



Using Class C recycled water

Information and application

June 2016



Introduction

Recycled water is a safe and valuable water source. There are different classes of recycled water depending on the level of treatment applied. Natural biological processes are used to convert wastewater to Class C recycled water at Barwon Water's water reclamation plants throughout the region. The treatment process is strictly monitored to ensure it meets prescribed quality standards.

The Department of Health (DH) and the Environment Protection Authority (EPA) regulate Class A recycled water, while the EPA is the only regulator of Class B, Class C and Class D recycled water.

Barwon Water's Class C recycled water is commonly used for:

- irrigating golf courses, sporting grounds and public spaces
- irrigating vineyards, hydroponic tomatoes, potatoes and other crops
- irrigating turf and flower farms
- dust suppression for road works and major construction works.

Regulation and guidelines

In Victoria, the use of recycled water must be in accordance with EPA regulations and guidelines. These guidelines are intended to be used in conjunction with the Australian Guidelines for Water Recycling, which provides the authoritative reference for the supply, use and regulation of recycled water schemes.

Specific EPA governance documents include:

- Publication 168 – *Guidelines for Environmental Management: Guidelines for Wastewater Irrigation*
- Publication 464.2 – *Guidelines for Environmental Management: Use of Reclaimed Water*
- Publication 887.1 – *Supply of Reclaimed Water for Drought Relief*
- *Drought relief protocols.*

Approved uses of Class C recycled water

Class C recycled water is approved by EPA Victoria for a range of uses, including:

- ✓ irrigating crops not supplied to consumers 'raw', e.g. barley, wheat and wine grapes
- ✓ irrigating crops potentially supplied to consumers 'raw', e.g. carrots, strawberries, apples (requires case-by-case assessment and site specific management)
- ✓ irrigating pasture for beef cattle grazing or dry dairy cattle (with helminth control)
- ✓ irrigating pasture for other livestock grazing
- ✓ irrigating municipal parks and gardens
- ✓ dust suppression and road works

Class C recycled water **cannot** be used for:

- ✗ drinking
- ✗ uses inside the home
- ✗ filling swimming or spa pools.

Class C recycled water quality

Recycled water quality (nutrients, salinity, etc.) can vary across Barwon Water's various water reclamation plants. We can provide details about the quality and availability of recycled water on request. Customers are responsible for determining the suitability of recycled water for their required use.

Accessing Class C recycled water

Customers wishing to access Class C recycled water must submit a Class C application form. Each application will be assessed for appropriateness of use as well as site suitability.

Long-term supply

Recycled water is available for connection by **pipeline** from ten water reclamation plants at Anglesea, Aireys Inlet, Apollo Bay, Bannockburn, Birregurra, Black Rock, Colac, Lorne, Portarlington and Winchelsea. A number of recycled water schemes originate from some of the larger water reclamation plants.

Infrastructure design and project management costs are the responsibility of the recycled water customer.

Infrastructure between the connection point and the site must adhere to Barwon Water's developer works process in the Land Development Manual (LDM). The LDM and list of consulting engineers are available at:

www.barwonwater.vic.gov.au/business/land-development

All required civil works must be designed, constructed and commissioned by a Barwon Water accredited consulting engineer. Design and specifications must be referred to Barwon Water for approval before construction.

The engineer or project manager must also obtain approval from other relevant authorities, including the local council and VicRoads. Pipeline easements should be developed where private land is crossed.

Short-term or drought relief purposes

Class C recycled water is available to cart from **standpipes** for short-term use or drought relief. Standpipe access is currently available at the Black Rock recycled water station and at the Colac water reclamation plant. Other locations may be available in the future. Carters may have to provide their own pump and suction hose at some locations.

To fill a tanker from a recycled water standpipe, a Recycled Water Carting Permit from Barwon Water is required. Alternatively, Barwon Water has a register of approved recycled water carters that can be provided to customers seeking carting services.

Recycled water tariff

The Essential Services Commission (ESC) governs the pricing of recycled water and has common pricing principles to ensure consistency amongst water corporations.

The recycled water tariff is the cost of the recycled water at the water reclamation plant boundary. It does not cover transport, distribution or any additional treatment beyond Class C standard. The tariff increases annually with the Consumer Price Index (CPI).

For the current prices, please contact Barwon Water on 1300 656 007.



Documentation requirements

The preparation of a number of regulatory and legal documents is required to ensure that recycled water is being used in a manner that is compliant with health and environmental regulations. These include:

Environmental Management Plan (EMP)

Under EPA Victoria guidelines, an EMP is required for all recycled water project and schemes to:

- ensure that the project has environmental viability and demonstrates due diligence by the recycled water customer and Barwon Water in accordance with the Victorian Environment Protection Act 1970
- meet recycled water use requirements set out in EPA guidelines, eliminating the need for an EPA licence.

For **short-term use or drought relief**, the application form will serve as an EMP once completed to Barwon Water's satisfaction.

Customers intending to use recycled water for longer periods (>12 months) will need to prepare a more comprehensive EMP, including:

- a land capability assessment
- risk assessment
- water budget
- nutrient loading
- irrigation scheduling
- site management roles & responsibilities
- OH&S details
- site access controls
- plumbing controls
- emergency management procedure
- soil and nutrient management
- monitoring program, e.g. soils, groundwater, crops
- reporting and review.

Further details of EMP requirements can be found in EPA publication 464.2 *GEM: Use of Reclaimed Water*.

Recycled Water Supply Agreement

Recycled water customers must enter into a supply agreement with Barwon Water for the use of recycled water over a negotiated period. Once terms and conditions have been determined, the agreement is drafted by Barwon Water and finalised with the recycled water customer. Any legal costs associated with preparation of the agreement are borne by the recycled water customer.

If the recycled water connection is via privately owned infrastructure, an agreement from the infrastructure owner is also required.

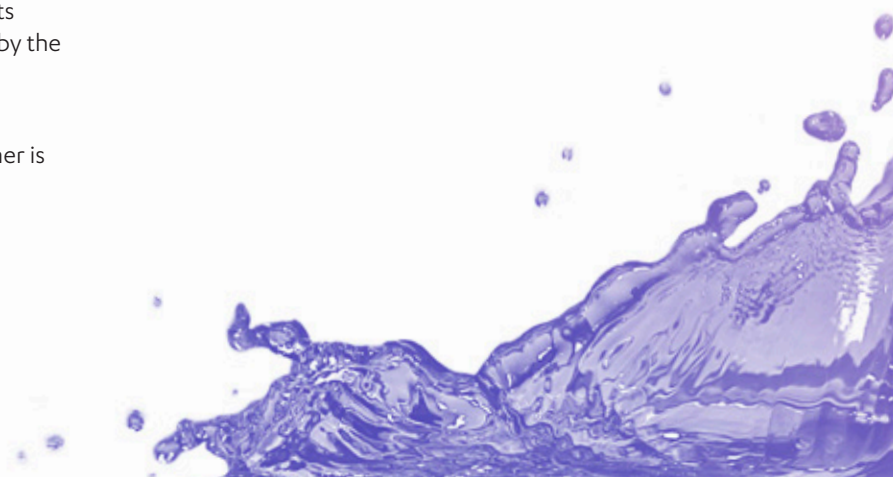
Application process

The following is a guide to the process of applying for approval to use Class C recycled water:

1. The customer submits a completed application form to Barwon Water.
2. Barwon Water assesses the application and conducts a risk assessment to determine the suitability of the customer's site and proposed use of recycled water, including availability of supply.
3. Barwon Water informs the customer whether their application has been declined or approved in principle.

If approved:

4. [Short-term / drought relief] The customer applies for a *Recycled Water Cartage Permit* or engages a recycled water carter registered with Barwon Water.
5. [Long-term] The customer prepares a comprehensive Environmental Management Plan in consultation with Barwon Water.
6. [Long-term] If supplied via a privately owned pipeline, the customer negotiates an *Infrastructure Access Agreement* with the pipeline owner.
7. Barwon Water prepares a *Recycled Water Supply Agreement (RWSA)* and provides to the customer for signing.
8. The documentation is finalised and signed by the customer and Barwon Water.
9. [Long-term] Barwon Water issues *Costs and Conditions / Remittance Advice* to the customer.
10. [Long-term] If required, the customer engages a Barwon Water accredited consulting engineer to design and construct supply mains.
11. [Long-term] The customer engages a registered plumber to construct the meter assembly in accordance with Barwon Water's requirements.
12. The customer prepares their site for recycled water use in accordance with their application, including storage dam/tank and recycled water signs.
13. Barwon Water instructs the customer in the safe use and management of recycled water.
14. The customer's use of recycled water is commissioned and commences operation.



Site management requirements

The site manager (applicant) is responsible for ensuring that the use of recycled water is in accordance with this document and the EPA guidelines. In general, the site manager is responsible for the following and may delegate tasks as required:

Health and safety

- Ensure all staff are made aware that recycled water is being used on site and that precautionary measures need to be undertaken when working with or around recycled water.

Site controls

- Ensure recycled water is stored in an appropriate dam or tank.
- Implement good irrigation practice (if irrigating crops).
- Ensure recycled water is not applied after heavy rain or before expected rain.
- Ensure buffer distances to water bodies, residences and other buildings are maintained.
- Ensure no recycled water run-off or spray leaves the site.
- Ensure recycled water does not overflow from storages, e.g. by maintaining a freeboard.
- Maintain recycled water infrastructure and equipment in good condition.
- Inform Barwon Water of any recycled water issues, e.g. spills.
- Inform Barwon Water of any changes to the use of recycled water on site.

Record keeping

- Keep appropriate records as detailed in this document, and make these records available to Barwon Water and EPA Victoria upon request.

Emergencies

- Report all recycled water incidents (spills, etc.) to Barwon Water.

Health and safety

Recycled water may contain biological contaminants such as viruses, pathogenic bacteria, protozoa and algae. It may also contain nutrients, negligible levels of heavy metals and chemicals.

Working with recycled water is safe provided that appropriate controls are in place and good hygiene practices are followed. The higher the treatment, the less potential risk there is to people and the environment.

The risk of infection to humans is very low but could occur through drinking recycled water, eating food contaminated with recycled water, inhalation and ingestion from mists and droplets, or by direct contact with recycled water.

Appropriate personal protective equipment (e.g. water-proof gloves, goggles, face mask) should be used when there will be more than casual contact with recycled water. Should you come into contact with recycled water, wash the area of your body with soap and clean (not recycled) water.

Staff and visitors should be made aware of the following rules:

- DO NOT drink recycled water
- DO NOT use recycled water to wash hands or any part of the body
- DO NOT use equipment (including tankers) that has been in contact with recycled water for drinking water unless adequately disinfected.
- DO NOT allow recycled water to make contact with eating areas or drinking fountains.
- DO NOT connect the recycled water supply to the potable (drinking) water supply.
- DO NOT use recycled water for potable purposes.
- DO NOT apply recycled water by hand-held nozzles or other hand-held devices that can produce sprays, mists or aerosols.
- DO NOT allow access to the site during recycled water application/irrigation and for four hours after.
- DO NOT allow recycled water to discharge/flow off-site (no spray or run-off).

Public and stock access

Public and livestock access to the site is to be restricted according to the following:

Access	Withholding period
General public	4 hours
Pasture/fodder for dairy cattle	5 days (with helminth control)*
Pasture/fodder for beef cattle	4 hours (with helminth control)*
Pasture/fodder for sheep, goats, horses, etc.	4 days
Pigs	Not to be exposed to recycled water

* *Helminth control is 25 days pondage detention of the recycled water or other approved filtration method.*



Crop and produce controls

The following controls are to be implemented for any crops irrigated with Class C recycled water:

Crop category	Approved irrigation methods	Controls
Non-food crops – crops not grown for consumption, e.g. woodlots, turf, flowers	Unrestricted	<ul style="list-style-type: none"> – Restrict public access – Harvested products not to be wet from recycled water when sold. – Pasture/fodder not to be sold/supplied for pig food.
Food crops that are to be <u>cooked</u> (>70°C for 2 minutes) or <u>processed</u> before sale to consumers, e.g. wheat, wine grapes.	Unrestricted	<ul style="list-style-type: none"> – Edible parts not to be exposed to recycled water – Produce should not be wet from recycled water when harvested.
Food crops that are <u>skinned</u> , <u>peeled</u> or <u>shelled</u> before consumption, e.g. lemons, limes, nuts, watermelons.	Flood, furrow, drip, sub-surface, hydroponic	<ul style="list-style-type: none"> – Edible parts not to be exposed to recycled water – Produce should not be wet from recycled water when harvested. – Dropped produce not to be harvested.
Food crops <u>grown over 1 metre above the ground</u> and consumed raw, e.g. apples, pears, apricots, table grapes.	Flood, furrow, drip, sub-surface	<ul style="list-style-type: none"> – Edible parts not to be exposed to recycled water – Dropped produce not to be harvested.



Signage

For all temporary or small-scale recycled water use, appropriate signs must be displayed during application / irrigation and during the four hour withholding period. The signs should state the unsuitability of recycled water for drinking, and that contact should be avoided.

Tankers carrying recycled water must display an identification sign to allow the contacts to be easily recognised and advise it is not suitable for drinking.

Emergency procedure

In the event of any recycled water spill, off-site discharge, contamination of potable (drinking) supply, or breach of agreement conditions, the customer is to complete the following steps:

- shut down the recycled water system
- turn off the recycled water supply at the main valve
- determine the extent of the discharge and the volume
- **if contained on site** – repair private infrastructure / equipment as required

OR

- **if cannot contain on site** – immediately contact Barwon Water on 1300 656 007 and request isolation of supply (if required) – off-site or potential off-site flows will be reported to EPA Victoria
- demarcate the spill/hazard area if possible by placing warning signs
- contact neighbours if flow is likely to extend to their property
- complete an incident report and submit to Barwon Water within 48 hours.

Record keeping

All recycled water use may be subject to audits by Barwon Water or EPA Victoria at any time. As such, it is important to maintain good records. The following records must be kept current:

- recycled water log sheet – including volume delivered/used, carter, date, etc.
- incidents / emergencies – as reported

Audits

The audit will investigate activities undertaken by the recycled water customer to verify the adequacy of and conformance with this document / management plan and EPA requirements.

The audit will address aspects including site management controls, irrigation system controls, recycled water quality and quantity, infrastructure and equipment condition, and operational issues and incidents.

Customers will be contacted prior to an audit, and will be requested to accompany the auditor. An audit report will be provided to the customer. This will advise of any non-conformances and corrective actions that may apply.

For further information, please contact:

Recycled Water Officer
Barwon Water
PO Box 659
Geelong VIC 3220

☎ 1300 656 007 | ✉ info@barwonwater.vic.gov.au

www.barwonwater.vic.gov.au

Class C application form

This application form should be completed by individuals, companies or organisations wishing to use Class C recycled water.

Please complete all sections of this application form and keep a copy for your records.

Barwon Water will notify you on the outcome of this application. Final approval will depend on all requirements being met.

1. Applicant details

Company (if applicable):		
ACN / ABN (if applicable):		
Name:		
Position / role:		
Postal address:		
		Postcode:
Phone:	BH:	Mobile:
Email address:		

2. Site owner details (if different to applicant)

Name:		
Postal address:		
		Postcode:
Phone:	BH:	Mobile:
Email address:		

3. Site details (where recycled water will be used)

Property name (if applicable):		
Address:		
		Postcode:

Current site land use (e.g. residential, agricultural, grazing, recreation):

Neighbouring land use (e.g. residential, agricultural, grazing, recreation):

Size of area where recycled water will be used:

4. Recycled water details

4.1 Recycled water volume and demand

	Recycled water volume	Per period	For duration	Total annual volume
<i>Example</i>	<i>15 kL</i>	<i>per week</i>	<i>Nov to Dec 2016</i>	<i>120 kL</i>

4.2. Recycled water use

Tick all uses the Class C recycled water will be used for and provide details:

Agricultural use

- Non-food crops (e.g. flowers, turf)
- Food crops (e.g. potatoes)
- Pasture/fodder for livestock

Municipal use

- Watering of garden beds
- Watering of trees
- Dust suppression
- Road works
- Other municipal works
- Other uses

Detail any other uses of the recycled water not listed above:

5. Connection details (pipeline supply only)

Existing recycled water services:

Is there an existing recycled water connection?

Yes

No

If yes, are you going to remove or utilise this service?

Remove

Utilise

Is the pipeline owned by Barwon Water or privately?

Barwon Water

Private

New recycled water services:

Service size	mm
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What meter(s) will be required?

Meter size	mm
Meter size	mm
Meter size	mm

Please note: you will also need to submit a completed Application/Agreement for Backflow Prevention Device installation form. This form is available from the Barwon Water website at www.barwonwater.vic.gov.au

Infrastructure design and construction (if applicable)

Specify the proposed consulting engineer, plumbing contractor, estimated construction timeframe, proposed connection point and pipeline alignment.

6. Recycled water transport (short-term / drought relief only)

Please specify the registered recycled water carter you intend to engage to transport the recycled water from Barwon Water to your site (can be yourself if registered):

7. Recycled water storage, application and site controls

7.1 Recycled water storage

Unless applied directly from a tanker, you will need to store recycled water prior to use. There are several requirements for the storage of recycled water. These include:

Dams

- The size, shape and location must meet the use and volume requirements.
- A freeboard must be maintained to ensure no overflow during rainfall.
- Warning signs and restricted access arrangements must be in place.

Tanks

- Must not be connected to the drinking water supply.
- Must not store recycled water for more than seven days due to the potential growth of micro organisms.
- Warning signs and restricted access arrangement must be in place.

Describe your recycled water storage, including type (e.g. tank/dam) and capacity:

7.2 Recycled water distribution and application

Describe how the recycled water is to be distributed and applied/irrigated on your site:

7.3 Buffer distances and irrigation controls

Class C recycled water should not flow or spray beyond the site boundary. EPA guidelines suggest the following buffer distances from the area where recycled water will be applied:

- 100 metres to sensitive developments (e.g. houses, public parks, schools, shops)
- 100 metres to water bodies (using flood or high pressure spray)
- 50 metres to water bodies (if using low pressure spray)
- 30 metres to water bodies (if using trickle or sub-surface spray)

List all sensitive developments and water bodies less than these buffer distances and the control measures you will use to prevent recycled water reaching them. Control measures may include vegetation screening, drainage, irrigation timing and controls, or other practices.

Site map

Please attach a scaled site location map

Include roads / tracks, contours, drainage, recycled water storages, other water storages, and nearby residences.

Acknowledgement

I, the owner or duly appointed agent of the owner of the abovementioned property, apply to use recycled water at the above property.

- I guarantee the information provided is true and correct.
- I have read and understand the requirements for Class C recycled water use as outlined in this document and the EPA Victoria guidelines.
- I agree to use recycled water in accordance with this document and EPA requirements.

Applicant name:	
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(Please print name)

Signature:		Date:	
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Please submit the completed application form to:

Recycled Water Officer
Barwon Water
PO Box 659
Geelong VIC 3220

✉ info@barwonwater.vic.gov.au

Privacy

We are bound by the Victorian Privacy and Data Protection Act. For more information or to view the Privacy Charter, please visit www.barwonwater.vic.gov.au/privacy.