



## Application for licence

### Part V Division 3 of the *Environmental Protection Act 1986*

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<b>Choose an item.</b>	L9219/2019/1
<b>Choose an item.</b>	Shire of Kojonup
<b>DWER file number</b>	DER2019/000476
<b>Premises</b>	Kojonup Liquid Waste Ponds Part 100, Lot 3067, Vol 2034, Folio 307, Diagram 19390 Albany Highway KOJONUP WA 635 As defined by the coordinates in Schedule 1 of the Licence
<b>Date of report</b>	12 December 2019

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# 1. Definitions

Key terms relevant to this decision report and their associated definitions are listed in Table 1.

**Table 1: Definitions**

Term	Definition
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer of the Department. “submit to / notify the CEO” (or similar), means either:  Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919  or: <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a>
Decision Report	refers to this document.
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  As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the <i>Public Sector Management Act 1994</i> and is responsible for the administration of the <i>Environmental Protection Act 1986</i> along with other legislation.
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>

Term	Definition
Licence Holder	Shire of Kojonup
m <sup>3</sup>	cubic metres
Occupier	has the same meaning given to that term under the EP Act.
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>

## 2. Purpose and scope of assessment

The application relates to the proposed operation of a Category 61 liquid waste facility located within Part 100 of Lot 3067 Albany Highway, Kojonup. The Premises is located adjacent to the Shire of Kojonup's existing registered landfill facility, Kojonup Landfill Site (R1451/2003/1), but will not incorporate this activity. The first of two proposed liquid waste ponds was completed in November 2018, but has not yet been utilised for the receipt of liquid wastes. Given that construction activities have already been undertaken, the assessment shall address only the operational aspects of the facility.

The proposed second pond is scheduled for construction in summer 2025. The excavation and construction of this second pond has not been considered as part of the assessment of this application. A Works Approval and Licence Amendment application will be required in order to facilitate the construction activities, commissioning of the second pond and the decommissioning of the existing pond.

## 3. Application details

The application relates to an existing liquid waste pond constructed within Part 100 of Lot 3067 Albany Highway, Kojonup, with a maximum production or design capacity of 200 tonnes per annum. The pond was constructed without a Works Approval, but has not yet been used for the receipt of liquid waste.

Table 2 lists the documents submitted during the assessment process.

**Table 2: Documents and information submitted during the assessment process**

Document/information description	Date received
DWER: Application form: Licence	04/09/2019
Licence Application Supporting Documentation	04/09/2019
Revised premises boundary coordinates map	08/09/2019

## 4. Overview of existing Premises

The Premises is situated within Part 100 of Lot 3067 on Diagram 19390 Albany Highway, Kojonup. The Premises is situated within the Shire of Kojonup, and is owned and operated by the Shire.

The Premises is situated 1.7 kilometres west of the Albany Highway and approximately 7 kilometres northwest of the Kojonup town site. The Premises and surrounding properties are zoned Rural under the Shire of Kojonup Town planning Scheme No. 3. The neighbouring rural properties are largely cleared for agricultural activities, and there are a number of farmhouses located within surrounding properties

The balance of the property in which the Premises is situated contains the existing putrescible landfill and undeveloped cleared and uncleared land intended for future landfill expansion. The Premises boundary includes the location identified for the construction of the secondary future liquid waste pond, situated directly east of the primary pond.

A description of the Prescribed Premises category and assessed design capacity are outlined in Table 3.

**Table 3: Classification of premises and assessed design capacity**

Category	Description	Assessed design capacity
61	Liquid waste facility: premises on which liquid waste produced on other premises (other than sewerage waste) is stored, reprocessed, treated or irrigated.	200 tonnes per annual period

## 5. Description of proposed activities

The Premises is located approximately 7 kilometres northwest of the Kojonup town site. The property on which the Premises is situated also contains an existing registered landfill (R1451/2003/1), which is outside the Premises boundary and the scope of this assessment.

The proposed activities within the Premises boundary are limited to the receipt and unloading of tankered liquid (controlled) wastes to the synthetic lined liquid waste pond onsite.

Wastes received onsite shall be limited to:

- Waste from grease traps; and
- Septage wastes.

These wastes shall be collected from local waste holders by licensed controlled waste carriers.

The intended liquid waste throughput for the pond is 200 tonnes (200m<sup>3</sup>) per annum.

The Premises will be unmanned, fully fenced and locked; with access to the pond restricted to registered customers and subject to prior arrangement with the Shire. The use of the facility shall be restricted to Shire office hours, specifically:

- Monday, Tuesday, Thursday and Friday – 8.30am to 4.00pm;
- Wednesday – 8.30am to 4.00pm; and,
- Weekends and Public Holidays – Closed.

Registered controlled waste carriers may be able to arrange for access to the facility outside of normal operating hours at the Shire's discretion.

The synthetic lined pond has been constructed with a wheel stop, against which tankers will reverse prior to unloading. The liquid waste shall be unloaded into a discharge tray which diverts the waste into the pond. The pond has been constructed with a maximum operating depth of 1 metre, with a 500mm freeboard to prevent overtopping in the event of heavy rainfall.

The constructed pond has been designed to cater for projected 200m<sup>3</sup> (200 tonnes) of liquid waste inputs per annum. The volume of the constructed pond has been calculated to be 530m<sup>3</sup>, with a surface area of 529m<sup>2</sup>. It is intended that the pond completely dry out over the summer period, and the pond has been designed so that captured rainfall will not result in overtopping. The Shire intends to maintain a minimum 50cm freeboard, and the 1.5m depth of the pond will allow for the accumulation of sludge/grit within the pond without compromising the capacity of required freeboard until such time that the proposed secondary pond is constructed. Based on pond cycling projections, the existing pond will have a useable lifespan of 6 years, with construction of the secondary pond required by 2025.

The pond has been designed as an aerobic evaporation lagoon. The aerobic evaporation lagoon is a biological treatment process using sunlight and biological activity to break down organic matter and evaporate excess liquid from the pond. It is intended that a second pond will be constructed adjacent to the existing pond in summer 2025. This secondary pond will receive waste discharges once the primary pond reaches the end of its operational life.



## 6. Emission sources, receptors and pathways

### 6.1 Emissions

The key emissions assessed as part of the ongoing operation of the facility are odour from the unloading and retention of putrescible liquid wastes, and fugitive dust from vehicles accessing the facility via the unsealed road.

The other potential emission from the Premises is direct discharge of liquid waste to the soil as a result of either:

- A breach or failure of the synthetic liner; or
- Overtopping of the pond resulting from heavy rainfall or overfilling.

The Applicant has proposed measures to assist in controlling these emissions, where necessary. The control measures are outlined in Section 6.4 below and have been considered when undertaking the risk assessment detailed in Section 7.

### 6.2 Environmental siting and receptors

#### 6.2.1 Potential receptors and environmental aspects

Risk is assessed as a combination of emission sources, the proximity and sensitivity of receptors to those emission sources and any pathways that can allow the emission to reach and potentially harm the receptor. Table 5 and associated Figures 2 and 3 provide a summary of human and environmental receptors in proximity to the premises which have a potential to be impacted from site activities. The risk assessment in Section 7 considers these receptors in the context of emissions and potential pathways.

**Table 5: Distance to receptors**

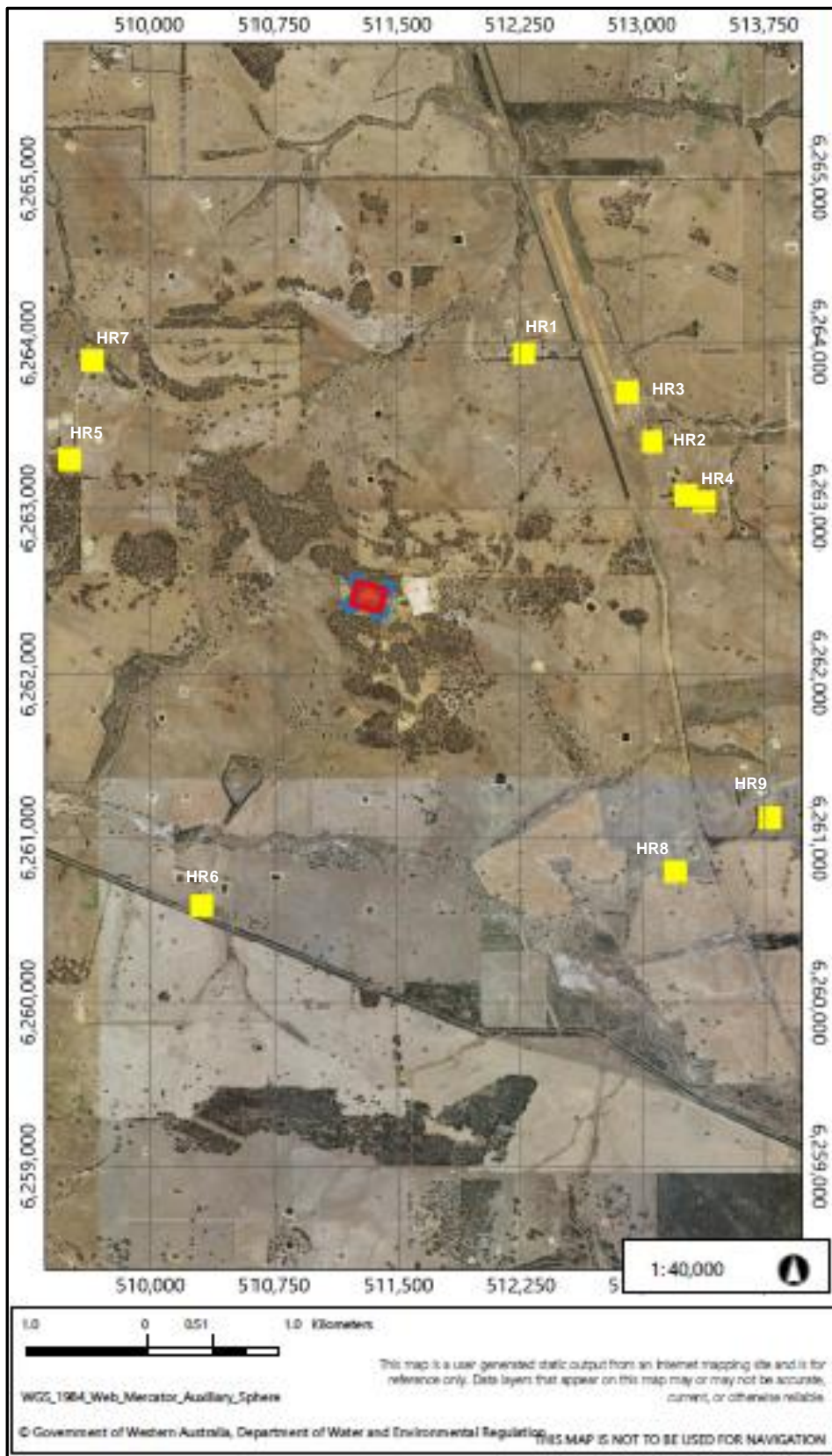
<b>Human receptors</b>	<b>Distance from activity or prescribed premises *</b>
<i>Farmhouse, Albany Highway, Kojonup – HR1</i>	<i>Approximately 1.6km northwest of Premises boundary</i>
<i>Farmhouse, Aerodrome Road, Kojonup – HR2</i>	<i>Approximately 1.8km northwest of Premises Boundary</i>
<i>Kojonup Airport, Aerodrome Road, Kojonup – HR3</i>	<i>Approximately 1.9km northwest of Premises boundary</i>
<i>Farmhouses, 20813 Albany Highway, Kojonup – HR4</i>	<i>Approximately 1.9km northwest of Premises boundary</i>
<i>Farmhouse, Cussons Road, Kojonup – HR5</i>	<i>Approximately 1.9km Northwest of Premises boundary</i>
<i>Farmhouse, Collie-Changerup Road, Kojonup– HR6</i>	<i>Approximately 2.1km southwest of Premises boundary</i>
<i>Dwelling, unnamed Road, Kojonup – HR7</i>	<i>Approximately 2.1km Northwest of Premises boundary</i>



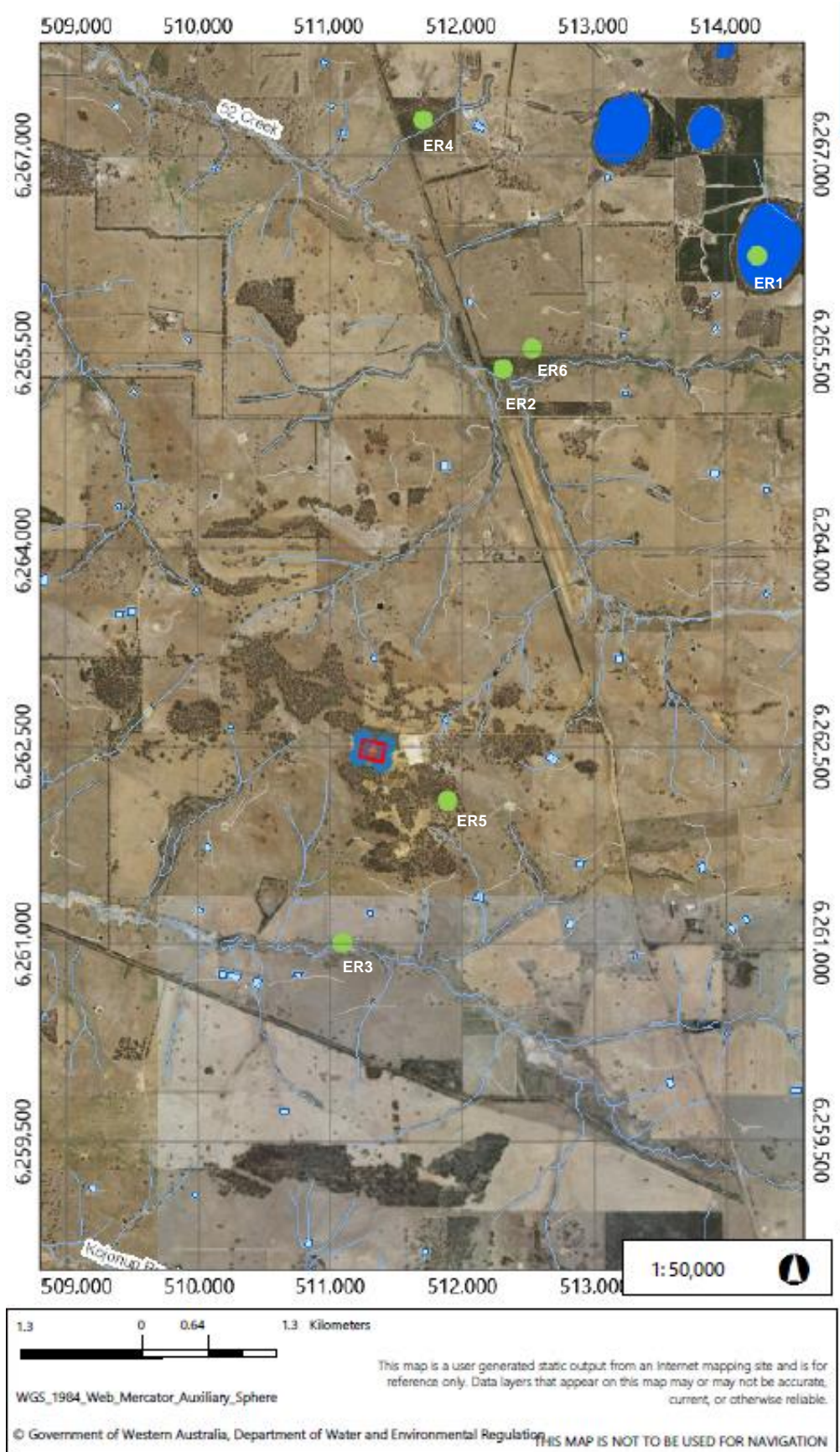
<i>Farmhouse and sheep stud, Albany Highway, Kojonup – HR8</i>	<i>Approximately 2.4km southeast of Premises boundary</i>
<i>Farmhouse and sheep stud, Bell Road, Kojonup – HR9</i>	<i>Approximately 2.6km southeast of Premises boundary</i>
<b>Environmental receptors</b>	<b>Distance from activity / prescribed premises**</b>
<i>Geomorphic Wetlands – Lake Rushy – ER1</i>	<i>Approximately 4.4km northeast of Premises boundary</i>
<i>Geomorphic Wetlands – 52 Creek - Blackwood-Kojonup channel – ER2</i>	<i>Approximately 2.7km northeast of Premises boundary</i>
<i>Kojonup Brook tributary – nonperrenial – ER3</i>	<i>Approximately line 1.4km south of the Premises boundary</i>
<i>Parks and Wildlife Managed Lands and Waters – Unnamed Crown Reserve - R15061– ER4</i>	<i>Approximately 5.0km northeast of Premises boundary</i>
<i>Threatened/Priority Fauna – Baudin’s Black Cockatoo (Calyptorhynchus baudinii) record– ER5</i>	<i>Approximately 1.1km southeast of Premises boundary</i>
<i>Threatened/Priority Fauna - Quenda (Isoodon fusciventer) record– ER6</i>	<i>Approximately 3.0km northwest of Premises boundary</i>

\* Depicted in Figure 2

\*\* Depicted in Figure 3



**Figure 2: Distance to human receptors**



**Figure 3: Distance to environmental receptors**



## 6.3 Pathways

The pathway of an emission is the way the pollutant moves from the source, enters into the environment, and finally how it reaches any human body or other sensitive receptor. Possible pathways applicable to the potential and anticipated emissions from the premises have been identified and are discussed below. These pathways have been considered in the risk assessment table in Section 7.

### 6.3.1 Wind

As odour from the liquid waste and dust from the access road are considered potential emissions, the prevailing wind direction has been considered. Using information available on the Bureau of Meteorology's website, the closest available weather station for climate data is Kojonup (Site Number: 010582). Based on the climate data for Kojonup station (Jan 1885 to October 2019) the prevailing wind directions in winter is north-westerly in the morning and west-north-westerly in the afternoon, with the prevailing wind directions in summer being east-south-easterly in the morning and south-westerly to south-easterly in the afternoon.

### 6.3.2 Geology, hydrogeology and hydrology

The Premises is situated at the crest of a hill, at approximately 340m AHD and is not situated within close proximity to any permanent bodies. However there are multiple drainage lines situated within 300-400 metres of the Premises boundary. The nearest of these drainage lines, located approximately 300 metres southwest of the Premises boundary, leads to a prominent non-perennial minor river or creek line situated 1.4km to the south of the Premises.

Limited groundwater monitoring information is available for the Premises or the surrounding area and DWER records indicate that all bores drilled within 5km of the site appear to be either abandoned, show poor water quality or are low yielding.

The main groundwater resource in the greater area is the Beaufort Palaeochannel. However it is of limited relevance to this assessment as the closest mapped extent of the Cainozoic sediments that make up the Beaufort Palaeochannel are over 9km from the site, with the closest confirmed section of the Beaufort Palaeochannel, Quongering Pool, being 25km to the north north-west of Kojonup.

The soils within the vicinity of the premises comprise layers of ironstone gravels and laterite rock over light coloured clay. The gravel and laterite layers have been removed from the site as part of the excavation of the landfill and the primary pond, with the liner placed over the exposed clay soil.

The landfill facility situated 230m to the east of the Premises has been excavated to a depth of 6m below natural soil level, with no groundwater encountered. Further, test bores within the Lot drilled to a depth of 35 did not encounter any groundwater. However, based on the geological setting of the Premises, as described by the Applicant, DWER has identified that there is the potential for a perched aquifer to form in the upper portion of the profile. This is based on the presence of a gravel and laterite layer below the ground surface which are underlain by a low permeability clay layer. If present, the perched aquifer is expected to be a seasonal feature which occurs following rain during winter and early spring. Discharge of the perched aquifer to surface water features such as dams and ephemeral creek lines is a potential pathway for contaminants from the Premises. The distances to groundwater and water courses are outlined in Table 5.

**Table 6: Groundwater and water sources**

Groundwater and water sources	Distance from Premises	Environmental value
Watercourses/waterbodies  (Waterway assessments inland waters – waterlines)	Tributary of Kojonup Brook, approximately 300m southwest and of Premises boundary, which drains to a larger creek line 1.4km south of the Premises	Non-perennial minor rivers
Groundwater	Karri, Karri, Combined – Fractured Rock West – Depth to groundwater greater than 6m from natural soil level.  Potential for seasonal perched aquifer to develop based on soil profile.	No licensed or registered groundwater users in vicinity of premises.

In the event of overtopping of the liquid waste pond, overland or sheet flow of liquid waste down gradient is considered a potential pathway for emissions to waterlines. Based on the topography of the site, overland flows are most likely to travel in a south-westerly direction towards the Kojonup Creek tributary.

## 6.4 Applicant controls

The Applicant has identified and proposed the following management measures or controls as part of the application:

**Table 7: Summary of emissions and applicant controls**

Source	Emission (as identified above)	Proposed controls
Unsealed access road	Fugitive dust	Separation distance
Liquid waste unloading and retention	Odour	Separation distance Lime dosing to maintain appropriate pH Maintenance of aerobic conditions
Waste overtopping	Liquid waste discharge to land	Freeboard
Synthetic liner failure	Liquid waste infiltration to soil	Replacement of liner at pond end-of-life

## 7. Risk assessment

The identification of the sources, pathways and receptors to determine Risk Events are set out in Table 8 below, consistent with the *Guidance Statement: Risk Assessments*. Risk ratings have been assessed for each key emission source and take into account potential source-pathway-receptor linkages. The mitigation measures / controls proposed by the Applicant have been considered in determining the risk rating.

The conditions in the issued Licence, as outlined in Table 8, have been determined in accordance with the *Guidance Statement: Setting Conditions*.



## 7.1 Risk assessment – operation

**Table 8: Identification of emissions, pathway and receptors during operation**

Risk Event								
Source/Activities*	Potential emissions	Potential receptors, pathway and impact	Applicant controls	Consequence rating <sup>1</sup>	Likelihood rating <sup>1</sup>	Risk <sup>1</sup>	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Vehicle movements	Dust	Rural dwellings. Air/wind dispersion in dry conditions Potential nuisance and amenity impacts	Separation distance between sensitive receptors	Insignificant	Unlikely	Low	Separation distance from residences and surrounding agricultural landscape means impact from onsite emissions insignificant	No control required
Unloading and retention of liquid wastes	Odor	Rural dwellings. Air/wind dispersion Potential nuisance and amenity impacts	Separation distance between sensitive receptors	Moderate	Unlikely	Low	Separation distance from residences will mitigate any potential impacts	Condition 4 and 5 restrict types of liquid waste received and how waste is handles onsite.

Risk Event								
Source/Activities*	Potential emissions	Potential receptors, pathway and impact	Applicant controls	Consequence rating <sup>1</sup>	Likelihood rating <sup>1</sup>	Risk <sup>1</sup>	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Overtopping of liquid waste pond	Liquid waste	Local remnant vegetation  Direct discharge to soil  Nutrient pollution with negative impacts on native plant growth and survival	Maintenance of appropriate freeboard	Minor	Unlikely	Moderate	Proposed wastewater input volumes and freeboard intended to minimise risk of overtopping.	Condition 1 imposes requirement to maintain freeboard to prevent overtopping
Failure of synthetic pond liner	Liquid waste	Local remnant vegetation  Direct discharge to soil  Nutrient pollution with negative impacts on native plant growth and survival	Replacement of liner at pond end-of-life	Moderate	Possible	Moderate	The use of a fit-for-purpose liner and the continual replacement of liners at the end of pond life as part of desludging will minimise risk of failure.	Condition 1 imposes requirements for the proper maintenance of the pond

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)



## 8. Consultation

The Applicant was afforded the opportunity to provide comment on the draft Licence and Decision Report. The details of this consultation are provided in Table 9.

**Table 9: Summary of consultation**

Method	Comments received	DWER response
Application advertised on DWER website (20/08/2018)	No comments received	N/A
Applicant referred draft documents (27/11/2019)	<ul style="list-style-type: none"> <li>- Removal of "food and beverage processing wastes" from the types of wastes to be accepted on site i.e. waste from grease traps and septage waste only</li> <li>- Proposed condition 11 is a duplication of proposed condition 9</li> <li>- "Table 5" is listed twice</li> </ul>	<ul style="list-style-type: none"> <li>- Change adopted - will be removed from final Licence.</li> <li>- Duplication to be corrected in the final version.</li> <li>- Error will be corrected in final version</li> </ul>

## 9. Conclusion

Based on the assessment in this Decision Report, the Delegated Officer has determined that a licence, L9219/2019/1, will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

### **Stephen Checker**

MANAGER WASTE INDUSTRIES  
REGULATORY SERVICES

*an officer delegated by the CEO under section 20 of the EP Act*

## Appendix 1: Key documents

Document title	Availability
Licence L9219/2019 – Shire of Kojonup – Kojonup Liquid Waste Pond	Available at <a href="http://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>
Licence (L9219/2019/1) application form and supporting documentation (September, 2019)	DWER records, DWERDT196339
DER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth.	Accessed at <a href="http://www.dwer.wa.gov.au">www.dwer.wa.gov.au</a>
DER, October 2015. <i>Guidance Statement: Setting conditions</i> . Department of Environment Regulation, Perth.	
DER, August 2016. <i>Guidance Statement: Licence duration</i> . Department of Environment Regulation, Perth.	
DER, February 2017. <i>Guidance Statement: Land Use Planning</i> . Department of Environment Regulation, Perth.	
DER, February 2017 <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	
DWER, June 2019. <i>Guideline: Decision Making</i> . Department of Water and Environmental Regulation, Perth.	
DWER, June 2019. <i>Guideline: Industry Regulation Guide to Licensing</i> . Department of Water and Environmental Regulation, Perth.	