

GoldCoast Waterfuture

Recycled Water in Pimpama Coomera

As Gold Coast Water plans for the future, all new properties in the Pimpama Coomera region will receive Class A+ recycled water for toilet flushing and external use from late 2008. This is part of a plan to reduce Pimpama Coomera’s reliance on precious drinking water supplies by up to 84 per cent.

CLASS A+ RECYCLED WATER

Under the award winning Pimpama Coomera Master Plan, all new homes and businesses in the Pimpama Coomera region of the Gold Coast have two separate pipe networks supplying their water. This means they are connected to both the potable (drinking) water network and the new Class A+ recycled water network.

Recycled water can be treated to various qualities depending on how it will be used. Class A+ recycled water is safe for use in a suburban environment and will be available to the Pimpama Coomera community for activities such as flushing toilets, watering gardens or washing cars from late 2008.

Class A+ recycled water will be highly treated at two new treatment plants being constructed in Pimpama. Rigorous treatment, monitoring, testing and quality assurance systems will be put in place to ensure the water meets environmental and health guidelines.



Class A+ recycled water will be provided through purple pipes and fittings for external uses and toilet flushing

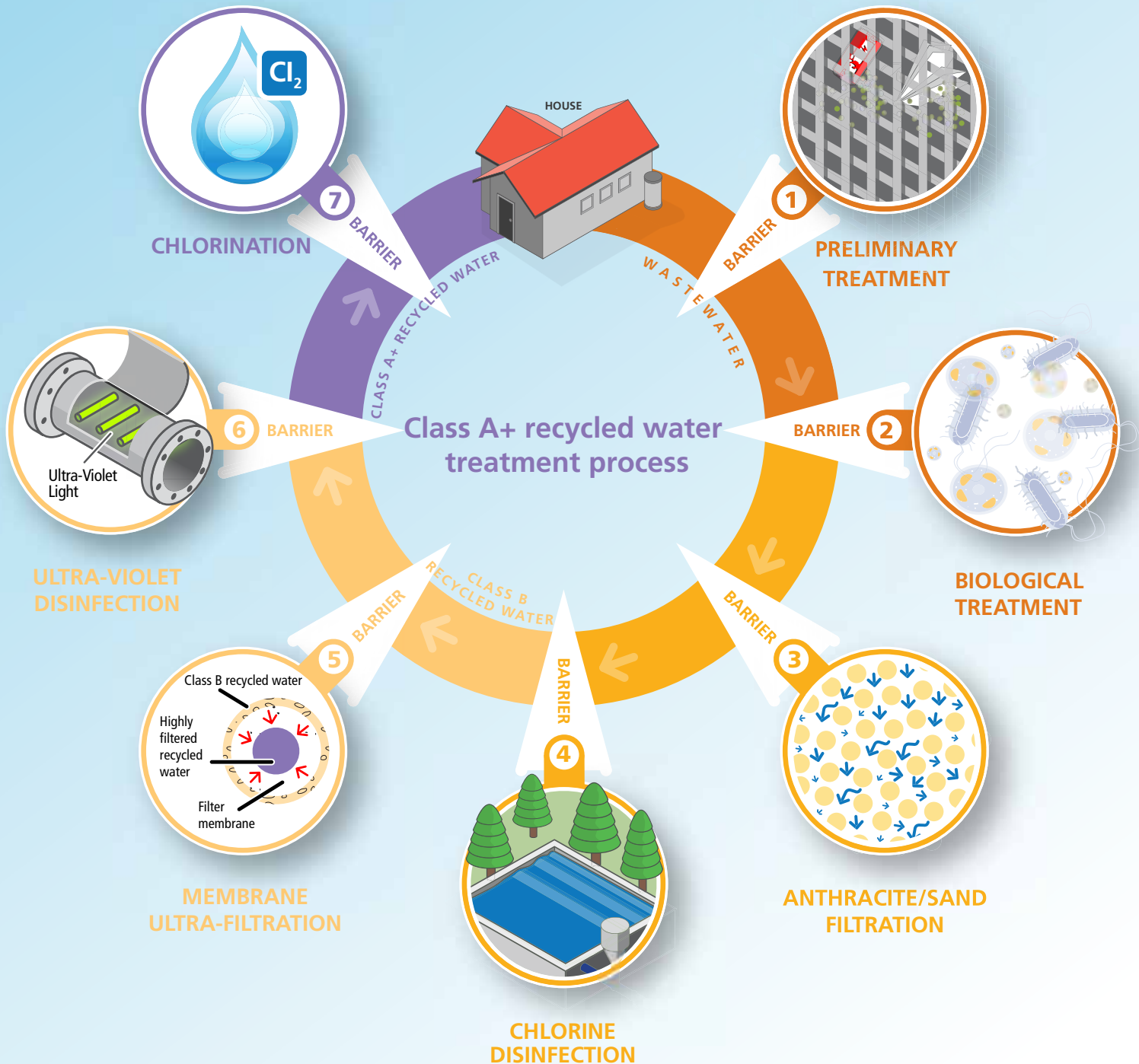
USES FOR CLASS A+ RECYCLED WATER IN PIMPAMA COOMERA

Class A+ recycled water is Queensland’s highest quality recycled water not intended for drinking. The following table lists those activities Class A+ recycled water can and should not be used for:

CLASS A+ RECYCLED WATER CAN BE USED FOR:	CLASS A+ RECYCLED WATER SHOULD NOT BE USED FOR:
<ul style="list-style-type: none"> ■ Toilet flushing ■ Garden watering and irrigation ■ Filling ornamental ponds ■ Car washing ■ Fire fighting ■ Construction and building purposes ■ Dust suppression ■ Irrigation of food crops ■ External household cleaning 	<ul style="list-style-type: none"> ■ Drinking ■ Cooking or other kitchen purposes ■ Personal washing ■ Evaporative coolers ■ Clothes washing

What about Purified Recycled Water? The Queensland Government is working on a plan to produce Purified Recycled Water. Class A+ recycled water is different to Purified Recycled Water and will be used for different purposes. If you have any questions about Purified Recycled Water please direct all enquiries to the Queensland Water Commission at qwc.qld.gov.au

How Class A+ recycled water is produced at Pimpama



IN PIMPAMA COOMERA, a multi-barrier treatment process will be in place to ensure that all recycled water supplied to the customer will be of Class A+ quality. Wastewater from the community will first be treated at the Pimpama Wastewater Treatment Plant through a series of processes including preliminary treatment, biological nutrient removal, anthracite and sand filtration and disinfection. At this stage the water is classified as Class B recycled water. The water then undergoes further treatment at the Pimpama Recycled Water Treatment Plant, which includes ultra-filtration, ultra-violet disinfection and chlorination. These processes will see the water treated and disinfected to a Class A+ recycled water standard, at which point it will be delivered to all dual-reticulated homes and businesses in Pimpama Coomera.

Treatment stages

Pimpama Wastewater Treatment Plant



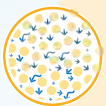
Barrier 1 – Preliminary Treatment

- Wastewater is filtered through screens to remove rubbish and debris.



Barrier 2 – Biological Treatment

- Wastewater is combined with a specially developed group of micro-organisms in a series of large tanks. The micro-organisms consume and capture organic wastes and nutrients (such as nitrogen and phosphorus)
- The final step of the biological treatment process retains the micro-organisms within the tanks while allowing the treated water to pass to the next treatment stage.



Barrier 3 – Anthracite and Sand Filtration

- This filtration process is widely used in drinking water treatment plants
- Water is filtered through media filters containing sand and anthracite, allowing fine particles to be extracted. These filters also remove manganese, iron and colour, which can cause staining on plumbing fixtures.



Barrier 4 – Disinfection

- At this stage, the recycled water is low in organic pollutants and nutrients. It is treated with sodium hypochlorite and held in tanks to remove bacteria, virus and protozoa. The water is now classified as Class B recycled water under the Queensland Water Recycling Guidelines.

Following these four treatment processes, water from the Wastewater Treatment Plant is sent to the Recycled Water Treatment Plant for further filtration and disinfection.

Pimpama Recycled Water Treatment Plant



Barrier 5 – Membrane Ultra-Filtration

- Water is forced under pressure through micro-porous membranes that filter most remaining particles from the water. Particles greater than one ten-thousandth of a millimetre in size, including viruses, bacteria or other pathogens, are removed.



Barrier 6 – Intense Ultra-Violet Disinfection

- Intense UV light streams are used to remove any remaining pathogens that have passed through the preceding treatment steps. This additional safeguard provides further disinfection and ensures high water quality.



Barrier 7 – Chlorination

- Before distribution to the community, Class A+ recycled water is chlorinated to ensure its high quality is maintained during the time it spends in the reticulation system.

Did You Know...

- Using Class A+ recycled water for toilet flushing saves up to 11 litres of drinking water per flush
- Using Class A+ recycled water for the garden saves between 17 and 19 litres of drinking water per minute.

RECYCLED WATER CLASSES AND APPROPRIATE USES

Recycled water can be treated to various qualities, depending on its intended use. Queensland's Water Recycling Guidelines recognise multiple recycled water classes that are suitable for a range of uses.

RECYCLED WATER CLASS	QUALITY*	EXAMPLES OF APPROPRIATE USES*
A+	Bacteriological, physical and chemical water quality thresholds	Toilet flushing, above ground watering, outdoor washdown, irrigating food crops
A		Above ground public open space irrigation, retail nurseries (not ready to eat products), fountains and water features
B		Agricultural irrigation and washdown
C		Controlled access or sub-surface irrigation, wetlands, controlled access water feature, industrial irrigation of 'no public' areas
D		Silviculture, turf, wholesale nurseries with controlled access

*Refer to the Queensland Water Recycling Guidelines for more information

Source: Gold Coast Water Sustainability Report, 2005/2006

THE COLOUR PURPLE

The entire Class A+ recycled water network, from the Pimpama Recycled Water Treatment Plant to your tap, is coloured purple for easy identification. At your property boundary, you will have two water meters that connect your home to the two water networks. A regular water meter records your use of potable (drinking) water and a purple recycled water meter records your use of Class A+ recycled water.

External Class A+ recycled water taps have a removable handle to safeguard against accidental misuse. Warning signs should also be in place on all external recycled water taps. Until Class A+ recycled water becomes available in late 2008, potable (drinking) water is available through the purple pipes and taps and charged at potable water prices, and is presently subject to current water restrictions.

OTHER RECYCLED WATER COMMUNITIES IN AUSTRALIA

High quality recycled water is already being safely used in homes across Australia and overseas; including:

Rouse Hill, Sydney

Recycled water has been successfully used in the Rouse Hill area in Sydney's north-west since 2001. More than 16,000 homes are connected to recycled water for toilet flushing and external uses.

Mawson Lakes, Adelaide

Situated 12 kilometres from Adelaide, Mawson Lakes is expected to cater for up to 10,000 residents by 2010 and has been successfully using recycled water for toilet flushing and external uses since March 2005.

Epping North, Melbourne

The new 'Aurora' development in Melbourne has been designed to use high quality recycled water for toilet flushing and external uses.

FURTHER INFORMATION

For further information on Council's approach to recycled water, please visit goldcoastwater.com.au/recycledwaterstrategy or phone 1300 366 692.

For further information on the award winning Pimpama Coomera Master Plan, please visit goldcoastwater.com.au/pimpamacoomera



A purple Class A+ recycled water tap with a warning sign



All recycled water fittings are coloured purple for easy identification

UPDATED – APRIL 2007