



Licence

Environmental Protection Act 1986, Part V

Licensee: Water Corporation
Licence: L5997/1992/11

Registered office: 629 Newcastle Street
LEEDERVILLE WA 6007

Premises address: Mandurah No. 2 (Halls Head) Wastewater Treatment Plant
Peelwood Parade
HALLS HEAD WA 6210
Being Lot 10 on Diagram 79777 as depicted in Schedule 1.

Issue date: Thursday, 24 October 2013

Commencement date: Friday, 1 November 2013

Expiry date: Wednesday, 31 October 2018

Amendment date: Thursday, 18 February 2016

Prescribed premises category
Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
54	Sewage facility: premises – (a) On which sewage is treated (excluding septic tanks); or (b) From which treated sewage is discharged onto land or into waters.	100 cubic metres or more per day	5800 m ³ /day

Conditions
This Licence is subject to the conditions set out in the attached pages.

Date signed: 15 February 2016
.....
Caron Goodbourn
A/Manager Licensing (Waste Industries)
Officer delegated under section 20
of the *Environmental Protection Act 1986*



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Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role

The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements

This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link:
<http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.
- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.
- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.



Licence fees

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions

If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary

The Mandurah No.2 (Halls Head) WWTP is located at Lot 10, Peelwood Parade, Halls Head. The WWTP is located on the Swan Coastal Plain; it is generally low-lying and flat bordered by the Indian Ocean to the west. The site is located within the Spearwood Dune System, and the soils on-site consist of flat stony plain with poorly drained shallow siliceous sands and large areas of bare limestone pavement.

The WWTP is located within the residential area of Halls Head. The plant is surrounded on three sides by houses the closest being 200m from the actual WWTP.

The WWTP is designed to treat wastewater to a tertiary standard and consists of two oxidation ditches and four clarifiers. All waste activated sludge is thickened on site and trucked to the Gordon Road WWTP for dewatering. All treated wastewater is discharged into on-site infiltration basins. A portion of infiltrated wastewater is recovered via bores surrounding the WWTP and used to irrigate public open space in the Seascapes urban development.

The groundwater at the site is generally within 2.0-4.0m of the natural ground surface. The WWTP is within 5km of the Ramsar site wetland the Peel-Yalgorup System.

The potential emissions from the site are fugitive emissions in the form of odour and discharges to land from the on-site infiltration and irrigation of treated wastewater.

The licence is the result of an amendment sought by Water Corporation dated 26 May 2015.

The licences issued for the Premises since 20/10/2003 are:

Instrument log		
Instrument	Issued	Description
L5997/1992/7	22/09/2003	Licence re-issue
L5997/1992/8	16/08/2004	Licence re-issue
L5997/1992/9	26/07/2005	Licence re-issue
L5997/1992/10	17/10/2008	Licence re-issue
L5997/1992/11	11/02/2016	Licence amendment

Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION



Licence conditions

1 General

1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986*;

'AHD' means the Australian height datum;

'annual period' means the inclusive period from 1 July until 30 June in the following year;

'AS/NZS 2031' means the Australian Standard AS/NZS 2031 *Selection of containers and preservation of water samples for microbiological analysis*;

'AS/NZS 5667.1' means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples*;

'AS/NZS 5667.10' means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters*;

'AS/NZS 5667.11' means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters*;

'averaging period' means the time over which a limit is measured or a monitoring result is obtained;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;

Chief Executive Officer
Department Administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au;

'hardstand' means a surface with a permeability of 10^{-9} metres/second or less;

'Licence' means this Licence numbered L5997/1992/11 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'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;

'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;



‘usual working day’ means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia;

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.

1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.

1.2 Premises operation

1.2.1 The Licensee shall only allow waste to be accepted on to the Premises if:

- (a) it is of a type listed in Table 1.2.1;
- (b) the quantity accepted is below any limit listed in Table 1.2.1; and
- (c) it meets any specification listed in Table 1.2.1

Table 1.2.1: Waste acceptance

Waste	Quantity Limit	Specification
Sewage	5800 m ³ /day	Accepted through sewer inflow(s) only

Note1: Includes pump station reticulated sewage transported to WWTP.

1.2.2 The Licensee shall ensure that the wastes accepted onto the Premises are only subjected to the process(es) set out in Table 1.3.2 and in accordance with any process limits described in that table.

Table 1.2.2: Waste processing

Waste type	Process	Process limits
Sewage	Biological and physical treatment	5800 cubic metres per day
Sewage sludge	Storage	None specified

1.2.3 The Licensee shall ensure that waste material is only stored and/or treated within vessels or compounds provided with the infrastructure detailed in Table 1.2.3.

Table 1.2.3: Containment infrastructure

Storage vessel or compound	Material	Requirements
Inlet works	Grit and Screenings	Stored in a sealed bin which is surrounded by a bunded hardstanding area which returns sludge leachate to the start of the treatment process
Oxidation ditches	Wastewater	Concrete lined to achieve a permeability of at least <math><10^{-9}</math> m/s or equivalent
Clarifiers 1- 4	Wastewater	Concrete lined to achieve a permeability of at least <math><10^{-9}</math> m/s or equivalent
Infiltration ponds	Treated wastewater	Designed to support effective infiltration as part of the groundwater supply to the City of Mandurah under the managed aquifer recharge program



Sewage sludge compound	Sewage sludge	Sludge is thickened in dissolved air floatation thickener (DAFT) and then stored in metal sludge storage tank.
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- 1.2.4 The Licensee shall manage all wastewater treatment oxidation ditches, evaporation and infiltration ponds such that:
- (a) the integrity of the containment infrastructure is maintained;
 - (b) There is no discernible seepage loss from the wastewater treatment vessels or sludge holding ponds;
 - (c) overtopping of the ponds or infiltration ponds does not occur; and
 - (d) vegetation and floating debris (emergent or otherwise) is prevented from encroaching onto pond surfaces or inner pond embankments.

2 Emissions

2.1 Emissions to land

- 2.1.1 The Licensee shall ensure that where waste is emitted to land from the emission points in Table 2.2.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.2.1: Emissions to land

Emission point reference and location on Map of emission points	Emission point reference on Map of emission points	Description	Source including abatement
L1	Evaporation/infiltration ponds	Infiltration of treated wastewater	Treated wastewater pipeline from the final treatment tank



3 Monitoring

3.1 General monitoring

3.1.1 The licensee shall 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 groundwater sampling is conducted in accordance with AS/NZS 5667.11;
- (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].

3.1.2 The Licensee shall ensure that :

- (a) monthly monitoring is undertaken at least 15 days apart; and
- (b) quarterly monitoring is undertaken at least 45 days apart;

3.1.3 The Licensee shall 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.

3.1.4 The Licensee shall, 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.

3.2 Monitoring of emissions to land

3.2.1 The Licensee shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

Table 3.2.1: Monitoring of emissions to land			
Emission point reference	Parameter	Units	Frequency
L1 - treated wastewater discharged to the infiltration/evaporation ponds from the final treatment tank	pH		Quarterly
	Biochemical oxygen demand (BOD)	mg/L	
	Total Dissolved Solids (TDS)		
	Total Suspended Solids (TSS)		
	Nitrate + Nitrite - Nitrogen		
	Ammonium nitrogen		
	Total Nitrogen		
	Total Phosphorous	Cfu/100 ml	
Escherichia coli			

Note: In-field non NATA analysis of pH permitted



3.3 Monitoring of inputs and outputs

3.3.1 The Licensee shall undertake the monitoring in Table 3.3.1 according to the specifications in that table.

Table 3.3.1: Monitoring of inputs and outputs				
Input/Output	Parameter	Units	Averaging period	Frequency
Sewage - Inlet Flow Meter (rising main)	Volumetric flow rate (cumulative)	m ³ /day	Monthly	Monthly
Treated wastewater discharged to premises infiltration/evaporation ponds	Volume of treated wastewater determined by inflow monitoring device	m ³ /day	Monthly	Monthly

3.4 Ambient environmental quality monitoring

3.4.1 The Licensee shall undertake the monitoring in Table 3.4.1 according to the specifications in that table and record and investigate results that do not meet any limit specified.

Table 3.4.1: Monitoring of ambient groundwater quality					
Monitoring point reference and location	Parameter	Target	Units	Averaging period	Frequency
B1/83, B1/84, B2/84, B6/88 and B7/88	pH	None specified		Spot sample	Quarterly
	Electrical conductivity		mS/m		
	Total dissolved solids		mg/L		
	Total nitrogen				
	Total phosphorus				
Standing water level	mAHD				

Note: Note: In-field non NATA analysis of pH permitted

4 Information

4.1 Records

4.1.1 All information and records required by the Licence shall:

- (a) be legible;
- (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
- (c) except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or waters.

4.1.2 The Licensee shall ensure that:

- (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
- (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.



4.1.3 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.

4.1.4 The Licensee shall 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.

4.2 Reporting

4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 1 September each year. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or form¹
-	Summary of treated wastewater reuse from the premises	None specified
	Summary of any changes to site boundaries, location of monitoring and sampling points (both on and off-site), discharge points, waste storage areas, surface water drainage and on-site and/or off-site impacts or pollution.	None specified
-	Summary of any failure or malfunction of any pollution control equipment or any incidents that have occurred during the annual period and any action taken	None specified
Table 3.2.1	Monitoring of emissions to land	None specified
	Contaminant loading (kg/day – monthly average) to land of parameters monitored in Table 3.2.1 (except pH and E.coli)	None specified
Table 3.3.1	Monitoring of inputs and outputs	None specified
Table 3.4.1	Ambient groundwater quality monitoring including an assessment of the monitoring against previous monitoring results.	None specified
4.1.3	Compliance	Annual Audit Compliance Report (AACR)
4.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2



4.2.2 The Licensee shall submit the information in Table 4.2.3 to the CEO according to the specifications in that table.

Table 4.2.3: Non-annual reporting requirements				
Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form¹
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties
	Taking a treatment pond offline for maintenance works that may result in an increase in odour emissions from the premises		No less than 24 hours in advance of works	None specified

4.3 Notification

4.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 4.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement¹	Format or form²
1.2.1, 1.2.2	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1
3.1.4	Calibration report	As soon as practicable.	None specified

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act

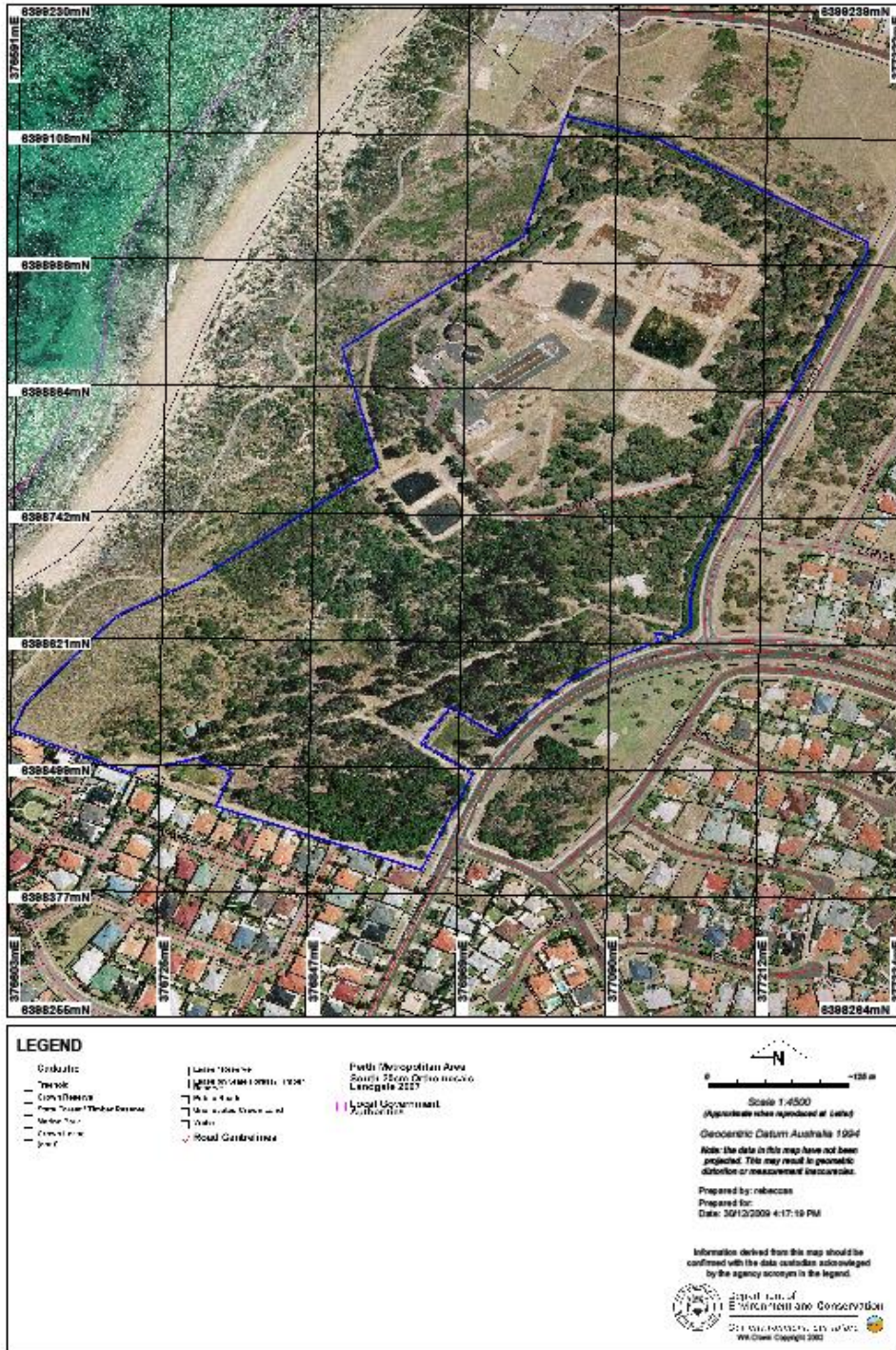
Note 2: Forms are in Schedule 2



Schedule 1: Maps

Premises map

The Premises is shown in the map[s] below. The blue line depicts the Premises boundary.



[



Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A LICENCE DETAILS

Licence Number:	Licence File Number:
Company Name: Trading as:	ABN:
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

- Were all conditions of the Licence complied with within the reporting period? (please tick the appropriate box)

Yes Please proceed to Section C

No Please proceed to Section B

Each page must be initialled by the person(s) who signs Section C of this Annual Audit Compliance Report (AACR).

Initial:



SECTION B

DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each Licence condition that was not complied with.

a) Licence condition not complied with:	
b) Date(s) when the non compliance occurred, if applicable:	
c) Was this non compliance reported to DER?:	
<input type="checkbox"/> Yes	<input type="checkbox"/> Reported to DER verbally Date _____ <input type="checkbox"/> Reported to DER in writing Date _____
<input type="checkbox"/> No	
d) Has DER taken, or finalised any action in relation to the non compliance?:	
e) Summary of particulars of the non compliance, and what was the environmental impact:	
f) If relevant, the precise location where the non compliance occurred (attach map or diagram):	
g) Cause of non compliance:	
h) Action taken, or that will be taken to mitigate any adverse effects of the non compliance:	
i) Action taken or that will be taken to prevent recurrence of the non compliance:	

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:



SECTION C

SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) may only be signed by a person(s) with legal authority to sign it. The ways in which the AACR must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this AACR is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is		The Annual Audit Compliance Report must be signed and certified:
An individual	<input type="checkbox"/> <input type="checkbox"/>	by the individual licence holder, or by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf.
A firm or other unincorporated company	<input type="checkbox"/> <input type="checkbox"/>	by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A corporation	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	by affixing the common seal of the licensee in accordance with the <i>Corporations Act 2001</i> ; or by two directors of the licensee; or by a director and a company secretary of the licensee, or if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A public authority (other than a local government)	<input type="checkbox"/> <input type="checkbox"/>	by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
a local government	<input type="checkbox"/> <input type="checkbox"/>	by the chief executive officer of the licensee; or by affixing the seal of the local government.

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of \$50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE: _____

SIGNATURE: _____

NAME:
(printed) _____

NAME:
(printed) _____

POSITION: _____

POSITION: _____

DATE: ____/____/____

DATE: ____/____/____

SEAL (if signing under seal)



Licence: L5997/1992/11 Licensee: Water Corporation
 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 on behalf of Water Corporation	
Date	



Decision Document

Environmental Protection Act 1986, Part V

Proponent: **Water Corporation**

Licence: **L5997/1992/11**

Registered office: 629 Newcastle Street
LEEDERVILLE WA 6007

Premises address: Mandurah No. 2 (Halls Head) Wastewater Treatment Plant
Peelwood Parade
HALLS HEAD WA 6210
Being Lot 10 on Diagram 79777

Issue date: Thursday, 24 October 2013

Commencement date: Friday, 01 November 2013

Expiry date: Wednesday, 31 October 2018

Amendment date: Thursday, 18 February 2016

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue an amended licence. DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by:

Dr Bhabesh Das
Senior Licensing Officer

Decision Document authorised by:

Caron Goodbourn
A/Manager Licensing (Waste Industries)



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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.



2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	
	New Licence <input type="checkbox"/>	
	Licence amendment <input checked="" type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	54	5800 m ³ /day
Application verified	Date: N/A	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Compliance Certificate received	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes include details of which EPP(s) here.	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	



3 Executive summary of proposal and assessment

The Mandurah No.2 (Halls Head) WWTP is located at Lot 10, Peelwood Parade, Halls Head. The WWTP is located on the Swan Coastal Plain; it is generally low-lying and flat bordered by the Indian Ocean to the west. The site is located within the Spearwood Dune System, and the soils on-site consist of flat stony plain with poorly drained shallow siliceous sands and large areas of bare limestone pavement.

The WWTP is located within the residential area of Halls Head. The plant is surrounded on three sides by houses the closest being 200m from the actual WWTP.

The WWTP is designed to treat wastewater to a tertiary standard and consists of two oxidation ditches and four clarifiers. All waste activated sludge is thickened on site and trucked to the Gordon Road WWTP for dewatering. All treated wastewater is discharged into on-site infiltration basins. A portion of infiltrated wastewater is recovered via bores surrounding the WWTP and used to irrigate public open space in the Seascapes urban development.

The groundwater at the site is generally within 2.0-4.0m of the natural ground surface. The WWTP is within 5km of the Ramsar site wetland the Peel-Yalgorup System.

The potential emissions from the site are fugitive emissions in the form of odour and discharges to land from the on-site infiltration and off site reuse (irrigation) of infiltrated/treated wastewater.

This partial decision document has been prepared for amendment to the licence. Table 4 provides details and justification for the amendments. Water Corporation submitted a P4 application dated 26 May 2015 to amend its Licence. The application requests that the volume of treated wastewater discharged to the infiltration ponds be determined by the existing inflow monitoring device. Mandurah No. 2 WWTP is a tank based system. The variance between the measured inflow and outflow will be insignificant for a tank based system.

In progressing this amendment, DER has considered whether the risk profile of emissions and discharges from the premises have significantly changed since the previous licence was granted. No significant changes have occurred and therefore DER has not amended conditions relating to emissions and discharges. Category 61 has been removed on the advice from Water Corporation that it does not accept liquid wastes generated from other premises at Halls Head WWTP.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DEC's Policy Statement - Limits and targets for prescribed premises (2006), and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Interpretation	L1.1.1 – L1.1.5	Changes have been made to update the licence to a current licence format. This has involved the addition of conditions 1.1.1 to 1.1.4	N/A
Premises operation	L1.2.1 – L1.2.5	<p>The change of licence format has involved the addition of condition 1.2.1, 1.2.2 and 1.2.3.</p> <p>Condition 1.2.1 and Table 1.2.1 have been included to the licence, which specifies the type of waste accepted on site and its limitation. It includes pump station reticulated sewage transported to WWTP.</p> <p>Condition 1.2.2 and Table 1.2.2 have been included to the licence, which outlines the process requirements of waste accepted on site. The condition provides information on how sewage will be treated and the storage of sewage sludge on site.</p> <p>Condition 1.2.3 and Table 1.2.3 have been included to the licence, which describes the requirements of the containment infrastructure for grit and screenings, controlled waste, wastewater, treated wastewater and sewage sludge. Sewage sludge is thickened in dissolved air floatation thickener (DAFT) and stored in metal storage tank for dewatering in another premises of water Corporation.</p> <p>Condition 1.2.4 has largely been transferred from the previous licence. The condition requires the Licensee to maintain the integrity of the containment infrastructure and manage vegetation floating debris and ponds overflow. This</p>	Application supporting documentation



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		condition replaces condition W1 of the previous licence. Condition 1.2.4 has been amended as the plant does not have trapped overflows system in place.	
Emissions to land	L2.1.1	<p>There is no direct discharge to the land. Emissions to land occur via infiltration. Treated wastewater of tertiary standard is discharged to the infiltration ponds. A portion of infiltrated wastewater is recovered via bores surrounding the WWTP and used to irrigate public open space in the Seascapes urban development.</p> <p>Condition 2.1.1 relating to emissions to land has been included in the licence as infiltration as a disposal method was referred to in the previous licence.</p>	Application supporting documentation
General monitoring		<p>Condition 3.1.1 ensures treated wastewater and groundwater sampling are carried out in accordance with the Australian standards and submitted to a NATA accredited laboratory for analysis. This condition replaces condition W4 (a) and W4 (b) of the previous licence.</p> <p>Condition 3.1.2 specifies the frequency of monitoring must be undertaken within the specified days apart at that frequency.</p> <p>Changes have been made to update the licence to a current licence format. This has involved the addition of conditions 3.1.3 to 3.1.4. Conditions 3.1.3 and 3.1.4 require that monitoring equipment used is calibrated to the manufacturer's specifications and any discrepancies are brought to the attention of CEO.</p>	Application supporting documentation
Emissions to land including monitoring	L3.2.1	Condition 3.2.1 effectively replaces condition W2 (a) of the previous licence. The monitoring of treated wastewater under this condition provides information on the quality of treated wastewater being discharged to the infiltration pond.	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Monitoring of inputs and outputs	L3.3.1	Condition 3.3.1 has been included to the licence which requires inflow and outflow monitoring at a specified frequency. P4 application dated 26 May 2015 requests that the volume of treated wastewater discharged to the infiltration ponds to be determined by existing inflow monitoring device. DER has considered the application on the basis that Mandurah No. 2 WWTP is a tank based plant and for a tank based plant outflow will be similar to the volume of inflow. This amendment reflects in condition 3.3.1.	N/A
Ambient quality monitoring	L3.4.1	Condition 3.4.1 and Table 3.4.1 have been included to the licence for groundwater monitoring at the specified bores for the required parameters and at a required frequency. The condition effectively replaces condition W3 of the previous licence.	
Information	L4.1.3 – L4.1.4	Condition 4.1.3 has been included to the licence, which requires the Licensee to complete Annual Audit Compliance Report and it replaces condition G2 of the previous licence. Condition L 4.1.4 has been included to implement a complaints management system. The WWTP has the potential to cause odour emissions from its treatment process. The nearest residence is about 200 m away from the premises boundary. This condition replaces condition G3 of the previous licence.	N/A
Information	L4.2.1 – L4.2.2	Condition 4.2.1 has been included to the licence, which effectively replaces condition G1 (a) of the previous licence. The condition relates to the submission of the Annual Environmental Report by 1 September each year. Condition 4.2.2 has been included to the licence due to change of the licence format. These conditions were not in the previous licence.	N/A
Notification	L4.3.1	Condition 4.3.1 has been included to the licence due to change of the licence format. The condition was not in the previous licence	N/A
Licence Duration	N/A	Licence duration has not changed as a result of this amendment	N/A



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
03/12/2015	Proponent sent a copy of draft instrument	<p>Comments received are the following:</p> <ul style="list-style-type: none"> • Table 1.2.1 - Consider adding footnote to the table “includes pump station reticulated sewage transported to WWTP” clarifying that pump station sewage can be trucked to the WWTP under the Cat 54, and a Cat 61 is not required for this activity. • Table 1.2.3 - All excess sludge is thickened in Dissolved Air Floatation Thickener (DAFT) and then stored in sludge storage tank. Thickened sludge is then carted to other treatment plant (currently carted to Mandurah No. 1 WWTP) for dewatering. Please add DAFT tank (concrete), DAFT sludge tank (concrete) and Sludge Storage Tanks (metal) in the table. • Table 1.2.2, Table 1.2.3 - It has been decided that the sludge drying beds are no longer needed at Halls Head WWTP. All references to them can be removed from the licence. They will not be used into the future. All excess sludge is thickened in Dissolved Air Floatation Thickener (DAFT) and then stored in sludge storage tank. Thickened sludge is then carted to other treatment plant (currently carted to Mandurah No. 1 WWTP) for dewatering. 	<ul style="list-style-type: none"> • Foot note is added in Table 1.2.1 as requested. This will allow Water Corporation to transport from its pump station reticulated sewage to the WWTP. • The requirement of sludge drying bed is removed in Table 1.2.3. The Table1.2.3 has been amended to incorporate sludge is thickened in dissolved air floatation thickener (DAFT) and then stored in metal sludge storage tank. • Same as the previous comment.
		<ul style="list-style-type: none"> • Condition 1.2.4 - It is recommended that this condition is re-written in a similar format to condition 1.3.1 in Licence L5950/1991/11 for Mandurah 1 WWTP (Gordon Road) and suggested as follows:. 	<ul style="list-style-type: none"> • The comment is reasonable as there are no constructed trapped overflows on the evaporation /infiltration ponds. Condition (b) is removed. Condition 1.2.4 is amended to include ‘there is



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>The Licensee shall ensure that:</p> <p>(a) Overtopping of the wastewater treatment vessels or evaporation/infiltration ponds does not occur; and</p> <p>(b) There is no discernible seepage loss from the wastewater treatment vessels or sludge holding ponds.</p> <ul style="list-style-type: none"> • Table 3.4.1 - Remove standing water level unit m (BGL). This is not value adding, nor consistent with other licences. Add foot note to Table 3.4.1 enabling in-field non NATA analysis of pH be permitted in line with other DER licences. • Condition 3.1.3 - Recommend adding "...or specifications further optimised for the Facility". Manufacturer's specifications are adhered to and in some cases further optimised to benefit the operations. • Table 4.2.3 - Amend Parameter: "Taking a treatment pond offline for maintenance works" to relate specifically to odour as per Mandurah 1 WWTP Licence L5950/1991/11. As such reword to "Taking a treatment pond offline for maintenance works that may result in an increase in odour emissions from the premises". This is consistent with the existing licence at Halls Head WWTP. Remove Parameter: It has been decided that the sludge drying beds are no longer needed at Halls Head WWTP. All references to them can be removed from the licence. All excess sludge is thickened in Dissolved Air Flootation Thickener (DAFT) and then stored in sludge storage tank. Thickened sludge is then carted to other treatment plants (currently carted to 	<p>no discernible seepage loss from the wastewater treatment vessels or sludge holding ponds'.</p> <ul style="list-style-type: none"> • Removed m(BGL) and kept unit mAHD for monitoring Standing Water Level (SWL). Foot note is included in Table 3.2.1 and 3.4.1 consistent with Water Corporation's other premises. • No change. This is a DER standard condition. • Table 4.2.3 – Parameter has been amended to "taking a treatment pond offline for maintenance works that may result in an increase in odour emissions from the premises" as requested. <p>Table 4.2.3 - Removed the parameter "removal of sewage sludge from a</p>



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>Mandurah No. 1 WWTP) for dewatering on a daily basis. Operationally this notification requirement does not add value or prevent environmental pollution.</p> <ul style="list-style-type: none">• Table 4.2.1- Remove LR1 Form. Reporting formats are already agreed with DER. Remove AGWQ1 From. This is not provided in Schedule 2 of the licence, nor is it consistent with other licence reporting formats.	<p>treatment or sewage sludge storage pond or Geobag” considering all excess sludge is thickened in DAFT and stored in metal tank and carted to Water Corporation’s other treatment plant for dewatering on a daily basis.</p> <ul style="list-style-type: none">• Removed LR1 based on the reporting agreement with DER• Removed AGWQ1



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High