



Licence

Environmental Protection Act 1986, Part V

Licensee: Water Corporation

Licence: L5950/1991/11

Registered office: 629 Newcastle Street
LEEDERVILLE WA 6902

ACN: n/a

Premises address: Mandurah No 1 Wastewater Treatment Plant
2 Corsican Place and 500 Gordon Road
PARKLANDS WA 6180
Being Lot 109 on Plan 73737 and Lot 500 on Plan 44788 as depicted in
Schedule 1.

Issue date: Thursday, 22 October 2015

Commencement date: Sunday, 1 November 2015

Expiry date: Saturday, 31 October 2020

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 m ³ or more per day	12 000m ³ per day

Conditions

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

Date signed: 22 October 2015

.....
Ruth Dowd

Senior Manager – Industry Regulation (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. 1 (Gordon Road) Wastewater Treatment Plant (the WWTP) is located in Parklands, approximately 75 km south of Perth and close to the industrial area in Greenfields east of Mandurah.

Directly south of the plant on the other side of Gordon Rd is a Greyhound racetrack. Directly west of the plant is the main train line to Perth, on the west side of the train tracks is the Meadow Springs Public High School. Directly north of the WWTP is the Mandurah waste transfer station. Directly east of the plant is remnant bushland and large residential bush blocks. The closest residential home is 200m southeast of the WWTP.

The groundwater at the site is generally within 3m of the ground surface. During the 2014/15 reporting period, groundwater levels measured in bores was between 0.4m and 2m below ground level. Beneath the site is superficial swan aquifer, which is underlain by the Leederville aquifer, which is in turn underlain by the Catamarra Coal Measures.

There are 19 threatened species and 8 migratory species which occur within 1km of the site. There are no threatened ecological communities known within 5km of the WWTP. The Premises is within 10 km of the Peel-Yalgorup system, a (RAMSAR) wetland of international importance (EPBC Act protected matters search, 2015). There are no known Indigenous or European heritage sites within the Premises.

Process

The WWTP treats wastewater to a secondary standard and consists of grit and screening removal facilities, three oxidation ditches, four clarifiers and an odour control facility. Treated wastewater is disposed of through a series of infiltration lagoons. Biosolid material is mechanically dewatered through onsite centrifuges and sent off-site for disposal or composting.

During the 2014/15 reporting period, the Mandurah No. 1 WWTP was operating at approximately 82% capacity, with the average daily inflow at 9.8ML/day. Treated effluent is discharged to the three infiltration ponds on the Premises. The Water Corporation entered into a 10 year agreement with the City of Mandurah in 2008 to provide annual reuse water for public open space irrigation. The City of Mandurah obtains water via abstraction from bores off the premises. During the 2014/15 reporting period, the City of Mandurah was supplied with 95.72 ML of reuse water in this manner.

During the 2014/15 reporting period, a total of 8,633.4 tonnes of dewatered sludge was removed from the Mandurah No.1 WWTP centrifuges and transported to Amazon, Brookton and Williamson for composting. The Premises has four sludge-drying beds which were historically used for the temporary storage of sludge prior to disposal; however these are no longer in operation which dewatered sludge being transported directly off-site.



This Licence is the successor to licence L5950/1991/10 and continues to authorise the operations at the Premises. The reissue of the licence has not involved a re-assessment of the environmental risk of all operations on the Premises; however the licence has been updated to the current licence format which has inherently resulted in numerous changes to the licence condition wording and structure. Some administrative changes and corrections have been made to the conditions, as well as some revision of the monitoring conditions. Where any change to the intent of conditions has occurred, justification is provided in the Decision Document.

The licences and works approvals issued for the Premises since 28/10/2010 are:

Instrument log		
Instrument	Issued	Description
L5950/1991/10	28/10/2010	Licence re-issue
L5950/1991/11	22/10/2015	Licence re-issue and update to latest format

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 3780**’ means the Australian Standard AS 3780-2008 *The storage and handling of corrosive substances*;

‘**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 5667.4**’ means the Australian Standard AS/NZS 5667.4 *Water Quality – Sampling – Guidance on sampling from lakes, natural and man-made*;

‘**AS/NZS 5667.6**’ means the Australian Standard AS/NZS 5667.6 *Water Quality – Sampling – Guidance on sampling of rivers and streams*;



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

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

'BGL' means below ground level;

'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;

'infiltration ponds' means the ponds on the Premises designated for the disposal of treated wastewater by infiltration into the ground, as labelled 'Infiltration ponds' on the Premises Map in Schedule 1;

'Licence' means this Licence numbered L5950/1991/11 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;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

'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;

'sludge drying beds' means the lined beds on the Premises designated for the storage and dewatering of sewage sludge (if required), as labelled 'Sludge drying beds' on the Premises Map in Schedule 1;

'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;

'WA biosolids guidelines' means the document *Western Australian Guidelines for Biosolids Management*, Department of Environment and Conservation, December 2012 (as amended from time to time); and



'wastewater treatment vessels' means the vessels on the Premises which hold and treat wastewater, including (but not limited to) the clarifiers and oxidation ditches as shown on the Premises Map in Schedule 1, and any associated pipe work.

- 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.
- 1.1.5 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:
- (a) pollution;
 - (b) unreasonable emission;
 - (c) discharge of waste in circumstances likely to cause pollution; or
 - (d) being contrary to any written law.

1.2 General conditions

- 1.2.1 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.

1.3 Premises operation

- 1.3.1 The Licensee shall ensure that:
- (a) overtopping of the sludge drying beds, wastewater treatment vessels or infiltration ponds does not occur;
 - (b) there is no discernible seepage loss from the wastewater treatment vessels or sludge holding ponds; and
 - (c) vegetation is prevented from encroaching onto the surfaces and inner embankments of the sludge drying beds.
- 1.3.2 The licensee shall dispose of sewage sludge and biosolids in accordance with the WA biosolids guidelines.
- 1.3.3 Where sewage sludge is temporarily stored on the Premises, the Licensee shall direct it to a hardstand area or sludge drying bed which:
- (a) is adequately bunded to prevent surface runoff of leachate or sludge from leaving the Premises; and
 - (b) returns sludge leachate from the storage area back to the wastewater treatment vessels.

2 Emissions

2.1 General

- 2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit specified in any part of section 2 of this Licence.

2.2 Emissions to land

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



Table 2.2.1: Emissions to land

Emission point reference	Description	Source including abatement
Infiltration ponds	Treated wastewater discharge to the infiltration ponds	Wastewater that has been treated in the wastewater treatment vessels

2.2.2 The Licensee shall not cause or allow emissions to land greater than the limits listed in Table 2.2.2.

Table 2.2.2: Emission limits to land

Emission point reference	Parameter	Limit (including units)	Averaging period
Infiltration ponds	Total nitrogen	10 mg/L	Spot sample

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;
- (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.

3.2 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.



Emission point reference	Parameter	Units	Averaging period	Frequency
Discharge to infiltration ponds	pH ¹	pH units	Spot sample	Monthly
	Total suspended solids	mg/L and kg/day ²		
	Total dissolved solids			
	Biochemical oxygen demand			
	Total Phosphorus			
	Total Nitrogen			
	Nitrate + nitrite-nitrogen			
	Ammonium-nitrogen			
<i>E.coli</i>	Colony forming units per 100 mL			

Note 1: In-field non NATA analysis permitted.

Note 2: Inflow data is permitted to be used in the calculation of loading data.

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
Raw wastewater inflows	Volume	m ³ /day	Monthly weighted average	Continuous
		m ³	Monthly and cumulative	Continuous
Treated wastewater to infiltration ponds ¹	Volume	m ³	Monthly and cumulative	Continuous

Note 1: Calculation using inflow data is permitted.

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	Units	Averaging period	Frequency
Groundwater monitoring bores 1/88, 3/88, 4/88, 1/97, 2/97 , 3/97, 4/97, 1/98 , 2/98 , 3/98, 1/01, and the Production Bore as shown on the Map of monitoring bores in Schedule 1	Standing water level	m(AHD) and m(BGL)	Spot sample	Quarterly
	pH ¹	pH units		
	<i>E.coli</i>	Colony forming units per 100 mL		
	Total dissolved solids	mg/L		
	Total nitrogen			
	Nitrate + nitrite-nitrogen			
	Ammonium-nitrogen			
Total phosphorus				

Note 1: In-field non NATA analysis 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
 - (d) 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 within 63 calendar days after the end of the annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or form ¹
-	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	None specified
-	Volumes of groundwater abstracted by the City of Mandurah for reuse	
Table 3.2.1	Monitoring of emissions to land for the annual period	
Table 3.3.1	Monitoring of inputs and outputs for the annual period	
Table 3.4.1	Ambient environmental quality monitoring for the annual period	
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 ensure that the Annual Environmental Report also contains an assessment of the information contained within the report against all previous monitoring results and Licence limits.

4.3 Notification

- 4.3.1 The Licensee shall ensure that the parameters listed in Table 4.3.1 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 requirement ¹	Format or form ²
2.1.1	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
n/a	Taking any equipment or treatment pond offline for maintenance works that may result in an increase in odour emissions from the premises	No less than 24 hours prior	Proposed date, duration and details of works

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

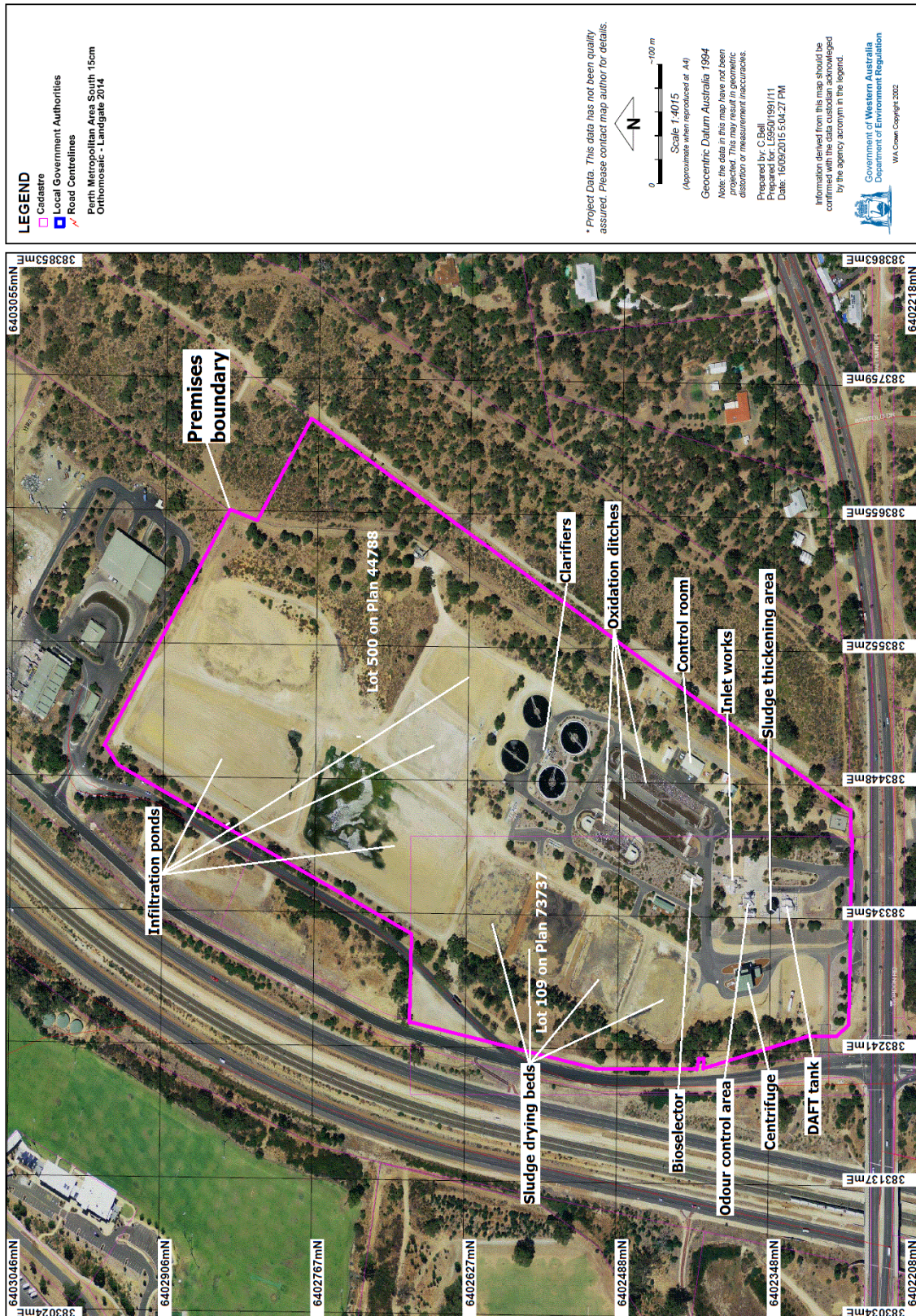
Note 2: Forms are in Schedule 2



Schedule 1: Maps

Premises map

The Premises is shown in the map below. The pink line depicts the Premises boundary.





Map of monitoring bores

The locations of the monitoring bores defined in Table 3.4.1 are shown below.



LEGEND

- Groundwater Bores
- Site Boundary



1:9,000 at A4
0 90 180 270
Metres
Coordinate System: GDA 1994 MGA Zone 50
Vertical Datum: AHD

AUTHOR: LEE1 DATE: 18/09/2015
BRANCH: AROONA O&M

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GORDON ROAD WWTP
GROUNDWATER
MONITORING BORES



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

1. 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: _____

NAME:
(printed) _____

POSITION: _____

DATE: ____/____/____

SEAL (if signing under seal)

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: ____/____/____



Licence: L5950/1991/11
Form: N1

Licensee: Water Corporation
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	



Environmental Protection Act 1986, Part V

Licence: L5950/1991/11

Expiry date: Saturday, 31 October 2020

Decision Document authorised by: Ruth Dowd
Delegated Officer



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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 type="checkbox"/> Works Approval amendment <input type="checkbox"/> Licence reissue <input checked="" type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	54 Sewage Facility	12 000 m ³ /day
Application verified	Date: 20/08/2015	
Application fee paid	Date: 14/09/2015	
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 checked="" type="checkbox"/> No <input type="checkbox"/> Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>Reissue only. Premises belongs to a groundwater area under the RIWI Act; however operations do not currently involve the taking of water. A production bore is on site and is already licenced with DoW; however is not in operation as water is no longer required.</i>	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <ul style="list-style-type: none"> <i>Environmental Protection Swan Coastal Plain Lakes Policy 1992</i> 		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input type="checkbox"/> <ul style="list-style-type: none"> <i>The SCP policy applies to lakes in the SCP area of standing water greater than 1000m². The premises activities do not directly discharge to/alter/impact any such lakes.</i> 		

3 Executive summary of proposal and assessment

The Mandurah No. 1 (Gordon Road) Wastewater Treatment Plant (the WWTP) is located in Parklands, approximately 75 km south of Perth and close to the industrial area in Greenfields east of Mandurah.

Social receptors

Directly south of the plant on the other side of Gordon Rd is a Greyhound racetrack. Directly west of the plant is the main train line to Perth, on the west side of the train tracks is the Meadow Springs Public High School. Directly north of the WWTP is the Mandurah waste transfer station. Directly east of the plant is remnant bushland and large residential bush blocks. The closest residential home is 200m southeast of the WWTP.

Environment

The soil beneath the site is described as Spearwood S1a Phase. This soil system consists of dune ridges with slopes up to 15% and with limestone outcrops. The soil itself can be described as shallow to moderately deep siliceous yellow- brown sands.

The main functioning part of the site is cleared of native vegetation.

The groundwater at the site is generally within 3m of the ground surface. During the 2014/15 reporting period, groundwater levels measured in bores was between 0.4m and 2m below ground level. Beneath the site is superficial swan aquifer, which is underlain by the Leederville aquifer, which is in turn underlain by the Catamarra Coal Measures.

There are 19 threatened species and 8 migratory species which occur within 1km of the site. There are no threatened ecological communities known within 5km of the WWTP. The Premises is within 10



km of the Peel-Yalgorup system, a (RAMSAR) wetland of international importance (EPBC Act protected matters search, 2015).

There are no known Indigenous or European heritage sites within the Premises.

Process

The WWTP treats wastewater to a secondary standard and consists of grit and screenings removal facilities, three oxidation ditches, four clarifiers and an odour control facility. Treated wastewater is disposed of through a series of infiltration lagoons. Biosolid material is mechanically dewatered through onsite centrifuges and sent off-site for disposal or composting.

During the 2014/15 reporting period, the Mandurah No. 1 WWTP was operating at approximately 82% capacity, with the average daily inflow at 9.8ML/day. Treated effluent is discharged to the three infiltration ponds on the Premises. The Water Corporation entered into a 10 year agreement with the City of Mandurah in 2008 to provide annual reuse water for public open space irrigation. The City of Mandurah obtains water via abstraction from bores off the premises. During the 2014/15 reporting period, the City of Mandurah was supplied with 95.72 ML of reuse water in this manner.

During the 2014/15 reporting period, a total of 8,633.4 tonnes of dewatered sludge was removed from the Mandurah No.1 WWTP centrifuges and transported to Amazon, Brookton and Williamson for composting. The Premises has four sludge-drying beds which were historically used for the temporary storage of sludge prior to disposal; however these are no longer in operation which dewatered sludge being transported directly off-site.

This Licence is the successor to licence L5950/1991/10 and continues to authorise the operations at the Premises. The reissue of the licence has not involved a re-assessment of the environmental risk of all operations on the Premises; however the licence has been updated to the current licence format which has inherently resulted in numerous changes to the licence condition wording and structure. Some administrative changes and corrections have been made to the conditions, as well as some revision of the monitoring conditions. Where any change to the intent of conditions has occurred, justification is provided in the Decision Table below.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* 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 – 1.1.5	Conditions 1.1.1 – 1.1.5 have been added to the licence as part of the reissue, to ensure that terminology used within the licence is referenced to the appropriate definitions where applicable, that any reference to a standard or guideline is to the most current version of that standard or guideline and that emissions not authorised through the licence comply with the provisions of the <i>Environmental Protection Act 1986</i> .	<i>Environmental Protection Act 1986</i> .
General conditions	L1.2.1	Condition 1.2.1 has been added to the licence as part of the reissue to ensure that all pollution control and monitoring equipment is maintained such that it is operational and fit for purpose.	
Premises operation	L1.3.1 – 1.3.3	Conditions 1.3.1 – 1.3.3 have been included on the licence, based from the previous licence L5950/1991/10 conditions 6, 16 and 15(iii) respectively, for the management of wastewater storage and treatment areas on the premises, the disposal of biosolids/sludge and the temporary storage of biosolids/sludge. Condition 1.3.1 differs from the format of the previous condition 6 as follows: <ul style="list-style-type: none">- “no surface discharge of wastewater” has been removed as this contradicts the authorised disposal method of infiltration and is not required in addition to the other condition parts (relating to overtopping and seepage/leakages);- Reference to extreme rainfall events removed and overtopping conditions simplified such that overtopping shall not occur from the sludge drying beds, wastewater treatment vessels or infiltration ponds (an extreme rainfall event may be argued as a defence under the <i>Environmental Protection Act 1986</i>);- Vegetation is required to be controlled on sludge holding ponds only. Vegetation growth will not occur on/in other wastewater treatment vessels and infiltration ponds are designed to infiltrate, thus vegetation growth has no direct impact in	<i>Environmental Protection Act 1986</i> ; “Mandurah No. 1 (Gordon Rd) Wastewater Treatment Plant Licence Renewal 2015” (Water Corporation supporting documentation to licence renewal submitted to DER 21/08/2015)



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>terms of pollution.</p> <p>Condition 1.3.2 differs from the previous condition 16 such that the reference to the WA Biosolids guidelines has been updated.</p> <p>Condition 1.3.3 has been included on the licence, despite a request from the Licensee to have it removed due to sludge no longer being stored on the premises as part of normal operations. The condition has been retained to enable the Licensee to store sludge, should the situation arise, given the existence of suitable approved drying beds for this purpose. The retention of the condition does not cause compliance issues for the Licensee.</p>	
Emissions general	L2.1.1	Limits have been set on the licence (see Emissions to land section below) and therefore Condition 2.1.1 regarding recording and investigation of exceedances of limits has been included.	
Emissions to land including monitoring	L2.2.1 – 2.2.2 L3.2.1	<p>Operation</p> <p><u>Emission Description</u></p> <p><i>Emission:</i> Discharge of all treated wastewater to sandy soils via point source infiltration ponds.</p> <p><i>Impact:</i> Potential contamination of the local soil within close proximity to the infiltration ponds and of shallow groundwater in this location with nutrients, sediment, bacteria and heavy metals. The discharge to shallow groundwater may have secondary impacts via shallow subsurface flows into nearby surface water bodies, such as algal proliferation within water and weed proliferation in riparian zones and along surface drainage lines due to nutrient loads. The infiltration ponds are just 850m southeast of the closest perennial lake, 1.5km northwest of the large Goegrup Lake, and 2km east of the WA coast. The 2014/2015 AER reported the discharge of an average 6.1mg/L and 60 kg/day of total nitrogen (TN) and 5.3mg/L and 53 kg/day of total phosphorus (TP), and readings from groundwater bores of up to 17mg/L TN and 0.08mg/L TP. There are potential public health impacts from exposure to bacteria should treated wastewater make its way to nearby surface water bodies. The average E.coli result for the discharge during the 2014/2015 period was 20,175 CFU/100mL. The hydrological loading to the groundwater (3,582,020 KL discharged in 2014/2015 period) may alter the hydrology of the area and result in groundwater mounding (groundwater levels in</p>	"Mandurah No. 1 (Gordon Rd) Wastewater Treatment Plant Licence Renewal 2015" (Water Corporation supporting documentation to licence renewal submitted to DER 21/08/2015)



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>monitoring bores were as shallow as 0.4m in the 2014/2015 period).</p> <p><i>Controls:</i> The licensee has an agreement with the City of Mandurah, who extracts groundwater from bores off-site for re-use (irrigation), which will result in an indirect recovery of some contaminants discharged and transfer to another location where they can be utilised. In the 2014/2015 period, the City of Mandurah abstracted 95.82 ML of water for this purpose (out of the total 3582 ML reported as discharged to infiltration bays). The infiltration of water through the sand will result in the reduction of some contaminants before reaching the groundwater and most (if not all) total suspended solids via filtration. Biochemical oxygen demand will not transfer to groundwater. TN levels in the treated wastewater are maintained lower than the licence limit of 10mg/L, and are significantly lower than the levels being exhibited in the groundwater monitoring, indicating there are likely to be numerous external influences on groundwater quality in the area. TDS levels are also tenfold lower in treated wastewater discharged than groundwater monitoring results.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> Conditions 2.2.1 and 2.2.2 were included on the licence to continue to authorise the discharge of treated wastewater to the infiltration ponds, as per conditions 8 and 13 of the previous version of the licence, respectively. Condition 2.2.2 differs from the original condition 13 in that the limits for BOD and TSS have been removed as they are parameters that do not transfer to groundwater via infiltration. It is understood that these limits were kept on the licence when it was reissued in 2010 for their use in measuring the efficiency and performance of the treatment process; however this can be achieved through the existing monitoring of treated wastewater quality. It is noted that the Licensee requested the removal of the TN limit also based it being inconsistent with other licensed sites; however the limit has been retained at this stage to continue</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>to ensure that the TN levels discharged are not higher than the already elevated levels present in the groundwater, and therefore help to manage cumulative impacts on groundwater.</p> <p>Condition 3.2.1 has been included on the licence for the monitoring of treated wastewater quality, as based on condition 7 of the previous version of the licence. It is noted that the allowance for the Licensee to calculate TDS from EC has not been retained in this version of the licence due to this giving a less accurate reading. It is also noted that the Licensee had previously requested an amendment to condition 8 of the former licence to allow the use of inflow volume measurements as a proxy for outflow measurements. This has been allowed for in condition 3.2.1 as the use of inflow data is more conservative and the use of this data in calculation has no bearing on the environmental risk of the premises.</p> <p>See the Ambient quality monitoring section below for other related conditions.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p>	
Odour	n/a	<p>Odour emissions have not been assessed as part of this licence reissue. DER intends to undertake a more detailed review of the licence in the next 12 months to determine whether odour controls at the premises are appropriate. . At the current time it is considered that odour emissions can be regulated under the general provisions of the <i>Environmental Protection Act 1986</i> in the meantime.</p>	<i>Environmental Protection Act 1986.</i>
Monitoring general	L3.1.1 – 3.1.3	<p>Condition 3.1.1 has been included on the licence to set the standards for monitoring undertaken (Australian standards, NATA accreditation), as there are monitoring conditions set for the treated wastewater discharge. This condition replaces the general monitoring requirements conditions of the previous licence. It is noted that the Licensee requested that the requirement for analysis to be done by a NATA accredited laboratory be removed; however this is DER's the expected requirement to achieve quality assurance on results and has therefore been retained at this time.</p> <p>Condition 3.1.2 has been included to specify the frequency of monthly monitoring (at least 15 days apart) and quarterly monitoring (at least 45 days apart) to ensure that</p>	"Mandurah No. 1 (Gordon Rd) Wastewater Treatment Plant Licence Renewal 2015" (Water Corporation supporting documentation to



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		monthly samples are representative of different months. Condition 3.1.3 has been included to ensure monitoring equipment used on the premises is calibrated in accordance with the manufacturers' specifications.	licence renewal submitted to DER 21/08/2015)
Monitoring of inputs and outputs	L3.3.1	Condition 3.4.1 has been included on the licence for the monitoring of raw wastewater inflows to the wastewater treatment plant in m ³ /day. This is to formalise the monitoring and reporting of the throughput into the plant for comparison with the design capacity of the plant (12,000m ³ /day) and is a new requirement which was not on the previous version of the licence. The condition also requires the monitoring of volumes transferred to infiltration ponds. As mentioned in the Emissions to land including monitoring section above, the Licensee does not have a meter on wastewater being discharged to the infiltration ponds; and as such condition 3.4.1 allows this to be calculated from the inflow data.	"Mandurah No. 1 (Gordon Rd) Wastewater Treatment Plant Licence Renewal 2015" (Water Corporation supporting documentation to licence renewal submitted to DER 21/08/2015)
Ambient quality monitoring	L3.4.1	Condition 3.4.1 has been included on the licence for the monitoring of groundwater. This is based on condition 10 of the previous licence; however differs as follows: <ul style="list-style-type: none"> - The addition of E coli to the suite of monitoring requirements. This is a relevant contaminant for monitoring given the shallow groundwater at the site (0.4 – 2.0 m), E. coli levels in the discharge (>20 000 CFU/100mL), close proximity of receptors and ability for E. coli to survive in groundwater; - The addition of nitrate + nitrite nitrogen and ammonium nitrogen to the monitoring suite. These are relevant contaminants for the detection and assessment of nutrient pollution in terms of whether it is recent or historic. There is currently a lack of detailed information on the current and potential impact the discharge and the above changes to the monitoring may help facilitate a more detailed riskassessment of the discharge. DER intends to undertake a more detailed assessment of environmental risk to groundwater in the next 12 months. If this review identifies potential unacceptable risks to public health or the environment, DER may make amendments to the licence to address the risk/s.	"Mandurah No. 1 (Gordon Rd) Wastewater Treatment Plant Licence Renewal 2015" (Water Corporation supporting documentation to licence renewal submitted to DER 21/08/2015)
Records	L4.1.1 – 4.1.4	Condition 4.1.1 and 4.1.2 have been included on the licence setting general requirements relating to the maintenance and access of records kept and the need for	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>a copy of the licence to be available to staff at the Premises at all times. These were not requirements on the old version of the licence, with exception to condition 4 which required records of complaints to be made available on request.</p> <p>Condition 4.1.3 has been included on the licence for the Annual Audit Compliance report, and is equivalent to condition 5 of the previous licence.</p> <p>Condition 4.1.4 has been included on the licence for the recording of complaints received about the premises and is a summarised version of condition 3 from the previous version of the licence due to no complaints being received by DER over the past few years.</p>	
Reporting	L4.2.1 – 4.2.2	Conditions 4.2.1 and 4.2.2 have been included on the licence for the submission of an Annual Environmental Report, which effectively replaces condition 1 of the previous licence. It is noted that the requirement to assess monitoring data has been changed slightly from the previous version of the licence such that monitoring data is to be assessed and compared against all available monitoring data for the Premises (i.e. more than 3 years). This is to enable ongoing assessment of the impact of the operations from a wider context.	
Notification	L4.3.1	<p>Condition 4.3.1 has been included on the licence to set notification requirements outside of the annual reporting. The condition requires the notification of any breaches of licence limits, a new notification requirement that was not on the previous licence version.</p> <p>The condition also requires the notification prior to taking any equipment offline which may result in odour, which is to effectively replace the notification requirements on condition 15 of the previous licence. It is noted that the Licensee requested that the notification requirements in condition 15 of the licence be removed on the basis that the existing operational controls on site are sufficient in dealing with emissions; however the revised condition does specify that the notification is only required where works are being undertaken that may increase odour.</p>	"Mandurah No. 1 (Gordon Rd) Wastewater Treatment Plant Licence Renewal 2015" (Water Corporation supporting documentation to licence renewal submitted to DER 21/08/2015)
Licence Duration	n/a	A duration of 5 years is recommended for the reissued licence. The potential maximum 20 year licence duration is not considered appropriate in this case as there is a need for a review of environmental risk and as such the licence duration is set at 5 years, with the recommendation that the licence be reviewed and amended within 2 years of	



DECISION TABLE

Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		the issue date.	



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
21/09/2015	Application advertised in West Australian (or other relevant newspaper)		
29/09/2015	Proponent sent a copy of draft instrument	Clarification that the City of Mandurah takes water from bores off-site (re-use is not direct)	This was a misunderstanding from the previous reporting of this activity as "re-use", implying the City of Mandurah obtain the treated wastewater directly from Water Corporation. This has now been corrected in the premises summary of the licence and decision document. The requirement to monitor the transfer to the City of Mandurah has also been removed from tables 3.2.1 and 3.3.1 of the licence. Instead, a row in table 4.2.1 has been included to simply request the reporting of volumes abstracted by the City of Mandurah to be provided in the AER so that this information can still be considered in assessing the quality and standing water levels of the groundwater reported in the AER.
		Request for removal of E. coli, ammonium nitrogen and nitrate-nitrite nitrogen from groundwater monitoring, due to the City of Mandurah's monitoring.	The parameters have been retained on the licence as per the justification in the Decision table. Water Corporation's licence with DER currently allows them to discharge treated wastewater to land, by infiltration to groundwater. The City of Mandurah's monitoring relates to a licence held with Department of Water to abstract water and is not a substitute for Water Corporations obligation to monitor the environmental impact of their discharges.
		Request for the removal of the improvement condition IR1, on the basis that Water Corporation have revised their original request for monitoring bores to be reduced	The improvement condition has been removed and the Production Bore added back on to the monitoring program. It is noted that there is still a need for a more detailed review of the risk to groundwater and the suitability of the monitoring network. The licence, activities on site and monitoring have not been



Date	Event	Comments received/Notes	How comments were taken into consideration
			reviewed for a number of years while the discharge of large quantities of treated wastewater to land has continued. DER will be reviewing the current activities and assessing the risks to groundwater, and if this review identifies potential unacceptable risks to public health or the environment, DER may make amendments to the licence in future to address this.
		Request for 61 calendar days on AER condition to be changed to 63 calendar days to line up with a 1 September due date	Changed as requested.
		Request for clarification that comparison of monitoring results from 3 years will satisfy the new reporting condition that requires comparison with all previous monitoring data	The intent of this change was not to allow the comparison of only three years of data in the AER, as given the length of time the site has been operating it is considered that three years is not long enough for long-term trends to be visible. The condition wording has been retained and DER expects that comparison with all available data will be presented in the AER.
		Request for clarification whether the AER requires assessment against limits no longer on the licence (i.e. previous versions)	Condition 4.2.2 does not specify that the licensee must report against limits in previous versions or licences issued under the EP Act during the reporting period, hence this is not required.
		Request for removal of N1 form for breach limits, as it has been removed from other Water Corporation licences	An alternative reporting structure or process has not been provided in support of asking for this to be removed. It is understood that DER and Water Corporation have come to agreement previously that all forms <i>with exception to N1</i> can be excluded from licences. The requirement to use N1 has been retained.
		Request for sludge drying bed condition change to "excessive vegetation is prevented..." or "as far as practicable" instead of "vegetation is prevented"	This condition was carried over from the previous version of the licence. The suggested wording is too ambiguous to be incorporated due to resulting lack of enforceability. It is considered that the condition requires vegetation to be prevented, and a regular and consistent vegetation control programme should be able to achieve this.



Date	Event	Comments received/Notes	How comments were taken into consideration
			The condition has been retained as previously worded on this basis.
		Averaging period for sampling to be amended to include both spot sampling and composite sampling	It is noted that the licensee is required under condition 3.1.1 to comply with Australian standards (including holding times) in conducting their sampling. Composite sampling over a period of 24 hours is likely to result in these holding times being exceeded, given the nature of parameters being tested and the majority of them having a <i>maximum</i> recommended holding times of 24 hours refrigerated prior to lab analysis occurs. The condition has been retained as written in the draft. Composite sampling can continue to be used in the licensee's internal monitoring program; however it cannot be allowed for samples required under the DER licence due to the resulting non-compliance with condition 3.1.1.
		Request addition of detail into premises summary to include other processes such as grit and screenings removal facilities and odour control	Additional detail has been added to the premises summary in the licence and decision document as requested.



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