

Notice of Meeting

Water and Sewer Advisory Committee Meeting

A Water and Sewer Advisory Committee Meeting of Byron Shire Council will be held as follows:

Venue	Conference Room, Station Street, Mullumbimby
Date	Thursday, 18 August 2022
Time	9.00am

Phillip Holloway
Director Infrastructure Services

I2022/1033
Distributed 11/08/22



**BYRON
SHIRE**

CONFLICT OF INTERESTS

What is a “Conflict of Interests” - A conflict of interests can be of two types:

Pecuniary - an interest that a person has in a matter because of a reasonable likelihood or expectation of appreciable financial gain or loss to the person or another person with whom the person is associated.

Non-pecuniary – a private or personal interest that a Council official has that does not amount to a pecuniary interest as defined in the Code of Conduct for Councillors (eg. A friendship, membership of an association, society or trade union or involvement or interest in an activity and may include an interest of a financial nature).

Remoteness – a person does not have a pecuniary interest in a matter if the interest is so remote or insignificant that it could not reasonably be regarded as likely to influence any decision the person might make in relation to a matter or if the interest is of a kind specified in the Code of Conduct for Councillors.

Who has a Pecuniary Interest? - a person has a pecuniary interest in a matter if the pecuniary interest is the interest of the person, or another person with whom the person is associated (see below).

Relatives, Partners - a person is taken to have a pecuniary interest in a matter if:

- The person’s spouse or de facto partner or a relative of the person has a pecuniary interest in the matter, or
- The person, or a nominee, partners or employer of the person, is a member of a company or other body that has a pecuniary interest in the matter.

N.B. “Relative”, in relation to a person means any of the following:

- (a) the parent, grandparent, brother, sister, uncle, aunt, nephew, niece, lineal descends or adopted child of the person or of the person’s spouse;
- (b) the spouse or de facto partners of the person or of a person referred to in paragraph (a)

No Interest in the Matter - however, a person is not taken to have a pecuniary interest in a matter:

- If the person is unaware of the relevant pecuniary interest of the spouse, de facto partner, relative or company or other body, or
- Just because the person is a member of, or is employed by, the Council.
- Just because the person is a member of, or a delegate of the Council to, a company or other body that has a pecuniary interest in the matter provided that the person has no beneficial interest in any shares of the company or body.

Disclosure and participation in meetings

- A Councillor or a member of a Council Committee who has a pecuniary interest in any matter with which the Council is concerned and who is present at a meeting of the Council or Committee at which the matter is being considered must disclose the nature of the interest to the meeting as soon as practicable.
- The Councillor or member must not be present at, or in sight of, the meeting of the Council or Committee:
 - (a) at any time during which the matter is being considered or discussed by the Council or Committee, or
 - (b) at any time during which the Council or Committee is voting on any question in relation to the matter.

No Knowledge - a person does not breach this Clause if the person did not know and could not reasonably be expected to have known that the matter under consideration at the meeting was a matter in which he or she had a pecuniary interest.

Non-pecuniary Interests - Must be disclosed in meetings.

There are a broad range of options available for managing conflicts & the option chosen will depend on an assessment of the circumstances of the matter, the nature of the interest and the significance of the issue being dealt with. Non-pecuniary conflicts of interests must be dealt with in at least one of the following ways:

- It may be appropriate that no action be taken where the potential for conflict is minimal. However, Councillors should consider providing an explanation of why they consider a conflict does not exist.
- Limit involvement if practical (eg. Participate in discussion but not in decision making or vice-versa). Care needs to be taken when exercising this option.
- Remove the source of the conflict (eg. Relinquishing or divesting the personal interest that creates the conflict)
- Have no involvement by absenting yourself from and not taking part in any debate or voting on the issue as of the provisions in the Code of Conduct (particularly if you have a significant non-pecuniary interest)

RECORDING OF VOTING ON PLANNING MATTERS

Clause 375A of the Local Government Act 1993 – Recording of voting on planning matters

- (1) In this section, **planning decision** means a decision made in the exercise of a function of a council under the Environmental Planning and Assessment Act 1979:
 - (a) including a decision relating to a development application, an environmental planning instrument, a development control plan or a development contribution plan under that Act, but
 - (b) not including the making of an order under that Act.
- (2) The general manager is required to keep a register containing, for each planning decision made at a meeting of the council or a council committee, the names of the councillors who supported the decision and the names of any councillors who opposed (or are taken to have opposed) the decision.
- (3) For the purpose of maintaining the register, a division is required to be called whenever a motion for a planning decision is put at a meeting of the council or a council committee.
- (4) Each decision recorded in the register is to be described in the register or identified in a manner that enables the description to be obtained from another publicly available document, and is to include the information required by the regulations.
- (5) This section extends to a meeting that is closed to the public.

OATH AND AFFIRMATION FOR COUNCILLORS

Councillors are reminded of the oath of office or affirmation of office made at or before their first meeting of the council in accordance with Clause 233A of the Local Government Act 1993. This includes undertaking the duties of the office of councillor in the best interests of the people of Byron Shire and the Byron Shire Council and faithfully and impartially carrying out the functions, powers, authorities and discretions vested under the Act or any other Act to the best of one's ability and judgment.

BYRON SHIRE COUNCIL

BUSINESS OF MEETING

1. APOLOGIES

2. DECLARATIONS OF INTEREST – PECUNIARY AND NON-PECUNIARY

3. ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

3.1	Adoption of Minutes from Previous Meeting	5
-----	---	---

4. STAFF REPORTS

Infrastructure Services

4.1	Committee Constitution	11
4.2	Utilities Overview	20
4.3	Safe and Secure Yield	45
4.4	West Byron STP Compliance Report.....	50
4.5	STP Quarterly Operational Performance Report	87
4.6	Byron STP Condition 9 Additional Load - Quarterly Report	92

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

Report No. 3.1 Adoption of Minutes from Previous Meeting

Directorate: Infrastructure Services

5 **Report Author:** Rachel Barnden, Systems Support Officer

File No: I2022/960

10 **RECOMMENDATION:**

That the minutes of the Water and Sewer Advisory Committee Meeting held on 21 April 2022 be confirmed.

15 **Attachments:**

1 Minutes 21/04/2022 Water and Sewer Advisory Committee, I2022/387 , page 7 [↓](#) 

BYRON SHIRE COUNCIL

ADOPTION OF MINUTES FROM PREVIOUS MEETINGS

3.1

Report

The attachment to this report provides the minutes of the Water and Sewer Advisory Committee Meeting of 21 April 2022 .

Report to Council

5

The minutes were reported to Council on 26 May 2022

Comments

In accordance with the Committee Recommendations, Council resolved the following:

Resolved that Council notes the minutes of the Water and Sewer Advisory Committee Meeting held on 21 April 2022. (Lyon/Ndiaye)

10

22-202 Resolved that Council adopts the following Committee Recommendations:

Report No. 3.2 Byron STP Condition 9 Additional Load - Quarterly Report

File No: I2022/238

Committee Recommendation 3.2.1

That Council:

1. Notes the report.
2. Asks Council staff to show both ET units and megalitres per annum. (Lyon/Ndiaye)

22-203 Resolved that Council adopts the following Committee Recommendations:

Report No. 3.3 Utilities Overview

File No: I2022/291

Committee Recommendation 3.3.1

1. That Council notes the presentation: Infrastructure Services Utilities Overview Presentation to Water & Sewer Advisory Committee 21 April 2022 (E2022/32261).
2. This summary to continue at the next Water and Sewer Advisory Committee. (Lyon/Ndiaye)

Minutes

Water and Sewer Advisory Committee Meeting

Venue	Conference Room, Station Street, Mullumbimby
Date	Thursday, 21 April 2022
Time	9.00am

Phillip Holloway
Director Infrastructure Services

12022/387



BYRON SHIRE COUNCIL

WATER AND SEWER ADVISORY COMMITTEE MEETING MINUTES 21 APRIL 2022

Minutes of the Water and Sewer Advisory Committee Meeting held on Thursday, 21 April 2022

File No: I2022/387

PRESENT: Cr S Ndiaye, Cr D Dey.

Staff: Cameron Clark (Manager Utilities)
Heather Sills (Corporate Planning and Improvement Coordinator)
Shelley Flower (Minute Taker)

Community: Ben Fawcett, Elia Hauge, David Fligelman.

Cr S Ndiaye (Chair) opened the meeting at 9.14am and acknowledged that the meeting was being held on Bundjalung Country.

APOLOGIES:

Cr M Lyon, Cr C Coorey, Kathryn McConnochie and Phillip Holloway (Director Infrastructure Services).

No. 3.5 New Committee Members

The Committee acknowledges Kathryn McConnochie's resignation. Cr Sarah Ndiaye suggested the Committee advertise for new members due to the resignation.

Committee Recommendation:

That Council advertise for additional members for the Water and Sewer Advisory Committee.

(Ndiaye/Dey)

The recommendation was put to the vote and declared carried..

DECLARATIONS OF INTEREST – PECUNIARY AND NON-PECUNIARY

There were no declarations of interest.

BUSINESS ARISING FROM PREVIOUS MINUTES

There was no business arising from previous minutes.

BYRON SHIRE COUNCIL

WATER AND SEWER ADVISORY COMMITTEE MEETING MINUTES 21 APRIL 2022

STAFF REPORTS - INFRASTRUCTURE SERVICES

Report No. 3.1 Committee Constitution
File No: I2022/363

Committee Recommendation:

That this item be reviewed at the next Committee meeting. (Dey/Hauge)

The recommendation was put to the vote and declared carried. Cr Sarah Ndiaye voted against.

PROCEDURAL MOTION

Committee Recommendation:

That the Committee change the order of business to deal with Report 3.4 next on the Agenda. (Ndiaye/Dey)

The recommendation was put to the vote and declared carried..

Report No. 3.4 Delivery Program - Workshop Session
File No: I2022/365

Committee Recommendation:

That the Water and Sewer Advisory Committee members discuss via email input into the development of the draft Delivery Program 2022-26. (Ndiaye/Fawcett)

The recommendation was put to the vote and declared carried.

Report No. 3.2 Byron STP Condition 9 Additional Load - Quarterly Report
File No: I2022/238

Committee Recommendation:

That Council:

- 1.Note the report.**
- 2.Ask Council staff to show both ET units and megalitres per annum.** (Dey/Hauge)

The recommendation was put to the vote and declared carried.

BYRON SHIRE COUNCIL

BYRON SHIRE COUNCIL

WATER AND SEWER ADVISORY COMMITTEE MEETING MINUTES 21 APRIL 2022

Report No. 3.3 Utilities Overview
File No: I2022/291

Committee Recommendation:

1. **That Council note the presentation: Infrastructure Services Utilities Overview Presentation to Water & Sewer Advisory Committee 21 April 2022 (E2022/32261).**

2. **This summary to continue at the next Water & Sewer Advisory Committee.**
(Ndiaye/Hauge)

The recommendation was put to the vote and declared carried.

There being no further business the meeting concluded at 11am.

STAFF REPORTS - INFRASTRUCTURE SERVICES

Report No. 4.1 Committee Constitution

Directorate: Infrastructure Services

5 **Report Author:** Rachel Barnden, Systems Support Officer

File No: I2022/957

Summary:

Attached is Draft Water and Sewer Advisory Committee Constitution 2022 to be ratified by the Committee

10

RECOMMENDATION:

That the Committee ratify the Committee Constitution

15 **Attachments:**

1 DRAFT Water and Sewer Advisory Committee Constitution 2022, E2021/148692 , page 13  

20

Report

The purpose of the Committee is to:

- a) develop policies for addressing the water and sewer cycle management needs and aspirations of the Shire’s population in an ecologically sustainable way.
- 25 b) develop strategies for natural resource management / demand management for water and sewer management within the Shire.
- c) recommend on strategies and plans that address water and sewer management issues in a regional/ broader context.

30

WSAC Constitution Amendments Proposal from Cr Dey for the Committees Consideration

Section 2 Purpose:

The purpose of the Committee is to:

- 5
- a) develop policies and programs that address the water and sewer needs and aspirations of the Shire's populations in a resilient and ecologically sustainable way;*
 - b) develop strategies and projects that minimise the environmental impacts (i) of extracting water, (ii) of returning sewage to receiving environments, and (iii) of treatment and processing for these purposes;*
 - c) recommend strategies and plans to manage water and sewerage assets.*

In Section 5 Membership:

- 10
- Council appoints Advisory Committee members, thus conferring their responsibilities and rights as set out in this document.*

In Section 11 Majority Decision:

A decision of the Committee is by majority of the voting members present at the time of the vote, including on-line presence.

15

In Section 16 Absence from Committee Meetings:

- a) Has been absent from two consecutive meetings of the Committee without having given acceptable reasons for the member's absence.*

20

Legal/Statutory/Policy Considerations

The Constitution has been prepared with reference to Council's Code of Conduct and Code of Meeting Practice.

25



BYRON SHIRE COUNCIL

**WATER AND SEWER ADVISORY
COMMITTEE**

CONSTITUTION

DRAFT

INFORMATION ABOUT THIS DOCUMENT

(INTERNAL USE ONLY)

Date Adopted by Council	TBC	Resolution No.	TBC
Responsibility	Infrastructure Services		
Review Timeframe	Each Term of Council		
Last Review Date:	January 2022	Next Scheduled Review Date	December 2024

Document History

Doc No.	Date Amended	Details Comments eg Resolution No.
E2016/90826	29 September 2016	Constitution as adopted by Council 29/09/16

Further Document Information and Relationships

Related Legislation	Section 355, Local Government Act (1993)
Related Policies	Code of Conduct 2016 Work Health Safety Policy Code of Meeting Practice
Related Procedures/ Protocols, Statements, documents	

Table of Contents

1. Preamble 1

2. Purpose 1

3. Timeframe for Committee 1

4. Responsible Directorate..... 1

5. Membership 1

6. Induction 2

7. Quorum..... 2

8. Confidentiality 2

9. Election of Chairperson..... 2

10. Voting 2

11. Majority Decision 2

12. Convening Meetings 2

13. Agenda Preparation..... 3

14. Conduct of Business 3

15. Records of meetings..... 3

16. Absence from Committee Meetings 3

17. Project Reference Groups..... 3

18. Section 377 Delegation..... 4

19. Meeting Practice 4

20. Miscellaneous 4

Constitution: Water and Sewer Advisory Committee

1. Preamble

The Water and Sewer Advisory Committee is an advisory Committee of the Council and does not have executive power or authority to implement actions.

The role of the Committee is to report to Council and provide appropriate advice and recommendations on matters relevant to this Constitution.

2. Purpose

The purpose of the Water and Sewer Advisory Committee is to:

- a) develop policies for addressing the integrated water cycle management needs and aspirations of the Shire's population in an ecologically sustainable way
- b) develop strategies for natural resource management / demand management for water and sewer management within the Shire
- c) recommend on strategies and plans that address water, sewer, reuse and stormwater management issues in a regional/ broader context

3. Timeframe for Committee

The lifespan of the Water and Sewer Advisory Committee is for the term of Council 2022-2024.

4. Responsible Directorate

This Committee is administered by the Infrastructure Services Directorate. The Director or their delegates will attend these meetings and minutes will be taken by a member of their staff.

5. Membership

Council must appoint all advisory Committee members. Appointment must take place prior to a member being conferred the responsibilities and rights as set out in this document.

Council may release individual members from the advisory Committee at any time by a resolution of Council. Council may also appoint any new members to a Committee at any time by a resolution of Council.

Membership is to include:

- 4 Councillors
- 4 relevantly qualified Byron Shire LGA community representatives
- Byron Shire Council General Manager (and/or staff member delegates)

Note: Staff members participating on the Committee do not have any voting entitlements.

Constitution: Water and Sewer Advisory Committee

6. Induction

All members will be required to participate in an induction process at the establishment of a new Committee, and at any time a replacement voting member joins a Committee. The induction will be scheduled prior to the first meeting of the Committee and will cover topics such as this Constitution, the Code of Meeting Practice, Conflicts of Interest and Code of Conduct.

Replacement voting members will be inducted by experienced Committee members at, or prior to, their first meeting.

7. Quorum

A quorum is to constitute at least half the number of members, two of which are to be Councillors. The General Manager or delegate, who must be a member of staff, is to attend the Advisory Committee meeting and is not counted in the quorum for the meeting.

8. Confidentiality

Members of the Committee will, in those circumstances where confidential matters are subject to deliberation, maintain confidentiality.

9. Election of Chairperson

The position of Chairperson is to be elected from Councillors comprising the Committee but only in circumstances where the Mayor elects not to assume the position of Chairperson.

10. Voting

- a) Each member of the Committee (with the exception of staff members) is to have one vote, with the Chairperson to have a casting vote in addition to a deliberative vote.
- b) Members of the Committee who are not Councillors may abstain from voting in any circumstances without such abstention being recorded in the negative.

11. Majority Decision

A majority decision of the Committee requires a majority of elected members to be present and voting on any item subject to the requirements of a quorum being met at the meeting.

12. Convening Meetings

Meetings will be held as required, generally every quarter. An annual timetable of meetings will be prepared in advance and adopted by Council for the following 12 months.

A meeting of the Committee may be convened in response to either the direction of the Mayor (or in the Mayor's absence the Deputy Mayor) in written form to the General Manager; or two Councillors in written form to the General Manager, or by resolution of the Council.

13. Agenda Preparation

It is the responsibility of the chairperson to prepare the agenda in consultation with the relevant Director, setting out the terms of business to be considered.

The agenda is an organised list of the business, in order, that will be transacted at the meeting. An agenda for each meeting, containing a brief report on each item, is to be provided to Committee members and available on Council's website at least 7 days prior to the meeting being held.

Each item of business to discuss at the meeting is required to be listed on the agenda and in written form. Verbal reports at the meeting are not an acceptable practice.

For some matters, it will be necessary to attach other relevant information to the agenda to inform and direct discussion. Such information is to be circulated with the agenda.

Committee members may request items for inclusion in future agendas, through the Chair.

14. Conduct of Business

Each item of business is discussed in the order in which it appears on the agenda. No new matters will be introduced at the meeting. New items of business may be included in a future agenda as noted in clause 13 above.

15. Records of meetings

- a) The minutes of meetings are to be circulated to members of the group within 7 days of the meeting so that members can provide feedback through the Chair on the draft unconfirmed minutes.
- b) Minutes of Committee meetings will be kept and presented to Council at its next meeting via a report of the Committee meeting.

16. Absence from Committee Meetings

All Committee members are required to advise the chair when they are unable to attend Committee meetings. The absence of Committee members from the meeting is to be recorded in the minutes. A Committee member (other than the Mayor) ceases to be a member of a Committee if the member:

- a) Has been absent from three consecutive meetings of the Committee without having given reasons acceptable to the Committee for the member's absence, or
- b) Has been absent from at least half of the meetings of the Committee held during the immediately preceding year without having given to the Committee acceptable reasons for the member's absences.

17. Project Reference Groups

Project Reference Groups may be established by Council at the recommendation of the Committee to address issues clearly identified by the Committee.

Constitution: Water and Sewer Advisory Committee

Project Reference Groups operate in accordance with Council's adopted Constitution template for Project Reference Groups.

18. Section 377 Delegation

The Committee does not have any delegated functions pursuant to section 377 of the Local Government Act (1993) and does not have the power to direct staff.

19. Meeting Practice

Meetings are to be conducted in accordance with this Constitution and, where required, reference to Council's Code of Meeting Practice.

20. Miscellaneous

- a) **Insurance:** All group members are covered by the public liability policy of Council. This insurance does not preclude the Advisory Committee from due diligence and all Council policies must be adhered to.
- b) **Code of Conduct:** All group members to abide by Council's adopted Code of Conduct at all times.
- c) **Pecuniary Interest:** Pecuniary Interest may be defined as an interest that a person has in a matter, as a group member or employee of a company or other body, because of a reasonable likelihood or expectation of appreciable financial gain or loss to the person, or another person with whom the person is associated. Such other person includes the spouse or de-facto partner or relative of the group member.

Section 446 of the Local Government Act states that "a member of a council Committee, other than a Committee that is wholly advisory, must disclose pecuniary interests..."

Even though the Local Government Act provides an exemption to disclose pecuniary interests Council's preference is for all members to declare pecuniary interests where applicable.

- d) **Work Health Safety:** All group members are required to comply with the "Worker Responsibilities" as prescribed in the Work Health Safety Policy.

Report No. 4.2 Utilities Overview

Directorate: Infrastructure Services

Report Author: Rachel Barnden, Systems Support Officer

File No: I2022/653

5 **Summary:**

Council staff have developed a presentation summarising the services provided to Byron Shire Community by Councils Utilities Branch. The presentation has been developed to allow for open discussion with committee members.

22-203 Resolved that Council adopts the following Committee Recommendations:

Report No. 3.3 Utilities Overview

File No: I2022/291

Committee Recommendation 3.3.1

1. That Council notes the presentation: Infrastructure Services Utilities Overview Presentation to Water & Sewer Advisory Committee 21 April 2022 (E2022/32261).
2. This summary to continue at the next Water and Sewer Advisory Committee.

(Lyon/Ndiaye)

10

RECOMMENDATION:

That the committee note the presentation.

15 **Attachments:**

- 1 Infrastructure Services Utilities Overview Presentation, E2022/32261 , page 21  

Byron Shire Council Utilities Overview

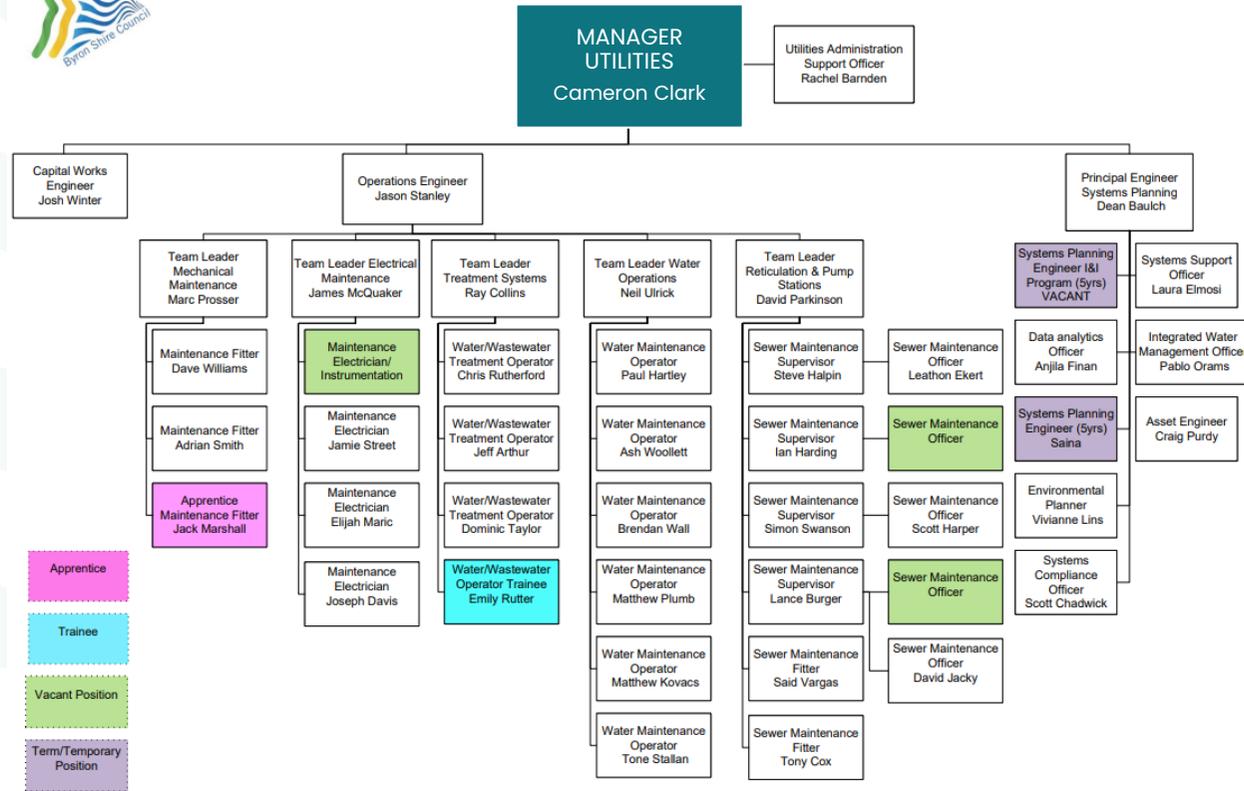




Utilities Structure



Utilities
March 2022



Byron Shire Council Utilities Branch are responsible for delivering integrated water and sewerage services that provides best value for money based on social, environmental and economic considerations.

The Utilities Branch consists of 3 Units:

- **Systems Planning**
- **Capital Works**
- **Operations**



Governance

Key Legislation



- [Local Government Act](#)
- [Local Government \(General\) Regulation 2021](#)
- [Work Health and Safety Act 2011](#)
- [Water Act 2007](#)
- [NSW Water Management Act 2000 No 92](#)
- [Environment Protection and Biodiversity Conservation Act 1999](#)
- [Environmental Planning and Assessment Act 1979](#)
- [Land Acquisition \(Just Terms Compensation\) Act 1991](#)

External Stakeholders



- Our Community
- Bundjalung of Byron Bay Aboriginal Corporation (Arakwal)
- Consultants
- Contractors
- Environmental Protection Authority
- Rous County Council (water supply)
- Northern Rivers Joint Organization
- Australian Water Association
- Water NSW
- Department of Planning and Environment
- Crown Lands
- Office of Environment and Heritage
- Department of Primary Industries
- NSW Health
- Tweed Laboratory
- NSW Police
- NSW Fire and Rescue
- NSW Rural Fire Service
- NSW State Emergency Service
- Bureau of Meteorology
- National Parks and Wildlife
- Byron Bay Bird Buddies
- Non-Government Organisations

Strategies & Plans



- Integrated Water Cycle Management Strategy (30yr Plan) Currently under development
- Strategic Business Plan for Water Supply and Sewerage Services (2016)
- Byron Shire Council Development Servicing Plan for Water Supply and Sewerage (2016)
- Byron Shire Council Drinking Water Management System (DWMS) (2021)
- Byron Shire Recycled Water Management Strategy 2017-2027
- Integrated Water Cycle Management Plan - Water Supply and Sewerage Strategic Plan (2017)
- Mullumbimby Drought Management Plan (2014)
- Regional Water Supply Drought Management Plan (2016)
- Northern Rivers Regional Bulk Water Supply Strategy
- Digital Asset Management Plan (Water, Sewer & Reuse Water) (Draft)
- Operations Environmental Management Plan
- Operational Environmental Management Plan (OEMP) for BBIWMR
- Pollution Incident Response Management Plan
- BSC Wastewater Management System

Council Policies



- Backflow Prevention 2020
- Access to bulk water from Council water mains 2019
- Building in the Vicinity of Underground Infrastructure 2020
- Liquid Trade Waste 2019
- Pressure Sewerage 2020
- Private sewer pump station 2020
- Reticulated Town Drinking Water Quality 2020
- Urban Recycled Water Connections 2019
- Water and Sewer Equivalent Tenements Policy 2018
- Water Conservation 2019
- Dual Water Reticulation Supply Policy (Draft)

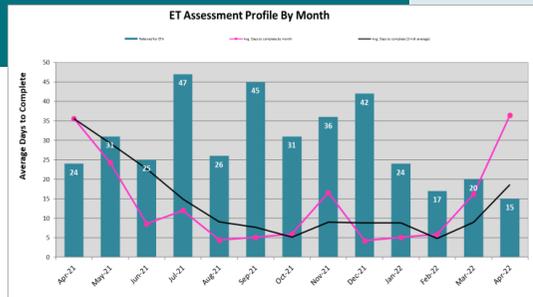


Systems Planning

Systems Planning

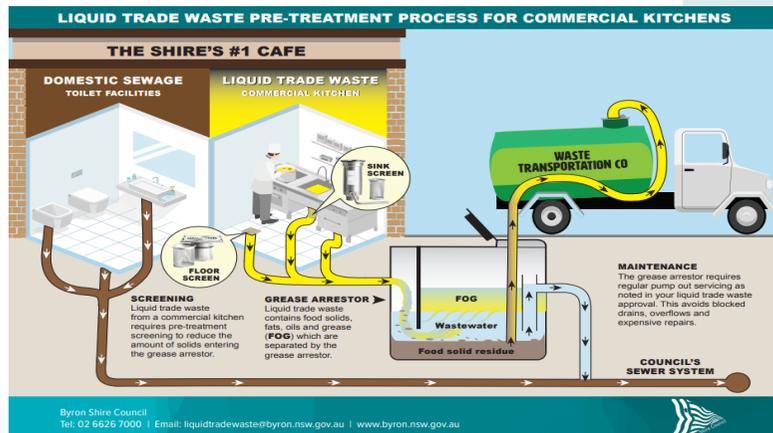


Section 307 Certificate of Compliance



Systems Planning

- Water Utilities in the Water Management Act
- Water and Sewer Systems Planning
- Section 64 Contributions under the LG Act (1993) enables Council to levy developer charges for water supply and sewerage.
- Section 307 Certificates
- Integrated Water Management Strategic Planning
- Liquid Trade Waste Regulation & Compliance
- Asset Maintenance Planning
- Regulation Compliance Reporting
- Water & Wastewater Public Data



Utilities Assets Overview



Water Hydrants – 2459



Water Treatment Plants – 1



Water Pump Stations – 9



Water Valves – 1606



Water Mains – 1741 (250km)



Dam Weirs – 1



Water Reservoirs – 15



Water Reuse Access Points – 7



Water Reuse Pump Stations – 1



Water Reuse Valves – 163



Water Reuse Mains – 90 (26km)



Water Reuse Filling Stations – 4



Irrigation Systems – 20



Sewer Treatment Plants – 4



Sewer Pump Stations – 87



Sewer Rising Mains – 166 (72km)



Sewer Rising Main Valves – 210



Sewer Gravity Mains – 5187 (195km)



Sewer Gravity Main Valves – 3



Sewer Gravity Manholes – 3941



Vacuum Sewer Mains – 174 (7km)



Vacuum Sewer Valves – 20



Vacuum Sewer Pods – 84



Pressure Sewer Mains – 600 (10km)



Pressure Sewer Boundary Kits – 315



Buildings – 29



Shelters – 9

Predictive modelling of Utilities Assets



- Optimise available funding to extend asset life and improve levels of service.
- Apply condition based life cycle degradation profiles to accurately model future asset conditions.
- Produce prioritised long term capital work and financial plans.
- Drive capital investment in regards to agreed levels of service.

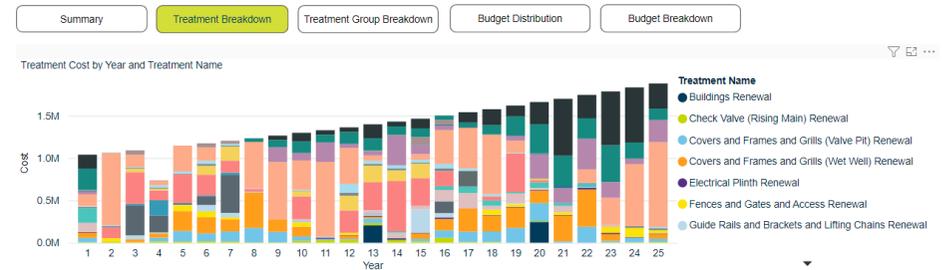
2022 - MAINTAIN - Budget to maintain + 2.5% Inflation

Service State by Year	Asset Name	Unique Asset ID	0	1	2	3	4	5	6	7	8	9	10	11	12
	SPS1002 Raftons Road Behind 5&7 Palm Tree Crs	(Rising Main)													
	SPS1002 Raftons Road Behind 5&7 Palm Tree Crs Covers and Frames and Grills (Valve Pit)		4.00	0.00	0.00	1.00	1.00	2.00	2.00	2.00	2.00	3.00	3.00	3.00	0.00
	SPS1002 Raftons Road Behind 5&7 Palm Tree Crs Covers and Frames and Grills (Wet Well)		4.00	0.00	0.00	1.00	1.00	2.00	2.00	2.00	3.00	3.00	3.00	3.00	3.00
	SPS1002 Raftons Road Behind 5&7 Palm Tree Crs Guide Rails and Brackets and Lifting Chains		2.00	2.00	2.00	3.00	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00
	SPS1002 Raftons Road Behind 5&7 Palm Tree Crs Instrumentation		4.00	4.00	5.00	0.00	0.00	1.00	1.00	2.00	2.00	3.00	3.00	3.00	4.00

2022 - MAINTAIN - Budget to maintain + 2.5% Inflation



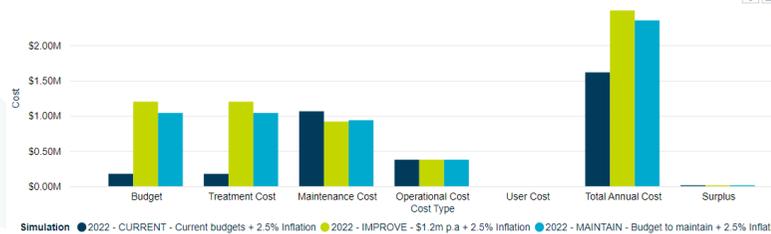
2022 - MAINTAIN - Budget to maintain + 2.5% Inflation





Predictive Modelling – Compare budgeting scenarios

Cost by Simulation and Cost Type



Create scenarios to clearly demonstrate the impact of increased, static or decreased funding to ultimately make better informed decisions.

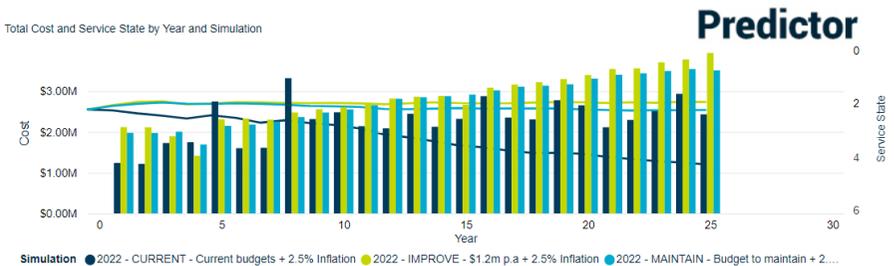
Budget and Cost Allocation by Simulation

Simulation	Budget	Treatment Cost	Maintenance Cost	Operational Cost	User Cost	Total Annual Cost	Surplus
2022 - CURRENT - Current budgets + 2.5% Inflation	\$176,493.00	\$175,787.50	\$1,063,591.74	\$376,644.45	\$0.00	\$1,616,023.69	\$705.50
2022 - IMPROVE - \$1.2m p.a + 2.5% Inflation	\$1,200,000.00	\$1,199,762.50	\$917,513.02	\$376,644.45	\$0.00	\$2,493,919.97	\$237.50
2022 - MAINTAIN - Budget to maintain + 2.5% Inflation	\$1,040,000.00	\$1,039,862.50	\$906,649.97	\$376,644.45	\$0.00	\$2,353,156.92	\$137.50

Total Backlog

Year	2022 - CURRENT - Current budgets + 2.5% Inflation	2022 - IMPROVE - \$1.2m p.a + 2.5% Inflation	2022 - MAINTAIN - Budget to maintain + 2.5% Inflation
0	\$2,645,525.00		\$2,645,525.00
1	\$2,469,737.50		\$1,445,762.50
2	\$2,718,492.19		\$497,996.25
3	\$2,802,069.41		\$0.00
4	\$2,909,650.78		\$0.00
5	\$3,284,478.04		\$451,431.88
6	\$4,074,582.82		\$18,555.09
7	\$5,372,859.61		\$0.00
8	\$5,569,319.64		\$308,255.93
9	\$6,752,602.08		\$433,355.45
10	\$7,504,495.64		\$332,821.98
11	\$9,208,224.16		\$860,728.85
12	\$10,752,386.15		\$1,172,743.05
13	\$11,665,649.72		\$736,124.90
14	\$12,631,279.47		\$33,911.37
15	\$13,385,171.65		\$0.00
16	\$13,725,738.97		\$786,787.98
17	\$14,289,684.44		\$764,466.09

Total Cost and Service State by Year and Simulation

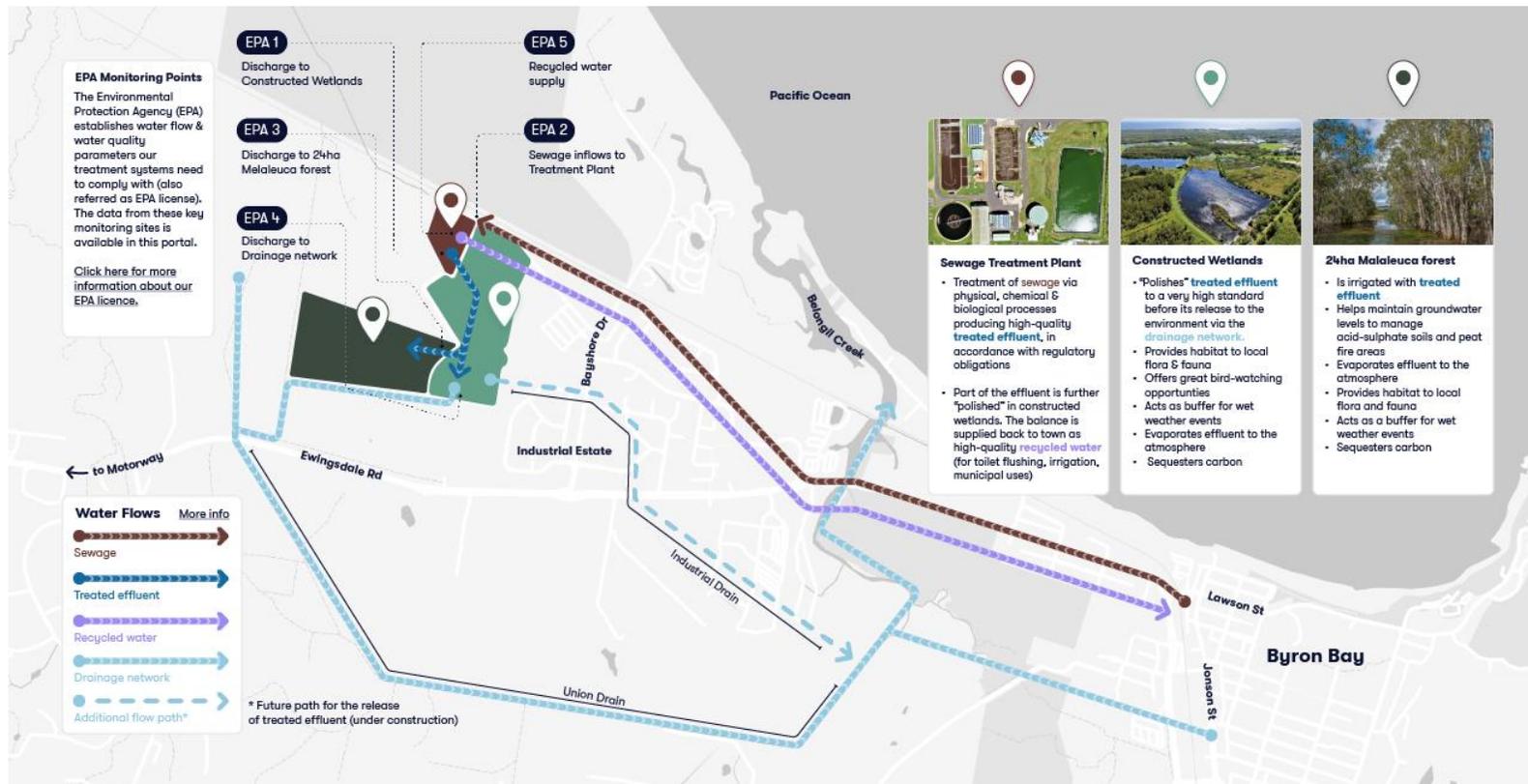


Service State

Year	2022 - CURRENT - Current budgets + 2.5% Inflation	2022 - IMPROVE - \$1.2m p.a + 2.5% Inflation	2022 - MAINTAIN - Budget to maintain + 2.5% Inflation
19	3.76		1.94
20	3.80		1.95
21	3.91		1.97
22	3.99		1.95
23	4.06		1.97
24	4.11		1.93
25	4.18		1.94



Integrated Water Management



Integrated Water Management encourages less reliance on limited natural water sources with less production of pollutant loads to the receiving environment from sewerage operations.



BYRON SHIRE COUNCIL

Smart water metering



HOW DO SMART WATER METERS WORK?



The meter registers water use.

The meter transmits the data.

The data can be viewed by Council and you.

Any leaks can be identified quickly and repaired.

Water and money saved!

HOW



SMART WATER METERS HELP EVERYONE

HELPS YOU IDENTIFY LEAKS EARLIER



HELPS OPTIMISE THE WATER NETWORK AND YOUR SUPPLY



HELPS YOU SAVE WATER, MONEY AND POTENTIAL DAMAGE





Utilities Operations

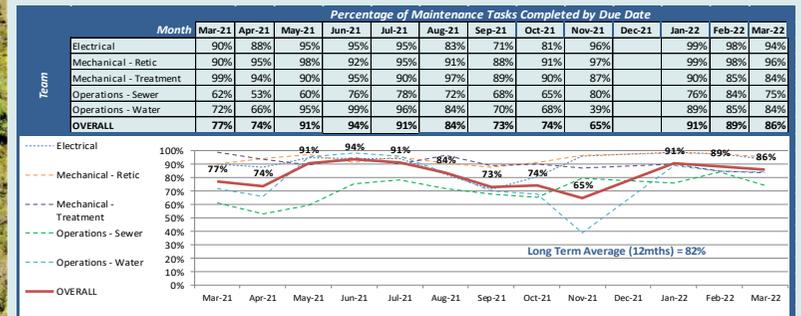


Utilities Operations



Utilities Operations consists of 5 Teams:

- Treatment Systems
- Water Operations
- Sewer Reticulation and Pump Stations
- Mechanical Maintenance
- Electrical Maintenance

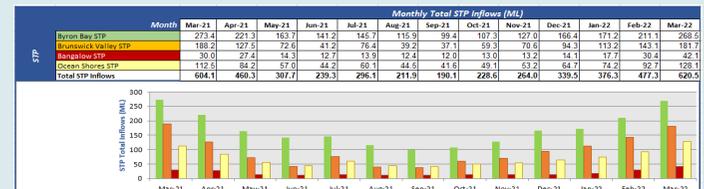


Utilities Operations



Operations

- Delivery of potable water (Rous)
- Mullumbimby Water Treatment Plant
- Water and Sewer Network Asset Maintenance
- Sewerage Treatment Plant Operations
- SCADA
- Recycled Water Network Operations
- Byron Integrated Water Management Reserve Operations
- Coordinate Infrastructure Services on-call after hours
- Emergency Management Response back up





Capital Works



Upcoming Capital works projects



- RFT 2021-1145 - Fletcher, Bangalow and Carlyle Water Main Replacements, Byron Bay
- RFT2021-1130 Reservoir Roof Replacements Work
- RFT2021-1131 - Reservoir Slope Stability Works
- RFT2021-1247 - Panel of Providers - Plumbing, Electrical, General Building and Maintenance
- RFQ 2021-0035 Byron STP Inlet Works Remediation
- RFQ2021-1144 Carlyle Street Water Main Replacement
- Byron Bay Industrial Estate Channel Bed Mowing Services
- RFT2021-1102 Sewer Pump Stations 5015 & 5019 Refurbishment Work
- RFT2021-1146 Inflow & Infiltration 21/22 Construction Package
- RFQ2021-1144 Casons Road Water Main Replacement
- RFT2021-1097 Sewer Pump Stations 3018 & 3020 Refurbishment Work

Additional Flow Path (Byron Arts & Industry Estate)




ADDITIONAL FLOW PATH

A drainage upgrade project to better manage treated water and stormwater flows in the Belongil catchment.



We want to hear from you

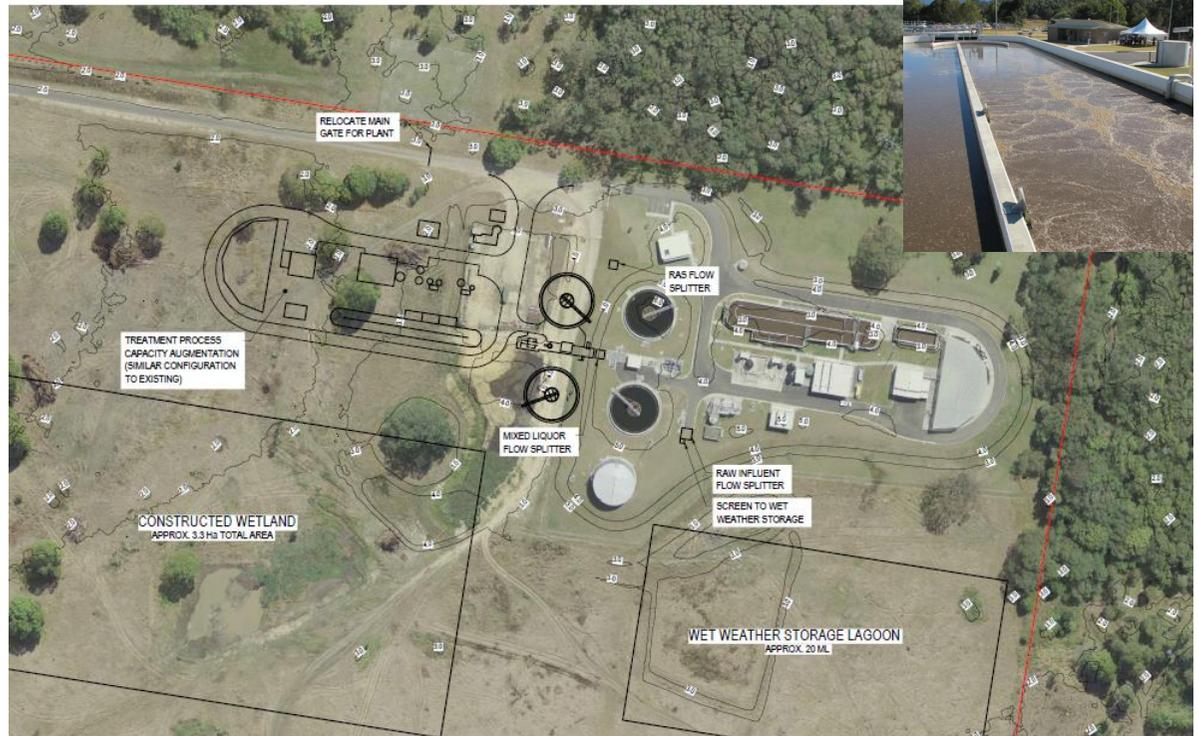
www.yoursaybyronshire.com.au





Additional Projects

Ocean Shores to Brunswick Valley STP Transfer





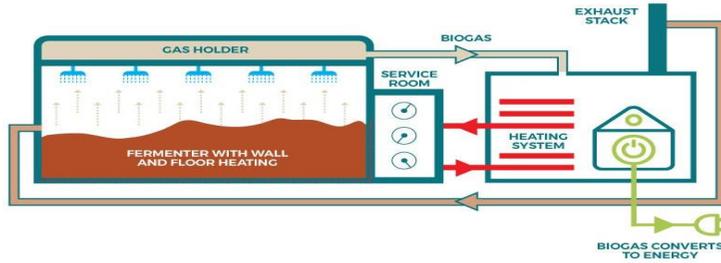
Byron Shire Bioenergy Facility (\$22.5m)



WHAT IS BIO ENERGY?

Converting organic waste into clean and green renewable energy.

COMMERCIAL ORGANIC WASTE SOLUTIONS	
CURRENT	BIOENERGY
 HIGH SERVICE COSTS	 LOWER SERVICE COSTS
 OUT OF AREA HAULAGE HIGH COST AND CO ₂	 LOCAL LOWER KMs COST AND CO ₂
 CH ₄ + CO ₂ OPEN AIR RELEASE FROM LANDFILL	 CH ₄ CONTAINED AND CONVERTED
 WASTE	 RENEWABLE ENERGY, COMPOST PRODUCT AND LOCAL JOB CREATION



Thank you.
We look forward to working together in W&SAC.

If you would like more information please contact:

Cameron Clark

Manager Utilities

cclark@byron.nsw.gov.au

0417 464 716



**BYRON
SHIRE
COUNCIL**

Report No. 4.3 Safe and Secure Yield

Directorate: Infrastructure Services

Report Author: Cameron Clark, Manager Utilities

File No: I2022/583

5 **Summary:**

Council is currently preparing a long-term strategy for Mullumbimby water supply to ensure that it can meet future water demand.

The need for a long-term water supply strategy for Mullumbimby is based on the following findings from previous studies:

- 10 - The current demand for water is similar to the secure yield at Laverty's Gap Weir and if the worst drought on record were to repeat, the current supply would not meet demand.
- Mullumbimby's demand for water is increasing with development and population growth.
- 15 - The Mullumbimby WTP requires upgrades to ensure consistent supply of microbially safe water in the short-term and is ageing and requires replacement.
- The raw water supply channel is in poor condition and is at risk of failure.

20

RECOMMENDATION:

1. **That the Committee notes the report.**
- 25 2. **That an extraordinary WSAC workshop is held with representatives from Rous and Byron Councils relating to integrated future water strategies across the region including Byron and Mullumbimby.**

30

Strategic Considerations

Community Strategic Plan and Operational Plan

CSP Objective	CSP Strategy	DP Action	Code	OP Activity
5: Connected Infrastructure We have connected infrastructure, transport, and facilities that are safe, accessible, and reliable	5.5: Provide continuous and sustainable water and sewerage management	5.5.1: Water supply - Provide a continuous water supply that is maintained in accordance with NSW Health guidelines	5.5.1.9	Mullumbimby - Emergency Water Supply Detailed Design
5: Connected Infrastructure We have connected infrastructure, transport, and facilities that are safe, accessible, and reliable	5.5: Provide continuous and sustainable water and sewerage management	5.5.1: Water supply - Provide a continuous water supply that is maintained in accordance with NSW Health guidelines	5.5.1.16	DWMP Improvements
5: Connected Infrastructure We have connected infrastructure, transport, and facilities that are safe, accessible, and reliable	5.5: Provide continuous and sustainable water and sewerage management	5.5.1: Water supply - Provide a continuous water supply that is maintained in accordance with NSW Health guidelines	5.5.1.8	Mullumbimby WTP - Asset Management
5: Connected Infrastructure We have connected infrastructure, transport, and facilities that are safe, accessible, and	5.5: Provide continuous and sustainable water and sewerage management	5.5.1: Water supply - Provide a continuous water supply that is maintained in accordance with NSW Health guidelines	5.5.1.14	Asset Management Plans / Asset Management System

BYRON SHIRE COUNCIL

STAFF REPORTS - INFRASTRUCTURE SERVICES

4.3

reliable				
<p>5: Connected Infrastructure We have connected infrastructure, transport, and facilities that are safe, accessible, and reliable</p>	5.5: Provide continuous and sustainable water and sewerage management	5.5.1: Water supply - Provide a continuous water supply that is maintained in accordance with NSW Health guidelines	5.5.1.15	Development Servicing Plan
<p>5: Connected Infrastructure We have connected infrastructure, transport, and facilities that are safe, accessible, and reliable</p>	5.5: Provide continuous and sustainable water and sewerage management	5.5.2: Wastewater management - Manage effluent in an ecologically sustainable way that ensures public health and protects and enhances the natural environment	5.5.2.12	Review Recycled Water Management Strategy
<p>5: Connected Infrastructure We have connected infrastructure, transport, and facilities that are safe, accessible, and reliable</p>	5.5: Provide continuous and sustainable water and sewerage management	5.5.2: Wastewater management - Manage effluent in an ecologically sustainable way that ensures public health and protects and enhances the natural environment	5.5.2.5	Byron Bay - Section 60 Reuse Water System Upgrade
<p>5: Connected Infrastructure We have connected infrastructure, transport, and facilities that are safe,</p>	5.5: Provide continuous and sustainable water and sewerage management	5.5.1: Water supply - Provide a continuous water supply that is maintained in accordance with NSW Health	5.5.1.3	Mullumbimby - Tuckeroo Ave Watermain Construction

BYRON SHIRE COUNCIL

STAFF REPORTS - INFRASTRUCTURE SERVICES

4.3

accessible, and reliable		guidelines		
--------------------------	--	------------	--	--

Recent Resolutions

21-239 **Resolved** that Council adopts the following Committee Recommendations:

Report No. 4.1 Mullumbimby Future Water Strategy

File No: I2021/781

Committee Recommendation: 4.1.1

That Council:

1. Recognises that for the Mullumbimby township there are 2 water supply issues being considered at the moment, one being a potential drought next summer and the other being the long-term future water supply strategy.
2. Undertakes works to complete the connection of the emergency supply to the rest of Mullumbimby.
3. In relation to a long term strategy, firms up the management options including recognising the environmental impacts of each option, inclusive of impacts of Rous's own options (for options that use Rous water).
4. Aims to produce a draft long-term strategy to go to a Strategic Planning Workshop with a view to putting the strategy on public exhibition.

(Ndiaye/Spooner)

22-171

Resolved:

- 1. That during Stage 2 of the IWCM Strategy (beyond 2028) further investigation into the groundwater supplies at Tyagarah Byron Shire, will be undertaken by Rous County Council to confirm infrastructure requirements and assess environmental impacts.**
- 2. That during Stages 1 and 2, Rous County Council will continue investigations into the preferred long-term source augmentation strategy (Stage 3 options) which may include (around 2040):**
 - i) Expansion of the Tyagarah groundwater scheme (if viable).**
 - ii) Desalination of ocean feedwater at Byron Bay.**
 - iii) A regional desalination facility with interconnection of the Tweed and Rous County Council regional supplies.**
 - iv) Surface Water Supplies**
- 3. That a draft of the Rous County Council Regional Demand Management Plan 2023 - 2026 will be on public exhibition during 2022**
- 4. That, in relation to its long term water supply strategy for Mullumbimby, Council:**
 - a) firms up its four management options including recognising the environmental impacts of each option, inclusive of impacts of Rous's own options (for options that use Rous water).**
 - b) adds to Scenario S4 an alternative new groundwater source namely to buy back existing licences around Tyagarah.**
 - c) reports that revised information to a meeting (extraordinary if necessary) of the Water & Sewer Advisory Committee.**
 - d) aims to produce a draft long term strategy to go to a Strategic Planning Workshop with a view to putting the strategy on public exhibition during 2022.**

(Dey/Ndiaye)

Report No. 4.4 West Byron STP Compliance Report

Directorate: Infrastructure Services

Report Author: Chris Larkin, Manager Sustainable Development

File No: I2022/947

5 Summary:

Council resolved (21-096) on the 25 March 2021 in adopting the Water and Sewer Advisory Committee recommendations in relation to report 4.1 Byron STP Condition 9 Additional Load – Quarterly Report to request an independent planning assessment of the interpretation of compliance with, and ongoing fulfilment of Condition 9.

10 Specifically condition 9 for the West Byron STP states:

9. Additional Load at West Byron STP will not be accepted until:

i. The transfer of 100% of the sewage flows from South Byron Catchment;

ii. West Byron STP satisfactorily meeting all applicable performance requirements as specified in the plants Environment Protection Licensee and in this approval;

15 *iii. Availability of sufficient reuse capacity to accommodate 100% of the volume of treated effluent generated by the additional load; and*

iv. Availability of treatment capacity as defined in Approval Condition 6 above.

20 The assessment was carried out by Chris Borg, CP Engineer from Barker Ryan Stewart Consulting and Cecilia Rose, Solicitor from Wiltshire Webb. Copies of their reports and documents are attached to this report.

25 The findings from that the assessment are that the West Byron STP is operating in accordance with the requirements of Condition 9. In relation to point (iii) of the condition, an additional 2,791ET's have been approved, whilst the plants reuse capacity sits at 3,416 ETs, some 22% beyond what is required. It is concluded the plant complies with the condition 9.

As part of the review of condition 9, a review of all conditions of consent was undertaken.

30 A shortcoming was identified in relation to the Operational Environmental Management Plan (OEMP) with no provisions for it to be updated amongst other things as discussed in the body of this report. It is recommended the 2013 OEMP be updated to address any shortcomings and the consent then be amended to reflect the updated OEMP and to also incorporate provisions to facilitate a future review and update of the OEMP as required.

5

RECOMMENDATION:

That the Water and Sewer Advisory Committee note the findings of this report in terms of Condition 9.

10 **Attachments:**

- 1 Letter from Wilshire Webb - Conditions of Consent – Byron STP, E2022/75003 , page 55 [↓](#) 
- 2 Letter From Barker Ryan Stewart - Byron Bay Sewerage Treatment Plan - Condition No. 9, E2022/75002 , page 58 [↓](#) 
- 15 3 Table - Comment on Conditions of Consent for the West Byron STP, E2022/75004 , page 65 [↓](#) 

Report

Council on the 25 March 2021 adopted the Water and Sewer Advisory Committee recommendations in relation to report 4.1 titled Byron STP Condition 9 Additional Load – Quarterly Report as follows:

- 5 **21-096** Resolved that Council adopt the following Committee Recommendations:

Report No. 4.1 Byron STP Condition 9 Additional Load - Quarterly Report

File No: I2021/161

Committee Recommendation 4.1.1

1. That Council recognises:

- 10 a) That Additional Load approved since 2006 is of the order of 1.6 ML/day;
 b) That in recent years 1.1 ML/day of Byron STP's effluent has been reused;
 c) That Consent Condition 9 approved by Council in December 2002 states

15 "Additional load at West Byron STP will not be accepted until: availability of sufficient reuse capacity to accommodate 100% of the volume of treated effluent generated by the additional load";

2. That Council seeks an independent planning assessment during the current financial year, of the interpretation of, compliance with, and ongoing fulfilment of Condition 9;

3. That Council seeks more opportunities to re-use effluent as soon as possible

(Richardson/Cameron)

- 20 The purpose of this report is to provide the committee a summary of the independent planning assessment as per part 2 of the resolution.

25 The assessment was carried out by Chris Borg, CP Engineer from Barker Ryan Stewart Consulting and Cecilia Rose, Solicitor from Wiltshire Webb. Copies of their reports and documents are attached to this report. In addition to Condition 9 the assessment has also reviewed all conditions of the Review of Environmental Factors (REF) approval for the West Byron Sewage Treatment Plant. Relevant details are attached to this report.

Specifically condition 9 of the approval states:

9. Additional Load at West Byron STP will not be accepted until:

- 30 i. The transfer of 100% of the sewage flows from South Byron Catchment;
 ii. West Byron STP satisfactorily meeting all applicable performance requirements as specified in the plants Environment Protection Licensee and in this approval;

BYRON SHIRE COUNCIL

STAFF REPORTS - INFRASTRUCTURE SERVICES

4.4

iii. Availability of sufficient reuse capacity to accommodate 100% of the volume of treated effluent generated by the additional load; and

iv. Availability of treatment capacity as defined in Approval Condition 6 above.

5 In summary the assessment found that the West Byron STP complied with the condition as follows:

- i. The transfer of sewage flows from the South Byron catchment to the west Byron STP has occurred.
- 10 ii. The West Byron STP has been shown to meet all applicable performance requirements in the plants Environmental Protection License and in this approval and evidence of such is provided in regular Annual Return Summary reports produced by Council as part of the EPA Licensing agreement.
- 15 iii. Since the West Byron STP augmentation approval date, there have been 2791 ETs approved by Council, hence reuse capacity has to be at least 2791 ET's. This equates to 1.65 ML/ day or 601 ML/ Year. It was found that the capacity of the reuse system is 2.016ML/ day or 735.84 ML/ Year. This is equivalent to 3416 ET's.
- 20 iv. The ongoing Annual Summary reports provide by BSC indicate that the West Byron STP has available treatment capacity of up to 6.95 ML/ day, consistent with condition 6.

In conclusion the assessment found that the West Byron STP was re-using 22% more treated effluent than it was required to do under condition 9(iii).

25 For further details on this assessment by Chris Borg from Barker Ryan Stewart see Attachment 2.

Other STP Conditions of Consent.

30 The attached documentation also reviewed the remaining conditions of approval. The correspondence from Wiltshire Webb and the Table of Conditions (See attachment 1 and 3) identified an issue with condition 41 and associated conditions with the Operational Environmental Management Plan. It is understood that a 2007 OEMP was originally adopted, however the STP is now using an updated OEMP dated 2013 which has not been adopted by Council. The consent does not specifically facilitate a need for an updated OEMP, but it would seem prudent that the OEMP is updated from time to time to respond to issues as they arise and better information being made available. Other issues were also identified in relation to OEMP conditions 42-45.

The table recommends that a S4.55 application be prepared to amend conditions of consent in relation to the OEMP that is being utilised by the STP and it is suggested the

BYRON SHIRE COUNCIL

STAFF REPORTS - INFRASTRUCTURE SERVICES

4.4

OEMP should address any current shortcomings. Further the correspondence from Wiltshire Webb states

13. We have been provided with the AWC Byron Bay STP Licence and Conditions review dated 15 June 2021 (**AWC Review**). The AWC Review recommends that the 2013 OEMP be updated to address certain monitoring, recording, and documentation requirements. Having regard to that conclusion, and our review of the Consent, Council may consider a section 4.55 modification application to adjust condition 41 and related conditions, to enable the Consent to be updated with a revised OEMP, but also enable Council to review and update the OEMP, then conduct the STP in accordance with the revised OEMP. This will provide Council with more flexibility in undertaking monitoring and compliance.

- 5 It is recommended the 2013 OEMP be updated to address any shortcomings and the consent then be amended to reflect the updated OEMP and to also incorporate provisions to facilitate a future review and update of the OEMP.



crose@wilshirewebb.com.au

Wilshire Webb Staunton Beattie Lawyers

Our Ref: CR: 330370

5 August 2022

The General Manager
Byron Shire Council
PO Box 219,
Mullumbimby NSW 2482

Attention: Shannon Burt and Chris Larkin

Dear Sir,

CONDITIONS OF CONSENT – BYRON SEWERAGE TREATMENT PLANT

1. Council has instructed us, in conjunction with Barker Ryan Stewart (Civil Engineers- Chris Borg) to review the conditions of consent approved in relation to the Byron Bay Sewerage Augmentation Scheme (**Consent**).
2. We are aware that Council had identified a particular concern in relation to condition 9.
3. We have prepared a Table of Review of Conditions which is **attached**, that sets out an interpretation and response to each of the conditions (**Review of Conditions**).
4. In preparing this letter and the Review of Conditions, the following documents were reviewed:
 - a. The EIS dated 30 August 2001;
 - b. SIS dated 30 August 2001;
 - c. Byron Bay Sewerage Augmentation Representations Report, dated September 2002;
 - d. Conditions of Concurrence in the Concurrence report for the Proposed Establishment of a 24 ha Melaleuca Regeneration Area, West Byron Treatment Plant, dated June 2002;
 - e. Effluent Reuse & Wetland Regeneration [24 ha Site]: Operation & Management Guidelines, March 2007;
 - f. AWC Byron Bay STP Licence and Conditions review dated 15 June 2021; and
 - g. Letter to Council from Chris Borg of BRS dated 12 July 2022.
5. We have also liaised with Chris Borg, of Barker Ryan Stewart in preparing the Review of Conditions.
6. We have approached the Review of the Conditions adopting the following principles in relation to the interpretation of Consent:

Level 9, 60 York Street, Sydney NSW 2000 | Tel (02) 9299 3311 Fax (02) 9290 2114 | DX 777 Sydney NSW
www.wilshirewebb.com.au | ABN 61 849 174 739
Liability limited by a scheme approved under Professional Standards Legislation

Local Government – Planning and Building – Environment and Pollution – Commercial – Property and Development

-
- a. A development consent is to be construed according to its terms, having regard to its enduring nature, and that it is not personal to the Applicant but is a public document operating *in rem* for the benefit of third parties such as incoming owners, occupiers and security holders, and in some respects is equivalent to a document of title: *House of Peace Pty Ltd v Bankstown City Council* (2000) 48 NSWLR 498; [2000] NSWCA 44 at [23];
 - b. The nature and extent of the approved development must be determined by construing the document of approval, including any plans or other documents which it incorporates, aided only by that evidence admissible in relation to construction which establishes, or helps to establish, the true meaning of the document as the unilateral act of the relevant authority, not the result of a bilateral transaction between the applicant and the council: *Parramatta City Council v Shell Co of Australia Ltd* [1972] 2 NSWLR 632 at 637.
 - c. In construing a development consent, reference may be made to documents other than the consent itself if those documents or parts of them, are incorporated into the consent expressly or by necessary implication: *Allandale Blue Metal Pty Ltd v Roads and Maritime Services* (2013) 195 LGERA 82[2013] NSWCA 103 at [43] (*Allandale*).
 - d. The test of necessary implication is whether, in the absence of express incorporation, the consent is complete on its face, or whether it is ambiguous or otherwise such that a reader of it, or a person acquainted with the physical features of the land, would conclude that recourse to other documents would be necessary to give it a sensible meaning (*Allandale* at [26], per Macfarlan JA, also [186] per Ward JA).
7. Condition 1 of the Consent expressly incorporates the following documents into the development consent:
 - a. The EIS dated 30 August 2001
 - b. SIS dated 30 August 2001
 - c. Byron Bay Sewerage Augmentation Representations Report, dated September 2002; and
 - d. Conditions of Concurrence in the Concurrence report for the Proposed Establishment of a 24 ha Melaleuca Regeneration Area, West Byron Treatment Plant, dated June 2002
(Incorporated Documents).
 8. Condition 1 requires that the proposal be carried out in accordance with the Incorporated Documents. We have included in the Review of Conditions any relevant parts of the Incorporated Documents.
 9. The terms of the Consent are clear (including the Incorporated Documents). A reader of the document, or a person acquainted with the physical features of the land would be able to give the Consent sensible meaning. There is no basis for extraneous material to be incorporated into the Consent.

10. We have concluded that condition 41 and some other conditions relating to the Operational Environmental Management Plan have probably not been complied with. Those conditions are detailed in the Review of Conditions. However we understand that Council has been primarily concerned in relation to the operation of Condition 9.
11. Condition 41 requires that an Operational Environmental Management Plan must be adopted. We are instructed by Council that the OEMP adopted by Council pursuant to condition 41 was the Effluent Reuse & Wetland Regeneration [24 ha Site]: Operation & Management Guidelines, March 2007 (**2007 OEMP**). We understand that Council has been conducting the management of the STP in accordance with the Byron bay Recycled Water Operational Management Plan (May 2013) (**2013 OEMP**). Whilst this is a revised version of the 2007 OEMP, the 2013 OEMP is not prepared in accordance with condition 41 because:
 - a. As we understand it, the 2013 OEMP is not formally adopted by Council in accordance with condition 41; and
 - b. Neither the Consent, nor the terms of the 2007 OEMP provide for a revised OEMP to be prepared.
12. Whilst there are inferences in the 2007 OEMP that suggest it would be sensible for a revised document to be prepared, there is no explicit provision for the preparation of a revised OEMP, or any process for that revised document to be prepared in accordance with. For these reasons, the 2007 OEMP is the document that presently must be complied with under the terms of the Consent.
13. We have been provided with the AWC Byron Bay STP Licence and Conditions review dated 15 June 2021 (**AWC Review**). The AWC Review recommends that the 2013 OEMP be updated to address certain monitoring, recording, and documentation requirements. Having regard to that conclusion, and our review of the Consent, Council may consider a section 4.55 modification application to adjust condition 41 and related conditions, to enable the Consent to be updated with a revised OEMP, but also enable Council to review and update the OEMP, then conduct the STP in accordance with the revised OEMP. This will provide Council with more flexibility in undertaking monitoring and compliance.
14. In relation to Condition 9 it has been demonstrated that the reuse capacity provided is larger than the volume of treated effluent from the additional loads, and therefore condition 9 is being complied with.

Yours faithfully

WILSHIRE WEBB STAUNTON BEATTIE



CECILIA ROSE
Partner

Encl.



ENGINEERING
 PLANNING
 SURVEYING
 CERTIFICATION
 PROJECT MANAGEMENT
 ABN 26 134 067 842

Our Ref: 210674

12 July 2022

Chris Larkin
 Byron Shire Council
 70 - 90 Station Street
 Mullumbimby NSW 2482

Dear Chris,

Byron Bay Sewerage Treatment Plant Third Party Review – Condition Satisfaction

Barker Ryan Stewart have been contracted by Byron Shire Council to carry out a Third Party Review of condition satisfaction in line with the 'Byron Bay Sewerage Augmentation Scheme – Conditions of Approval'.

It is understood that Byron Shire Council seek to confirm that continued compliance with the conditions of approval has been met, with particular attention to conditions 6, 8 and 9 relating to the capacity of the sewerage treatment plant.

This letter relates to conditions 6, 8 and 9.

Condition 6

West Byron STP shall not accept flows for treatment in excess of 6.95 ML/day Average Dry Weather Flow (ADWF). This is the plant's treatment capacity. Council shall continuously monitor the Average Dry Weather Flow (ADWF) entering the upgraded West Byron STP to assess the load on the plant in relation to the plant's treatment capacity. When 80% treatment capacity is reached, Council shall investigate feasible strategies for management of sewage flows above the capacity of the plant. In the event that load exceeds 100% treatment capacity, Council shall meet to discuss appropriate courses of action to prevent further exceedances.

The West Byron STP inflows for the latest reporting period as shown in the Byron Bay Sewage Treatment System EPA Licence No. 3404 Annual Return Summary Report 27 April 2021 to 26 April 2022 show an average flow of 5,496kL/day (say 5.5ML/day). Note that this is an annualised average flow, in a reporting period with rainfall of ~2,520mm which is approximately 35% higher than the average rainfall for the area according to Australian Government Bureau of Meteorology records from 1892 to 2022, hence the ADWF is expected to be lower than this. Using the 5.5ML/day as a conservative number for ADWF, this represents 79.1% of the maximum ADWF treated flows of the West Byron STP, slightly below the 80% trigger for investigations to commence on feasible strategies for management of sewage flows above the capacity of the plant. While the average flows in the latest higher-than-average-rainfall reporting period and hence ADWF are shown to be lower than the 80% threshold, it is understood that Byron Shire Council have commenced the investigation process of plant upgrades and other management strategies for sewage flows above the capacity of the plant.

SYDNEY P (02) 9659 0005 E sydney@brs.com.au	CENTRAL COAST P (02) 4325 5255 E coast@brs.com.au	HUNTER P (02) 4966 8388 E hunter@brs.com.au	COFFS HARBOUR P (02) 5642 4222 E coffs@brs.com.au	NORTHERN RIVERS P (02) 6681 6696 E northernrivers@brs.com.au	SOUTH EAST QUEENSLAND P (07) 5582 6555 E seqld@brs.com.au
---	---	---	---	--	---

www.brs.com.au

The below graph from the January 2020 quarterly report to the *Byron Bay Wastewater Steering Committee* shows the trend in actual measured flows to the West Byron Sewage Treatment Plant (STP) from 2002 to 2019, while also showing approved Equivalent Tenements (ET's). A line of best fit shows a linear relationship with both the ET approvals and the annual daily average flows to the STP.

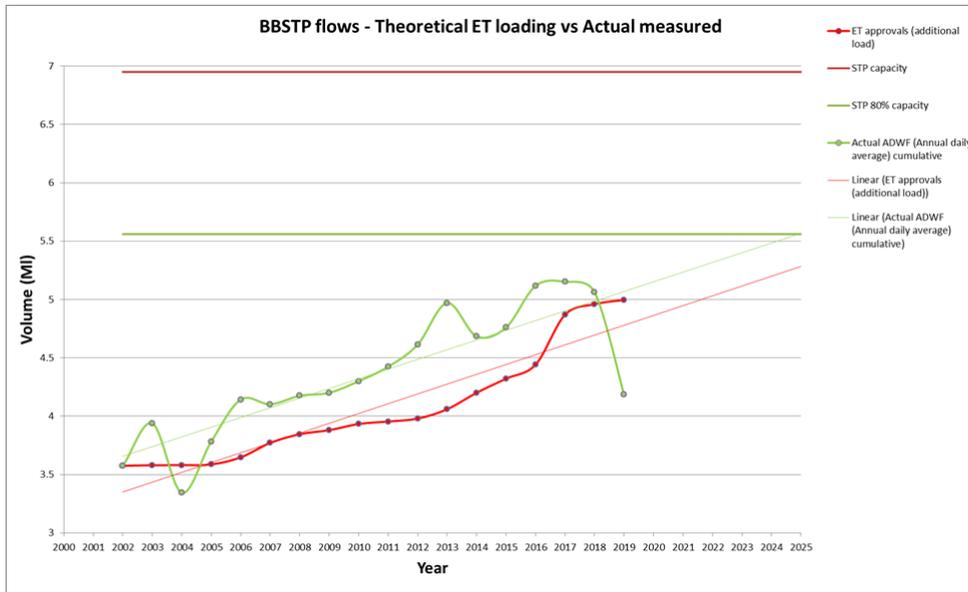


Figure 1 – Measured Flows to West Byron STP as provided in January Quarterly Report

The following observations can be made from the above graph

- Drought conditions such as those experienced in 2019 correspond to lower measured flows to the STP
- Prediction of flows for 2022 based on the line of best fit show flows in the range of ~5.25-5.35ML/day average (ADWF), which substantiates the approximation of current average flows being 5.5ML/day.

Council have noted that they have never monitored the ADWF flows as per the definition in condition 3 of the consent as this has potential to obtain skewed results due to the large flow variations over the three flow periods (summer peak in December/ January and over Easter; a winter low and the "shoulder period" during the remaining time), noting that ADWF in the winter can be as low as 60% of the summer peak.

On 22 March 2018 Council Resolution 18-193 adopted the Policy - Water and Sewer Equivalent Tenements 2018 that includes the Dry Weather Flow definition: *The average daily flow to the treatment works during seven consecutive days without rain (excluding a period which includes public holidays) following seven days during which the rainfall did not exceed 0.25 millimetres on any one day.* The ability to redefine how 'Average Dry Weather Flows' are calculated is documented as part of condition 3.

While the above definition of ADWF is current, it is understood that Council measure ADWF figures on an average of the full years flow totalised daily at the Byron STP. The top 20% and bottom 10% of data are removed from the calculations to exclude rainfall effect and recording anomalies from the figures used. The result is the annual ADWF as measured by Council. Further redefinition of ADWF to suit this measuring technique is believed to be pursued by Council.

The treatment capacity of the West Byron STP of 6.95ML/day (AWDF) has not been exceeded based on the latest reporting period showing inflow to the plant, and as such this condition is currently satisfied.

Condition 8

The transfer of sewage flows from South Byron STP to West Byron STP catchment shall be conditional upon:

- (i) West Byron STP satisfactorily meeting all applicable performance requirements as per construction contract requirements and as specified in the plant's Environment Protection Licence and in this approval; and
- (ii) the availability of a reuse project(s) capable of accepting a minimum of 326 ML/yr of treated effluent as determined in the Effluent Management Strategy.

i) It is assumed that prior to the transfer of sewage loads from South Byron STP to West Byron STP, that the West Byron STP was shown to satisfactorily meet all applicable performance requirements as per construction contract requirements and as specified in the plant's Environment Protection Licence and in the consent approval;

ii) The 326ML/ year effluent reuse requirement has been set to meet the critical nutrient parameter, being total nitrogen (TN), in the receiving environment - see *Byron Bay Sewerage Augmentation Scheme Environmental Impact Statement Volume 2 Section 9.7 (EIS)*. The requirement for nutrient re-use was set such that the instream nutrient concentrations in Belongil Creek would be maintained at or below the pre-transfer loadings (year 2000 loadings) after the transfer of sewage from South Byron STP to West Byron STP.

Appendix K of the *Byron Bay Sewerage Augmentation Scheme Environmental Impact Statement Volume 3 'Effluent Reuse Calculations'* notes the potential reuse projects available to satisfy the effluent reuse target are:

- Establishment of the 24ha Melaleuca regeneration area in southern portion of West Byron STP site*
- Continued effluent re-use on 3.9ha of land at Byron Bay Golf Club

* Trees noted to be planted at a rate of approximately 5 ha per annum. The trees take approximately 8 years to achieve maturity and therefore optimal re-use capacity over the whole site would occur approximately 12 years after commissioning.

The effluent re-use rates for the 24ha Melaleuca regeneration area are given in Table 9.13 below.

**Table 9.13 MELALEUCA REGENERATION AREA – EFFLUENT RE-USE RATES
(BOLTON 2001)**

Year after commissioning	Dry (ML/yr)	Average (ML/yr)	Wet (ML/yr)
1	8.2	7.7	2.4
2	23.5	19.2	5.8
3	53.3	40.3	11.0
4	109.0	96.0	23.5
5	193.4	173.8	49.0
6	297.1	273.1	87.8
7	414.2	389.8	138.2
8	531.4	509.8	196.3
9	622.6	595.2	247.2
10	685.0	658.6	285.1
11	720.0	692.6	307.2
12	734.4	705.6	316.8

Figure 2 – Effluent Re-Use Rates for 24ha Melaleuca Regeneration Area as per EIS Volume 2

210674 - Byron Bay Sewerage Treatment Plant Third Party Review

12 July 2022

The EIS notes that the 3.9ha Byron Bay Golf Club has the capacity to provide the following effluent re-use:

Rainfall Year	Effluent Reuse Capacity
Dry	11.0 ML/ year
Average	10.6 ML/ year
Wet	6.2 ML/ year

Table 1 – Byron Bay Golf Club reuse capacity with 3.9ha area

Total combined effluent re-use for the 24ha Melaleuca regeneration area and Byron Bay Golf Club, according to the EIS:

Table 9.14 COMPOSITE EFFLUENT RE-USE RATES FOR PROJECT

Year	Dry (ML/yr)	Average (ML/yr)	Wet (ML/yr)
0	11.0	10.6	6.2
1	19.2	18.3	8.6
2	34.5	29.8	12.0
3	64.3	50.9	17.2
4	120.0	106.6	29.7
5	204.4	184.4	55.2
6	308.1	283.7	94.0
7	425.2	400.4	144.4
8	542.4	520.4	202.5
9	633.6	605.8	253.4
10	696.0	669.2	291.3
11	731.0	703.2	313.4
12	745.4	716.2	323.0

Figure 3 – Combined Effluent Re-Use Rates for 24ha Melaleuca Regeneration Area and Byron Bay Golf Club as per EIS Volume 2

From above it can be seen that:

- In Wet years – the two re-use projects provide **99%** of the required effluent re-use to meet the 326ML/ yr target.
- In Average years - the two re-use projects provide **219%** of the required effluent re-use to meet the 326ML/ yr target.
- In Dry years - the two re-use projects provide **228%** of the required effluent re-use to meet the 326ML/ yr target.

The West Byron STP itself reuses approximately 0.08L/day (based on metered usage) on site via the treatment process and for wash down purposes, totalling 29.2ML/ year.

With the 24ha Melaleuca Regeneration area, the Byron Bay Golf Club and the West Byron STP on site reuse, it is clear that there are re-use projects capable of accepting a minimum 326ML per year of treated effluent in the worst case 'Wet' scenario, with the 'Average' and 'Dry' year scenarios having reuse capacity >200% of the target rates.

As such, Condition 8 part (ii) is satisfactory.

Condition 9

Additional load at West Byron STP will not be accepted until:

- (i) *the transfer of 100% of the sewage flows from South Byron catchment;*
- (ii) *West Byron STP satisfactorily meeting all applicable performance requirements as specified in the plant's Environment Protection Licence and in this approval;*
- (iii) *availability of sufficient reuse capacity to accommodate 100% of the volume of treated effluent generated by the additional load; and*
- (iv) *availability of treatment capacity as defined in Approval Condition 6 above.*

- (i) It is understood that the transfer of 100% of the sewage flows from South Byron catchment has occurred
- (ii) It is assumed that the West Byron STP has been shown to satisfactorily meet all applicable performance requirements in the plant's Environment Protection Licence and in this approval, and evidence of such is provided in regular 'Annual Return Summary Reports' produced by Byron Shire Council as part of the EPA Licencing agreement.
- (iii) The condition requires reuse capacity be available at a rate of 100% of the volume of treated effluent generated by additional loads. Since the West Byron STP augmentation approval date there have been 2,791 ET's approved by Council, hence reuse capacity is required to be shown with a quantity of at least 2,791 ET's. Based on Council's *Policy - Water and Sewer Equivalent Tenements 2018* which specifies that 1 sewer ET = 590L/day, 2,791 ET's = 1.65ML/day or 601ML/year.

The condition does not specify if the availability of reuse capacity is to come from projects that satisfy the provided definition of a 'reuse projects', as per Condition 3, or not. The condition also fails to specify if the volume of treated effluent capacity is to be calculated on Dry, Average or Wet conditions. Considering ET's are defined in the Byron Shire *Policy - Water and Sewer Equivalent Tenements 2018* as 'the average residential water consumption of 630 litres per day per dwelling and sewerage loading of 590 litres per day per dwelling', average flows will be used.

Reuse Capacity Available

The available reuse capacity will be the lesser of:

- a) The capacity of the system to deliver the treated effluent
- b) The reuse capacity of the sites receiving the treated effluent

Capacity of the system to deliver the treated effluent

Measured flows show that the operating capacity of the reuse system to produce treated effluent is 26 litres per second. This data was recorded in real time by the West Byron STP Tertiary Filter Flow Meter over a period from April 2019 to July 2020. The 26 litres per second or 2.25ML/day, is reduced by 10% for filter backwash purposes equating to 2.02ML/ day or 3,427 ET.

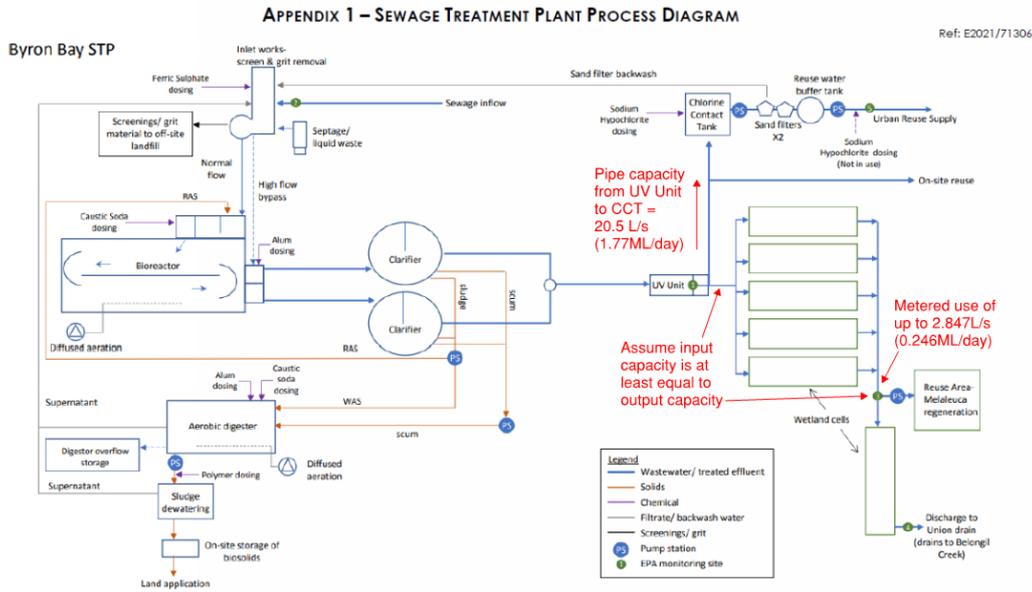
The report '*ASSESSING THE DEMANDS & SUPPLY CAPACITY OF THE BYRON BAY URBAN RECYCLED WATER SCHEME*' by *Planit* dated 6 February 2018 assessed the capacity of the STP infrastructure to deliver the treated effluent, and found that the maximum theoretical flow from the UV tank to the Chlorine Contact Tank (CCT) is 20.5L/s (1.77ML/ day or 3,002 ET's), this however is only the pipe for the STP onsite reuse and urban reuse and does not account for the reuse flows from the UV Tank to the wetland cells and then into the Union Drain or the Melaleuca regeneration area. The *Byron Bay Sewerage Treatment System EPA Licence No. 3404 Annuals Return Summary Report (27 April 2021- 26 April 2022)* showed (via flow meter) that flows at EPA monitoring site (3), downstream of the wetland cells, were up to 0.246ML/ day in the reporting period.

Assuming the pipe or other delivery capacity upstream of the wetland cells is at least the same as the capacity downstream, the theoretical capacity of the piped system to convey treated flow is 1.77ML/ day + 0.246ML/day = 2.016ML/ day or 3,416 ET's.

210674 - Byron Bay Sewerage Treatment Plant Third Party Review

12 July 2022

See below diagram using extract from Byron Bay Sewerage Treatment System EPA Licence No. 3404 Annuals Return Summary Report (27 April 2021- 26 April 2022).



#E2021/71306 - 2021-22 Annual EPA Compliance Reports for Byron Bay STS Licence #3404

11

Figure 4 – Diagrammatic of STP Process, extract from Byron Bay Sewerage Treatment System EPA Licence No. 3404 Annual Return Summary Report 27 April 2021 to 26 April 2022 with annotations in red

Reuse capacity of the sites receiving the treated effluent

Reviewing the most recent Byron Bay Sewerage Treatment System EPA Licence No. 3404 Annuals Return Summary Report (27 April 2021- 26 April 2022), reuse is provided by the Melaleuca regeneration area, West Byron STP onsite reuse and urban reuse.

Urban reuse is metered and noted in the above report to average 999kL/ day or 364.6ML/ yr for the reporting period. Again it is noted that the reporting period was a wetter than average year, hence reuse demand would be expected to be lower than an average rainfall year. Urban reuse has been metered since 2006 with reuse values up to 424.7ML/ yr (2019), however for the purpose of this report it is conservatively assumed the capacity of the urban reuse system is 364.6ML/ yr as per the most current reporting period metered reuse.

The effluent reuse capacity of the Melaleuca regeneration area is specified previous as per the EIS and noted as 705.6ML/ yr in an 'Average' rainfall year.

Onsite reuse within the STP has been shown (metered) as 29.2ML/ yr in the most recent reporting period.

210674 - Byron Bay Sewerage Treatment Plant Third Party Review

12 July 2022

Source	Effluent Reuse	Capacity or Metered
24ha Melaleuca Regeneration Area	705.6 ML/ yr	Capacity
West Byron STP on site	29.2 ML/ yr	Metered
Urban Reuse	364.6ML/ yr	Metered
Total	1099.4ML/ yr	

Table 2 – Effluent Reuse by source

Assuming the capacity for reuse is equal to the metered reuse (being a conservative approach), the Melaleuca regeneration area, West Byron STP onsite reuse and urban reuse total 1,099.4ML/ yr or 3.01ML/day capacity. With a reuse capacity available to offset additional loads of 3.01ML/ day, this allows additional loads of up to 5,105 ET's.

Even in a wet year where the 24Ha Melaleuca Regeneration area is limited in effluent reuse to 316.8ML/ yr, with the urban reuse of 364.6ML/ yr and the onsite STP reuse of 29.2ML/ yr the combined total of these reuse components totals 710.6ML/ yr which is 3,300 ET's – again which is conservative as it takes the capacity of the urban reuse as the metered flows, when in the past there have been metered flows up to 424.7ML/ yr (2019).

Therefore, the capacity of the reuse system is limited by the infrastructure to deliver the treated effluent at 2.016ML/ day or 3,416 ET's. This is conservative as part of the makeup of these flows is based on metered reuse, and capacity must be at least this amount. Considering the next limiting factor is the ability of the STP to produce treated effluent and is within 11 ET's of this, assuming a capacity of 3,416ET's is deemed appropriate.

This shows that at least 3,416 ET's could have been approved since the West Byron Augmentation approval date, and 2,791 ET's have been approved as per Oct 2021 quarterly report. The reuse capacity provided is shown to be larger than the volume of treated effluent from the additional loads, with an excess of 625 ET's (as per Oct 2021 quarterly report).

- (iv) The ongoing Annual Summary Reports provided by Byron Shire Council indicate that the West Byron STP has available treatment capacity to provide for up to 6.95ML/ day (ADWF).



Chris Borg | Associate/ CPEng/ Registered Certifier
Barker Ryan Stewart Pty Ltd

Conditions of Consent

Byron Shire Council – Review of Conditions for the Byron Sewerage Treatment Plant

Condition No.	Description	Comments
1.	General	<p>Approves the documents which form the development consent. The documents approved are:</p> <ul style="list-style-type: none"> The EIS and SIS Byron Bay Sewerage Augmentation Scheme dated 30 August 2001 (subject to modifications described in the <i>Byron Bay Sewerage Augmentation Representations Report</i> dated September 2002) Conditions of concurrence by Director-General of NPWS in <i>Concurrence report for the Propose Establishment of a 24 ha Melaleuca Regeneration Area, West Byron Sewage Treatment Plant</i> dated June 2002 <p>Also noted that in the event of inconsistency between the concurrence conditions imposed by the Director-General of the NPWS and approval conditions or recommendations of approved documents listed above, the concurrence conditions imposed by the Director-General of the NPWS prevail.</p>
2.	Finalisation of draft Byron Bay Effluent Management Strategy	<ul style="list-style-type: none"> Requires finalisation of the Byron Bay Effluent Management Strategy. <p>Requires the finalisation to be:</p> <ul style="list-style-type: none"> - Complete no more than 6 months after the date of the approval (unknown) - In consultation with EPA (evidence of such should have been shown in satisfaction of this condition) - Include provision for periodic review of strategy, with timeline of <5 years
3.	Definitions – ‘Average Dry Weather Flow’ definition	<p>“The average flow over a period of not less than five (5) consecutive days with no rainfall, with no more than 5mm of rain in the preceding ten (10) days”.</p>

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		<p>Note – Conditions provides that the “efficacy of this definition shall be reviewed no later than 12 months from the date of commissioning of the West Byron Augmentation and at 12 month intervals thereafter.” The condition then provides that <i>the definition may be amended.</i></p> <p>Usually a yearly memorandum/ report would be provided by the operators of the West Byron STP that addresses the efficacy of the definition, with the memo/ report including evidence of consultation with the listed stakeholders.</p> <p>It is understood that this definition has been previously amended, and may require further amendment.</p>
4.	Definitions – ‘Additional Load’ definition	“Any sewage load resulting from development consents after the date of this approval.”
5.	Definitions – ‘Reuse Project’ definition	“An enterprise utilising treated effluent under a valid Environmental Protection Licence where required, holding a valid contract with Council and with all required infrastructure in place and operational.”
6.	West Byron STP Capacity	<p>Defines the West Byron STP “treatment capacity” as 6.95 ML/day (ADWF).</p> <p>Requires Council to continuously monitor and when 80% of ‘treatment capacity’ reached, Council is to investigate strategies for management of flows about the capacity of the plant.</p> <p>The letter ‘Byron Bay Sewerage Treatment Plant Third Party Review – Condition Satisfaction’ dated 12 July 2022 provided by Barker Ryan Stewart investigates the West Byron STP treatment capacity and provides comment regarding compliance with this matter.</p>
7.	West Byron STP Capacity – re the load received at West Byron STP	<p>Condition relates to commissioning – no longer relevant.</p> <p>It would have been a good opportunity in this condition to include a reference to the agreed West Byron catchment. Council could consider amending this</p>

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		<p>condition so that it reflects the Incorporated Documents, and ensure there is a consistent definition of the catchment.</p> <p>One would imagine that at time of commissioning the West Byron STP catchment would include the former South Byron STP catchment.</p>
8.	West Byron STP Capacity - re transfer of sewerage flows from South Byron STP to West Byron STP	<p>Condition relates to commissioning – no longer relevant.</p> <p>It would be expected that as part of the transfer of sewage flows from the South Byron STP to West Byron STP catchment there is evidence of parts (i) and (ii) being met.</p> <p>The letter 'Byron Bay Sewerage Treatment Plant Third Party Review – Condition Satisfaction' dated 12 July 2022 provided by Barker Ryan Stewart investigates the West Byron STP treatment capacity and provides comment regarding compliance with this matter,</p> <p>The availability of reuse projects is demonstrated in the above referenced letter.</p>
9.	West Byron STP Capacity – re additional load conditions	<p>Requires that no “additional load” (see definition in condition 4) is to be accepted until 4 pre conditions are met.</p> <p>From the documentation provided, appears that 9(i) and (ii) have been satisfied.</p> <p>No additional load is to be directed to West Byron STP until parts (i) – (iv) are shown to be satisfied:</p> <ul style="list-style-type: none"> (i) South Byron STP noted in EIS to be decommissioned, so no further treated effluent would be discharged into Tallow Creek estuary. All of the catchment previously treated by South Byron STP to be directed to West Byron STP, hence before any extra load is placed on West Byron STP, the redirection needs to first take place as this will exhaust some of the West Byron STP treatment capacity (6.95ML/day ADWF).

04.08.22:cr:p2021_0284_330370_009.docx

		<p>It is imagined that Byron Council would have some reporting/ other for the South Byron STP decommissioning and evidence that 100% of the sewage catchment has been directed to the West Byron STP, which would indicate satisfaction of this condition.</p> <p>(ii) To determine compliance, reporting would be required to show the performance requirements are being met. The AWC 'FINAL Byron Bay STP License and Consent Condition Review' dated May 2021 (Project 1-201260-b) notes <i>'The Water, Waste and Sewer Advisory Committee Byron STP Condition 9. Additional Load - Quarterly Report indicates compliance. But as identified sufficient reuse capacity is required as additional load is generated.'</i></p> <p>The AWC report indicates compliance has been met. Having not reviewed the report referenced above, BRS are not able to confirm this however if Byron Shire Council have accepted the test methods and results and these show compliance with the performance requirements – it would be reasonable to accept this condition has been met,</p> <p>(iii) Before additional load, which is defined as <i>'any sewage load resulting from development consents after the date of this approval'</i> can be accepted to West Byron STP, it must be shown that there is availability of reuse capacity to accommodate 100% of the additional load.</p> <p>i.e – no sewage loads can be sent to the West Byron STP from developments beyond the STP approval date unless there is available reuse capacity on a reuse project (see definition) to accommodate for 100% of the volume of the treated effluent generated by the additional load.</p> <p>While no definition is provided for 'reuse capacity' it is deemed that each reuse project, as per definition, would have a reuse capacity based on a number of factors (use of treated effluent, area available for treated effluent, etc.). The Byron Bay Golf Club is noted as reusing treated effluent</p>
--	--	--

04.08.22:cr:p2021_0284_330370_009.docx

		<p>currently, and this reuse project would have a reuse capacity that allows offset of additional loads, which may or may not be exhausted. Numerous other projects in Byron Bay are required to provide this treated effluent reuse as developments in the area are proposed – this is part of the long-term effluent management strategy as noted in the EIS.</p> <p>The EIS Figure 6.2 provides a map showing existing and potential effluent reuse areas.</p> <p>(iv) A report or similar would be prepared for the West Byron STP, to show that once upgraded it has a capacity of 6.95ML/ day (ADWF). This would need to be confirmed before additional loads, as per definition, can be accepted.</p> <p>Parts (i) and (iv) of Condition 9 look to be conditions that could be shown to be satisfied once, and then not require ongoing monitoring or revisiting.</p> <p>It is understood that the sewage flows from the previous South Byron catchment have been transferred to the West Byron STP, to satisfy Condition 9 part (i).</p> <p>The Annual Summary Reports provided by Byron Shire Council indicate that the West Byron STP has available treatment capacity to provide for up to 6.95ML/ day (ADWF). This matter is investigated as part of Condition 6 review in the letter 'Byron Bay Sewerage Treatment Plant Third Party Review – Condition Satisfaction' dated 12 July 2022 provided by Barker Ryan Stewart, and shows satisfaction of Condition 9 part (iv).</p> <p>Parts (ii) may require ongoing monitoring to ensure the performance requirements are being met, and the determining factor of ongoing monitoring would be to satisfy the performance requirements of the approval document and the Environmental Protection Licence.</p>
--	--	---

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		<p>The Annual Summary Reports provided by Byron Shire Council provide information on the satisfaction of the applicable performance requirements of the STP in relation to the plants Environment Protection Licence and the approval document. Part (iii) is envisaged to require continual review of each development submitted to Council after the date of the subject STP augmentation approval. As any development is proposed which creates an effluent load, there would need to be an assessment of how this additional load can be accommodated within the reuse capacity of a/ multiple reuse project/s.</p> <p>The letter 'Byron Bay Sewerage Treatment Plant Third Party Review – Condition Satisfaction' dated 12 July 2022 provided by Barker Ryan Stewart investigates the availability of reuse capacity to accommodate the volume of treated effluent generated by the additional load.</p>
10.	Effluent Quality Standard for West Byron STP	<p>Sets out the required quality standards. AWC Report indicates compliance.</p> <p>Quality standards of various pollutants/ effluent constituents have been clearly set out. The AWC report notes that '<i>The annual return indicates compliance with this consent condition and required standards.</i>'</p> <p>If the AWC report has been accepted, this condition would be determined to be satisfied.</p> <p>It is also noted in the approval that the quality of treated effluent delivered to reuse sites is subject to separate determination.</p>
11.	Nutrient Load Limit for West Byron STP	<p>Sets criteria for nutrient load, and requirement for regular monitoring. AWC Report indicates compliance with the regular monitoring required by this condition.</p> <p>Nutrient loads for Total Nitrogen and Total Phosphorus have been clearly set out.</p> <p>It would be expected there is evidence of reporting on the results of this monitoring, with evidence of investigations of feasible management strategies where Total Nitrogen or Total Phosphorus exceed 80% of the noted limits, as</p>

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		<p>well as minutes to meetings held by Council for events where Total Nitrogen or Total Phosphorus exceed 100% of the noted limits,</p> <p>The AWC report notes that Total Phosphorus shown at outlet is 0.3mg/L 'in accordance with EPA Licence'. The units provided are different to the units used in the consent (kg/year), however the 0.3mg/L is in line with the requirements noted in Condition 10.</p> <p>The AWC report does not look to provide any results on Total Nitrogen, hence it is unclear if the nutrient load requirements have been satisfied for Total Nitrogen.</p>
12.	Byron Bay Wastewater Steering Committee	<p>Requires consultation.</p> <p>Consultation is required with the BBWSC with respect to all matters relating to wastewater management (including reuse). Council were to review the need for the BBWSC upon commissioning of the West Byron STP and adoption of the Byron Bay Effluent Management Strategy.</p>
13.	Construction Environmental Management Plan	<p>Condition relates to commissioning – no longer relevant.</p> <p>A compliant CEMP is expected to have been provided to and accepted by Byron Shire Council prior to commencing construction works.</p>
14.	Construction Environmental Management Plan – what shall be addressed in the CEMP	<p>Condition relates to commissioning – no longer relevant (Note: conditions do not require compliance with the CEMP).</p> <p>A compliant CEMP is expected to have been provided to and accepted by Byron Shire Council prior to commencing construction works.</p> <p>Part (viii) of this condition notes '<i>steps Council intends to take to ensure that all plans and procedures are being complied with</i>' suggest Council having the ability to ensure the plans and procedures, such as the CEMP, are being complied with.</p>
15.	Construction Environmental Management Plan – shall be made publicly available	<p>Condition relates to commissioning – no longer relevant.</p> <p>There should be evidence that this document was placed on exhibition or otherwise made publicly available via DA tracker or other.</p>

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

16.	Community Notification	<p>Condition relates to commissioning – no longer relevant.</p> <p>There should be evidence of community consultation in regards to the effects on the community (road detours/ traffic/ etc) during the construction works.</p>
17.	Community Notification - re info provided to residents	<p>Condition relates to commissioning – no longer relevant.</p> <p>There should be evidence of correspondence with the affected residents adjoining the pipeline route in regard to timing and duration of works.</p>
18.	Contact Telephone Number and Complaints Register – telephone	<p>Condition relates to commissioning – no longer relevant.</p> <p>There should be evidence of a contact number and complaints register was established in regard to the construction works.</p>
19.	Contact Telephone Number and Complaints Register – register	<p>Condition relates to commissioning – no longer relevant.</p> <p>There should be evidence of a contact number and complaints register was established in regard to the construction works.</p>
20.	Construction Contractor's Environmental Management Responsibilities – re construction tenders	<p>Condition relates to commissioning – no longer relevant.</p> <p>There should be evidence of construction tenders providing suitable documentation in accordance with the Construction Policy Steering Committee's <i>Environmental Management Systems Guidelines</i>.</p>
21.	Construction Contractor's Environmental Management Responsibilities – re assessment of tenders	<p>Condition relates to commissioning – no longer relevant</p> <p>There should be evidence of the assessment of tenders having a key evaluation criteria of the tenders demonstrated commitment to environmental management and a suitable track record of such.</p>
22.	Construction Contractor's Environmental Management Responsibilities – re environmental adviser	<p>Condition relates to commissioning – no longer relevant.</p> <p>There should be evidence of the successful tenderer having in their project team an environmental adviser with appropriate qualifications in environmental management and/or environmental auditing.</p>
23.	Construction Stage Environmental Audit	<p>Condition relates to commissioning – no longer relevant.</p> <p>There should be evidence of an audit being performed approx. midway through the construction period of the construction activities with respect to</p>

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		compliance with these conditions of approval, the measures contained in the EIS and the requirements of any other licences or approvals. Where required, the audit shall include recommendations to address any identified non-compliances.
24.	Construction Hours	Condition relates to commissioning – no longer relevant. It is common to include allowable work hours in any CMP or CEMP, otherwise the construction plans.
25.	Construction Noise	Council required to prepare a Noise Management Plan for inclusion in the CEMP to identify practical and cost-effective noise abatement measures to be implemented with the objective of meeting specific construction noise level criteria as listed in the consent. There should be evidence of this Management Plan's creation.
26.	Erosion and Sedimentation Control – ESC Plan	Condition relates to commissioning – no longer relevant. Council required to prepare an Erosion and Sediment Control Plan for inclusion in the CEMP detailing principles and measures to be implemented during construction as per the condition. There should be evidence of ESCP creation in consultation with the EPA and DLWC.
27.	Erosion and Sedimentation Control – re water quality monitoring program	Condition relates to commissioning – no longer relevant. As part of the CEMP, Council required to prepare a water quality monitoring program and incidental response program to detect and manage any incidences of pollution of waterways by effluent during construction. There should be evidence of this monitoring program and incident response programs creation. The OEMP discusses monitoring of the water quality but not through the construction phase.
28.	Air Quality	Condition relates to commissioning – no longer relevant.

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		There should be evidence that Council implemented dust suppression measures on unsealed roads and on spoil stockpiles to minimise dust generation.
29.	Landscape and Rehabilitation	Condition relates to commissioning – no longer relevant. There should be evidence that Council prepared a landscape plan detailing landscaping and revegetation works to be undertaken at the West Byron STP site, the South Byron STP site and along the transfer pipeline route.
30.	Traffic Management	Condition relates to commissioning – no longer relevant. There should be evidence that Council prepared a compliant Traffic Management Plan.
31.	Indigenous Heritage – re archaeologist	Condition relates to commissioning – no longer relevant. There should be evidence that a qualified archaeologist was present during ground-disturbing construction works in Survey Units 2 and 4 and during initial planting works in Survey Unit 5. A report would likely have been compiled by such expert.
32.	Indigenous Heritage – re The Arakwal Aboriginal Corporation	Condition relates to commissioning – no longer relevant. There should be evidence of heritage reporting as part of the construction works. The EIS Figure 14.2 shows that Heritage Feature 11, an open camp site with NPWS Site register number 04-5-0112 is in the direct vicinity of the preferred route for the rising main connecting the South Byron STP to the West Byron STP.
33.	Indigenous Heritage – re the <i>National Parks and Wildlife Act 1974</i>	Condition relates to commissioning – no longer relevant. Unlikely to be any evidence of satisfaction however, unless a copy of the induction and training documents could be presented, or the inclusion of the requirement to comply with the NPW Act is noted in the CEMP.
34.	Indigenous Heritage – re Native Title Claim	Condition relates to commissioning – no longer relevant.

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		There should be evidence of consultation with relevant Native Title claimant group as the proposed construction works were likely undertaken through an area of Native Title claim, as shown on Figure 14.1 of the EIS.
35.	Non-indigenous Heritage – re exclusion zone	Condition relates to commissioning – no longer relevant. There should be evidence of an exclusion shown on the construction plans or in the CEMP to inform contractors.
36.	Non-indigenous Heritage – re <i>Heritage Act 1977</i> and NSW Heritage Office	Condition relates to commissioning – no longer relevant. There should be evidence of Council consulting with NSW Heritage Office to develop a suitable research design to undertake an archaeological assessment of the pipeline route through the identified area.
37.	Waste Management	Condition relates to commissioning – no longer relevant. There should be evidence of a Council prepared WMP to address construction works. The condition spells out what the WMP shall include.
38.	Commissioning of Upgraded West Byron STP – re risk management measures	Condition relates to commissioning – no longer relevant. There should be evidence in the CEMP of risk management measures to minimise the likelihood of disruption to operation of West Byron STP during connection of new infrastructure.
39.	Commissioning of Upgraded West Byron STP – re appropriate contingency measures	Condition relates to commissioning – no longer relevant. There should be evidence in the CEMP of appropriate contingency measures for implementation if problems are encountered with connection of the new infrastructure.
40.	Commissioning of Upgraded West Byron STP – re EPA	Condition relates to commissioning – no longer relevant. There should be evidence that the EPA was consulted with respect to the risk management and contingency measure notes in conditions 39 and 40.
41.	Operational Environmental Management Plan	Required the adoption of an Operational Environmental Management Plan (OEMP). AWC Report indicates that the Byron STP Wetlands and Reuse Operational Management Plan (2013) is the key document (2013 OEMP). Formerly, the Operational and Management Guidelines (2007) guided operations.

04.08.22:cr:p2021_0284_330370_009.docx

		<p>We are instructed that the OEMP adopted (this should be verified) by Council pursuant to condition 41 was Effluent Reuse & Wetland Regeneration [24ha site]: Operational & Management Guidelines, March 2007 (2007 OEMP).</p> <p>Neither condition 41 or following conditions, provides for an update to the OEMP. On this basis, the later 2013 OEMP cannot be the OEMP for the purposes of condition 41.</p> <p>Unfortunately, the OEMP as provided for in the conditions of consent is a static document, unless, the document provided originally that it may be updated periodically or for particular reasons. A review of the 2007 OEMP indicates that it does not provide for updating of the document upon certain review measures / time frames or any other basis. It should be evident that the adopted OEMP was prepared in consultation with the EPA, NPWS, DLWC, BBWSC, the Belongil Swamp Private Drainage Board at a minimum. The 2007 OEMP was required by the Consent to be adopted by Council no later than one month prior to commissioning of the STP.</p> <p>The 2007 OEMP discusses at length the advantages of the operation and management requirement of the West Byron STP being an 'adaptive management approach'. It notes in Section 2 'Management Approach' that 'although many of the management needs have been identified, some of the management requirements remain only partially understood'. It goes on to describe that the disturbance of natural ecosystems, even highly modified ones, can lead to surprising and unpredicted outcomes.</p> <p>In Section 9.1.2 of the OEMP the objectives of the Biodiversity Management Plan (BMP) are provided, of which it is noted the objectives include:</p> <ul style="list-style-type: none"> • <input type="checkbox"/> to identify the major management issues applying to the land; • <input type="checkbox"/> to provide for the plan's periodic review; and • <input type="checkbox"/> to simplify the process of management as far as possible.
--	--	--

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		<p>Under Section 4.4.2 of the OEMP, adaptive management is described to manage Acid Sulphate Soils and notes that 'On-going monitoring over the short to medium term will allow management actions to be refined'.</p> <p>It is clear it was intended that the OEMP would be an iterative document, however neither condition 41, nor any other condition in the Consent, or the 2007 OEMP provide for a process for updating the OEMP.</p> <p>Recommend Council lodge a section 4.55 modification application to address this (and related) condition/s.</p>
42.	Operational Environmental Management Plan – re what the OEMP shall address	<p>This condition is broad and provides that the OEMP MUST address a number of criteria, but is not limited to those criteria.</p> <p>The OEMP does not address all of the matters set out in condition 42. In relation to (i), it does not identify statutory and other obligations. Parts of (vi) are not addressed, such as hazards and risks, and emergency response plans.</p> <p>The condition requires the OEMP to address at a minimum a number of aspects, commentary on the four parts below:</p> <ul style="list-style-type: none"> I. There does not look to be an identification of the statutory/ other obligations Council is required to fulfil including all licences/ approvals and consultations/ agreements required in the operation of the STP. There is reference made to relevant legislation in Section 11 with regard to impacts and control options of/ for feral animals, however the legislative or other requirements of operating an STP is not covered. II. There is mention in Section 2 'Management Approach' of problem identification and communication amongst stakeholders, however there is not a clear plan of reporting protocols/ similar with stakeholders as would be reasonably expected to satisfy this condition. III. The condition does not set out the parameters to monitor which are to be monitored.

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		<p>The OEMP provides commentary on monitoring of ASS, groundwater and 'drain-water' that has been carried out to date and recommends that the monitoring program continue. Management actions and instructions on the use of the monitoring equipment is provided are also provided in the OEMP. There is no clear script on protocols to ensure the quality of the monitoring program, however the procedure and data logging information provided may be considered sufficient to provide a quality monitoring regime.</p> <p>It may be worth having an environmental scientist review the monitoring procedures proposed as well as determine if other parameters should also be monitored.</p> <p>IV. There does not look to be any indicated steps outlined in the OEMP to ensure that the plans and procedures are being complied with</p> <p>V. The Belongil Estuary Management Plan (BEMP) does not look to be addressed in the OEMP, with the only reference to the BEMP being condition 15 from NPWS (Appendix 1) where the condition required Council to provide the BEMP.</p> <p>VI. Many of the items noted as requiring management strategies in this part the condition are not provided for in the OEMP. It would be expected that each of the items would be afforded some commentary in the OEMP and are not.</p> <p>These matters should be addressed in a modification application.</p>
43.	Operational Environmental Management Plan – OEMP to be made publicly available	(As above) It should be evident that the OEMP was/ is made publicly available.
44.	Operational Environmental Management Plan – re consultant	We do not know whether this condition was complied with. This condition required an independent consultant to review inherent uncertainties associated with the computer simulation models used in the environmental assessment. However, this condition is no longer relevant in terms of the operation of the Byron STP.

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		<p>There should be evidence of such by way of a report or similar. Reference to simulation modelling is provided in the OEMP only in regard to irrigation.</p> <p>This matter could be addressed in a modification application.</p>
45.	Monitoring	<p>The OEMP does not explicitly address a Monitoring and Impact Verification Plan.</p> <p>While there are a large number of references to monitoring throughout the OEMP, there does not look to be the preparation of a monitoring plan as described by the consent. It could be that the information of such plan is within the OEMP, but not collated into the format to create the required Monitoring and Impact Verification Plan.</p> <p>This matter should be addressed in a modification application.</p>
46.	Decommissioning of South Byron STP – re decommissioning of South Byron STP	<p>Condition relates to de/commissioning – no longer relevant.</p> <p>There should be evidence of a performance report or similar for the West Byron STP to satisfy this condition prior to the decommissioning of the South Byron STP.</p>
47.	Decommissioning of South Byron STP – re Environmental Protection Licence	<p>Condition relates to de/commissioning – no longer relevant.</p> <p>There should be evidence of a performance report or similar for the West Byron STP to satisfy this condition prior to the decommissioning of the South Byron STP. There will likely also be evidence of any license expiration/ other for the South Byron STP once decommissioned.</p>
48.	Operation Stage Environmental Audit	<p>Required an operation stage environmental audit. This condition is not relevant to the ongoing operation of the Byron STP. The AWC Report records it was unable to find that the audit had been completed.</p> <p>There should be evidence of an operational stage audit of the West Byron STP 12 months after handover performed by appropriately qualified and experience environmental auditor. Any recommendations of the audit to be noted and the report to be made available to the public.</p>

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		The AWC report notes there are no records of such audit taking place. Recommend Council to investigate this matter.
49.	Sewerage System Performance Reporting	<p>Condition requires Annual Reporting.</p> <p>Annual Report is to detail the performance of the sewerage system, with respect to all performance objectives specified in all licences and approvals. It appears from the AWC Report that this annual reporting may not have been undertaken.</p> <p>There should be evidence of an annual performance report of the West Byron STP, including year-on-year comparisons of performance results to satisfy condition.</p> <p>The AWC report does not clearly identify that this annual report has not been provided, but the commentary suggests it has not been provided.</p> <p>Recommend Council to investigate this matter.</p>
50.	Constructed Wetland Performance	<p>Condition relates to commissioning – no longer relevant.</p> <p>There may be evidence of the completion of works associated with the establishment of the constructed wetland 12 months prior to commissioning.</p>
51.	Constructed Wetland Performance – re criteria to provide measure of success	<p>Condition relates to commissioning – no longer relevant.</p> <p>There should be a report/ similar that sets out suitable criteria to provide objective measures for the success or failure of the upgraded wetland and its readiness for incorporation into the STP process/ treatment train.</p> <p>These matters should be addressed in a modification application.</p>
52.	Water Quality – re Water Quality Monitoring Program	<p>Condition requires a detailed operation stage Water Quality Monitoring Program, addressing a number of criteria set out in the condition. The Water Quality Monitoring Program was to be to the satisfaction of the EPA. There is no reference specifically of a Water Quality Monitoring Program in the OEMP, and it is unknown whether one was prepared to the satisfaction of the EPA. Section 7 of the OEMP 'Monitoring: Ground Water and Drain Water' notes that an 'intensive' groundwater monitoring program was established in early 2002</p>

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		<p>and maintained until 2005. While the monitoring program is noted as complete in the OEMP, it is recommended that groundwater monitoring continue. The OEMP describes the operation of setting up and using the monitoring equipment but does not look to address the requirements set out in parts (i) – (v) of condition 52.</p> <p>There is no evidence that there was any consultation with the EPA regarding this condition.</p> <p>These matters should be addressed in a modification application.</p>
53.	Water Quality – re Condition 52(v)	<p>Condition restricts when any “additional load” may be accepted. “Additional loads” can only be accepted where there is compliance with the specified water quality parameters.</p> <p>Suspension of acceptance of additional loads is only required where the West Byron STP does not meet the limits of the EPA Environment Protection License for 3 consecutive months. Once satisfactory resolution of the issues contributing to the non-compliances is/ are resolved and the water quality parameters are shown to be compliant for 3 consecutive months, acceptance of additional loads, then compliance with condition 9 (iii), can recommence.</p>
54.	Water Quality – re monitoring and verification protocol	<p>Condition requires details in the OEMP regarding a monitoring and verification protocol. This document is not referenced in the OEMP.</p> <p>There is no reference in the OEMP to the predicted benefits to water quality in Tallow Creek as a result of the project as required by this condition.</p> <p>There is no evidence that there was any consultation with the EPA in regard to this matter either.</p> <p>These matters should be addressed in a modification application.</p>
55.	Acid Sulphate Soils	<p>Condition requires an Acid Sulphate Soils Management Plan as part of the OEMP.</p>

04.08.22:cr:p2021_0284_330370_009.docx

		<p>Acid Sulphate Soils (ASS) and the onsite testing to date for such are reported on at length in the OEMP in Section 4 'Acid Sulphate Soils', however a defined 'ASS Management Plan' is not provided.</p> <p>The condition requires that an ASS Management Plan be prepared by Council in accordance with ASSMAC 1998, which part of this document relating to ASS Management Plans is provided below.</p> <p>While some of the requirements of an ASS Management Plan set out by the ASSMAC document are provided in the OEMP, not all matters listed in the extract below, which is the minimum information the ASS Management Plan should include, have been provided.</p>
--	--	---

		 <p>6.2 The Acid Sulfate Soil Management Plan</p> <p>The plan should pull together all the mitigation measures to protect the soils, surface and groundwater, ecology and the community. It should outline the staging of works so that the impacts can be minimised and managed. As a minimum it should contain the following:</p> <ol style="list-style-type: none"> 1. an overview of environmental attributes of the site and surrounds (see Section 5 and 6) 2. an overview of the proposed works 3. a description of the acid sulfate soils mitigation strategies (see Section 3 and 4) incorporating a schedule of construction and operational phases to minimise impacts from : <ol style="list-style-type: none"> a) the disturbance (including excavation or changes in surface or subsurface water systems) b) any excavated soils (including storage, treatment or use) c) any acid leachate produced (including storage, treatment, discharge or use) 4. a monitoring program for soils and the surface and subsurface water quality (see Section 7.4) outlining: <ol style="list-style-type: none"> a) what parameters will be monitored b) monitoring locations c) monitoring frequency d) analyses to be conducted e) laboratory conducting analyses f) procedures to be undertaken if monitoring indicates that thresholds are being exceeded g) reporting procedures to relevant authorities and the community (if appropriate). 5. a description of the pilot project or field trial (if new mitigation strategies are being used or a pilot is required by the determining authority) (see Section 7.3) to: <ol style="list-style-type: none"> a) prove the effectiveness and feasibility of new technology, or selected management procedures to deal with the acid sulfate soils and other environmental impacts b) demonstrate that the proponent has the capability to implement those management procedures effectively c) demonstrate the ability to comply with agreed standards and performance targets 6. a description of the contingency procedures to be implemented at the site to deal with unexpected events or in the event of failure of management procedures (see Section 7.5) including a Remedial Action and Restoration Action Plan related to: <ol style="list-style-type: none"> a) any failure to implement any proposed acid sulfate soil management strategies b) any mitigation strategies being ineffective so that the project fails to meets agreed standards or performance levels.
56.	Groundwater	Condition requires as part of the OEMP consultation with DLWC regarding bores and monitoring. The OEMP does address groundwater monitoring. It is

BYRON SHIRE COUNCIL

		<p>unknown whether the bore locations were developed in consultation with the then DLWC.</p> <p>The OEMP addresses groundwater modelling that has occurred prior to the STP operation and recommends continued monitoring of such. There is no evidence of consultation with DLWC as required by the condition.</p> <p>The above matters should be addressed in a modification application.</p>
57.	Drainage Management Plan	<p>Condition requires as part of the OEMP a Drainage Management Plan be prepared addressing the criteria set out in the condition. A drainage management plan is not specifically addressed in the OEMP however the OEMP does address drain and drainage maintenance and management in detail.</p> <p>The OEMP requires Council to consult with the Belongil Swamp Private Drainage Board on several matters, comments on each provided below:</p> <ol style="list-style-type: none"> I. The OEMP makes no mention of drainage charges, noting that this is interpreted as drainage fees or similar. II. Water quality monitoring looks to be addressed in the OEMP, however an environmental scientist may determine that other parameters related to water quality should also be addressed and reported on. There is mention of flow monitoring in the OEMP in regards to AAS mitigation and also irrigation, however there does not look to be any baseline or target flow rates for the drainage or site discharge rates, which would be reasonably expected for any discussions with the Belongil Swamp Private Drainage Board related to discharging water into their asset. III. Drain maintenance looks to be addressed in the OEMP Section 6 'Irrigation: Infrastructure and Maintenance'. Access to the site is referred to in the OEMP, however specific access maintenance is not addressed. IV. Erosion control is mentioned in the OEMP in that any track construction are to be constructed and located to ensure minimal erosion and soil loss. Specifics of the sediment and erosion control by way of a plan (drawing) or management plan re not provided.

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

		<p>There is no mention that there was consultation with the Belongil Swamp Private Drainage Board in regard to the above.</p> <p>The above matters should be addressed in a modification application.</p>
58.	Drainage Management Plan – re Belongil Swamp Private Drainage Board	<p>It is unknown whether negotiations with the Belongil Swamp Private Drainage Board occurred.</p> <p>It is unclear in the AWC report and otherwise if the required negotiations between Byron Shire Council and the Belongil Swamp Private Drainage Board regarding contributing (financially and/other) toward the maintenance of the Board's drains used by Council for the conveyance of treated effluent to Belongil Creek took place.</p> <p>Recommend Council investigate, as the negotiations were as far as practicable required to be finalised prior to commissioning the augmentation West Byron STP.</p>
59.	Flora and Fauna	<p>Condition required the investigation of the habitat requirements for the Comb-crested Jacana. It is unknown whether the investigations took place. The condition was required to be complied with before commissioning.</p> <p>It is unclear if Council investigated the specific habitat requirements of the Comb-crested Jacana (<i>Irediparra gallinacea</i>) with respect to the species' minimum water depth requirements and incorporated this into the operating strategy for Cell H. If this did occur it would be reasonable to expect there to be evidence of this in a report or otherwise.</p> <p>Recommend Council investigate this matter.</p>
60.	Odour Management	<p>Condition requires as part of the OEMP an Odour Complaint Response procedure. No odour complaint procedure is included in the OEMP.</p> <p>The OEMP makes no mention of addressing odour, by way of management, mitigation or a compliant response procedure.</p> <p>Recommend Council investigate.</p>

04.08.22:cr:p2021_0284_330370_009.docx

BYRON SHIRE COUNCIL

61.	Review/Reporting Periods	Relates to timing of annual reviews and reporting. Timing of reporting noted in condition. Does not require particular action.
-----	--------------------------	---

Report No. 4.5 STP Quarterly Operational Performance Report

Directorate: Infrastructure Services

Report Author: Cameron Clark, Manager Utilities

5 **File No:** I2022/999

Summary:

10 This quarterly report outlines the operational performance of Council's four sewerage treatment plants: West Byron, Ocean Shores, Bangalow and Brunswick Valley. It also outlines the Mullumbimby drinking water supply system performance and the Utilities operational planned maintenance performance targets.

RECOMMENDATION:

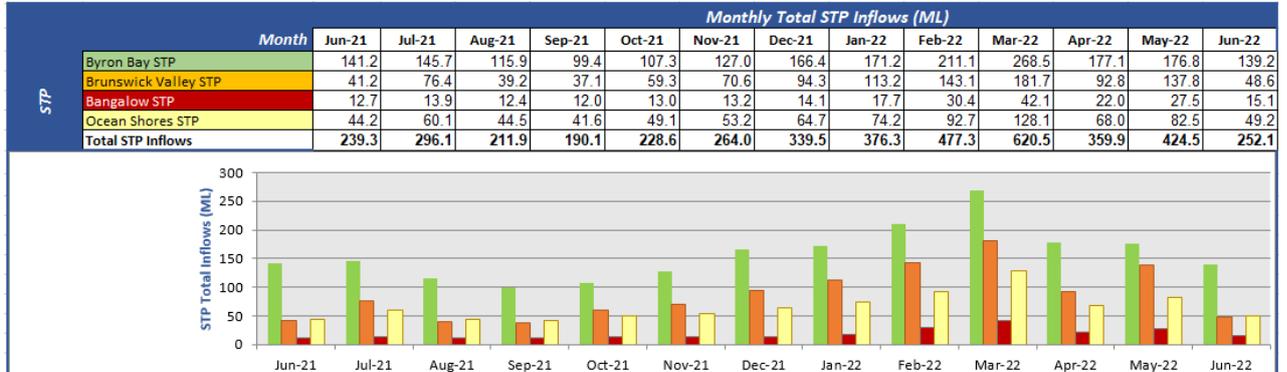
15 **That the committee note the report**

20

Report

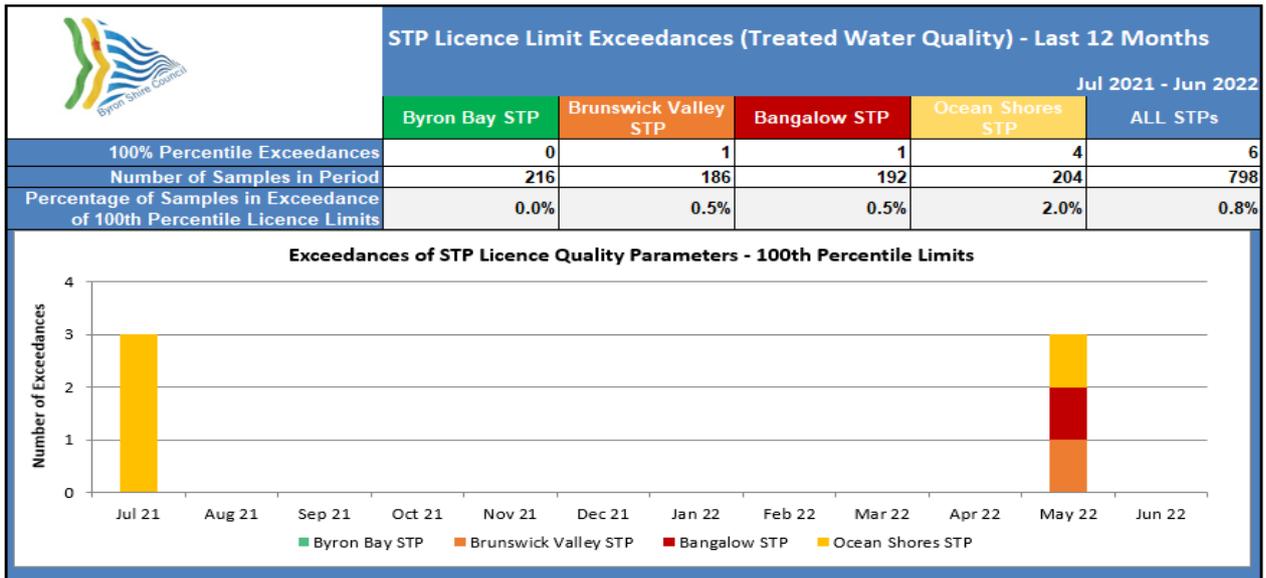
Sewerage Treatment System Performance

Monthly STP Inflow Volumes



5 *STP Performance against EPA Licence Limits*

The performance of the STPs for the last 12 months show that 99.2% of quality samples were within licence limits.



EPA Reportable Events

10 There was one (1) EPA reportable incident during the April to June 2022 period.

BYRON SHIRE COUNCIL

STAFF REPORTS - INFRASTRUCTURE SERVICES

4.5

Byron Wetlands Water Quality

The data below shows the assimilative and polishing capacity of Byron Wetlands for the April to June 2022 was in line with nutrient removal targets.

Byron Wetlands Nutrient Removal - April 2022 to June 2022										
Statistics	Total Nitrogen (mg/L)					Total Phosphorus (mg/L)				
	EPA P1 Inlet	EPA P3 Mid point	EPA P4 Outlet	Reduction Target	Total Nitrogen Reduction	EPA P1 Inlet	EPA P3 Mid point	EPA P4 Outlet	Reduction Target	Total Phosphorus Reduction
Average	2.75	1.40	0.61	40-55%	78%	0.23	0.12	0.05	40-60%	77%
Geomean	1.93	1.37	0.60		69%	0.13	0.12	0.05		61%
Median	1.60	1.47	0.63		61%	0.09	0.10	0.05		44%

Note: Average nutrients removals figures from:

https://www.researchgate.net/publication/6717563_Removal_of_Nutrients_in_Various_Types_of_Constructed_Wetlands

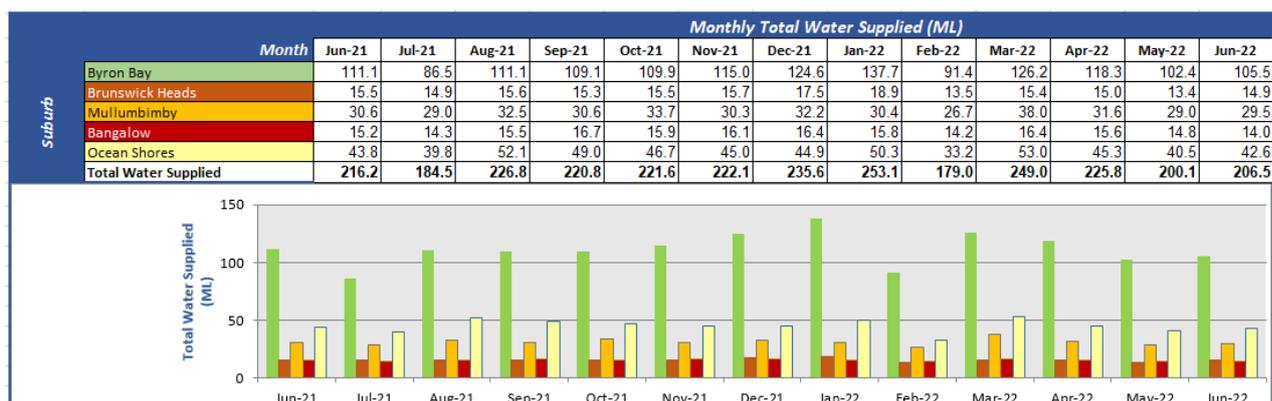
1-"Removal of total nitrogen in studied types of constructed wetlands varied between 40 and 55%"

2-"Removal of total phosphorus varied between 40 and 60% in all types of constructed wetlands"

5

Water Supply System Performance

Supplied Volumes



Mullumbimby Drinking Water Supply Performance

10 The performance of the Mullumbimby Drinking Water supply system for the last 12 months shows that:

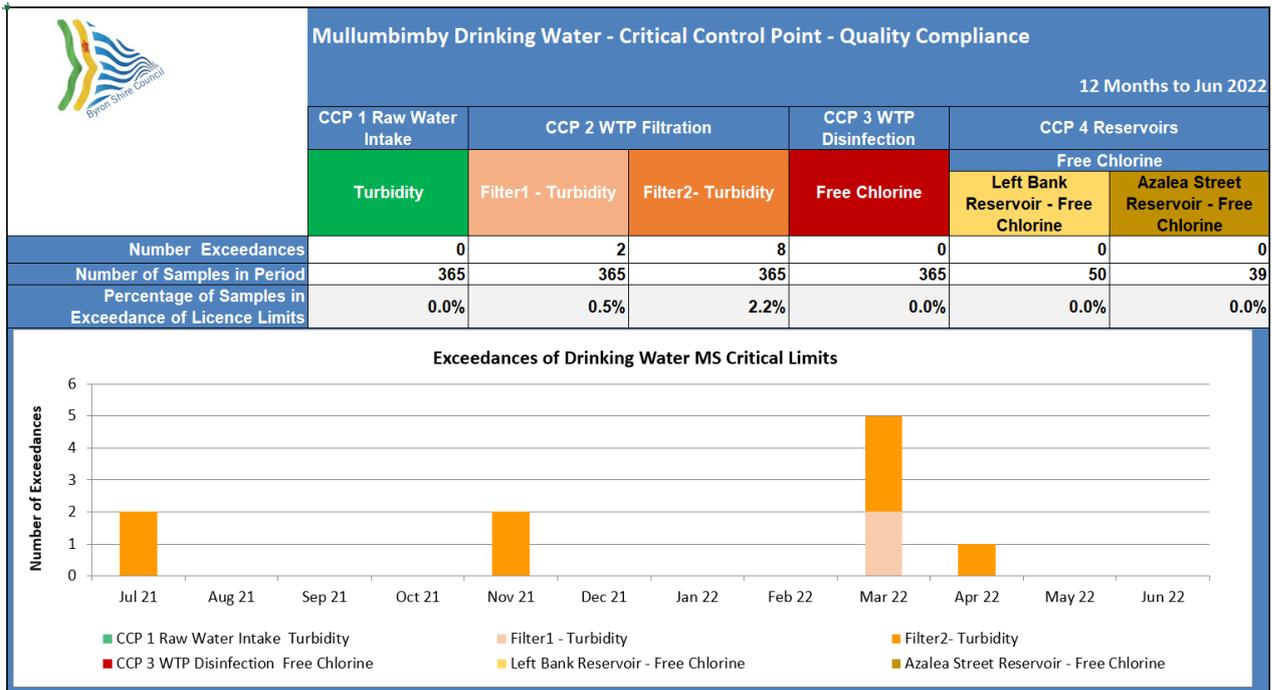
- 99.2% of Critical Control Point water quality samples at Mullumbimby WTP were within NSW Health quality guidelines (10 exceedances out of 1,460 samples).

15 • 100% of Critical Control Point water quality samples at Mullumbimby reservoirs were within NSW Health quality guidelines.

BYRON SHIRE COUNCIL

STAFF REPORTS - INFRASTRUCTURE SERVICES

4.5

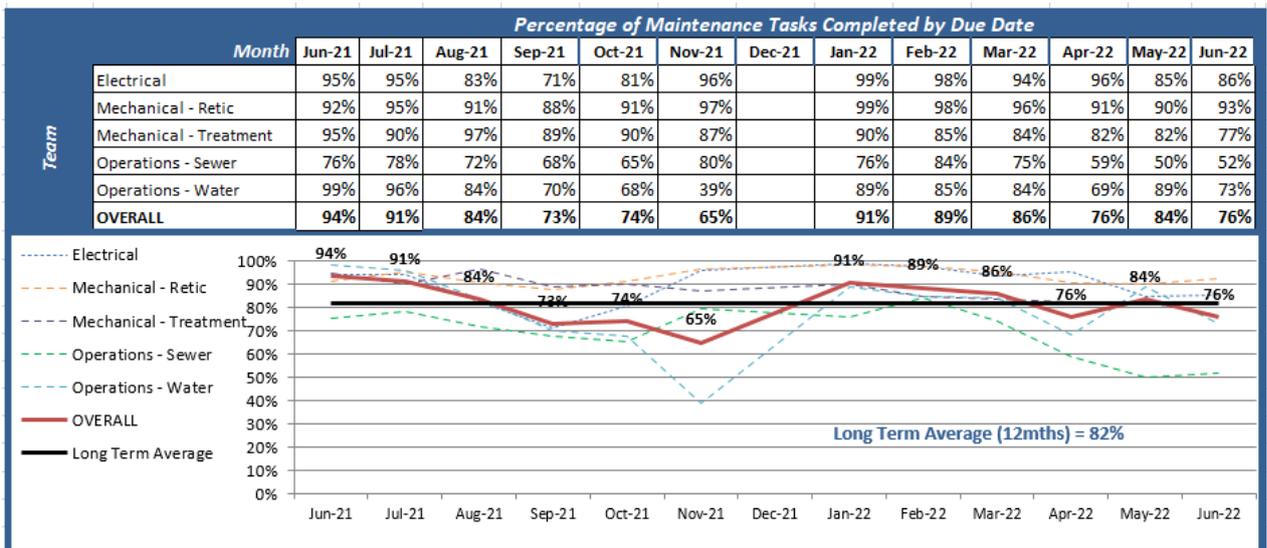


NSW Health Reportable Events

There were zero (0) NSW Health reportable incident during the April to June 2022 period.

Asset Maintenance

- 5 The long-term average (12 month) planned maintenance stands at 82% of tasks completed by due date. This is in line with the target of 80%.



Note: No monthly statistics produced for December 2021.

Strategic Considerations

Community Strategic Plan and Operational Plan

CSP Objective	CSP Strategy	DP Action	Code	OP Activity
<p>5: Connected Infrastructure We have connected infrastructure, transport, and facilities that are safe, accessible, and reliable</p>	5.5: Provide continuous and sustainable water and sewerage management	5.5.1: Water supply - Provide a continuous water supply that is maintained in accordance with NSW Health guidelines	5.5.1.1	Complete 80% of programmed maintenance for water and sewer assets`
<p>5: Connected Infrastructure We have connected infrastructure, transport, and facilities that are safe, accessible, and reliable</p>	5.5: Provide continuous and sustainable water and sewerage management	5.5.2: Wastewater management - Manage effluent in an ecologically sustainable way that ensures public health and protects and enhances the natural environment	5.5.2.2	Report forward works program and performance to Water and Sewer Advisory Committee
<p>5: Connected Infrastructure We have connected infrastructure, transport, and facilities that are safe, accessible, and reliable</p>	5.5: Provide continuous and sustainable water and sewerage management	5.5.2: Wastewater management - Manage effluent in an ecologically sustainable way that ensures public health and protects and enhances the natural environment	5.5.2.3	Monitor and compile annual licence returns

**Report No. 4.6 Byron STP Condition 9 Additional Load -
Quarterly Report**

Directorate: Infrastructure Services

Report Author: Dean Baulch, Principal Engineer, Systems Planning

5 **File No:** I2022/955

Summary:

This report is for the Committee's information and reviews compliance with the Byron Bay Sewerage Augmentation Scheme - Conditions of Approval (2002).

10 Condition 9(iii) requires that sufficient reuse (recycled water) capacity be available before the acceptance of any additional load at the treatment plant.

15 In the years since the approval was granted (2002 to date) 2,810 Equivalent Tenements (ET) have been approved, resulting in an additional load of 1.66 ML/day at the treatment plant. The current day operating capacity of the reuse system equates to 2.02ML/day or 3,427ET. Therefore, the reuse system provides sufficient capacity to accommodate the additional load as defined in the Conditions of Approval.

20

RECOMMENDATION:

That the report is noted.

25

Report

The relevant section from Condition 9 of the Approval is Condition 9(iii), which states, “Additional load at West Byron STP will not be accepted until: availability of sufficient reuse capacity to accommodate 100% of the volume of treated effluent generated by the additional load”.

- 5 “Additional Load” is defined in the report as “any sewage load resulting from development consents after the date of this approval”. Date of Approval is 9 December 2002.

10 From December 2002 through to March 2022 there have been 2,791 additional Sewer Equivalent Tenements (ET) approved by Council via development consents. This additional load (including approvals for secondary dwellings) is also adjusted based on development applications that have been modified, withdrawn, refused or when the approval expires during the same period. Figure 1 shows the annual approved additional ET load from 2002 to June 2022.

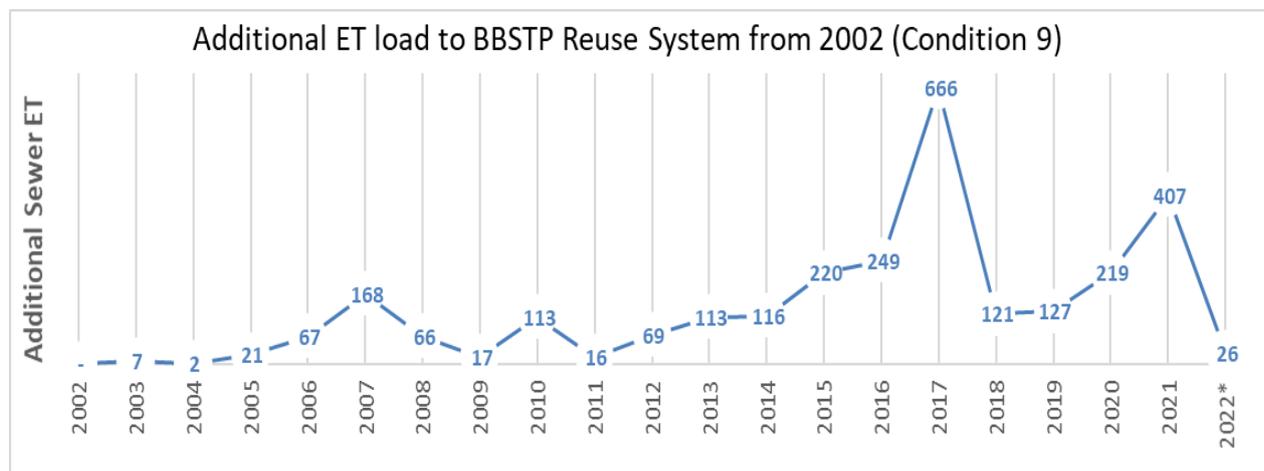


Figure 1 - Equivalent Tenements approved by Council from 2002 to June 2022

- 15 The current day operating capacity of the reuse system to produce treated effluent is 26 Litres per second or 2.25ML/day less 10% of water for filter backwash purposes equates to 2.02ML/day or 3,427ET. (Note: 1ET = 590L/day for sewer = 0.215ML/annum)

20 Definition of an Equivalent Tenement: Sewage: That for the purpose of the policy an Equivalent Tenement is 590 litres per day of unmetered sewage discharge. These loadings are the average loading per dwelling. The sewer figure allows for base load infiltration to the sewerage system.

	Current Approved ET	ET Megalitres per annum	Available Capacity (ET)
Condition 9(iii) Additional Load Calculation	2,810	605.2	-
Current effluent reuse system capacity 2022	3,427	736.8	617

Therefore, the existing reuse system provides sufficient capacity to accommodate the additional load as defined in the Conditions of Approval.

Committee Report Tracking Summary: Condition 9. Additional Load at Byron STP	Current Approved ET	Difference (ET)
30 January 2020	2,408	-
30 July 2020	2,478	70
29 October 2020	2,508	30

BYRON SHIRE COUNCIL

STAFF REPORTS - INFRASTRUCTURE SERVICES

4.6

18 February 2021	2,738	230
29 April 2021	2,749	11
19 August 2021	2,683	(66)
21 October 2021	2,727	44
18 March 2022	2,791	64
18 August 2022	2,810	19

Note that ET load is adjusted (reduced in some cases) based on development applications that have been modified, withdrawn, refused or the approval expires.

In terms of the actual reuse volumes for Byron Bay since the system was commissioned the following annual figures are provided:

Year	Total Urban Reuse Flows (ML)
2006	258.8
2007	336.1
2008	204.4
2009	174.5
2010	257.2
2011	287.4
2012	294.0
2013	287.2
2014	296.9
2015	261.9
2016	221.8
2017	257.8
2018	246.3
2019	425.3
2020	405.2
2021	382.5
*2022	149.4

* Partial Year

5

