Reclaimed Water Policy

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Policy Number: POL19/62
Adopted: 24/07/2007
Amended: 25/06/2009, 3/09/2013
Reaffirmed: 18/04/2017
Minute Number: MIN07.1087, MIN09.774, MIN13.858, MIN17.312
File: 12039E
Review Date: 1/12/2020

1 PURPOSE

To provide a commitment to the safe and sustainable management of reclaimed water. The policy provides a basis for the development and operation of reclaimed water management schemes involving Shoalhaven City Council's wastewater treatment facilities.

2 STATEMENT

Reclaimed water is recognised as a valuable resource in the urban water cycle management. Up to 35% of the treated wastewater produced in the Shoalhaven is currently recycled onto land.

A range of State and Federal Government guidelines have been developed to assist water authorities in the development and management of reclaimed water schemes. More recent guidelines (EPHC, 2006) place increased emphasis on health risk management similar to the Australian Drinking Water Guidelines (2004). The 2006 reclaimed water guidelines encourage water authorities to develop a robust management framework including clear statement of goals/values, scheme development processes and having appropriate operating and management practices in place. A well-defined policy, development and management framework will be essential in gaining NSW Government and community approval/support for new schemes.

3 PROVISIONS

Shoalhaven City Council will *responsibly and sustainably* manage reclaimed water by:

- Ensuring that protection of public health, environment and water resources are of prime importance and that reclaimed water is 'fit for purpose' (for the intended end-use);
- Working with our employees, the Shoalhaven community, health and environmental regulators and other stakeholders to ensure reclaimed water schemes are planned, constructed and operated consistent with industry best practices.
- Adopting a risk management approach to ensure that potential risks are made explicit, are understood, managed and accepted by customers and other stakeholders.
- Regular monitoring and reporting of control measures and reclaimed water quality.
- Assessing all proposed schemes and initiatives consistent with long term economic, social and environmental sustainability criteria. A cost-benefit framework has been adopted by Council as a Guide for evaluating water recycling projects (Annexure 1).
- Aiming to recognise and capture the economic value of reclaimed water over the long term by applying appropriate cost recovery principles in line with Government policies.
- Agreeing to the level of service to be provided with users of a reclaimed water scheme as part of the process of formulating use/supply agreements.
- Continuing to substitute potable water supplies with reclaimed water where appropriate.

4 IMPLEMENTATION

Shoalhaven City Council will *support* this Policy by:

- Implementing appropriate operation and maintenance procedures for all reclaimed water schemes.
- Reporting on outcomes of its reclaimed water management schemes.

- Having regular contact and meetings with stakeholders and end-users.
- Preparing Reclaimed Water Quality Management Plans.
- Conducting regular NSW Health Liaison Meetings.

5 RELATED DOCUMENTATION

This is a policy document only and is supported by the following guidelines that pertain to the design and management of reclaimed water schemes:

- Australian Guidelines for Water Recycling: Managing Health & Environmental Risk (EPHC, 2006)
- Recycled Water Management Systems: Guidance document (DPI Water 2015)
- NSW Environmental Protection Licenses 1734, 1735, 1736, 4128 and 2419.

6 REVIEW

The Reclaimed Water Policy and associated development guidelines will be reviewed on a periodic basis and particularly where new guidelines and/or management information dictates.

7 APPLICATION OF ESD PRINCIPLES

The policy will permit the conservation of the City's water resource allowing more surface waters to remain in the environment, reduce pumping and transportation costs and greenhouse gas emissions.

Annexure: Framework for Evaluating Cost-Benefits of New Schemes (MIN21.210)

Council's Reclaimed Water Policy (POL19/62) states, for new water recycling projects, the need for '*Assessing all proposed schemes and initiatives consistent with long term economic, social and environmental sustainability criteria*.'

Regarding these aspects:

- Environmental sustainability includes assessment of impacts (and benefits) on surface waters, groundwater and soils. These assessments would normally be done via a Review of Environmental Factors appropriate to the size/scale of the activity.

- Social sustainability includes aspects such as improved recreation amenity (such as turf quality at sporting grounds & golf courses), conservation of potable water supplies and reductions in environmental discharge of treated effluent (widespread Shoalhaven community preference).

- Economic sustainability includes the construction and operating costs of water recycling schemes as well of the financial and employment benefits that result from increased production/utilisation of irrigated lands (whether public or private).

An evaluation framework has been developed by Shoalhaven Water to quantify and compare costs and benefits of water recycling projects (refer attached Assessment Methodology).

The costs of developing water recycling projects can vary based on complexity, size and associated new infrastructure required. To provide a common basis for comparison, a cost-effectiveness analysis has been used. This allows comparison across a range of project circumstances. In this instance, Costs are only those incurred by Council in providing infrastructure to facilitate the water recycling projects such as pipelines and any additional treatment/sterilisation equipment required to comply with NSW/Australian Water Recycling Guidelines. Costs are expressed as annualised capital costs (total costs spread over 20 years) per megalitre of water recycled ($/ML). A range of existing projects were assessed using this methodology as shown in the table below. The annualised council capital costs (in 2019-20 dollars) ranged from $228 to $3,950 per ML (refer attached Assessment Methodology).

Quantifying the benefits of a water recycling project is more problematic as many of the benefits (such as improved social amenity, enhanced environmental protection) do not have an easily defined 'market value'. A qualitative scoring system is therefore proposed to rank project benefits in terms of a range of outcomes including:

- Enhanced environment protection
- Business sustainability
- Amenity of public access spaces
- Potable water conservation

Each benefit category is rated from 1 to 3 with a maximum point score of 12 across all four categories. As shown in Table 1 and the attached Attachment 1, the benefit scores from various water recycling projects ranged from 4 to 12.

Table 1. Current Water Recycling Project Cost-Effectiveness and Benefit Scores

	Council Capital Cost/ML - Annualised**	
	$300	
	$228	
	$525	
	$917	
	$950	
	$3,950	
	$1,088	
	$413	

* Council sites
** Capital costs spread evenly over 20 years (2019/20 $s)

Financial Implications

Future water recycling projects can be assessed using the methodology outlined in this report. This will help determine which projects will provide value for money in terms of any Council expenditures.

As a guide, projects involving commercial businesses (such as farms or golf courses) should have a cost-effectiveness of $700/ML or lower and a benefit score of 6 or greater.

For sporting grounds, with higher public usage and amenity values, the cost-effectiveness threshold should be $1,200/ML or less and a benefit score of 5 or greater.

Projects above these $/ML benchmarks would need to have significant public interest benefits.

The use of private funds or grant monies towards future water recycling projects could reduce Council expenditures and improve overall cost-effectiveness of the project from a community standpoint.

Attachment 1 – Details of Framework for Estimating Cost-Effectiveness & Benefit Scores for Water Recycling Projects

1) Cost- Effectiveness Calculations – Current Shoalhaven Schemes

Project	2019/20 Equivalent Council Capital Cost	Average Volume Reused ML/yr	Current Council Capital Cost/ML - Annualised***
REMS Stage 1A*	$9,000,000	1,500	$300
Shoalhaven Heads GC	$228,000	50	$228
St G Basin GC	$315,000	30	$525
Sussex Inlet GC	$550,000	30	$917
Sussex - Thomson St**	$114,000	6	$950
White Sands Park**	$79,000	1	$3,950
Huskisson Soccer Fields**	$87,000	4	$1,088
Ulladulla Sports Ground**	$33,000	4	$413
Vincentia GC (est.)	*$750,0000*	*20*	*$1,875*

***** REMS 1A - 50% NSW gov't subsidy deducted from 2019/20 capital cost.

** Council sites

*** Capital costs spread evenly over 20 years

2) Qualitative Benefit Scores of Current Shoalhaven Reclaimed Water Projects (0-3 points per category)

Project	Environment Protection	Business Sustainability	Amenity of Public Access Spaces	Potable Water Conservation	Score out of possible 12
REMS Stage 1A**	XXX	XXX	XXX	XXX	12
Shoalhaven Heads GC	XXX	XXX	X	-	7
Sussex Inlet GC	XXX	XX	X	-	6
St G Basin GC	XXX	XX	X	-	5
White Sands Park	X	-	XXX	X	5
Huskisson Soccer Fields	X	-	XXX	XX	6
Sussex - Thomson St	X	-	XXX	XX	6
Ulladulla Sports Ground	X	-	XX	X	4

Benefits Scoring Criteria

Environment	**Commercial**	**Public Amenity**	**Water Conservation**
XXX - significant (>20%) reduction in environmental discharge	XXX - significant drought proofing of business (high reliance on reclaimed water)	XXX - significant public use of area	XXX - significant potable savings >20ML/yr
XX - moderate reduction >10% & <20%	XX - moderate drought benefit (partly reliant on other water sources)	XX - some public usage	XX - modest potable savings >5ML/yr & <20ML/yr
X - small reduction (<10%)	X - modest benefit	X minimum public use	X - minor savings >1ML/yr