

BOUNDARY BACKFLOW PREVENTION POLICY



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PURPOSE

The Boundary Backflow Prevention Policy sets out the measures the Council will take to prevent backflow into the Council's water supply network and protect the safety of the drinking water.

This policy will guide and support the Council's implementation of a comprehensive Boundary Backflow Prevention Programme that includes:

- Implementation of the boundary backflow prevention rules in the Water Supply Bylaw 2026
- Implementation of other measures to ensure the Council fulfils its duties and obligations in relation to boundary backflow prevention under the Water Services Act 2021 and associated Drinking Water Quality Assurance Rules.

CONTEXT

Backflow is the unplanned reverse flow of water or mixtures of water and contaminants into the Dunedin City Council (Council) water supply network. Backflow can happen where there is a differential between the pressure of the Council's water supply network and the customer's plumbing system. Backflow poses a public health risk to the community served by the public drinking water supply network through the introduction of contaminants into the network.

The Water Services Act 2021 establishes a framework of high-level functions and duties for drinking water suppliers. As a drinking water supplier, Council has responsibilities to ensure drinking water supplied is safe, complies with the Water Services (Drinking Water Standards for New Zealand) Regulation 2022 and that the supply arrangements protect against the risk of backflow. The Drinking Water Quality Assurance Rules are compliance rules made under the Water Services Act 2021 to provide detail about how the Council's responsibilities can be performed or satisfied.

The Drinking Water Quality Assurance Rules require Council to: have a boundary backflow prevention programme; undertake network surveys to identify properties that pose a medium or high backflow risk; ensure adequate backflow prevention is provided on every supply connection and, if required, tested annually; ensure that Council maintains a register of backflow prevention devices and testing results; and that access to the water network via standpipes is restricted to appropriate organisations. This policy, along with the Water Supply Bylaw 2026, contributes to Council complying with these rules.

This policy, and implementation of it through the Council’s Boundary Backflow Prevention Programme, assists in addressing deficiencies identified in the DCC Water Services Delivery Plan 2025 to ensure DCC can achieve full compliance with the Water Services Act 2021 and Drinking Water Quality Assurance Rules.

This policy assists with the implementation of the boundary backflow prevention rules for customers in the Water Services Bylaw 2026.

SCOPE

This policy is relevant to any person being supplied with, or using water from, the Council’s water supply network, or who has made an application to the Council to be supplied with water.

This policy sets out the approach the Council will take to ensure backflow is prevented from entering the Council’s water supply network at the point of supply, which is usually located at the property boundary.

This policy addresses Council’s approach to: the ownership of boundary backflow prevention devices and air gaps; customer and Council responsibilities; the determination of boundary backflow hazard risk categories; boundary backflow prevention device installations; boundary backflow prevention for dedicated fire supply; testing requirements; surveys; approach to non-compliance; and exemptions.

This policy does not address internal backflow prevention within buildings or structures, or otherwise on a customer’s property. Such matters are the responsibility of property owners under the New Zealand Building Code and Building Act 2004. The protection requirements for internal backflow risks are administered through Council’s Building Control Authority as part of building consent and compliance processes.

The Council may consider this policy when assessing applications for new water supply connections, when it receives an application for resource/planning consent, building consent or change in use, or during replacement/upgrade of a water supply connection.

The Council will also consider this policy at any time when surveying or assessing boundary backflow risks to the Council water supply network or investigating any concerns with boundary backflow risks.

DEFINITIONS

In this policy (and aligned with the definitions in the Bylaw), unless the context otherwise requires:

AIR GAP	Means a minimum vertical air gap as defined by the Building Code G12 Water Supplies between the outlet of the water supply fitting which fills a storage tank, and the highest overflow water level of that storage tank.
APPROVAL OR APPROVED	Means approval or approved in writing by the Council.
BACKFLOW	Means the unplanned reversal of flow of water or mixtures of water and contaminants into the public water supply network.

BOUNDARY BACKFLOW PREVENTION DEVICE	Means a device that prevents backflow and is installed at or near the point of supply to prevent backflow occurring into the public water supply network.
BYLAW	Water Supply Bylaw 2026.
COUNCIL	Means the Dunedin City Council inclusive of its officers and/or agents.
CUSTOMER	Means a person who uses or has the right to use or direct the manner of use of water supplied by the Council to any property. (EXPLANATORY NOTE: The customer is normally the owner and/or ratepayer of the property.)
DEDICATED FIRE SUPPLY	Means a category of on-demand supply used solely for the operation of an automatic fire suppression system (e.g. sprinklers) as opposed to other purposes such as drinking water and water for sanitation.
DRINKING WATER QUALITY ASSURANCE RULES	Means the Drinking Water Quality Assurance Rules 2022 (revised 2024) and any subsequent revisions.
EXTRAORDINARY SUPPLY	Means a category of on-demand supply of metered water for extraordinary use that may be subject to specific conditions and limitations and includes: <ul style="list-style-type: none"> (a) Properties situated within a water supply area that do not meet the definition of an ordinary supply (i.e. because the water use at the property is an ‘extraordinary use’); or (b) Properties where a connection has been installed or located outside a water supply area prior to 1 April 2011 and that has subsequently been approved by the Council.
EXTRAORDINARY USE	Means the use of water for the following purposes other than ordinary use and includes, but is not limited to: <ul style="list-style-type: none"> (a) Commercial and business use (b) Industrial use (c) Horticultural use (d) Viticultural use (e) Agricultural use (f) Use at a property zoned Rural or Rural Residential (g) Use at an educational facility (e.g. schools, early-childhood centres, tertiary education institutions) (h) Use at any property that is over 1ha in size that is zoned Large Lot Residential, Low Density Residential or Township and Settlement (i) Use at any property where livestock (excluding poultry) is kept (j) Fire protection systems other than sprinkler systems installed to comply with NZS4517 which have prior approval of the Council (k) Temporary supply

	<ul style="list-style-type: none"> (l) Use at any property with: <ul style="list-style-type: none"> (i) A spa in excess of 10m³ capacity (ii) A swimming pool in excess of 10m³ capacity (iii) A fixed garden irrigation system (iv) A water service pipe with a diameter greater than 25mm (v) Any other nominated use as provided by a decision under the Bylaw. (m) Use of water at a property outside the water supply area boundary (n) Excessive water use.
FEES AND CHARGES	Means the list of items, terms and prices for services associated with the supply of water as adopted by the Council in accordance with the Act and the LGA.
LGA	Means the Local Government Act 2002 (and any amendments).
NOTICE	Means written notice.
OWNER	Means the person owning the property to which water is supplied.
ORDINARY SUPPLY	Means a category of on-demand supply to a property within a water supply area used solely for ordinary use.
ORDINARY USE	<p>Means the use of water solely for domestic purposes in a dwelling (which may include use for accommodation rental activities in a residential unit, ancillary unit or a detached minor residential unit, e.g. Airbnb). This includes the use of a hose for:</p> <ul style="list-style-type: none"> (a) Washing down a car, or other domestic vehicle, boat, house, windows or the like (b) Filling a spa or swimming pool with a capacity of up to and including 10m³ (c) Garden watering by hand (d) Garden watering by a portable sprinkler (e) Water blasting <p>A property that uses water solely for domestic purposes in a dwelling and meets the definition of extraordinary use will be managed as an extraordinary supply.</p>
PERSON	Means a natural person, and includes a corporation sole, a body corporate and an unincorporated body.
POINT OF SUPPLY	Means the point on the service pipe that marks the boundary of responsibility between the customer and the Council, irrespective of a property boundary, as determined in the Bylaw.
PROPERTY	Means the land and buildings to which water is supplied.
TERMS AND CONDITIONS	Means those clauses outlined in the Bylaw or this policy that apply to the supply of water by the Council.

WATER SUPPLY NETWORK	<p>Has the same meaning as in section 4 of the Act, namely, the infrastructure and processes that are –</p> <ul style="list-style-type: none"> (a) used to provide a water supply service; and (b) owned by, or operated by, for, or on behalf of, the Council. <p>In relation to the Council’s water supply network, this includes but is not limited to: wells, infiltration galleries, intake structures, open raw water storage ponds/lakes, raw water pipelines, treatment plants, treated water reservoirs, trunk mains, service mains, watermains, rider mains, pump stations and pumps, valves, hydrants, service pipes, boundary assemblies, meters, manifolds, service valves, Council-owned boundary backflow preventers and tobies.</p>
WORKING DAY	<p>Means any day of the week, other than:</p> <ul style="list-style-type: none"> (a) A Saturday, a Sunday, Waitangi Day, Otago Anniversary Day, Good Friday, Easter Monday, Anzac Day, the Sovereign's Birthday, Matariki Observance Day, Labour Day; and (b) A day in the period commencing with the 25th day of December in a year and ending with the 2nd day of January in the following year.

Part 2 of the Legislation Act 2019 applies to the interpretation of this policy.

POLICY

1. Ownership

- 1.1. Council will own those boundary backflow prevention devices (typically non-testable dual check valve devices) installed on the Council side of the point of supply.
- 1.2. Boundary backflow prevention devices, or air gaps used for the purpose of boundary backflow prevention, installed on the customer's side of the point of supply will be owned by the customer. Boundary backflow prevention devices installed on the customer's side of the point of supply are typically testable devices (e.g. double check valve and reduced pressure zone devices).

2. Customer responsibilities

- 2.1. Customers must comply with all the requirements relating to boundary backflow prevention in the Bylaw.
- 2.2. In accordance with the terms and conditions of supply set out in the Bylaw, it is the customer's responsibility to take all necessary measures to prevent backflow into Council's water supply network, either by providing an appropriate backflow prevention device or air gap for the purpose of boundary backflow prevention, and by ensuring the device or air gap is operating effectively at all times.
- 2.3. For applications for new water supply connections or changes to an existing connection, the property owner / prospective customer should identify the potential boundary backflow risk hazard category and proposed boundary backflow prevention device or air gap for their activity in accordance with the hazard risk categories set out in this policy (Appendix 1). The boundary backflow prevention requirements for new or modified connections to the water supply network will be assessed during the resource/planning consent, building consent or water supply connection application processes. Council will make the decision on what hazard risk category and boundary backflow prevention device or air gap for the purpose of boundary backflow prevention is appropriate and acceptable to Council and notify the customer.
- 2.4. The installation of customer-owned boundary backflow prevention devices is organised and funded by the customer. The customer is responsible for the payment of all fees and costs associated with approvals, consents, installation, maintenance, testing or removal of devices as may be required/allowed in the Bylaw.
- 2.5. Council reserves the right to charge a fee to the customer for any additional time, consumables or materials used to make a boundary backflow prevention device accessible, and/or to require the customer to relocate the device, or install a replacement device, in a location that is accessible.
- 2.6. The owner of a property is normally the customer. If a property is tenanted, the property owner:
 - a) is legally responsible for ensuring the protection of the Council water supply network against backflow from the property, regardless of existing tenancy agreements. The property owner and tenant must not interfere with any backflow prevention device fitted at their property. This includes raising the ground levels around the device that could compromise minimum clearances or access to test the device or using the test ports as a bypass or temporary water supply.

- b) must make their own arrangement with the tenant as to costs and maintenance of the boundary backflow prevention device if they intend to recover costs from the tenant.

3. Council responsibilities

- 3.1. Council is responsible for ensuring the water supply network owned and operated by Council is protected against backflow. Council will do this through the implementation of the Boundary Backflow Prevention Programme.
- 3.2. As part of Council's Boundary Backflow Prevention Programme, Council will:
 - a) keep a register of all testable boundary backflow prevention devices and annual testing results as required by the Water Services Act 2021 and the Drinking Water Quality Assurance Rules. The register shall include details of device location, device type, boundary backflow hazard risk category and the results of annual testing.
 - b) Keep a register of all air gaps used for the purpose of boundary backflow prevention and annual verification results as required by the Water Services Act 2021 and the Drinking Water Quality Assurance Rules. The register shall include details of air gap location, boundary backflow hazard risk category and the results of annual air gap verification.
 - c) For each connection to the water supply network, either maintain the Council-owned boundary backflow prevention device or require the customer to install and maintain an appropriate boundary backflow prevention device or air gap for the purpose of boundary backflow prevention to prevent any potential contamination of the water supply network from backflow.
 - d) Establish a sampling programme to remove Council-owned boundary backflow prevention devices and subject them to a reversed flow test to assess their effectiveness in relation to their age. The results will be analysed to determine the average age of failure so that appropriate replacement intervals for these devices can be incorporated into the Council's asset management programmes.
 - e) Establish an asset management, maintenance, replacement and testing programme for non-testable dual check valve devices and tobies, specifying the time frame for non-testable dual check valve installation (if not already documented) and their regular replacement.
 - f) Establish a proactive programme to determine medium and high-risk sites by identifying new properties, changes of use within existing properties, or properties with inadequate boundary backflow prevention arrangement in place, including through survey/inspection of properties where water supply is not used for ordinary use. The programme shall ensure full coverage of the water supply network at least once every five years.
 - g) Ensuring all testable boundary backflow prevention devices are tested at least annually, and that air gaps used for the purposes of boundary backflow prevention are verified at least annually.

4. Boundary Backflow Hazard Risk Category

- 4.1. Council will assess boundary backflow hazard risks at each property with a Council water supply (and at every property subject to an application for a Council water supply) in accordance with Appendix 1, to determine the hazard risk category for each connection to

the water supply network. The appropriate backflow prevention device or air gap used for the purpose of boundary backflow prevention to be installed will be determined by Council based on the hazard risk category.

- 4.2. If the hazard risk category is unclear or unknown, due to insufficient information being provided by the customer/applicant or definitive information not being known about the intended use of the property, then the determination of the hazard risk category for that supply connection shall default to 'high' to ensure adequate boundary backflow prevention is provided regardless of the current risks or potential future uses of the property.
- 4.3. In line with the recommended approach in the Water New Zealand Boundary Backflow Prevention for Water Supplies Code of Practice 2019, this policy uses four boundary backflow hazard risk categories:

Boundary Backflow Hazard Risk Category	Boundary Backflow Hazard Risk Description
High	Any condition, device or practice which, in connection with the water supply network, has the potential to cause death.
Medium	Any condition, device or practice which, in connection with the water supply network, has the potential to injure or endanger health.
Low	Any condition, device or practice which, in connection with the water supply network, would constitute a nuisance, by colour, odour or taste, but not injure or endanger health.
Very Low	Household units (i.e. residences) with ordinary use of water.

5. Boundary backflow prevention device installations

- 5.1. Council, through this policy and the Bylaw, will be responsible for approving the type, location, and installation requirements for all customer-owned boundary backflow prevention devices.
- 5.2. In conjunction with device location and installation specification requirements of the Bylaw, the Council may consider the following when determining installation requirements for a customer-owned boundary backflow prevention device:
 - a) the type of boundary backflow prevention device to be installed based on the hazard risk category;
 - b) the nature of the hazard(s) and the likelihood of future change(s) of use at the property;
 - c) the size of the device needed to meet anticipated flow rates and/or expected head losses through the device; and
 - d) drainage requirements including size of drains.

- 5.3. Installation of a device should comply with the manufacturer's recommendations and *AS/NZS 2845.1:2022 Water Supply - Backflow prevention devices Part 1: Materials, design and performance requirements* (or the current version at the time of installation), or any other standard the Council considers is relevant.
- 5.4. It is recommended that reduced pressure zone backflow prevention devices be installed in a fenced or caged area with a concrete base, that allows Council access for testing. The boundary backflow prevention device should not be in a locked cage or behind locked gates.
- 5.5. Where a boundary backflow prevention device is required by Council, this must be installed prior to connection to the water supply network.
- 5.6. To comply with the requirements of the Bylaw for new boundary backflow prevention devices to be registered with Council, the customer is responsible for ensuring that their Approved Water Service Connection Installer (AWSCI) provides Council with 'as built' plans and required information within 10 working days of installation of a boundary backflow prevention device so that it can be added to Council's register.

6. Requirements for dedicated fire supply

- 6.1. Boundary backflow prevention devices on a dedicated fire supply are installed under a building consent obtained by the building owner. The device is included on the building's compliance schedule and tested as part of the annual building warrant of fitness arranged by the customer. As required by the Bylaw, the customer must provide the annual test results for the boundary backflow prevention device installed on a dedicated fire supply to the Council's 3 Waters Group within 10 working days of the test being undertaken, in addition to providing the results to the Building Services team for the building warrant of fitness.

7. Testing of devices

- 7.1. All testable boundary backflow prevention devices shall be tested at least annually, as required by the Drinking Water Quality Assurance Rules. Testing shall be carried out more frequently under special circumstances where reasonably required by Council, including as soon as practical after device installation (as required in the Bylaw), after a suspected backflow incident, and after any maintenance work carried out on the device.
- 7.2. All air gaps used for the purpose of boundary backflow prevention shall be inspected and verified annually.
- 7.3. The testing shall be undertaken only by an Independently Qualified Person (IQP) approved for backflow prevention device testing (SS7) by the South Island IQP Panel. The inspection and verification of registered air gaps is to be done by an IQP or by a suitably qualified and experienced person approved by Council to do so. All testing must be carried out as per relevant backflow testing standards.
- 7.4. Although Council generally undertakes testing of customer-owned boundary backflow prevention devices as part of the Boundary Backflow Prevention Programme, the Council may, in specific circumstances, allow a customer to arrange their own testing of boundary backflow prevention devices. Where Council agrees to a customer arranging their own testing, the customer must enter into an agreement with Council that outlines the conditions of the Council approval, including (but not limited to) requirements relating to:
 - a) use of accredited backflow testing personnel;

- b) use of certified backflow test kits in accordance with the Code of Practice for Boundary Backflow Prevention for Drinking Water Supplies 2019 (or subsequent versions);
 - c) provision of test certificates, containing the test results and boundary backflow prevention device serial number, to Council within five working days of the date of the test or the period specified in the agreement.
- 7.5. Where a customer is arranging their own testing, the Council may:
- a) Remind the customer when testing is due and the date for return of test results to Council. If test results are not received by the specified date, Council will contact the customer and arrange for testing to be done by Council within 10 days where practical.
 - b) Arrange for testing to be undertaken by Council and bill the customer for all costs if customer testing is not undertaken and/or results are not provided to Council within the specified/agreed timeframes.
 - c) Audit test results, including field audit, to ensure quality is maintained.
- 7.6. Where a device fails a test, the backflow tester should attempt to repair the device while on site and retest following completion of the repair. Where it is not possible to repair the device on site, an equivalent substitute device shall be installed, and the existing one removed to be fixed (and then re-tested after reinstallation). The failed test report shall be provided to Council along with the subsequent pass test report and relevant registration information (e.g. serial number) for any newly installed device.
- 7.7. Council does not carry out testing of backflow prevention devices installed on a dedicated fire supply. As per the Bylaw, test results for backflow prevention devices on a dedicated fire supply are to be provided to Council's 3 Waters Group, in addition to provision of these to Council's Building Services team as part of the building compliance requirements.

8. Surveys

- 8.1. Council will carry out a boundary backflow risk survey programme to identify properties posing medium and high hazard risks of backflow at a frequency of no less than 5-yearly to assess the adequacy of boundary backflow prevention measures across the distribution network, as required by the Drinking Water Quality Assurance Rules. The survey will involve a combination of desktop assessments and targeted physical site surveys as deemed appropriate by the Council.
- 8.2. Typically, the Council survey programme will be based on determining the highest hazard risk present at a property and determining the corresponding hazard risk category and appropriate boundary backflow prevention device or air gap required for the purpose of boundary backflow prevention.
- 8.3. The hazard risk category methodology (Appendix 1) will be used for the risk assessments undertaken as part of the surveys.
- 8.4. Existing extraordinary supply connections without adequate backflow prevention in place (as determined by Council) will require installation/upgrade of an appropriate boundary backflow device or adequate air gap for the purpose of boundary backflow prevention, as per the Bylaw. The required upgrades will be prioritised according to potential risk posed to the water supply network and drinking water safety. Council will notify the customer of any deficiencies identified, and the customer will be required to install appropriate backflow

prevention at their expense within timeframes specified in the notice of installation requirement, and as provided for in the Bylaw.

9. Approach to non-compliance with boundary backflow prevention requirements

9.1. The Bylaw establishes customer requirements for boundary backflow prevention and provides mechanisms for Council to enforce compliance. Depending on the scale and nature of the hazards and the risk created from a breach of the boundary backflow prevention requirements in the Bylaw, Council will take one or more of the following enforcement approaches, as appropriate:

- a) Education
- b) Infringement notice
- c) Installation of a boundary backflow prevention device and recovery of costs from the customer
- d) Restriction of the customer's water supply
- e) Prosecution.

9.2. Instances where Council would look to intervene include, but are not limited to:

- a) Unprotected, direct or indirect connection(s) between a contaminant source and the Council water supply network
- b) Removal or bypassing of a boundary backflow prevention device or air gap used for the purpose of boundary backflow prevention
- c) Any other situation where Council assess that the safety of the water supply network is (or is likely to be) compromised by the ingress of a contaminant from a customer's property or activities.

9.3. Backflow contamination incidents will be managed and addressed in accordance with Council's Drinking Water Safety Plans.

9.4. Notwithstanding any legal action that may result from a backflow incident, the cost of rectifying contamination of the water supply network shall be the responsibility of those allowing the backflow to occur.

10. Exemptions

10.1. Where a customer disputes the boundary backflow hazard risk category determined by Council and/or requirements for boundary backflow prevention, they may apply to the Council for an exemption in writing along with all appropriate evidence included to support the application. The Council may require the customer to provide a 'risk assessment report' prepared by a suitably qualified and experienced person with experience in drinking water safety risk assessment to demonstrate that the hazard risk category or boundary backflow prevention requirements determined by the Council are inappropriate.

10.2. If any person is dissatisfied with any boundary backflow prevention-related decision made by the Council or a compliance officer under the Bylaw, the process for review in the Bylaw ('Review of decision') will apply.

QUALITY ASSURANCE, MONITORING AND EVALUATION

Council will implement the following measures to ensure effective delivery of this policy:

- Monitoring and Reporting: Council self-monitors compliance with the backflow protection rules in the Drinking Water Quality Assurance Rules and reports annually on this to the Water Services Authority - Taumata Arowai. Full compliance with the backflow protection rules indicates effective implementation of this policy.

The Head of 3 Waters has responsibility for overseeing implementation of this policy.

This policy should be reviewed at least every five years, or sooner in response to any legislative or regulatory changes to boundary backflow prevention requirements for drinking water suppliers or substantive changes to industry best practice guidelines.

Relevant Legislation:	Water Services Act 2021 Local Government Act 2002 Drinking Water Quality Assurance Rules
Associated Documents:	Boundary Backflow Prevention for Drinking Water Supplies Code of Practice 2019 – Water New Zealand DCC Drinking Water Safety Plans Water Supply Bylaw 2026

Appendix 1

Backflow Hazard Risk Categories

High

Hazard risk description	Acceptable boundary backflow prevention devices
<p>High:</p> <p>Any property, condition, device or practice which, in connection with the potable water supply network, has the potential to cause death.</p>	<ul style="list-style-type: none"> • Reduced pressure zone device • Reduced pressure zone detector for fire systems • Registered air gap
<p>High hazard risk may include but is not necessarily limited to:</p> <p>Property:</p> <ul style="list-style-type: none"> • Abattoirs • Vehicle and plant washing facilities (where chemicals are added) • Chemical laboratories • Chemical plants • Commercial and industrial premises using, processing or manufacturing toxic chemicals • Medical facilities, including hospitals, pharmacies, medical centres, dental surgeries • Laboratories • Mortuaries • Veterinary clinics • Petroleum processing plants, storage plants and service stations • Piers, docks, marinas and other waterfront facilities • Premises containing soil waste dump points, including stock truck effluent disposal sites and caravan parks • Sewage treatment plants and sewage lift stations • Tertiary and secondary education facilities with laboratories • Water filling stations • Farms, agriculture, horticulture and commercial gardens (with irrigation systems with chemicals added) <p>Conditions, devices or practices:</p> <ul style="list-style-type: none"> • Autoclaves and sterilisers 	

- Systems containing chemicals such as anti-freeze, anti-corrosion, biocides, or fungicides
- Boiler, chiller and cooling tower make-up and recycled water
- Chemical dispensers or chemical injectors
- Chlorinators
- Dental equipment
- Fire sprinkler systems and fire hydrant systems that use toxic or hazardous water or chemicals added
- Hose taps associated with high hazard situations like mixing of pesticides and soil waste dump points
- Irrigation systems with chemicals, including, but not limited to, below ground or pop-up system if chemicals are added to water or applied to ground, or in commercial settings such as golf courses even without chemicals where water may sit on the ground
- Pest control equipment
- Photography and X-ray machines
- Piers and docks
- Sewage pumps and sump ejectors
- Sluice sinks and bed pan washers
- Agriculture, including, but not limited to, livestock water supply with added chemicals, chemigation (i.e. antibiotic injectors and bloat control), farm irrigation with fertigation system, cow shed washdown
- Veterinary equipment
- Bidets and douche seats
- Handheld bidet hoses and water closet trigger sprays
- Water connections for portable and mobile tankers
- Water connections for mobile dental clinics and/or home birthing pools
- Healthcare waste disposal equipment
- Air conditioning units, heat exchangers and other water-cooled equipment, if connected to the sewage system or treated with chemicals.
- Auxiliary sources with chemicals added, including, but not limited to, storage reservoir.

Medium

Hazard risk description	Acceptable boundary backflow prevention devices (as determined by Council)
<p>Medium:</p> <p>Any property, condition, device or practice which, in connection with the potable water supply system, has the potential to injure or endanger health.</p>	<ul style="list-style-type: none"> • Reduced pressure zone device • Double check valve device • Double check detector valve device for fire systems with no chemicals added • Registered air gap
<p>Medium hazard risk may include but is not necessarily limited to:</p> <p>Property:</p> <ul style="list-style-type: none"> • Caravan parks with no soil waste dump points • Food and beverage processing plants • Premises with fire-fighting water services • Premises with an alternative water supply • Public swimming pools (including at commercial venues such as camp grounds, motels, etc) • Commercial car washes, appliance/equipment or vehicle wash down (no chemicals added) • Horticultural or commercial gardens (where chemicals are not added irrigation systems) • Public toilets and/or urinals (connected to sewerage network) <p>Conditions, devices or practices:</p> <ul style="list-style-type: none"> • Auxiliary water supplies such as pumped and non-pumped fire sprinkler secondary water • Connections for appliances, vehicles or equipment • Water treatment systems • Deionised water, reverse osmosis units and equipment cooling without chemicals • Fire sprinkler systems and building hydrant systems • Hose taps and fire hose reels associated with medium hazard category • Irrigation without chemicals, including irrigation systems with underground controllers or pop-up system if chemicals are not added to water or applied to ground. • Livestock water supply without added chemicals • Milking sheds • Rainwater collection - untreated water storage tanks • Reticulated water systems - Water for steam cleaning, water for equipment cooling • Drink dispensers with carbonators 	

- Swimming pools, spas and fountains, other than those filled by a hose tap in conjunction with a household unit
- Treated grey water
- Air handling unit humidifiers, air conditioning units, heat exchangers and other water cooled equipment, without chemicals
- Beauty salon and hairdresser’s sinks
- Auxiliary sources without chemicals added, including, but not limited to, storage reservoir
- Grease traps (where washdown areas and hose taps are close to grease trap)

LOW

Hazard risk description	Acceptable boundary backflow prevention devices
<p>Low</p> <p>Any property, condition, device or practice which, in connection with the potable water supply network, would constitute a nuisance, by colour, odour or taste, but not injure or endanger health.</p>	<ul style="list-style-type: none"> • Double check valve • Registered air gap
<p>Low hazard risk may include but is not necessarily limited to:</p> <p>Property:</p> <ul style="list-style-type: none"> • Commercial premises (domestic sanitary fixtures only) not covered by medium and high category, with potential for change of use • Cafes, restaurants and other facilities used for the storage or preparation of food and beverages <p>Conditions, devices or practices:</p> <ul style="list-style-type: none"> • Drink dispensers (without carbonators) • Commercial and/or plumbed in coffee machines • Auto vegetable peelers • Commercial dishwashers • Drinking fountains and bottle fillers • Hose taps - other than those associated with medium or high hazard category, used for fixed domestic irrigation systems 	

VERY LOW

Hazard description	Acceptable devices
<p>Very Low</p> <p>Household units that constitute a very low risk of contamination but could allow water to flow into the public water supply network in the event of depressurisation of the network.</p>	<ul style="list-style-type: none"> • Non-testable dual check valve • Air gap
<p>Very low hazard risk may include but is not necessarily limited to:</p> <p>Property:</p> <ul style="list-style-type: none"> • Residential household units that contain standard domestic sanitary fixtures. Household units (i.e. residences) with ordinary use of water. 	

Notes:

The examples of properties and condition, devices or practices listed above are not an exhaustive list. Where there is doubt, boundary backflow protection shall be selected to match the highest risk hazard identified within the property by making comparison to the hazard descriptions. This could be from either of the ‘property’ or ‘conditions, devices, or practices’ lists (i.e. does not have to occur on both) or as otherwise determined by Council.

Applicants applying for a new water connection or for a change to an existing connection should identify the potential risk hazard category and proposed boundary backflow prevention device or air gap in their application. Council will make the determination of category and acceptable device required and inform the customer.

Customers are welcome to install a higher level of boundary backflow prevention device than required by Council, e.g. a reduced pressure zone device can be installed at any property and is encouraged for use as the most effective method of boundary backflow prevention.