

Agreement

Between

Byron Shire Council (ABN 14 472 131 473)

and

Name (ABN xxxxx)

Participating Land Manager

**Agreement for the Supply of Recycled Water
from Byron Bay Urban Recycled Water Scheme**

Date

Table of Contents

Agreement	3
1 Responsibilities	3
2 Charges	5
3 Contract Duration	5
4 Quantity of Recycled Water Supplied	5
5 Quality of Recycled Water	5
6 Permitted Use of the Recycled Water	6
7 Reduction, Interruption or Discontinuance of Supply	6
8 Transfer of Recycled Water Allocation Prohibited	7
9 Issue Resolution	7
10 Indemnity	7
11 Termination for PLM's Default or Insolvency	8
12 Changes in Law	9
13 Force Majeure	9
14 Changes	10
15 Environmental issues	10
16 Goods and Services Tax, other taxes, duties and imposts	10
17 General	11
Definitions	Error! Bookmark not defined.
Signatures	Error! Bookmark not defined.
Schedule 1: Participating Land Manager's Management Plan	15
Schedule 2: Participating Land Manager's Property Management Plan	17
Schedule 3: Environmental Management Plan	19
Schedule 4: Licence	26
Schedule 5: Soil Monitoring	27
Schedule 6: Groundwater Monitoring	28
Schedule 7: Monitoring of Non-Treatment Controls	29

Definitions

Agreement – this document and all annexures to it

AGWR – *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks, 2006* are the leading Australian Guidelines for the safe use of Recycled Water

Allocation – the amount of Recycled Water available to a PLM as specified in Schedule 1.

BSC – Byron Shire Council or its successor.

BSC’s infrastructure – the equipment and devices to store, convey and otherwise manage Recycled Water.

BBURWS – Byron Bay Urban Recycled Water Scheme

Constituents – the physical, chemical or biological qualities of Recycled Water to be monitored by BSC as defined in the WWMS.

EMP – Schedule 3 to this Agreement: Environmental Management Plan

Environmental Systems Officer – means the person appointed by BSC who functions as the first point of communication between BSC and all PLM’s.

EPA – Environmental Protection Authority of New South Wales

Irrigation – the application of Recycled Water to land.

Issue – any issue, dispute or difference raised by either party under clause 9.

Nutrients – the chemical constituents of Recycled Water relevant to soil fertility. The types of nutrients to be monitored are defined in the WWMS.

Operations Manager – BSC Director of Infrastructure Services or his delegate.

Participating Land Manager (PLM) – an individual, group or other legal entity which has entered into this Agreement for the supply of Recycled Water under the BBURWS

Participating Land Manager’s infrastructure – the equipment and devices to store, convey and otherwise manage Recycled Water which are owned by the PLM as indicated on the BSC and PLM’s Irrigation and Infrastructure Map attached to Schedule 2

Participating Land Manager’s Management Plan – Schedule 1 to this Agreement.

Participating Land Manager’s Property Management Plan – Schedule 2 to this Agreement.

Permitted use – specified use for which the Recycled Water is supplied under this agreement

Point of supply – the physical location of the outlet of the Scheme Recycled Water supply mains into the irrigation infrastructure on the PLM’s property as specified in Schedule 2 and identified on the PLM’s Irrigation and Infrastructure Map attached to Schedule 2

Potable – water that is suitable for drinking

Recycled Water – highly treated sewage effluent produced at the Byron Bay Sewage Treatment Plant and supplied to the PLM under this agreement.

Reticulation System – the pipework and associated infrastructure operated by BSC to convey Recycled Water from the Byron Bay STP to the PLM’s point of supply as part of the BBURWS.

Scheme – the BBURWS and the individual Recycled Water infrastructure of each participating manager.

Site – the area of land identified in Recycled Water Infrastructure Map attached to Schedule 2 as comprising the proposed irrigation area.

Waste Water Management System (WWMS) – BSC Waste Water Management System 2016the management plan for the operation, monitoring and reporting on the performance of the BBURWS, developed and maintained by BSC in accordance with the AGWR.

Revision	Issued	Prepared by	Reviewed by	Approved by	Revision Type
2	24/10/2019	J. Huxley	K.Bott M Meir	B.Green	updated

Byron Bay Urban Recycled Water Scheme Agreement

This Agreement ("the Agreement") is made on the day of , .

Between

Byron Shire Council of Station St, Mullumbimby NSW 2482 ("BSC")

And

Name (ABN xxxxx) of Address, Byron Bay NSW 2482, **Participating Land Manager** ("PLM")

Background

- A. Byron Shire Council (BSC) owns and operates the Byron Bay Urban Recycled Water Scheme (BBURWS) and all Recycled Water infrastructure up to the PLM property boundary.
- B. The Participating Land Manager (PLM) occupies the Land in which Recycled Water will be used and owns and operates all Recycled Water infrastructure from the PLM property boundary.
- C. The PLM has requested that the BSC supply the Recycled Water is supplied for the PLM's use at the Site for xxxxxx purposes.
- D. BSC has agreed to sell, and the PLM has agreed to buy and use the Recycled Water on the terms of this Agreement.
- E. The Registered Proprietor owns the Land and consents to the supply and use of the Recycled Water in accordance with this Agreement.

The Agreement

The parties agree as follows:

1 Responsibilities

- 1.1** In performing its obligations under this Agreement, BSC must comply with the requirements of all statutes, ordinances, regulations, State, regional and local environmental planning policies, by-laws, orders and proclamations made or issued under any Act of the State of New South Wales or Commonwealth of Australia.

In particular and without limiting the generality of the above obligations, BSC must comply with the following:

- *Protection of the Environment Operations Act 1997* (NSW)
- *Local Government Act 1993* (NSW)
- *Trade Practices Act 1974* (Commonwealth)

- *Environmental Planning & Assessment Act 1979 (NSW)*
- *Work Health and Safety 2011 (NSW)*
- *Public Health Act 2010 (NSW)*
- *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks, 2006*
- Australian and New Zealand Standards AS/NZS3500
- NSW Code of Practice: Plumbing and Drainage (NSW)

1.2 At all times during the term of this Agreement, the supply by BSC of Recycled Water to the PLM, is conditional upon the PLM complying with the requirements of all statutes, ordinances, regulations, state, regional and local environmental planning policies, by-laws, orders and proclamations made or issued under any Act of the State of New South Wales or Commonwealth of Australia.

In particular and without limiting the generality of the above obligations, the PLM must comply with the following:

- *Protection of the Environment Operations Act 1997 (NSW)*
- *Food Production (Safety) Act 1998 (NSW)*
- *Environmental Planning & Assessment Act 1979 (NSW)*
- *Work Health and Safety 2011 (NSW)*
- *Public Health Act 2010 (NSW)*
- *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks, 2006*
- Australian and New Zealand Standards AS/NZS3500
- NSW Code of Practice: Plumbing and Drainage (NSW)
- Byron Shire Councils Recycled Water Supply Connection Requirements 2018

1.3 In consideration for the PLM's promises in clause 1.4, Byron Shire Council will:

- a) bear the cost of and responsibility for installation, maintenance, repair and replacement of the Recycled Water infrastructure upstream of the point of supply to the PLM's property (as part of the Byron Bay Urban Recycled Water Scheme) as specified in Schedule 2 and such infrastructure shall remain the property of BSC;
- b) install and maintain a water meter measuring the volume of Recycled Water passing onto the PLM's site at the point of supply;
- c) supply Recycled Water to the PLM at the PLM's point of supply to the Byron Bay Urban Recycled Water Scheme, in the quantity and quality as specified in Schedule 1;
- d) maintain and operate the Byron Bay Urban Recycled Water Scheme in accordance with the current relevant statutory instruments, the BSC Wastewater Management System and the Environmental Management Plan (EMP). A copy of the EMP is annexed hereto as Schedule 3;
- e) report to the PLM on the Byron Bay Urban Recycled Water Scheme test results as required by Schedule 1;
- f) appoint a person, to be called the Environmental Systems Officer, who shall function as the first point of communication between BSC and all participating PLM's.

1.4 In consideration for Council's promises in clause 1.3, the Participating Land Manger will:

- a) bear the cost of and responsibility for installation, maintenance, repair and replacement of the Recycled Water infrastructure, including the infrastructure downstream of the point of supply to the PLM's property (as part of the Byron Bay Urban Recycled Water Scheme) as shown in the map attached to Schedule 2 and such infrastructure shall remain the property of the PLM;
- b) utilise its allocation of Recycled Water in accordance with Schedules 1, 2 and 3;
- c) manage Recycled Water usage in accordance with Schedules 1, 2 and 3;
- d) keep Recycled Water infrastructure in good repair and condition;
- e) maintain and operate onsite Recycled Water use in accordance with the current relevant statutory instruments and the Environmental Management Plan (EMP). A copy of the EMP is annexed hereto as Schedule 3;
- f) ensure all onsite controls are maintained in accordance with Schedule 7, with specific reference to ensure no cross connections with the potable water system;
- g) report by the 1st December annually to BSC on the maintenance and operation of the PLM's Recycled Water infrastructure and report immediately any significant problems or failures with the operation of PLM's Recycled Water infrastructure;
- h) give written notice to BSC as soon as possible if it is unable to use Recycled Water for a period greater than one week.
- i) obtain land owner's consent to accept the water.
- j) obtain the registered proprietor's agreement for Council to access the land on the terms set out in the licence in Schedule 4.

2 Charges

BSC will supply Recycled Water to the PLM at the rate of one cent per kilolitre (\$0.01/kL) if demanded from one week after the date of execution of this Agreement.

3 Contract Duration

The term of this Agreement is five years from the date of execution of the Agreement.. If the PLM wishes to review this Agreement for a term immediately following the Expiry Date it shall give notice to Council to that effect not less than 6 months before the Expiry Date. Council may at its absolute discretion renew this Agreement on such terms as it thinks fit.

4 Quantity of Recycled Water Supplied

Council does not guarantee an uninterrupted or minimum supply. It is the PLM's responsibility to ensure a suitable backup supply is in place.

5 Quality of Recycled Water

BSC shall supply Recycled Water to the PLM generally in accordance with the quality specified in Schedule 1.

6 Permitted Use of the Recycled Water

6.1 The PLM must only use the Recycled Water:

- a) at the site (as attached in schedule 2) ; and
- b) for the Permitted use (as attached in Schedule 1),

unless BSC approves otherwise in writing. The BSC may withhold its approval or impose conditions on its approval in its absolute discretion.

6.2 In using the Recycled Water the PLM must comply with the EMP as attached in Schedule 3.

6.3 The PLM must use the Recycled Water in preference to other fresh water supplies for the permitted uses in Schedule 3 whenever Recycled Water is available to the PLM.

7 Passing of Property

As between BSC and the PLM:

- a) Ownership of and risk associated with the Recycled Water passes to the PLM when the Recycled Water is delivered to the PLM's boundary;
- b) The PLM will have no responsibility for the Recycled Water prior to the delivery of the Recycled Water to the PLM's boundary;
- c) BSC will have no responsibility for the Recycled Water after it has been delivered to the PLM's boundary.

8 Reduction, Interruption or Discontinuance of Supply

8.1 Reduction, interruption or discontinuance

- a) BSC may, at its discretion, reduce, interrupt or discontinue the supply of Recycled Water if:
 - (i) the Recycled Water fails to meet the water quality specification as identified in the WWMS, EMP and in accordance with the Australian Guidelines for Water Recycling (AGWR);
 - (ii) any component of the BBURWS or PLM infrastructure is damaged or breaks down;
 - (iii) BSC is required to carry out maintenance or repairs to any component of the BBURWS or the PLM infrastructure;
 - (iv) the BSC, PLM or the Registered Proprietor receive from the Environmental Protection Agency (EPA) a direction requiring that the Recycled Water not be supplied to the Site; or
 - (v) the BSC, PLM or the Registered Proprietor cease to hold any government planning permit, licence, permission, approval or consent necessary for the lawful operation of the BBURWS or the PLM infrastructure or the use of the Recycled Water by the PLM.
- b) BSC will be unable to avoid its obligations under this Agreement if failure to supply arises from a wilful or negligent act or omission of the PLM.

8.2 Notice

Other than in an emergency, the BSC will endeavour to give the PLM 48 hours' notice of any

intended reduction, interruption or cessation of the supply of Recycled Water. If there is an unintended reduction, interruption or cessation of the supply of the Recycled Water, the BSC will endeavour to give the PLM immediate notice of the reduction, interruption or cessation.

8.3 Timing

The BSC will endeavour to schedule any reduction, interruption or cessation of supply for the purposes of carrying out maintenance or repairs at a time that causes minimal disturbance to the PLM and other Customers of the BSC.

9 Transfer of Recycled Water Allocation Prohibited

9.1 The PLM acknowledges that it has no right to and will not trade or transfer its Recycled Water allocation to any other property owner or to any other PLM under a similar agreement to this Agreement or to any other person or legal entity.

9.2 If the registered proprietor of the PLM's site transfers title of the property to which Recycled Water is supplied as specified in Schedule 2, existing Recycled Water allocations may continue to be made available to the existing or new PLM, in BSC's absolute discretion and subject to the successor in title of the property providing its consent to the Recycled Water being supplied.

10 Issue Resolution

10.1 Any party may give notice to the others of an Issue concerning the meaning or effect of the Agreement or about any matter arising under or out of the Agreement within 28 days after becoming aware of the Issue. It is acknowledged by the parties, without limiting the generality of this clause that such Issues may relate to such matters as the application and granting of allocations and assessment of non-compliances.

10.2 Within 14 days of written notification of an Issue, a representative of each party must meet to endeavour to resolve the Issue.

10.3 If the issue remains unresolved then the parties shall enter into mediation to be conducted by an agreed mediator (or failing agreement one appointed by the Australian Commercial Disputes Centre ("ACDC")) in accordance with ACDC's guidelines for commercial mediation.

10.4 The parties must not commence court proceedings relating to any dispute arising out of or in connection with this Agreement until the arbitrator publishes their final award and then only to recover the sum payable in accordance with that award. Clause 10.4 does not apply if the party commences court proceedings seeking urgent interlocutory relief.

11 Indemnity

11.1 The PLM indemnifies BSC against any claims, actions, proceedings and loss or damage to property or injury or death arising out of any breach of this Agreement, act, omission, default or

negligence of the PLM in connection with the use of Recycled Water on or adjacent to the PLM's property. The PLM's responsibility to indemnify BSC, is reduced to the extent that an act or omission, default or negligence of BSC contributes to loss or damage to property or injury or death.

- 11.2** BSC indemnifies the PLM against any claims, actions, proceedings and loss or damage to property or injury or death arising out of any breach of this Agreement, act, omission, default or negligence of BSC in connection with the supply of Recycled Water to the PLM's property. BSC's responsibility to indemnify the PLM, is reduced to the extent that an act or omission, default or negligence of the PLM contributes to loss or damage to property or injury or death.
- 11.3** Despite anything else in this Agreement, the PLM is not liable for any liability or loss to the extent that it is the fault of the BSC. Where negligence is found to have been contributory, each party must bear responsibility in accordance with that party's proportionate fault.

12 Termination

- 12.1** If the PLM commits any breach of this Agreement, BSC may give notice to the PLM that it has 28 days to remedy the breach.
- 12.2** If the PLM fails within 28 days from the date of BSC's notice to give to BSC a written notice containing clear evidence that it has remedied the breach, or fails to propose steps reasonably acceptable to BSC to remedy the breach then BSC may give the PLM a written notice terminating the Agreement.
- 12.3** Either of the parties may terminate this Agreement without reason on 12 months written notice to the other party.
- 12.4** If the PLM becomes bankrupt or insolvent or for any reason discontinues its irrigation activities on the site BSC may give the PLM 28 days' notice of its intention to terminate this Agreement by written notice to the PLM. If during the 28 day period the PLM is able to nominate a substitute PLM acceptable to BSC and to the registered proprietor of the land to take a novation of this Agreement then this Agreement may continue at the absolute discretion of BSC.
- 12.5** On termination of this Agreement BSC is entitled to dismantle and remove the BSC's point of supply/connection to the Byron Bay Urban Recycled Water Scheme and, where appropriate, remove from the PLM's property the flow meter, control valve and any other equipment or other goods which remain the property of BSC.
- 12.6** On termination of this Agreement it is the responsibility of the PLM is responsible to dismantle and remove the PLM Recycled Water infrastructure from the PLM point of supply/connection to the Byron Bay Urban Recycled Water Scheme.

13 Changes in Law

- 13.1** Should any change in law render performance of this Agreement impossible then this Agreement shall terminate and each party's rights and obligations shall be as determined at law and in accordance with any applicable statutes.
- 13.2** Should a change in law lead to additional unanticipated costs being incurred by either party in relation to the supply of Recycled Water then the parties shall endeavour to agree upon an equitable adjustment of their financial responsibilities under this Agreement.
- 13.3** Failing the agreement of the parties under clause 13.2 above, the parties agree to resolve the Issue according to the Issue Resolution procedure laid down in clause 10 above.

14 Force Majeure

14.1 Definition of Force Majeure

In this clause, "force majeure" means an event beyond the control of BSC and the PLM, which makes it impossible or illegal for a party to perform, including but not limited to:

- a) acts of God and other natural disasters, including floods, droughts, storms, earthquakes;
- b) sabotage

14.2 Effect of Force Majeure

No party shall be considered in default or in breach of this Agreement to the extent that performance of obligations is prevented by a force majeure event which arises during the term of this Agreement.

14.3 PLM's Responsibility

Upon occurrence of an event considered by the PLM to constitute force majeure and which may affect performance of its obligations, the PLM shall promptly notify BSC, and shall endeavour to continue to perform its obligations as far as reasonably practicable. For the purposes of this provision, where it is possible for the PLM to overcome or address effects of the force majeure event, but the costs to the PLM are unreasonable, then there is no obligation on the PLM to incur that expenditure.

14.4 BSC's Responsibility

Upon occurrence of an event considered by BSC to constitute force majeure and which may affect performance of its obligations, BSC shall promptly notify the PLM, and shall endeavour to continue to perform its obligations as far as reasonably practicable. For the purposes of this provision, where it is possible for BSC to overcome or address effects of the force majeure event, but the costs to BSC are unreasonable, then there is no obligation on BSC to incur that expenditure.

14.5 Appointment of Responsibilities

If the force majeure event requires any action or expenditure to restore supply or irrigation, the parties agree to use the provisions of clause 10 above to apportion such responsibilities.

15 Changes

In accordance with the procedures set out in Schedule 1, BSC may change the quality of Recycled Water supplied and may increase or decrease the number of participating land managers in the overall Scheme.

16 Environmental issues

16.1 The Scheme shall be managed in accordance with Schedules 1, 2, 3, 4, 5, 6 and 7. Both BSC and the PLM must comply fully with their respective obligations under the Wastewater Management System (WWMS) and the EMP.

16.2 The PLM must only use Recycled Water for permissible uses (in accordance with Schedule 1, Schedule 2 and as outlined in the EMP) and not otherwise. The PLM must, as a condition of this Agreement, in its use of Recycled Water, take all steps necessary to prevent the breach of the Schedule 4 licence or any EMP condition.

17 Goods and Services Tax, other taxes, duties and imposts

17.1 The PLM must indemnify BSC against any costs, losses and expenses incurred or suffered by BSC or an associated entity for taxes, duties and imposts in connection with the supply of Recycled Water to the PLM, whether or not these taxes, duties and other imposts are in operation at the date of this Agreement or whether they arise during the term of this Agreement; the intention being that BSC suffers no financial loss on account of such imposts arising out of its undertaking to supply Recycled Water to the PLM.

17.2 The parties agree that:

- a) unless expressly stated otherwise, all Payments have been calculated exclusive of GST;
- b) if any Payment is consideration for a Taxable Supply for which the supplier is liable to GST, the recipient must pay the GST Amount to the supplier, concurrently with the relevant Payment unless otherwise agreed in writing;
- c) any reference to a cost or expense in this Agreement excludes any amount of GST forming part of the cost or expense when the relevant party incurring the cost or expense can claim an Input Tax Credit; and
- d) the supplier will provide to the recipient a Tax Invoice for each supply.

For the purposes of this clause:

- “GST” means Goods and Services Tax;
- “GST Act” means the A New Tax System (Goods and Services Tax) Act 1999 (Commonwealth);
- “GST Amount” means any Payment multiplied by the applicable rate at which the GST is levied;
- “Input Tax Credit” has the meaning given to that term in the GST Act.
- “Payment” means any amount payable under or in connection with this Agreement including any amount payable by way of indemnity, reimbursement or otherwise and includes the provision of any non-monetary consideration;
- “Taxable Supply” has the meaning given to that term in the GST Act.

18 General

18.1 Warranty

Each party warrants and represents that it has authority to enter into this Agreement.

18.2 Assignment

This Agreement shall only be binding upon the successors and permitted assigns of each of the parties with the prior written consent of each other party.

18.3 Notices

All notices given between the parties shall be in writing and signed by or on behalf of the party giving the notice and shall be transmitted in person or by certified mail to the addressees noted below. Notice is deemed to be given on the day after posting or on the day of hand delivery where there is appropriate proof of sending or delivery on that day.

Byron Shire Council	Director of Infrastructure Services PO Box 219 Mullumbimby NSW 2482
PLM	Name Address Byron Bay NSW 2481

18.4 No Right in Land or Allocation

This Agreement is a personal agreement between the BSC and the PLM and does not create:

- a) a water entitlement or any other right or interest under the Water Act 2000;
- b) any right or interest which attaches to the Land.

18.5 No Exclusivity

The PLM does not have the exclusive right to the supply of Recycled Water from the BBURWS. BSC may enter into agreements for the supply of Recycled Water from the BBURWS to other parties.

18.6 Costs

Each party must pay its own costs of and incidentals to the negotiation, preparation and execution of this Agreement.

18.7 Variation and Waiver

This Agreement may not be varied except by agreement in writing signed by the parties.

No waiver by any party of any default or defaults by the other/s in the performance of any of the

provisions of this Agreement shall operate or be construed as a waiver of any other or further default or defaults whether of a like or different character.

18.8 Severance of Terms

If anything in this Agreement is unenforceable, illegal or void, then it is severed and the rest of this Agreement remains in force. In such event the parties shall amend this Agreement under the provisions of clause 10 above to give as close as possible effect to the provision that has been declared invalid, unenforceable or illegal.

18.9 Entire Agreement

This Agreement constitutes the entire agreement between the parties. Any prior arrangements, agreements, warranties, representations or undertakings are superseded.

18.10 Confidentiality

The PLM shall not divulge to any third party any information regarding the terms of this Agreement without the prior written approval of BSC. With the exception of disclosure by BSC for the purposes of complying with statutory obligations and general information about participation by PLM's such as the number of agreements, areas irrigated and volumes of Recycled Water supplied, BSC shall not divulge to any third party information regarding the terms of this Agreement, without the prior written approval of the PLM.

18.11 Ownership of and Copyright in Documents

Ownership of and copyright in all drawings, specifications, procedures and other documentation and software provided by BSC or prepared by the PLM pursuant to this Agreement shall be and shall remain vested in BSC.

18.12 Insurance

Each party must effect all insurances which are relevant to each party's respective obligations under this Agreement in amounts and for such periods as are appropriate to this Agreement. These insurances must include, where applicable, without limitation, workers compensation, public liability, motor vehicle and infrastructure insurances. Each party must provide evidence of the currency and details of these insurances promptly upon request by the other party to do so.

18.13 Inconsistencies

If there is an inconsistency between these General Conditions and Schedule 1 and/or Schedule 2 and/or the Schedule 3 (EMP) then, where applicable, Schedule 2 shall prevail and where not applicable then Schedule 1 shall prevail and where this is not applicable then the EMP shall prevail.

18.14 Liability and Indemnity

Notwithstanding any of the terms of this Agreement, Council will not be liable for any loss, damage or expense suffered by the PLM or registered proprietor directly or indirectly arising out of and in connection with or as a result of the reduction, interruption, suspension or discontinuance of supply of Recycled Water.

18.15 Guarantees

If there is more than one PLM or where the PLM is a company, then each of the PLM's or company directors shall execute this Agreement in their own right and such execution shall be a personal guarantee by those PLM's or directors jointly and severally of the performance of all the PLM's obligations under this Agreement.

18.16 Incorporation of Other Matters

Where details necessary to the operation of the Scheme but specific to an individual site or to a class of PLM's are not addressed by the provisions of any part of this Agreement the parties shall use their best endeavours to jointly draft and agree to such details applicable to that/those site/s and such agreements shall be put in writing and incorporated as terms of this Agreement. If such agreement is not reached then the parties shall apply the provisions of clause 10 above.

18.17 Without limiting the obligations imposed on the parties under this Agreement, the parties agree to execute all instruments, grant or obtain any consents or approvals, and do all other acts and deliver such further instruments of conveyance or transfer and do any other acts or things reasonably necessary to give effect to the provisions of this Agreement.

Signatures

Executed by Byron Shire Council		
Byron Shire Council		
	Signature of authorised person	Name of authorised person

Executed by the Participating Land Manager		
The Participating Land Manager		
	Signature of director	Name of director
	Signature of director/secretary	Name of director/secretary

NOTE: The information contained in Schedule 2 must be completed and approved by Byron Shire Council before the Agreement is signed.

Schedule 1: Participating Land Manager's Management Plan

1 Permitted Use of Recycled Water

Name is permitted to use the Recycled Water supplied by BSC as shown in Schedule 2 for xxxx purposes.

2 Scheme Recycled Water Quality

- 2.1 The Recycled Water supplied by BSC to the point of supply under this Agreement will be treated by BSC to a quality that complies with the appropriate current Guidelines (*Australian Guidelines for Water Recycling 2006*), policies or statutes.
- 2.2 In the event of future changes to the *Australian Guidelines for Water Recycling 2006*, policies or statutes, BSC may alter Recycled Water quality accordingly.
- 2.3 At the point of supply BSC will monitor, test and record all appropriate Scheme performance indicators including the amounts of nutrients and other constituents supplied in Recycled Water as defined in the EMP and shall report this information to PLM.
- 2.4 At the point of supply BSC will monitor, test and record all appropriate scheme performance indicators as defined in the WWMS 2016 and in accordance with the Schedules and shall report this information to PLM.
- 2.5 BSC will provide written notification to PLM's upon request, of the test results of other scheme monitored Recycled Water constituents.
- 2.6 BSC will notify the PLM within 24 hours (or if the PLM is not contactable, then as soon as practicable) of receiving Recycled Water test results that significantly exceed the threshold levels in the EMP for Recycled Water quality supplied under this Agreement.
- 2.7 BSC will notify the PLM within 48 hours (or if the PLM is not contactable, then as soon as practicable) of any actions taken or to be taken by BSC or by the PLM in the event of test results that significantly exceed the threshold levels in the EMP for Recycled Water quality. BSC will use its best endeavours to do everything reasonably within its power to prevent water quality exceeding specified EMP threshold levels.
- 2.8 BSC may request written evidence from PLMs that they have carried out any such actions requested by BSC in 2.7 above.

3 Recycled Water Supply Volume

- 3.1 Recycled Water will be supplied to the PLM's site except:
 - (a) where Scheme supply is reduced or stopped due to public or environmental health risks
 - (b) where Scheme supply is reduced or stopped due to failure of the BBRWMS as a result of any cause,

- (c) at the written or verbal request of the PLM
- (d) when more than five millimetres of rain is recorded as falling on the subject property in any one twenty-four hour period (if applicable),
- (e) when the balance storage is full (if applicable),
- (f) where any notice of breach of the agreement has been given to the PLM which has not been remedied pursuant to clauses 13.1 and 13.2 of this Agreement
- (g) where there has been a change in law or force majeure as provided for in clauses 13 or 14 of this Agreement.

4 Recycled Water Delivery

- 4.1** Recycled Water will be delivered to the PLM's point of supply as shown on the map attached to Schedule 2.
- 4.2** BSC will have Recycled Water available to the PLM, at the PLM's point of supply, from the date of this agreement.

5 Scheme Performance and Reporting

- 5.1** The PLM will meet with BSC's Environmental Systems Officer on at least an annual basis to review Recycled Water usage on the PLM's property and to assist BSC in evaluating Scheme performance.
- 5.2** In the event that the Environmental Systems Officer determines that a report on the performance of the Scheme is to be prepared, then BSC will be provided the opportunity to comment on a draft of that report prior to it being finalised.
- 5.3** BSC is to provide a copy of such report to the PLM and other participating land managers once the report is finalised.

6 Review of Scheme Operating Procedures and Guidelines

- 6.1** Schedules 1, 2 and 3 may be changed at the discretion of BSC when required by legislative changes that may affect the Scheme.
- 6.2** The PLM will be notified by BSC of any such changes to Schedules 1, 2 and 3 as soon as possible.
- 6.3** If the parties cannot agree to such changes then they agree to follow the procedures set out in clause 10 of this Agreement to resolve such disagreement

Schedule 2: Participating Land Manager's Property Management Plan

1 Property Description

- 1.1 Lot x DP xxxxx
- 1.2 Property land manager:
- 1.3 Registered proprietor: xxxxxx
- 1.4 Person/entity responsible for managing Recycled Water: xxxxxx
- 1.5 Property address: xxxxxxxxx

2 Map of Recycled Water Infrastructure and Irrigation Area

- 2.1 The PLM must provide a map / diagram of the internal plumbing to BSC showing:
 - a) the internal plumbing and all Recycled Water fixtures in relation to the whole property
 - b) the Recycled Water irrigation fixtures and application area
- 2.2 BSC will prepare a map clearly showing the point of supply to the PLM's infrastructure.
- 2.3 BSC will prepare and give the PLM a map overlaying the information in clause 2.2 of this Schedule, with the information in clause 2.1 of this Schedule, and include this map in clause 2.4 of this Schedule.

3 PLM Recycled Water Start-up Date

At BSC's discretion and after all necessary BSC Recycled Water infrastructure is in place and commissioned the PLM shall install all Recycled Water infrastructure on their site/s required to utilise their allocation as specified in Schedule 1.

4 BSC and xxxxxx Recycled Water Infrastructure Map

Schedule 3: Environmental Management Plan

	Objective	Target	Risks	Management Actions
1. Recycled Water Quality	<p>Recycled Water will be supplied in accordance with the water quality requirements of the:</p> <ul style="list-style-type: none"> Australian Guidelines for Water Recycling - Managing Health and Environmental Risks 2006 (AGWR) BSC Wastewater Management System (WWMS) 2016. 	<p>To supply Recycled Water of suitable quality for the untended use:</p> <ul style="list-style-type: none"> Toilet Flushing Irrigation: 	<p>Failure to achieve suitable Recycled Water quality may result in deterioration of human, animal and / or plant health.</p>	<p>1.1 Action - Recycled Water Quality Monitoring</p> <p>BSC shall monitor the Recycled Water quality leaving the Recycled Water facility on a continual basis with alarms and controls.</p> <p>BSC shall monitor the quality of Recycled Water supplied to the PLM continuously and shall report such monitoring results to the PLM on an annual basis.</p> <p>1.2 Action - Recycled Water Quality Supplied</p> <p>Recycled Water will be supplied to the PLM at the appropriate quality as specified in this agreement, the WWMS and in accordance with the AGWR.</p> <p>Human Health – BSC will ensure Recycled Water leaving the STP meets the water quality objectives for human health including:</p> <ul style="list-style-type: none"> <i>E.coli</i>: less than 1 cfu/100ml Free chlorine: between 1mg/L - 5mg/L <p>In the event that Recycled Water quality deviates from the guidelines, Recycled Water flow will cease immediately upon receipt, until the system conforms.</p> <p>Environmental Health – BSC will provide Recycled Water that meets the Key Environmental requirements for endpoints such as soils, surface water and groundwater.</p> <p>In the event that Recycled Water quality deviates from the guidelines, the PLM will adjust the irrigation regime and ensure mitigation practices are employed to ensure no adverse impacts on the environment.</p>

	Objective	Target	Risks	Management Actions
2. Public Health	<p>BSC and PLM will protect public health.</p> <p>The protection of public health is of upmost importance in the operation and management of a Recycled Water scheme.</p>	<p>No adverse impacts on Public Health due to the use and application of Recycled Water.</p>	<p>There is a potential possibility that pathogens such as viruses, bacteria and protozoa exist in Recycled Water. These pathogens can be ingested or absorbed through the skin or through wounds when in direct contact with the Recycled Water. Direct ingestion is only likely to occur if someone mistakenly drinks Recycled Water from a tap or valve.</p> <p>The most significant risk is that of a cross connection and / or backflow into the potable water system. It is possible that an unknown person may accidentally connect the Recycled Water main into the potable water supply.</p> <p>Aerosols (small water droplets) from spray drift, during Recycled Water irrigation with sprinklers, also presents a potential risk.</p>	<p>2.1 Action – Correct Installation of Plumbing</p> <p>The PLM will ensure all plumbing on the property is installed by a licenced plumber in accordance with the Plumbing Code of Australia and the NSW Code of Practice (AS/NZS 3500 (or current versions)) including:</p> <p>Fixtures and fittings above and below ground must be clearly and permanently marked and labelled with Recycled Water – DO NOT DRINK.</p> <p>Recycled Water infrastructure including pipes, taps, and / or water hoses (if available) must be lilac in colour, have approved fittings with left handed threads on the outlets and have removable handles.</p> <p>2.2 Action - Cross-connection Controls and Annual Audit Certification</p> <p>The PLM are not permitted to make any cross connections between the drinking and Recycled Water supply systems.</p> <p>Should the premises be connected for toilet flushing - the PLM is required to undertake a cross connection test annually and provide BSC with an Inspection Certificate by licenced plumber.</p> <p>2.3 Action – Recycled Water Signage</p> <p>The PLM shall erect and maintain a large advisory sign in a prominent location at the entry to the PLM’s property. This advisory sign shall state that Recycled Water is stored and / or irrigated on the property and that any person entering the property is warned to restrict contact with this Recycled Water as such contact could be a risk to human health.</p> <p>The PLM shall also erect and maintain additional signs to be displayed near any toilet, irrigation area, storage facility or Recycled Water outlet. These signs shall display that Recycled Water is used, irrigated, stored or available at these locations and a warning to restrict contact with the Recycled Water as such contact could be a risk to human health.</p> <p>2.4 Action – Tenants, Staff and Visitor Awareness</p> <p>The PLM is responsible for informing tenants, staff and visitors of the health and safety issues associated with Recycled Water use. The PLM is to advise visitors of the location of Recycled Water outlets, irrigation equipment and other possible sources of contact with any Recycled Water. The PLM shall include a Recycled Water induction to all tenants, staff and visitors.</p> <p>2.5 Action - Minimise Spray Drift</p> <p>The PLM is responsible for selecting irrigation systems with appropriate pressure ratings to minimise spray drift. It is possible for some aerosols to travel hundreds of metres from the sprinkler source under certain conditions such as strong winds. The PLM must cease irrigation during strong wind conditions.</p> <p>2.6 Action – Employee Protection</p> <p>The PLM shall ensure that hygiene and personal protection practices are understood and maintained by all employees and visitors. PLM shall prepare and implement an induction for all employees in relation to Recycled Water use. The PLM shall prepare Safe Work Method statements to govern the Recycled Water operations and practices.</p>

	Objective	Target	Risks	Management Actions
3. Soil Health	The PLM shall protect the soil resources of the participating property.	The PLM will ensure that there is no change or an improvement in soil quality and will ensure irrigation does not waterlog soils or raise the groundwater table.	The risks to soils include adverse physical and/or chemical changes, which could lead to reduction in fertility and pasture production and quality. Another risk would be from over-irrigating leading to waterlogging, a rise in water table and/or soil salinity increases.	<p>3.1 Action - Select Suitable Soils for Irrigation</p> <p>The PLM is responsible for ensuring land to be irrigated has:</p> <ul style="list-style-type: none"> • Good drainage, • Generally soils greater than 1m depth to groundwater, • Moderate to low salinity (< 4 dS/m) in the top 70cm. <p>3.2 Action - Monitor Soil Conditions</p> <p>BSC will carry out biennial (2 yearly) soil testing according to a plan to be developed as schedule 5, to detect changes in the soil as a result of the application of Recycled Water. This monitoring will establish the need, if any, to adjust the management practices to either reduce their impact or ameliorate their effect. This monitoring will indicate changes in the normal parameter levels over time.</p> <p>The parameters to be tested are set out in Schedule 5.</p> <p>The soil monitoring program specific to this scheme is also set out in Schedule 5.</p> <p>3.3 Action - Balance Fertiliser Applications</p> <p>The PLM is responsible for adjusting fertiliser applications to take into account the nutrients supplied with Recycled Water. Recycled Water contains nutrients such as nitrogen, phosphorous, potassium, sulphur, calcium and many other trace elements. BSC will inform the PLM annually of the average amount of nutrients supplied through the Recycled Water irrigation so that fertiliser applications can be adjusted accordingly.</p> <p>Nutrients in the Byron Bay Urban Recycled Water Scheme Recycled Water are low:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Total phosphorus consistently less than 0.5 mg/L <input type="checkbox"/> Total nitrogen consistently less than 4.5 mg/L <p>3.4 Action – Soil Amelioration</p> <p>The PLM is responsible for ameliorating the soil with lime and organic matter, adjust pH and improve soil structure where monitoring results require such, so to optimise production and thereby maximise water utilisation</p>

	Objective	Target	Risks	Management Actions
4. Surface Waters	The PLM will protect surface water quality on the PLM's property.	Ensure there is no direct discharge to any surface water bodies such as drains, creeks and rivers.	Contamination of surface waters is possible due to Recycled Water irrigation spray drift and surface runoff. There is a risk of breaching the Protection of the Environment Operations Act 1997.	<p>4.1 Action - Maintain Buffer Zone to Waterways The PLM is to ensure land to be irrigated is at least 50m from any defined permanent river or creek and 5m from any ephemeral floodway's and drains.</p> <p>4.2 Action - Avoid Irrigation during Rainfall or High Winds The PLM is responsible for discontinuing irrigation during periods of significant rainfall or high wind velocities. The PLM may consider incorporating rainfall and wind speed and direction sensors into their irrigation systems for greater control.</p> <p>4.3 Action - Maintain Soil Moisture Deficit after Irrigation Waterlogged soils and a rainfall event shortly after can create excess surface run-off and percolation. In order to minimise the possibility of waterlogging the PLM is responsible for scheduling irrigation so that less water is applied than required to fully saturate soils and be responsible for maintaining the irrigation system to minimise run-off and ponding of the Recycled Water, which have the potential to affect surface waters.</p> <p>4.4 Action - Manage Nutrient Applications An excess of nutrients in the soil can cause leaching or run-off of nutrients to surface and groundwater bodies. The PLM is responsible for ensuring that only the amount of nutrients required to satisfy plant growth is applied through Recycled Water irrigation and fertiliser application. (see Soil Health Action 3.3 - Balance Fertiliser Applications)</p> <p>4.5 Keep Records The PLM shall keep records to demonstrate that water is only applied when it is needed, and in the right quantities. Records to include when, where and how much water is used for irrigation.</p> <p>4.6 Maintain Irrigation Infrastructure according to Manufactures Instructions The PLM shall maintain the irrigation equipment in good working order so as to prevent leaks and equipment failures that have the potential to impact on surface and groundwater.</p> <p>4.7 Metered Water Usage The supply of Recycled Water to each property will be metered, with readings made by BSC on an annual basis, to assess usage</p>

	Objective	Target	Risks	Management Actions
5. Groundwater	BSC and the PLM will protect groundwater resources.	Ensure that no pollutants or fertilisers leach into the groundwater.	<p>There is a risk that nutrients and other potential pollutants can leach into groundwater, contaminating groundwater supplies or even, in the case where groundwater's are shallow, transferring pollutants to surface waters such as creeks and rivers.</p> <p>Over irrigation can increase watertable heights and may result in links to surface waters, increasing the risk of pollutants and nutrients being transferred to surface waters.</p>	<p>5.1 Maintain Buffer Zone to Groundwater Bores The PLM shall maintain the required buffer zone between the irrigation area and bore, in accordance with the AGWR.</p> <p>5.2 Implement Irrigation Scheduling The PLM shall employ an irrigation schedule that will ensure over irrigation and subsequent groundwater contamination does not occur. The PLM is required to schedule irrigation to provide water requirements while minimising runoff or percolation. A deficit irrigation strategy is employed for turf production, meaning that if there is rain after an irrigation event, there is capacity for the soil to take and hold the water thereby minimising runoff of recently applied Recycled Water. A 10/15 strategy, for example, applies 10mm of irrigation water when the soil has dried to a 15 mm deficit. Deficit irrigation strategies for irrigation areas are set out below.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Byron Bay Bowling Club: 10/15 mm/mm <input type="checkbox"/> Sporting fields and Landscape areas: 15/20 mm/mm <input type="checkbox"/> Nurseries: the irrigation strategy is the daily water deficit plus 10%. <p>5.3 Action - Monitor Scheme Performance Indicators BSC will sample and/or monitor sources of groundwater water quality and quantity as set out in a plan to be developed as Schedule 6</p>
6. Odours	BSC will protect local air quality and community amenity.	No odours resulting from irrigation and Recycled Water storage are to be detected.	<p>The Recycled Water will be supplied such that it is unlikely to emit any detectable odours.</p> <p>Recycled Water does, however, contain organic compounds and has the potential to generate odours when irrigated or stored.</p> <p>There is also a possibility that odours may result from algal blooms and decay should this occur in the balance tank.</p>	<p>6.1 Action - Follow Up Community Complaints BSC will respond to any complaints by the community relating to odour and a register of these complaints will be maintained. Complaints will be dealt with in an appropriate manner such as undertaking site inspections and taking action to minimise odours in the future.</p>

	Objective	Target	Risks	Management Actions
7. Monitoring	To provide feedback on outcomes of Recycled Water irrigation.	Key monitoring issues are regularly measured and documented.	It is important to ensure that all relevant persons understand and agree with the roles and responsibilities delegated within this EMP. The environmental sustainability of the scheme becomes uncertain if all identified tasks are not completed	<p>7.1 Action - Recycled Water Quality - BSC is responsible for monitoring the quality of Recycled Water supplied to the PLM and for reporting these results to the PLM as appropriate. The following parameters and/or others may be monitored: pH, Salt content (EC or TDS), Total Nitrogen, Total Phosphorus, Grease and oil, B.O.D, Suspended solids, <i>E.coli</i>, Residual chlorine, Algae cells as necessary</p> <p>The PLM is responsible for monitoring the appearance of the Recycled Water quality and reporting any signs of deterioration.</p> <p>7.2 Action - Management of nutrients in Recycled Water - The PLM is responsible for calculating the average amount of nutrients being received in the Recycled Water. Where appropriate the PLM may deduct these amounts from their normal fertiliser applications.</p> <p>7.3 Action - Irrigation application rate and run-off - The PLM must check the soil moisture conditions after irrigation to ensure that a small moisture deficit remains and that surface run-off has not occurred.</p> <p>7.4 Action - Spray drift - The PLM must cease irrigation during strong wind conditions. Under other conditions, it is recommended that if spray drift is observed beyond the irrigation area the irrigation system must be adjusted to avoid off-property drift.</p> <p>7.5 Action - Groundwater Depth and Quality – BSC will monitor the depth to the water table in the groundwater bores. BSC will also sample and test the groundwater bores as set out in Schedule 6.</p> <p>7.6 Action - Soil BSC shall monitor the condition of soil on the PLM’s property according to the procedures set down in Schedule 5. Council may monitor the soil on the property for the following parameters and/or others: pH, Electrical conductivity, Exchangeable sodium percentage (ESP), Nitrogen concentrations in leaf tissue, Available Phosphorus, Heavy Metals and Pesticides</p> <p>7.7 Action – Pasture Where appropriate the PLM should monitor grass conditions and note any signs of deterioration. The PLM may conduct soil and/or foliage tests if necessary.</p> <p>7.8 Action – Equipment The PLM must maintain all irrigation pumps, pipes and sprays beyond the point of supply according to the manufacturers’ recommendations.</p> <p>7.9 Action – Reporting BSC shall prepare reports on environmental impacts and management outcomes, where appropriate, in consultation with the PLM.</p> <p>7.10 Action – Pollution events The PLM must advise BSC within 24 hours of becoming aware of any pollution event associated with the supply of Recycled Water under this agreement. For the purposes of this clause a pollution event is defined as any surface discharge of Recycled Water to any river, creek, floodway or drain or any underground discharge of Recycled Water to the groundwater.</p>

	Objective	Target	Risks	Management Actions
8. Recycled Water Storages	The PLM will maintain and manage Recycled Water quality from the BSC's point of supply.	No deterioration of Recycled Water quality in storages	Deterioration of Recycled Water quality may occur whilst being held in any balance storage. This may make Recycled Water unsuitable for irrigation due to such factors as algae growth or increased levels of bacteria. On occasions it is possible that toxic blue green algae could develop in the balance storage.	<p>8.1Action - Maintain Water Quality in the Balance Storage The PLM is responsible for ensuring that the water quality in the storage complies with the AGWR (2006). The PLM should notify the Scheme Manager within 24 hours should a deterioration of water quality be identified.</p> <p>8.2Action - Monitor Storage for Algae The PLM is responsible for visually inspecting the balance storage daily when pumping from the storage. Should an obvious change of colour or increase in suspended matter be observed in the storage the PLM should notify the Scheme Manager within 24 hours.</p> <p>8.3Action – Ensure Rain Water Does Not Enter Balance Tank The PLM is responsible for ensuring that rain water does not enter the balance tank, causing it to overflow.</p> <p>8.4 Action – Monitor storage and associated infrastructure for leaks or breaks The PLM is responsible to for visually inspecting the storage and associated infrastructure for leaks, break, malfunction or overtopping. The PLM should notify the Scheme Manager within immediately should an issue be observed.</p>
9. Animal Health	The PLM will maintain the health of animals on the PLM's property Ensure that animal products on the PLM's property do not pose risks to consumers of those products.	No adverse impacts on animals. No Adverse impacts on animal products.	Pathogens within the Recycled Water may potentially pose risks to animal health when Recycled Water is irrigated for pasture production.	<p>9.1 Action - Withhold Stock The PLM is responsible for physically withholding stock for the appropriate timeframe, as specified in the BSC Wastewater Management System 2016. Note: Where appropriate, PLM's must act according to relevant industry guidelines. For example, Dairy farmers are referred to the NSW Agriculture guidelines '<i>Managing Dairy Farm Waste</i>'.</p> <p>9.2 Action - Monitor Animal Health The PLM is responsible for monitoring animal health and productivity.</p>
10. Noise	The PLM will protect the local community from excessive noise.	Produce no significant increase in noise levels beyond the PLM's boundary.	Irrigation infrastructure has the potential to produce unwanted noise. This additional noise should not be above background levels beyond the irrigation property boundaries.	<p>10.1 Action - Ensure Low Noise Pumps are Used PLM's are responsible for installing pumps that have demonstrated low noise levels or for installing appropriate noise barriers or acoustic housing.</p> <p>10.2 Action - Follow Up Any Community Complaints BSC will respond to any noise complaints from the community and a register of these complaints will be maintained.</p>

Schedule 4: Licence

In consideration of Byron Shire Council agreeing, under the Agreement dated # month 20xx to supply Recycled Water to the name (ABN xxxxxx):

1. The Licensor name (ABN xxxxxx) being the registered proprietor of Lot x DP xxxxx hereby grants to the Licensee/s Byron Shire Council (BSC) and its successors a licence for access to and maintenance, inspection, monitoring, testing, repairing and replacement of any or all of the Scheme infrastructure on the registered proprietor's property referred to in clause 1.5 (b) of the abovementioned main Agreement.
2. The above rights under this Licence shall apply to BSC staff, agents and contractors.
3. This Licence shall remain operative until the expiry of the abovementioned Agreement or until its termination under the terms of that Agreement.
4. Excepting during emergencies, BSC and its staff, agents and contractors shall give reasonable notice to the PLM or its agents or contractors of its intention to enter onto the registered proprietor's property under the terms of this Licence.
5. In carrying out operations under the terms of this Licence, the Licensee agrees to take all reasonable precautions to ensure as little disturbance as practicable to the registered proprietor's property and the registered proprietor's or PLM's business operations and undertakes to restore the surface of the land as nearly as practicable to its condition prior to the operations.
6. All rights and obligations under this Licence may be assigned to a new Licensee with the written approval of all parties to this Licence

(Signed)

(Signed)

(Dated)

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.....

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(Licensor)

(Licensee)

Schedule 5: Soil Monitoring

Byron Shire Council undertakes soil monitoring biennially (every two years) to assess the impacts from the Recycled Water irrigation. All sites are sand based soils. A baseline soil assessment was undertaken as part of the development of the Byron Bay Urban Recycled Water Scheme (REF, 2007). In general, baseline investigations indicate that the sites were suitable for irrigation of Recycled Water. Results have consistently indicated no adverse impacts of Recycled Water irrigation on the soils. Given the high quality of the Recycled Water, including low nutrient concentrations and a deficit irrigation strategy, the risk to soils is considered low.

BSC monitor soil health every two years at six locations:

- Cavanbah Centre
- Recreation Grounds
- Bowling Club
- Byron High School
- Red Devils Park
- Byron Holiday Park

Indicators of poor soil quality include poor crop growth and or a decline in soil quality below baseline levels. The Recycled Water is within the suitable criteria for plant production for the most sensitive crops. If a decline in soil health is observed Council is to identify reason for deterioration in soil quality and adjust irrigation and fertiliser application rates accordingly or ameliorate soil with lime or gypsum, depending on cause. The following table outline the soil monitoring strategy adopted by BSC

Byron Bay Urban Recycled Water Scheme Soil Sampling Strategy

Soil Monitoring Parameters	Frequency of Sampling	
	Surface Soil	Soil profile at depth
pH (pH units)	Every 2 years	1st year and then every 10 years
Electrical Conductivity (EC) (dS/m)	Every 2 years	1st year and then every 10 years
Total N	Every 2 years	N/A
Available P	Every 2 years	N/A
Total P	Every 2 years	1st year and then every 10 years
Aluminium, Boron, Chloride (mg/kg)	Every 2 years	1st year and then every 10 years
Cations (calcium, magnesium, potassium, sodium)	Every 2 years	1st year and then every 10 years
Exchangeable Sodium Percentage (%)	Every 2 years	1st year and then every 10 years
Cation Exchange Capacity (cmol/kg)	Every 2 years	1st year and then every 10 years
Calcium Magnesium Ratio (ratio)	Every 2 years	1st year and then every 10 years
P sorption capacity ² (kg/ha)	After 3 years	1st year and then every 10 years
Heavy Metals and Pesticides	After 10 years ³	N/A

Schedule 6: Groundwater Monitoring

Groundwater in the Byron Bay area is part of an unconfined aquifer that freely interacts with surface water. These aquifers are recharged by direct infiltration of rainwater from the ground surface, with surface water rapidly infiltrating into the ground and the groundwater freely discharges into the surface drainage systems.

Due to the sandy soils, the nature of the shallow unconfined aquifer and the groundwater being within 1 m of the surface at some sites, the groundwater is potentially vulnerable. Nevertheless, given the high quality of the Recycled Water, including low nutrient concentrations and the use of a deficit irrigation strategy the risk to groundwater is considered low as long as these conditions remain.

BSC monitor groundwater quality and depth on an annual basis at four locations:

- Byron High School
- Bowling Club
- Recreation Grounds
- Red Devils Park

A baseline groundwater assessment was undertaken as part of the development of the Byron Bay Urban Recycled Water Scheme (REF, 2007). As no adverse impacts have been observed since the scheme commenced, an annual sampling frequency has been adopted. Annual monitoring results are reviewed on receipt by the Environmental Systems Coordinator. Groundwater results are assessed every two years as part of the AEMR.

Given the high quality of the Recycled Water, including low nutrient concentrations and a deficit irrigation strategy, the risk to groundwater is considered low as long as these conditions remain. The groundwater parameters monitored for the Recycled Water scheme are listed in the table below.

BSC Groundwater Monitoring Parameters	
Groundwater height (m)	Total Phosphorus (mg/L)
Electrical conductivity (EC)	Orthophosphate (mg/L)
pH (pH units)	Total Nitrogen (mg/L)
Faecal coliforms (cfu/100ml)	Ammonia (mg/L)
<i>E.coli</i> (cfu/100ml)	Nitrite (mg/L)
Total coliforms (cfu/100ml)	Nitrate (mg/L)
Suite of metals	Total Kjeldahl Nitrogen (mg/L)

Schedule 7: Monitoring of Non-Treatment Controls

BSC undertake an annual audit of Recycled Water use and infrastructure at all properties receiving Recycled Water. Council understands the importance of clearly identifying and maintaining Recycled Water infrastructure and have implemented an audit process to minimise the possibilities of inappropriate use and inadvertent cross connections.

Recycled Water quality in the Byron Bay Urban Recycled Water Scheme is suitable for unrestricted irrigation; nevertheless, given the reuse sites are public areas, it is recommended that irrigation only occurs during times of no public access with a withholding period of nominally 4 hours or until the irrigated area is dry. It is recommended that the public do not have access during irrigation. Exposure reduction is achieved by allowing the Recycled Water to dry prior to contact or by restricting human contact with Recycled Water.

Monitoring actions of Non-Treatment Controls are summarised below.

Non-Treatment Controls	Monitoring
Spray drift controls and buffers	Inward throwing sprinklers and / or Turn off irrigation on windy days.
Recycled Water Signage and Identification	Visible, accuracy, damage, clarity and secure attachment. Appropriate colour coding of Recycled Water taps, hoses.
Customer and Staff Awareness	Ensure onsite staff are aware and understand the risks of Recycled Water and their responsibilities
Isolation and metering	Check pipework, isolation valve and meter for leaks, damage and accessibility.
Pipeline inspections	<ul style="list-style-type: none"> ▪ Septic water ▪ Leakage or break ▪ Discharge or spills
Backflow prevention check <i>(where applicable)</i>	Confirm device is inspected annually by authorised backflow prevention tester.
Cross connections and modification <i>(where applicable)</i>	<ul style="list-style-type: none"> ▪ Check all visible pipe works. ▪ Inspect underground routes for recent excavations ▪ At dual reticulation sites undertake: <ol style="list-style-type: none"> a. Hydraulic check b. Electrical Conductivity check
Inspect Recycled Water storage and use onsite <i>(where applicable)</i>	<ul style="list-style-type: none"> ▪ Storages: no algae, leaks or overtopping ▪ Taps, toilets, irrigation, fill gaps etc. ▪ Determine fertiliser usage ▪ Review irrigation scheduling ▪ Ensure groundcover is maintained in nurseries under potted irrigated area