



# *Public Open Space*

Customer Site Management Plan  
Framework

XX Site

Epsom Spring Gully Recycled Water Project

August 2007

## Document Review & Authorisation

Document Version	Date	Approved By	Description
0.0	28/3/2007	RMCG	Final draft (Ver 1.3) prepared by RMCG Incorporating comments from CW, EPA and DHS
0.1	23/07/2007	Derek Robertson	Minor changes made for submission to the EPA and DHS
1.0	20/08/2007	Phil Fasham	Final document

# Table of Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	Project Overview .....	1
1.2	Purpose and Scope of the Customer Site Management Plan.....	1
<b>2</b>	<b>Site Description</b>	<b>2</b>
2.1	Contact Details .....	2
2.2	Location .....	2
2.3	Recycled Water Volume and Usage .....	2
2.4	Supply to Site .....	2
2.5	Irrigation Management.....	3
2.6	Specific Site Controls .....	3
<b>3</b>	<b>Incidents and Emergencies</b>	<b>6</b>
	<b>Appendix 1: Site Map</b>	<b>8</b>
	<b>Appendix 2: Checklist</b>	<b>9</b>

# 1 Introduction

## 1.1 Project Overview

The Epsom Spring Gully Recycled Water Project makes use of both existing and new infrastructure to create a flexible and integrated water supply system within Bendigo.

Milestone 1 involves the following actions:

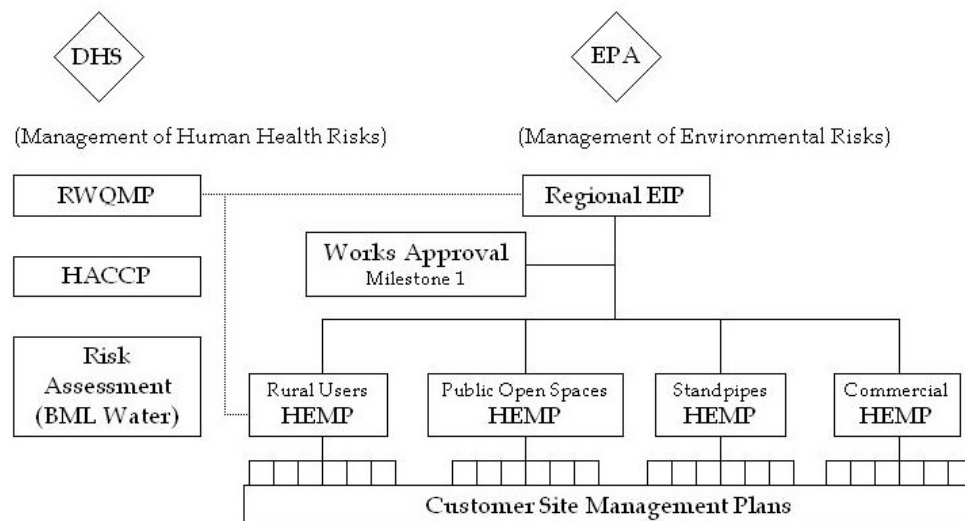
- Treatment at the Bendigo WRP will be improved via installation of further UV capacity and new chlorination and de-chlorination equipment. A chlorine contact tank and final water tank will also be constructed;
- A 14 km pipeline to Spring Gully Reservoir will be constructed, with associated pumping facilities to transfer recycled water.

These improvements will enable recycled water to be supplied to a number of end users, including individual rural customers, public open spaces, standpipe users and industrial customers.

## 1.2 Purpose and Scope of the Customer Site Management Plan

The purpose of this Customer Site Management Plan is for the relevant customer to outline details relating to location, quantity and type of water use, and to consider and implement the controls necessary to ensure sustainable use of recycled water.

This Customer Site Management Plan is supported by a number of other documents as outlined in the diagram below.



Of particular relevance is the Health and Environmental Management Plan (HEMP) for Public Open Spaces, which details the management practices required to control risks associated with end use of recycled water on public open spaces. It informs end users of their responsibilities and the limitations relating to use of the recycled water.

## 2 Site Description

### 2.1 Contact Details

Site Name:

Contact Person:

Position/Role:

Postal Address:

Contact No(s):

Email:

### 2.2 Location

Land upon which water is to be used:

Total area of site:

Attach site map in Appendix 1. (A sketch map is acceptable. The map must show: the layout of major features on the site, location of irrigated areas, location of recycled water pipelines, location of supply metering and backflow prevention, and location of irrigation infrastructure including each sprinkler head.)

### 2.3 Recycled Water Volume and Usage

Volume of recycled water to be used: \_\_\_\_\_ to \_\_\_\_\_ ML/annum

Allocation for this site is: \_\_\_\_\_ ML/annum

Type(s) of end use:

### 2.4 Supply to Site

Location (on mainline) of pipeline outlet from which recycled water is taken:

Distribution pipeline capacity: \_\_\_\_\_ mm  $\Phi$  \_\_\_\_\_ litres/sec

Entry point to site:

Supplied to:

Tank(s) – No of \_\_\_\_\_

Dam(s) – No of \_\_\_\_\_

Direct to irrigation system

Other: \_\_\_\_\_

## 2.5 Irrigation Management

Type of Irrigation Used:

Area Covered:

Person Responsible for Irrigation Management:

Irrigation Scheduling Tool(s) Used:

Standard Watering Times:

## 2.6 Specific Site Controls

*Notes are provided under each of the following sections regarding the general site controls required to manage recycled water risks. Add comments with site specific details where appropriate.*

### **Management of cross connections:**

All plumbing works will be undertaken in accordance with AS/NZS 3500:2003 – *National Plumbing and Drainage Code*, which is consistent with the Plumbing Industry Commission *Recycled Water Plumbing Guide*.

Above-ground recycled water and drinking water infrastructure will be separated by at least 100 mm and below-ground infrastructure by at least 300 mm.

Backflow prevention devices must be tested annually.

### **Signage (including locations):**

Warning signs to be located at site entrances to public areas. Signs should read 'Recycled Water in Use. Do Not Drink.'

Warning signs to be located on all recycled water taps in public areas – no further than 150 mm from the tap handle. These signs should read 'Do Not Drink'.

Use purple/lilac taps and above ground pipework (can be achieved by spray painting existing fixtures).

### **Worker training:**

Worker training in the appropriate use (as defined in the CSMP) and management (as defined in the HEMP and CSMP) of the onsite recycled water system.

### **Management of Spray Drift:**

No buffer distances are prescribed for Class A recycled water. However, spray drift should be prevented to avoid nuisance aspects of the water.

Spray drift prevention techniques include:

- Ceasing irrigation in windy conditions;
- Using semi-circle sprinklers that direct spray away from boundaries;
- Providing tree screens between the irrigated area and boundaries;
- Providing a buffer zone between the irrigated area and boundaries;
- Using irrigation systems that prevent the generation of fine mist, eg. low rise sprinklers, microsprinklers;
- Irrigating at night or at times when there are few people around.

**Management of Irrigation Runoff:**

Practice irrigation scheduling such that a soil deficit remains following irrigation (ie. not irrigating to soil saturation point). This prevents irrigation runoff and provides a buffer to take up the first flush of rainfall runoff.

Irrigation should also be turned off in the event of rainfall occurring (for rain events > 5mm).

**Fertiliser use:**

The recycled water contains small amounts of nitrogen and phosphorus. The amount will be in the order of 1 gram nitrogen per square metre and 0.1 gram phosphorus per square metre. Fertiliser use should be reduced slightly to account for this, with the method for fertiliser reduction to be detailed in the customer site management plan (CSMP) for each site.

Include a simple nutrient balance:

	<b>Public open space and recreation areas.</b>	
	<b>N</b>	<b>P</b>
Recycled Water Nutrients (mg/L)	4.5	0.22
Water application rate (ML/ha/year)	<b>A</b>	
Nutrient applied in recycled water (kg/ha/year)	<b>B = 4.5 * A</b>	<b>C = 0.22 * A</b>
Fertiliser applied (kg/ha/year)	<b>D</b>	<b>E</b>
<b>Total Nutrient Applied (kg/ha/year)</b>	<b>B + D</b>	<b>C + E</b>
<b>Plant uptake (kg/ha/year)</b>	<b>50 - 100</b>	<b>5 - 10</b>

**Management of irrigation to avoid salt damage to plants (if required):**

Avoid sprinkler irrigation direct to plant leaves in the heat of the day – relevant to salt sensitive plants only.

Where impermeable soils (eg. heavy clays) exist, improve soil drainage (eg. via addition of organic matter or imported soil) or avoid irrigation of salt sensitive plants.

**Management of modifications to the recycled water and drinking water systems:**

All plumbers working on site are informed that recycled water is in use. Any modifications undertaken to either the recycled water or drinking water systems are fully tested and

commissioned in accordance with AS/NZS 3500:2003 – *National Plumbing and Drainage Code and reflected in an updated site plan.*

Coliban Water is notified of all modifications to the recycled water system.

**Soil testing (if any):**

Soil testing is not required at each individual site. Coliban Water will develop a representative soil testing program across all public open space areas.

However, if soil testing is undertaken at this particular site, please provide details of frequency and type of testing.

**Other site specific controls:**

### 3 Incidents and Emergencies

Incidents occurring at end use sites that could effect the environment or animal or human health, could include:

- Unauthorised use of recycled water;
- Cross connection of recycled water supply to drinking water supply;
- Leakage, spillage or runoff of recycled water beyond site boundaries.

Incidents and emergencies occurring on public open spaces should be reported immediately to Coliban Water by phoning 1300 363 200 (24 hours per day). Coliban Water will assist the customer to respond appropriately.

## Site Use Agreement

Site Name and Address: \_\_\_\_\_

I agree that by signing this document I understand that recycled water produced in accordance with EPA guidelines will be supplied to this site. I understand that the water I receive is not suitable for use as drinking water. It will only be used for purposes specified in the Customer Site Management Plan (CSMP).

I have been provided with a copy of the Health and Environmental Management Plan (HEMP) for Public Open Spaces. A Customer Site Management Plan (CSMP) has been developed for this site and I undertake to keep the CSMP up to date. I understand the acceptable uses and controls relating to the recycled water.

I accept that Coliban Water may cease the provision of recycled water at any time, in the event that testing indicates that quality limits cannot be met or sufficient volumes are not available.

Signature of Customer Representative

\_\_\_\_\_

Full Name of Customer Representative

\_\_\_\_\_

Position

\_\_\_\_\_

Organisation

\_\_\_\_\_

Date

\_\_\_\_\_

# Appendix 1: Site Map

## Appendix 2: Checklist

This checklist is to be completed by the customer prior to initial supply of recycled water, then annually at the end of each financial year. The completed checklist is to be submitted to Coliban Water.

Check	Tick if compliant	Any Comments (optional)
End use is acceptable as outlined in the HEMP for Public Open Spaces		
Staff have been appropriately trained in the use and management of recycled water on site		
Backflow prevention devices have been installed and tested on all recycled water and potable water connections to site		
Check undertaken to ensure drinking water outlets are not connected to recycled water supply.		
Appropriate signs in place on recycled water outlets and at site entrances.		
Above-ground recycled water and drinking water infrastructure separated by at least 100 mm and below-ground infrastructure by at least 300 mm.		
Nutrient levels in recycled water noted and fertiliser use adjusted accordingly.		
Salinity levels in recycled water noted and irrigation management adjusted accordingly – ie. no spray irrigation direct to plant leaves in heat of day.		
Irrigation managed to ensure no surface runoff occurs from site.		
Irrigation managed to minimise spray drift from site.		
Spray irrigation minimised during times when site is in use – eg. sporting match/training in progress, school recess/lunch.		

Completed by: \_\_\_\_\_

Date: \_\_\_\_\_

Checked by (Coliban Water representative): \_\_\_\_\_

