

Notice

Environmental Protection Act 1994

Environmental Protection Order

This Environmental Protection order is issued by the administering authority pursuant to section 358 of the Environmental Protection Act 1994.

Gladstone Regional Council
101 Goondoon Street
GLADSTONE QLD 4680

Your reference: STAT1412|CA55221|

Our reference: EPPR00959913; 101/0005948

23 December 2019

Dear Sir/Madam

Take notice: that under the *Environmental Protection Act 1994* (the Act) this Environmental Protection Order (EPO) is issued to Gladstone Regional Council (you) by the administering authority. The administering authority is the Chief Executive of the Department of Environment and Science.

The EPO is issued in respect to the activities of Gladstone Regional Council on land described as Lot 169 on Plan CTN2130, Yarwun Wastewater Treatment Plant (WWTP) situated at 87 Reid Road YARWUN QLD 4694 (the premises).

A. Grounds

This EPO is issued on the following grounds:

- Under s.358(d)(iii) of the Act to secure compliance by Gladstone Regional Council with a condition of an Environmental Authority (EA); and
- Under section 319 of the Act to secure compliance with the General Environmental Duty.

The facts and circumstances forming the basis for these grounds are:

1. You are the holder of Environmental Authority (EA) EPPR00959913 (the EA).
2. Condition L1-YAR of the EA states:

Except as permitted by condition L5-YAR, contaminants must only be released to land from the following discharge locations and in compliance with the release limits listed in Table 2 – Release Limits

and associated requirements. Discharge Location: Appendix 1 – Yarwun STP Lot 139 Plan CTN2130 Land Application Area 1.

Table 2 Release Limits

Quality Characteristics	Unit	Minimum	80 th %ile	Maximum	Monitoring Frequency
pH	(pH unit)	6.5	-	8.5	Weekly
Dissolved oxygen	mg/L	2	-	-	Weekly
Ammonia nitrogen as nitrogen	mg/L	1	-	2	Weekly
Total Nitrogen (TN)	mg/L	5	-	10	Weekly
Total phosphorus (TP)	mg/L	1	-	2	Weekly
Free residual chlorine	mg/L	-	-	0.7	Weekly
<i>E. coli</i>	mpn/ml	-	1000 organisms per 100 ml	-	Weekly as based on a minimum of five samples collected at not less than half-hourly intervals

Associated requirements

1. Monitoring must be in accordance with the administering authority's Water Quality Sampling Manual and all monitoring devices must be effectively calibrated and maintained;
2. Sampling to be undertaken at the outlet of the wet weather storage system, except for *E. coli* which is to be monitored at the outlet of chlorination facilities; and
3. Discharge Location Land Application Area 1 as displayed in Appendix 1 – Yarwun STP Lot 139 Plan CTN2130 Land Application Area 1.

After December 2021, except as permitted by condition L5-YAR, contaminants must only be released to land from the following discharge locations and in compliance with the release limits listed in Table 3 - Release Limits after December 2021 and associated requirements. Discharge Location: Land Application Area 2 as displayed in Appendix 2 – Yarwun STP Lot 139 Plan CTN2130 Land Application Area 2.

Table 3 Release Limits after December 2021

Quality Characteristics	Unit	Minimum	Average*	80 th %ile	Maximum	Monitoring Frequency
pH	(pH unit)	6.5	-	-	8.5	Weekly
Dissolved oxygen	mg/L	2	-	-	-	Weekly
Ammonia nitrogen as nitrogen	mg/L	1	-	-	-	Weekly
Total Nitrogen (TN)	mg/L	5	30	-	50	Weekly
Total phosphorus (TP)	mg/L	1	8	-	14	Weekly
Free residual chlorine	mg/L	-	-	-	0.7	Weekly
<i>E. coli</i>	mpn/ml	-	-	1000 organisms per 100 ml	-	Weekly as based on a minimum of five samples collected at not less than half-hourly intervals

Associated requirements

1. Monitoring must be in accordance with the administering authority's Water Quality Sampling Manual and all monitoring devices must be effectively calibrated and maintained;
2. Sampling to be undertaken at the outlet of the wet weather storage system, except for *E. coli* which is to be monitored at the outlet of chlorination facilities;

3. Discharge Location Land Application Area 2 as displayed in Appendix 2 – Yarwun STP Lot 139 Plan CTN2130 Land Application Area 2;
4. Irrigation application of 10mm will occur every day to half the irrigation area (3ha) if sufficient storage exists; and
5. Irrigation is delayed to the next scheduled day if more than 10mm of rain falls within a 24 hour window as determined by an onsite electronic rain gauge. Irrigation is ceased if this occurs during an irrigation event.

* Average is based on an rolling 6-month average of weekly values.

3. The EA took effect on 1 May 2015 (EA 1) and has been amended on 21 December 2015 (EA 2), 29 March 2019 (EA 3) and 20 June 2019 (EA 4).
4. Condition L1-YAR of EA 1 and EA 2 stated that:
The only contaminants permitted to be released to land are treated sewage effluent to the Yarwun STP irrigation area within the limits levels stated in Table 1 – Release Limits of the Water Schedule and the conditions of this environmental authority.
5. Since 2015, Yarwun Wastewater Treatment Plant (WWTP) has breached condition L1-YAR of EA 1 and EA 2 for releasing treated effluent with Total Nitrogen (TN), Ammonia and Total Phosphorus (TP) concentrations greater than the release limits specified in *Table 1 - Release Limits*.
6. On 21 June 2016, the department issued a warning for breach of condition L1-YAR of EA 2 as a result of the compliance inspection conducted on 17 February 2016.
7. On 30 June 2016, you responded to the warning and made a number of commitments to address the performance of Yarwun WWTP. You provided the following actions to address the performance of Yarwun WWTP:
 - o Employing an experienced, qualified and dedicated overseer to coordinate and manage the wastewater treatment plants;
 - o Carrying out maintenance activities to address immediate operating issues;
 - o Addressing inflow and infiltration within the upstream catchment; and
 - o Engaging a third party consultant, MWH, to undertake a preliminary process review of the plant.

In addition to these actions, you indicated that funds had been allocated in the 2016-2017 Budget and that you had a long term financial plan to address the performance issues.

8. On 4 July 2016, you had a meeting with the department to further discuss opportunities to achieve compliance with EA 2 at the Yarwun WWTP.
9. On 23 November 2016, the department conducted an inspection and identified that the release of non-compliant treated effluent was on-going. Enforcement action was not pursued by the department, in part, due to the commitments made by you.
10. In January 2017, you advised the tender process for the Yarwun WWTP Retrofit commenced. The tender process was finalised in March 2017, and you awarded MWH/Santec Stages 1 and 2 of the Yarwun WWTP Retrofit.
11. On 12 May 2017, you met with the department. Following that meeting, you advised that you reviewed the planned solution to address the issues of the Yarwun WWTP.
12. In March 2018, you advised there was a delay in the delivery of the final concept design for the Yarwun WWTP Retrofit as you needed to reconsider the project delivery strategy.
13. On 30 May 2018, you provided the department with a report titled "*The Gladstone Regional Council – Wastewater Treatment Plants, May 2016*" (the report) prepared by MWH. The report provided a number of recommendations to address the operational and compliance issues at Yarwun WWTP. You also advised that you engaged a consultant to develop documentation and assist in an application to amend the EA 2.

14. On 7 August 2018, you lodged an application with the department to amend EA 2. The intent of the EA 2 amendment was to increase release limits of effluent quality in *Table 1 – Release Limits* based on an expanded irrigation area.
15. On 17 December 2018, the department conducted an inspection and identified that the release of non-compliant treated effluent at the premises was ongoing.
16. EA 2 was amended; EA 3 took effect on 29 March 2019. Condition L1-YAR of EA 3 now comprised of *Table 2 Release Limits* and *Table 3 Release Limits after December 2021*, which are the new release limits to take effect after 31 December 2021. *Table 2 Release Limits* of EA 3 is formerly *Table 1 Release Limits* of EA 1 and 2. During the amendment process, you communicated to the department that you would continue to be non-compliant until the end of December 2021.
17. On 29 March 2019, the department received a notification from you (our reference CR90751) regarding an exceedence of nitrogen concentrations, as specified in condition L1-YAR of EA 3. You were requested to provide a detailed action plan outlining the sequence of actions to be taken by you, including timeframes to transition Yarwun WWTP into compliance with the EA.
18. EA 3 was amended; EA 4 took effect on 20 June 2019, and is the latest EA in effect. No changes were made to condition L1-YAR.
19. On 27 June 2019, you responded to the department's request for information in relation to CR90751; however, the information provided lacked the requested details.
20. Section 6 of the *Environmental Protection (Water and Wetland Biodiversity) Policy 2019* (EP Water Policy 2019) states the environmental values (EVs) of Calliope River Basin to be protected from the effects of an activity. Groundwater also has EVs and these EVs need to be protected from the effects of releasing treated effluent in excess of the release limits.
21. Environmental values of Calliope River Basin Groundwaters to be protected are aquatic ecosystem, irrigation, farm supply/use, stock water, human consumer, drinking water, industrial use, and cultural and spiritual values. To protect these EVs, the median or 80%ile Water Quality Objectives (WQOs) for Calliope Fresh Water Inside State Development Area (Lowland fresh <150m (S2)) have been considered appropriate in the absence of specific groundwater EVs, and the potential for groundwater and surface water interactions downstream of the premises. The WQOs are as follows:
 - Ammonia – 0.20mg/L;
 - TN – 0.50mg/L,
 - TP – 0.50mg/L and
 - pH – 6.5-7.5
22. In the *Yarwun WWTP – Groundwater Monitoring Report October 2018* submitted on 17 December 2018, it was indicated that there has been high concentrations of TN and TP in groundwater monitoring bores GW1, GW2, Y-MP5 and Y-MP6. TN and TP concentrations ranged between 1.8-46mg/L and 0.42-0.68mg/L, respectively.
23. The *Yarwun STP Retrofit Report, July 2018*, submitted as part of the EA amendment application on 6 August 2019, indicated there is a risk that groundwater quality could be impacted by the current irrigation practices. The retrofit report stated that “*groundwater levels are close to the ground surface at times, particularly at GW2 which is located within the main irrigated area (Figure 8-8). Accordingly the shallow groundwater levels likely reflect mounding in response to the current irrigation practices with an estimated drainage past the root zone of 3968 mm annually, and the total nitrogen and phosphorus concentrations found in the groundwater ranged between 1.9-15.6 and 0.6-4.6mg/L, respectively within the Yarwun WWTP property. Whilst background levels were not determined, the level of nutrients in the*

groundwater suggest that there may be have already been some nutrient leaching from the current wastewater irrigation regime.”

24. The monitoring results of Yarwun WWTP from 6 February 2019 to 31 July 2019 also indicated that TN concentrations ranged from 7.3mg/L to 58.9mg/L and Ammonia concentrations ranged from 0.02mg/L to 19.1mg/L. These concentrations exceed the EA 4 release limits and WQOs for Calliope River Basin Fresh Water Inside State Development Area.
25. Yarwun WWTP is situated within an area of olluvium/alluvium and comprises permeable surface soils. This increases the likelihood of groundwater and surface water interactions to occur. As such, the release of treated effluent in excess of the release limits from Yarwun WWTP with concentrations ranging over ten times the WQOs for Calliope River Basin Fresh Water Inside State Development Area (Lowland fresh <150m (S2)) has the potential to cause localised environmental impacts.
26. The above information demonstrates that any treated effluent exceedences have the potential to impact on soil and groundwater levels and quality, and that these impacts are expected to continue until the upgrade is completed.
27. As a result, the department considers that it is reasonable to secure compliance with condition L1-YAR of EA 4 by requiring you to implement upgrades to the Yarwun WWTP in accordance with a project schedule. This will ensure the timely transition into compliance with the EA requirements.
28. The General Environmental Duty is detailed in s319 of the Act and states:

A person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practical actions to prevent or minimise the harm (the General Environmental Duty).
29. The department considers that, in consideration of the facts and circumstances detailed above, the potential for impacts to groundwater and the environmental values of groundwater in the Calliope River Basin Groundwaters within the State Development Area, you have failed to take all reasonable and practicable measures to prevent or minimise the risk of environmental harm, and have therefore failed to comply with the General Environmental Duty under the Act.

B. Requirements

In accordance with this EPO, you are required to do the following:

1. By 31 May 2020, you must have:
 - a. replaced the existing 1.5ha irrigation infrastructure;
 - b. installed an irrigation system over the additional 4.5ha;
 - c. installed a new irrigation pumping station with capacity to operate the irrigation system to evenly distribute the treated sewage effluent; and
 - d. installed an automatic filtration system to filter the treated sewage effluent before it is irrigated.
2. By 31 May 2020, you must have established grass, or other suitable vegetation, and manage the irrigation of treated sewage effluent to ensure that deep drainage of treated sewage effluent is minimised.
3. By 30 August 2020, you must have:
 - a. lined the treated effluent pond, referred to as T1200, with concrete;
 - b. replaced lining of the two sludge ponds with suitable pond lining material.
4. By 31 March 2021, you must have completed:

- a. the installation and commissioning of a package sewage treatment plant;
 - b. the refurbishment of the existing inlet works to the sewage treatment plant to complement the package sewage treatment plant;
 - c. the refurbishment of the balance tank equipment and the disinfection system to complement the package sewage treatment plant; and
 - d. the upgrade of the electrical and process control systems, including the SCADA system.
5. By 30 September 2021, you must have completed four (4) months of performance testing of the package sewage treatment plant received in accordance with Requirement 4.
6. By 31 December 2021, you must have installed and commissioned the package sewage treatment plant required by Requirement 4, and the packaged sewage treatment plant must be able to achieve compliance with Environmental Authority EPPR00959913.
7. Six (6) months from the date of issue of this EPO, you must provide a report to the department detailing the progress of the Requirements of this EPO. The progress reports must be submitted every six (6) months until Requirement 6 of this EPO has been completed.

C. Obligations

If you propose to dispose of the place or business to which the EPO relates, you **must** advise the buyer of the existence of this EPO.

If you cease to carry out the activity to which this EPO relates, you **must** give written notice of ceasing to carry out the activity to the department within 10 days of ceasing the activity.

Take notice:

- the requirements of this order take effect immediately upon service of the order;
- failure to comply with this order is an offence under the Act;
- this order remains in force until further notice from the administering authority.

D. Penalty

Failure to comply with an EPO is an offence.

- The maximum penalty for a corporation for wilfully contravening an EPO is 31,250 penalty units, totalling \$4,170,312.50.
- The maximum penalty for a corporation for contravening an EPO is 22,500 penalty units, totalling \$3,002,625.00.

Failure to provide written notice to the buyer is an offence.

- The maximum penalty for a corporation is 250 penalty units totalling \$33,362.50.

Failure to provide written notice within 10 business days of ceasing the activity to the department is an offence.

- The maximum penalty for a corporation is 250 penalty units, totalling \$33,362.50.

Section 3 of the Penalties and Sentences Regulation 2015 prescribes the monetary value of a penalty unit.

E. Reviews and appeals

The provisions regarding review of decisions and appeals may be found in sections 519 to 539 of the Act.

A person who is dissatisfied with certain decisions of the department, may be able to apply to have the department review that original decision.

Generally, a request to have a decision reviewed must be made:

- within 10 business days of the decision being notified to the person;
- be supported by enough information to enable the department to decide the application for review; and
- be made using the application for review of an original decision form ([ESR/2015/1573](#)).¹

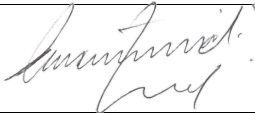
Where an application has been made for a decision to be reviewed, the applicant may also apply to the relevant court for a stay of the decision to secure the effectiveness of the review.

Once the original decision has been reviewed, a person who is dissatisfied with the review decision may be able appeal against that decision to the relevant court within 22 business days after receiving notice of the review decision.

A person whose interests are or would be adversely affected by a decision of the department may also be able to request a statement of reasons for a decision or a statutory order review under the *Judicial Review Act 1991*.

For further information about reviews and appeals see the information sheet - internal review and appeal to the Planning and Environment Court ([ESR/2015/1572](#)). You may have other legal rights or obligations and should seek your own legal advice.

Should you have any queries in relation to the notice, please contact Myra dela Cruz, Senior Environmental Officer on 07 4971 6529.



Signature

William Inonda
Manager (Compliance)
Delegate of the Chief Executive
Department of Environment and Science
Environmental Protection Act 1994

23/12/2019

Date

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¹ This is the publication number. The publication number can be used as a search term to find the latest version of a publication at <www.des.qld.gov.au>.