



**CENTRAL
HAWKE'S BAY**
DISTRICT COUNCIL

Backflow prevention

PRACTICE NOTE WAT04

This Practice Note is part of a series of notes developed to assist with the use and implementation of the Central Hawke's Bay District Council's (Council) Water Supply Bylaw 2021 and the Sustainable Water Management Plan 2021-2024.

Purpose

We are committed to providing safe drinking water to all our customers connected to our water supplies. One of the biggest risks to contamination of our water supply is backflow from private properties and we need your help to make sure everyone is protected.

This practice note has been created to provide information on backflow prevention. It outlines the key information from the Water Supply Bylaw, the Health Act 1956¹ and the Building Code to make sure the water we supply is safe for everyone to use.

What is backflow?

Backflow occurs when water in a customer's plumbing flows in the reverse direction to the normal supply of water and ends up back in the Council's water supply system.

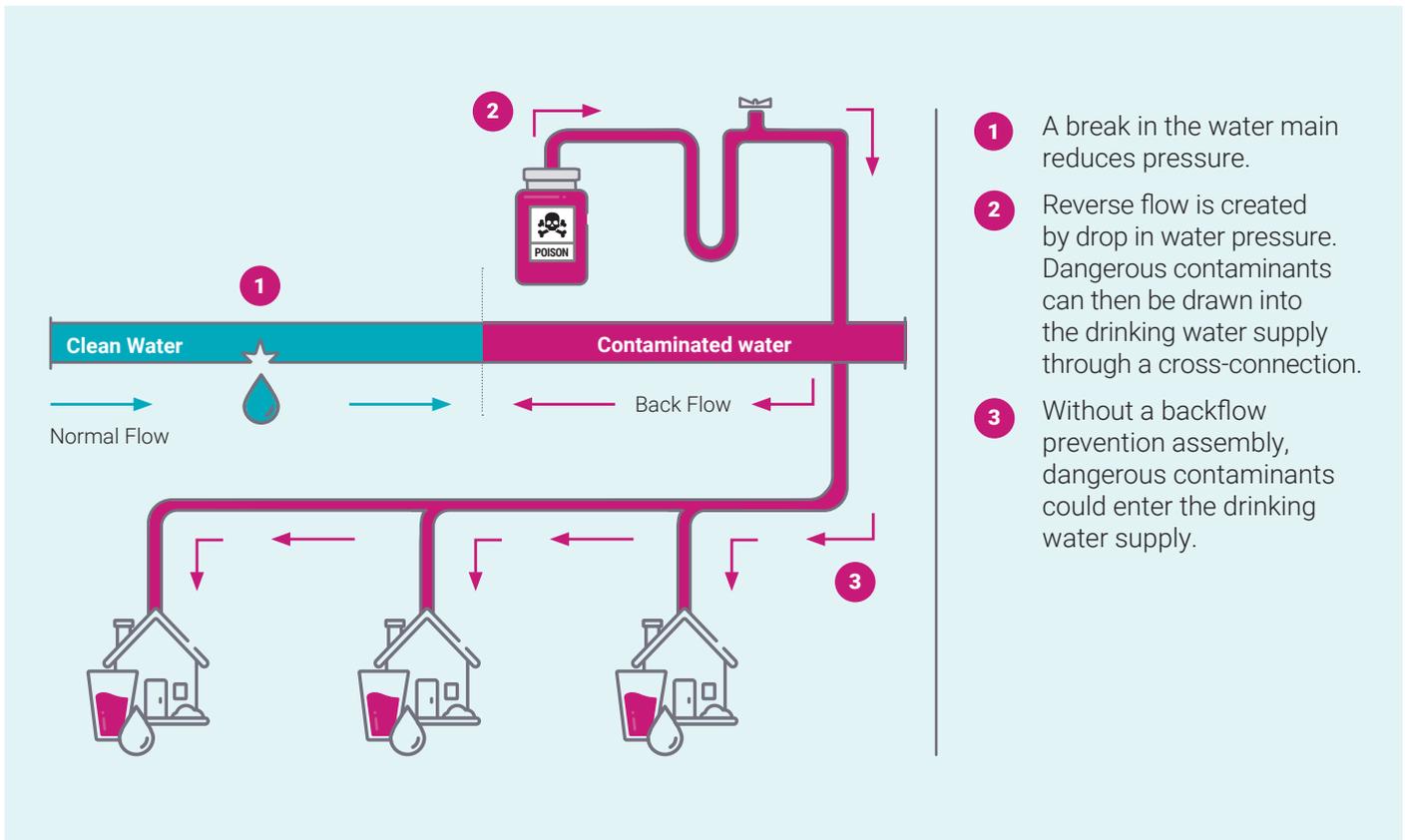
This is usually caused when water pressure drops in the water distribution system, for example due to a pipe break, causing water to flow in the opposite direction from residential or commercial properties. It can also occur if there is a high pressure system on the customer's property that is operating at a higher pressure than our water supply.

Because homes and business use chemicals and other potential contaminants, backflow can cause contamination of the public water supply and may result in unsafe drinking water – which could cause illness or death.

Backflow prevention devices prevent backflow from occurring. These work by preventing the water from flowing in the wrong direction.

¹Health Act 1956: <https://www.legislation.govt.nz/act/public/1956/0065/latest/DLM1410347.html>





- 1 A break in the water main reduces pressure.
- 2 Reverse flow is created by drop in water pressure. Dangerous contaminants can then be drawn into the drinking water supply through a cross-connection.
- 3 Without a backflow prevention assembly, dangerous contaminants could enter the drinking water supply.

Figure 1 – The Backflow Contamination Process

The type of backflow prevention device you need to install will depend on the backflow risk for your property (see the table below and Clause G12 Water Supplies of the Building Code² for more information). The device should be located as close to the point of supply as possible, to avoid the risk of other connections being made between the point of supply and the backflow prevention device.

Hazard Level	Definitions	Premises type	Protection Required	Testing Required
High	Potential to cause loss of life	Industrial or commercial premises (e.g. hairdressers, mortuaries, chemical manufacturing, dentists, drycleaners, medical facilities)	Reduced Pressure Zone Device or Registered Air-Gap	Annual testing by an Independent Qualified Person (IQP)
Medium	Potential to cause illness	Industrial, commercial or residential premises (e.g. swimming/spa pools, in-ground irrigation controllers, dialysis machine, food and beverage manufacturing, alternative water sources such as rain water)	Testable Double Check Valve	Annual testing by IQP, recorded on BWOF
Low	Would cause a nuisance (by colour, odour or taste), but would not injure or endanger health	Industrial, commercial or residential premises (e.g. carbonated drinks machines)	Testable Double Check Valve	Annual testing by IQP, recorded on BWOF

²Acceptable Solutions and Verification Methods for New Zealand Building Code Clause G12 Water Supplies: <https://www.building.govt.nz/assets/Uploads/building-code-compliance/g-services-and-facilities/g12-water-supplies/asvm/g12-water-supplies-3rd-edition-amendment-12.pdf>

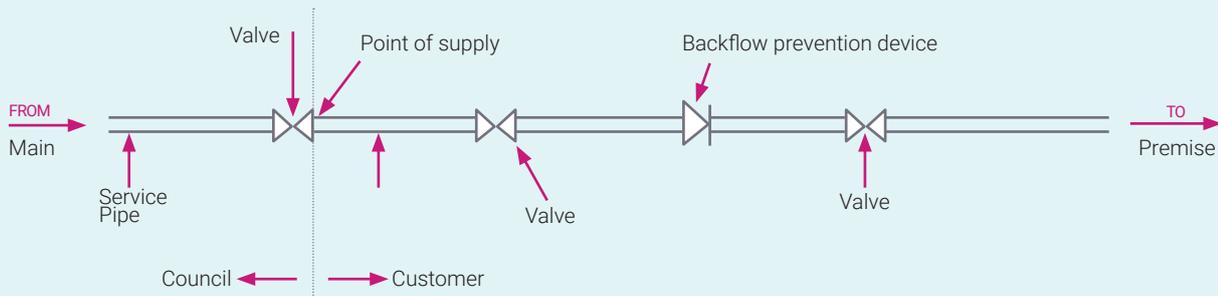


Who is responsible?

Figure 2 shows some examples of where the backflow prevention device should be installed and who is responsible for it.

The 'point of supply' determines who is responsible for installing, maintaining and operating the backflow prevention device. The 'point of supply' is a boundary point on the water supply pipe to your property. This point defines the customer side and the Council side (it is not the same as your property boundary). The point of supply is usually located at the boundary box, water meter or service valve which is normally situated close to the street boundary of the property.

Unmetered supply with backflow prevention device owned by the customer



Unmetered supply with backflow prevention device owned by the Council

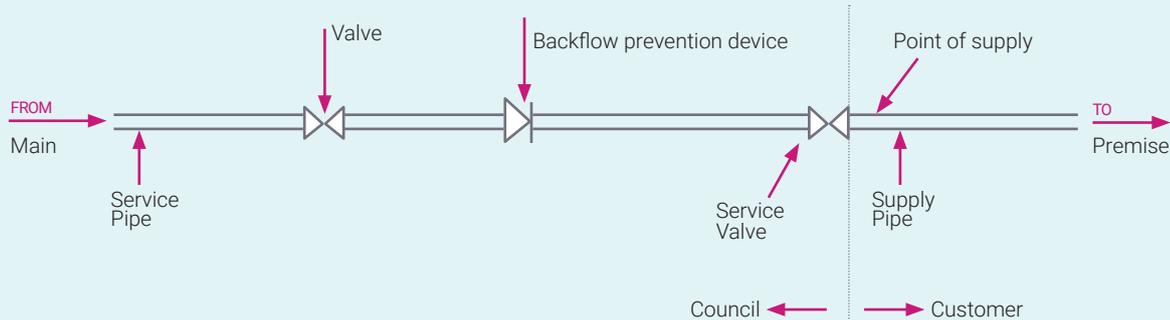


Figure 2 – Typical Layout for Point of Supply and Backflow Prevention Devices



When is it needed?

Under the Health Act and the Water Supply Bylaw we can fit a backflow prevention device on our side of the point of supply if we consider it is desirable or necessary to do so. We are also allowed to recover the cost of installing, testing and maintaining the device. Alternatively, we may allow you to install a device on your side of the point of supply under a building consent, if you would prefer this or if it is impractical for us to install it on the public side of the point of supply.

We will usually require you to have a backflow prevention device at the boundary if you:

- Have a high, medium or low hazard activity on your site
- Are an extraordinary user
- Have an 'out of area' supply that is connected to our water supply
- Have a cross-connection with our water supply and another water supply, another water source (e.g. rainwater), a storage tank, a swimming pool or any other fixture or equipment containing chemicals, liquids, gases or other non-potable substances.

You may also need to install additional backflow prevention devices within your property to meet the requirements of the New Zealand Building Code.



Your responsibilities

It is your responsibility to take all reasonable steps on your side of the point of supply to prevent backflow from occurring.

- You are responsible for all fittings and plumbing on your property after the point of supply.
- We are responsible for everything up to and including the point of supply.

If your property has a backflow prevention device on your side of the point of supply, it is your responsibility to:

- Obtain a building consent before installing a backflow prevention device.
- Make sure that your backflow prevention device always remains fully operational.
- Include your backflow prevention device on the compliance schedule for your building.
- Arrange for annual testing and maintenance of your backflow device by an Independent Qualified Person (IQP). The list of registered IQPs in the East Coast Region is on the Hastings District Council website³. This test is needed for your building warrant of fitness (BWOF)⁴.
- Do not interfere with the backflow prevention device in any way.
- Do not bypass the backflow prevention device other than (with our approval) with another similar device in parallel to ensure continuity of supply during testing.
- Tell us if you're changing the use of your site. This is especially important if you have hazardous or potentially contaminating substances on site.

A month before your building warrant of fitness is due to expire, we will send you (as the building owner) a reminder letter. The owner must sign two copies of the Building Warrant of Fitness form. One copy must be displayed in the building, and the other must be sent to us, with all required form 12A certificates including the certificate from your IQP for your backflow prevention device.

If the backflow prevention device is on our side of the point of supply, we will arrange for it to be tested and maintained annually. Under the Health Act we are allowed to charge you for the cost of installing, testing and maintaining the device.

³Independent Qualified Persons (IQP) List Registered within the East Coast Region
www.hastingsdc.govt.nz/assets/Uploads/Building/IQP-Register.pdf

⁴www.chbdc.govt.nz/services/building-consents-information/building-consents/compliance-schedule-and-building-warrant-of-fitness/



For more information

View Council's updated Bylaws on our website: www.chbdc.govt.nz/our-council/bylaws

View Council's Sustainable Water Management Plan online:

<https://www.chbdc.govt.nz/assets/Uploads/Sustainable-Water-Management-Plan.pdf>

If you have further questions or need more information, you can phone Council on **06 857 8060**, email us at customerservice@chbdc.govt.nz, visit us at 28-32 Ruataniwha Street Waipawa 4210 or send us a letter, PO Box 127 Waipawa 4240.

Use the **Send Snap Solve App** to report any spills. CHBDC have a spill response and reporting procedure they will implement.

