



Licence number	L9222/2019/1
Licence holder	Water Corporation
Registered business address	John Tonkin Water Centre 629 Newcastle St Leederville WA 6007
DWER file number	DER2019/000566
Duration	24/01/2020 to 23/01/2040
Date of issue	24/01/2020
Date of amendment	30/08/2023
Premises details	Christmas Island Wastewater Treatment Plant Jalan Pantai Road Smith Point Crown Reserve 44529 Christmas Island WA 6798 Legal description - Lot 333 on Plan 400613 As defined by the premises map in Schedule 1

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987 (WA)(CI)</i>)	Assessed design capacity
Category 54: premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters	1,750 m ³ per day

This licence is granted to the licence holder, subject to the attached conditions, on 30 August 2023, by:

Grace Campbell

A/Senior Environmental Officer

Industry Regulation

an officer delegated under section 20 of the *Environmental Protection Act 1986 (WA)(CI)*

Licence history

Date	Reference number	Summary of changes
09/02/2006	L8083/2006/1	New application.
09/02/2007	L8083/2006/2	Licence re-issue.
14/05/2010	OT/CI/2010/1	Works approval.
16/07/2012	L8655/2012/1	Licence re-issue.
12/02/2015	L8655/2012/1	Licence amendment to new format v 2.8.
03/03/2016	L8655/2012/1	Licence amendment to update condition 1.3.5 to consider <i>Lemna spp.</i>
29/06/2017	L8655/2012/1	DWER initiated amendment to change the licence duration and Lot descriptor.
24/01/2020	L9222/2019/1	Replacement licence for L8655/2012/1.
30/08/2023	L9222/2019/1	Licence amendment to alter the reporting date for the Annual Audit Compliance Report and the environmental report to 1 October annually. Licence updated to new format.

Interpretation

In this licence:

- (a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a condition, each row in a table constitutes a separate condition;
- (d) any reference to an Australian or other standard, guideline, or code of practice in this licence:
 - (i) if dated, refers to that particular version; and
 - (ii) if not dated, refers to the latest version and therefore may be subject to change over time;
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and
- (f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

Licence conditions

The licence holder must ensure that the following conditions are complied with:

Infrastructure and equipment

1. The licence holder must ensure that the site infrastructure and equipment listed in Table 1 as located within the premises boundary, is maintained and operated in accordance with the corresponding operational requirement set out in Table 1.

Table 1: Infrastructure and equipment requirements

Site infrastructure and equipment	Operational requirement	Infrastructure location
Inlet works (Screw Screen)	Grit and screenings	<ul style="list-style-type: none"> • Stored in a container on a drainage hardstand area which returns leachate to the start of the treatment process. • Screening removed to landfill weekly.
Inlet balance tank (1)	Wastewater	<ul style="list-style-type: none"> • Tanks are bunded and constructed of concrete. • Placed upon a concrete hardstand
Bioselector	Wastewater	
Aeration tank (1)	Wastewater	
Clarifiers (2)	Treated wastewater	<ul style="list-style-type: none"> • Clear water discharged to UV disinfection system and then to ocean outflow point. • Impermeable.
Return Activated Sludge	Sewage sludge	<ul style="list-style-type: none"> • Returned to bioselector via pipe network.
Sewage sludge compound	Sewage sludge	<ul style="list-style-type: none"> • Sent to volute dehydrator prior to disposal to landfill or to bunded hardstand or lined area (lined to achieve a permeability of less than 10^{-9} m/s or equivalent), capable of preventing surface run-off of leachate and sludge. • Must include a leachate collection system.

2. The licence holder must operate and maintain the UV disinfection system to the manufacturer's specification.
3. The licence holder must immediately recover, or remove spills of sewage and sewage sludge outside an engineered containment system.
4. The licence holder must only allow waste to be accepted on to the premises if:
 - (a) it is of a type listed in Table 2;
 - (b) the quantity accepted is below any limit listed in Table 2; and
 - (c) it meets any specification listed in Table 2.

Table 2: Waste acceptance

Waste	Waste Code	Quantity Limit	Specification
Putrescible and Organic wastes			
Sewage	K130	1,750 m ³ /day	<ul style="list-style-type: none"> Accepted through 'PS-1' and 'Siphon' inflows; and/or Tankered from the sewer pit to WWTP during emergency events or maintenance work only.

5. The licence holder must ensure that the wastes accepted onto the premises are only subjected to the process(es) set out in Table 3 and in accordance with any process requirements described in that table.

Table 3: Waste processing

Waste type	Process	Process requirements
Sewage	Physical and biological treatment	<ul style="list-style-type: none"> Treatment of sewage waste shall be at or below the treatment capacity of 1,750 m³/day.
Sewage sludge	Storage and processing	<ul style="list-style-type: none"> Direct activated sludge to drying beds or mechanical dewatering system. Leachate from drying beds and/or mechanical dewatering system to be returned back into the inlet works. Addition of (EM640) polymer or other approved emulsion polymer used for flocculation in the dehydrator (mechanical dewatering system). After dewatering by volute dehydrator or drying in the sludge drying beds, no more than 150 m³ of dewatered sludge cake to be stored at any one time, for no more than 72 hours. Removed to licenced landfill.

Emissions and discharges

6. The licence holder must manage the wastewater treatment vessels such that:
- overtopping of the vessels does not occur;
 - stormwater runoff is prevented from entering the vessels;
 - there is no seepage loss from the vessels;
 - the integrity of the containment infrastructure and facility operation is maintained;
 - bird netting over the clarifiers is maintained;
 - vegetation and floating debris (emergent or otherwise) is prevented from growing or accumulating in the vessels (with the exception of duckweed

(*Lemna spp.*); and

- (g) visual monitoring of duckweed coverage in conjunction with annual treatment efficiency monitoring is undertaken to ensure duckweed is not inhibiting the treatment efficiency of the plant.

7. The licence holder must

- (a) implement security measures at the site to prevent as far as is practical unauthorised access to the site;
- (b) undertake regular inspections of all security measures and repair damage as soon as practicable; and
- (c) ensure the entrance gates are closed and locked when the site is closed or unmanned.

Surface Water discharges

- 8.** The licence holder must ensure that where waste is emitted to surface water from the emission points in Table 4, and identified on the map of emission points in Schedule 1 (Figure 2), it is done so in accordance with the conditions of this licence.

Table 4: Emission points to surface water

Emission point reference and location on Map of emission points	Emission point reference	Description	Source including abatement
S6	Treated wastewater discharge point to ocean outfall	Discharge to Indian Ocean, ocean outfall via wastewater discharge point	Treated wastewater pipeline from wastewater treatment plant and after UV disinfection system.

Monitoring

- 9.** The licence holder must ensure that:
 - (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
 - (b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
 - (c) all surface water sampling is conducted in accordance with AS/NZS 5667.9;
 - (d) all microbiological samples are collected and preserved in accordance with AS/NZS 2031; and
 - (e) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.
- 10.** The licence holder must ensure that:
 - (a) monthly monitoring is undertaken at least 15 days apart; and
 - (b) annual monitoring is undertaken at least 9 months apart.
- 11.** The licence holder must ensure that all monitoring equipment used on the premises to comply with the conditions of this licence is calibrated in accordance with the

manufacturer's specifications.

12. The licence holder must, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.
13. The licence holder must undertake the monitoring in Table 5 according to the specifications in that table.

Table 5: Monitoring of point source emissions to surface water

Emission point reference	Monitoring point reference	Parameter	Units	Averaging Period	Frequency
S6	Wastewater Treatment Plant ocean outfall point (M1 & M2)	pH ¹	pH	Spot sample	Monthly
		Biochemical Oxygen Demand	mg/L		
		Total Dissolved Solids	mg/L		
		Total Suspended Solids			
		Total Nitrogen			
		Total Phosphorus			
		<i>Escherichia coli</i> ²	cfu/100ml		
		Ammonium-nitrogen	mg/L		
		Nitrate + nitrite - nitrogen			
		Oil and Grease			
		Copper	mg/L	Spot sample	Annually
		Lead			
		Zinc			
		Cadmium			

Note 1: In-field non-NATA accredited analysis permitted.

Note 2: Actual units are to be reported except where the result is greater than the highest detectable level of 24,000 cfu/100mL. In this case the reporting of the highest detectable level is permitted.

- 14.** The licence holder must undertake the monitoring in Table 6 according to the specifications in that table.

Table 6: Monitoring of inputs and outputs

Input/ Output	Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
Sewage - Inlet Flow	Inflow meter (M1 & M2)	Volumetric flow rate (cumulative)	m ³ /day	Monthly	Continuous
Treated wastewater discharged to ocean discharge point	Outflow monitoring (S6)	Mass balance calculation (cumulative)			
Sludge	Sludge bin (S4)	Volume			Spot sample

Records and reporting

- 15.** The licence holder must maintain accurate and auditable books including the following records, information, reports, and data required by this licence:
- (a) the calculation of fees payable in respect of this licence;
 - (b) any maintenance of infrastructure that is performed in the course of complying with conditions 1 to 5 of this licence;
 - (c) monitoring programmes undertaken in accordance with conditions 9 to 14 of this licence; and
 - (d) complaints received under condition 17 of this licence.
- 16.** The books specified under condition 15 must:
- (a) be legible;
 - (b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;
 - (c) be retained by the licence holder for the duration of the licence; and
 - (d) be available to be produced to an inspector or the CEO as required.
- 17.** The licence holder must implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the premises and any action taken in response to the complaint.
- 18.** The licence holder must:
- (a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and
 - (b) prepare and submit to the CEO an Annual Audit Compliance Report in the approved form by 1 October each year.

19. The licence holder must:

- (a) prepare an environmental report that provides information in accordance with Table 7 for the preceding annual period, and
- (b) submit the environmental report to the CEO by 1 October each year.

Table 7: Environmental reporting requirements

Condition	Requirement
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken.
Condition 4 Table 2 Condition 5 Table 3	Summary of any treatment capacity exceedances and any action taken.
Condition 13 Table 5	Monitoring of point source emissions to surface waters.
Condition 14 Table 6	Monitoring of inputs and outputs.
	Methodology and calculations used to estimate the daily volumetric flow rate of treated wastewater discharged to the ocean discharge point and results of those calculations.
Condition 17	Complaints summary.

20. The licence holder must ensure that the environmental report also contains an assessment of the information contained within the report against previous monitoring results and licence limits and/or targets.**21.** The licence holder must submit the information in Table 8 to the CEO according to the specifications in that table.**Table 8: Non-annual reporting requirements**

Condition or table	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form
Table 5	Monitoring of point source emissions to surface water	Quarterly	28 calendar days	Include an assessment of any elevated results, associated impact and any actions undertaken to rectify issues.
-	Copies of original monitoring reports submitted to the	Not applicable	Within 14 days of the CEO's request	As received by the licence holder from third parties.

	licence holder by third parties			
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- 22.** The licence holder must ensure that the parameters listed in Table 9 are notified to the CEO in accordance with the notification requirements of the table.

Table 9: Notification requirements

Condition or table	Parameter	Notification requirement ¹	Format or form ²
-	Taking process equipment offline for maintenance works that may result in increased odour emissions	No less than 72 hours in advance of works.	None specified
-	Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution	Part A: As soon as practicable, but no later than 5pm of the next working day. Part B: As soon as practicable. Include an assessment of any impact and report any actions undertaken to rectify the issue.	N1
Condition 12	Calibration report	As soon as practicable.	None specified

Note 1: No notification requirement in the licence shall negate the requirement to comply with s72 of the Act.

Note 2: N1 form is in Schedule 2.

Definitions

In this licence, the terms in Table 10 have the meanings defined.

Table 10: Definitions

Term	Definition
annual period	a 12 month period commencing from 1 July until 30 June of the immediately following year.
approved form	means the Annual Audit Compliance Report (AACR) form template approved by the CEO for use and available via DWER's external website.
books	has the same meaning given to that term under the EP Act.
CEO	means: Chief Executive Officer of the Department. "submit to / notify the CEO" (or similar), means either: Director General Department administering the <i>Environmental Protection Act 1986 (WA)(CI)</i> Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
condition	a condition to which the licence is subject under section 62 of the <i>Environmental Protection Act 1986 (WA)(CI)</i> .
controlled waste	has the definition in <i>Environmental Protection (Controlled Waste) Regulations 2004 (WA)(CI)</i> .
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994 (WA)</i> and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
EP Act	<i>Environmental Protection Act 1986 (WA)(CI)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)(CI)</i>
hardstand	means a surface with a permeability of 10^{-9} metres/second or less.
leachate	means liquid released by or water that has percolated through waste and which contains some of its constituents.
licence	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within.

Term	Definition
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
mass balance	means the calculation resource flows and losses based on the mass and/or volume of inputs to a process which balances the mass and/or volume of outputs as products, emissions and wastes, plus any change in stocks.
NATA	means the National Association of Testing Authorities, Australia.
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis.
ocean outfall	means the discharge point at Smith Point.
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this licence.
prescribed premises	has the same meaning given to that term under the EP Act.
process equipment	means any wastewater or sludge containment infrastructure or wastewater treatment vessel.
quarterly	means the 4 inclusive periods from, 1 July to 30 September, 1 October to 31 December and in the following year, 1 January to 31 March and 1 April to 30 June.
Schedule 1	means Schedule 1 of this licence unless otherwise stated.
Schedule 2	means Schedule 2 of this licence unless otherwise stated.
spot sample	means a discrete sample representative at the time and place at which the sample is taken.
waste	has the same meaning given to that term under the EP Act.
waste code	means the waste code assigned to a type of controlled waste for purposes of waste tracking and reporting as specified in the Department of Water and Environmental Regulation " <i>Controlled waste category list</i> " (May 2018), as amended from time to time.
wastewater treatment vessels	means any vessel or tank containment infrastructure associated with the treatment of wastewater.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (Figure 1).



Figure 1: Map of the boundary of the prescribed premises

Emission point, monitoring point and process map

The emission points, monitoring points and process diagram are shown in the map below (Figure 2)

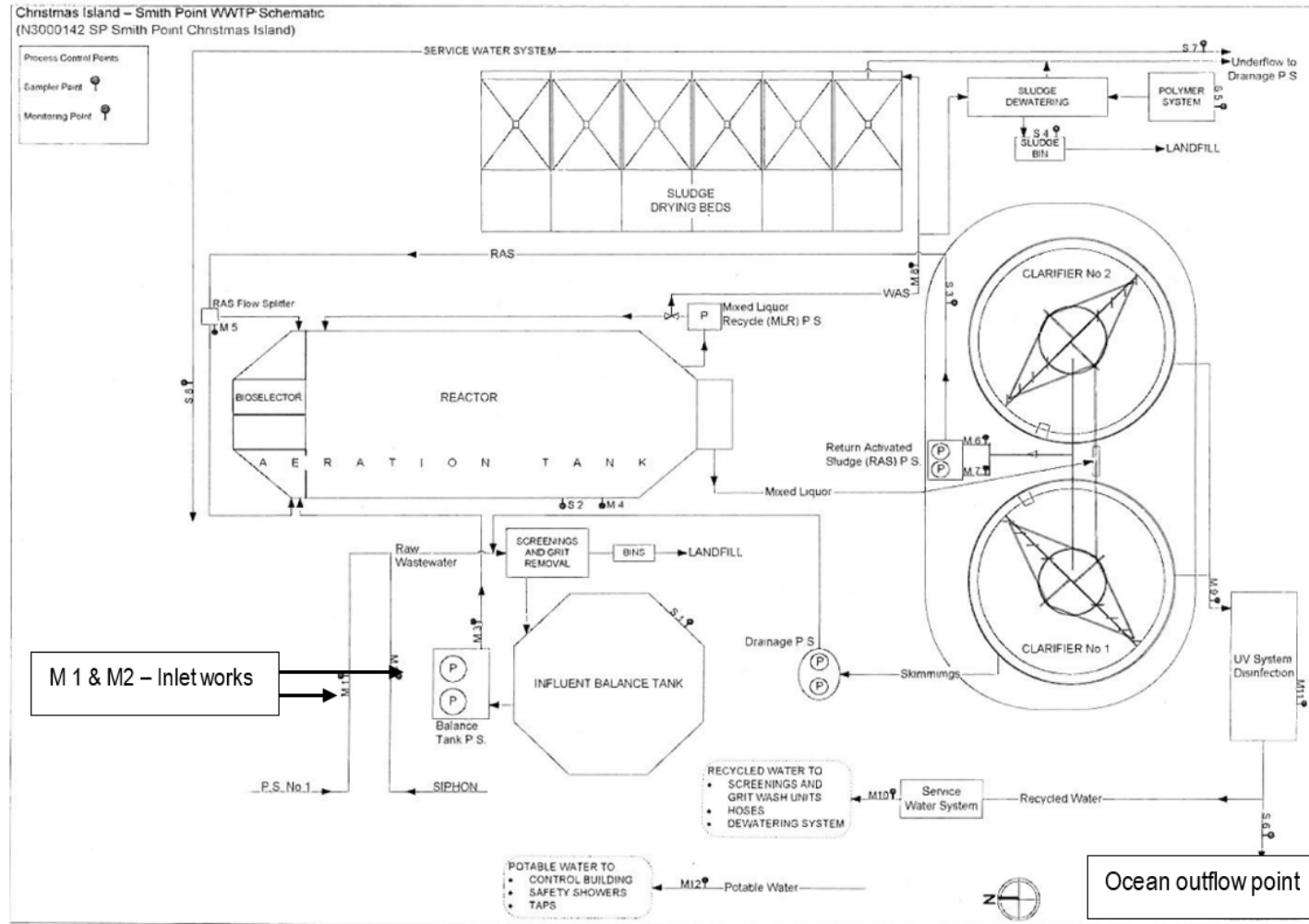


Figure 2: Map of process diagram, emission points and monitoring points

Licence: L9222/2019/1 (Amended 30/08/2023)

Schedule 2: Forms

Licence:

Licensee:

Form: N1

Date of breach:

Notification of detection of the breach of a limit.

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence Number	
Name of operator	
Location of premises	
Time and date of the detection	

Notification requirements for the breach of a limit	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the Premises in the preceding 24 months.	

Name	
Post	
Signature of behalf of	
Date	