

ORANGE CITY COUNCIL

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WATER SUPPLY

ST129

F22

OBJECTIVE

safe, reliable and secure water supply

APPLICABILITY

This policy applies to all water supply services within the Orange City Council Local Government Area.

GENERAL

- x Orange City Council will supply reticulated water to its residents via infrastructure that is serviced and maintained in accordance with the Water Asset Management Plan.
- x Council will manage its water supply systems effectively to provide safe and reliable water supply to its residents.

PROCEDURE

The Water Supply Operational Policy outlines how Council staff will implement this policy, in conjunction with the adopted Water Asset Management Plan.

RELATED POLICIES/DOCUMENTS

- x Water Asset Management Plan
- x Water Supply Operational Policy

Responsible Area: Technical Services

REVISION					
	DATE	RESOLUTION		DATE	RESOLUTION
1	May 2014	2014/556	3		
2			4		

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SUMMARY OF AMENDMENTS

Amendment Date	Section/Reference and Amendment
March 2014	<p>Incorporated key elements of former Strategic Policies into the Operational Policy:</p> <ul style="list-style-type: none"> x Rainwater Tank Rebates (ST061) x Water Service Installation (ST081) x Water Meter Boxes Ownership and Responsibility (ST078) x Water Meter Accuracy Testing and Replacement (ST079) x Responsibilities for Water Mains (ST073) x Water Backflow Prevention Policies (OP100) x Commitment to Water Quality Management for Supply of Drinking Water and Recycled Water (ST123)



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COUNCIL**

**WATER SUPPLY
OPERATIONAL POLICY**

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WATER SUPPLY OPERATIONAL POLICY

1 GENERAL

- 1.1 This Operational Policy describes how Orange City Council staff will implement the Strategic Policy – Water Supply
- 1.2 This manual should be read in conjunction with the Water Asset Management Plan, as adopted by Council

2 WATER QUALITY MANAGEMENT – DRINKING WATER & RECYCLED WATER

- 2.1 Orange City Council is committed to managing its water supply systems effectively to provide safe and reliable water, including high-quality drinking water that consistently meets the NHMRC/NRMMC *Australian Drinking Water Guidelines* and recycled water meeting the NRMMC/EPHC *Australian Guidelines for Water Recycling*, and customer and other regulatory requirements. To achieve this, in partnership with stakeholders and relevant agencies, Orange City Council will:
 - a ensure that protection of public and environmental health is recognised as being of paramount importance;
 - b maintain communication and partnerships with all relevant agencies in management of water resources for their supply;
 - c engage appropriate scientific expertise in developing groundwater, recycled and drinking water schemes;
 - d recognise the importance of community participation in decision making processes and the need to ensure that community expectations are met;
 - e manage water quality at all points along the delivery chain from source of water to end-user;
 - f use a risk-based approach in which potential threats to water quality for the water supplied by Orange City Council are identified and balanced;
 - g integrate the needs and expectations of our customers, stakeholders, regulators and employees into our planning processes;
 - h establish regular monitoring of control measures and the quality of source waters and treated water, and establish effective reporting mechanisms to provide relevant and timely information, and promote confidence in the water supply schemes and their management;
 - i develop appropriate contingency planning and incident response capability;
 - j participate in and support appropriate research and development activities to ensure continued understanding of source water, recycled water and drinking water quality issues and performance;
 - k contribute to the development of industry regulations and guidelines, and other standards relevant to public health and the water cycle; and
 - l continually improve our practices by assessing performance against corporate commitments and stakeholder expectations.

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- 2.2 Orange City Council will implement and maintain a water quality management system consistent with the Frameworks of the *Australian Drinking Water Guidelines* and *Australian Guidelines for Water Recycling* to effectively manage the risks to drinking water and recycled water quality.
- 2.3 All managers and employees involved in the supply of drinking water and/or recycled water are responsible for understanding, implementing, maintaining and continuously improving the water quality management system.

3 RAINWATER TANK REBATES

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- 4.1 Council will provide a rebate to any property connected to the reticulated water supply system of Orange City Council to encourage the use of drain water
- 4.2 The rebate is available to all properties (residential and business) connected to the reticulated water supply system of Orange City Council, except where a rainwater tank is a mandatory requirement of a local or state planning control/legislation or when installed to comply with BASIX requirements or Section J of the Building Code of Australia.
- 4.3 Rebate schedule – only one rebate available per property

Tank capacity (litres)	Tank only rebate	Plumbed internally into premise	Total rebate
2000-4999	\$100	\$500	\$600
5000 and above	\$250	\$500	\$750

- 4.4 Installation of tank/s is to be carried out by a licensed plumber and to comply with relevant standards, building and plumbing codes.
- 3.5 If the applicant is applying for the internal plumbing component of the rebate, the applicant must connect the tank to a top-up system to allow the tank to be topped up from the City's reticulated water supply system. An appropriate Backflow Prevention Device must also be fitted to the water meter. The resident must then also comply with any water restrictions that may be in place.
- 3.6 Installation of rainwater tanks is considered Exempt Development (permissible without development consent) if it complies with the requirements of *Orange Development Control Plan 2004* or the *State Environment Planning Policy* (Exempt and Complying Development). If the applicant does not meet all of the Exempt Development requirements, a development application must be submitted to Council.

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- 3.7 To be eligible for the rebate, the applicant must comply with the following:
- 3.7.1 The rebate is available to all properties (residential and business) connected to the reticulated water supply system of Orange City Council, except where a rainwater tank is a mandatory requirement of a local or state planning control/legislation or when installed to comply with BASIX requirements or Section J of the Building Code of Australia
 - 3.7.2 The applicant must own the property where the tank is installed
 - 3.7.3 The tank must be installed on land that has a connection to the reticulated water supply system of Orange City Council
 - 3.7.4 Only one rebate is available per property. The rebate amount is calculated on the total capacity of the tank/s installed at the time of the application
 - 3.7.5 The applicant must have ordered, paid for and installed the tank
 - 3.7.6 The purchased tank/s must have a twelve month warranty
 - 3.7.7 The minimum tank capacity is 2000 litres
 - 3.7.8 Tanks must be used for collection and storage of rainwater on site
 - 3.7.9 If the applicant is applying for the internal plumbing component of the rebate, the applicant must connect the tank to a top-up system to allow the tank to be topped up from the City's reticulated water supply system. An appropriate Backflow Prevention Device must also be fitted to the water meter
 - 3.7.10 The applicant must comply with the Exempt Development criteria requirements of the *Orange Development Control Plan 2004* or the *State Environment Planning Policy (Exempt and Complying Development)*. Associated fees must also be paid by the applicant
 - 3.7.11 Prior to payment of the rebate, the applicant must install the tank and Orange City Council must receive a completed application form with original receipts

4 WATER SERVICE INSTALLATION

- 4.1 The installation and/or changes of a water service size will be at the owner's expense including the current headworks charge.
- 4.2 All works to be the subject of an approval under the Local Government Act 1993 and carried out in accordance with the approval, Local Government (General) Regulation 2005, Australian Standard 3500, NSW Code of Practice – Plumbing and Drainage.
- 4.3 Each residential property, including dual occupancies, is permitted a single 20mm potable water service and where available, one 20mm recycled water service.
- 4.4 Multiple dwelling developments will only have a single water service installed to each property. Private water meters may be installed within the property with approval from Council; such meters are to be installed and maintained at full expense and responsibility to the owner(s) of the property.

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- 4.5 Council will only approve applications for 20mm connections to the urban water supply under the following circumstances:
- 4.5.1 The location of the property is within 200 metres of an existing Council water main or that it can be served by a main which would form part of a planned future extension to that particular area
 - 4.5.2 The connection is limited to use for domestic purposes and garden watering only
 - 4.5.3 Surplus water is available at that location at accepted domestic pressure level
 - 4.5.4 Top-up supply, eg use of town water for topping up tank water levels
 - 4.5.5 No additional domestic connections are to be approved to Council's industrial mains serving Central Western Linen Service, nor to any of Council's rising mains
 - 4.5.6 The connection will be at the owner's expense and the current headworks charge will be applied
- 4.6 **Private Water Schemes**
There is a negotiable agreement between the property owners and Orange City Council as there are several Private Water Users Schemes throughout the City of Orange. Council will be responsible for the maintenance up to and including the Master Meter and the water meter reading for the schemes.
- 4.7 **Industrial and Commercial Services**
Industrial and Commercial properties will only have a single water service installed unless otherwise approved by the Director Technical Services. If both fire and domestic supply are required, one service/junction from the Council water main will be provided for both; the services may be separated within the property.
- 4.8 **Resizing of Services**
Council shall only approve resizing of the water service on existing water connections after property owner (or body corporate) has submitted a written report from an hydraulic engineer or appropriately qualified person that the change in service size will not affect the property continuing to meet applicable fire and water service standards and Council's Sub-division Code requirements.
- Council remains the owner of all water meters it installs. When a meter is replaced, the surplus meter remains the property of Council.
- 4.9 **Pressure & Flow Testing**
A "Utilities Application Form" is required to be completed for Fire Services, industrial/commercial or large developments before a water service application is considered. Application to install a water service will not be considered until a Fire Flow Certificate has been issued by Council and a hydraulic plan included.
- 4.10 **Fire Services**
Fire service requires the installation of a single check valve assembly to be fitted separately to hydrant and sprinkler fire services. On a separate hydrant and fire service at non-residential properties, the device shall be installed close to where the service crosses the property boundary prior to any booster assembly.

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5 WATER METER BOXES OWNERSHIP AND RESPONSIBILITY

- 5.1 Council will supply a meter box and cover for the new 20mm and 25mm water services; the property owner will become responsible for its maintenance.
- 5.2 The responsibility and maintenance of the meter box and surrounds is the owners.
- 5.3 Meter boxes supplied by Council remain the property of Council.
- 5.4 All meter boxes are to be installed wholly within the subject property, within 2 metres of the front boundary.
- 5.5 The water meter box shall:
 - 5.5.1 Be set on a concrete floor, minimum of 100mm thick, designed and constructed to fully withstand underground pressures and loading of the meter and associated components. Thrust restraints must be installed to withstand the design pressures and not impede access or maintenance of meters.
 - 5.5.2 Allow a minimum clearance of 300mm on either side and 150mm beneath components to be of sufficient dimensions to allow for future maintenance and removal of components.
 - 5.5.3 Prevent the ingress of subsurface water.
 - 5.5.4 Finished flush with ground level.
 - 5.5.5 Fitted with a cover that is designed and constructed to withstand appropriate loading, can be fully removed and lifted by one person – preferably hinged. Covers may need to comprise of multiple panels for larger meters.
- 5.6 Owners may notify Council if the meter box is in need of repairs. Any costs incurred for repairing or replacing the meter box or cover is at the property owner's expense.

6 WATER METER ACCURACY TESTING AND REPLACEMENT

- 6.1 Council may, on its own initiative, arrange for a Council owned water meter to be examined and tested. If, as a result of such an examination and test, a water meter is found not to correctly measure the quantity of water passing through it, Council may charge for the supply of water:
 - a on the basis of a daily consumption equal to the average daily consumption during the corresponding meter reading period of the previous year, or
 - b on such other basis as Council and the consumer may agree.
- 6.2 A water meter that registers less than 3% more or less than the correct quantity is taken to correctly measure the water passing through it.
- 6.3 If a water meter provided by Council is found to be defective, Council will replace it with one that is not defective.
- 6.4 At the request of an owner or occupier of premises and on the payment of a fee according to Council's adopted Fees and Charges, Council will arrange for a water meter installed on the premises to be examined and tested.
- 6.5 Testing carried out at the request of a person who is the owner or occupier of premises is to be at the expense of the person.

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- 6.6 In cases where the water meter is found to be faulty and must be replaced, Council will refund the meter-testing fee.

7 RESPONSIBILITIES FOR WATER MAINS

- 7.1 Property owners are responsible for the backflow prevention device, pipe and taps after the meter coupling to the house. This means any repairs, replacement or maintenance costs associated with these pipes and fittings are the responsibility of the property owner. If they are damaged, a plumber will need to be engaged to have them repaired.
- 7.2 If a resident removes the water meter, damages or tampers with it, they will be charged the cost of the repair or replacement and labour by Council staff.
- 7.3 Water meters, hydrants and stop valve covers on private property are to be clearly visible and easily accessible at all times. The water meter needs to be accessible to Council staff or meter readers for maintenance and readings.
- 7.4 If the property owner discovers a leakage, the property owner should turn off the stop valve tap on the water meter and keep it turned off where possible. The property owner should attempt to determine where the problem is.
- 7.5 If it is on the Council side, the property owner should contact Council on 6393 8000 (business hours) or 1300 650 511 (after hours).
- 7.6 If the leak is coming from the property owner's side, the property owner will need to contact a plumber.
- 7.7 If the property owner is unsure as to where the water main and pipelines are located, it is best to contact Council, who will be able to show the property owner or plumber the locations of the main, meter and water services.
- 7.8 If a 25mm (or above) water service is installed, it will require a double check valve backflow prevention device at the owner's expense but Council will install it and the owners become responsible for it.

8 WATER – BACKFLOW PREVENTION DEVICES

- 8.1 Backflow is the reverse flow of water or other liquids and can be caused by:
- Back siphonage – where the pressure in the reticulation system becomes less than atmospheric; this causes water from connected properties to flow backwards into the City's supply.
 - Back pressure – when the consumer's water pressure is greater than the pressure in the City's water supply.
 - Cross-Connection – is a direct or indirect physical connection of a potable water supply to a line that is non-potable, eg City water supply to a non-potable bore.
- 8.2 The property owner is responsible for installing, maintaining and annual testing (if required) of backflow prevention devices within their property in accordance with Australian Standard AS/NZS 3500.1:2003. If activities being carried out on a property are upgraded or changed and represent a higher risk, it is the property owner's responsibility to ensure compliance with AS/NZS 3500.1:2003 and Council's Backflow Guidelines.

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- 8.3 The property owner is responsible for ensuring a qualified licensed plumber completes all work and submits the required documentation to Council in a timely manner. A licensed plumber must install all backflow prevention devices. Only a plumber with backflow prevention accreditation may commission and test these devices.
- 8.4 Council installs low or medium hazard rated backflow prevention devices on all new 20mm and 25mm domestic services and are included in the service connection. Properties served by a water meter larger than 25mm and that are identified to have a medium or high hazard rating, require a minimum of a testable dual check valve to be installed at the owner's expense. The Local Government Act 1993 and the Plumbing Code of Australia (PCA) 2011 application process highlights backflow requirements for individual sites.
- 8.5 Properties that have both drinking and non-drinking water supplies are required to install an appropriate level of backflow prevention containment on both supply systems. The installed device shall be the same on both the drinking and non-drinking services.
- 8.6 **Hazard Ratings (in accordance with AS/NZS 3500.1:2003)**
- a **High hazard** – Any condition, device or practice within the water supply system and its operation, which has the potential to cause death. Owners of properties with high hazard ratings must install a registered break tank, reduced pressure zone device or registered air-gap.
 - b **Medium hazard** – Any condition, device or practice within the water supply system and its operation, which could endanger health. Owners of properties with a medium hazard rating must install a testable double check valve assembly as a minimum.
 - c **Low hazard** – Any condition, device or practice within the water supply system and its operation, which could constitute a nuisance but not endanger health. Plumbing to rainwater tanks with connection to potable water supply require this level of device as a minimum.
- 8.7 Where hazards are unknown for commercial, industrial or mixed development, the hazard rating will default to high, requiring the owner to install a testable backflow prevention device.
- 8.8 **Levels of Protection (in accordance with AS/NZS 3500.1:2003)**
- a **Individual Protection** – Backflow prevention protection at individual fixtures.
 - b **Zone Protection** – Backflow prevention protection provided at the connection to specific sections of a water supply system within a building.
 - c **Containment Protection** – Backflow prevention protection provided at the property boundary to protect the authority's water supply from contamination.
 - d **Irrigation and Lawn Watering Systems** – Irrigation and lawn watering systems require backflow prevention. The degree of protection depends on the type and design of the system and will be rated in accordance to AS/NZS 3500 by a licensed plumber.

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8.9 Testable Devices

All testable devices must be registered with Council, along with certification of testing on installation. Council will maintain a database of properties for all registered backflow devices.

8.10 All testable devices must be tested on an annual basis and results forwarded to Council.

8.11 If a property owner repeatedly fails to install, repair, maintain, replace or test a backflow prevention device (as required by an issued notice), Council may restrict water supply until the property owner has complied with the notice. Council may disconnect the water service if Council believes that the hazard presented by the activities on the property presents an unacceptable risk to the water supply and charge a fee for the disconnection/reconnection.

8.12 Existing Properties

Existing properties will be required to be compliant with this policy. If a property owner requires a backflow prevention device, Council will allow 12 months for high risk and 15 months for medium risk to complete the installation. Extensions may be granted provided a letter has been submitted stating the reasons why the business cannot install/comply by the due date and when the work will be completed by.

8.13 Rainwater Tanks

Potentially, backflow can occur if rainwater from a tank mixes with the potable water supply. Where the rainwater tank is connected to or is topped up from the potable water supply, a backflow prevention device must be installed at the property boundary. It is recommended a registered air gap is maintained at all times to prevent the inlet being submerged, otherwise a testable double check device is required. If the rainwater tank is not connected to or cannot be topped up from the potable water supply, a backflow prevention device is not required.

Where a partly or completely buried tank is to be installed, the potential for water contamination increases. A high hazard rated testable backflow prevention device must be installed to provide protection for the individual or zone hazard. The same degree of backflow protection is also required for containment protection.

8.14 Fire Services

Fire Services require the installation of a single check valve assembly to be fitted separately to hydrant and sprinkler fire services. On separate hydrant and fire service at non-residential properties, the device shall be installed close to where the service crosses the property boundary prior to any booster assembly.

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8.15 Workplace Health and Safety

Before working on a water service, the metallic plumbing system must be tested with a quality multimeter (on the 240 volt alternating current range).

If the test reveals a voltage more than 5 volts alternating current and it is a constant value, it is deemed a dangerous voltage. Please note that voltages in the low range of 240 volts are also a serious shock risk. Plumber must call a licensed electrician to isolate supply and take appropriate action.

Attachments

- Water Quality Management Backflow Prevention Information Sheet
- Procedure for Council Water Main and Property Services Information Sheet

Amendments to this Policy can be made by the General Manager at any time

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Procedure for Council Water Main and Property Services

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Who is Responsible?

Orange City Council maintains and repairs the treatment plants, pipes and pumping stations that supply water to households in the Orange area. Council is responsible for the water main up to and including the water meter.

Property owners are responsible for the backflow prevention device, pipe and taps from the water meter to your house. This means any repairs, replacement or maintenance costs associated with these pipes and fittings are the responsibility of the property owner. If they are damaged, you will need to contact a plumber to have them repaired.

If the property owner removes the water meter, damage or tamper with it, they will be charged the cost of the repair or replacement and labour by Council staff.

Any water meter, hydrants and stop valve covers on private properties should be clearly visible and easily accessible at all times. Property owners are also responsible for keeping the meter free from obstruction to let the water meter readers get easy access for reading and repairs. Property owners should not bury their water meter, or disguise them or building a wall or fence near them.

Insurance Matter

If damage has resulted from a burst water main or flooding or if there is the potential for damage to occur and the property owner have insurance cover, Orange City Council suggest the property owner contact their insurance company and ask for an assessor to visit immediately.

What if there is leaking water?

- If a property owner discovers a leakage, the property owner should turn off the stop tap on your meter and keep it turned off where possible.
- The property owner should determine where the problem is coming from. If it is on the Council side, the property owner should contact Orange City Council on 6393 8000 (business hours) or 1300 650 511 (after hours).
- If the leak is coming from the property owner's side, the property owner should contact a plumber.
- If the leak is in Council's water main, or the water is leaking between Council's water main and the water meter, Council will repair the leak.
- Any leaks from the water meter to the house, is the property owner's responsibility. They are responsible for phoning a licensed plumber to repair the internal water pipes.
- Council water mains are located on the roads.
- If the property owner or plumber is unsure as to where the water main and pipelines are located, it is best to contact Council, who will be able to show the property owner or plumber the locations of the main, meter and water services.

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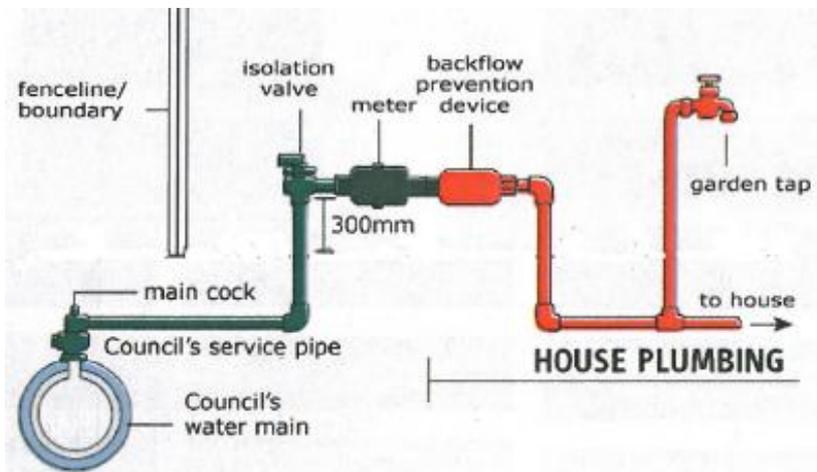
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Other Problems

- Wear and tear due to age and material of water services and mains
- Water hammering in ageing pipes
- Crushed or flattened pipes that have been damaged by movement of the sub-soil, penetration of rocks or by overlading the ground with retaining walls, building structures and vehicular traffic
- Accidental damage to or vandalism of the property's water service

Note: Nearly all Orange water meters are in the ground in a green water meter box, this is due to frost. Most backflow Devices should be above ground.



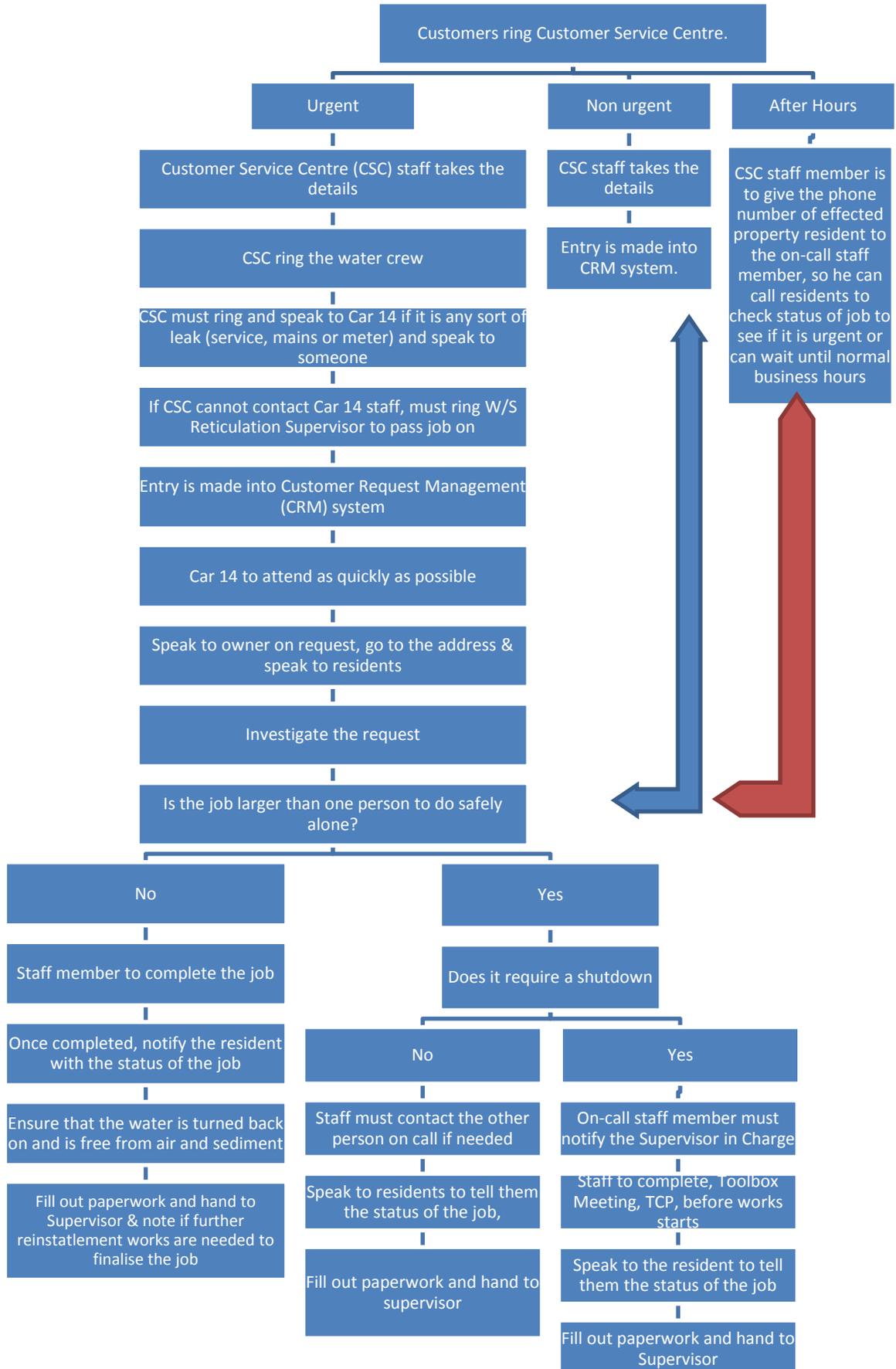
If the leakage is in the lateral/extension pipe between Council's water main and the first joint, then Council will repair the leakage.

If the leakage is the lateral/extension pipe between the property boundary and the property owner's water meter, then the property owner will need their plumber to repair the leakage.

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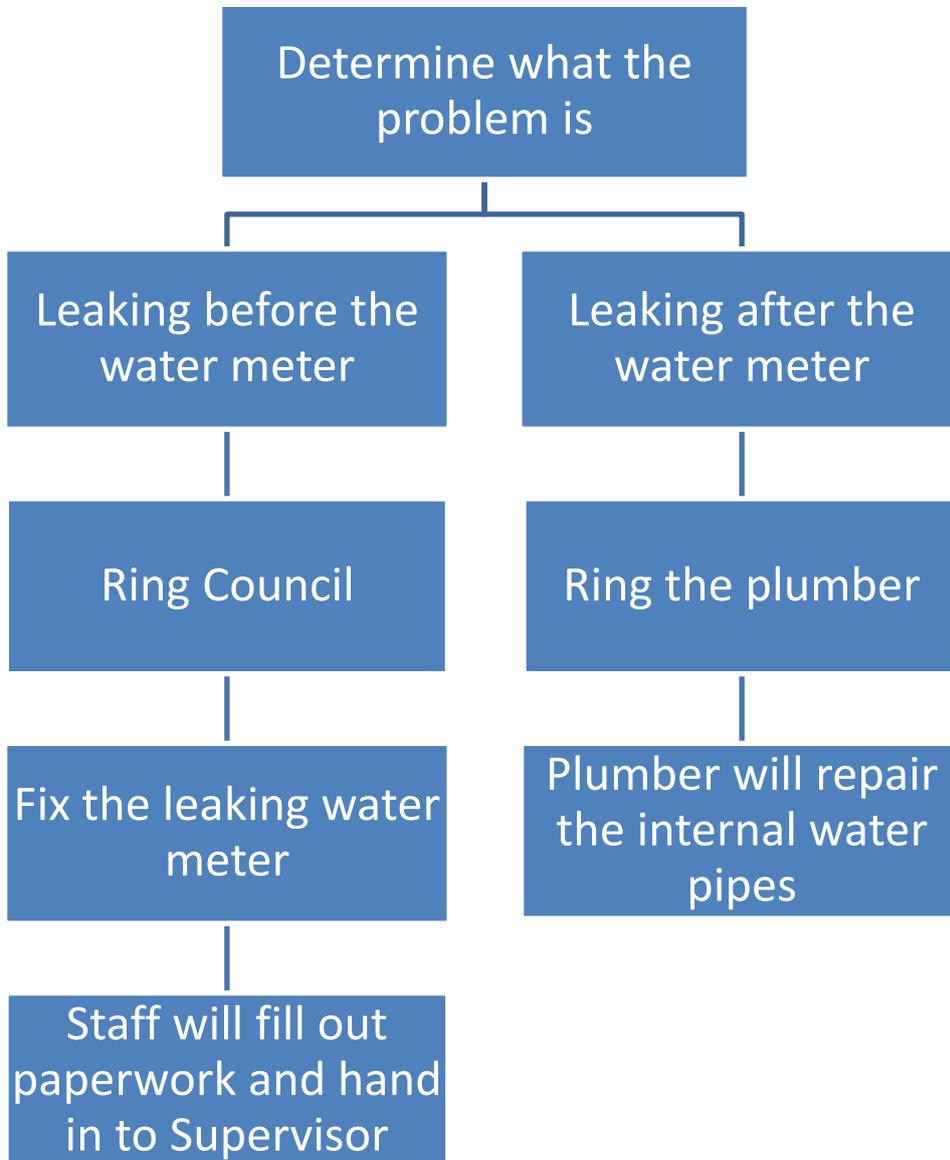
Council Response Process



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If the problem is on the customer's side.



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WATER QUALITY MANAGEMENT BACKFLOW PREVENTION

1. PURPOSE

To ensure that backflow prevention and testing is carried out to protect the potable water supply within Council's reticulation system, from real or potential hazards.

2. SCOPE

This procedure applies to buildings in the Orange Local Government Area which are connected to the potable reticulation operated by Orange City Council and is in accordance with Council's current policy.

3. PROCEDURE

Backflow generally occurs where there is a pressure differential between the water main and the property to the main. Backflow is the reverse flow of water or other liquids from a potentially polluted source into the town water supply. This can be caused by:

- 1 Back siphonage – where the pressure in the reticulation system becomes less than atmospheric, this causes water from connected properties to flow backwards into the town's supply
- 2 Back pressure – when the consumer's water pressure is greater than the pressure in the town's water supply.
- 3 Cross-Connection – is 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.

3.1 Materials

PPE: Hi-Vis uniform, safety footwear, hard hat, work gloves, disposable overalls.

Communication: on-call mobile phones, notification cards.

3.2 Location

This procedure applies to the Orange Local Government Area which includes the city of Orange, and villages of Spring Hill and Lucknow.

3.3 Frequency

The installation of backflow prevention devices will be ongoing as required.

3.4 Risk Assessment

The device required to be installed will be identified through the hazard rating as detailed below:

- *High hazard* - Any condition, device or practice within the water supply system and its operation, which has the potential to cause death. Owners of properties with high hazard ratings must install a registered break tank, reduced pressure zone device or registered air-gap.
- *Medium hazard* - Any condition, device or practice within the water supply system and its operation, which could endanger health. Owners of properties with a medium hazard rating must install a testable double check valve assembly as a minimum.
- *Low hazard* - Any condition, device or practice within the water supply system and its operation, which could constitute a nuisance but not endanger health. Owners of properties with a low hazard rating must install a non-testable backflow prevention containment device as a minimum.

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Where hazards are unknown for a commercial, industrial, or mixed development, the hazard rating will default to high, requiring the owner to install a testable backflow prevention device.

Council shall determine the hazard rating of the property to which the backflow prevention device is to be fitted (refer AS/NZS 3500:1 Section 4 table 4.1 and tables F1, F2, and F3). The following is a list of matters for consideration when determining an application for approval in addition to the statutory requirements:

- the protection of public health;
- the protection of the environment;
- the safety of its employees;
- the safeguarding of its assets;
- purpose for which the water will be used;
- rate of withdrawal of water; and
- any other matter considered relevant for each situation or site.

3.5 Council Role

Council installs low or medium hazard rated backflow prevention devices on all new 20 mm and 25 mm domestic services and are included in the service connection. All dual check valves for domestic use are non-testable. The dual check valves are installed in the water supply application process. The meter replacement program for residential water meters allows for older residential properties to be fitted with the dual check valve arrangement (medium to low risk category). All plumbers working on backflow prevention must be qualified to test backflow prevention devices.

Audits of new and existing commercial and industrial developments will be carried out by appropriately qualified Council staff. Existing industrial premises will be classified from high to low risk. Owners will be required to bring the premises to compliance. The owner is to bear the cost of any modifications required.

3.6 Property Owner

The property owner is responsible for installing, maintaining and annual testing (if required) of backflow prevention devices within their property in accordance with AS/NZS 3500:1. If activities being carried out on a property are upgraded or changed and represent a higher risk, it is the property owners responsibility to ensure compliance with AS/NZS 3500:1.

Where the property is identified to be high or medium hazard rated, it is the responsibility of the owner to ensure the correct devices are installed.

The property owner is responsible for ensuring a qualified licensed plumber completes all work and submits the required documentation to Council in a timely manner.

A Utilities (Water/Sewer/On-Site Sewage Management) application is required to be submitted to Council for the installation, removal or modification of any backflow prevention device and pay all fees and charges applicable. Council approval will be obtained before commencing work.

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3.7 Licenced Plumber

A licensed plumber must install all backflow prevention devices. Only a plumber with backflow prevention accreditation may commission, and test these devices.

A licensed plumber must submit the Certificate of Compliance for the device installation for medium and high hazard rated properties.

3.8 Testable Devices

Businesses considered to have a 'medium' and 'high' hazard rating require annual testing to ensure that they are operating correctly.

All testable devices must be registered with Council along with certification of testing on installation. Council will maintain a database of properties of all registered backflow devices. This database will be held in Council's Water Quality Management System.

All testable devices must be tested on installation and on an annual basis at the owner's expense and results forwarded to Council.

If a property owner repeatedly fails to install, repair, maintain, replace or test a backflow prevention device (as required by an issued notice), Council may restrict water supply until the property owner has complied with the notice. Council may disconnect the water service if Council believes that the hazard presented by the activities on the property presents an unacceptable risk to the water supply and charge a fee for the disconnection/reconnection.

3.9 Fire Services

Installations of single check valve assemblies are to be fitted separately to hydrant and sprinkler fire services. On separate hydrant and fire service at non-residential properties, the device shall be installed close to where the service crosses the property boundary prior to any booster assembly. A hydraulic design is required for the following fire service assembly:

- unit demand of 4 and greater; and
- 32 mm assemblies or greater.

All designs are to be submitted by a competent person (Code of Practice 2.2.8) with a Certificate of Compliance.

It should be noted that backflow prevention devices reduce pressure and shall be considered in the design process of fire services.

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3.10 Rainwater Tanks with Council Supply Back-up Connection

The NSW Health does not recommend consumption from rainwater tanks where a potable supply is provided. Council does not recommend the interconnection of rainwater tanks with potable or non-potable supplies. Where interconnection does occur, rainwater tanks are to have, as per the Code of Practice 2.2.9:

- a dual check valve as zone and containment protection if the tank is above ground; or
- a testable double check valve as zone and containment protection if fully or partially buried.

Where a partly or completely buried tank is to be installed, the potential for water contamination increases. A high hazard rated testable backflow prevention device must be installed to provide protection for the individual or zone hazard. The same degree of backflow protection is also required for containment protection.

3.11 Dual Water Supply

Properties that have both drinking and non-drinking water supplies are required to install an appropriate level of backflow prevention containment on both supply systems. The installed device shall be the same on both the drinking and non-drinking services.

3.12 Workplace Health & Safety

Before working on a water service, the metallic plumbing system must be tested with a quality multimeter (on the 240 volt alternating current range).

If the test reveals a voltage more than 5 volts alternating current and it is a constant value it is deemed a dangerous voltage. Voltages in the low range of 240 volts are also a serious shock risk. Plumber must call a licensed electrician to isolate supply and take appropriate action.

3.13 Legislation

This work instruction is based on the requirement for Orange City Council to comply NSW Office of Water Best Practice Management Guidelines for Water and Sewer (GUI221003), Plumbing Code of Australia (PCA), AS/NZS 3500:1, and the Local Government Act 1993.

AS/NZS 3500:1 Section 4 Cross Connection and Backflow Prevention – Where there is a risk of cross-connections to water supply installations, additional protection will be provided if required by the regulatory authority by the installation of supplementary containment, zone or individual backflow prevention.

Australian Drinking Water Guidelines 2011 – has been developed by the National Health and Medical Research Council (NHMRC) in collaboration with the Natural Resource Management Ministerial Council (NRMMC) to provide the Australian community and the water supply industry with guidance on what constitutes good quality drinking water.

Local Government (General) Regulation 2005 - Under this regulation, local government outlines and defines a Council's powers regarding the provision of water services.

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Local Government Act 1993 Section 124 Order 5 (h) – Under this Act, local government can take action as necessary to bring premises into compliance with relevant standards or requirements set or made by this Act relating to a water service or meter.

Plumbing Code of Australia (PCA) 2011 - new standard for all plumbing and drainage work in NSW. The PCA sets out performance requirements for the design, construction, installation, replacement, repair alteration and maintenance of plumbing and drainage installations.

The NSW Code of Practice for Plumbing and Drainage was replaced in 2012 by the Plumbing Code Australia (PCA) and the Committee on Uniformity of Plumbing and Drainage Regulations (CUPDR) was replaced by the Plumbing Advisory Committee (PAC) administered by NSW Office of Fair Trading.

Public Health Act 2010 – contains provisions relating to the safety and health risk associated with drinking water.

The Public Health Act 2010 (and the Public Health Regulation 2012) have new requirements for water utilities. Drinking water suppliers are required to develop and adhere to a 'quality assurance program' or Drinking Water Management System (DWMS) from 1 September 2014. Key requirement of a DWMS is for the Local Water Utility (LWU) to have in place an appropriate policy for backflow prevention. This is a structured risk-based approach to drinking water management and is considered an essential risk-based element of the Drinking Water Management Plan.

4. CRITICAL CONTROL POINT (CCP)

N/A

5. QUALITY CONTROL POINTS (CCP)

N/A

6. OPERATING RULES

N/A

7. MONITORING

N/A

8. MAINTENANCE AND CALIBRATION

N/A

9. REMEDIAL ACTION

N/A

10. DATA MANAGEMENT

Council maintains a database for all registered backflow devices (E:\Technical_Services\Water Quality Management System\Register\ REG221001_ Backflow Prevention Devices.xls)

11. REPORTING

N/A

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12. RESPONSIBILITIES

Water & Sewer Reticulation Supervisors	<ul style="list-style-type: none">• Ensure staff are suitably qualified
Manager Building and Environment	<ul style="list-style-type: none">• Ensure trained staff assess applications for plumbing and drainage works made under the Local Government Act
Water Management Officer	<ul style="list-style-type: none">• Ensure non-compliances are investigated• Ensure backflow prevention database is maintained

13. REFERENCES

- ST046 - Liquid Trade Waste
- Plumbing Code of Australia (PCA) 2011
- Australian Standard AS2845 Backflow Prevention
- GUI221010 Backflow Prevention and Cross Connection Control Guidelines (Water Directorate July 2013)
- GUI221003 Best Practice Management Guidelines for Water and Sewer (NOW, August 2007)
- GUI221004 NSW Code of Plumbing and Drainage (July 2006)