

Bendigo Recycled Water Project

The Bendigo Recycled Water Project is a key water security project for Bendigo. Expenditure was \$43M and included a new 14.5km pipeline from the Bendigo Water Reclamation Plant (WRP) in Epsom to Spring Gully Reservoir as well as the construction of a Recycled Water Factory at the Bendigo WRP in Epsom.



Above: Bendigo Recycled Water Factory during construction.

Below: Epsom to Spring Gully Pipeline during construction.



The Project Timelines

Construction of the Epsom to Spring Gully pipeline commenced in December 2006 and was completed by the end of April 2007. The first water delivered through the pipeline was groundwater from Bendigo Mining's dewatering program in April 2007.

The Recycled Water Factory construction was complete in 2008, with the installation of enhanced treatment facilities to reduce salinity levels in the water.

Whilst the enhanced treatment was being completed at the Recycled Water Factory, Bendigo Mining initially supplied groundwater to mix with our recycled water to reduce salt levels. Bendigo Mining ceased dewatering in May and we are now delivering 100% recycled water to customers and to Spring Gully Reservoir.

Recycled Water Quality

The recycled water being supplied has undergone a high level of treatment and testing. It meets all requirements listed in the following guidelines.

- *Guidelines for Environmental Management – Use of Reclaimed Water* (EPA Victoria 2003),
- *Guidelines for Environmental Management – Dual Pipe Water Recycling Schemes* (EPA Victoria 2005)
- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC & ARMCANZ, 2000)
- *Australian Guidelines for Water Recycling: Managing Health and Environmental Risk* (Phase 1, Natural Resource Management Ministerial Council, Environment Protection and Heritage Council & Australian Health Ministers Conference, 2006)

There are management procedures and monitoring programs in place to ensure the safety of both the customer and the environment. The rigorous treatment process not only reduces the bacteria levels but also reduces the nutrient levels in order to minimise environmental impacts.

Recycled water is slightly saltier than your typical drinking water supply. It is very unlikely that you will notice any impact on gardens or pastures from the short term salinity level, which is expected to be around 500mg/L TDS. The only situations where you might notice an effect is if you are irrigating very impermeable soil (ie. soil drainage is poor so water takes a long time to soak in), or if you spray the recycled water onto sensitive plants in the heat of the day.

The quality of the recycled water means a low level risk to human health and the environment.

Who is using the recycled water?

The City of Greater Bendigo has utilised recycled water at many locations such as Rosalind Park, Queen Elizabeth Oval and other sporting ovals across Bendigo. We also have a number of primary schools connected to the recycled water pipeline as well as Bendigo Health's, Loddon Linen Service laundry.

The 2008/2009 rural season saw three rural channels systems being supplied from the Spring Gully Reservoir. These were the Axe Creek, Kangaroo, Ascot, White Hills, Huntly, Cockatoo Hill, Raywood, Sebastian, Neilborough, Goornong and Ellesmere channels. The existing open channel system is used to convey the recycled water to these areas until completion of a rural reconfiguration project which includes replacing some channels with piped systems.

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Acceptable Uses of Recycled Water

The recycled water is of a very high quality. However there are some restrictions on its use that must be understood by all customers prior to the use of any recycled water.

Acceptable uses include:

- Garden watering, including vegetable gardens,
- Toilet flushing & washing machine use
- General outdoor uses such as car washing, dust suppression, construction and washdown
- Irrigation of pasture, human food crops and non-food crops
- Livestock (except pigs) and pet drinking water
- Firefighting and fire protection systems
- Ornamental ponds and water features

Class A recycled water is NOT considered acceptable for the following uses:

- Drinking (Human)
- Cooking or other kitchen purposes
- Bathing or showering
- Filling swimming pools or spas
- Children's water toys
- Any and all uses involving contact with pigs
- Evaporative coolers



Roles and Responsibilities

Coliban Water is responsible for:

- Supplying recycled water in accordance with agreements with customers
- Operating and maintaining the recycled water treatment facility, pump stations and the pipeline to achieve the quality standards
- Keeping a register of information about recycled water customers, including addresses, quality and quantity of supply and end use of the water
- Providing a reliable system for recording and responding to complaints
- Providing an annual report on audits and compliance to EPA

Recycled water customers are responsible for:

- Using the recycled water only for approved end uses
- Implementing appropriate management practices to ensure the protection of public and environmental health

EPA is responsible for:

- Approval of all key documentation
- Approval of the overall reuse scheme

More information and feedback

To supply recycled water to customers, a substantial amount of documentation is required. Part of this documentation is the Health and Environmental Management Plan (HEMP), which includes customer site management plans (SMP) for all recycled water users.

All the documentation has been approved by DHS and EPA and is published on the Coliban Water website www.coliban.com.au

If you have questions about recycled water, please contact our Recycled Water Officer at Coliban Water on 1300 363 200.

Disclaimer: Information contained in this document was correct at time of printing (May 2009). Coliban Water reserves the right to alter information, as deemed necessary