The supply of high quality recycled water sourced from Cairns wastewater treatment plants is being made available to suitable new housing developments in the Cairns Regional Council area. The recycled water will be supplied via a separate reticulation network, for non drinking purposes, for use in homes, businesses and for irrigation of public parks and gardens.

This guide provides important information for licensed plumbers installing recycled water services to new housing developments and also includes information for homeowners on the use of recycled water. It aims to ensure the proper installation of the recycled water service to homes and provide a clear guide for the safe use of recycled water in new housing developments. 

Copies of this guide can be downloaded from www.our.cairnswater.com.au

Recycled Water Information

Recycled water is water which has been sourced from wastewater treatment plants and has been treated to a level suitable for its intended use. Recycled water is now commonly used for a number of non drinking purposes across Australia and is recognised as an important alternative source of water.

Class A+ recycled water, as specified in the Water Quality Guidelines for Recycled Water Schemes, Queensland Government, Natural Resources and Water, November 2008, is the highest quality of recycled water that can be used for non-drinking purposes. Class A+ recycled water may be made available in some new developments where properties will be supplied, via a dual reticulation system, with one water main for drinking water and one water main for recycled water. In most cases the recycled water is used in the home for toilet flushing and for outdoor use.

In new housing developments, if recycled water is available via a dual reticulation system to homes, this is deemed as an acceptable solution under the Queensland Development Code MP 4.2, Water Savings Targets.
Recycled water must be managed differently from drinking water

The recycled water system must have very distinctive features to make it easy to identify and be easily distinguishable from the drinking water system. This guide outlines those distinctive features to ensure recycled water services are correctly installed. The main objective is to ensure the recycled water service cannot be accidentally interconnected to the drinking water supply within the property.

On completion of the work, the plumber will be required to notify Cairns Regional Council Water and Waste and an inspection will be undertaken before commissioning the recycled water service to:
- Ensure there is no interconnection between the recycled water service
- Ensure recycled water is only supplied to toilets and garden taps

Class A+ Recycled Water – What can it be used for?

✓ Class A+ recycled water supplied by Cairns Regional Council is approved for the following uses:
  ✓ Watering gardens
  ✓ Toilet flushing
  ✓ Car and boat washing
  ✓ Washing of houses and hard surfaces (external)
  ✓ Filling ornamental water features and ponds not used for swimming
  ✓ Fire fighting

✗ Class A+ recycled water supplied by Cairns Regional Council MUST NOT be used for the following:
  ✗ Drinking (human or animal consumption)
  ✗ Cooking or other kitchen purposes
  ✗ Personal washing such as baths, hand basins, showers or bidets
  ✗ Evaporative coolers
  ✗ Indoor household cleaning
  ✗ Swimming pools and spas
  ✗ Recreational activities involving water contact e.g. playing under sprinklers
Recycled Water Main:
- Recycled water will be delivered to properties by a system of dedicated mains

From main to meter:
Two water service pipes will enter the property:
- The service pipe for recycled water will be a purple colour in accordance with AS 2700 being no darker than P24 jacaranda or P12 purple and no lighter than P23 lilac
- The service pipe for drinking water supply will not be coloured lilac/purple
Water meter assemblies:
The recycled water meter assembly is purple in colour. The meter will be fitted above ground in the position determined by Cairns Regional Council.

New Water Supply Connections:
To connect to the recycled and potable (drinking) water mains, an application for dual water meter installation is required. Once the appropriate fee and forms have been lodged Cairns Regional Council Water and Waste will endeavour to install both the recycled and potable (drinking) water meters within 14 days.

Water pressure in the recycled water main will be slightly less than the pressure in the drinking water main. The recycled water meter assembly includes a 350kPa pressure limiting device. This may impact on the pressure of water for irrigation systems connected to the recycled water system. Irrigation systems need to be designed for the pressure in the recycled water system. Cairns Regional Council guarantees a minimum water pressure at the property boundary of 220kPa.

On the Property

- A compliance permit must be received before commencing works
- All plumbing work within the property, including recycled water plumbing, is to be undertaken by a licensed plumber
- All pipe work and products used in the installation of recycled water services shall comply with AS/NZS 3500.1:2003. The service pipe for recycled water will be a purple colour
- Under no circumstances is there to be interconnection between the recycled water service and the drinking water services
- All recycled water pipes and outlets must be coloured purple, in accordance with AS 2700, and be marked with the following - RECYCLED OR RECLAIMED WATER – DO NOT DRINK
- All buried pipes must have identification tape installed on top of the recycled water pipe, running longitudinally and fastened to the pipe at no more than 3 metre intervals for the full length of the pipe. The identification tape must be purple in colour and marked:  

DANGER - RECLAIMED RECYCLED WATERLINE BURIED BELOW DO NOT DRINK
• For pipes below ground there must be a 300mm minimum separation between the recycled water pipe and the potable water pipe
• For pipes above ground there must be a minimum separation of 100mm between the recycled water pipe and the potable water pipe

Hose taps and other outlets

All recycled water hose taps must comply with the following:
• They shall have a 5/8th inlet and a normal outlet
• They shall be coloured purple and have a removable handle
• At rough-in stage, the provision for recycled water hose taps shall be a 5/8th thread to allow installation of the 5/8th inlet recycled water hose taps at fit off time
• They shall be clearly marked with either a ‘warning sign’ or ‘prohibition sign’ in accordance with AS3500.1 section 9.5.2.3
• All other recycled water outlets must be clearly marked with either a ‘warning sign’ or ‘prohibition sign; sign in accordance to AS 3500 sections 9.5.2.3 and 9.5.2.4
• Recycled water must be connected to a minimum of two hose taps, one at the front of the dwelling and one at the rear. For duplex dwellings there must be a minimum of two hose taps on each for each unit (a total of four minimum on the building
• All dwellings must have a minimum of one potable hose tap. For attached or detached duplexes there must be one potable hose tap for each dwelling
• All other installation requirements of AS/NZS 3500.1: 2003 section 5, Installation of Cold Water Services also apply
• Upon completion of the work the plumber is to request a final plumbing inspection by Cairns Regional Council Water and Waste. The plumbing contractor is to be present at the time of the final inspection. A compliance certificate will be issued on request
• Alteration to the existing recycled/drinking water connection including the water meter will require an application to Cairns Regional Council
Checking for cross connections

The following steps must be undertaken to ensure that the plumbing has been connected properly and that there is no cross connection between the recycled water service and the drinking water service. This check list is based on recycled water being connected to external hose taps and for toilet flushing.

1. Turn off the drinking water supply to the property at the drinking water meter. The recycled water supply is to remain on
2. Turn on all sink, laundry trough, bath and shower taps (both hot and cold) one by one. All taps should run dry after a short period of time
3. After taps have run dry, flush all toilets. The toilets should refill as normal, provided they are connected to the recycled water service
4. Turn on all outside taps. The external drinking water tap should run dry. Taps that continue to run are connected to the recycled water service and should be clearly identified with appropriate warning signs
5. To check appliances in the home such as dishwashers and washing machines, turn off the recycled water service and turn the drinking water supply back on. Run the recycled water service dry via the outside taps or toilet flushing
6. Turn on the internal appliances. If the appliances do not fill, they are connected to the incorrect supply
7. Turn the recycled water service back on at the meter. Turn on the tap connected to the recycled water service that is located furthest away from the meter
8. Turn the tap back on slowly so that all air will be purged from the pipeline while it is being charged

For more information and fact sheets on recycled water use contact Cairns Regional Council on phone: (07) 4044 3044, fax: (07) 4044 8228 or email: council@cairns.qld.gov.au