

Policy

Backflow prevention and cross connection control

Version 3

Adopted by Council at its meeting on 15 September 2022

Division:
Section:
File Reference:
Historical Reference:

Engineering
Water and Wastewater - Operations
Council Policies/Protocols/Procedures
See Version Control

THIS PAGE IS BLANK

1. Policy objective

The principal objective of backflow prevention is to protect the quality of water supplies by reducing the risk of contamination by backflow, back siphonage and cross connections. Such contamination can affect not only the wider water distribution; it can also impact on individual property owners.

This policy outlines Council's duty of care for the protection of the potable water supply to safeguard public health. It also outlines the duty of care of property owners to prevent such an occurrence, as well as their responsibility to maintain a safe water supply within their own property boundaries.

1.1 Definitions

<i>Air Gap</i>	The unobstructed vertical distance between the lowest opening of a water service pipe or fixed outlet supplying water to a fixture or receptacle and the highest possible water level of such fixture or receptacle.
AS/NZS 2845	Australian/New Zealand Standard for water supply – Backflow Prevention Devices – materials, design and performance requirements.
AS/NZS 3500.1	Australian/New Zealand Standard for Plumbing and Drainage: Part1: Water Services.
<i>Backflow</i>	The unintended reversal of flow in a water pipeline whereby water that has already passed beyond the meter assembly into the customer's pipeline system returns to the Council's water supply.
<i>Backflow Prevention Device (BPD) - AS/NZS 3500</i>	A device which will prevent reverse flow of water from a potentially polluted source into the water supply system.
<i>Backsiphonage</i>	Backsiphonage occurs when the water supply pressure falls below atmospheric pressure.
<i>Containment Protection</i>	The installation of a Backflow Prevention Device on the water service at the property boundary between the distribution system and the owner's property.
<i>Council</i>	Tweed Shire Council
<i>Cross Connection</i>	A direct or indirect physical connection of a potable water supply to a line that is non-potable e.g., town water supply to a non-potable bore.
<u><i>Hazard Ratings:</i></u>	
<i>High Hazard (AS/NZS 3500)</i>	Any condition, device, or practice that, in connection with the water supply system has the potential to cause death.
<i>Medium Hazard (AS/NZS 3500)</i>	Any condition, device, or practice that, in connection with the water supply system has the potential to endanger health.
<i>Low Hazard (AS/NZS 3500)</i>	Any condition, device, or practice that, in connection with the water supply system constitutes a nuisance but does not endanger health or cause injury.
<i>Individual Protection</i>	The installation of a Backflow Prevention Device at the water connection to an individual apparatus.
<i>PCA</i>	National Construction Code Series, 2016: Volume Three, Plumbing Code of Australia
<i>Qualified Person</i>	A licensed plumber who has undertaken accredited backflow training by a registered training organisation.
<i>Testable Device</i>	Any Backflow Prevention Device that is provided with test taps for the purpose of testing its operation, and a registered break tank, or a registered air gap.
<i>Zone Protection</i>	The installation of Backflow Prevention Devices within sections of the owner's property.

References

The policy is consistent with the aims of Local Government Act 1993, *The Plumbing and Drainage Act 2011*, National Plumbing Code of Australia (PCA) and Australia Standard AS/NZS 3500.1

The Water Directorate Backflow Prevention and Cross Connection Control Guidelines (July 2013) were considered in the revision of this document.

Key words

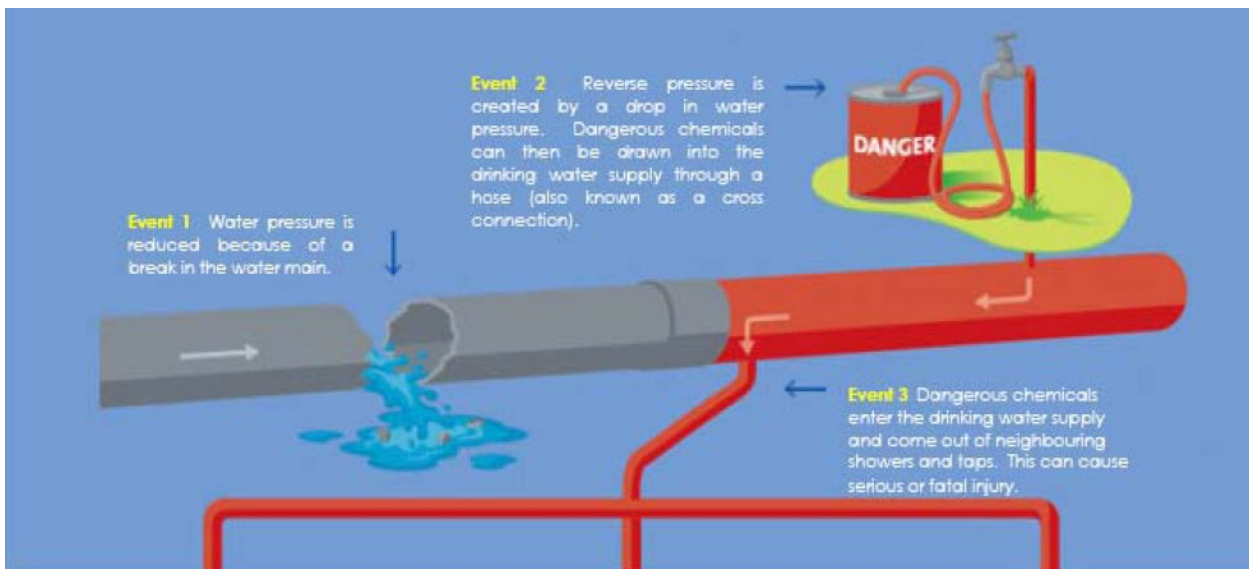
Backflow
Bypass
Check valve
Contamination
Cross connection
Hazard
Prevention

1.2 Policy background

Backflow, in relation to water supply systems, is any unwanted flow of potentially contaminated water into the potable (drinking) water distribution system. This occurs when water flows backwards, or opposite to its normal and intended direction of flow. This usually results when water pressure to a property is not maintained or if a pump is connected to a property's water plumbing system.

Cross connections are direct or indirect physical connections of potable and non-potable water which can also contaminate water supply systems. Cross connections between potable and non-potable supplies are illegal.

Both backflow and cross connections can present a risk to public health.



2. Policy

For all properties within Tweed Shire Council, potable water supply must comply with the requirements of this policy. All properties with a water connection shall install appropriate backflow prevention at the boundary for containment protection purposes. In addition, some properties will require individual or zone protection within the property.

There are different backflow prevention devices which can be installed depending on the hazard rating of the property or installation concerned. Australian Standard AS 3500 defines three degrees of hazard associated with cross-connection and backflow, namely:

- High Hazard
- Medium Hazard
- Low Hazard

Properties with high and medium hazard ratings must install devices for containment protection that are testable. It is the property owner's responsibility to have such devices inspected, tested and maintained at intervals not exceeding 12 months to ensure continued reliable operation.

In addition, owners are responsible for engaging a Qualified Person to identify any internal hazards that require the installation of testable or non-testable backflow prevention devices to comply with AS 3500.1.

Properties with low hazard ratings are required to install a non-testable device (as a minimum) that is usually built into the water meter assembly.

It should be noted that if the hazard rating of a particular installation varies due to multiple processes within the property, the highest hazard rating is to be applied in the selection of an appropriate backflow prevention device.

2.1 Council responsibilities

Council has the ultimate responsibility and accountability for the implementation and management of control measures necessary to protect the quality and integrity of water supply systems under its control. Therefore, Council has an obligation to ensure the appropriate installation, testing, maintenance and certification of backflow prevention devices. Council also has a responsibility to ensure that property owners and plumbers are made aware of the requirements for backflow prevention devices and their relevant responsibilities.

Council responsibilities are:

- To implement this Policy on all new installations and progressively on existing services in accordance with the degree of risk identified.
- To provide a mechanism for customers to apply for a water connection, provide evaluation of the hazard rating and install the appropriate containment device as part of the meter installation at the applicant's cost.
- To replace existing water meters in accordance with Council's meter replacement criteria. As part of the replacement the following will apply:
 - For properties with existing high / medium hazard devices, Council shall replace the water meter only.
 - For properties with existing low hazard testable devices, Council shall replace the water meter only.
 - For properties with low hazard devices built into the meter, Council will replace these as part of the meter replacement.
- Retain records and ensure that minimum requirements for Testable Devices are carried out. These records include:
 - A register of all testable devices and results of all tests that are carried out.
 - Initial testing of privately owned containment devices that have been installed by Council.
 - Testing of all Council owned testable devices by a Qualified Person on installation and on an annual basis.

- To provide advice to customers of the date when the device must be tested and receive and record the test results.
- To ensure that non-complying properties are brought into line with the requirements of this Council Policy, the Plumbing Code of Australia and the Australian Standard AS 3500: Part 1.
- To check the certification and accreditation of plumbers and the currency of such accreditation.
- To provide a rainwater tank installation policy to ensure clear guidelines for rainwater tanks where town water supply is also connected.
- To maintain a register of rainwater tanks.

2.2 Property owner responsibilities

Property owners are responsible for ensuring their property complies with this Policy and AS 3500.1.

The property owner shall be the legal owner of any backflow prevention device installed on the property side of Council's water meter.

The property owner responsibilities are:

- To make application to Council for all new or modifications to water connections and associated backflow prevention devices.
- Ongoing maintenance and certification of all testable backflow prevention devices on the property. This includes any backflow prevention devices on fire services or combined domestic/fire services. Upon advice from Council of the need to do so, the property owner must submit certification of the satisfactory operation of the backflow devices to Council within 60 days of the issue of the advice.
- Ongoing maintenance and periodic replacement of non-testable backflow prevention devices located within the property to ensure that they continue to operate reliably.
- To ensure that qualified persons carry out inspections / testing and are made responsible for ensuring non-compliant installations / devices comply.
- Cover the cost of all backflow prevention devices and associated testing, inspection and ongoing maintenance other than for Low Hazard 20mm and 25mm meter installations.
- To allow access to the property by officers from the Council for the purposes of inspecting any backflow prevention devices.

2.3 Plumber responsibilities

A licensed plumber with current backflow prevention accreditation has the responsibility of installing, commissioning, testing, and maintaining devices, in accordance with AS 3500.1, AS 2845 and this Policy.

Appropriately qualified plumbers in conjunction with Council will determine the type of device to be installed, using the hazard rating process described in AS 3500.1 and shall install devices in accordance with the PCA and AS 3500.1.

In ground rainwater tanks can be exposed to hazardous chemicals such as those found in lawn grub sprays and therefore the hazard rating to be applied is Medium Hazard.

Connection to the potable water supply by means of auto switching devices or similar shall require a registered testable device.

Plumbers shall provide a Certificate of Compliance and a Backflow Prevention Device and Maintenance Report to Council for all testable backflow prevention device installations.

2.4 Fees and charges

Council has set appropriate Fees and Charges in relation to backflow prevention. The fees are for:

- issuing of permits
- maintaining a register of testable backflow devices
- inspections of backflow prevention device installations
- re-inspection and testing fees, if required
- annual registration and administration fees for backflow prevention devices
- other fees and charges as deemed appropriate.

3. Related legislation

Local Government Act 1993

NSW Local Government (General) Regulation 2005

Public Health Act 2010

The Plumbing and Drainage Act 2011

National Construction Code Series, 2016: Volume Three, Plumbing Code of Australia

Australia Standard AS/NZS 3500: 2015

Australian Standard AS 2845.1: 2010

Australian Drinking Water Guidelines 2011

4. Compliance

If the property owner fails to repair, maintain, replace or test a backflow prevention device as per AS3500, AS2845 and the PCA, Council may utilise the provisions of the Local Government Act and Regulations to:

- have the defective work repaired;
- apply penalties; or
- restrict or disconnect the water connection.

5. Forms

[Application for Water Meter Connection / Disconnection / Relocation
Backflow Prevention Device Testing Certificate](#)

6. Review period

This policy will be reviewed within 12 months of the election of each new Council or more frequently in the event of any legislative changes or changes in circumstance.

7. Useful links

[Tweed Shire Council website](#)

8. Version control

Version #	Summary of changes made	Date changes made
1.1	Original document	01/05/2022
2.0	Complete re-write of document on Water Directorate guidelines and regulation changes.	05/05/2013
2.1	Review and minor edits prior to re-adoption by Council	07/08/2017 Adopted 17/08/2017 Min No. 402
3.0	Updated and adopted by Council and incorporated into new policy template	15/09/2022