Government of **Western Australia**
Department of **Environment and Conservation**

Your ref: L8078/1996/3
Our ref: DEC11096
Enquiries: Kylie Sadgrove
Phone: (08) 9842 4553
Fax: (08) 9841 7105
Email: Kylie.sadgrove@dec.wa.gov.au

Chief Executive Officer
Shire of Ravensthorpe
PO Box 43
RAVENSTHORPE WA 6346

Dear Sir,

***ENVIRONMENTAL PROTECTION ACT 1986*: LICENCE GRANTED**

Premises
Ravensthorpe's Limited Effluent Treatment and Reuse Facility
Lot 828 Jamieson Street, Crown Reserve 38576, RAVENSTHORPE WA 6346
Licence Number: L8078/1996/3

A licence under the *Environmental Protection Act 1986* (the Act) has been granted for the above premises. The Department of Environment and Conservation will advertise the issuing of this licence in the public notices section of *The West Australian* newspaper.

The licence includes attached conditions. Under Section 58(1) of the Act, it is an offence to contravene a condition of a licence. This offence carries a penalty of up to $125,000 and a daily penalty of up to $25,000

In accordance with section 102(1)(c) of the Act, you have 21 days to appeal the conditions of the licence. Under section 102(3)(a) of the Act, any other person may also appeal the conditions of the licence. To lodge an appeal contact the Office of the Appeals Convenor on 6467 5190 or by email at admin@appealsconvenor.wa.gov.au.

Where a licence is issued for more than one year it requires payment of an annual fee and will cease to have effect if the fee is unpaid. It is the occupier's responsibility to lodge a fee application and pay the annual fee in sufficient time to avoid incurring a late payment fee and for processing to be completed before the licence anniversary date.

If you have any queries regarding the above information, please contact Kylie Sadgrove on (08) 9842 4553.

Yours sincerely

Bruce Bone
Officer delegated under Section 20
of the *Environmental Protection Act 1986*

28 March 2013

enc: *Environmental Protection Act 1986* Licence L8078/1996/3

Department of
Environment and Conservation
Our environment, our future

Licence

Environmental Protection Act 1986, Part V

Licensee: Shire of Ravensthorpe

Licence: L8078/1996/3

Registered office: 65 Morgans Street
RAVENSTHORPE
WA 6346

ABN: 52 674 538 418

Premises address: Ravensthorpe's Limited Effluent Treatment and Reuse Facility
Lot 828 Jamieson Street, Crown Reserve 38576
RAVENSTHORPE
WA 6346

Issue date: Thursday, 28 March 2013

Commencement date: Friday, 5 April 2013

Expiry date: Wednesday, 4 April 2018

Prescribed Premises Category
Schedule 1 of the Environmental Protection Regulations 1987

Category number	Category description	Category production or design capacity	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	100m^3/day

Conditions of Licence
Subject to the conditions of the licence set out in the attached pages.

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Bruce Bone
Officer delegated under Section 20
of the *Environmental Protection Act 1986*

Contents

Introduction

This Introduction is not part of the Licence conditions.

Who we are
The Department of Environment and Conservation (DEC) is a Government Department in the portfolio of the Minister for the Environment. Our purpose is to protect and conserve the State's environment on behalf of the people of Western Australia.

Our industry licensing role
DEC has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. We also monitor and audit compliance with works approvals and licence conditions, take enforcement action as appropriate and develop and implement licensing and industry regulation policy.

Licence requirements
This licence is issued under Part V of the Act. Conditions contained with the licence relate to the prevention, reduction or control of emissions and discharges 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. These 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 should comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply. Additional guidance on pollution prevention can be found in the Department of Water's Water Quality Protection Guidelines and Codes of Practice accessed through:

http://www.water.wa.gov.au/Managing+water/Water+quality/Water+quality+protection+guidelines/default.aspx

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 the Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary
Ravensthorpe Limited Effluent Treatment and Reuse Facility (Ravensthorpe LETRF) is operated by the Shire of Ravensthorpe (SoR). The facility previously operated under a registration from 1997; since the premises were initially registered the flow of sewage into the facility has increase to where it triggered the threshold for licensing. The premises has been licenced since 2006.

Sewage is directed to the Ravensthorpe LETRF through sewage pipe inflows as well as septage which is received through the septage dump point at the facility. The treatment system consists of two primary settlement ponds (ponds 1 and 4), a secondary pond (pond 2) and a storage evaporation pond (pond 3).

Sewage from the towns reticulated sewerage system flows from a diverter sump where it is directed to a primary pond (pond 1) where it then passes through a mixing and transfer sump to the storage pond. Sewage from the septage dump point is also directed into a primary pond (pond 4). Treated wastewater from the storage pond (pond 3) is irrigated to the sporting complex oval, hockey field and school oval. The irrigation pipeline runs from pond 3 to two irrigation holding tanks (70kL each); located outside of the premises boundary; on the northern side of Hopetoun-Ravensthorpe Highway, from where it is irrigated.

This Licence is the successor to licence L8078/1996/2. The changes to the licence include the conversion to the REFIRE format which involves the addition of several standard conditions which were not present on the previous licence for the premises. The standard conditions include hydrocarbon and chemical storage, management of spills, stormwater control, odour and licence records.

The licences and works approvals issued for the Premises since 14/05/1997 are:

Instrument log		
Instrument	**Issued**	**Description**
R620/1996/1	14/05/1997	Registration of the operation as category 85 Sewage Facility
W4232/1996/1	12/06/2006	Works approval: upgrade of existing treatment plant involving the construction of a septage dump point, new anaerobic treatment pond and the merging of existing ponds 3 and 4 into a larger storage pond.
L8078/1996/1	05/04/2006	New application
L8078/1996/2	05/04/2009	Licence Reissue
L8078/1996/2	03/02/2011	Licence amendment for administrative errors which occurred on the previous licence. These include the addition of the expiry date, correction of the issue date, update of the licence format, DEC contact details updated, sampling methods incorporated into one table and the addition of two definitions.
L8078/1996/3	28/03/2013	Licence reissue

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:

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

"annual" means the inclusive period from 1 July until 30 June of the next 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;*

"Code of Practice for the Storage and handling of dangerous goods" means the Storage and handling of dangerous goods, Code of Practice, Department of Mines and Petroleum, Government of Western Australia;

"Contact Address" for the purpose of correspondence and advice means:
Regional Leader, Industry Regulation, South Coast Region
Department of Environment and Conservation
120 Albany Highway
ALBANY WA 6330
Telephone: (08) 9843 4500
Facsimile: (08) 9841 7105

"dangerous goods" has the meaning defined in the Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007;

"Director" means Director, Environmental Regulation Division of the Department of Environment and Conservation for and on behalf of the Chief Executive Officer as delegated under Section 20 of the *Environmental Protection Act 1986;*

"environmentally hazardous material" means material (either solid or liquid raw materials, materials in the process of manufacture, manufactured products, products used in the manufacturing process, by-products and waste) which if discharged into the environment from or within the premises may cause pollution or environmental harm;

"fugitive emissions" means all emissions not arising from point sources identified in Sections 2.5;

"Licence" means this Licence numbered L8078/1996/3 and issued under the *Environmental Protection Act 1986;*

"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;

"placard quantity" has the meaning defined in the Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007;

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

"sewage" means any human excreta or domestic waterborne waste, whether treated or partially treated, but does not include trade waste;

"sullage" means wastewater arising from a domestic dwelling primary use for domestic purposes. Domestic residences would be those as zoned by council as suitable for residential use. Domestic wastewater can comprise of blackwater (toilet waste) or grey water (sullage waste from bathrooms, laundries and kitchens) or a combination of both;

"treated wastewater" means wastewater that has been subjected to one or more physical, chemical and biological processes;

"waste" has the meaning defined in the *Environmental Protection Act 1986*;

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the current version of that standard.

1.2 General conditions

1.2.1 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.

1.2.2 The Licensee shall maintain all pollution control and monitoring equipment to the manufacturer's specification or any internal management system.

1.2.3 The Licensee, except where storage is prescribed in section 1.3, shall only store substances that are classed as dangerous goods below placard quantities or environmentally hazardous materials not classified as dangerous goods if they are stored in accordance with the Code of Practice for the Storage and handling of dangerous goods.

1.2.4 The Licensee shall immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system.

Stormwater control

1.2.5 The Licensee shall ensure that uncontaminated stormwater is kept separate from contaminated or potentially contaminated stormwater. Where stormwater has come into contact with a possible source of contamination, it should be treated as contaminated.

1.3 Premises operation

1.3.1 The Licensee shall only allow waste to be accepted on to the Premises if:
(a) it is of a type listed in Table 1.3.1;
(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	Quantity Limit	Specification
Sewage and sullage	100m^3/day	Accepted through sewer inflow(s)
Sewage and sullage	-	Accepted through septage dump point (pond 4).

2 Emissions

2.1 General

2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit, and/or target in this section.

2.2 Point source emissions to air

There are no specified conditions relating to point source emissions to air in this section.

2.3 Point source emissions to surface water

There are no specified conditions relating to point source emissions to surface water in this section.

2.4 Point source emissions to groundwater

There are no specified conditions relating to point source emissions to groundwater in this section.

2.5 Emissions to land

2.5.1 The Licensee is permitted, subject to conditions in the Licence, to emit waste to land through the emission points listed in Table 2.5.1 [and identified in the Map of emission points in Schedule 1].

Table 2.5.1: Emissions to land

Emission point reference [and location on Map of emission points]	Description	Source including abatement
L1: Irrigation Area	Pipe feeding irrigation of the sporting complex oval, school oval and hockey field.	Treated wastewater from the Ravensthorpe Limited Effluent Treatment and Reuse Facility.

2.6 Fugitive emissions

There are no specified conditions relating to fugitive emissions in this section.

2.7 Odour

2.7.1 The Licensee shall ensure that odour emitted from the Premises does not unreasonably interfere with the health, welfare, convenience, comfort or amenity of any person who is not on the Premises.

2.8 Noise

There are no specified conditions relating to noise in this section.

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 samples are collected in accordance with AS/NZS 5667.10;
(c) all samples are submitted to a laboratory with current NATA accreditation for the parameters to be measured [unless indicated otherwise in relevant table].

3.1.2 The Licensee shall ensure that :
(a) monthly monitoring is undertaken at least 15 days apart;
(b) quarterly monitoring is undertaken at least 45 days apart;
(c) six monthly monitoring is undertaken at least 5 months apart; and
(d) annual monitoring is undertaken at least 9 months apart.

3.2 Monitoring of point source emissions to air

There are no specified conditions relating to monitoring of point source emissions to air in this section.

3.3 Monitoring of point source emissions to surface water

There are no specified conditions relating to monitoring of point source emissions to surface water in this section.

3.4 Monitoring of point source emissions to groundwater

There are no specified conditions relating to monitoring of point source emissions to groundwater in this section.

3.5 Monitoring of emissions to land

3.5.1 The Licensee shall undertake the monitoring in Table 3.5.1 according to the specifications in that table.

Table 3.5.1: Monitoring of emissions to land			
Emission point reference	**Parameter**	**Units**	**Frequency**
M1: Final wastewater storage tank and prior to irrigation.	Biochemical Oxygen Demand Total Dissolved Solids Total Nitrogen Total Phosphorus	mg/L	Quarterly; March, June, September, December.
	pH		
	E. coli	cfu/100ml	

3.6 Monitoring of inputs and outputs

There are no specified conditions relating to monitoring of inputs and outputs in this section.

3.7 Process monitoring

There are no specified conditions relating to process monitoring in this section.

3.8 Ambient environmental quality monitoring

There are no specified conditions relating to ambient environmental quality monitoring in this section.

3.9 Meteorological monitoring

There are no specified conditions relating to meteorological monitoring in this section.

4 Improvements

4.1 Improvement programme

There are no specified improvement conditions in this section.

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 groundwater.

5.1.2 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.

5.1.3 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 year.

5.1.4 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.

5.2 Reporting

5.2.1 The Licensee shall submit to the Director at the Contact Address an annual environmental report within 30 calendar days after of the end of the 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 or any incidents that have occurred during the year and any action taken	None specified
5.1.3	Compliance	AACR
5.1.4	Complaints summary	None specified
Table 3.5.1 & 3.7.1	All monitoring results with an explanation of all the monitoring requirements of this licence	Annual Environmental Report

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 recorded under Condition 3.1.3;
(b) an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets; and
(c) a list of any original monitoring reports submitted to the Licensee from third parties in the reporting period and make these reports available on request.

5.3 Notification

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

Table 5.3.1: Notification requirements

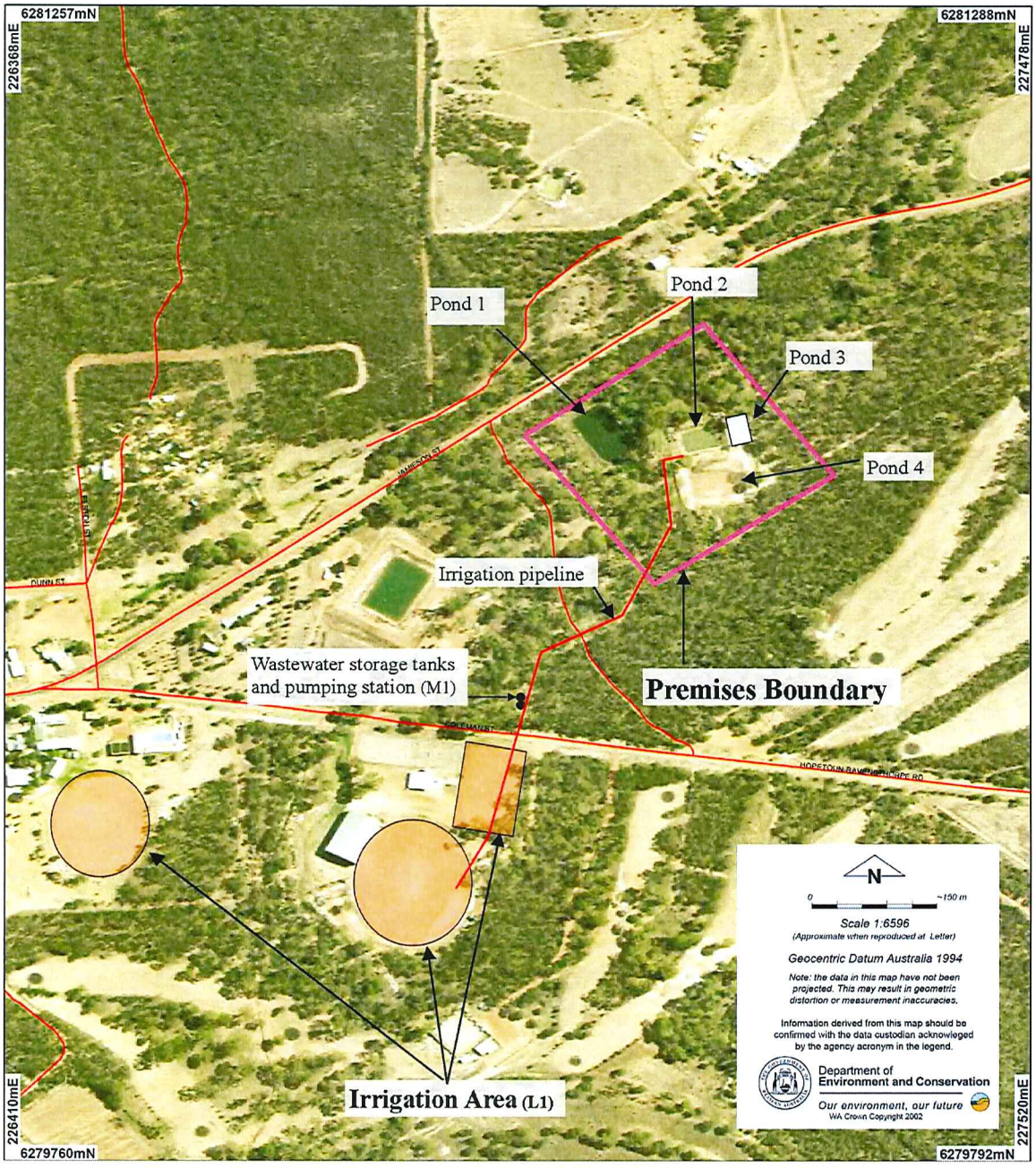
Condition or table (if relevant)	Parameter	Notification requirement[1]	Format or form[2]
2.1.1	Any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution	Part A: As soon as practicable but no later than 5PM of the next usual working day. Part B: As soon as practicable	N1

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

Schedule 1: Maps

Premises map

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



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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.

Copies of the original monitoring reports must also be submitted.

Licence:	L8078/1996/3	Licensee:	Shire of Ravensthorpe
Form:	AACR	Period :	
Name:	Annual audit compliance report		

Annual audit compliance report

Section A: Statement of compliance with Licence conditions

Were all conditions of licence complied with within the reporting period?		
Yes	□	Initial Sections A & B, then proceed to Section C
No	□	Initial Section A, then 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

a) Licence condition not complied with?	
b) Date(s) b) Date(s) and time(s) the non compliance occurred, if applicable?	
c) Was this non compliance reported to DEC?	
☐ Yes, and ☐ Reported to DEC verbally Date ☐ Reported to DEC in writing Date	☐ No
d) Has DEC taken, or finalised any action in relation to the non compliance?	
e) Summary of particulars of 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	

Please use a separate page for each Licence condition that was not complied with. Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:

Section C: Signature and certification

This AACR may only be signed by a person(s) with legal authority to sign it as defined 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 AACR must be signed and certified:
an individual	□	by the individual Licence holder, or
	□	by a person approved in writing by the Chief Executive Officer (CEO) of DEC 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 CEO of DEC.
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 CEO of DEC.
a local government	□	by the CEO 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 AACR 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)

Department of
Environment and Conservation
Our environment. our future

Licence: L8078/1996/3 Licensee:
Form: N1 Date of breach:

Notification of detection of the breach of a limit or any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution.

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	
To be notified as soon as practicable and no later than 5PM of the next working day	
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	

Notification requirements for any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution	
To be notified as soon as practicable and no later than 5PM of the next working day	
Date and time of event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken , or intended to be taken, to stop any emission	
Description of the failure or accident	

Part B - to be submitted as soon as practicable

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 unauthorised emissions from the installation in the preceding 24 months.	

Name*	
Post	
Signature on behalf of	
Date	

LICENCE NUMBER: L8078/1996/3
LICENCE FILE NUMBER: DEC11096
APPLICATION DATE: 09 February 2013
EXPIRY DATE: 4 April 2018

PREMISES DETAILS

LICENSEE
Shire of Ravensthorpe
65 Morgans Street
RAVENSTHORPE WA 6346
ABN: 52 674 538 418

PREMISES
Ravensthorpe's Limited Effluent Treatment and Reuse Facility
Lot 828, Jamieson Street, Crown Reserve 38576
RAVENSTHORPE WA 6346

PRESCRIBED PREMISES CATEGORY

Table 1: Prescribed premises category

Category number*	Category Description*	Category Production or Design Capacity*	Premises Production or Design Capacity#	Premises Fee Component **
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	100m^3/day	Not more than 200 cubic meters per day

* From Schedule 1 of the Environmental Protection Regulations 1987
# From application
** From Schedule 4 of the Environmental Protection Regulations 1987

This Environmental Assessment Report (EAR) has been drafted for the purposes of detailing information on the management and mitigation of emissions and discharges from the prescribed premises. The objective of the EAR is to provide a risk assessment of emissions and discharges, and information on the management of other activities occurring onsite which are not related to the control of emissions and discharges from the prescribed premises activity. This does not restrict the Department of Environment and Conservation (DEC) to assessing only those emissions and discharges generated from the activities that cause the premises to become prescribed premises.

Basis of Assessment
The Ravensthorpe's Limited Effluent treatment and Reuse Facility (Ravensthorpe LETRF) which has been assessed as "prescribed premises" category number 54, under Schedule 1 of the Environmental Protection Regulations 1987.

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.

Ravensthorpe's LETRF triggers licensing under the *Environmental Protection Act 1986* as it is a premises on which there is a capacity for 100 cubic metres or more per day of sewage, which is treated and discharged onto land through the irrigation of sporting fields. The premises production/design capacity is $100m^3$ per day.

1.0 BACKGROUND

1.1 GENERAL COMPANY DESCRIPTION

Ravensthorpe LETRF is operated by the Shire of Ravensthorpe (SoR) which is a local government authority which includes the regional centre of Ravensthorpe and the towns of Hopetoun and Munglinup.

The Ravensthorpe LETRF is an existing premises which was registered under category 85 (sewage facility) and over the years the premises has been registered, the flow of sewage into the plant has slowly increased to where it triggered the threshold that requires licensing. The facility is currently licensed under Category 54: Sewage facility with a production/design capacity of 100 cubic metres per day.

1.2 LOCATION OF PREMISES

Ravensthorpe LETRF is located within the Ravensthorpe town at Lot 828 Jamieson Street, Ravensthorpe WA 6346; Crown Reserve 38576. Treated wastewater from the facility is irrigated to nearby sporting ovals located within the town of Ravensthorpe (Figure 1).

Climate/Rainfall/Evaporation

Mean annual rainfall in Ravensthorpe is 424.9mm (Bureau of Meteorology) and mean annual evaporation is 1987mm (Department of Agriculture). Evaporation exceeds rainfall during all months of the year.

Surface water features

An intermittent, modified watercourse is located approximately 50m from treatment pond 1. It flows into a sump located on the premises. Any wastewater that enters the sump can be pumped back to pond 3. Two separate intermittent, minor drainage channels exist approximately 100m west of the football oval and 100m south-east of the hockey field.

Soils & Groundwater

Soils at the treatment plant are deep clays, with a 30cm topsoil above a silty clay layer down to 1.5m and green clay below that. Soils at the irrigation area (sports complex) have a 150mm layer of course sand above the original soil surface that is similar to the treatment plan (deep clay). The soils at the irrigation area were tested by 'Western Geotechnics' with the following results being presented in the premises NIMP: total phosphorus = 190 mg/kg, total nitrogen = 43 mg/kg, phosphorus retention index (PRI) = 15. Groundwater in the area is approximately 15m below the surface.

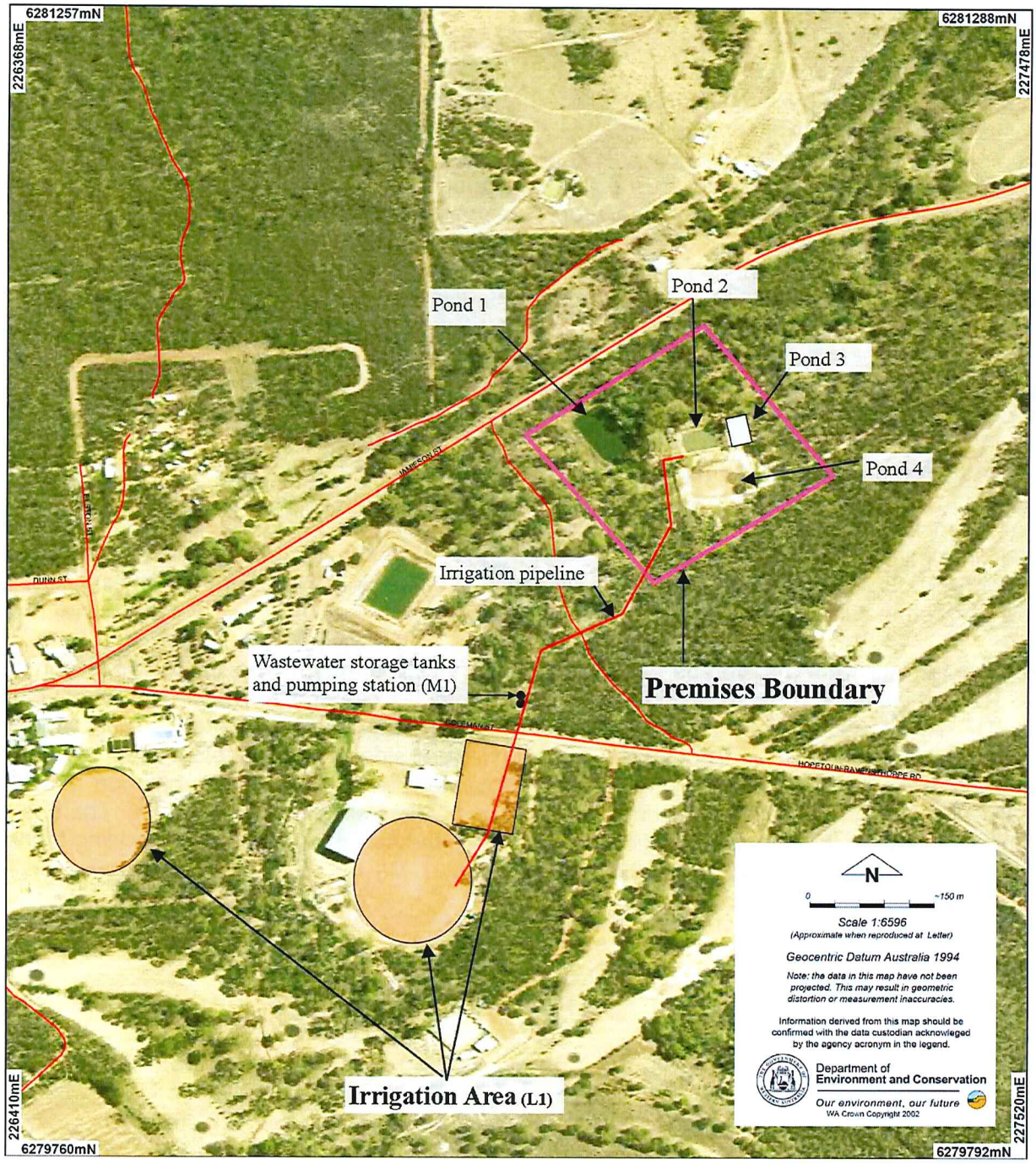

Figure 1: Premises boundary and irrigation areas.

PROCESS DESCRIPTION

The current throughput of the Ravensthorpe LETRF is 54.5m^3 per day (1659m^3 monthly average).

Sewage is directed to the Ravensthorpe LETRF through sewage pipe inflows as well as septage which is received through the septage dump point at the facility. The treatment system consists of two primary settlement ponds (ponds 1 and 4), a secondary pond (pond 2) and a storage evaporation pond (pond 3); Figure 2. The treatment ponds are constructed of compacted clay using material which was sourced from the site. The permeability of the clay has been tested with results ranging from 1.3-1.8*10^{-8} metres/second. Total pond capacity of the treatment system is 24,060m^3 with the reported annual output to irrigation of 18,480kL per year and annual rainfall and evaporation data from the Bureau of Meteorology, it is estimated that outflows from the treatment plant will exceed the inflows by 4,565kL per year.

Sewage from the towns reticulated sewerage system, flows from a diverter sump where it is directed to a primary pond (pond 1). Wastewater from the primary pond is then passed through a mixing and transfer sump to the storage pond (pond 3). Sewage from the septage dump point is also directed into a primary pond (pond 4). Septage dump point is located at the facility for trucks which have transported septage to the facility. The dump point consists of concrete and bunded by a 300mm concrete bund. The sewage is discharge into a sump through a filter basket to screen for solids into pond 4 via a discharge pipe. The sewage is pumped into the dump point via a hose that is connected to the tanker and the dump point with a camlock fitting to prevent any splashing. Figure 2 shows the current treatment process.

Treated wastewater from the storage pond (pond 3) is reused through irrigation of three sporting fields. Treated wastewater is irrigated to the sporting complex oval, hockey field and school oval (Figure 1). The irrigation pipeline runs from pond 3 to two irrigation holding tanks (70kL each); located outside of the premises boundary; on the northern side of the Hopetoun-Ravensthorpe Highway, from where it is irrigated (Figure 1). The wastewater is treated with chlorine prior to irrigation. The sampling point for monitoring purposes is collect from the storage tanks. There is a flow meter located on the irrigation pipeline which records the flow into the irrigation holding tanks. The current annual irrigation volume is 19,913m^3.

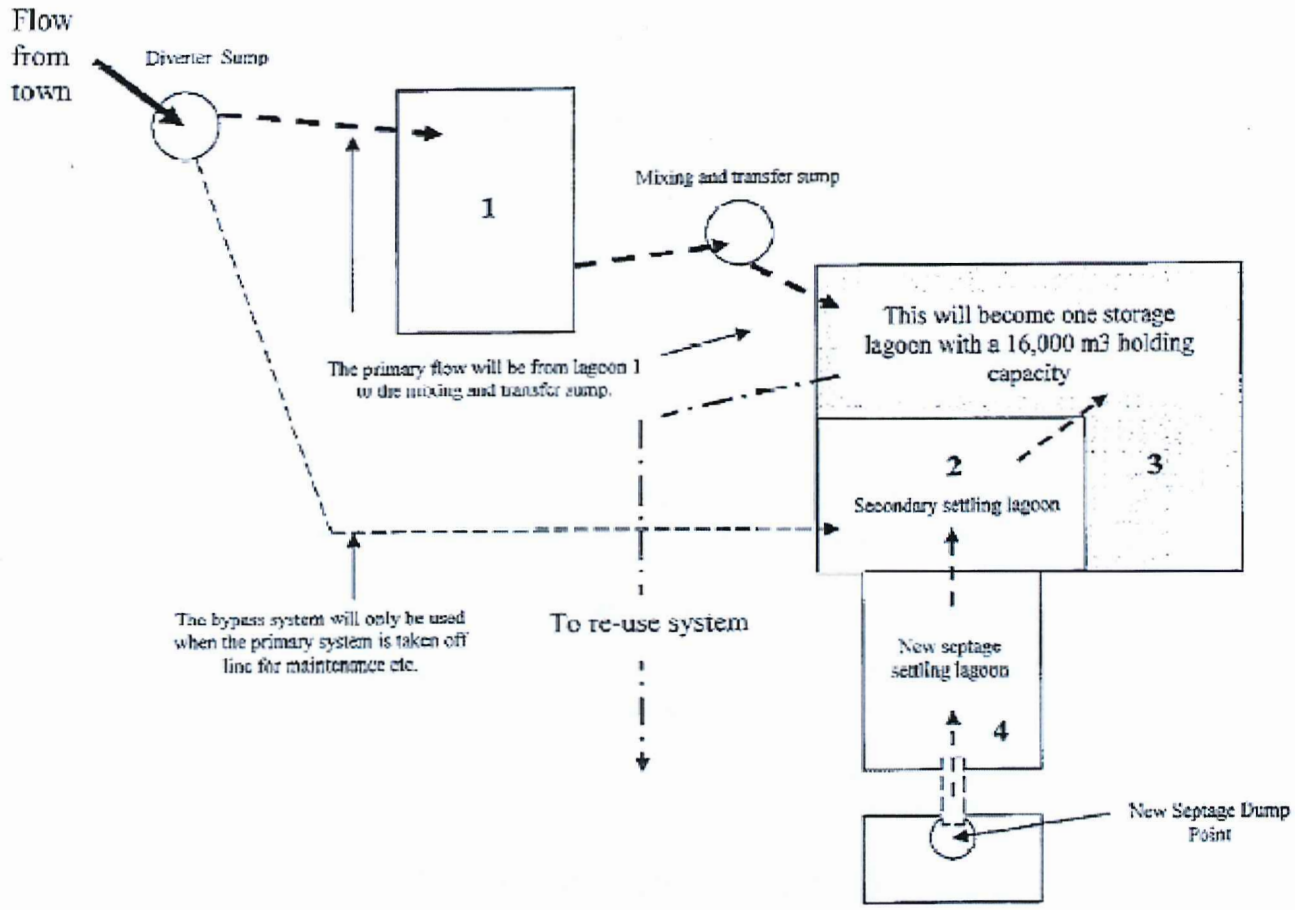

Figure 2: Treatment Plant process.

The Environmental Assessment Report (EAR) and Licence is required to be revised and updated to bring up-to-date the current operations of the facility. Information has been requested from the Shire of Ravensthorpe to update the operations of the treatment facility, due to time constraints for the reissuing of the licence, the licence has been reissued without updating the licence conditions and the EAR. When time permits, the licence and EAR for the facility will be reviewed and an amendment will occur to update the information contain within the licence and EAR. The amendment to include updating of treatment process of the facility, the monitoring of the emissions including the possible installation of monitoring bores, the investigation into the permeability of the current ponds and the potential for the addition of limits and targets for any discharges.

1.4 REGULATORY CONTEXT

1.4.1 Part IV Environmental Protection Act 1986, Environmental Impact Assessment

The reissue of the Ravensthorpe LETRF licence was not referred to the Environmental Protection Authority (EPA) under Part IV of the *EP Act 1986*.

1.4.2 Part V Environmental Protection Act 1986, Environmental Management

The Ravensthorpe LETRF has been assessed as a prescribed premises, Category 54: Sewage Facility. The premises originally held a registration in 1997 (R620/1996/1) which was valid until 2006. In 2006 the premises was licenced (L8078/1996/1) for a period of three years with the reissue of the licence in 2009 (L8078/1996/2). The current licence is to be reissued for a period of 5 years.

A works approval (W4232/1996/1) was issued in 2006 for the upgrade of the treatment plant due to increase of inflows to the facility. The works approval included the construction

of a new septage dump point, new anaerobic treatment pond and the merging of the ponds 3 and 4 into one large pond.

Water Quality protection notes which may apply include:

- *Water Quality Protection Note – Ponds for Stabilising Organic Matter, February 2009.*
- *Water Quality Protection Note – Liners for containing pollutants using synthetic membranes, February 2009.*
- *Water Quality protection Note – Liners for containing pollutants, using engineered soils, June 2010.*
- *Water Quality Protection Note- Irrigation with nutrient rich wastewater, July 2008.*
- *Water Quality Protection Note - Nutrient and Irrigation Management Plans, June 2010.*

Environmental Protection Regulations which apply to activities to be undertaken on site include:

- Environmental protection Regulations 1987;
- Environmental protection (Clearing of Native Vegetation) Regulations 2004;
- Environmental Protection (Noise) Regulations 1997;
- Environmental Protection (Unauthorised Discharges) Regulations 2004.

1.4.3 Other Decision-making Authorities' Legislation which applies

Irrigation of treated sewage is also managed under the *Health Act 1911*.

1.4.5 Local Government Authority

The facility is operated by and located within the Shire of Ravensthorpe.

2.0 STAKEHOLDER AND COMMUNITY CONSULTATION

SUBMISSIONS RECEIVED DURING 21 DAY PUBLIC COMMENT PERIOD

The Application for Licence details for this facility were advertised in the West Australian newspaper on 4 March 2013 as a means of advising stakeholders and to seek public comments. No submissions were received.

3.0 EMISSIONS AND DISCHARGES RISK ASSESSMENT

The DEC considers that conditions should focus on regulating emissions and discharges of significance. Where appropriate, emissions and discharges which are not significant should be managed and regulated by other legislative tools or management mechanisms.

The following section assesses the environmental risk of potential emissions from the Ravensthorpe LETRF. In order to determine the site's appropriate environmental regulation, an emissions and discharges risk assessment was conducted of the Ravensthorpe LETRF using the environmental risk matrix outlined in Appendix B. The results of this are summarised in Table 2.

Table 2: Risk assessment and regulatory response summary table

Risk factor	Significance of emissions	Socio-Political Context of Each Regulated Emission	Risk Assessment	DEC Regulation (EP Act - Part V)	EAR Reference	Other management (legislation, tools, agencies)
Air emissions (point source)	**Significance of Emissions:** N/A No point source air emissions expected to occur.	**N/A**	**N/A**	LIC – No conditions		Air EMP and EMS procedures
Dust emissions	**Significance of Emissions:** 1 Dust emissions unlikely to occur at the premises. The area surrounding the premises is vegetated. Limited vehicle movements as sewage is piped to the facility although some is delivered via the septage dump point.	**Low** Nearby by receptors: One property approx. 350m and town 500m away from the treatment plant. There is no history of complaints to the DEC.	E = No regulation, other management mechanisms	LIC – No conditions		UD Regulations General provisions of the *Environmental Protection Act 1986.*
Odour emissions	**Significance of Emissions:** 2 There is a potential for odour emissions to occur from the treatment ponds and from irrigation. Likely to be minimal odour emissions during operation. NIMP: BOD is 35mg/L, below 150mg/L threshold for treatment. There is a potential for odour emissions to occur through the desludging of the ponds. Desludging of the ponds is not expected to occur in the foreseeable future.	**Low** Nearby by receptors: one property approx. 350m and town 500m away from the treatment plant. The premises is surrounded by crown reserve. DEC has received no complaints regarding odour.	**D=** EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools	LIC– generic odour licence condition.		General provision of the *Environmental Protection Act 1986.*

Risk factor	Significance of emissions	Socio-Political Context of Each Regulated Emission	Risk Assessment	DEC Regulation (EP Act - Part V)	EAR Reference	Other management (legislation, tools, agencies)
Noise emissions	**Significance of Emissions: 1** Likely to be minimal noise emissions during operation of the facility. The facility is located away from the centre of town, with limited vehicle movement as sewage is piped to the facility.	**Low** Nearby by receptors: One property approx. 350m and town 500m away from the treatment plant.	**D**= EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools	LIC– No conditions		Environmental Protection (Noise Regulations) 1997
Light emissions	**Significance of Emissions:** N/A No light emissions are expected to occur.	**N/A**	**N/A**	LIC– No conditions		General provisions of the *Environmental Protection Act 1986*
Discharges to water	**Significance of Emissions: 1** There are no planned discharges to water. There is a potential for a discharge to water, although it is unlikely to occur. There is an intermittent, modified channel within 50m of pond one, that flows into a sump located on the premises which can be pumped to pond 3 if required. Two minor, intermittent drains exist near the irrigation area, which as located approx. 100m from the irrigation areas. Irrigation to be conducted in accordance with the premises NIMP.	**Low** Nearby by receptors: one property approx. 350m and town 500m away from the treatment plant.	**D**= EIPs, other management mechanisms/licence conditions (monitoring/reporting) /other regulatory tools	LIC –no conditions		General provisions of the Environmental Protection Act 1986 Unauthorised Discharge Regulations Nutrient Irrigation Management Plan (NIMP)
Discharges to land	**Significance of Emissions:2** Treated wastewater is discharged to land through irrigation.	**Low** Nearby by receptors: one property approx. 350m and town 500m away from the treatment	**D**= EIPs, other management mechanisms/licence conditions (monitoring/	LIC – Licence conditions relating to the monitoring of the emissions to land, and the	Appendix A: 1.0	General provisions of the Environmental Protection Act 1986

Risk factor	Significance of emissions	Socio-Political Context of Each Regulated Emission	Risk Assessment	DEC Regulation (EP Act - Part V)	EAR Reference	Other management (legislation, tools, agencies)
	Treated wastewater is irrigated to three sports ovals which are located within the Shire of Ravensthorpe. The irrigation areas are not located within the premises boundary. The Shire of Ravensthorpe has a Nutrient Irrigation Management Plan (NIMP) for the irrigation of the treated wastewater.	plant.	reporting)/ other regulatory tools	location of the irrigation areas.		Unauthorised Discharge Regulations Nutrient Irrigation Management Plan (NIMP)
Solid / liquid wastes	**Significance of Emissions:2** There is a potential for solid/liquid wastes to occur at the facility if de-sludging of ponds occurs. Desludging of the ponds is not expected to occur in the foreseeable future.	**Low** Nearby by receptors: One property approx. 350m and town 500m away from the treatment plant.	**D**= EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools	LIC –no conditions.		Environmental Protection (Controlled Waste) Regulations 2004
Hydrocarbon/ chemical storage	**Significance of Emissions:** N/A No storage of chemicals occurs.	N/A	N/A	LIC – No conditions		Dangerous Goods storage licence and relevant legislation (DOCEP), EMS
Native vegetation clearing	**Significance of Emissions:** N/A Native vegetation is not required to be cleared.	N/A	N/A	LIC – No conditions		Clearing permit (DMP), EMS
Contaminated site identification	**Significance of Emissions:** The premises is currently classified 'Possibly contaminated- investigation required' under the Contaminated Sites Act which is managed by the Contaminated Sites Branch.	**Low** Nearby by receptors: One property approx. 350m and town 500m away from the treatment plant.	**E –** No regulation, other management mechanisms.	LIC – No conditions		*Contaminates Sites Act 2003* Contaminated Sites Regulations 2006

4.0 GENERAL SUMMARY AND COMMENTS

The Ravensthorpe's Limited Effluent treatment and Reuse Facility (Ravensthorpe LETRF) has been assessed as "prescribed premises" category number 54: Sewage Facility, under Schedule 1 of the Environmental Protection Regulations 1987. The production/design capacity of the facility is 100 cubic metres per day.

Ravensthorpe LETRF treatment system consists of two primary settlement ponds (ponds 1 and 4), a secondary pond (pond 2) and a storage evaporation pond (pond 3). Sewage from the towns reticulated sewerage system, flows from a diverter sump where it is directed to a primary pond (pond 1). Wastewater from the primary pond is then passed through a mixing and transfer sump to the storage pond (pond 3). Once treated the wastewater is pumped to two storage tanks, where it is used to irrigate to two sporting fields located within the town of Ravensthorpe.

Due to time constraints with the reissue of the licence an amendment will be conducted to review the operations of the facility and licence conditions. The licence is to be reissued for a period of 5 years.

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APPENDIX A: EMISSIONS & DISCHARGES OF SIGNIFICANCE

1.0 DISCHARGES TO LAND

Treatment Plant

The possibility of discharges exists from infiltration through the pond liner or from overflow of wastewater from the treatment ponds. The ponds are constructed of compacted clay using material that was sourced from the site. This material's permeability was been tested with results ranging from 1.3 – 1.8 * 10^{-8} metres/second. This is approximately ten times the maximum permeability suggested in *Water Quality Protection Note – Ponds for Stabilising Organic Waste, December 2000* of 1 * 10^{-9} metres/second (approximately 30mm per year).

The permeability of the new pond constructed through the works approval (W4232/1996/1; extension of pond 3) was constructed to a permeability of $8.5x10^{-10}$ and $4.9x10^{-9}$ which satisfies permeability requirements of 10^{-9}.

Irrigation

The SoR irrigate the treated wastewater to the football oval, school oval and hockey fields. Wastewater from pond 3 is treated with chlorine and pumped to the storage tanks (as depicted in Figure 1) prior to irrigation. An existing pipeline that follows the road to the sports complex is utilised to transport the treated wastewater to the irrigation areas. A spray irrigation system has been installed at Ravensthorpe sports complex to irrigate the mixture of kikuyu and couch grass. Sampling of the wastewater for monitoring purposes occurs from the two storage tanks prior to irrigation.

The SoR has tested the water quality from the final pond (where re-use water will be sourced from) and included the results in the NIMP. These results are presented in table 3.

Table 3: Wastewater quality results

Parameter	Result (mg/l)
BOD 5 day	35
Total Nitrogen	9
Total Phosphorus	1.8
Total Suspended Solid	120
Total Dissolved Solid	490

According to the NIMP, the SoR plan to irrigate 7 cycles per fortnight (140kL per cycle) for 32 weeks of the year and one cycle a week for the remaining 20 weeks (winter months). This gives an annual total of 18,480kL. The maximum amount that could be pumped and stored at the sports complex each day is 140kL per day. This worst-case scenario would result in an annual total of 51,100kL. The area to be irrigated at the sports complex is 23,500m^2. The nutrient loading rates for both the planned irrigation from the NIMP and the maximum possible irrigation volumes are presented in table 4.

Table 4: Nutrient loading rates

	Total Nitrogen	Total Phosphorus	BOD
Irrigation Plan	70.77 kg/ha/year	14.15 kg/ha/year	0.75 kg/ha/day
Maximum Possible	195.7 kg/ha/year	39.14 kg/ha/year	2.09 kg/ha/day

Water Quality Protection Note- Irrigation with nutrient rich wastewater, July 2008 has guidelines for the maximum nutrient loading rates that should be applied to land depending on the phosphorus retention index (PRI) of the soils and the eutrophication risk of downstream watercourses. These

are presented in Table 5. The guidelines also recommend that BOD be applied at less than 30 kg/ha/day to avoid foul odours.

Table 4: Maximum nutrient loading rates.

Vulnerability Category	Maximum inorganic nitrogen (as N)	Maximum reactive phosphorus (as P)
	Application rate (kg/ha/year)	Application rate (kg/ha/year)
A	140	10
B	180	20
C	300	50
D	480	120

The irrigation area is considered vulnerability category D, because the PRI is above 10 (15) and the land does not drain to areas with a significant risk of eutrophication.

The nitrogen, phosphorus and BOD loading rates for the planned irrigation scheme are well below the limits for category D. Even when the maximum possible volume is irrigated the loading rates are well below the limit.

The SoR have also made the following commitments in the NIMP:

- Irrigation will be monitored and managed to avoid runoff, groundwater mounding or nutrient leaching;
- The schedule will incorporate monitoring of turf water usage and soil moisture status to ensure that water passing below the root zone is minimised;
- Turf health will be managed in consultation with a turf specialist;
- Annual soil testing will be carried out to ensure that nutrients in the soil do not build up, and to manage the application of any fertilizer.

Risk assessment

Treatment Plant

The risk of land discharges via seepage from the ponds due to the permeability of the pond liner being above the guideline level. However the risk of any seepage having an impact on the environment is low due to the following factors:

- Groundwater 15m below the surface;
- Low level of nutrients in the wastewater (table 3);
- Management proposal suggested in the NIMP.

The risk of discharges to land via overflow from the ponds is low because the water balance indicates the current facility has adequate capacity for the current inflows and the SoR plan to calculate an annual water balance for the treatment plant to ensure storage is sufficient.

Irrigation

The risk is low because even when using the maximum possible annual irrigation volumes, the nutrient loading rates are still well below the maximum levels set in the guidelines. The management plans outlined in the NIMP should prevent any ponding or runoff of wastewater, or excessive leaching of nutrients. Sample results taken January 2013 for irrigation water; Nitrogen 2.19mg/L, Phosphorus 7.2mg/L and BOD <0.5mg/L.

APPENDIX B: EMISSIONS AND DISCHARGES RISK ASSESSMENT MATRIX

Table 3: Measures of Significance of Emissions

Emissions as a percentage of the relevant emission or ambient standard		Worst Case Operating Conditions (95th Percentile)			
		>100%	50 – 100%	20 – 50%	<20%*
Normal Operating Conditions (50th)	>100%	5	N/A	N/A	N/A
	50 – 100%	4	3	N/A	N/A
	20 – 50%	4	3	2	N/A
	<20%*	3	3	2	1

*For reliable technology, this figure could increase to 30%

Table 4: Socio-Political Context of Each Regulated Emission

		Relative proximity of the interested party with regards to the emission				
		Immediately Adjacent	Adjacent	Nearby	Distant	Isolated
Level of Community Interest or Concern*	5	High	High	Medium High	Medium	Low
	4	High	High	Medium High	Medium	Low
	3	Medium High	Medium High	Medium	Low	No
	2	Low	Low	Low	Low	No
	1	No	No	No	No	No

Note: These examples are not exclusive and professional judgement is needed to evaluate each specific case
*This is determined by DEC using the DEC "Officer's Guide to Emissions and Discharges Risk Assessment" May 2006.

Table 5: Emissions Risk Reduction Matrix

		Significance of Emissions				
		5	4	3	2	1
Socio-Political Context	High	A	A	B	C	D
	Medium High	A	A	B	C	D
	Medium	A	B	B	D	E
	Low	A	B	C	D	E
	No	B	C	D	E	E

PRIORITY MATRIX ACTION DESCRIPTORS
A = Do not allow (fix)
B = licence condition (setting limits + EMPs - short timeframes)(setting targets optional)
C = licence condition (setting targets + EMPs - longer timeframes)
D= EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools
E = No regulation, other management mechanisms

Note: The above matrix is taken from the DEC "Officer's Guide to Emissions and Discharges Risk Assessment" May 2006.