

Agnes Water Desalination Plant Upgrade - Groundwater Ultrafiltration System



Providing treatment and reuse schemes to increase the security of water supply to the communities of Agnes Water and Seventeen Seventy.



TRILITY designed, constructed, installed and commissioned an ultrafiltration system at the existing Agnes Water desalination plant



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Reducing reliance on the desalination process by upgrading the groundwater treatment system to an ultrafiltration system.

Gladstone Regional Council produces drinking water for the townships of Agnes Water and Seventeen Seventy at the Agnes Water Desalination Plant (AWDP). AWDP treats seawater using an ultrafiltration and reverse osmosis process and blends the treated seawater with groundwater treated by a media filtration process (MMF). The upgrade replaced the MMF process with a new ultrafiltration system for treating groundwater which was integrated into the existing treatment plant at AWDP.

The ultrafiltration process enables:

- the utilisation of the existing groundwater source to augment the existing seawater process
- the management of water quality risks
- an increased production capacity of AWDP

The new system was designed to minimise the energy requirements for pumping, climate control and other loads. It also provides automatic operation of the plant by utilising the appropriate instrumentation, automation and controls.



Who

Gladstone Regional Council is located in Central Queensland, about 550 kilometres north of Brisbane, bounded by the Coral Sea to the east with easy access to a national highway, rail network and award-winning airport.

The region is a rapidly growing hotspot, home to 62,000 people, and boasts national parks, state forests, beaches, islands and is the doorway to the Great Barrier Reef.

What

TRILITY was contracted to design, construct, install and commission a new ultrafiltration system to treat 0.5ML/d from existing groundwater bores.

Where

Agnes Water and Seventeen Seventy are coastal towns at the southern end of the Great Barrier Reef with seasonal population fluctuations.

Why

Gladstone Regional Council wanted to increase the capacity of the Agnes Water water treatment plant to ensure the supply of water continues to meet the demand of the local communities in the long term.

Providing an alternative supply has the added benefit of allowing maintenance on the current seawater reverse osmosis system.

Snapshot

Client	Gladstone Regional Council
Facilities	Water treatment facility
Technology	Ultrafiltration treatment plant including coagulant dosing and a biologically activated carbon system
Capacity	0.5ML/d
Cost	\$0.85m

For further information

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