Chromium	5.0	0.050	Silver	2.0	0.010
Cobalt	5.0	0.025	Thallium	5.0	0.025
Copper	5.0	0.050	Tin	5.0	0.025
Lead	5.0	0.025	Zinc	5.0	0.050

Note:

Heavy metals have the potential to:

- a) Impair the treatment process
- b) Impact on the receiving environment, and
- c) Limit the reuse of wastewater sludge and effluent.

Where any of these factors are critical it is important that local acceptance limits should be developed.

The concentration of chromium includes all valent forms of the element. Chromium (VI) is considered to be more toxic than chromium (III), and for a discharge where chromium (III) makes up a large proportion of the characteristic, higher concentration limits may be acceptable. Specialist advice should be sought.

Metals will be tested as total, not dissolved. If sludge is used as a biosolid then metal concentration/mass are important such that the Biosolids Guidelines are met.

¹ It is intended that these maximum concentrations refer to the total metal fraction

² It is intended that these mass limits refer to the total metal fraction.

Table 3 – Organic compounds and pesticides

Compound	Maximum concentration ³ (g/m ³)	Mass Limits ⁴ (kg/day)	Reason for limit
Formaldehyde (as HCHO)	50	0.25	Formaldehyde in the wastewater reticulation atmosphere can adversely affect the safety of operations and maintenance personnel.
Phenolic compounds (as phenols) Excluding chlorinated phenols	50	0.25	Phenols may adversely affect biological treatment processes. They may not be completely removed by conventional treatment and subsequently impact on the environment.
Chlorinated phenols	0.02	0.001	Chlorinated phenols can adversely affect biological treatment process and impair the quality of the receiving environment.
Petroleum hydrocarbons	30	0.15	Petroleum hydrocarbons may adversely affect the safety of operations and maintenance personnel.
Halogenated aliphatic compounds ⁵	1	0.001	Because of their stability and chemical properties these compounds may: <ul style="list-style-type: none"> • Adversely affect the treatment process • Impair the quality of the receiving environment, and • Adversely affect the safety of operations and maintenance personnel.
Monocyclic aromatic hydrocarbons	5	0.025	These compounds (also known as benzene series) are relatively insoluble in water, and are normally not a problem in Trade Waste. They may be carcinogenic and may adversely affect the safety of operations maintenance personnel.
Polycyclic (or polynuclear) aromatic hydrocarbons (PAHs) Including specifically: dibenzo [a,h] anthracene benzo [a] anthracene benzo[a] pyrene benzo [b] fluoranthene benzo [k] fluoranthene chrysene indeno [a,2,3-cd] pyrene	0.05	0.001	Many of these substances have been demonstrated to have an adverse effect on the health of animals. Some are also persistent and are not degraded by conventional treatment processes.

³ Where several compounds are grouped into a generic type, the sum of individual concentrations is not to exceed the maximum listed

⁴ Where several compounds are group into a generic type, the sum of individual mass quantities is not to exceed the maximum listed

⁵ These compounds shall be accepted up to the given maximum concentration only when specifically approved

Compound	Maximum concentration ³ (g/m ³)	Mass Limits ⁴ (kg/day)	Reason for limit
Halogenated aromatic hydrocarbons (HAHs)	0.002	0.0001	Because of their stability, persistence and ability to bioaccumulate in animal tissue these compounds have been severely restricted by health and environmental regulators.
Polychlorinated biphenyls (PCBs) Polybrominated biphenyls (PBBs) Including specifically the following congeners using the IUPAC nomenclature: PCB-28 PCB-52 PCB-77 PCB-81 PCB-101 PCB-105 PCB-114 PCB-118 PCB-123 PCB-126 PCB-138 PCB-153 PCB-156 PCB-157 PCB-167 PCB-169 PCB-180 PCB-189	0.002	0.0001	Because of their stability, persistence and ability to bioaccumulate in animal tissue these compounds have been severely restricted by health and environmental regulators.
Pesticides (general) (includes insecticides, herbicides, fungicides and excludes organophosphate, organochlorine and any pesticides not registered for use in New Zealand)	0.002 each 0.2 in total	0.0001	Pesticides: <ul style="list-style-type: none"> • May adversely affect the treatment processes • May impair the quality of the receiving environment, and • May adversely affect the safety of operations and maintenance personnel.
Organophosphate pesticides ^{6 7} <ul style="list-style-type: none"> • excludes pesticides not registered for use in New Zealand • These compounds shall be accepted up to the given maximum concentration only when specifically approved. 	0.1	0.0001	

⁶ These compounds shall be accepted up to the given maximum concentration only when specifically approved

⁷ Excludes pesticides not registered for use in New Zealand.

Inhibitor Chemicals

No waste being diluted at a ratio of 100 to 1 of wastewater shall inhibit the performance of the wastewater treatment process, such that Council is significantly at risk, or prevented from achieving its environmental statutory requirements.

After dilution with de-chlorinated water, at a ratio of 15 to1 of wastewater, a discharge which has an acute result when subjected to the Whole Effluent Toxicity Testing, will be deemed to have inhibitory chemicals. Whole Effluent Toxicity Testing will be undertaken using organisms selected by the Council.

Liquid Pharmaceutical Waste

Table 4 Liquid Pharmaceutical Waste Disposal

The amount of liquid pharmaceutical waste discharged monthly from any premises will not exceed the following volumes and concentrations of active ingredients:

Volume Limit	Active Concentration
10 Litres	125mg / 5 ml
5 Litres	250mg / 5 ml
3 Litres	Above 250mg / 5 ml

Any discharge above these limits will be a controlled discharge and require a trade waste agreement.

APPENDIX 2 - PROHIBITED CHARACTERISTICS

Introduction

Appendix 2 defines the characteristics of Prohibited Wastewater.

Prohibited Characteristics

1. Characteristics

Any discharge has prohibited characteristics if it has any solid, liquid or gaseous matters, or any combination or mixture of such matters, which by themselves or in combination with any other matters, will immediately or in the course of time:

- a) Interfere with the free flow of wastewater in the wastewater network.
- b) Damage any part of the wastewater network.
- c) In any way, directly or indirectly, cause the quality of the treated wastewater or residual biosolids and other solids from any Wastewater Treatment Plant in the catchment to which the waste was discharged to breach the conditions of a consent issued under the Resource Management Act 1991, or water right, permit or other governing legislation.
- d) Prejudice the occupational health and safety risks faced by wastewater workers.
- e) After treatment be toxic to fish, animals or plant life in the receiving waters.
- f) Cause malodorous gases or substances to form which are of a nature or sufficient quantity to create a public nuisance.
- g) Have a colour or colouring substance that causes the discharge from any Wastewater Treatment Plant to receiving waters to be coloured.
- h) After treatment be potentially harmful to human health in the receiving waters.

2. Discharge has a prohibited characteristic if it has any amount of:

- a) Harmful solids, including dry solid wastes and materials that combine with water to form a cemented mass.
- b) Liquid, solid or gas which could be flammable or explosive in the wastes, including oil, fuel, solvents (except as allowed for in Appendix 1 of this Bylaw), calcium carbide, and any other material which is capable of giving rise to fire or explosion hazards either spontaneously or in combination with wastewater.
- c) Asbestos.
- d) The following organo-metal compounds: Tin (as tributyl and other organotin compounds).
- e) Any organochlorine pesticides.
- f) Genetic wastes, as follows: All wastes that contain or are likely to contain material from a genetically modified organism that is not in accordance with an approval under the Hazardous Substances and New Organisms Act 1996

(HSNO). The material concerned may be from premises where the genetic modification of any organism is conducted or where a genetically modified organism is processed.

- g) Any health care waste prohibited for discharge to a Wastewater Network by NZS 4304 or any pathological or histological wastes.
- h) Radioactivity levels in excess of the National Centre for Radiation Science Guidelines.
- i) Any pharmaceutical liquid waste containing cytotoxic ingredients. Cytotoxic waste means waste that is contaminated by a cytotoxic drug.