

## Strategy and Assets Committee

**Meeting Date:** Tuesday, 13 April, 2021

**Location:** Council Chambers, City Administrative Centre, Bridge Road, Nowra

## Attachments (Under Separate Cover)

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Corporate Financial Services

Level 7  
CBP North  
1 Harbour Street  
SYDNEY NSW 2000

Gary Morris  
Relationship Executive  
Government Banking Group  
Mobile: 0416 243 316  
Email: [morrisga@cba.com.au](mailto:morrisga@cba.com.au)

Craig Gilfillan  
Assistant Financial Accountant  
Shoalhaven City Council  
PO BOX 42  
NOWRA NSW 2541

30 March 2021

Via email: [Craig.Gilfillan@shoalhaven.nsw.gov.au](mailto:Craig.Gilfillan@shoalhaven.nsw.gov.au)  
Reference Number: 64498E

Dear Craig,

**Offer of Finance**

Commonwealth Bank of Australia ('the Bank') is pleased to provide an Offer of Finance for Loan Facilities ('the Facility') totaling \$3,590,000.00 to Shoalhaven City Council ('the Council').

Particulars of the Facility, including all fees and the interest rates, are detailed in the attachment titled 'Term Schedule – Annexure A'. Terms and conditions of the Facility and the Bank's Requirements are detailed in the attachment titled 'General Terms and Conditions – Annexure B'. All annexures form part of the Offer of Finance.

The Bank recommends Independent Legal advice is sought prior to signing any documentation.

**To the extent allowed by statutory and other requirements the contents of this letter are at all times for the confidential information of the Council, auditors of the Council, legal adviser to the Council, any financial adviser appointed by the Council, and staff of the Bank.**

Should you wish to proceed on the terms and conditions outlined, please arrange for the signing and returning of this offer of finance by email to [morrisga@cba.com.au](mailto:morrisga@cba.com.au) by 3.30pm today to enable us to fix the interest rate for the proposed funding date. Please note the conditions precedent in Annexure B that also need to be met prior to loan funding.

We would be happy to provide updated interest rates should you wish to proceed after this time.

In the meantime, should you have any queries on the attached, please do not hesitate to contact me on 0416 243 316.

Yours sincerely



Gary Morris  
Relationship Executive

**Terms Schedule - Annexure A****Particulars of the Facility are:****Bank: Commonwealth Bank of Australia ABN 48 123 123 124**

Address for service of communications:

*Address:* Level 7, CBP North, 1 Harbour Street SYDNEY NSW 2000  
*Attention:* Gary Morris, Relationship Executive  
*Email:* morrisga@cba.com.au  
with a copy to:

*Address:* Level 3, Axle, 5-7 Central Avenue Eveleigh NSW 2015  
*Attention:* Loan Management Group  
*Phone:* 1300 881 394  
*Email:* CBAloanq@cba.com.au

**Council: Shoalhaven City Council**

Address for service of communications:

*Address:* PO BOX 42 NOWRA NSW 2541  
*Attention:* Craig Gilfillan  
*Phone:* +61 02 4429 3150  
*Email:* [Craig.Gilfillan@shoalhaven.nsw.gov.au](mailto:Craig.Gilfillan@shoalhaven.nsw.gov.au)

<b>Facility Type:</b>	Fixed Rate Loan
<b>Loan Amount:</b>	\$3,590,000.00
<b>Purpose of Finance:</b>	Fund Holiday Park redevelopment
<b>Term/Repayment:</b>	10 years Principal and Interest Repayments will be based on an amortising profile over 10 years (with the rate fixed for 10 years).
<b>Final Repayment Date:</b>	28 April 2031
<b>Expected Funding Date:</b>	28 April 2021
<b>Drawdown Notice:</b>	Means a notice substantially in the form set out in Annexure C.

**Drawdown:**

The Council may request a loan by delivering a Drawdown Notice to the Bank.

Each Drawdown Notice is irrevocable and will not be regarded as having been duly completed unless it:

- (a) is delivered no later than 10.00am Sydney time, three Business Days before the proposed drawdown date (or at any later time and date as the Bank may agree);
- (b) is signed by an Authorised Officer; and
- (c) otherwise complies with the notice's conditions.

If the conditions set out in this Contract have been met, the Bank shall make the Drawdown requested in the relevant Drawdown Notice.

"Business Day" means a day (other than a Saturday or a Sunday or public holiday) on which banks are open for general business in Sydney.

**Interest Rates,  
margins and  
Break Costs:**

**Fixed Rate Loan**

Set out below are the fixed interest rate(s) as at 10.00am on 30 March 2021.

Loan Option	Repayments/Term	Interest Rate
1. \$3,590,000.00	Equal semi-annual instalments of principal and interest over a term of 10 Years	1.96% pa
2. \$3,590,000.00	Semi-annual principal reductions of \$179,500.00 plus interest over a term of 10 Years	1.94% pa

\*Indicative as at today.

The Council agrees that where it has accepted a quoted fixed rate but, for whatever reason on the relevant funding date the Council fails to take any action on its part required to implement the fixed rate acceptance, the Council shall pay the Bank on demand by way of liquidated damages an amount equal to the Bank's Break Costs.

"Break Costs" mean all amounts including interest determined by the Bank in good faith to be its costs and losses in respect of any fixed rate agreement and arising as a result of a failure to settle, early termination or repayment, including, without limitation, any loss of bargain, costs of funding or loss or costs incurred as a result of that failure to settle, early termination or repayment, liquidation, obtaining or re-establishment of any hedge mechanism or related trading position, together with out of pocket expenses incurred by reason of the enforcement or attempted enforcement of its rights and obligations under any such hedge mechanism or related trading mechanism.

**Repayments:**

**Method of repayment:**

Principal and Interest Repayments in accordance with the Amortisation Schedule set out in Annexure E which must be provided by the Bank at least three days before the initial drawdown date.

All payments which the Council is required to make under this Contract or under any Security must be without any set-off, counterclaim or condition or any deduction or withholding for any tax or any other reason, unless the Council is required to make a deduction or withholding by applicable law.

**Frequency:** Instalments are calculated and payable **Semi-Annual** in arrears, commencing from date of funding, or on the next business day where the due date would fall on a non-business day.

Instalments and Costs are to be deducted from an account of the Council on the due date. No fee will apply to this service. The Council will need to complete a Direct Debit Authority to facilitate the deductions.

If an instalment is not paid on its due date, then interest shall accrue on a daily basis at the rate of the fixed rate applicable to the loan until the instalment of principal and interest (including the additional interest under this paragraph) is received by the Bank.

On the Final Repayment Date, the Council must pay to the Bank all amounts owing under the Facility and all other amounts specified in this Contract as being payable on the Final Repayment Date.

**Government Fees  
And Taxes:**

All Government duties and taxes payable will be added to each instalment. Additionally, a Personal Property Securities registration fee of \$119.00 is payable upon registration of the Bank's security (only in those states where applicable) and will be charged to Council's nominated account.

**Fees:**

A Bank Lodgement Fee of \$150.00 to register our Personal Property Security (only in those states where applicable) is payable on registration of the Bank's security and will be charged to Council's nominated account.

The Bank will provide the Council with an audit certificate upon request. The applicable fee for an audit certificate is currently \$60.00 plus \$10.00 per audit certificate attachment.

The Bank will provide the Council with a certificate of balance/interest upon request. The applicable fee for a certificate of balance/interest is \$15.00 per certificate.

The Bank reserves the right to amend or vary these fees without written notice.

**Early Repayment/  
Prepayment:**

Fixed Rate Loan

The Council will be entitled to prepay the facility in part or in full subject to the following terms and conditions:

- (i) During any fixed rate period:
  - (a) Full/part prepayment may be made by special arrangement under clauses (ii) – (vii); and
  - (b) the Council must give the Bank at least three Business Days prior written notice of its intention to make a prepayment specifying the amount and date of the proposed prepayment.
- (ii) On full/part prepayment during the first or any further fixed interest rate period, the Bank is entitled in its absolute discretion to make the following adjustment and charges:
  - (a) the Early Repayment Adjustment calculated in the manner set out in clauses (iii) and (iv); and
  - (b) an Administrative Fee of \$250.00 or 0.08% of the amount prepaid whichever is the greater.

The Bank reserves the right to amend or vary this fee without written notice.
- (iii) In the case of full or part prepayment the Bank will calculate the Early Repayment Adjustment (which calculation is conclusive in the absence of manifest error) by determining:
  - (a) the fixed interest rate ("the Rate") at which the amount of the proposed prepayment ("the Sum") could be re-lent or re-invested for the remainder of the fixed interest rate period from the proposed date of prepayment ("the Period") and with similar interest payment dates and similar principal repayment amounts and dates. The Rate may be fixed by reference to the Bank's practices for aggregating investments and not necessarily by reference to any particular contract or investment of equal amount to the prepayment;
  - (b) the difference between each amount which the Bank would earn if it re-lent or re-invested the Sum at the Rate for the Period as compared with the amounts made and the Council had made all scheduled repayments on their due date until the date specified in the Repayment Schedule (each called "the Difference"); and
  - (c) the present value amount of each Difference calculated so that if the amount were invested at the Rate for the term until the amounts in question would have been earned, it would compound to the Difference.
- (iv) The aggregate of the present value amounts constitutes the Early Repayment Adjustment.
- (v) The amount of the Early Repayment Adjustment so derived (if it constitutes a cost to the Bank) will be debited by the Bank to the Council's working Account.

- (vi) The amount of the Early Repayment Adjustment so derived (if it constitutes a benefit to the Bank) will be applied by way of set off against the amount of the proposed prepayment and only the balance of the amount of the proposed prepayment remaining will be payable to the Bank.
- (vii) The Bank will on the written request of the Council provide a statement in reasonable detail setting out the calculation of the Early Repayment Adjustment.
- (viii) If the Council has accepted the Bank's quote for an Early Repayment Adjustment but fails for any reason to pay to the Bank the amount of the proposed prepayment ("the Sum") on the nominated date for prepayment the following provisions shall apply:
  - (a) the Council will be taken to have chosen to convert the unpaid part of the Sum ("the unpaid Sum") to a variable interest rate on and from the nominated date for prepayment;
  - (b) the agreed Early Repayment Adjustment (if it constitutes a cost to the Bank) will be aggregated on and from the nominated date for prepayment with the unpaid Sum (the aggregation being hereinafter described as "the Variable Rate Loan") and the provisions of clause viii) (a) shall apply to the Variable Rate Loan;
  - (c) the agreed Early Repayment Adjustment (if it constitutes a benefit to the Bank) will be applied by way of set-off against the Sum.

Any such prepayment of principal will reduce the balance and the limit of the loan, and will not be available for redraw.

#### **Annexure B – General Terms and Conditions**

References in this Annexure B to "Contract" shall mean the offer of loan letter dated 30 March 2021, the Terms Schedule comprising Annexure A, the General Terms and Conditions comprising Annexure B and any annexures to either Annexures A or B and the Security.

The General Terms and conditions applying to the Contract, are:

**Security:** Security is to comprise a statutory charge over the income of the Council under Regulation 229 of the Local Government (General) Regulation 2005.

**Assignment:** The Bank may assign or otherwise deal with all or any of its rights under the Contract in any way the Bank considers appropriate.

The Council may not assign or otherwise deal with all or any of its rights under the Contract without the prior written consent of the Bank.

**Conditions Precedent:** No later than three business days prior to drawdown of the Facility:

- a) The Mortgage and/or any other documentation provided must be returned to the Bank duly completed and executed by the Council and found satisfactory by the Bank.
- b) A copy of the minute of the Council's meeting at which it was resolved to enter into the loan, certified by the Council's Chief Executive Officer (if the Council is located in Victoria) or General Manager of the Council (if the Council is located in New South Wales) or their equivalents (if the Council is located in another jurisdiction) as being true and correct, must be provided to the Bank.
- c) Evidence of State Government approval or lodgment of notification of a borrowing with the State Government. If the State Government has provided the Council with a borrowing allocation or otherwise imposed a limitation on the amount which the Council can borrow, the Council must provide to the Bank a copy of any document evidencing the borrowing allocation or limitation, or similar documentation acceptable to the Bank.
- d) If the Security is to be signed other than under the Council's common seal, the Council must provide EITHER a certified copy of the minutes of a meeting of the Council in which it was resolved that a specified person(s) be authorised to sign the Security on the Council's behalf OR a certified copy of any other instrument of authority/delegation which authorises a specified person(s) to sign the Security on the Council's behalf.
- e) All documents and other evidence reasonably requested by the Bank in order for the Bank to carry out all necessary "know your customer" or other similar checks in relation to the Council, each of its Authorised Officers under all applicable laws and regulations where such information is not already available to the Bank and the initial Authorised Officer's Certificate.

**Authorised Officer:** means, in respect of the Council, any person holding or acting in



the position of:

- (i) in the case of a Council located in Victoria:
  - the Chief Executive Officer; or
  - any other member of the Council's staff nominated as such in a resolution made at a meeting of the Council or in an instrument signed by the Chief Executive Officer; or
- (ii) in the case of a Council located in New South Wales, the General Manager or Public Officer; or
- (iii) in the case of a Council located in another jurisdiction, the equivalent of such officers.

Each identification or verification document provided in respect of an Authorised Officer must be acceptable to the Bank.

**Authorised Officer Certificate:**

means a certificate substantially in the form set out in Annexure D.

**Undertakings:**

During the term of the loan, the Council agrees to provide the Bank with:

- a) copies of its Audited Financial Statements, and/or Council or Corporate Plans, Cash Flow Projections, and relevant Business Plans, as soon as they are available. Audited Financial Statements are to be provided within 120 days of the end of year reporting date or such later date as agreed by the Bank;
- b) promptly, notice of any change in its Authorised Officers which shall be provided in an Authorised Officer Certificate, signed by the Chief Executive Officer or General Manager of the Council (as the case may be) (or in the case of a Council located in another jurisdiction, the equivalent of such officers), provided that no notice of change shall be effective until the Bank has conducted "Know Your Customer" checks on each such new Authorised Officer; and
- c) immediate written notice of the occurrence of any Event of Default.

**Representations and Warranties:**

The Council represents and warrants to the Bank that:

- a) the Council has power and authority to enter into and perform its obligations under the Contract and any Security and the transactions contemplated by the Contract and any Security;
- b) the Council has all authorisations required to enter into and perform its obligations under the Contract and any Security and the transactions contemplated by the Contract and any Security;
- c) the obligations expressed to be assumed by the Council in the Contract and any Security Document are, subject to any necessary stamping, equitable principles and laws generally affecting creditors' rights, legal, valid, binding and enforceable obligations;
- d) any person specified as its Authorised Officer under an Authorised Officer's Certificate or otherwise is authorised to sign Drawdown Notices and other notices on its behalf except where it has previously notified the Bank in writing that that person's authority has been revoked; and
- e) this Facility meets all Government, Statutory and Regulatory requirements and no Event of Default has occurred or is continuing.

Each representation and warranty is deemed to be made by the Council by reference to the facts and circumstances then existing on each date on which interest is paid.

**Indemnity:**

The Council will, within three Business Days of demand, indemnify the Bank against any cost, expense, loss or liability (including legal fees) incurred by the Bank as a result of the occurrence of any Event of Default, any information produced or approved by the Council under or in connection with the Contract or the transactions they contemplate being or being alleged to be misleading or deceptive in any respect; acting or relying on any notice, request or instruction (whether received by email, fax or similar) signed by one or more Authorised Officers which it reasonably believes to be genuine, correct and appropriately authorised.

**Events of Default:**

The Bank may withdraw the Facility without notice on the happening of any one or more of the following events:

- a) If the Council fails to pay when due any amounts owing under the Contract;
- b) Any default in due performance and observance of any of the covenants, representations or warranties contained in this Contract expressly or impliedly;
- c) If the Council makes default under or fails to observe and perform any other agreement with the Bank or any other person whether entered into before or after this Contract and in the case of the Bank whether expressed to be collateral or not;
- d) Any receiver is appointed over the assets or the income of the Council or any administrator is appointed pursuant to the provisions of the Local Government Act;
- e) If in the valid opinion of the Bank the financial accommodation provided under this Contract or any part of it is applied for any purpose other than the Purpose of Finance described in Annexure A;
- f) If any of the covenants, conditions or provisions contained in this Contract or the Security is not completely or punctually performed.
- g) If the Council exceeds any borrowing or security limitations set out in the Local Government Act.
- h) In the opinion of the Bank a materially adverse change occurs to the financial position of the Council which renders it less likely that the Council is able to substantially comply with its obligations under the Contract or the Security.

**Declaration:**

If an Event of Default occurs, the Bank may:

- a) cancel the Facility whereupon it shall immediately be cancelled; and/or
- b) declare that all or part of the amounts owing under the Contract or any Security be immediately due and payable, whereupon they shall become immediately due and payable.

<b>Confidentiality:</b>	To the extent allowed by statutory and other requirements the contents of this letter are at all times for the confidential information of the Council, auditors of the Council, legal adviser to the Council, any financial adviser appointed by the Council, and staff of the Bank.
<b>Variation:</b>	The Bank will inform Council of variations in the General Terms and Conditions set out in Annexure B by written notice no later than the day the variations take effect.
<b>Set off:</b>	If an Event of Default is continuing the Bank may, but need not, set off any matured obligation due from the Council under this Contract against any obligation owed by the Bank to the Council (whether or not matured), regardless of the place of payment of either obligation.
<b>Notices:</b>	<p>All notices to be given under this Contract are to be in writing, and in the case of the Council signed by an Authorised Officer, and in the case of the Bank by its attorney and served upon the other party:</p> <ul style="list-style-type: none"> <li>(a) by hand (including by courier), in which case delivery is taken to have been effected upon actual delivery;</li> <li>(b) by email in which case delivery is taken to be effected on production of a 'delivery receipt' (or an equivalent expression) by the sender's electronic transmission system stating that the message was delivered to the recipient or at the time of transmission where no return electronic message is received by the sender stating that the transmission was not delivered or effected; or</li> <li>(c) by post in which case delivery is taken to have been effected on the third day after having been posted,</li> </ul> <p>as specified in the provision of notices.</p>
<b>Counterparts:</b>	The Contract or any Security may be executed in any number of counterparts, and this has the same effect as if the signatures on the counterparts were on a single copy of the Contract or any Security.
<b>Governing Law:</b>	This Contract is governed by the laws of the State in which the Council is located and each party irrevocably and unconditionally submits to the non-exclusive jurisdiction of the courts of that State and courts of appeal from that State.
<b>Code:</b>	The Code of Banking Practice applies to this Contract if you are a "small business customer" as defined in the Code of Banking Practice.

The Council hereby accepts the Bank's offer of finance for \$3,590,000.00 as detailed in the Bank's letter of offer dated 30 March 2021.

\*Option 1: Equal semi-annual instalments of principal and interest over a term of 10 years fully amortised.

\*Option 2: Semi-annual principal reductions of \$179,500 plus interest over a term of 10 years fully amortised.

*\*Please circle preferred option.*

For and on behalf of Shoalhaven City Council

\_\_\_\_\_  
General Manager

\_\_\_\_ day of \_\_\_\_\_ 2021

**Annexure C**

**Drawdown Notice**

From: Shoalhaven City Council  
To: Commonwealth Bank of Australia

Address: Level 7, CBP North, 1 Harbour Street Sydney NSW 2000  
Attention: Gary Morris, Relationship Executive  
Email: [morrisga@cba.com.au](mailto:morrisga@cba.com.au)  
and

Address: Level 3, Axle, 5-7 Central Avenue Eveleigh NSW 2015  
Attention: Loan Management Group  
Phone: 1300 881 394  
Email: [CBAloanig@cba.com.au](mailto:CBAloanig@cba.com.au)

Dated:.....

**Contract dated 30 March 2021 (the Contract)  
Drawdown Notice**

1. We refer to the Contract. This is a Drawdown Notice. This Drawdown Notice is irrevocable. Terms defined in the Contract have the same meaning in this Drawdown Notice unless given a different meaning in this Drawdown Notice.
2. We request a loan under the Contract on the following terms:

<b>Proposed drawdown date:</b>	<b>28 April 2021</b>
<b>Council's Bank account(s) to which payment is to be made:</b>	BSB : ..... Account number : .....
<b>Principal amount of loan:</b>	\$3,590,000.00

3. We confirm that each condition specified in the Contract is satisfied on the date of this Drawdown Notice and no Event of Default has occurred or would result from the provision of the Drawdown.
4. The representations and warranties set out in the Contract remain true and correct in all respects on the date of this Drawdown Notice.

Yours faithfully

.....  
Authorised Officer for Shoalhaven City Council

Name:.....

Title:.....

**Annexure D**

**AUTHORISED OFFICER'S CERTIFICATE  
Shoalhaven City Council**

To: Commonwealth Bank of Australia ('the Bank')  
Address: Level 7 CBP North, 1 Harbour Street Sydney NSW 2000  
Attention: Gary Morris, Relationship Executive  
Email: [morrisga@cba.com.au](mailto:morrisga@cba.com.au)  
and  
Address: Level 3, Axle, 5-7 Central Avenue Eveleigh NSW 2015  
Attention: Loan Management Group  
Phone: 1300 881 394  
Email: [CBAloanig@cba.com.au](mailto:CBAloanig@cba.com.au)

Date: .....

**Shoalhaven City Council – Contract dated 30 March 2021 (the "Contract")**

1. We refer to the Contract. Unless the context otherwise requires, capitalised terms used in this certificate and not otherwise defined in this certificate have the same meanings as in the Contract.
2. I am/we are.....of the Council (the "**Council**").
3. The below list is a complete and up to date list of the Council's Authorised Officer/s under and for the purposes of the Contract with the signature, or a copy of the signature, of each Authorised Officer appearing beside their name.

SCHEDULE			
List of Authorised Officers			
Name (printed)	Position (printed)	Signature	Date of birth

**SIGNED** for and on behalf of the Council by:

\_\_\_\_\_  
General Manager

**Annexure E**

**AMORTISATION SCHEDULE**

**Shoalhaven City Council – Contract dated 30 March 2021 (the “Contract”)**

**Original Loan Amount: \$3,590,000.00**

**Interest Rate: Fixed**

<b>Dates</b>	<b>Balance</b>	<b>Principal Change</b>	<b>Fixed Interest</b>	<b>Payment</b>
Refer to attached				

This Amortisation Schedule forms your notice of statement for your fixed rate loan. No further statements will be issued for fixed rate loans.





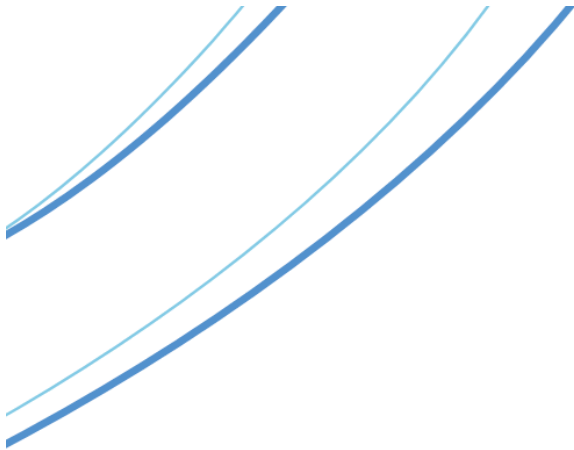
# Reclamation Annual Report

2019/20



SA21.69 - Attachment 1





## Acknowledgment of country



We acknowledge the traditional owners and custodians of this country and their continuing connection to the land through culture and community. We pay our respects to Elders past, present and future.

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SA21.69 - Attachment 1



# HIGHLIGHTS & SUMMARY

- Shoalhaven City Council is involved in water reclamation schemes at most of its thirteen wastewater treatment plants involving re-use on 33 properties.
- The largest scheme is the Northern Shoalhaven Reclaimed Water Management Scheme (REMS) involving six wastewater treatment plants and re-use on 25 properties.
- During 2019/20 approximately 2,310ML of reclaimed water was beneficially re-used from all schemes in the Shoalhaven, 31% of all reclaimed water produced.
- The REMS Stage 1A entered its eighteenth year of operation with 78% of scheme output beneficially re-used with the surplus released to Penguin Head.
- There was approximately 360ML of the REMS water recycled for dairy yard wash down in 2019/20, replacing previous usage of potable water for this purpose.
- Each of the water reclamation schemes met its water quality targets with respect to disinfection of reclaimed water.
- Approximately 1,240 tonnes of processed, dewatered biosolids were applied to farmland during 2019/20 in accordance with NSW Government environmental guidelines.
- Environmental monitoring undertaken as part of the REMS, Shoalhaven Heads, Ulladulla and Conjola sewerage schemes found no significant adverse outcomes.
- REMS stage 1B works were completed including the upgrade of Nowra and Bomaderry wastewater treatment plants and their integration into the REMS distribution system.
- Ultraviolet disinfection systems are being constructed to increase disinfection performance at the Callala, Culburra and Vincentia Wastewater Treatment Plants (WwTP) in line with current water recycling guidelines.

# Sustainable **Water** Reclamation

## Objectives of Water Reclamation Schemes

Shoalhaven City Council is committed to promoting the beneficial use of treated wastewater (reclaimed water) and the solids removed during the treatment process (bio-solids). Water reclamation schemes such as the Northern Shoalhaven Reclaimed Water Management Scheme (REMS) can promote sustainable development by:

- protecting the environment;
- reducing demand for potable water supplies;
- promoting local economic development;
- directly involving the community in water conservation.

In the Shoalhaven, water reclamation projects involve a partnership between Council (supplier) and end-users such as farms, golf courses and sports grounds. For each reclamation project, Council has established procedures to ensure the water recycling activity complies with NSW and Commonwealth guidelines.

The aims of water reclamation schemes are to:

- **Safeguard Public Health** – Reclaimed water is highly treated and disinfected to protect people who may come in contact with it and is regularly tested to ensure it meets relevant standards. In the Shoalhaven, reclaimed water typically receives tertiary treatment. The REMS and Sussex Inlet schemes also provide chlorine disinfection. Additional on-site disinfection can be provided where there is a higher risk of public contact. Irrigation properties manage applications to prevent accidental contact by workers and the public by irrigating at night-time where practicable.
- **Reduce Impacts on Surface and Ground Water** – Water reclamation schemes can help reduce the volume of reclaimed water discharged to the environment. Residual compounds in reclaimed water such as nitrogen and phosphorus can be detrimental to waterways but are a valuable resource for plant uptake if recycled onto land.
- **Protect The Local Environment** – Water reclamation projects must take into account any constraints in the local area such as poor soils and proximity to other residents or sensitive environments. These are generally addressed in the planning phase.

- **Optimise Resource Use** – Water reclamation schemes aim to improve resource use by recycling a valuable product. Water reclamation is increasingly being examined as a means of reducing demand on potable water supplies by being used in instances where non-potable water use is appropriate.
- **Be Affordable** – Council has limited resources and must look critically at the cost-effectiveness of any proposal for water reclamation projects. This includes consideration of capital and operating costs, environmental benefits and other resources savings.
- **Be Acceptable to the Community** – The Shoalhaven community was extensively involved in the developed of the REMS. As Council considers new applications for reclaimed water, it is important to consult the community and stakeholder groups on these new applications.
- **Potable Water Substitution** – Reclaimed water is increasingly being seen as one means to reduce demand on potable water supplies. For example, in the REMS, farms are recycling up to 1,000kL of reclaimed water per day for cleaning stock yards and stock drinking water where previously potable water was used.

A Reclaimed Water Policy (refer Appendix A) has been developed to guide the design and operation of Council water reclamation schemes.

REMS Dairy Farm Properties - Satellite Image



# Existing Reclamation Scheme

## REMS Stage 1A

The REMS is one of the largest and more complex water recycling schemes undertaken by a regional water authority (refer scheme map - Appendix A1). Construction was jointly funded by Shoalhaven City Council, the NSW and Commonwealth Governments and individual irrigators. REMS Stage 1A, costing \$34m, was commissioned in January 2002. Fourteen dairy farms, a golf course and several sporting grounds irrigate with reclaimed water from the scheme on well over 500 hectares of land (refer to Appendix - Table A1 for a list of participating land managers).

### The scheme components are:

**Coonemia Bulk Storage** – The bulk storage facility has a capacity of 600ML for storage of wet weather flows for subsequent re-use in dry periods. The storage holds the equivalent of 12,000 average family swimming pools or 600 Olympic sized swimming pools.

**Bulk Storage Return Pump Station** – The reclaimed water pumping station and chlorination facility at the Coonemia Bulk Stage draws water from the bulk storage to supply the distribution system when demand exceeds supply from the treatment plants.

**Coonemia Distribution Storage Reservoir** – The 4ML reservoir balances flows pumped from treatment plants to end-users and maintains a constant water pressure in the distribution system.

**Vincentia Wastewater Treatment Plant** – As part of the REMS Stage 1A, the plant capacity was increased and treatment processes upgraded to produce tertiary treated reclaimed water for supply into the REMS. Tertiary treatment is achieved through sand filtration, chlorination and ultraviolet light.

**Culburra Beach Wastewater Treatment Plant** – As part of the REMS 1A, the plant capacity was increased, and treatment processes upgraded to produce tertiary treated reclaimed water for connection to the REMS. Tertiary treatment is achieved through sand filtration, chlorination and ultraviolet light.

**Callala Wastewater Treatment Plant** – The Callala WwTP was commissioned in 1999 and was purpose built to provide tertiary treated reclaimed water into the REMS. Tertiary treatment is achieved through sand filtration, chlorination and ultraviolet light.

**Georges Basin Wastewater Treatment Plant** – This plant produces secondary treated reclaimed water using extended aeration before being pumped to the Vincentia WwTP for tertiary treatment. The plant provides supply directly to the St Georges Basin Country Club golf course and the Bay and Basin Leisure Centre sports grounds from the reclaimed water transfer main to the Vincentia WwTP.

**Vincentia Transfer Main** – This 15km pipeline conveys reclaimed water from the Vincentia Wastewater Treatment Plant through to REMS distribution storage at Coonemia. The transfer main also supplies reclaimed water directly to White Sands Park at Huskisson sports ground. Additional ultraviolet disinfection is provided at the sports ground to ensure public health protection.

**Distribution Mains** – This 18km pipeline system supplies the agricultural land on the Shoalhaven floodplain east of Nowra from the Coonemia reservoir and bulk storage.

**Farm Balance Ponds & Flow Control Works** – Each of the properties supplied from the REMS is served by a balance pond to store approximately one day's irrigation supply. Supply rates are controlled by automated flow control valves that have the facility to cater for rationing water during periods of low supply.

SA21.69 - Attachment 1





SA21.69 - Attachment 1

### Berry WwTP

A re-use scheme operates from the Berry WwTP with a local dairy farm pumping reclaimed water from the plant's storage pond for irrigation of 25 hectares of pasture. In 2005 the Berry WwTP had its capacity increased and its treatment process upgraded to tertiary standard. Tertiary treatment is achieved through sand filtration and ultraviolet disinfection.

### Shoalhaven Heads WwTP

A re-use scheme operates from the Shoalhaven Heads WwTP with a local turf farm irrigating 14 hectares of turf and the Shoalhaven Heads Golf Club irrigating 10 hectares of green, tees and fairways. Tertiary treatment of reclaimed water is achieved through filtration and chlorine disinfection.

### Nowra & Bomaderry WwTPs (REMS Stage 1B)

Major upgrades to the Bomaderry and Nowra WwTPs were completed in late 2019 at a cost of around \$110m. The majority of these projects was funded by Shoalhaven City Council with a contribution from the NSW Government. Reclaimed water transfer mains have also been constructed to connect the treatment plants to the existing REMS network including a 1,400m section of pipeline under the Shoalhaven river (see Figure A.1). The inclusion of the Bomaderry and Nowra WwTPs effectively doubles the amount of reclaimed water supply into the REMS. All reclaimed water flows receive tertiary treatment through filtration and ultraviolet disinfection with reclaimed water transferred to the REMS network also receiving chlorine disinfection. The existing farm and golf course properties supplied from the Nowra WwTP were connected to the expanded REMS distribution system.

### Sussex Inlet WwTP

Reclaimed water from the Sussex WwTP is irrigated on the nearby Thomson Street sports ground. The Sussex Inlet plant provides tertiary treatment of reclaimed water through sand filtration and chlorine disinfection. Additional ultraviolet disinfection is provided at the sports ground to ensure public health protection. Pipeline designs have been completed to supply reclaimed water from the WwTP to the Sussex Inlet Golf course.

### Ulladulla WwTP

Currently there is a small amount of re-use from the upgraded Ulladulla WwTP on the nearby West Ulladulla sports ground. The potential for larger re-use schemes in the Milton/Ulladulla area were investigated and found to be cost-prohibitive.

### Kangaroo Valley WRF

The wastewater reclamation facility (WRF) for Kangaroo Valley was commissioned in 2013. The WRF provides tertiary treated reclaimed water using membrane filtration and ultraviolet disinfection. A 50ML wet weather storage was constructed, equivalent to 1 year's output, to allow beneficial irrigation on 16 hectares of adjacent dairy pasture.

### Biosolids Management

The solids removed during wastewater treatment are increasingly recognised as a valuable resource which is high in organic matter and nutrients. Council has a policy to maximise the beneficial re-use of biosolids subject to compliance with NSW environmental guidelines. The treatment of biosolids in the Shoalhaven involves stabilisation in lagoons for up to 12 months. The solids are then dewatered using a centrifuge and then tested for suitability to land application.

See page 16 for details of Council biosolids production.

# Operational Achievements

## Volumes Re-used

The 2019/20 year was characterised by well-below average rainfall during spring and early summer. Figure 3.1 shows monthly rainfall, pasture evaporation and irrigation rates for the REMS during 2019/20. Beneficial re-use for the REMS totalled 1,870ML or 78% of total outflows from the Scheme. Farms applied an average of 4.4 ML (440mm) of reclaimed water per allocated hectare for the year. Supply restrictions were in place from December 2019 to February 2020 due to high irrigation demand during the drought.

The cumulative volume of reclaimed water usage in the REMS since operations commenced (i.e. September 2001- June 2019) is in excess of 28,200ML, or approximately 63% of the total flows managed by the scheme (see figure 3.2). The average annual volume released to the Penguin Head outfall has been 870ML. This annual average represents a 30% increase in reclaimed water released to the Penguin Head outfall than when the Culburra scheme operated on a stand-alone basis.

However, this increase in volume is more than compensated by a higher level of treatment of reclaimed water in the REMS.

Figure 3.1 - REMS Monthly Irrigation, Rainfall & Evapotranspiration: July 2019 - June 2020

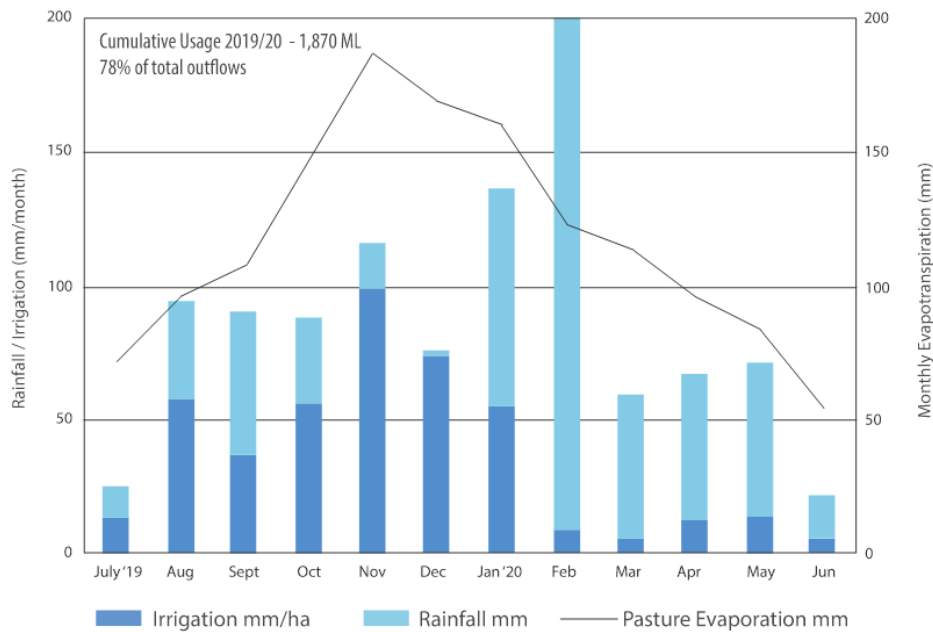


Figure 3.2 - Annual Outflows & Rainfall Summaries - Shoalhaven REMS

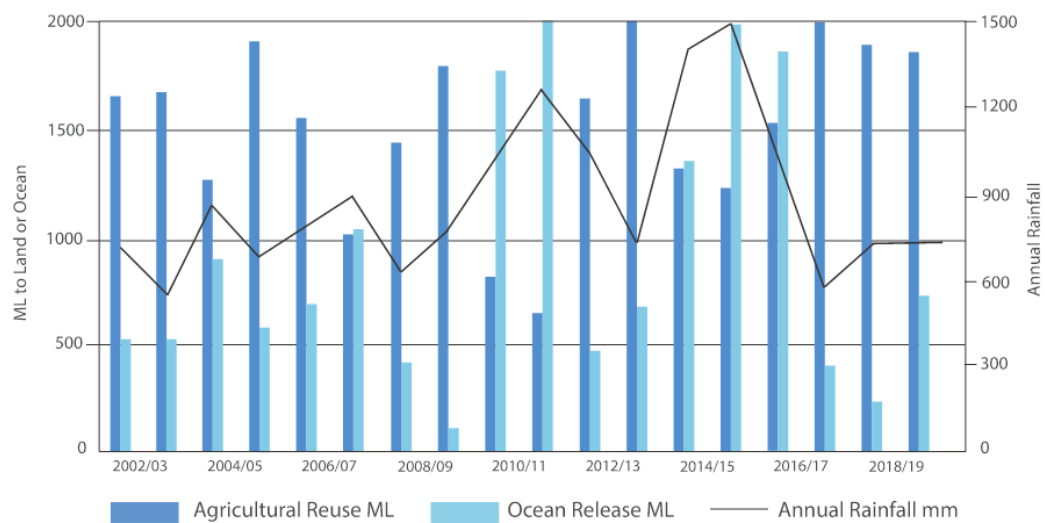


Table 3.1 below shows reclaimed water volumes produced and re-used for all of Council's wastewater schemes.

For 2019/20, a total of 2,306ML was re-used or 31% of the total output from Council's 13 wastewater treatment plants.

**Table 3.1 - Shoalhaven Reclaimed Water Production, Re-use and Surplus Releases 2019/20**

Scheme	Total Output ML	Re-Use ML (% of total)	Surplus Released to Environment ML
Berry	230	0 (0%)	230
Shoalhaven Heads	251	123 (49%)	128
Kangaroo Valley	40	39 (98%)	0**
Bomaderry	637	0 (0%)	637
Nowra	2,062	265 (13%)	1,797
REMS*	2,372	1,866 (79%)	506
Sussex Inlet	424	6 (1%)	418
Conjola	212	7 (4%)	205
Ulladulla	1,314	0 (0%)	1,314
<b>Totals</b>	<b>7,542</b>	<b>2,306 (31%)</b>	<b>5,236</b>

\* Includes reclaimed water from St Georges Basin, Vincentia, Culburra Beach and Callala WwTPs and the Coonemia Bulk Storage

\*\* Surplus reclaimed water from the Kangaroo Valley WRF held in 50ML wet weather storage



## Compliance with Water Recycling Guidelines

There are complementary State and Commonwealth government guidelines that provide a framework for the design and management of water re-use schemes.

These are:

- Environment Protection & Heritage Council (2006). Australian Guidelines for Water Recycling: Managing Health & Environmental Risks (Phase 1).
- NSW Department of Environment and Conservation (2004). Use of Effluent by Irrigation.

Key factors common to these guidelines are the need to select suitable sites and control measures for reclaimed water irrigation and to ensure reclaimed water has had adequate disinfection for the intended end use. Table 3.2 provides performance summary of each re-use scheme against the disinfection targets. As shown in the table, all schemes have met these targets and achieved a high level of treatment as evidenced by the removal of organic material and other solids.

**Table 3.2 - Compliance of Shoalhaven Schemes with Disinfection Guidelines**

Scheme	Type of Irrigation	Target Disinfection Level * (thermotolerant coliforms)	2019/20 Plant Performance * (thermotolerant coliforms)	2019/20 B.O.D. & Suspended Solids Performance**
Berry	Pasture + withholding	<1,000cfu/100mL	4 cfu/100mL	BOD <2mg/L SS 1mg/L
Shoalhaven Heads	Turf Municipal: Restricted access	<10,000/100mL <100cfu/100mL	55 cfu/100mL	BOD 2mg/L SS 2mg/L
Kangaroo Valley	Pasture / no withholding	<100cfu/100mL	<1cfu/100mL	BOD <2mg/L SS <1mg/L
REMS 1B Nowra / Bomaderry	Pasture + withholding Municipal Open access	<1,000cfu/100mL <100 cfu/100mL	10 cfu/100mL	BOD 2mg/L SS 3mg/L
REMS 1A	Pasture / no withholding Municipal Open access	<100cfu/100mL <10cfu/100mL	1 cfu/100mL	BOD <2mg/L SS 1mg/L
St Georges Basin	Municipal Restricted access	<1,000cfu/100mL	950 cfu/100mL	BOD 2mg/L SS 5mg/L
Sussex Inlet	Open access areas	<10cfu/100mL	1 cfu/100mL	BOD <2mg/L SS 2mg/L
Milton / Ulladulla	Municipal Restricted access	<100cfu/100mL	100 cfu/100mL	BOD 5mg/L SS 5mg/L

\*Median (50th percentile) values

\*\*Average values

The quality of reclaimed water supplied to the REMS irrigation properties during 2019/20 is given in Appendix - Table A2. For the REMS, the average value of reclaimed water conductivity was 1,060uS/cm in 2019/20, slightly above the scheme target of 1,000uS/cm.

## Management of Biosolids

Shoalhaven City Council manages the biosolids reclaimed from wastewater in accordance with NSW Government environmental guidelines 'Use and Disposal of Biosolids Products'.

This process involves:

- Stabilisation in lagoons;
- Dewatering;
- Testing for contaminants by an accredited lab;
- Grading of biosolids in accordance with the NSW guidelines;
- Carting and land application (or disposal if required).

### Biosolids - Current Spreading Plan





SA21.69 - Attachment 1



In 2019/20 approximately 1,240 tonnes of biosolids were dewatered and tested at Council's WwTP (Table 3.3). All material was found to be suitable for land application (Grade C or better), with all dewatered biosolids applied to local farms in November 2019. Wet weather delayed the autumn land application until spring 2020.

**Table 3.3 - Shoalhaven Biosolids Reclamation 2019/20**

WwTP	Biosolids Reused (wet tonnes)	Suitability for Land Application (Grade)	Where Applied
Berry	0		
Shoalhaven Heads	0		
Bomaderry	0		
Kangaroo Valley	20	Suitable (grade C)	Pyree
Nowra	250	Suitable (grade C)	Pyree
Culburra	295	Suitable (grade C)	Pyree
Callala	325	Suitable (grade C)	Pyree
Vincentia	0		
St Georges Basin	350	Suitable (grade C)	Pyree
Sussex Inlet	0		
Bendalong	0		
Conjola	0		
Ulladulla	0		
<b>Scheme Totals</b>	<b>1,240 tonnes recycled</b>		

### Compliance with the REMS Usage Targets

The REMS use/supply agreement sets a (moving) target that each property should irrigate a minimum of 75% of the groups' average, expressed on a mm/allocated hectare basis. Appendix - Table A.1 indicates each property's usage against this benchmark for the year 2019/20 and since the start of the scheme (18 years). For the years 2002-2020, thirteen of fourteen participating farms have met this 75% target. The only properties not reaching the target were the golf courses and sports grounds that also utilise stormwater in their irrigation systems.

## Environmental Monitoring

### REMS

As part of the Scheme approvals for the REMS, an Environmental Monitoring Program was developed to ensure beneficial outcomes. Key environmental issues included protection of groundwater and soils in the irrigation areas as well as minimising any impacts from surplus releases to the ocean at Penguin Head.

**Groundwater Monitoring** – A network of eleven groundwater monitoring bores was established in early 2001 within the farm irrigation area. A baseline ground water height and quality sampling program was undertaken between March 2001 and December 2001. A further 86 sampling events have been undertaken to examine trends in local water tables. Table 3.4 shows the average depth before and after scheme implementation. The results indicate that average depth to water table has not changed significantly as a result of the scheme. The groundwater quality monitoring undertaken to date also does not show any significant adverse impact from implementation of the Scheme.

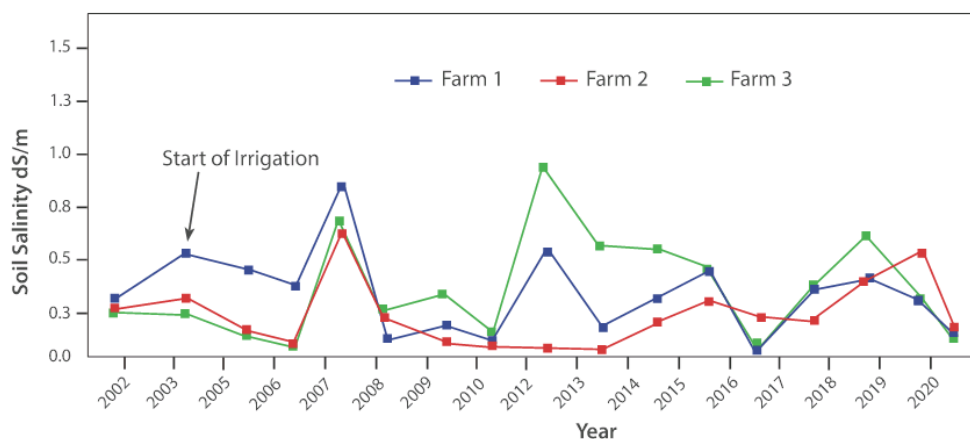
Table 3.4 - Average Groundwater Depth - REMS Irrigation Area

	Before REMS	During REMS
Average depth to water * (standard deviation)	1.94m	1.87m

\* Average depth across nine bores

**Farm Soils** - As part of the REMS Environmental Monitoring Program periodic soil samples are taken from irrigated and non-irrigated farming areas to gauge any adverse impacts from reclaimed water irrigation, such as a build-up of soil salinity. Figure 3.3 shows trends in soil conductivity (salinity) levels on three irrigated farms. For the duration of the REMS soil salinity levels have remained well within the safe irrigation range of <2dS/m.

Figure 3.3 - REMS Farm Soil Test Results - Soil Salinity



**Nutrient Balance** – An annual nutrient budget is calculated for the major nutrients applied through reclaimed water irrigation. The results to date suggest that far more nitrogen and phosphorus is removed through grazing than is applied via reclaimed water. The results of these nutrient budgets for 2019/20 are summarised in Table 3.5.

**Table 3.5 - Farm Nutrient Budgets 2019/20 - Total Nitrogen & Total Phosphorus**

Nutrient	Average Quantity Applied by Irrigation (kg/Ha/yr)	Quantity Removed by Grazing (kg/Ha/yr)	Net Nutrient Balance (kg/Ha/yr)
Nitrogen	17	126	-109
Phosphorous	14	32	-18

**Environment Protection Licence** - Testing of reclaimed water quality released to Penguin Head during 2019/20 complied with the requirements of the REMS Environment Protection Licence.

**Environmental Benefits** – The REMS has eliminated the need for regular wastewater releases into Jervis Bay. In the twelve months to June 2020, a total of 1,550ML of reclaimed water was not released into the Bay as a result of REMS. This avoided nutrients and organic materials being released to Jervis Bay as follows:

- 8,300kg nitrogen;
- 5,300kg phosphorous;
- 1,500kg oil and grease;
- 1,500kg biochemical oxygen demand (BOD);
- 2,200kg suspended solids.

These compounds were instead recycled onto farmland, golf courses and sporting grounds or discharged to the ocean outfall at Penguin Head.

# Re-use Development

Shoalhaven City Council is committed to increase the amount of beneficial re-use schemes over time. A range of factors need to be considered in examining the feasibility of new schemes including:

- Type of scheme and volume utilised;
- Proximity to existing reclaimed water facilities;
- Cost-effectiveness of scheme;
- Environmental impacts/benefits of specific schemes;
- Ability to substitute/replace existing uses of potable water.

Council funding of new re-use schemes needs to be prioritised against other projects such as developing centralised sewerage systems for un-sewered towns and villages as well as increasing maintenance requirements for existing schemes. An ongoing issue is conservation of drinking water resources, thus recycling projects replacing potable water supply are likely to receive a high priority.

Council has developed a reclaimed water policy to guide the development and operation of reclaimed water management schemes (Appendix A).

## REMS Stage 1B

Stage 1B of the REMS was completed in 2019 and can supply the reclaimed water from the upgraded Nowra and Bomaderry WwTPs to the REMS distribution system, significantly increasing the daily reclaimed water supply available to the Scheme. The allocated REMS irrigation area has also increased to over 600 hectares.

Designs are also underway for an expansion of the REMS Bulk Storage (REMS Stage 2) and construction may start in 2021 subject to funding availability.

## Other Projects

In addition, works have commenced to install ultraviolet disinfection systems at the Callala, Culburra and Vincentia WwTP in line with current water recycling guidelines.

Recycled water quality management plans are being prepared for the REMS 1A and REMS 1B schemes.

Designs have been completed for a reclaimed transfer main from the Sussex Inlet WwTP to the local golf course with construction due to occur in late 2020. A recycled water quality management plan will be prepared for this project.

# Appendix A

## Shoalhaven City Council Reclaimed Water Policy

*Policy Number: POL19/62 • Adopted: 24/07/2007 • Amended: 25/06/2009, 3/09/2013 • Minute Number: MIN07.1087, MIN09.774, MIN13.858 • File: 12039E  
• Produced By: Shoalhaven Water • 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 30% 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. RECLAIMED WATER MANAGEMENT POLICY

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.

- 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)
- Environmental Guidelines: Use of Effluent by Irrigation (NSW DEC, 2004)
- NSW Environmental Protection Licenses 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.

#### 8. APPLICATION OF ESD PRINCIPLES

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



Figure  
A1

REMS Map



Table  
A1

Participating REMS Stage 1A  
Irrigation Properties

Owner	Property Location	Stage 1A Allocation (hectares)	2019/20 Usage ML	Long-term Usage (from Jan 2002) as % of Average
DJ & JA Watts	Stratherick Lane, Pyree	20	127.7 *	139%
LR & SL Henry	Greenwell Point Rd, Pyree	14	7.1	63%
RH Boyd & Son P/L	Greenwell Point Rd, Brundee	32	22.3 *	74%
B, G & S Menzies	Jindy Andy Lane, Numbaa	28	115.7 *	99%
RA Henry & Son P/L	Comerong Island Rd, Numbaa	35	214.1 *	102%
RJ & JJ Crawford	Bournes Lane, Pyree	17	51.3	57%
RF Herne & TL Russell	Greenwell Point Rd, Brundee	35	189.1 *	115%
RJ & JJ Crawford	Jindy Andy Lane, Numbaa	39	176.1 *	102%
CH & WK Watts	Bournes Lane, Pyree	23	134.0 *	116%
IH & CA Zandstra	Bournes Lane, Pyree	20	147.4	111%
CJ & GR Cochrane	Pyree Lane, Pyree	23	158.4 *	105%
IH & CA Zandstra	Greenwell Point Road, Pyree	28	61.3 *	123%
Beaulands Farms P/L	Comerong Island Road, Pyree	10	123.1 *	93%
Reg Cochrane P/L	Mayfield Road, Pyree	28	200.6 *	112%
Shoalhaven City Council (Bay & Basin Leisure Centre)	The Wool Road, Vincentia	1	0.0	43%
Shoalhaven City Council (White Sands Park)	Hawke Street, Huskisson	0.5	5.0	92%
St Georges Basin Country Club	Paradise Beach Road, Sanctuary Point	18	25.1 **	43%
Shoalhaven City Council	Park Street, Huskisson	2.0	6.9	117%
Culburra Bowling & Recreation Club	Prince Edward Ave, Culburra	0.5	3.7	38%
Callala Golf Club	Callala Beach Road, Callala	10	8.8 **	n/a
<b>TOTAL</b>		<b>374</b>	<b>1,900.2 ***</b>	

\* These properties also use reclaimed water for yard wash down or other approved purposes. This volume is included in their usage figures.

\*\* These properties also use stormwater for irrigation. Stormwater usage is not included in total usage.

\*\*\* Includes volume re-used on four properties for wash down only (68.4 ML in 2019/20).



### Other Shoalhaven Properties Irrigating with Reclaimed Water

Owner	Property Location	Activity	Irrigation Area (hectares)	2019/20 Usage ML
Roymao P/L	Mullers Lane, Berry	Dairy Farm	25	0.0
R & S Ryan	Coolangatta Rd, Coolangatta	Turf Farm	14	63.4
Shoalhaven Heads Golf Club	Staples St, Shoalhaven Heads	Golf Course	12	62.9 *
RH Boyd & Son P/L	Millbank Rd, Terara	Dairy Farm	30	217.2
G & C Chittick	Moss Vale Rd, Kangaroo Valley	Dairy Farm	16	39.4
Shoalhaven Ex-Servicemens Sports Club P/L	Greenwell Point Rd, Worrigee	Golf Course	20	47.5 *
Shoalhaven City Council	Thomson St, Sussex Inlet	Sports Ground	3	6.0
Shoalhaven City Council	Camden St, Ulladulla	Sports Ground	2	0.0 *

\* These properties also use stormwater or groundwater for irrigation. Stormwater/groundwater usage is not included in total usage.

# Table A2

## REMS Reclaimed Water Test Results June 2019 - May 2020

Overall Scheme Targets	Range	Average	Target *	# of Samples
B.O.D (mg/L)	<2.0 - 5.0	<2	<10	12
Suspended Solids (mg/L)	<1.0 - 7.0	1.5	<15	24
Total Nitrogen (mg/L)	1.4 - 5.2	3.9	<15	12
Total Phosphorus (mg/L)	0.2 - 6.1	3.1	<10	12
Oil & Grease (mg/L)	<1	<1	<2	12
pH	7.4 - 7.9	7.6	6.9 - 9.0	24
Faecal Coliforms (cfu/100mL)	<1.5	<1	<200	24
Residual Chlorine (mg/L)	0.05 - 0.31	0.12	0.1 - 0.2	24
Chlorophyll 'a' (ug/L)	<0.1 - 2.01	1	<20	12
Turbidity (ntu)	0.3 - 1.6	0.8	<2	12

\* Source: REMS EIS (1997)

Other Chemistry & Nutrients	Range	Average	Target **	# of Samples
Conductivity (uS/cm)	840 - 1,300	1,060	<1000	12
Total Dissolved Solids (mg/L)	380 - 590	520	<700	12
Chloride (mg/L)	134 - 144	139	<250	2
Potassium (mg/L)	17 - 19	18	-	2
Calcium (mg/L)	31 - 36	33	-	2
Magnesium (mg/L)	11 - 16	14	-	2
Sulfates (mg/L)	52 - 65	59	-	2
Sodium (mg/L)	132 - 142	138	<250	2
Sodium Absorption Ratio	-	4.4	<10	Annual

\*\* Source: NWQMS Irrigation Guidelines (2001)



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SA21.69 - Attachment 1



## Shoalhaven Water

Report on Audit of Best Practice Management of  
Water Supply and Sewerage Services in 2019/20

March 2021

## Shoalhaven Water

### Report on Audit of Best Practice Management of Water Supply and Sewerage Services in 2019/20

March 2021

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Cover Image: Shoalhaven Water

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SA21.72 - Attachment 1



## 1. Report of Compliance

### 1.1 Introduction

Public Works Advisory were engaged by the Shoalhaven City Council to audit Shoalhaven Water Group's water supply and sewerage services for compliance with the DPIE Water Best Practice Management Guidelines, May 2007 (BPM Guidelines) and the NSW Best Practice Management Framework for Water Supply and Sewerage, February 2019 (BPM Framework) for the reporting year 2019/20.

The audit involved off-site collection, collation and review of relevant documentary evidences, and this document is the audit report outlining the scope of the audit and records the audit findings and conclusions regarding the compliance of Shoalhaven Water Group (SWG) with the BPM Guidelines and the Framework for the reporting year 2019/20.

### 1.2 Scope

We have performed the agreed procedures in accordance with our proposal for engagement by Shoalhaven Water Group (SWG) and described below with respect to the compliance of the SWG's Water Supply and Sewerage services with the NSW Best Practice Management Guidelines, August 2007 as updated through the Best Practice Management Framework, February 2019 for the year ended 30 June 2020 based on relevant criteria as set forth in column (3) of Table 1 of the Guidelines. Our engagement was generally undertaken in accordance with Australian Auditing Standards applicable to agreed-upon procedures of engagements.

The responsibility for determining the adequacy or otherwise of the procedures agreed to be performed is that of Council and the DPIE Water. The procedures were performed solely to assist Shoalhaven Water and DPIE Water in evaluating the validity of the compliance requirements and are summarised as follows:

1. We reviewed the current draft **Strategic Business Plan 2020-24** (SBP) to ensure that it included an:
  - Operating environment review
  - Total Asset management plan - operation, maintenance, capital works
  - Key performance indicators

- Customer service plan
  - Levels of service
  - Work Force plan
- 2) We reviewed the **Financial Plan** as contained within the SBP to ensure that it covered a period of at least 20 years and it reports the lowest required stable typical residential bill (TRB)
  - 3) We reviewed **full cost recovery** for both water supply and sewerage consistent with the outcomes listed in column (3) of Table 1
  - 4) We reviewed **water supply tariffs** to confirm they complied with the outcomes listed in column (3) of Table 1
  - 5) We reviewed the **sewerage tariffs** to confirm they complied with the outcomes listed in column (3) of Table 1
  - 6) We reviewed the **liquid trade waste fees and charges** to confirm they complied with the outcomes listed in column (3) of Table 1
  - 7) We reviewed the **commercial developer charges** to confirm the existence of a Development Servicing Plan with commercial developer charges.
  - 8) We reviewed the **liquid trade waste approvals** to confirm they complied with the outcomes listed in column (3) of Table 1
  - 9) We reviewed the **water conservation** measures to confirm that it included the outcomes listed in column (3) of Table 1
  - 10) We reviewed the **drought management** plan to confirm that it included the outcomes listed in column (3) of Table 1
  - 11) We checked documentary evidence to ensure that **performance reporting** forms were completed and lodged to DPIE Water within the required time frame, and
  - 12) We checked for completion and implementation of **IWCM Strategy** following substantial commencement of sound Integrated Water Cycle Management.

### 1.3 Findings

We report our findings as follows:

- a) With respect to (1) above, we found that Shoalhaven Water has reviewed and updated Strategic Business Plan (2020-24 draft), which is substantially compliant with the outcomes listed in column (3) of Table 1 of the Best-Practice Management Guidelines. However, we note that in accordance with the BP Framework requirements, preparation of IWCM Strategy is first in order.
- b) With respect to (2) above, we found that Shoalhaven Water have reported in the draft SBP, the typical residential bills forecast using their “in-house” spreadsheet financial model. We also found that Shoalhaven Water has adopted an updated 20-year capital works programs for the financial model forecasts for 2019/20.
- c) With respect to (3) above, we found that the projected total annual water supply and sewerage services income provided full cost recovery, resulting in a positive economic real rate of return.
- d) With respect to (4) above, we found that water supply tariffs considered the outcomes listed in column (3) of Table 1 with 76.38% of residential revenue generated through residential usage charges in the year 2019/20.
- e) With respect to (5) above, we found that sewerage tariffs considered the outcomes listed in column (3) of Table 1.
- f) With respect to (6) above, we found that the liquid trade waste fees and charges considered the outcomes listed in column (3) of Table 1.
- g) With respect to (7) above, we found that the adopted Development Servicing Plans (DSPs) for Water Supply and Sewerage Services in 2008 considered the outcomes listed in column (3) of Table 1 and noted that it took into account the cross subsidy that will occur during the phased implementation as allowed in the Developer Charges Guidelines 2002. We also found that an update of the DSPs and calculation of developer charges in accordance with the 2016 Developer Charges Guidelines has been completed by Shoalhaven Water, however, Council has withheld the public exhibition and adoption of the same. Council reports that the adoption of the latest DSP has been delayed to support rebuilding of community recovering from natural disasters (bushfires and floods) and pandemic situations during the year 2020. Council reports

that the adoption of the updated DSPs will be considered by the new Council to be elected in September 2021.

- h) With respect to (8) above, we found that the adopted Liquid Trade Waste Policy was last amended in April 2017. Liquid trade waste approvals have been issued to trade waste discharges and the liquid trade waste fees and charges considered the outcomes listed in column (3) of Table 1.
- i) With respect to (9) above, we found that Shoalhaven Water implemented sound water conservation and demand management initiatives, as identified in their IWCM Strategy adopted in 2008 and reviewed as part of the review of draft Strategic Business Plan, to achieve the outcomes listed in column(3) of Table 1.
- j) With respect to (10) above, we found that the Drought Management Plan (DMP), 2020 considered the outcomes listed in column(3) of Table 1.
- k) With respect to (11) above, we found that performance reporting forms for 2019/20 have been completed and lodged with DPIE Water on 4 October 2020.
- l) With respect to (12) above, we found that the Shoalhaven Water adopted a sound IWCM Strategy in June 2008. The water supply and sewerage servicing strategy prepared in 2013 provide the basis for the system augmentations and forward 'growth' capital works to meet the demands of new developments and new service areas in line with the adopted Strategy. Shoalhaven Water claims that the Stage-1B of Recycled Effluent Management Scheme (REMS) completed in 2020 is one such strategic capital work option signifying the continuing relevance of the 2008 IWCM Strategy.
- m) We note that Shoalhaven Water needs to update the IWCM Strategy in accordance with the February 2019 Checklist requirements to maintain the implementation of best practice management. In this regard, Shoalhaven Water states that significant progress has been made in completing a number of latest IWCM checklist components including the asset management plans for water and wastewater, drought management plans, renewal of bulk water supply agreements and demand management strategies. Currently, Council is planning to undertake Secure Yield Assessment in accordance with the latest water security analysis guidelines (another component of IWCM checklist) with the engagement of consultants by May 2021.

With regard to completing the remaining IWCM checklist components/ requirements, Council reports that an in-house 'gap analysis' to take stock of the completion status of

the checklist components so far and development of timeframe to complete the remaining components is planned to be completed by 30 June 2021.

#### 1.4 Conclusion

Based on the findings of our audit, we conclude that Shoalhaven Water has demonstrated **'substantial compliance' with Best Practice Management of Water Supply and Sewerage** in line with the DPIE Water Best Practice Guidelines and Best Practice Framework as applicable for the year ended 30<sup>th</sup> June 2020.

#### 1.5 Definition

We have adopted the following definition for this engagement:

- *"Substantial Compliance"* means the level of compliance with the Guidelines such that any identified deficiencies do not detract from the general intent of the Guidelines to achieve Best Practice Management for Water Supply and/or Sewerage Services.
- What constitutes substantial compliance is also a function of at what point in time the issue is examined. Therefore, the best practice management adopted must take into account likely future scenarios and apply the current body of industry knowledge in regard to best practice.

#### 1.6 Disclaimer

Our report is solely for the purpose set forth in the first paragraph of this report and for the information of Shoalhaven Water and the DPIE Water and is not to be used for any other purpose or distributed to any other party. This report relates only to the items specified above and does not extend to any financial report of the Council taken as a whole.

Signed:

Date signed: 12 March 2021



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