Townsville City Council's Recycled Water Re-use Scheme

15ML of water per day will be recycled for re-use.

(That's about 6 Olympic sized swimming pools of water!)

The Recycled Water Re-Use Scheme is a key element of Townsville City Council's 3-point water security solution.

Council's 3-point water security solution includes:

1. The new 1.8-metre diameter duplicate pipeline
2. A recycled water re-use scheme for community spaces and industrial use
3. Water Smart Package

The Scheme will use high quality treated waste water from the Cleveland Bay Purification Plant. This will be transported through a new network of pipes to irrigate and beautify some of Townsville's large commercial users, schools, sporting fields and community parklands.

This project will enter into an arrangement with a technology provider to build, own and operate a suitable advanced water treatment plant to deliver the high-quality Class A+ water around the city.

The Scheme will benefit the local environment and economy whilst helping Townsville City Council to become a more sustainable water provider.

The Queensland Government provided $225 million to Townsville City Council to improve water security in Townsville.

Frequently Asked Questions

What is the difference between potable and non-potable water?

Potable water is water that is safe to drink, use for food preparation or bathing. Non-potable water is water that as unsafe for human consumption and is not of drinking quality. It is still safe to be used for other purposes such as irrigation, washing of buildings, roads and footpaths, toilets and some industrial and manufacturing processes.

Is the water safe?

Class A+ recycled water (non-potable water) is very safe but not suitable for drinking. It can be used for outdoor hosing and washing down, above ground irrigation and garden watering, irrigation of food crops, industrial water uses, firefighting and toilet flushing. It's suitable for use on all other applications for lesser classes of recycled water such as irrigating pasture/fodder and agricultural wash-down.

Who classifies Class A+ water?

Classification of all recycled water is determined by the Queensland Government Department of Natural Resources, Mines and Energy and Health Department. It is the highest classification for recycled water.

How will the water treatment system be set up to maintain a safe supply of recycled water?

- Sampling and monitoring the water quality at the point of use.
- Signage that recycled water is being used.
- Risk assessment and pipe surveys to ensure there is no cross connection with potable water.
- Modelling of the soil make-up at each customer site has been undertaken to understand soil absorption levels. This will ensure no environmental run off and that the water is applied at a rate that will not cause pooling on the ground.
- Smartmeter controllers that will ensure the water is not used during rain events, high winds and when the soil is already saturated.
- Customers will have specific obligations in user agreements to meet Council's Recycled Water Re-Use Policy.

What measures are in place to ensure there are no leaks of recycled water?

The Scheme will be managed and monitored by highly qualified personnel who continuously monitor the integrity of the recycled water pipe network.

Council will implement a program of sampling to ensure the water quality is consistent with the Queensland Government requirements and standards.

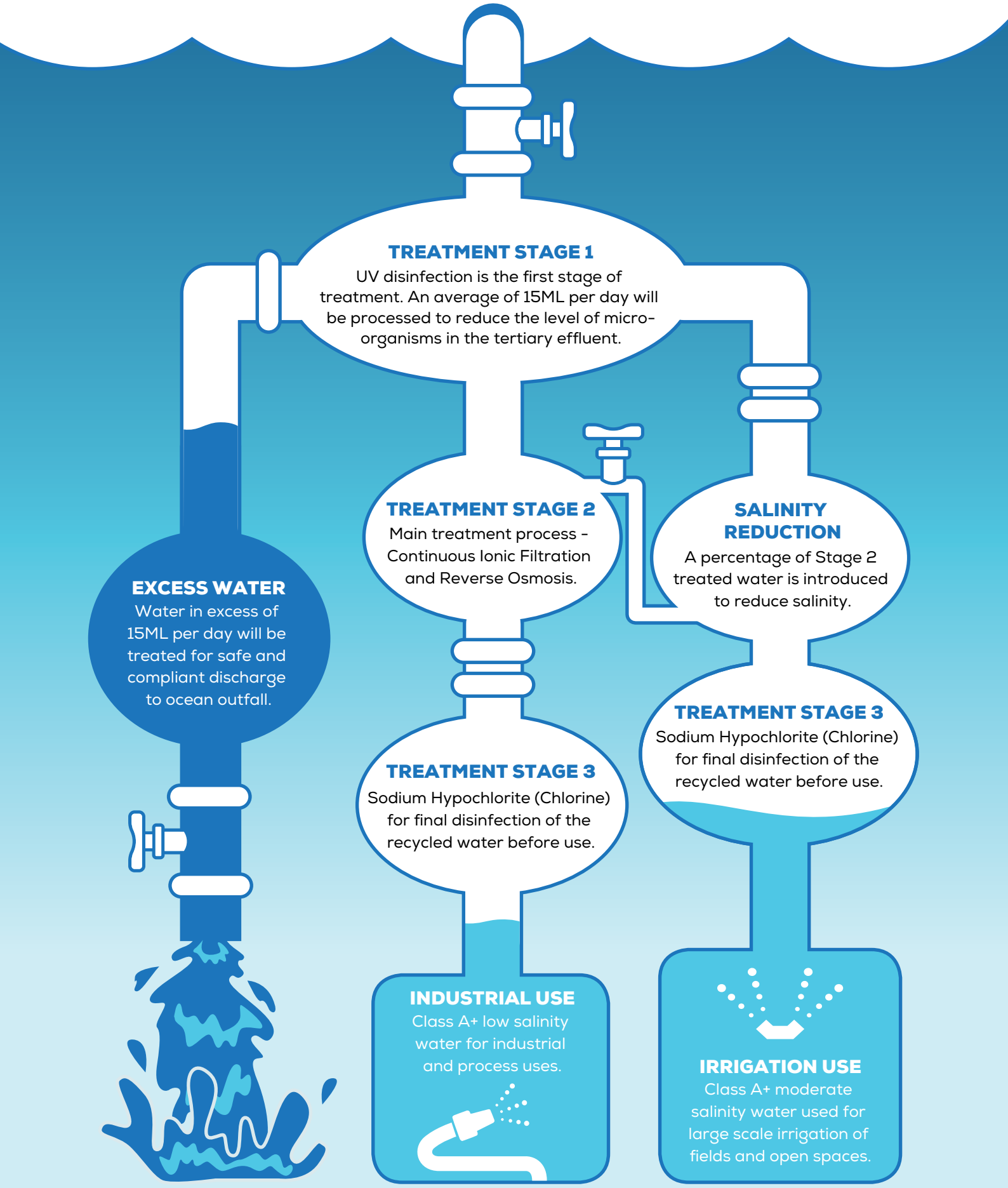
Is there an Australian Standard that Council is abiding by?

Yes, the Australian Recycled Water Guidelines can be accessed online using the following links

https://www.waterquality.gov.au/guidelines/recycled-water

http://www.awa.asn.au/Documents/water-recycling-guidelines-health-environmental-21.pdf

Tertiary Effluent from Cleveland Bay Purification Plant



Frequently Asked Questions

What will be the regular quality control procedures and who will regulate and maintain?

Council will implement a testing program to carry out sampling on a regular basis. The recycled water guidelines provide recommendations for sampling and outline how Council will react and respond if water is out of specification. Council is monitored and regulated by th Queensland Department of Natural Resources, Mines and Energy and Health Department who will review sample results and compliance to the recycled water guidelines.

What technology is used to recycle the water?

- UV sterilisation – Provide initial reduction of bacteria within the waste water prior to the next stage of treatment.
- Continuous ionic filtration – A pre-treatment stage to reverse osmosis (RO) to get the maximum performance and efficiency from the RO process.
- Reverse osmosis – Further purify the water and reduce the salinity in the irrigation water.
- Chlorination – Provide final disinfection of the irrigation water and to comply with the recycled water guidelines.

Where will the water be used?

NQ Stadium, Murray Sporting Complex, Townsville Golf Course, Townsville Turf Club, Palmetum, JCU, Lavarack Barracks and schools, parks and open spaces in the southern suburbs of the city will have the opportunity to source and use the recycled water.

How will I know where the water will be used?

As part of the Recycled Water Re-Use Policy, all participating premises will display signage where recycled water is being used.

Are there other places in Australia or the world where this technology is being used? Why was this method chosen?

Reverse osmosis, UV sterilisation and chlorination technologies are used worldwide for potable and nonpotable water treatment.

There are recycled water schemes in operation across Australia. The Gold Coast has several schemes that supply recycled water to schools, golf courses and racecourses (horses). There are also other schemes in NSW and VIC that supply to sporting venues.

How much water is a ML?

A Megalitre (ML) is equal to one million (1,000,000) litres. A standard Olympic-size swimming pool contains 2.5 ML

Why do we need to recycle water and what will be the benefits (monetary and environmentally) to the Townsville community?

15ML per day of water will be recycled for re-use, meaning 15ML per day of potable water is saved for human consumption and drinking. Environmentally it means we are reducing the amount of water to be removed from natural areas and catchments areas and reduce the impact on the supply of drinking water.

Reducing the consumption of potable water by 15ML a day will mean Council expenditure to upgrade and expand water treatment facilities can be delayed, saving the community millions of dollars.

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