Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: Water Corporation

Licence: L8925/2015/1

Registered office: 629 Newcastle Street
LEEDERVILLE WA 6007

ABN 28 003 434 917

Premises address: Laverton Wastewater Treatment Plant
Crown Reserve 34208, 3420 Windara Road
LAVERTON WA 6440
as depicted in Schedule 1

Issue date: Thursday, 17 December 2015

Commencement date: Monday, 21 December 2015

Expiry date: Saturday, 20 December 2025

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	415 cubic metres per day
61	Liquid waste facility: premises on which liquid waste produced on other premises (other than sewage waste) is stored, reprocessed , treated or irrigated.	100 tonnes or more per year	10,000 tonnes per annual period

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

Date signed: 17 December 2015
.....
Steve Checker
Manager Licensing (Waste Industries)
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Contents

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.

Other Guidelines which you should be aware of include:

- *Western Australian Guidelines for Biosolids Management*, Department of Environment and Conservation, December 2012 (as amended from time to time).

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

Laverton Wastewater Treatment Plant (WWTP) is situated on reserve 34208 and is located nearly 2.5 km from the town centre and approximately 1.2 km from the nearest residential development. It is approximately 12 ha in size. Land adjacent to the WWTP site is vacant pastoral land.

The Laverton townsite is serviced by a reticulated sewer system with approximately 311 connections to residential, commercial properties and vacant lots. The Laverton WWTP can treat up to to 415 m^3/day. All treated wastewater is discharged to an evaporation pond. Non-toxic salts (D300) in the form of moderately saline effluent are also received to the evaporation pond at the WWTP from the Laverton Water Treatment Pond via tanker during high drinking water production periods or winter seasons.

Water Corporation historically held a registration (R998/1991/1) for category 85 that allows for the treatment and discharge of sewage onto land or into waters. However information submitted lately to DER showed that the plant may have triggered the design capacity for category 54 and the need for a licence. This Licence is for the operation of a WWTP and a Liquid Waste facility.

The Laverton WWTP utilises a pond system to treat wastewater to a secondary standard. The plant consists of three treatment ponds in series; a facultative pond, a first maturation pond, a second maturation pond and a storage/evaporation pond. The ponds are clay lined with a stated base permeability of 1 x 10^{-9} m/s.

The Shire of Laverton does not use treated wastewater (TWW) for irrigation. Instead, the majority of TWW is evaporated in the evaporation pond or is discharged into the environmental discharge channel when inflows are above 70kL. This mostly occurs during time of mining camp occupancy and summer or winter storms (high rainfall events). The last discharge to the environmental discharge channel was in 2013.

The environmental discharge channel is not classified as a sensitive receiver or located in the vicinity or in an environmentally sensitive environment (not a water body, wetland or ephemeral water way). This discharge does not intersect any hydrological features. The nearest water body is Skull Creek, which is a significant distance (700m) south of the channel. The discharge channel flows in a North West direction, away from the Laverton town and Skull creek due to topographic contours of the area.

Outflows to the environment are measured through the environmental discharge flume with the data downloaded on a quarterly basis into the Water Corporation's Operation Data Storage System (ODSS). This information is captured and verified by the Water Corporation's Engineering Data Services group.

Public drinking water is supplied from the Beasley Creek Bore and four Wedge Pit Bores located about 10 km north-west and 10.5 km north from the centre of the town respectively. Laverton WWTP and the discharge zone are about 7.6 km south-east of the Beasley Creek Bores. They are also about 8.3 km south of the Wedge Pit Bores.

Due to the remoteness of the site and no onsite ground water monitoring bores, there is little available information on groundwater levels. Groundwater depth for the environmental discharge channel was

estimated using values from the Beasley Creek borefield, which is located 7.6 km away. Groundwater levels tend to be at least 15-20 m below the surface .

The licences and registration issued for the Premises since 1998 are:

Instrument log		
Instrument	**Issued**	**Description**
R998/1991/1	14 October 1998	Registration
L8925/2015/1	17 December 2015	New Licence (Category 54 & 61)

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;*

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

'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;*

'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

'controlled waste' has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*.

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

'leachate' means liquid released by or water that has percolated through waste and which contains some of its constituents;

'Licence' means this Licence numbered L8925/2015/1 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;

'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; and

'vessels' means any vessel or tank containment infrastructure associated with the treatment or storage of wastewater or sludge.

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 current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines or code of practice made during the term of this Licence.

1.2 General conditions

1.2.1 The Licensee shall immediately recover, or remove and dispose of spills of sewage or sewage sludge outside an engineered containment system.

1.3 Premises operation

1.3.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit in this section.

1.3.2 The Licensee shall only allow waste to be accepted on to the Premises if:
(a) it is of a type listed in Table 1.3.1;
(b) the quantity accepted is below any limit listed in Table 1.3.1; and
(c) it meets any specification listed in Table 1.3.1

Table 1.3.1: Waste acceptance

Waste	Waste Code	Quantity Limit	Specification[1]
Sewage	K130	415 cubic metres per day	Accepted through sewer inflow(s) only
Non toxic salts	D300	10 000 tonnes per year	Accepted via tanker to the evaporation pond in emergency situations and when there is no discharge occurring to the environment from the WWTP.

Note 1: Additional requirements for the acceptance of controlled waste are set out in the *Environmental Protection (Controlled Waste) Regulations 2004.*

1.3.3 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 requirements described in that table.

Table 1.3.2: Waste processing		
Waste type	**Process**	**Process requirements**
Sewage	Physical and biological treatment	Primary and secondary aerobic treatment of effluent.
Non toxic salts	Receipt, handling, consolidation and temporary storage prior to removal	Waste only to be receipted and stored in the evaporation pond in emergency situations and when there is no discharge occurring to the environment from the WWTP.

1.3.4 The Licensee shall ensure that waste material is only stored and/or treated within vessels or compounds provided with the infrastructure detailed in Table 1.3.3.

Table 1.3.3: Containment infrastructure		
Vessel or compound	**Material**	**Requirements**
Primary treatment pond (pond 1)	Wastewater	Clay lined
Secondary treatment ponds (ponds 2 and 3)	Wastewater	Clay lined
Storage/evaporation pond	Treated wastewater	Clay lined
Sewage sludge compound	Biosolids	Temporary or permanent infrastructure to consist of a bunded hardstand or lined area (lined to achieve a permeability of less than 10^{-9} m/s or equivalent), capable of preventing surface run-off of leachate and sludge and which includes a leachate collection system.

1.3.5 The Licensee shall manage the wastewater and liquid waste treatment ponds such that:
(a) overtopping of the wastewater and liquid waste treatment ponds does not occur;
(b) stormwater runoff is prevented from entering the wastewater and liquid waste treatment ponds;
(c) there is no discernible seepage loss from the wastewater and liquid waste treatment ponds;
(d) vegetation and floating debris (emergent or otherwise) is prevented from growing or accumulating in the pond wastewater or on the inner pond embankments; and
(e) collected vegetation and floating debris from the ponds are disposed of to a licenced or registered landfill.

1.3.6 The Licensee shall maintain a device for measuring cumulative volumes of treated wastewater discharged to the infiltration channel.

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 2.1.1 (and identified on the map of emission points in Schedule 1) it is done so in accordance with the conditions of the licence.

Table 2.1.1: Emissions to land			
Emission point reference	**Emission point reference on Map of emission points**	**Description**	**Source including abatement**
Outflow Measuring Unit (Flume)	S6001050	Discharge of excess treated wastewater from wastewater treatment plant to infiltration channel. Discharge is only authorised when inflows are above 70kL/day.	Treated wastewater pipeline from treatment pond 3.

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 microbiological samples are collected and preserved in accordance with AS/NZS 2031; and
(d) 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 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						
Monitoring point reference	**Process description**	**Parameter**	**Units**	**Averaging period**	**Frequency**	**Method**
SP Laverton Polish Pond Final Effluent	Discharge from wastewater treatment pond 3	Volumetric flow rate (cumulative)[1]	m^3/day	Continuous	Monthly	None specified
		pH[1]	-	Spot sample	Quarterly	
		Biochemical Oxygen Demand	mg/L			
		Total Dissolved Solids				
		Total Suspended Solids				
		Total Nitrogen				
		Total Phosphorus				
		Escherichia coli[2]	cfu/100 mL			

Note 1: In-field non-NATA accredited analysis permitted.
Note 2: Actual units are to be reported except where the result is greater than the highest detectable level of 24,000 cfu/100mL. In this case the reporting of the highest detectable level is permitted.

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	**Monitoring point reference**	**Parameter**	**Units**	**Averaging period**	**Frequency**
Sewage - Inlet Flow	Inflow meter	Volumetric flow rate (cumulative)	m^3/day	Monthly	Continuous
Treated wastewater discharged to the infiltration channel	Outflow Measuring Unit	Volumetric flow rate (cumulative)	m^3/day	Monthly	Continuous

4 Improvement Condition

4.1 Improvement program

4.1.1 The Licensee shall complete the improvements in Table 4.1.1 by the date of completion in Table 4.1.1.

Table 4.1.1: Improvement program		
Improvement reference	**Improvement**	**Date of completion**
IR1	The Licensee shall provide a report to the CEO which shall outline: • A brief overview of works required to prevent overflow of wastewater from treatment pond 3; and • A date of commencement for these works.	1 June 2016
IR2	The Licensee shall install permanent markers along the boundary of the Premises so it can be identified on the ground and provide the CEO with the GPS co-ordinates of these markers.	1 June 2016

5 Information

5.1 Records

5.1.1 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 5.1.1(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.

5.1.2 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.

5.1.3 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.

5.2 Reporting

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

Table 5.2.1: 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
Table 3.2.1	Monitoring of emissions to land	LR1
Table 3.3.1	Monitoring of inputs and outputs	None Specified
5.1.2	Compliance	Annual Audit Compliance Report (AACR)
5.1.3	Complaints summary	None specified

Note 1: Forms are in Schedule 2.

5.2.2 The Licensee shall ensure that the Annual Environmental Report also contains:
- (a) any relevant process, production or operational data; and
- (b) an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets.

5.3 Notification

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

Table 5.3.1: Notification requirements			
Condition or table (if relevant)	**Parameter**	**Notification requirement[1]**	**Format or form[2]**
-	Taking a treatment pond offline for maintenance work	No less than 72 hours to taking a pond offline	None specified
-	Removal of sewage sludge from the wastewater treatment vessel and wastewater storage pond	No less than 14 days in advance of works[3]	None specified
1.3.1	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
3.1.4	Calibration report	As soon as practicable.	None specified

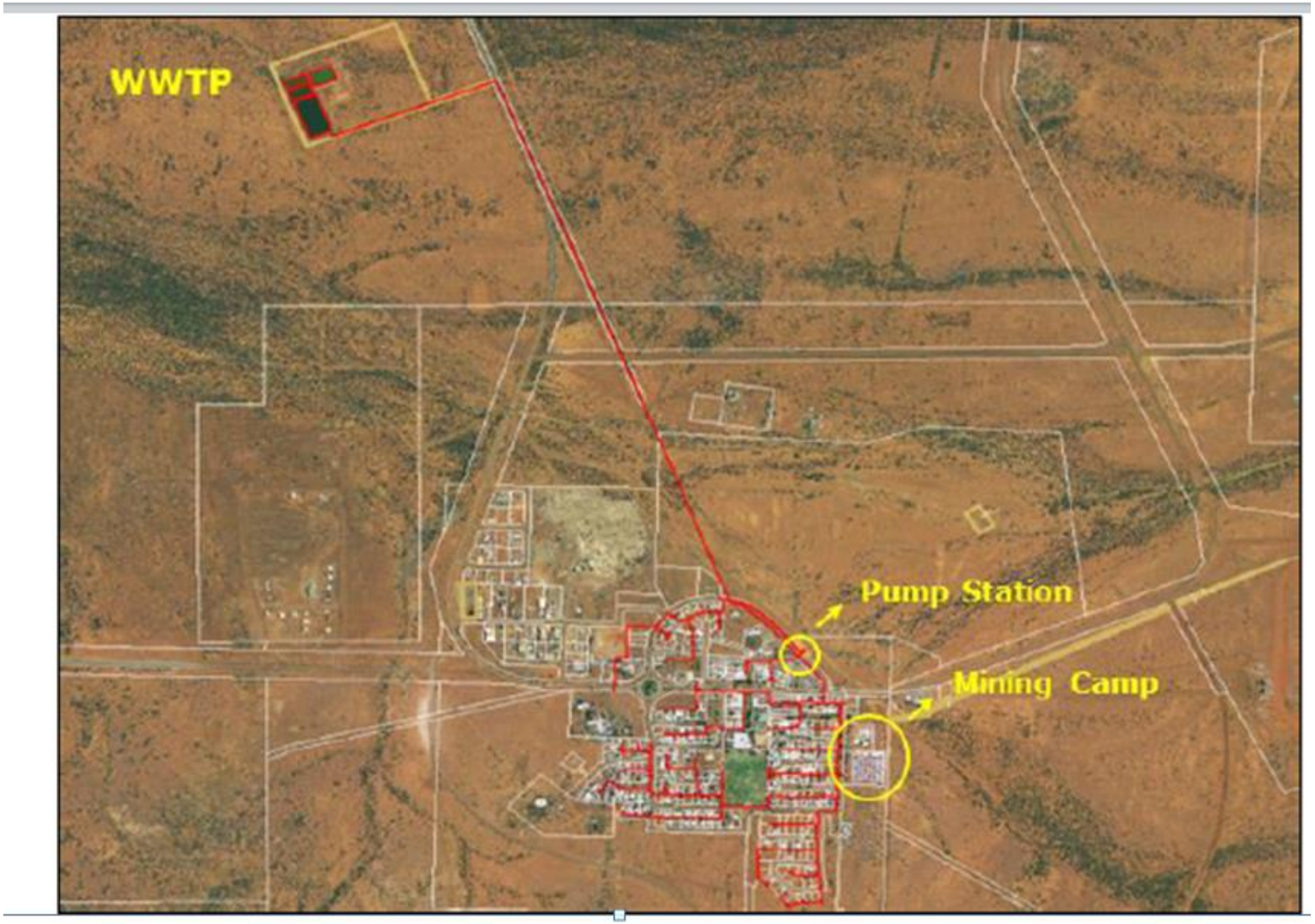
Note 1: No notification requirement in the Licence shall negate the requirement to comply with s72 of the Act.
Note 2: Forms are in Schedule 2
Note 3: The following information shall be included: (i) when desludging is proposed to occur, (ii) the desludging method, (iii) action to mitigate potential odour impacts, and (iv) the method by which the community will be advised of the desludging activities.

Schedule 1: Maps

Premises map

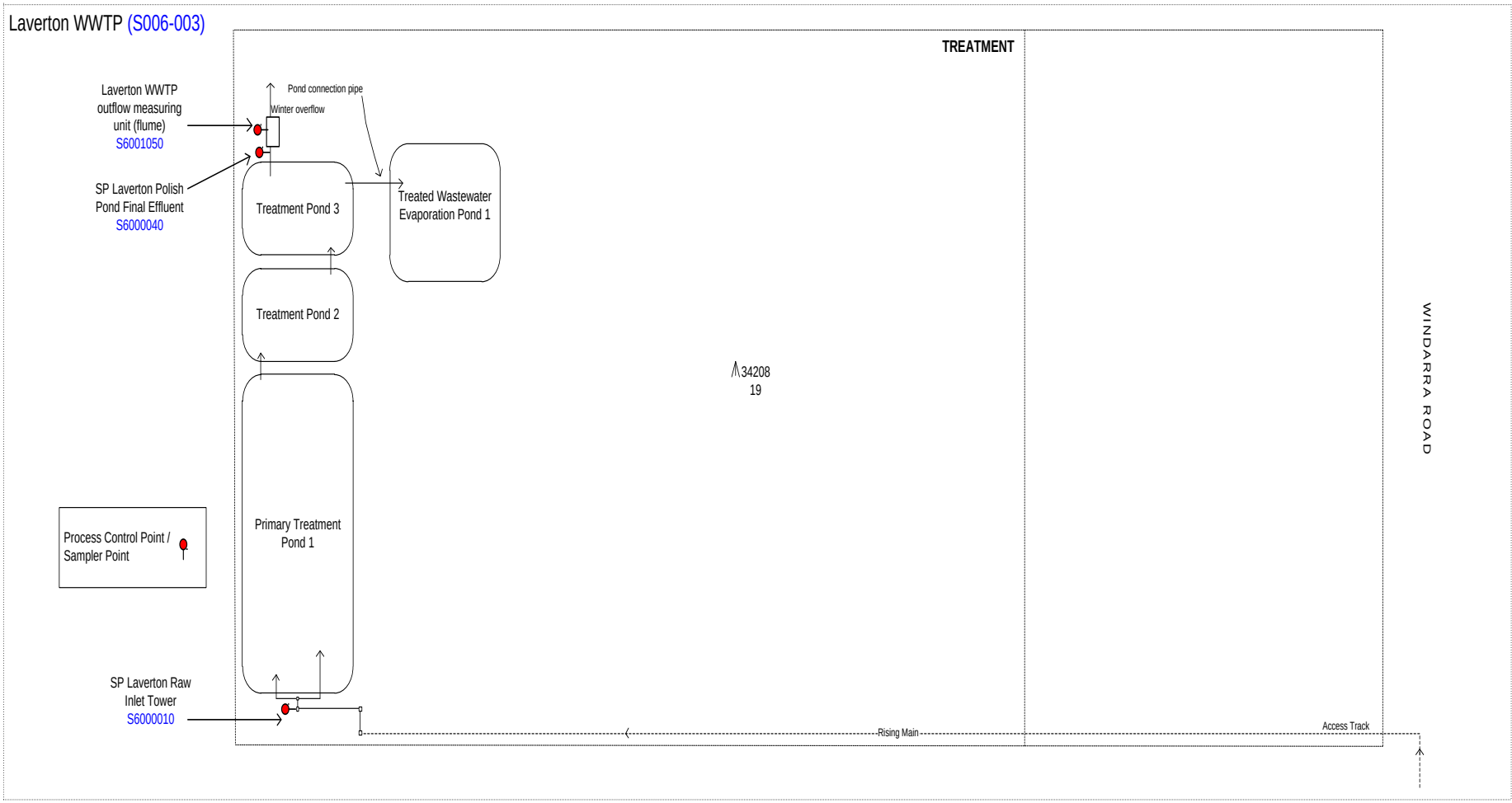
The Premises is shown in the map below. The red line depicts the Premises boundary.

Diagram showing existing sewer network



Premises layout showing emission and monitoring points

The locations of the emission points defined in Table 2.5.1 are shown in the layout below.



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: L8925/2015/1	Licence File Number:
Company Name: Water Corporation Trading as: Leonora Wastewater Treatment Plant	ABN: 28 003 434 917
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?:	
☐ Yes ☐ Reported to DER verbally Date _____ ☐ Reported to DER in writing Date _____	☐ 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	□	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 corporation	□	by affixing the common seal of the licensee in accordance with the *Corporations Act 2001*; 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)	□	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	□	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: _____/_____/_____

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SEAL (if signing under seal)

Licence: L8925/2015/1 Licensee: Water Corporation
Form: LR1 Period :
Name: Monitoring of emissions to land

Form LR1: Monitoring of emissions to land					
Emission point	**Parameter**	**Result**	**Averaging Periods**	**Method**	**Sample date & times**
SP Laverton Polish Pond Final Effluent	Volumetric flow rate	m^3/s	Monthly		
	pH	pH units	Spot sample		
	Biochemical Oxygen Demand	mg/L			
	Total Dissolved Solids				
	Total Suspended Solids				
	Total Nitrogen				
	Total Phosphorus				
	Escherichia coli	cfu/100mL			

Signed on behalf of Water Corporation: …….. Date: ……

Licence: L8925/2015/1 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	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Proponent: Water Corporation

Licence: L8925/2015/1

Registered office:	629 Newcastle Street LEEDERVILLE WA 6007
ACN	28 003 434 917
Premises address:	Laverton Wastewater Treatment Plant Crown Reserve 34208, 3420 Windara Road LAVERTON WA 6440
Issue date:	Thursday, 17 December 2015
Commencement date:	Monday, 21 December 2015
Expiry date:	Saturday, 20 December 2025

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue a licence. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by: Abnesh Chetty
Licensing Officer

Decision Document authorised by: Steve Checker
Delegated Officer

Contents

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 ☐ New Licence ☒ Licence amendment ☐ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)**	**Assessed design capacity**
	54 – Sewage facility	415 cubic metres per day
	61– Liquid waste facility	10 000 tonnes per year
Application verified Application fee paid	Date: 12/10/2015 Date: 29/10/2015	
Works Approval has been complied with Compliance Certificate received	Yes☐ No☐ N/A☒ Yes☐ No☐ N/A☒	
Commercial-in-confidence claim	Yes☐ No☒	
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes☐ No☒	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes☐ No☒	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☐
Is the proposal subject to Ministerial Conditions?	Yes☐ No☒	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 *Environmental Protection Act 1986*)?	Yes☐ No☒ Department of Water consulted Yes ☐ No ☒	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes☐ No☒ If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes☐ No☒ If Yes, include details here, eg Site is subject to SO_2 requirements of Kwinana EPP.		

3 Executive summary of proposal and assessment

Laverton Wastewater Treatment Plant (WWTP) is situated on reserve 34208 and is located nearly 2.5 km from the town centre and approximately 1.2 km from the nearest residential development. It is approximately 12 ha in size. Land adjacent to the WWTP site is vacant pastoral land.

The Laverton WWTP treats sewage from part of the townsite of Laverton with approximately 311 connections to residential, commercial properties and vacant lots. Its capacity is approximately 415 m^3/day.

Water Corporation historically held a registration (R998/1991/1) for category 85 that allows for the treatment and discharge of sewage onto land or into waters. However information submitted recently to DER showed that the plant has triggered the capacity threshold for category 54 licensing.

This Licence is for the operation of a WWTP and a Liquid Waste facility (LWF). Moderately saline water (non-toxic salts - D300) is received to the evaporation pond at the WWTP from the Laverton Water Treatment Pond via tanker during high drinking water production periods or winter seasons.

The Laverton WWTP utilises a pond system to treat wastewater to a secondary standard. The plant consists of three treatment ponds in series; a facultative pond, a first maturation pond, a second maturation pond and a storage/evaporation pond. The ponds are clay lined with a stated base permeability of 1×10^{-9} m/s.

The Shire of Laverton does not use treated wastewater (TWW) for irrigation. Instead, the majority of TWW is evaporated in the evaporation pond or is discharged into the environmental discharge channel when daily inflows are above 70kL due to limitations in the capacity of the system. This mostly occurs during time of mining camp occupancy and summer or winter storms (high rainfall events). The last discharge to the environmental discharge channel was in 2013.

The environmental discharge channel is not classified as a sensitive receiver or located in the vicinity or in an environmentally sensitive environment (not a water body, wetland or ephemeral water way). This discharge does not intersect any hydrological features. The nearest water body is Skull Creek, which is a significant distance (700m) south of the channel. The discharge channel flows in a North West direction, away from the Laverton town and Skull creek due to topographic contours of the area.

Outflows to the environment are measured through the environmental discharge flume with the data downloaded on a quarterly basis into the Water Corporation's Operation Data Storage System (ODSS). This information is captured and verified by the Water Corporation's Engineering Data Services group.

Public drinking water is supplied from the Beasley Creek Bore and four Wedge Pit Bores located about 10 km north-west and 10.5 km north from the centre of the town respectively. Laverton WWTP and the discharge zone are about 7.6 km south-east of the Beasley Creek Bores. They are also about 8.3 km south of the Wedge Pit Bores.

Due to the remoteness of the site and no onsite ground water monitoring bores, there is little available information on groundwater levels. Groundwater depth for the environmental discharge channel was estimated using values from the Beasley Creek borefield, which is located 7.6 km away. Groundwater levels tend to be at least 15-20 m below the surface.

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**
General conditions	L1.2.1	General conditions have been added to the Licence to prevent contamination of the surrounding land due to overflow or spills from the treatment/evaporation ponds.	General provisions of the *Environmental Protection Act 1986*. *Environmental Protection (Unauthorised Discharges) Regulations 2004*
Premises operation	L1.3.1 - L1.3.6	Condition 1.3.1 has been added to the Licence to ensure that the Licensee records and investigates exceedances of limits. Capacity limits have been set for the WWTP and the LWF. Condition 1.3.2 has been added to the Licence to ensure that sewage waste is accepted at no more than the design capacity of 415m^3/day. Low-hazard saline liquid waste (from the nearby Laverton water treatment plant) is to be accepted at a rate of no more than10,000 tonnes per year (27.4 tonnes per day) directly to the evaporation pond so as not to impact the treatment capacity of the system. Condition 1.3.3 has been added to the Licence to ensure the correct processing of	

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		sewage waste and liquid waste occurs so that the treatment plant can operate efficiently. Condition 1.3.4 has been added to the Licence to ensure that wastewater is contained within infrastructure suitable to hold and treat wastewater, so to not cause significant emissions to the environment. Condition 1.3.5 has been added to the Licence to ensure the wastewater and liquid waste treatment vessels are maintained to avoid overtopping of the ponds causing pollution. Licence condition relating to maintaining freeboard is not required since all overflows and spills from the storage ponds will be regulated under the general provisions of the *Environmental Protection Act 1986* relating to causing pollution and environmental harm and the *Environmental Protection (Unauthorised Discharges) Regulations 2004*. Further details are provided in Appendix A. Condition 1.3.5 also requires the Licensee to prevent all stormwater runoff from entering the wastewater treatment ponds. It will also ensure that no vegetation is growing on the ponds which may impact the integrity of the ponds. Furthermore Condition 1.3.5 requires collected vegetation and floating debris from the treatment plant ponds to be disposed of to a licensed or registered landfill. Condition 1.3.6 has been added to the Licence to ensure a device is maintained on site for measuring cumulative volumes of treated wastewater discharged to the infiltration channel.	
Emissions general	L2.1.1	Laverton WWTP discharges to an area northwest of the plant when the plant receives inflows of greater than 70kL. The discharge moves north-west, away from the town, due to the slope of the land. TWW is discharged from the third treatment pond and only occurs when capacity is reached to prevent overtopping of the evaporation pond. The last discharge to the environmental discharge channel was in 2013. The environmental discharge channel is not classified as a sensitive receiver or located in the vicinity or in an environmentally sensitive environment (not a water body, wetland or ephemeral water way). This discharge does not intersect any hydrological features. The nearest water	

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		body is Skull Creek, which is a significant distance (700m) south of the channel. The discharge channel flows in a North West direction, away from the Laverton town and Skull creek due to topographic contours of the area. The factors highlighted above determine the risk of discharge to natural water ways to be low. Based on this assessment and given the area surrounding the discharge channel contains no known significant flora and fauna species records, no additional areas of contamination, no conservation areas or environmentally sensitive areas, no public water sources drinking areas or protected groundwater zones and no sensitive receptors within the proximity no specified conditions relating to numerical and descriptive limits will be set through conditions of the licence except for allowing discharge to land from emissions point reference L1.	
Emissions to land including monitoring	L2.1.1 and L3.2.1	Refer to Appendix A.	General provisions of the *Environmental Protection Act 1986*. *Environmental Protection (Unauthorised Discharges) Regulations 2004* *National Water Quality Management Strategy*, *Australian Guidelines for Sewage*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
			Systems – Effluent Management 1997.
Fugitive emissions	N/A	Fugitive emissions of dust can be sufficiently regulated under section 49 of the *Environmental Protection Act 1986.* In accordance with DER's licensing process, no specified conditions for fugitive emissions have been included on this licence.	General provisions of the *Environmental Protection Act 1986*.
Odour	N/A	There are no significant odour emissions and as such no specified conditions relating to odour are required on the Licence.	General provisions of the *Environmental Protection Act 1986*. *Environmental Protection (Unauthorised Discharges) Regulations 2004*.
Noise	N/A	There will be no significant noise emissions and as such no specified conditions are required on the Licence. Furthermore noise can be sufficiently regulated under the Environmental *Protection (Noise) Regulations 1997*.	*Environmental Protection (Noise) Regulations 1997*
Monitoring general	L3.1– L3.2	Condition 3.1.1 requires wastewater sampling to be conducted in accordance with AS/NZS standards and analysis by a NATA accredited laboratory with the exception of pH and volumetric flow rate which will be measured in the field.	General provisions of the *Environmental Protection Act*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Condition 3.1.2 is included to stipulate required times between sampling events. Conditions 3.1.3 and 3.1.4 relates to calibration of all monitoring equipment in accordance with the manufacturer's specifications and reporting to DER where and discrepancies are noted in the calibration process.	*1986*.
Monitoring of inputs and outputs	L3.3.1	Condition 3.3.1 has been included on the Licence to ensure that the monitoring of inflows coming into the WWTP are recorded and treated effluent discharged from pond 3 to the infiltration channel is also recorded. This is necessary for comparison with the daily sewage treatment volume.	N/A.
Improvements	L4.1.1	The site is susceptible to overflow of pond 3 due to limitations on the flow capacity between pond 3 and the evaporation pond therefore an improvement in condition 4.1.1 condition has been added requiring the Licensee provide a date for carrying out modification to the existing wastewater treatment plant system to manage this overflow. Improvement condition 4.1.1 will also require the Licensee to install permanent markers along the boundary of the premises so it can be identified on the ground and provide GPS co-ordinates of these markers to DER.	N/A
Information	L5.1.1 – 5.1.3 L5.2.1 – L5.3.1	Condition 5.1.1 – 5.1.3 relates to record keeping, completing an Annual Audit Compliance Report and implementing a complaints management system. Condition 5.2.1 outlines the requirement to submit to DER an Annual Environmental Report (AER) and Annual Audit Compliance Report (AACR) detailing compliance with acceptance of waste types, waste inputs and outputs. Condition 5.2.2 requires the Licensee to ensure the AER contains any relevant process, production or operational data and an assessment of the information contained within the report against previous monitoring results and Licence limits.	General provisions of the *Environmental Protection Act 1986.*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Condition 5.3.1 requires notifications from the Licensee relating to carrying out maintenance work of the treatment ponds, desludging of the treatment ponds, breach of any capacity limits specified in the Licence and calibrations carried out.	
Licence Duration	N/A	The site is considered a moderate risk and therefore Licence will be issued for a period of 10 years in accordance with DER's Guidance Statement, *Licence Duration*.	

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
9/11/2015	Application advertised in The West Australian (or other relevant newspaper)	No comments received.	NA
20/11/2015	Proponent sent a copy of draft instrument	The following comments were received: • As the Category 61 waste is always going to be liquid waste could the capacities please be recorded as kilolitres and not tonnes per year. • Second paragraph states that the Laverton WWTP treats the sewerage from the entire townsite. See map below for area that is treated and connected to sewerage	• Liquid waste accepted onsite will need to be recorded in tonnes as per category 61 threshold values • Amended. Existing sewer network map also attached to the Licence.

Date	Event	Comments received/Notes	How comments were taken into consideration
		in Laverton. This does not appear to be the entire townsite.	
		• Second paragraph says "current inflow of 50 kL/day". This should be removed. It changes from day to day and year to year so stating what it is, is misleading.	• Removed. Sentence now reads "capacity is approximately 415 m^3/day".
		• Non Toxic salts limit to be measured in kilolitres. Also to be accepted via tanker to the evaporation pond in emergency situations and when there is no discharge occurring to the environment from the WWTP.	• Liquid waste containing non-toxic salts to be measured in tonnes as per category 61 threshold values.
		• Process Requirements to state' to be accepted via tanker to the evaporation pond in emergency situations and when there is no discharge occurring to the environment from the WWTP'.	• Comments adopted
		• Emission point reference should read Laverton WWTP Outflow Measuring Unit (Flume).	• Comments adopted
		• In Description can the sentence Discharge is only authorised when inflows are above 70kL/day as there is no mechanism to control discharge regardless of daily inflow.	• Comments not adopted. System is designed to accommodate inflows of up to 70kL/day without overtopping and is expected to be managed as such.
		• Not sure what Source including abatement means. Not sure what	• Source including abatement is a standard licence template wording.

Date	Event	Comments received/Notes	How comments were taken into consideration
		Treated Wastewater pipeline from wastewater treatment means as there is not one. Need to clarify this.	Treated wastewater pipeline from treatment pond 3 is the discharge pipe.
		• Monitoring Point Reference should read SP Laverton Polish Pond final Effluent. S6000040	• Comments adopted
		• Remove Copper from Parameters to be sampled as no copper dosing on site.	• Comments adopted
		• Frequency of sampling should be quarterly so need to delete the words when discharging.	• Comments adopted. Frequency of sampling will be quarterly.
		• Remove reference to inflow meter as there is currently no inflow meter installed at the WWTP.	• Removed and replaced with improvement condition regarding overflow from pond 3 as this was basis for metering requirement.
		• The last pond should be called Treated Wastewater Evaporation Pond 4.	• Comments not adopted. Labelling according to Schematics and Map supplied.
17/12/2015	Proponent sent a copy of draft instrument	Proponent representative (C. Chaudhry) requested time extension to provide breakdown of works for improvement condition.	Breakdown not required – improvement condition only relates to overtopping of pond 3 – not all proposed upgrade works. Proponent advised that Licence will be issued as set out in the draft.

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

Appendix A

Emissions to Land

Emission Description

Emission: Infiltration of excess treated wastewater (TWW) discharged from pond 3 if inflows are above 70kL/day. The discharge moves north-west, away from the town, due to the slope of the land. Discharge comes from the third treatment pond and only occurs when capacity is reached to prevent overtopping of the evaporation pond. The environmental discharge channel is not classified as a sensitive receiver or located in the vicinity or in an environmentally sensitive environment (not a water body, wetland or ephemeral water way). This discharge does not intersect any hydrological features.

Water quality of the discharge is monitored through quarterly operational sampling. Water is disposed of via a flume discharge point into the infiltration channel and does not undergo disinfection prior to release. As a result *E.coli* levels in water discharged to the infiltration channel are below (<) 1200 cfu/100mL.

Nutrient levels in the TWW are within the expected range of a pond treatment system. Total Nitrogen (TN) levels are within the range 6 - 60mg/L, Total Phosphorous (TP) within the range of 2.6 – 12 mg/L, Nitrate and Nitrite are < 0.2 mg/L, pH are within the range 9 – 9.6. The total dissolved solids (TDS) levels are high slightly (860 – 3370). If the treatment plant was to discharge this amount with the current inflow rate of 50kL per day a nutrient loading of 480kg/ha/year of Total Nitrogen and 120 kg/ha/year of Total Phosphorus would occur to the land.

Impact: Potential to enrich soil and groundwater with excess nutrients and pollutants. It is unlikely the discharge channel will have a significant impact on surface hydrological features in the area. The site and discharge channel do not intersect any hydrological features.

No groundwater monitoring has been undertaken on site to determine groundwater depth or quality. However it is estimated that groundwater levels are at least 15-20 m below the surface. The high evaporation rate (2800 mm/year), the clayey nature of soils and likely uptake of nutrients by soil and vegetation prior to seepage entering the water table will also further reduce any short-term impacts. There is uncertainty about the long-term impacts and suitability of existing practices and further research needs to be undertaken. Therefore pending further information, consequences are considered moderate.

The *E. coli* levels have the potential to impact native fauna or affect human health as the channel is not fenced off, however, exposure to sunlight will reduce the risk. Water Corporation will erect signage to warn people to stay away. Water Corporation has liaised with Department of Health (DoH) about the discharge of effluent into the infiltration channel. Also the hypersaline groundwater will not provide a suitable environment for any *E.coli* to survive.

Controls: Water Corporation will monitor wastewater quality at the pond 3 outlet. The only discharge to the infiltration channel will be during an emergency situation when inflows will be above 70kL/day. However, since the nutrient levels will be relatively low it is unlikely the discharge will have significant impact on the environment. The Water Corporation has begun a Preliminary Sites Investigation (PSI) on the Environmental Discharge Channel. This PSI will determine if environmental impact has occurred from previous environmental discharges from the WWTP. During this investigation it is expected that ground water monitoring bores will be established. Bores will be retained after the investigation and be retained as a part of operational monitoring for the treatment plant. The data from this PSI will also be used to obtain baseline data for future monitoring comparison. Furthermore Water Corporation is investigating two upgrade options for the plant.

- **Option 1:** Addition of a second evaporation/ infiltration pond with the environmental discharge channel maintained for emergencies only. Intent of the upgrade would be to capture all environmental discharges to the pond.
- **Option 2:** As an alternative to option 1 the Water Corporation is proposing to acquire a portion of Lot 382 adjacent to the current WWTP. This land will be developed as a site on which discharges from the WWTP will be contained and infiltrated/evaporated. It will be fenced to exclude grazing and prevent public access. The treated wastewater will continue to evaporate onsite from the existing ponds with some discharge to this new area for infiltration/evaporation during high flow months.

Risk Assessment
Consequence: Moderate
Likelihood: Unlikely
Risk Rating: Moderate

Regulatory Controls

Based on the above assessment and given the area surrounding the discharge channel contains no known significant flora and fauna species records, no additional areas of contamination, no conservation areas or environmentally sensitive areas, no public water sources drinking areas or protected groundwater zones and no sensitive receptors within the proximity, no specified conditions relating to numerical and descriptive limits will be set through conditions of the licence except for condition 3.2.1 where the Licensee will be required to undertake monitoring according to the specifications in Table 3.2.1.

However since the site is susceptible to overflow of pond 3 due to limitations on the flow capacity between pond 3 and the evaporation pond therefore an improvement in condition 4.1.1 condition has been added requiring the Licensee provide a date for carrying out modification to the existing wastewater treatment plant system to manage this overflow.

Residual Risk
Consequence: Moderate
Likelihood: Unlikely
Risk Rating: Moderate