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Recycled Water Information and Guidelines 2021

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1. Introduction

This policy refers specifically to the Port Macquarie and Lake Cathie / Bonny Hills Recycled Water Schemes. Both drinking water and recycled water are supplied to properties within the new development areas of Lake Cathie/Bonny Hills (Area 14) and Thrumster (Area 13), as well as commercial customers in Port Macquarie. Recycled water is also used throughout the Local Government Area for irrigation of public facilities, unsealed road dust suppression and public toilet flushing. The use of recycled water is a nationally accepted approach to responsible water and environmental management and forms part of Council's commitment to water conservation.

The drinking water and recycled water are supplied in two separate networks, and each household or commercial user will have two independent water supplies and meters. All recycled water pipes, fitting and fixtures are identified by purple-colouring and/or purple-coloured markings and warning signage.

The recycled water is treated to a high level, to ensure the water quality meets the Australian Guidelines for Water Recycling (AGWR 2006) for dual reticulation supply. A multiple barrier treatment process is incorporated into the recycled water supply, which includes microfiltration, UV disinfection and chlorination. The provision of recycled water is a key objective of Council's Integrated Water Cycle Management (IWCM) Strategy, providing a sustainable resource to help secure water supply for the future. Residential connections to recycled water also receive BASIX (Building Sustainability Index) points towards a BASIX certificate, as implemented under the NSW Environmental Planning and Assessment Act

This procedure serves as the Agreement for Supply and Use of Recycled Water, for all recycled water users. The user accepts the terms and conditions of this procedure upon accepting recycled water to the property.

2. Aims

Port Macquarie-Hastings Council (PMHC) is providing recycled water to its customers with the aim to benefit the community as follows:

- ensure integrated and sustainable water resource management through fit appropriate resource substitution, reducing non-essential uses of potable water;
- reduce the amount of effluent discharged into the environment, thus protecting land, surface and groundwater resources, and public health and amenity;
- ensure optimum utilisation of the recycled water system;
- ensure safe and effective utilisation of recycled water;
- respond to current regulatory reforms, legislative requirements and state-wide changes in water management practice, environmental sustainability challenges and stakeholder objectives which ensure optimal water usage and maximum environmental benefit; and
- provide the terms and conditions for Agreement for Supply and Use of Recycled Water, for all recycled water users.

3. Supply of Recycled Water

Supply to commercial customers is determined on a case-by-case basis, and will be dependent on the availability of connection, the proposed use and the availability of supply.

When all recycled water users, commercial or residential, accept recycled water on the property via a metered connection and/or paying the usage account, the user accepts the terms and conditions of this Policy.

Agreeing and adhering to the terms and conditions set out in this procedure is mandatory for all users (and premise owners if different from the user) of recycled water.

The Property Owner owns and is responsible for maintain all pipes and fittings, between PMHC's recycled water system and the buildings and taps on the building. For more information on this Delineation of Responsibility, refer to section 1.2 of PMHC Water Supply Procedure 2021.

PMHC will supply a customer with recycled water to meet a customer's reasonable health and amenity requirements, except:

- in the case of planned or unplanned interruptions;
- in the case of severe drought or major operational difficulty;
- where PMHC is entitled to restrict or discontinue supply; or
- in the case of events beyond PMHC's reasonable control.

PMHC may cut off or restrict the supply of water to premises (refer *Local Government (General) Regulation 2005 - clause 144*), as outlined in section 1.3.4 of PMHC Water Supply Procedure 2021.

4. Recycled Water Quality

PMHC is committed to supplying high quality recycled water that consistently meets or exceeds the Australian Guidelines for Water Recycling (AGWR 2006), our customer's expectations, and regulatory requirements. To achieve this, in partnership with our customers, NSW Health, NSW Office of Water and other relevant government agencies, PMHC will:

- understand, maintain, implement and continuously improve a Recycled Water Quality Management System that is consistent with the AGWR 2006 and to the satisfaction of regulators;
- use a risk-based approach in which all potential risks to water quality are identified and effective measures are taken to minimise any threat to recycled water quality at all points along the delivery path from catchment to tap;
- manage water quality at every point from the source to the consumer;
- undertake accurate, timely, and meaningful monitoring and reporting to supply prompt and relevant information to our customers and regulators that supports confidence in our recycled water supply network;
- ensure effective incident and emergency response plans are in place, reviewed and performed as required;
- ensure all staff and contractors involved in the supply of recycled water are aware of the importance of maintaining water quality at all times, including the provision of regular water industry training and qualifications in these areas;
- welcome customer feedback on water quality issues and respond effectively to meet customer concerns and needs;
- engage in the development of industry regulation and guidelines, and undertake targeted research and development aimed at better understanding and improving recycled water quality;
- use a Total Water Cycle Management approach to identify issues and inform long-term planning and strategising;
- continually review and improve our work practices by assessing the performance of our water supply against criteria including the AGWR 2006, whilst always considering our customers, our regulators, and our business drivers;
- incorporate stakeholder needs into our recycled water quality planning and management activities; and
- maintain effective disinfection of the recycled water supply distribution system,

PMHC has adopted a risk-based management approach to the management of recycled water quality and as such has adopted the following principles for the supply of recycled water, and in accordance with the AGWR:

- Protection of public and environmental health is of paramount importance and should never be compromised
- Protection of public and environmental health, dependent on the implementation of a risk-based management approach
- Application of preventative measures and requirements for water quality should be commensurate with the source of the recycled water and the intended use

5. Permissible Uses

Permissible uses for Recycled Water have been determined by PMHC in accordance with NSW Regulatory requirements and the Australian Guidelines for Water Recycling (2006).

Recycled water that is supplied to residents through the dual reticulation system can only be used for the following purposes:

- Toilet flushing
- Cold water washing machine tap
- Irrigating gardens and lawns
- Filling ornamental ponds
- Washing cars, pathways and walls

Recycled water supplied for Council managed facilities and commercial customers has been approved for the following purposes:

- Toilet flushing
- Laundry / clothes washing
- Irrigating public gardens, open spaces and sports facilities
- Dust suppression
- Amenities wash down
- Vehicle washing and detailing
- Irrigating crops
- Wash down of hardstand and paths
- Site services wash water at Councils Wastewater facilities

Recycled water **cannot** be used for the following purposes:

- Drinking
- Cooking or other kitchen purposes
- Baths, showers, hand basins or personal washing
- Filling of Swimming Pools
- Water contact recreation (for example, playing under a sprinkler)
- Topping up of rainwater tanks

6. PHMC and User/Owner Responsibilities

6.1 PMHC Responsibilities

It is the responsibility of PMHC to:

- install, maintain and repair the recycled water system up to and including the recycled water meter

- use all due care and diligence to ensure, to the best of their ability, that recycled water is of a quality that meets appropriate guidelines and that the supply is uninterrupted, except during times of maintenance and/or emergency situations
- monitor, record and report on the quality and quantity of recycled water supplied to the User in accordance with PMHC's sampling and testing protocol and regime
- carry out inspections of Owner/User premises at various stages including at the time of new installations (i.e. prior to connection to the recycled water supply), every five years or at the request of a customer
- ensure management systems are in place to maintain and repair the recycled water network as required
- provide recycled water that meets or exceeds the standards outlined in the Australian Guidelines for Water Recycling
- monitor the quality of recycled water in the network and report these results to Regulators
- inform and educate customers about the uses and benefits of recycled water
- independently audit all dual reticulated properties as required by the NSW Department of Primary Industries. All outlets for drinking and recycled water services are to be checked for cross-connections during these audits, and
- respond to customers reporting plumbing compliance issues by organising a site investigation to be performed.

6.2 User/Owner Responsibilities

It is the User/Owner's responsibility to:

- accept and adhere to this policy upon accepting recycled water to the property
- use recycled water in accordance with this procedure and the PMHC Water Supply Procedure and Water Conservation and Drought Management Procedure.
- ensure any works on private recycled water systems, including pipework, are:
 - carried out in accordance with AS3500 and the *NSW Code of Practice Plumbing and Drainage 2006*;
 - designed and installed to prevent any cross-connections between the potable and recycled water systems; and
 - ensure all work and maintenance on the recycled water system is undertaken by a NSW Licenced plumber
- seek Section 68 Approvals from PMHC prior to any changes or additions to either potable or recycled plumbing or systems on site
- ensure recycled water is used only for suitable purposes
- advise anyone entering your property that recycled water is on site and of its correct uses
- ensure recycled water taps are not removed or replaced with conventional taps (may increase the potential risk for misuse of recycled water and result in a health risk to the customer)
- ensure approved signage is displayed at all recycled water outlets, and any missing, damaged or faded signage pertaining to recycled water is replaced or repaired immediately
- ensure all recycled water fixtures are compliant with conditions in this procedure
- allow access to PMHC staff for the purposes of meter readings, inspection, maintenance and emergency situations
- maintain recycled water pipes and taps in the home or business, up to the outlet side of the water meter.
- ensure that no cross connections are made between recycled water and drinking water systems. Cross connection means connecting drinking water pipes, taps or hoses to recycled water pipes, taps or hoses. Appropriate purple accessories including hoses and sprinklers should be used to connect to the recycled water network.

In addition to the above, Commercial Users shall also be responsible for:

- prepare, implement and comply with the conditions of the approved *Site Management Plan*

- ensure all people who could potentially handle the recycled water and associated infrastructure are appropriately trained and briefed on the safe use of recycled water, and are familiar with PMHC's Recycled Water Policy and, if applicable, the appropriate sections of the *Site Management Plan*
- take out and maintain public liability insurance and workers' compensation.

7. Connecting Recycled Water

Under the Local Government Act 1993, the prior approval of Council is required for any plumbing work involving water supply or recycled water systems and the work must be carried out in accordance with the NSW Code of Practice Plumbing and Drainage 2006. Before the commencement of any plumbing work on dual reticulated premises, builders, property owners or their nominated agents must submit a Section 68 Application under the Local Government Act with Council with the relevant council fees.

All commercial user Section 68 applications submitted to PMHC's Development and Environment Department with proposals for dual plumbing arrangements and use of alternative water sources, are to be referred to the Water and Sewer section, prior to the issuing of the approval.

Council encourages all residential areas that have a water service in designated dual reticulated areas to be connected to both supplies.

The installation of drinking and recycled water services is to be executed by, or supervised by, a license plumber in a usual manner in accordance with the NSW Plumbing and Drainage Act (2011), Plumbing Code of Australia, Australian/New Zealand Standards (AS/NZ) 3500.

7.1 Connection of Commercial User

Where the uses differ substantially from domestic uses of the applicant is responsible for non-domestic infrastructure (pumps, water mains etc) or Non-Treatment Barriers are required, then the plumbing requirements shall be determined by Council on application and will be reinforced through an individual Site Management Plan (binding legal document between user and Council).

For further details on PMHC procedures for applying for and implementing a water connection, refer to Section 2 of PMHC's Water Supply Procedure 2021:

Commercial users will be required to prepare, implement and maintain a *Recycled Water Site Management Plan* to demonstrate acceptable practices for the safe and efficient use of recycled water. PMHC staff can assist in the initial preparation of a Site Management Plan if required. This plan is required to be approved by Councils Water and Sewer Planning Section, prior to approval for connection.

The *Site Management Plan* shall include:

- site details with appropriate maps
- accurate plans of all on-site plumbing (for potable and recycled water)
- specified uses and application of recycled water on-site
- times for recycled water use, if required
- run-off controls and stormwater management
- WHS policy/provisions for the use of recycled water
- on-site handling of recycled water
- maintenance of the recycled water system,
- auditing, monitoring and reporting requirements, and
- emergency response requirements.

Council regularly audits end users to ensure compliance with these conditions and reserves the right to cease supply of recycled water if a user is found to be non-compliant. End user awareness maintained through regular contact with the users and an annual review of the Site Management Plans.

7.2 Connection to Dual Reticulation in Residential areas

Where a recycled water connection has been requested, Council will install both the drinking water meter and the recycled water meter within the property. The meters will be positioned together in one corner of the property that fronts the street. For details on PMHC procedures for applying for and implementing a water connection, refer to section 2 and 3 of PMHC's Water Supply Procedure 2021.

The purple coloured recycled water meter will be installed beside the drinking water meter with approximately 300mm separation distance between the two meters. Like the drinking water meter, the recycled water meter will be installed above ground.

The recycled water meter coupling threads are different to those on the drinking water meter to prevent interchange of the meters.

7.3 Household Plumbing

When carrying out plumbing in the dual water supply area, it should be remembered that the intention of the dual water supply is to conserve our drinking water resources by maximising the use of recycled water

7.3.1 Drinking Water Supply Plumbing

- In a dual water supply area, drinking water plumbing shall be connected as follows: Drinking water must not be connected to toilets and cold water washing machine tap
- One and only one drinking water outdoor tap must be provided (complete with hose connection vacuum breaker). The single outdoor tap must be located nearest to the swimming pool, if a swimming pool has been installed or must be relocated if a pool is contracted afterwards.
- Drinking water piping must not be installed within 100mm above ground or 300mm below ground of any parallel recycled water plumbing
- No cross-connections between drinking and recycled water supply systems are permitted at any point in the system

A strata/body corporate or similar style development may have one or more additional outdoor drinking water taps in common use areas depending on the nature of the proposed uses from those taps, to be approved by Council on a case-by-case basis. There must be one tap per dwelling/water meter, which allows for two taps for dual occupancies, secondary dwellings and the like, but does not apply in units and apartments that have no outdoor fixtures.

7.3.2 Recycled Water Supply Plumbing

In a dual water supply area, drinking water plumbing shall be connected as follows:

- Fixtures and fittings above and below ground must be clearly and permanently marked and labelled with Recycled Water – DO NOT DRINK in accordance to the Australian/New Zealand Standards (AS/NZ 3500).
- Any underground recycled water pipeline must not be installed within 300mm of a parallel drinking water supply pipeline. The pipes may be laid in the same trench provided the 300mm separation is maintained. This separation can be reduced to 100mm when the pipes are located above ground.
- Above ground recycled water hose taps must be lilac in colour, have approved fittings with left handed threads on the outlets and have removable handles as per AS/NZ 3500.
- Dual reticulated properties must have at least one external recycled water tap but can have as many more than one as desired.

- All toilets and cold water washing machine taps must be connected to the recycled water supply line.
- If grey water is captured on a dual reticulated property it can only be re-used for outdoor purposes and in accordance with the NSW Guidelines (as applicable). No cross connections between grey water supply and recycled water supply are allowed.
- If a rain water tank is installed on the property the rainwater supply shall be independent and have no interconnection or top up device from the drinking water or recycled water supply. Rainwater can only be used for outdoor purposes, including pool-filling and top up and tanks may only have one outdoor tap.

7.4 Inspections

New development inspections will be carried out to ensure that proper plumbing standards are maintained. In dual water supply areas these inspections incorporate special requirements that apply to those areas. In addition, ongoing inspections will occur in dual water supply areas to ensure that the two water supplies are used for their intended and approved uses.

7.4.1 Plumbing During Construction

Three separate inspections must be completed by Council's Building Services after each of the following stages;

Inspection 1 – Front of house run (meter to house)

Inspection 2 – House internal & external

Inspection 3 – Final inspection, all pipework exposed and prior to internal wall cladding to include watermain isolation and service verification

All inspections must be carried out by an authorised Council representative and cannot be conducted by private accredited certifiers. The inspections are carried out to ensure that usual proper plumbing standards are maintained and that the special dual water supply requirements are being adhered to. It is an important measure to protect public safety that occupation of a dwelling does not occur until a satisfactory inspection has occurred after the final commissioning and testing stage of works.

7.4.2 Ongoing Inspection

Ongoing cross connection inspections will be conducted by at least once every five years on every dual reticulated residence. The inspections will be carried out systematically by Council at no cost to the property owner (unless a cross connection is detected.)

If a cross connection is identified during the mandatory inspection, the owner will be responsible for having the problem rectified by a licensed plumber and also for paying Council's costs in inspecting and retesting the plumbing during and following remedial work. In addition, repairs / replacements required as a result of minor non-conformances not related to a cross connection are the responsibility of the owner to rectify, for example, non-compliant and or poorly identified signage, fittings and markers.

Home owners are encouraged to undertake cross connection checks using the seven step cross connection check for dual water supply properties, as detailed on PMHC website.

It is the responsibility of the owner and resident to inform all visitors of the correct use of recycled water.

8. Recycled Water Tariff

The two-tier structure of the recycled water Tariff matches that of the potable water Tariff (see Item 3.1 The Water Supply Tariff).

Similarly, the recycled water charges that apply are determined each year through the Operations Plan process in accordance with the Local Government Act 1993.

For individual residential customers provided with both a water meter and recycled water meter a combined water 'Access Charge' (\$/pa) will be applied with an equivalent annual cost to the adopted Water Supply Tariff annual 'Access Charge'.

Recycled water usage will be measured through the recycled water meter and the 'Usage Charge' (\$/kilolitre) will be equivalent to the adopted Water Supply Tariff 'Usage Charge'.

A combined water and recycled water 'usage threshold' of 270kL for a 20mm meter will apply, being the design quantity for an average residential house.

In areas provided with a dual water supply, the threshold will be 135kL each for the potable and recycled water services.

The annual 'Access Charge' for non-residential recycled water customers will be based upon the recycled water meter size.

The 'usage threshold' for non-residential recycled water customers will be based upon the recycled water meter size or the 'capacity' the customer initially bought through Developer Charges.

The Usage Charge and annual Access Charge are currently set at 50% of the charges applicable for potable water for commercial and business customers connected to the Port Macquarie Recycled Water Supply Scheme. These charges will also cover the cost of annual testing of the backflow prevention device installed by PMHC on the User's potable water meter. This is a temporary special incentive arrangement to encourage existing non-residential water customers within the Port Macquarie urban area to convert to the use of recycled water to reduce the demand upon the water supply network. The pricing/charging will be reviewed as the recycled water network expands.

9. Billing

PMHC will issue water accounts which outline the recycled water that is supplied to a property, the resultant Usage Charge, and the recycled water service Access Charge.

Residential customers will be sent an account on a quarterly basis, unless otherwise agreed. Commercial customers with high water usage may be sent an account on a monthly basis.

The User will be required to pay the recycled water bill under the same terms and conditions as the potable water bill, outlined elsewhere in this document.

10. Policy Implementation

This Policy together with the Agreement for Supply and Use of Recycled Water and the Recycled Water Site Management Plan form the implementation framework for the supply and use of recycled water in Port Macquarie-Hastings local government area and are part of the approval conditions required under Section 60 of the Local Government Act 1993.

11. Recycled Water Documents

The current documents that detail the use of recycled water and the operation of PMHC's Recycled Water Scheme include:

- Community Education and Awareness Plan
- Emergency Response Management Plan
- Site Management Plan
- Recycled Water Quality Management Plan
- Recycled Water Annual Report
- Sec 60 of the *Local Government Act 1993*.

12. Recycled Water Disconnected from Property

Disconnection from the recycled water scheme (and subsequent reconnection to the potable water system) will be considered on a case-by-case basis and in accordance with NSW Health requirements.