



# Amendment Notice 1

**Licence Number** L7461/2000/8

**Licence Holder** Water Corporation

**ACN** 28 003 424 917

**File Number:** 2012/006666-1~1

**Premises** Leonora Wastewater Treatment Plant  
  
Crown Reserve 41956, Steel Street  
LEONORA WA 6537  
Being Lot 1273 on Plan 190076 as depicted in  
Schedule 1

**Date of Amendment** 24/07/2019

## Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act), as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

**Steve Checker**

**MANAGER WASTE INDUSTRIES**

**REGULATORY SERVICES**

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

# Definitions and interpretation

## Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

**Table 1: Definitions**

Term	Definition
ACN	Australian Company Number
Amendment Notice	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 JOONDALUP DC WA 6919 <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a>
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EP Act	<i>Environmental Protection Act 1986</i> (WA)
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this amendment
Licence Holder	Water Corporation
m <sup>3</sup>	cubic metres
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report.

Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>
TWW	Treated Wastewater
WWTP	Wastewater Treatment Plant

## Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend the Licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

This notice is limited only to an amendment to aspects related to the completion of the Improvement Program under Condition 4.1.2.

The following guidance statements have informed the decision made on this amendment

- *Guidance Statement: Setting Conditions* (October 2015)
- *Guidance Statement: Decision Making* (February 2017)
- *Guidance Statement: Risk Assessment* (February 2017)

## Amendment description

The Licence Holder applied for an amendment to L7461/2000/8 on 01 May 2019 to align the Licence with a recently completed Improvement Program. This involved the installation of:

- Gaseous Chlorination,
- Mechanical filtration to remove suspended solids,
- New recirculation pumps,
- Sub Baffle Curtin in Pond 3 (Maturation), Plastic Pond Cover discs Pond 3 (Maturation), and
- Changes to monitoring points.

After completion of the Improvement Program, the Leonora Wastewater Treatment Plant (WWTP), located approximately 500m west of the Leonora town site, consists of three treatment ponds (in series), a copper dosing facility, large storage pond, mechanical filtration, gaseous chlorinator and an environmental discharge flume. The ponds are clay lined with an estimated base permeability of  $1 \times 10^{-9}$  m/s. The wastewater flows from the Primary pond 1 (aerobic) to the Maturation ponds 2 then 3 (aerobic containing a baffle curtain and hex discs) and is then treated to a secondary standard. Overflow from pond 3 flows to Storage pond 4 via a pipe. Any backwash water that is used to clean the filters at the Chlorinator is also pumped to pond 4. Copper dosing occurs between pond 1 and pond 2 to control algal growth.

When the Shire of Leonora requires treated wastewater (TWW) for Third Party Reuse at the Shire Oval, TWW from pond 3 is mechanically filtered to remove suspended solids then treated to a tertiary standard via Gaseous Chlorination at the Reuse Plant. The TWW is then sent offsite to the Shire's Re-use tank. When TWW cannot be stored at the WWTP or sent for Third Party Reuse, it is discharged from pond 3 to the environmental discharge channel via a discharge flume. This channel is a flat area west of the WWTP, approximately 1km long where surface ponding, evaporation and infiltration occurs.

Conditions 4.1.1 and 4.1.2 of the Existing Licence includes Table 4.1.1: Improvement program. Improvement reference IR1 requires the Licence Holder to install and operate a Copper Doser to reduce algal loads. The Copper Doser has been operational for 3 years and was initially installed as a trial to attempt to reduce algae growth. Table 2 below summarises the performance of the Copper Doser. Following the recent upgrade to the WWTP, the Copper Doser is no longer required and its operation will cease. The Licence Holder will continue to record observational monitoring and suspended solids monitoring to determine the validity of the doser being offline. If algae levels rise above acceptable levels the copper doser will resume operation. IR2 required the Licence Holder to install permanent markers along the boundary of the Premises and provide the GPS co-ordinates of these markers. Figure 6 *Spatial reference*

below fulfils this requirement. Figures 1-5 below indicate the requirements of IR3, the installation of the earlier mentioned improvements have been complete. ASCONS and ESR drawings certifying the installed infrastructure were also submitted as supplementary information (*Final Leonora Supporting Info.pdf*) during the amendment application process.

**Table 2: Copper Doser Trial Summary**

Duration	Approximately 3 years
Uptime	Approximately 85%
Run time	3hr/day
Mixing ration	20% Cupricide 80% water
Cupricide concentrate volume delivered	20mL/day
Cu <sup>2+</sup> added per day	2.1g
Approx. mass of Cu <sup>2+</sup> added during trial	2kg
Pond 3 Final Effluent sample data	0-0.12mg/L. average 0.06mg/L

**Figure 1: Pre-Filter Chlorine Dosing Point**



**Figure 2: Gaseous Chlorination Module**



**Figure 3: Re-use Flow Meter**



**Figure 4: Re-Use Module (Includes Filtration Unit)**



**Figure 5: Re-use Pumps**

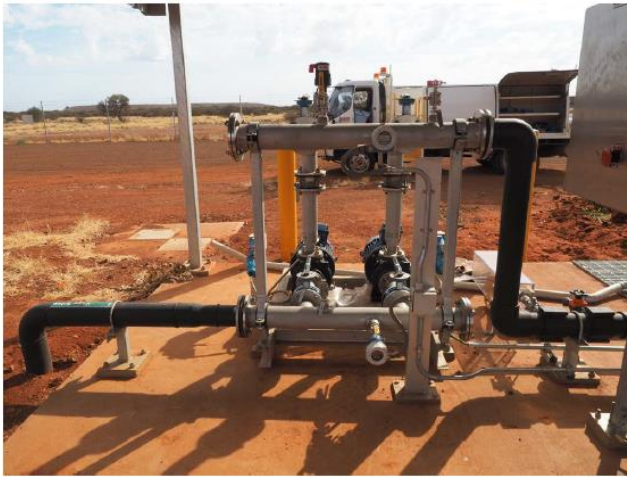
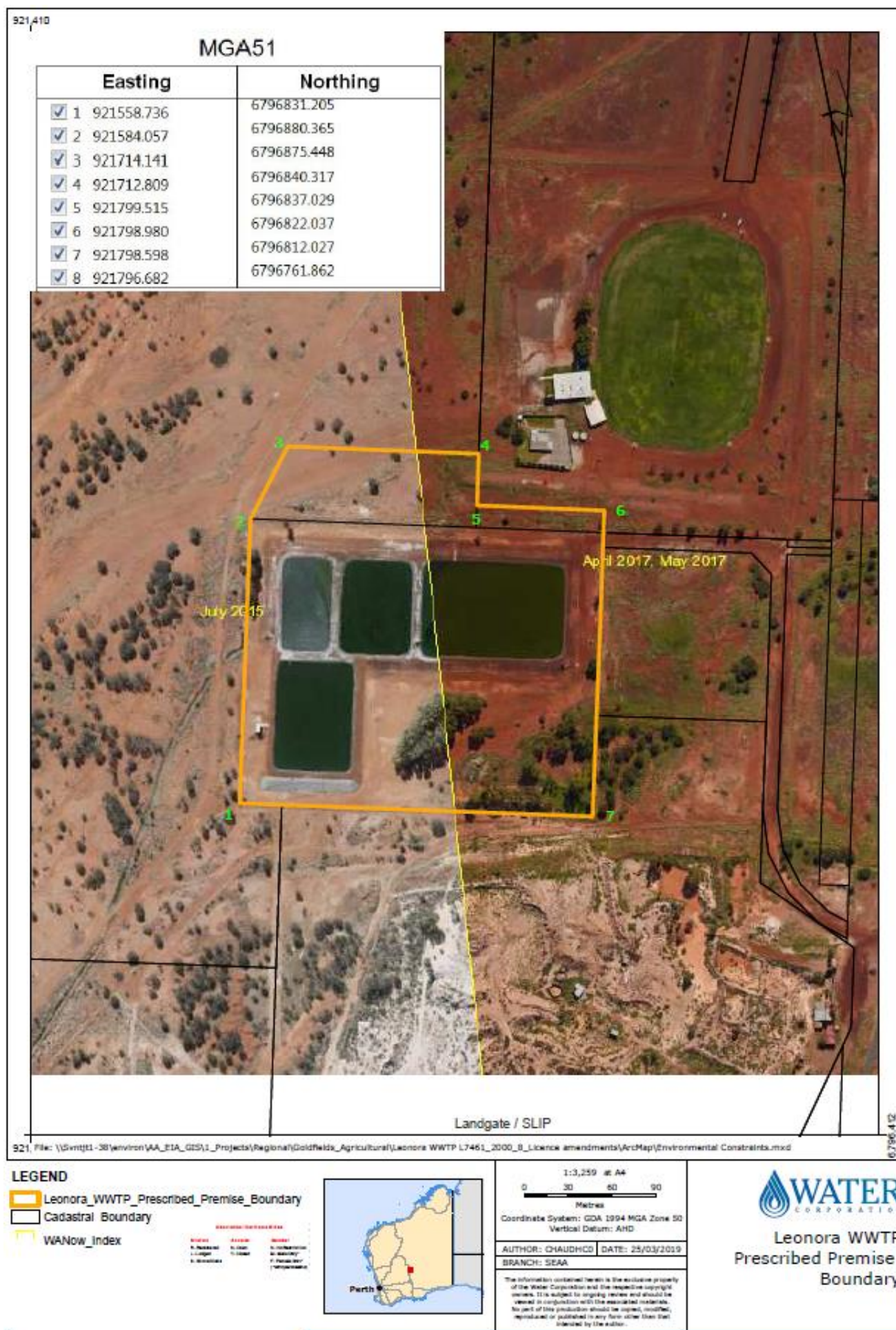




Figure 6: Spatial Reference



## Amendment history

Table 3 provides the amendment history for L7461/2000/8.

**Table 3: Licence amendments**

Instrument	Issued	Amendment
L7461/2000/5	1/12/2004	Licence reissue
L7461/2000/6	7/12//2005	Licence reissue
L7461/2000/7	18/11/2010	Licence reissue
L7461/2000/7	07/03/2013	Licence amended to include a condition for the licensee to submit an Environmental Improvement Plan (EIP) by 31 July 2014.
L7461/2000/8	10/09/2015	Licence amended to install Copper Doser and to carry out other maintenance upgrade at Leonora Wastewater Treatment Plant.
L7461/2000/8	26/11/2015	Licence reissue
L7461/2000/8	24/07/2019	Licence amendment to align Licence with recent completion of Improvement Program – installation of updated infrastructure.



## Decision

The Delegated Officer considers the requested amendments to the conditions below as acceptable to support the updated practices and the infrastructure currently in place at the Premises. The updated infrastructure improves the quality and therefore quantity of TWW being sent to Third Party Reuse resulting in less TWW discharged to the environmental discharge channel. These improvements do not alter the risk profile of the premises, nor do they involve any new emission sources.

The Delegated Officer considers the recent improvements to infrastructure at Leonora WWTP as sufficient in accomplishing the Improvement Program listed in Condition 4.1.2, and therefore approves the removal of conditions 4.1.1, 4.1.2 and associated Table 4.1.1 from the Existing Licence.

The Delegated Officer considers the improvements to the infrastructure, and the results of the copper doser trial represented in Table 2 of this Amendment Notice, has been successful in reducing algae to acceptable levels. Condition 1.2.3 on the Existing Licence has been amended to ensure that if the copper doser is taken offline, algae levels are continued to be monitored and the doser brought back online if algae levels rise above acceptable levels.

## Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 17 June 2019. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 2.

## Amendment

1. Condition 1.2.2 of the Existing Licence is amended by the deletion of the text shown in strikethrough and the insertion of the red text shown in underline below:

- 1.2.2 The Licensee shall only allow waste to be accepted on to the Premises if:
  - (a) it is of a type listed in Table 1.2.1;
  - (b) the quantity accepted is below any limit listed in Table 1.2.1; and
  - (c) it meets any specification listed in Table 1.2.1

Table 1.2.1: Waste acceptance			
Waste	Waste Code	Quantity Limit	Specification <sup>1</sup>
Sewage	<del>K130</del> <u>N/A</u>	225 cubic metres per day	Accepted through sewer inflow(s) only
<u>Sewage waste from the reticulated sewerage system – domestic wastes from apparatus for the treatment of sewerage</u>	<u>K130</u>	<u>N/A</u>	<u>Tankered into the premises and discharged into Pond 1 or Inlet Access Chamber.</u>  <u>Waste from Water Corporation infrastructure only</u>

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

2. Condition 1.2.3 of the Existing Licence is amended by the deletion of the text shown in strikethrough and the insertion of the red text shown in underline below:

- 1.2.3 The Licensee shall ensure that the wastes accepted onto the Premises are only subjected to the process(es) set out in Table 1.2.2 and in accordance with any

process requirements described in that table.

Table 1.2.2: Waste processing		
Waste type	Process(es)	Process requirements
Sewage	Physical, biological and chemical treatment	<p>Primary, secondary aerobic treatment, copper dosing, <u>mechanical filtration, and gaseous chlorination prior to reuse.</u> <del>and UV disinfection of the effluent.</del></p> <p><u>If the copper doser is taken offline and algae levels rise above acceptable levels, it must be brought back online.</u></p> <p><u>Non-disinfected Treated Wastewater is discharged to the environmental disposal channel if it cannot be utilised by the Shire Irrigation Scheme.</u></p>

3. Condition 1.2.4 of the Existing Licence is amended by the deletion of the text shown in strikethrough and the insertion of the red text shown in underline below:

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

Table 1.2.3: Containment infrastructure		
Vessel or compound	Material	Requirements
Primary treatment pond (pond 1)	Wastewater	Clay lined
<del>Secondary treatment ponds (ponds 2 and 3)</del>	<del>Wastewater</del>	Clay lined
<del>Tertiary Treatment storage pond</del>	<del>Treated wastewater</del>	Clay lined
<u>Maturation Pond (Pond 2)</u>	<u>Treated Wastewater</u>	<u>Clay lined</u>
<u>Maturation Pond (Pond 3)</u>	<u>Treated Wastewater</u>	<u>Clay lined</u>
<u>Storage Pond (Pond 4)</u>	<u>Treated Wastewater</u>	<u>Clay lined</u>
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 <sup>-9</sup> m/s or equivalent), capable of preventing surface run-off of leachate and sludge <del>and</del> which includes a leachate collection system.

4. Condition 2.1.1 of the Existing Licence is amended by the deletion of the text shown in strikethrough and the insertion of the red text shown in underline below:

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 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
<del>L1</del> <u>S6817113</u> (Reuse Sample Point)	<del>S6007270</del> <u>SP Leonora Post Chlorination Final Effluent</u>	Discharge of treated wastewater from wastewater treatment plant for <del>offsite</del> irrigation. <del>of the local sports oval</del>	Treated wastewater pipeline from wastewater treatment plant
<u>S6817006</u> (Flow meter)	<u>Post CI Magflow</u>		
<del>L2</del> <u>S6000080</u> (Sample Point)	<del>S6000080</del> <u>SP Leonora maturation pond (Pond 3) Final Effluent</u>	Discharge of excess treated wastewater from wastewater treatment plant to infiltration <del>channel. plant-</del> to infiltration channel. <del>Discharge is only authorised if it cannot be utilized by the Shire irrigation scheme.</del>	Treated wastewater <u>discharge flume.</u> <del>pipeline from wastewater treatment plant</del>
<u>S0015671</u> (Flow meter)	<u>Outflow Measuring Unit</u>		

5. Condition 3.2.1 of the Existing Licence is amended by the deletion of the text shown in strikethrough and the insertion of the red text shown in underline below:

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
<u>L1 &amp; L2</u> <u>S6817006</u> <u>and</u> <u>S0015671</u>  <u>S6000080</u> <u>and</u> <u>S6817113</u>	Discharge from wastewater treatment plant	Volumetric flow rate (cumulative) <sup>1</sup>	m <sup>3</sup> /day	Continuous	Monthly	None specified
		pH <sup>1</sup>	-	Spot sample	Quarterly for L1 and quarterly from L2 when discharging	
		Biochemical Oxygen Demand	mg/L			
		Total Dissolved Solids				
		Total Suspended Solids				
		Total Nitrogen				
		Copper				
		Total Phosphorus				
		<i>Escherichia coli</i> <sup>2</sup>				

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.

6. Condition 3.3.1 of the Existing Licence is amended by the deletion of the text shown in strikethrough and the insertion of the red text shown in underline below:

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
<del>Sewage Inlet Flow</del> <u>Inflow Magflow Meter</u>  <u>Post CI Magflow</u>  <u>Treated wastewater discharged to Shire reuse</u>	<del>Inflow meter</del> <u>S6816917,</u>  <u>S6817006</u>	Volumetric flow rate (cumulative)	m <sup>3</sup> /day	Monthly	Continuous
<del>Treated wastewater discharged to Shire-reuse and infiltration channel</del> <u>Outflow Measuring Unit</u>	<del>L1 &amp; L2</del> <u>S0015671</u>				

7. The Licence is amended by the deletion of the following Conditions 4.1.1 and 4.1.2:

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

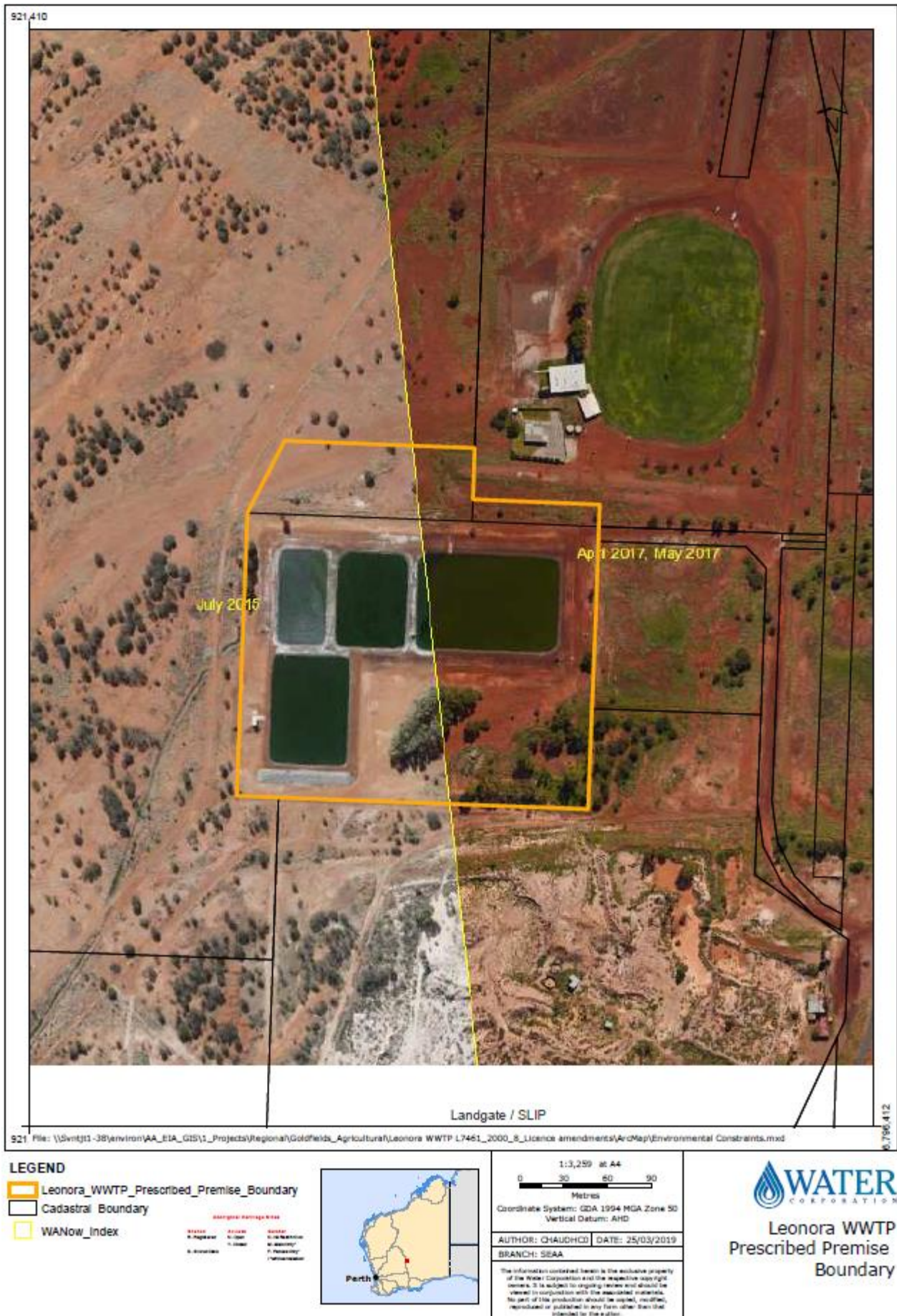
4.1.2 The Licensee, for improvements not specifically requiring a written submission, shall write to the CEO stating whether and how the Licensee is compliant with the improvement within one week of the completion date specified in Table 4.1.1

Table 4.1.1: Improvement program		
Improvement reference	Improvement	Date of completion
IR1	<del>The Licensee shall install and operate a Copper Doser at Leonora Wastewater Treatment Plant to reduce algal loads in accordance with the document entitled 'Project plan Leonora WWTP Liquid Copper Dosing Trial', dated February 2015 (Document ID: 12383729).</del>	1 January 2016
IR2	<del>The Licensee shall install permanent markers along the boundary of the Premises so it can be identified on the ground and provide the Manager-Licensing (Waste Industries) with the GPS co-ordinates of these markers.</del>	1 January 2016
IR3	The Licensee shall install: <ul style="list-style-type: none"> <li><del>Gaseous chlorination disinfection unit to replace the existing UV module;</del></li> <li><del>Mechanical filtration to remove suspended solids prior to disinfection; and</del></li> <li><del>Two new recirculation pumps</del></li> </ul>	Not specified

8. Schedule 1: Maps of the Existing Licence is amended with the removal of the *Premises Map* and the *Premises layout showing emission and monitoring points*; and the insertion of the maps below:



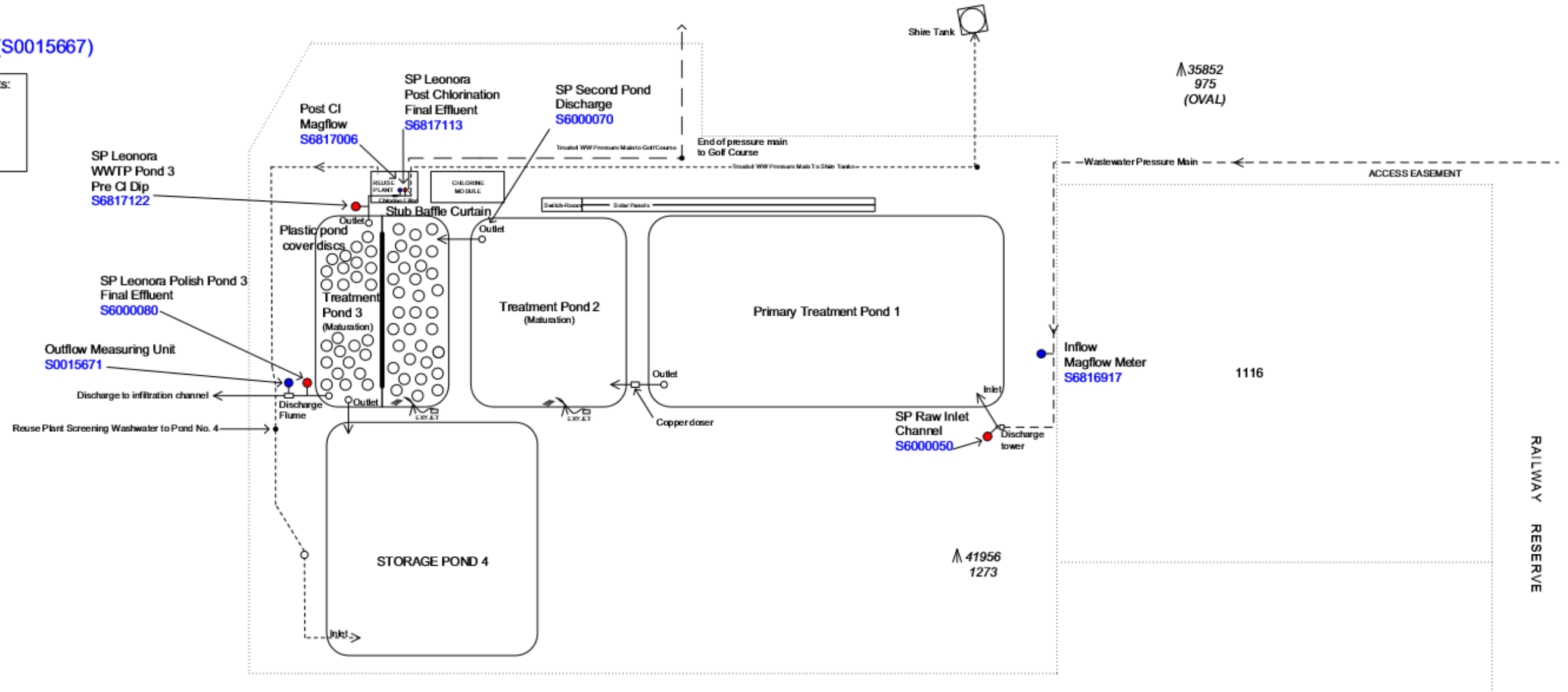
## Premises map





# Premises layout showing emission and monitoring points

## Leonora WWTP (S0015667)



## Appendix 1: Key documents

	Document title	In text ref	Availability
1	Licence L7461/2000/8 – Leonora Wastewater Treatment Plant	L7461/2000/8	accessed at <a href="http://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>
2	<i>Final Leonora Supporting Info.pdf</i> . Submitted 01/05/2019	<i>Final Leonora Supporting Info.pdf</i> .	DWER files – DWERDT156065
3	DER, July 2015. <i>Guidance Statement: Regulatory Principles</i> . Department of Environment Regulation, Perth.	DER 2015a	accessed at <a href="http://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>
4	DER, October 2015. <i>Guidance Statement: Setting Conditions</i> . Department of Environment Regulation, Perth.	DER 2015b	
5	DER, November 2016. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	DER 2016b	
6	DER, November 2016. <i>Guidance Statement: Decision Making</i> . Department of Environment Regulation, Perth.	DER 2016c	

## Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 17 June 2019 for review and comment. The Licence Holder responded on 05 July 2019. The following comments were received on the draft Amendment Notice.

Condition	Summary of Licence Holder comment	DWER response
Table 1.2.3	Change wording in the material column: Material for Pond 2-4 change from Wastewater to Treated wastewater. <ul style="list-style-type: none"><li>- Consistent wording with the rest of the document</li></ul>	DWER accepts the request and has made the required changes to the document.
Table 2.1.1	Change wording in Emission point reference on Map of emission points: From SP Leonora Polish Pond 3 final effluent to SP Leonora maturation pond (Pond 3) final effluent. <ul style="list-style-type: none"><li>- Consistent wording with the rest of the document</li></ul>	DWER accepts the request and has made the required changes to the document.
Table 1.2.1	Remove the word Septage from column 1 and rewrite in accordance with DWER Controlled waste category: Sewage waste from the reticulated sewerage system – domestic wastes from apparatus for the treatment of sewerage. <ul style="list-style-type: none"><li>- Consistency with Controlled waste category list (May 2018)</li></ul>	DWER accepts the request and has made the required changes to the document.