



Boundary Backflow Prevention Policy 2023



Owner: Environmental Manager

Review frequency: Three yearly or as required

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1. Policy Objectives

- 1.1. Council has a responsibility to protect potable water supplies from risks that may affect public health. Backflow has been identified as a risk to Council Ruapehu District Council's (Council's) water supplies. This policy seeks to mitigate this risk by setting out:
 - (a) The measure Council will take to reduce the risk of backflow to the water supply network and thus protect the water supply from contamination.
 - (b) Who is responsible for the installation of appropriate backflow prevention devices at the point of supply and ongoing maintenance and testing.
 - (c) Who bears the cost of mitigating risk of backflow.

2. Definitions

2.1 Backflow

Backflow is the unintended and undesirable reverse flow of water or other liquids within the plumbing system of a property to the public mains supply. Backflow may be caused by back pressure, back siphonage or a combination of both. It can result in contaminants being drawn into the public drinking water system through cross connection.

2.2 Backflow prevention device

A device that prevents backflow

2.3 Independently Qualified person (IQP)

A person (or firm) approved by Council as qualified to inspect, maintain and report backflow prevention devices.

2.4 Drinking water supplier

A person and or organisation who supplies drinking water through a drinking water supply.

3. Principle

- 3.1 The main principle this policy aims to maintain and uphold is to protect public health and safety against the potential harm caused by backflow contamination.

4. Background

- 4.1. Backflow occurs when pressure changes in the water supply system which makes the water flow backwards and re-enter the network. At this point, the backflow may contain contaminants that will compromise the safety of drinking water.
- 4.2 The supply of safe drinking water to communities is one of the essential services Council provides. Council is required by the [Waters Services Act 2021 \(the Act\)](#) to assess the need for and provide water services and has a duty to improve, promote and protect public health.
- 4.3 The Act sets out the duties of 'drinking water suppliers', of which one of those duties is protecting against the risk of backflow. [Section 27](#) of the Act requires water service providers who have reticulation in their water supply system to put in place mechanisms that protect the community against the risk of backflow. The Act provides water suppliers

with two options to protect against the risk of backflow, the first being the installation of a backflow prevention device and the second is requiring owners of a premises to install, maintain and test backflow prevention device that incorporates a verifiable monitoring system in accordance with any requirements imposed by the supplier.

- 4.4 Backflow can also occur within buildings and can be a risk to occupants. Prevention is required by the New Zealand Building Code¹. Internal backflow is the responsibility of the property owner. The Building Code requires backflow prevention devices to be placed close to the potential source of contamination. While this may mitigate risks to backflow into the public water mains, it is not necessarily a replacement for backflow prevention devices at the boundary.
- 4.5 Council has provisions in its Water Supply Bylaw to protect against backflow contamination. The Bylaw places responsibility on the customer to prevent backflow by installing appropriate devices and allows Council to install a backflow prevention device at its discretion, and at the customers cost, if the customer cannot show that risk of backflow is adequately managed.

5. Policy Statement

5.1 GENERAL REQUIREMENTS FOR BACKFLOW PREVENTION

5.1.1 RDC is responsible for the management and prevention of backflow at the property boundary to protect the water supply network. To minimise the risk that the water supply becomes contaminated, Council’s policy is that there is an appropriate level of backflow prevention provided on all water connections. Backflow prevention devices should be installed as follows:

- (a) All new connections to RDC’s water supplies must install backflow prevention device at the point of supply.
- (b) Existing domestic use connections without backflow prevention device in place will have a backflow device installed by Council².
- (c) Existing non-domestic connections, without adequate backflow prevention device in place (as determined by RDC) property owners must install or upgrade backflow prevention devices. Installation and upgrading will be prioritised according to potential risk.

5.2 DETERMINATION OF RISK AND BACKFLOW PREVENTION DEVICE REQUIREMENTS

5.2.1 The type of backflow device will be determined by Council based on risk posed by the activity on the property. Council will assign one of three levels of risk to new and existing properties:

Hazard Level	Description ³	Device required as a minimum ⁴
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¹ Clause G12 Water Supplies (specifically [G12.3.2](#)) of the New Zealand Building Code which is contained in regulations under the Building Act 2004.

² Council is progressively replacing all residential tobys or similar devices. These contain a single backflow check valve and are sufficient to meet Councils obligations for backflow for residential properties without swimming pools or spas.

³ Definitions from Acceptable Solutions and Verification Methods for New Zealand Building Clause G12 Water Supplies.

⁴ From WSP Guide

High	Any condition, device or practice which in connection with the potential to cause death.	Reduced pressure backflow prevention device.
Medium	Any condition, device, practice which, in connection with the portable water supply has the potential to injure or endanger health.	Reduced pressure backflow prevention device. Testable double check.
Low	Any condition, device, or practice which, in connection with the portable water supply system, would constitute a nuisance, by colour odour or taste but not injure or endanger health.	Testable double check valve. Air gap. Hose connector vacuum breaker.

5.2.2 Situations in which the absence of adequate backflow prevention device may create a public health risk are included in Water Supply plan and NZ Drinking Water Standards as defined under the Water Services Regulations 2022. Water Safety Plan Guide Distribution System – Backflow Prevention version 1, Ref 2,4 Risk Assessment Table⁵. This document may be taken as a guide by Council when assessing the risks to the water supply

5.2.3 Council may re-categorise risks for properties if it can be demonstrated that other appropriate risk mitigation measures are in place.

5.2.4 A programme of investigation will be progressively undertaken by Council to assess all existing connections. Council will notify the property owner if a device needs to be installed or a device needs to be upgraded.

5.2.5 Where a high or medium risk hazard is identified in relation to an existing property and a backflow prevention device must be installed or upgraded, the timeframe for completing the work is as follows:

Hazard level	Timeframe
High	Within three months of advice being received from Council
Medium	Within six months of advice being received from Council

5.3 RESPONSIBILITIES FOR BACKFLOW PREVENTION DEVICES FOR NON DOMESTIC CONNECTIONS

5.3.1 It is the customer's responsibility to install, maintain and test all backflow prevention devices as may be required by the relevant Acts, Regulations, Bylaws and policies.

5.3.2 The customer shall ensure that the backflow devices installed meet the current standards including AS/NZS 2845.1:2022 Water Supply: Backflow Prevention devices: Materials, Design and Performance Requirements

5.3.4 Under the Building Act 2004 all internal backflow preventers are tested by an IQP. This will normally be part of the building's Compliance Schedule and submitted to Council as

⁵ The risk rankings in this guide are modified from information contained in table E3 of AS/NZ 3500.2021

part of the annual building warrant of fitness.

5.3.5 Boundary devices that are not part of the building compliance schedule shall be tested annually by an IQP. The results of the test must be submitted to Council.

5.3.6 The customer shall be responsible for the payment of all fees and costs associated with permits, installation, maintenance, testing or removal of devices as may be required.

5.4 UNMANAGED RISK

5.4.1 Council may install a backflow prevention device at its discretion, and at the customers cost if the customer cannot show that risk of backflow is adequately managed.

5.4.2 Council may install a backflow prevention device at its discretion if it is efficient, and in the public interest, for Council to do so as part of its plans to upgrade or maintain network infrastructure.

5.4.3 Council may undertake the testing of boundary devices and recover the cost from the consumer if this is deemed necessary to manage risk.

5.5 REGISTER

5.5.1 Council will develop a register of backflow prevention devices that have been put in place in all high and medium risk properties as a minimum. The register will record the type of device, its location and the results of all tests undertaken on the device.

6 Annotations

Date	Description
June 2019	Policy adopted
January 2023	Desktop review performed updated to current legislation, put in new policy template.

7 Policy Version Control

Policy drafted by	Policy Team
Policy reviewed by	Policy Team
Policy reviewed and recommended by the Information System Governance Group (ISGG)	N/A
Policy reviewed and recommended by the Audit and Assurance Committee	N/A
Policy reviewed and adopted by Council	31 May 2023

