



Application for Licence

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

Licence Number	L9277/2021/1
Applicant	Bidgerabbie Farm
ACN	008772496
File Number	DER2021/000018
Premises	Olsens Farm 620 Rowes Rd YATHROO, WA 6507 Being Lot 1 on Diagram 35688 Volume 141 Folio 173A and Lot 3 on Diagram 34871 Volume 141 Folio 172A
Date of Report	01 July 2021
Decision	Licence granted

Steve Checker
MANAGER WASTE INDUSTRIES
REGULATORY SERVICES

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

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1. Decision summary

This Decision Report documents the assessment of potential risks to the environment and public health from emissions and discharges during the operation of the Premises. As a result of this assessment, Licence L9277/2021/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Decision Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary and overview of Premises

On 6 January 2021, the applicant submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act). The land is owned by Bidgerabbie farm Co Pty Ltd and the application was applied for by Richard Brown, one of the Directors of the company. The application included evidence that the applicant is authorised to act on behalf of the company.

The application is to seek a licence relating to a category 61A premises for the application of biosolids to land at the Premises. It is proposed that biosolids cake from Beenyup and Woodman Point Wastewater treatment plant (WWTP) and lime amended biosolids (LAB) from Subiaco WWTP are applied to paddocks at Olsens Farm in the Shire of Dandaragan as a fertiliser for canola and wheat crops. The Premises is approximately 22.4km south of the nearest major town of Dandaragan. Olsens Farm comprises of 1287 hectares in total, of which 1156 hectares are arable. After the application of required buffers around sensitive receptors, it has been calculated a maximum of 1145 hectares are suitable for biosolids application.

The Premises relates to the category and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in Licence L9277/2021/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guidance Statement: Risk Assessments* (DER 2017) are outlined in Licence L9277/2021/1.

Biosolids are organic residues from the treatment of domestic and industrial wastewater that has undergone treatment to reduce pathogens and volatile organic matter. The resulting product is applied to land to provide carbon and nutrient inputs to agricultural and composting industries.

Water Corporation has submitted a Review of Environmental Factors (REF) that assessed the soils of three paddocks within Olsens Farm OL3, OL6, and OL9, and specifies the pathogen grades and contaminant grades for biosolids for each of the three WWTPs. This assessment has reviewed the findings of these sampling regimes, determined the potential for emissions and discharges from the premises and assess the risks of impacts to the surrounding environment. The REF was reviewed against the Western Australian Guidelines for Biosolids Management (DWER, 2012) (Biosolids Guidelines) to determine the adequacy of management of application of biosolids.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guidance Statement: Risk Assessments* (DER 2017).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that

emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Site assessment

3.1.1 Climate and prevailing winds

Dandaragan has a moderate Mediterranean climate with an average rainfall of 475mm between 1884 and 2019. The majority of rainfall occurs between May and September. The average wind direction and speed is represented in figure 1 below indicating the prevailind winds are predominately easterly in the mornings and south-westerly in the afternoons.

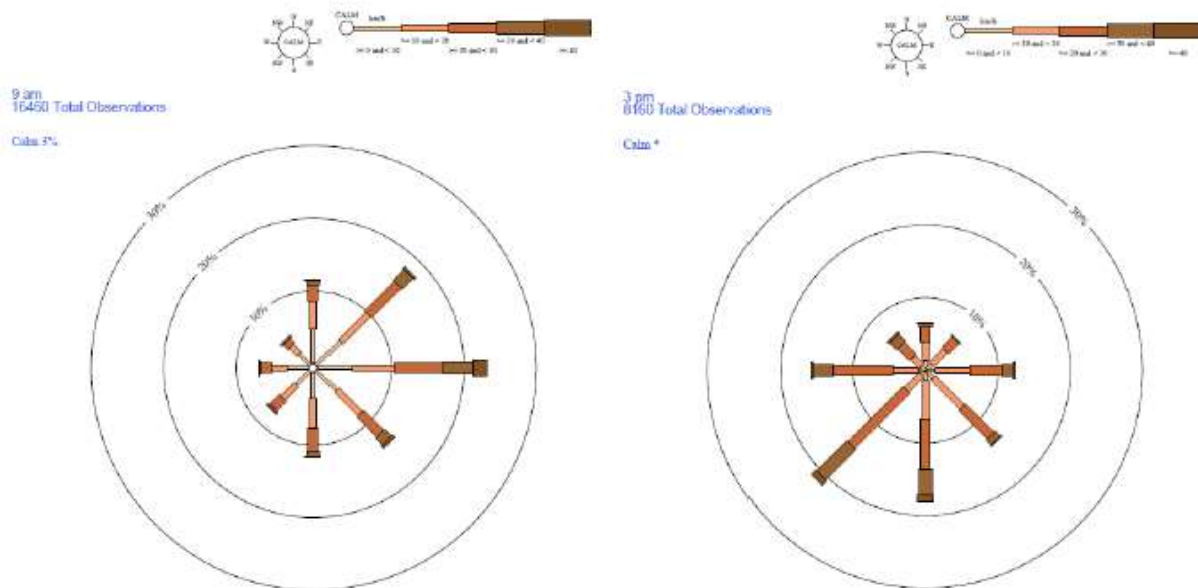


Figure 1: Wind Rose direction vs Wind Speed in km/h (01 Jan 1965 to 29 Oct 2020) from Badgingarra research station.

3.1.2 Soils

The premises is located within the Dandaragan Plateau Zone and consists of gently undulating plateaus with areas of sandplain and some laterite on Cretaceous sediments, broad u-shaped valleys 80-150m deep and smaller v-shaped valleys east of the Gingin Scarp in the south. Soils are formed in colluvium and weathered rock. The premises predominately consists of gravelly pale deep sand, sand sheets and deep yellow sands with a Phosphorus Retention Index (PRI) of 0.6-1.2, Colwell P of 6 – 21mg/kg, an estimated phosphorus category 5 with a high risk of phosphorus leaching.

The soil landscape map of Olsens Farm identifies 4 dominant soil subsystems on arable farmland, these are:

- Cp1d-Capitella 1 minor rises Phase (175ha)
- C3a-Capitella 3 plain Phase (662ha)
- Rw2-Rowes 2 subsystem (82ha)
- Rw3a-Rowes 3 typical Phase (451ha)

The application will be applied at PLBAR. Table 1 below details soil types and characteristics relevant to this assessment.

Table 1: Soil and sub-soil characteristics

Soil landscape map – soil system	Description	Soil landscape map – soil subsystem	Description
Rowes System	subdued partly dissected lateritic plateau, gently undulating plains and gently undulating to undulating rises; yellow and pale sand, sandy earth and sandy gravel; weathered sandstone	Rowes 2 Subsystem	plateau residuals, hillcrests and very gently to gently inclined hillslopes; sandy gravels, gravelly pale deep sand, some duricrust
		Rowes 3 typical Phase	colluvial slopes, very gently to gently inclined hillslopes and sand filled minor valleys; yellow deep sand, some sandy earths
Capitella System	subdued stripped lateritic plateau, undulating to gently undulating low rises with gently undulating plain including dunes; pale and yellow deep sands, sandy gravels, some duplex; from sandstones plus alluvial and aeolian deposits	Capitella 1 minor rises Phase	small to very small rises, dunes or sand sheets common in vicinity; pale sandy gravels, gravelly pale deep sand
		Capitella 3 plain Phase	plain, very gently inclined slopes; pale deep and gravelly pale deep sand

The three paddocks sampled within the REF provided a representative analysis of the soils found across the property (see figures 2 and 3). Chemical analysis was undertaken and the results for the 3 paddocks sampled are displayed in Table 2 below.

Table 2: Soil sampling chemical analysis

Parameter	Units	Reporting limit	Paddock		
			OL3	OL6	OL9
% Moisture	%w/w	3.3	5.3	4.2	3.3
pH (CaCl2)	pH Units	6.6	6.4	6.4	6.6
Phosphorus	mg/kg	68	77	84	68
Arsenic	mg/kg	<1	<1	<1	<1
Cadmium	mg/kg	<0.3	<0.3	<0.3	<0.3
Copper	mg/kg	1.5	1.3	1.3	1.5
Lead	mg/kg	1	1	<1	1
Nickel	mg/kg	<0.5	<0.5	<0.5	<0.5
Zinc	mg/kg	2	2	<2	2

Parameter	Units	Reporting limit	Paddock		
			OL3	OL6	OL9
Mercury	mg/kg	<0.05	<0.05	<0.05	<0.05
Hexavalent Chromium, Cr6+	mg/kg	<0.5	<0.5	<0.5	<0.5
PRI (1:20)	mL/g	1	1.2	1.1	0.6
Available phosphorous (Colwell P)	mg/kg	1	6	8	21
Cation Exchange Capacity	meq/100g	0.01	3.8	2.6	3.2
Reactive Iron	mg/kg	1	160	90	92
Clay (0.002mm)	%w/w	1	<1	<1	<1
Bulk Density	kg/L	0.1	1.5	1.4	1.4
Organic Matter	%w/w	0.1	2.9	1.7	2.2

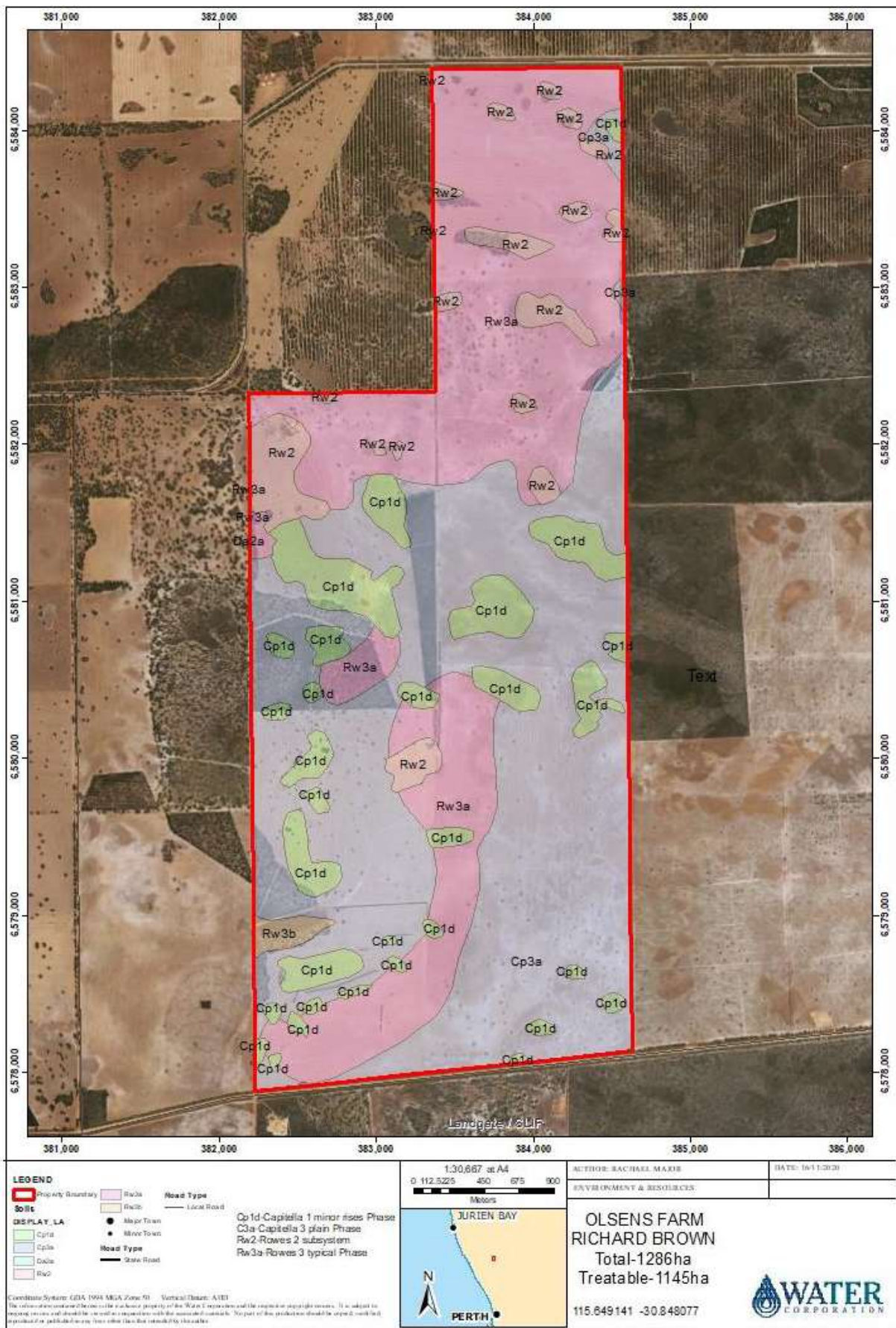


Figure 2: Soil landscape map

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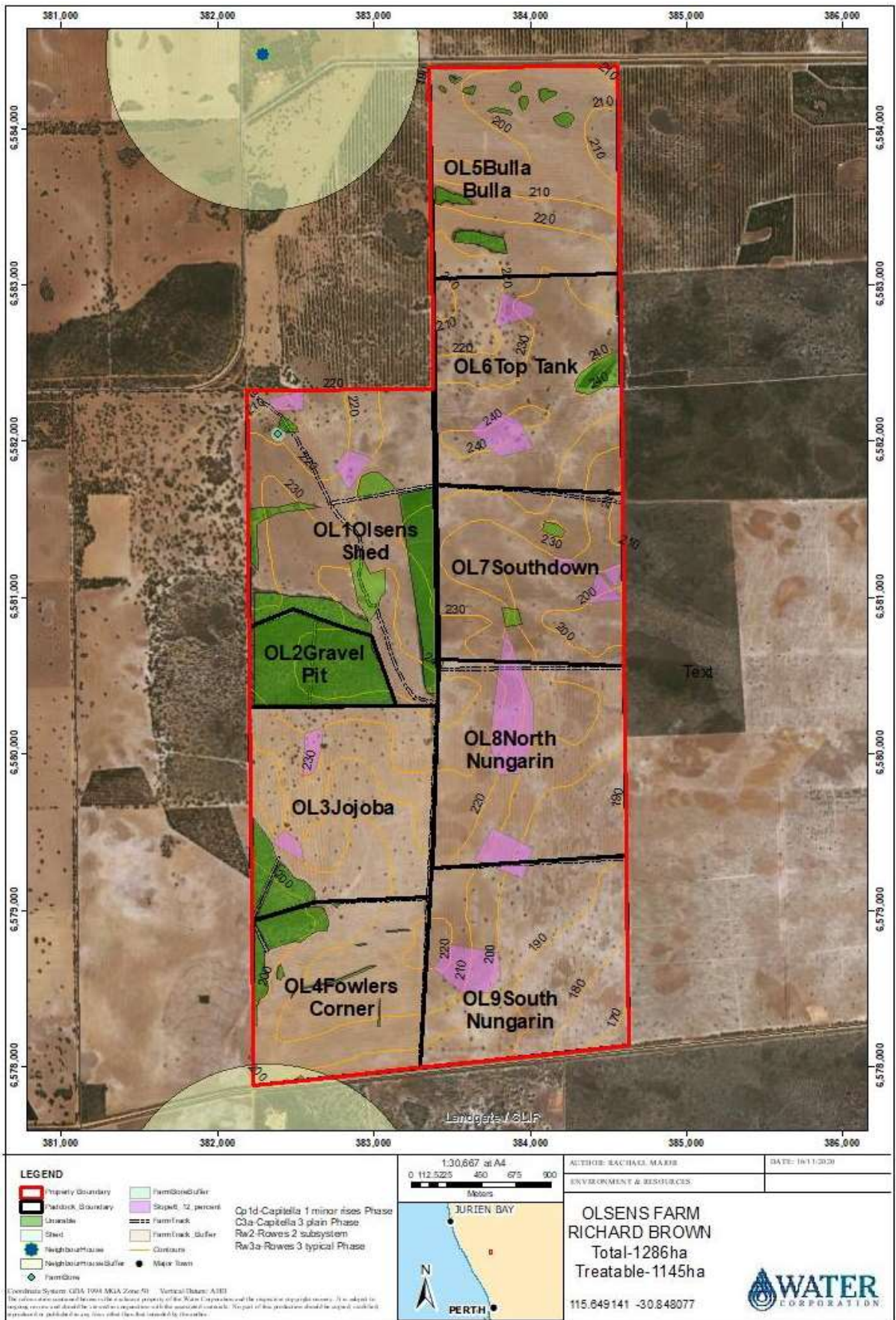


Figure 3: Farm paddock map

3.1.3 Groundwater and water sources

The farm has 1 agricultural bore used for stock water supply; the application includes a 50m buffer around the bore in line with the Biosolids Guidelines. Groundwater within the area is at least 20mbgl. There are no drinking water supply bores within the vicinity of the premises and the farm is not within a public drinking water supply area. The premises is within a RIWI proclaimed groundwater area the *Gingin Groundwater Area*.

The nearest surface water body is the Moore River situated approximately 5.3km south of the premises. The premises is within the RIWI proclaimed surface water area *Moore River and certain Tributaries*. Distances to water sources are shown in Table 6

3.1.4 Landscape topography

As landscape topography slope increases, rainfall runoff increases which can cause erosion of the soils, plus mobilisation of leachable contaminants and biosolid sediment downslope to surface water bodies or offsite. The risk of rainfall runoff is low on landscapes with a slope of less than 3%, with the risk of runoff increasing with the increase in slope. Slopes between 3% and 6% pose a medium risk of erosion from runoff and slopes between 6% and 12% present a high risk of erosion from runoff. Slopes above 12% pose an extreme risk of erosion from runoff, so are considered unsuitable for biosolids application without significant controls being implemented.

The application included a topographical map indicating areas where the slope is between 6% and 12% in purple, see Figure 3 above. These areas implement have soil conservation measures including minimum tillage, no rotary hoe use, sow on contour and stubble retention. Slopes that exceed 12% are excluded from the treatable area and have been included in the unarable area on the farm maps.

3.1.5 Occupied dwellings, animal enclosures and fencing and signage

Olsens farm is situated within an agricultural land use zone with the closest residential dwelling approximately 950m south-west of the premises boundary. The application includes a 1km buffer around the dwelling in line with the Biosolids Guidelines. There are no animal enclosures within the premises. Fencing is in place around each paddock and signs indicating that biosolids are stored and applied on the property will be placed at entrances to the premises. These signs will contain information warning that biosolids may be harmful to human health, that access to the premises is restricted and a contact phone number for the Water Corporation.

3.1.6 Biosolids storage

The assessment states that biosolids will be stored on flat ground with a gradient <3% on areas suitable for biosolids application whilst maintaining suitable buffer distances from sensitive receptors in line with the Biosolids Guidelines. The biosolids will be stored for less than 30 days in most instances however, there may be circumstances where it is necessary to store the biosolids for more than 30 days. Bunding and drainage will be installed to prevent stormwater entering the storage area and runoff from the stockpile area.

3.1.7 Biosolids application assessment

Biosolids application rates will be calculated for all paddocks prior to applications, the application included the application rates for 3 paddocks – OL3, OL6, and OL9. Contaminant Limited Biosolids Application Rate (CLBAR) was calculated for the three paddocks and determined that Zinc is the limiting contaminant for Cake and lime amended biosolids. As nitrogen and phosphorus is the limiting factors for both Cake and lime amended biosolids the contaminant will not be exceeded. The 3 paddocks are below the Maximum Permissible Soil Contaminant Concentrations (MPSCCs) for Arsenic, Lead, Mercury and Nickel.

Both the Cake and LAB accepted to the site will be classes as Pathogen Grade 3, Contaminant Grade 2 (P3C2) and therefore acceptable for agricultural land application under the Biosolids Guidelines.

Table 3 below indicated the soil phosphorus rankings for the 3 paddocks with their corresponding risk of phosphorus leaching in accordance with the Biosolids Guideline.

Table 3: Phosphorus Ranking

	OL3	OL6	OL9
PRI	1.23	1.1	0.59
Colwell P (mg/kg)	6	8	21
Agronomic demand for P	Moderate	Moderate	Low
Reactive Fe	160	90	92
Category	5	5	5
Risk of P leaching	High	High	High

As the risk of phosphorus leaching is high for all 3 paddocks, the biosolids will be applied to the paddocks at Phosphorus Limited Biosolids Application Rates (PLBAR). The areas to be covered with Cake or LAB and approximate wet weights to be applied are presented in Table 4.

Table 4: Paddock applications at PLBAR

	OL3		OL6		OL9	
	CAKE	LAB	CAKE	LAB	CAKE	LAB
Dry t/ha	8	16	8	16	8	16
Approx. wet t/ha	42	57	42	57	42	57
Application area (ha)	134.3		159.2		156.8	
Approx. wet ton total	5678	7701	6729	9156	6636	8889

The calculations for PLBAR are based on CSBP Agronomists confirmation of Olsens' farm current agronomic demand for P for Canola at 2t/ha and wheat at 5t/ha to be 24kg/ha. Application rates have then been adjusted for all 3 paddocks.

The annual agricultural program at Olsens farm coupled with annual total biosolids production means that the total biosolids capacity of the farm is unlikely to be reached within 1 year. At present approximately 114,000 tonnes of biosolids are produced annually. Once licenced there will be eight farms in the Biosolids resource recovery program with biosolids applications rotated every two months between farms. The maximum annual application per farm is not expected to be reached in an annual period but will be a contingency in the event biosolids cannot be delivered to the alternative farms during an allocation period.

3.2 Source-pathways and receptors

3.2.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Decision Report are detailed in Table 5 below. Table 5 also details the proposed control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 5: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Operation			
Noise	Operation and movement of heavy vehicles and farm machinery	Air/windborne pathway	The EP Act Noise Regulations will be complied with.
Dust			Application will no occur year-round, rather consist of one to two two-month periods annually. 1km buffers to the neighbouring residents from the biosolids application area.
			Incorporation of biosolids in a moist state will reduce dust emissions.
Odour	Storage and handling of Biosolids		1km buffers to the neighbouring residents from the biosolids application areas. Biosolids will not be spread during inclement weather.
	Application of Biosolids to pasture		Application will no occur year-round, rather consist of one to two two-month periods annually. If an odour complaint is received an investigation will occur and relevant measures will be implemented. Lime amended biosolids (LAB) will be transported in sealed metal silos and Cake will be transported with trailers using sealable hydraulic tarps. LGA will be consulted regarding transport routes and notified one month prior any application to Olsens Farm.
Pathogens including <i>E.coli</i>			1km buffers to the neighbouring residents from the biosolids application areas. Only accepting biosolids that meet pathogen grade P3 or higher
Leachate		Direct discharge to land	Application of biosolids will occur at PLBAR in line with the Biosolids Guidelines. Reapplication checks will be conducted prior to

Emission	Sources	Potential pathways	Proposed controls
			<p>the application of biosolids for each paddock to ensure contamination has not occurred from previous applications and preventing unacceptable buildup of contaminants.</p> <p>Groundwater is >20mbgl</p>
Contaminated stormwater with excess nutrients including phosphorus		Overland runoff	<p>Biosolids will be stored for a maximum of 30 days on surfaces with gradients <3%, with buffer distances maintained for all environmentally sensitive receptors. Should extended storage be required the biosolids stockpile will be bunded to prevent surface runoff or ingress.</p> <p>Application will not occur during rainfall events or when heavy rains are forecast.</p> <p>Application of biosolids will occur at PLBAR in line with the Biosolids Guidelines.</p> <p>Application on slopes with gradients 6-12% will utilize soil conservation practices and will not occur on land with slopes 12% or greater in line with the Biosolids Guidelines.</p>

3.2.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), the Delegated Officer has excluded employees, visitors and contractors of the applicant's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation.

Table 6 and

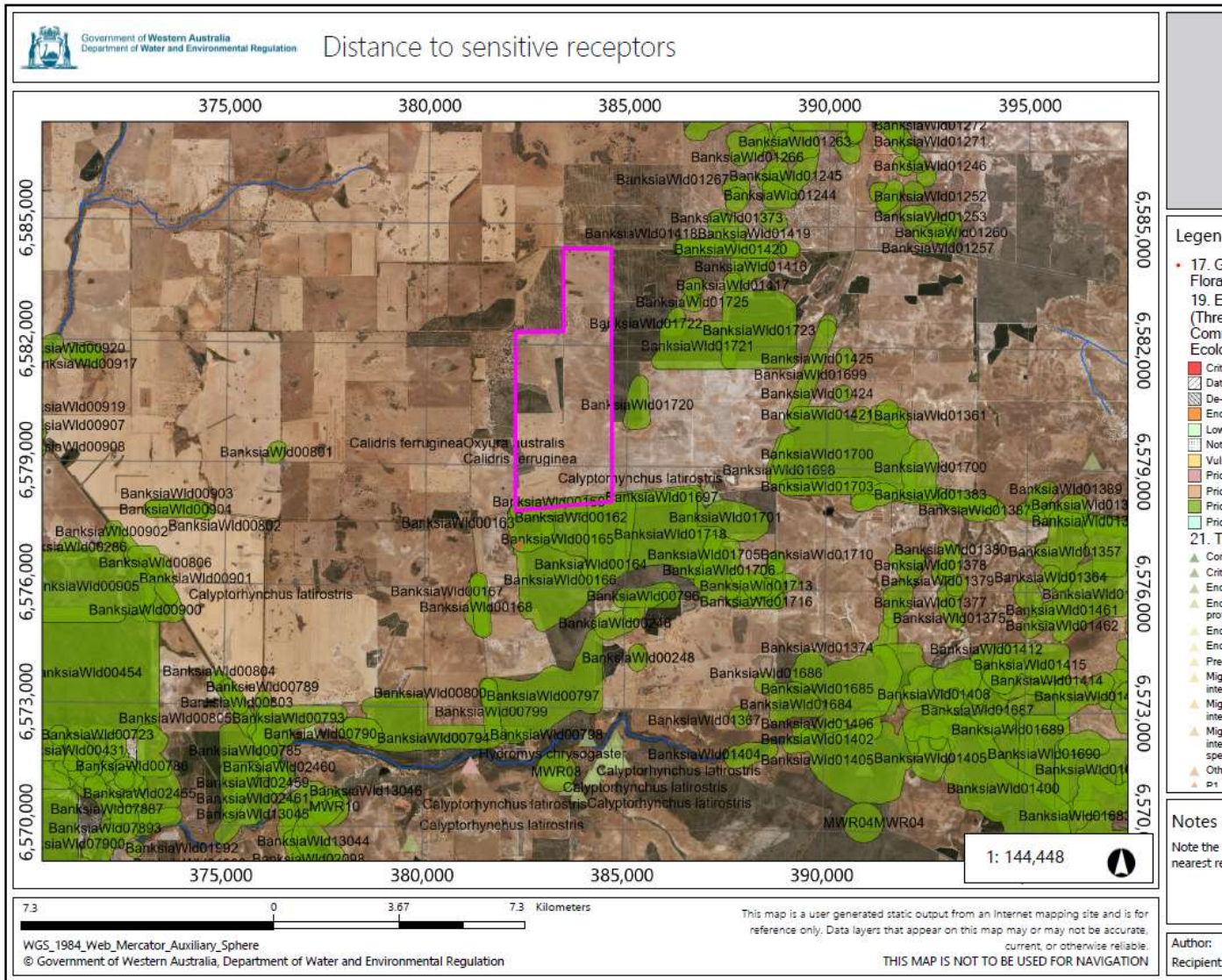


Figure 4 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guidance Statement: Environmental Siting* (DER 2016)).

Table 6: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Residential dwelling	~950m south-west of the premises boundary
Compass Drawpoint GWL177164 Pumped Well – Drawpoint 035146	~853m west of the premises boundary
Rural zones land – farming	Surrounding the premises boundary
Environmental receptors	Distance from prescribed activity

<p><i>TECs</i></p> <p>Banksia dominated woodlands of the Swan Coastal Plain IBRA Region -Priority 3</p>	<p>Immediately adjacent to the south of the premises</p> <p>~0.2km, 1km and 1.7km to the east of the premises</p>
<p>Green Growth RSNAs DPaW Managed Lands Commitments</p>	<p>Immediately adjacent to the south of the premises</p>
<p>Threatened Fauna</p> <ul style="list-style-type: none"> - Curlew sandpiper (<i>Calidris ferruginea</i>) - Red-necked stint (<i>Calidris ruficollis</i>) - Carnaby's black- cockatoo (<i>Calyptorhynchus latirostris</i>) - Blue-billed duck (<i>Oxyura Australis</i>) - Wood sandpiper (<i>Tringa glareola</i>) - Common greenshank (<i>Tringa nebularia</i>) <p>Malleefowl (<i>Leipoa ocellate</i>)</p>	<p>Within 1 – 6km of the premises.</p>
<p>Surface water lines</p> <p>Major – Moore River</p> <p>Minor - unnamed</p>	<p>~5.3km south of the premises</p> <p>~5.7km north-west of the premises</p>
<p>RIWI Proclaimed Surface Water Area</p> <p>Moore River and certain Tributaries</p>	<p>Within the premises boundary</p>
<p>RIWI Proclaimed Groundwater Area</p> <p>Gingin Groundwater Area</p> <p>Groundwater is estimated to be >20mbgl</p>	<p>Within the premises boundary</p>

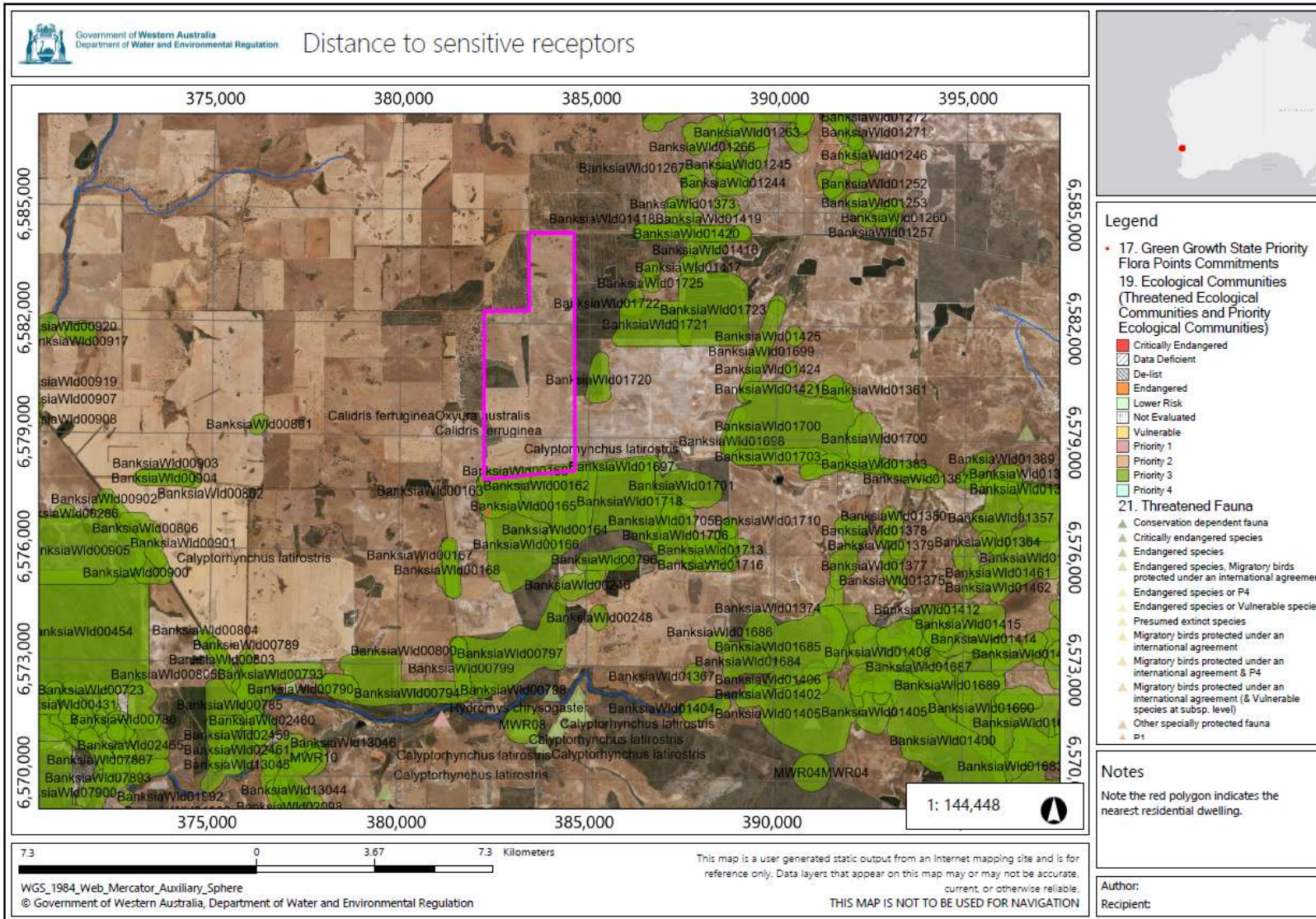


Figure 4: Distance to sensitive receptors

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3.3 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.22. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.2), these have been considered when determining the final risk rating. Where the Delegated Officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 7.

Licence L9277/2021/1 that accompanies this Decision Report authorises emissions associated with the operation of the Premises i.e. the application of biosolids to land in accordance with the conditions set out in the licence.

The conditions in the issued Licence, as outlined in Table 7 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 7: Risk assessment of potential emissions and discharges from the Premises during operation

Risk Event					Risk rating ¹	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
Storage and handling of biosolids	Dust from movement of heavy vehicles and farm machinery	Air/windborne pathway causing impacts to health and amenity	Residential dwelling	Refer to Section 3.2	C = Slight L = Unlikely Low Risk	Y	N/A	Any emission of dust causing impacts may be subject to the provisions of section 49 of the EP Act
	Noise from movement of heavy vehicles and farm machinery				C = Slight L = Unlikely Low Risk	Y	N/A	Any emissions of noise causing impacts may be subject to the provisions of the <i>Environmental Protection (Noise) Regulations 2004</i> .
	Odour				C = Slight L = Possible Low Risk	Y	N/A	Any emission of odour causing impacts may be subject to the provisions of section 49 of the EP Act
	Pathogens including <i>E.coli</i> and helminths				C = Minor L = Unlikely Medium Risk	N	Condition 2	LAB with a pathogen grade of 3 treated by the addition of lime or anaerobic digestion cannot be stored for more than 7 days as the lime can be leached out of the LAB and influence the pathogen grade
	Vectors including flies, mosquitoes, and rodents	Physical movement of pathogens by vectors Human health impacts			C = Minor L = Unlikely Medium Risk	N	Condition 2	Flystrike monitoring is required dependent on the number of days biosolids is stored. A contingency plan is required when flystrike is detected

Risk Event					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Leachate including excess nutrients including phosphorus and nitrogen	Direct discharge to land -migration into groundwater	RIWI Proclaimed groundwater area Compass Drawpoint		C = Moderate L = Possible Medium Risk		Condition 2 Condition 3	Gravels are present within the Premises, which is unsuitable for biosolids application. Conditioned to prevent application within these areas. The REF submitted with the application considered OL3, OL6, and OL9 only. Any application of biosolids on the Premises outside the scope of the original REF, will require an additional REF to be undertaken.
	Contaminated stormwater	Overland runoff	RIWI proclaimed Surface water area; minor waterway and Moore River; and Surrounding TECs		C = Moderate L = Possible Medium Risk		Condition 2	Appropriate management needs to be undertaken to ensure no surface runoff occurs from the storage of biosolids. Any application of biosolids outside the scope of the original REF, will require an additional REF to be undertaken.
Application of Biosolids to pasture	Dust from movement of heavy vehicles and farm machinery	Air/windborne pathway causing impacts to health and amenity	Residential dwelling		C = Slight L = Possible Low Risk	Y	N/A	Any emission of dust causing impacts may be subject to the provisions of section 49 of the EP Act
	Noise from movement of heavy vehicles and farm machinery				C = Slight L = Possible Low Risk	Y	N/A	Any emissions of noise causing impacts may be subject to the provisions of the <i>Environmental Protection (Noise) Regulations 2004</i> .

Risk Event					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Odour				C = Slight L = Possible Low Risk	Y	N/A	Any emission of odour causing impacts may be subject to the provisions of section 49 of the EP Act
	Leachate	Direct discharge to land -migration into groundwater	RIWI Proclaimed groundwater area Compass Drawpoint		C = Moderate L = Possible Medium Risk	N	Condition 2	Conditioned into the licence that Limiting Factors must be determined for each paddock.
	Contaminated stormwater with excess nutrients including phosphorus	Overland runoff	RIWI proclaimed Surface water area; minor waterway and Moore River Surrounding TECs		C = Moderate L = Possible Medium Risk	N	Condition 2 Condition 3	The REF submitted as part of the application and subsequent further submissions has indicated that the risk profile for P leaching within OL3, OL6 and OL9 is high and therefore only acceptable for biosolids application if the application rate is at the PBLAR. The applicant has indicated that the application rate will be PBLAR which will mitigate the risk of P leaching. Conditioned into the licence that Limiting Factors must be determined for each paddock. High slope areas across the Premises are to be identified, and soil conservation practices implemented where biosolids application is to occur. Biosolids are not to be applied on land with slopes >12% as indicated in the REF.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

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Note 2: Proposed applicant controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 8 provides a summary of the consultation undertaken by the department.

Table 8: Consultation

Consultation method	Comments received	Department response
<i>Application advertised on the department's website (15/02/2021)</i>	<i>None received</i>	N/A
<i>Local Government Authority advised of proposal (19/02/2021)</i>	<i>No response from the LGA</i>	N/A
<i>Department of Primary Industries and Regional Development (DPIRD) advised of proposal (19/02/2021)</i>	<p>DPIRD responded on 05/03/2021 advising the following:</p> <ul style="list-style-type: none"> • Recommend that annual soil testing including Phosphorus Buffering Index (PBI) and PRI should occur at various depths up to 200cm on each paddock prior to applying biosolids. • Disagree with the Moderate Risk of P leaching attributed to OL3 and OL9 paddocks. Table 9 of <i>WA guidelines for Biosolids</i> indicates these paddocks are High risk. • DPIRD's phosphorus export hazard tables indicate land with groundwater below 5m and PRI <2.5, the soils have a low to moderate phosphorus export hazard. • High organic matter inputs into sandy soil (biosolids) can result in a build-up of water repellence over time. This could increase surface runoff and nutrient export, with fewer plants and less roots taking up nutrients. • DPIRD recommends that suitable soil conservation structures and practices are in place to minimise the risk of runoff and water erosion, especially on steeper slopes. • DPIRD recommends a baseline analysis of the water quality for the bore on Olsens farm, and a monitoring program to measure any changes to the quality during the application of biosolids. 	<ul style="list-style-type: none"> • Noted however in terms of the consistent approach to biosolids we will be doing it in accordance with the guidelines. • DWER contacted the Applicant and has since confirmed that the risk of P leaching for OL3, OL6 and OL9 are all high. The paddock applications at PLBAR have been amended in line with the high risk of P leaching and is approved by DPIRD. • DWER has noted this. • DWER has considered the potential build-up of water repellence over time. • DWER has considered this and notes that soil conservation structures and practices are usually tied into slope gradients recommendations as per the biosolids guidelines. • To be consistent with the biosolids guidelines, no groundwater monitoring will be required. DWER will make the recommendation that the applicant consider groundwater

		monitoring but will not be conditioned.
<i>Department of Health (DoH) advised of proposal (19/02/2021)</i>	<ul style="list-style-type: none"> Concerns as the application states 8 of the 9 paddocks are suitable for biosolids application however only 3 paddocks were sampled on the REF; No clear rationale for determining the location of collected soil samples. REF indicates 4 soil subsystems but no information provided on how sample locations were selected; A detailed map of each paddock showing buffer distances to all environmental receptors and site constrains (slope, soil type, etc) should be included in the application to clearly indicate the areas suitable for biosolids application with regard to the <i>Western Australian guidelines for biosolids management(2012)</i>; Page 14 of the REF states that “<i>OL9 Paddock will be applied at the lower PLBAR due to the high risk of phosphorus leaching.</i>” This should be OL6. The Farm and Owner are new to the Water Corporation Biosolids Programme and Water Corporation is responsible for the training and audit of personnel working in the land application of biosolids. 	<ul style="list-style-type: none"> Noted and will condition that the applicant conduct a REF for each paddock before applying biosolids to the corresponding paddock. The applicant has confirmed that soils were sampled in accordance with the biosolids guidelines with soil analysis performed by SGS. Baseline sampling is taken by sampling the 0-10cm soils layer prior to reapplication. Maps provided in the application when combined with the Departments gradient maps are of sufficient detail to allow assessment of the land suitability for paddocks OL3, OL6 and OL9. Licence will condition that detailed maps are included in each REF. Typo noted during assessment. Noted.
<i>Applicant was provided with draft documents on 30/06/2021</i>	<i>Refer to Appendix 1</i>	<i>Refer to Appendix 1</i>

5. Conclusion

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

References

Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.

- DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
- DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.

3. DPIRD, 2018, *Interactive groundwater and salinity map for the south-west agricultural region*
4. Department of Environment and Conservation (DEC) 2012, *Western Australian guidelines for biosolids management*
5. DWER, June 2019. *Guideline: Industry Regulation Guide to Licensing*. Department of Water and Environmental Regulation, Perth.

Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Condition	Summary of applicant's comment	Department's response
Table 2 (d) - LAB with a pathogen grade of P3 treated by the addition of lime is stored for not more than 7 days;	<p>Proposed updated contion wording to "LAB is stored for not more than 30 days, unless stored within a bunded area." Providing the following justifications:</p> <ul style="list-style-type: none"> • LAB from Subiaco WRRF contains <2cfu <i>E.coli</i> once treated with lime to achieve a 3 hr pH >12. • There is no strong evidence to suggest <i>E.coli</i> would increase beyond the <2,000,000 required for P3 if stored for more than 7 days and can therefore be stored the same as cake. • Due to high pH the LAB does not provide suitable conditions to promote fly breeding. 	<p>The Delegated officer does not support the proposed amended condition and has determined that the existing condition will remain in line with the WA Biosolids Guideline. The Delegated Officer considers that microbial decomposition/bacterial growth is likely to occur if the pH of lime stabilized biosolids drops below nine. This may potentially adversely affect the odour generation potential and pathogen content of the biosolids. Minimizing the length of time materials are kept in storage will mitigate any potential impacts in this regard. The longer term storage of LAB is therefore not supported</p>
Table 2 (g) - If cake is stored for more than seven (7) days between 01 October and 31 May, visual flystrike monitoring is to be undertaken weekly and flystrike monitoring by an entomologist is to be undertaken fortnightly;	<p>Proposed updated condition wording to "If cake is stored for more than seven (7) days between 01 October and 31 May, visual flystrike monitoring is to be undertaken weekly by the licence holder or a representative of the Water Corporation." Providing the following justifications:</p> <ul style="list-style-type: none"> • An entomologist will identify the presence and species of fly, is considered a redundant requirement as it is intended to visually inspect stockpiles and either spread or treat the stockpile with pesticide in accordance with the contingency plan as required in Condition 2 -Table 2 (h). • Routine inspections, spreading or treating stockpiles with pesticides is the most effective way to control flies. If further controls are required beyond this then the engagement of an entomologist should be an incident investigation option rather than a condition of an operating licence and will involve an expense the licence holder would rather avoid 	<p>The Delegated Officer does not support the proposed amended condition wording but has amended the condition to detail that weekly visual monitoring can be undertaken by the licence holder. Fortnightly flystrike monitoring is still required by an entomologist if cake is stored for more than 7 days between 01 October and 31 May in line with Section 6.7 of the Biosolids Guidelines.</p>
Table 2 (S) Ensure that biosolids are to be applied at	Proposed this condition be removed from the licence for the following	The Delegated Officer does not support the removal of this condition as risk categories for two of the paddocks were

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Condition	Summary of applicant's comment	Department's response
rates not exceeding PLBAR where reactive Fe in the receiving paddock is less than 200 mg/kg.	reasons: <ul style="list-style-type: none"> • Table 2 (r) refers to application rates and limiting factors; and • The issue with Waster Corporation rate calculator has been rectified, to rate soils with <200Fe mg/kg as category 5 and unsuitable for agricultural land application 	erroneous in the initial REF presented to the Department. To avoid any future mis-categorisation of the risk categories this requirement will remain on the licence.
Licence Duration of 5 years	Request 10 year duration	The Delegated Officer does not support a longer licencing period for this premises due to the high phosphorous leaching risk profile of the paddocks presented and categorisation as 'unsuitable for agricultural application'.

Appendix 2: Application validation summary

DRAFTING NOTE: Insert Section 1 (excluding direct interest stakeholders) of the Validation Checklist here. Licensing Officer's need to ensure that if concurrent assessments (i.e. Part IV, Clearing, Planning) have been undertaken and associated approvals granted that the checklist has been updated prior to its inclusion in this appendix.

Example:

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)							
Application type							
Works approval	<input type="checkbox"/>						
Licence	<input type="checkbox"/>	Relevant works approval number:		None	<input type="checkbox"/>		
		Has the works approval been complied with?			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
		Has time limited operations under the works approval demonstrated acceptable operations?			Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
		Date Report received:					
Renewal	<input type="checkbox"/>	Current licence number:					
Amendment to works approval	<input type="checkbox"/>	Current works approval number:					
Amendment to licence	<input type="checkbox"/>	Current licence number:					
		Relevant works approval number:		N/A	<input type="checkbox"/>		
Registration	<input type="checkbox"/>	Current works approval number:		None	<input type="checkbox"/>		
Date application received							
Applicant and Premises details							
Applicant name/s (full legal name/s)							
Premises name							
Premises location		[Insert mining tenure / cadastral details]					
Local Government Authority							
Application documents							
HPCM file reference number:							
Key application documents (additional to application form):		<i>Examples:</i> <i>Groundwater modelling study</i> <i>Dust Management Plan</i> <i>Acoustic assessment</i> <i>Detailed odour analysis</i> <i>TSF stability assessment</i>					

Scope of application/assessment		
Summary of proposed activities or changes to existing operations.	<p><i>Works approval [amendment]</i></p> <p>Construction of [describe activity].</p> <p>For amendments clearly state which part of the existing approval needs to be changed.</p> <p><i>Licence [amendment]</i></p> <p>Operation of [describe activity]</p> <p>For amendments clearly state which part of the existing approval needs to be changed.</p>	
Category number/s (activities that cause the premises to become prescribed premises)		
Table 1: Prescribed premises categories		
Prescribed premises category and description	[Proposed] [Assessed] production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category [number]: [category description] <i>E.g. Category 12: Screening etc. of material</i>	<i>Proposed – for new activities as specified in the application.</i> <i>Assessed – use for existing premises where amendments are being sought.</i>	<i>Is there a proposed change to the previously assessed production or design capacity?</i>
Legislative context and other approvals		
Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:

Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Approval: Expiry date: If N/A explain why?
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input type="checkbox"/>	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Name: N/A Type: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Regional office: Swan Avon / Mid-West Gascoyne / Kwinana Peel / North West / South West / Goldfields / South Coast
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Name: N/A Priority: P1 / P2 / P3 / N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Note: If the proposed activity is not listed as a compatible land use with the PDWSA please consult with the relevant regional office (Regulatory Services - Water) and Water Source Protection (Science and Planning).
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>	If Yes include details here.
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input type="checkbox"/>	If Yes include details of which EPP(s) here.

<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>If Yes, include details here, e.g. Site is subject to SO₂ requirements of Kwinana EPP.</p>
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>If Yes include details here.</p> <p>Classification: N/A / possibly contaminated – investigation required (PC-IR) / not contaminated – unrestricted use (NC-UU) / contaminated – restricted use (C-RU) / remediated for restricted use (RRU) / contaminated – remediation required (C-RR) / decontaminated (Decon)</p> <p>Date of classification: N/A</p>