



## Application for Licence Amendment

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

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<b>Licence Number</b>	L9159/2018/2
<b>Licence Holder</b>	City of Cockburn
<b>File Number</b>	DER2018/001433
<b>Premises</b>	Henderson Waste Recovery Park 920 Rockingham Road WATTLEUP WA 6166
	Legal description – Lot 202 on Deposited plan 60443, Lot 2 on Diagram 17988 and Lot 235 on Deposited Plan 226117
<b>Date of Report</b>	18 June 2024
<b>Decision</b>	Revised licence granted

#### **A/MANAGER, WASTE INDUSTRIES**

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

## Table of Contents

<b>1. Decision summary</b>	<b>1</b>
<b>2. Scope of assessment</b>	<b>1</b>
2.1 Regulatory framework	1
2.2 Application summary	1
<b>3. Risk assessment</b>	<b>1</b>
3.1 Source-pathways and receptors	1
3.1.1 Emissions and controls	1
3.1.2 Receptors	3
3.2 Risk ratings	5
<b>4. Consultation</b>	<b>8</b>
<b>5. Conclusion</b>	<b>8</b>
5.1 Summary of amendments	8
<b>References</b>	<b>8</b>

Table 1: Licence holder controls	2
Table 2: Sensitive human and environmental receptors and distance from prescribed activity	3
Table 3. Risk assessment of potential emissions and discharges from the premises during operation	6
Table 4: Consultation	8
Table 5: Summary of licence amendments	8

## 1. Decision summary

Licence L9159/2018/2 is held by City of Cockburn (licence holder) for the Henderson Waste Recovery Park (the premises), located at 920 Rockingham Road, Wattleup.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the premises. As a result of this assessment, revised licence L9159/2018/2 has been granted.

## 2. Scope of assessment

### 2.1 Regulatory framework

In completing the assessment documented in this Amendment 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

On 23 May 2024, the licence holder submitted an application to the department to amend licence L9159/2018/2 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The licence holder is seeking to relocate landfilling activities from Cell 7 to Cells 4 and 5 due to the imminent closure of Cell 7. Due to delays in the commencement of new waste to energy plants, Cell 7 is projected to reach maximum capacity within weeks (June 2024). Therefore, the licence holder has applied to relocate landfilling activities to Cells 4 and 5 which had previously been partially filled.

This assessment is limited to short term urgent relocation of landfilling activities to allow for continued provision of landfill services to the south metropolitan area in the immediate future.

In the long term, the licence holder will be required to address ongoing leachate management issues and the relocation of existing infrastructure from Cells 4 and 5 to fully access the available airspace. However, due to the time-sensitive nature of the proposed landfilling relocation, these matters will be addressed in a subsequent amendment application, which has already been submitted to the department for assessment.

The site has historically accumulated leachate over an extended period, necessitating the development of additional leachate storage and evaporation capacity. In response, the licence holder has recently commissioned the design of two new large-volume leachate ponds. The licence amendment application for the construction and operation of these ponds (Pond C and Pond D) is currently under assessment.

## 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 *Guideline: Risk assessments* (DWER 2020).

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 Source-pathways and receptors

#### 3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which

have been considered in this Amendment Report are detailed in Table 1 below. Table 1 also details the proposed control measures the licence holder has proposed to assist in controlling these emissions, where necessary.

**Table 1: Licence holder controls**

Emission	Sources	Potential pathways	Proposed controls
Dust	Dust generated during landfill operations associated with mobile plant and vehicle movement, waste tipping, pushing and compaction and cover material handling and application	Air/windborne pathway	<ul style="list-style-type: none"> <li>• Care during handling of soil material - excavation, haulage, unloading, stockpile management, loading from stockpile, haulage, unloading and spreading</li> <li>• Low vehicle speeds</li> <li>• Dust suppression via wetting down where necessary</li> <li>• Control/cease dusty operations when weather conditions are adverse</li> <li>• Physical separation distance between premises and the nearest receptors</li> </ul>
Odour	Odour generated from landfill operations		<ul style="list-style-type: none"> <li>• Rapid placement, compaction and covering of odourous waste materials.</li> <li>• Rejection of/or cease accepting problematic waste types</li> <li>• Landfill gas collection and extraction</li> <li>• Physical separation distance between premises and the nearest receptors</li> </ul>
Noise	Noise generated during landfill operations including vehicle and machinery noise.		<ul style="list-style-type: none"> <li>• Care during waste tipping (bin banging)</li> <li>• Low vehicle speeds</li> <li>• Low frequency “croaker” type reversing</li> <li>• Beacons</li> <li>• Appropriate maintenance of all plant and equipment</li> <li>• Physical separation distance between premises and the nearest receptors</li> </ul>
Spills or leaks of hazardous wastes and/or leachate	Seepage and spillage during landfill operations	Seepage to soils and groundwater	<ul style="list-style-type: none"> <li>• Landfill cells are fully lined with a composite GCL/HDPE synthetic liner</li> <li>• Removing leachate from landfill cells and storing and evaporation from leachate ponds.</li> <li>• Proposed development of additional leachate ponds</li> <li>• Installation of additional forced evaporators</li> <li>• The site has groundwater monitoring bores, which are regularly monitored and reported as part of current licence conditions.</li> </ul>
Contaminated stormwater	Stormwater runoff contaminated by landfill material		No additional controls proposed. The landfill was developed in a historical limestone quarry. There are no water courses that flow through the site and all direct rainfall either seeps directly into the ground or is directed to stormwater sumps, where it eventually seeps into the ground. All landfill cells are raised

Emission	Sources	Potential pathways	Proposed controls
			above the adjacent ground level; hence, no external surface water flows into any of the landfill cells.
Firewater	Firewater generated by firefighting activities.		<ul style="list-style-type: none"> <li>• Firefighting water contained on landfill surface</li> <li>• Firefighting water absorption into waste mass</li> <li>• Lined landfill cells</li> </ul>
Smoke	Fire event		<ul style="list-style-type: none"> <li>• Rapid extinguishing of landfill fires</li> <li>• Available water supply and firefighting equipment</li> <li>• Adjacent stockpiles of soil cover material</li> <li>• Close proximity to fire emergency services.</li> </ul>
Windblown waste / litter	Windblown waste generated from landfill operations	Air/windborne pathway	<ul style="list-style-type: none"> <li>• Close proximity litter screens</li> <li>• Immediate placement, compaction and covering of litter-generating waste materials</li> <li>• Site perimeter litter fencing</li> <li>• Regular litter collection on site and in neighbouring properties</li> </ul>

### 3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the delegated officer has excluded employees, visitors and contractors of the Licence Holder'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 2 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 (*Guideline: Environmental siting* (DWER 2020)).

**Table 2: Sensitive human and environmental receptors and distance from prescribed activity**

Human receptors	Distance from prescribed activity
Residential premises	The closest residential premises is approximately 25 m east of the premises boundary.
Commercial premises	The closest commercial premises is approximately 20 m north of the premises boundary.
Environmental receptors	Distance from prescribed activity
Groundwater	Groundwater beneath the premises has been observed at depths between 7 and 18 metres below ground level. Relative standing water level ranged from 0.48 m to 1.1 m AHD. Cell 4 and 5 sump invert levels have been measured to be at relative level 2.2 m with a distance of 1.1 m to groundwater.
Beneficial users of groundwater	The local groundwater flow is inferred to be in a south-west direction. Within a 500 m radius of the premises, there are approximately 230 groundwater abstraction licences, mostly located up the hydraulic gradient. The majority of abstraction is

	from the Superficial and Leederville Aquifers.
RIWI Act Groundwater Area	Premises within the proclaimed Cockburn Groundwater Area.
Bush Forever Site 346	Approximately 150 m west of premises boundary.
Threatened and Priority Ecological Communities (TEC/PEC)	Several located within 200m of premises boundary.
Threatened Fauna	Identified surrounding the premises indicating that native vegetation may be providing habitat.
DBCA Legislated Tenure	Conservation Park located approximately 200 m west of the premises boundary.
Regional Parks	Beeliar Regional Park located approximately 150 m west of the premises boundary.
Geomorphic Wetlands - Swan Coastal Plain (Management)	Brownman Swamp – Approximately 320 m west of the premises boundary. Lake Mount Brown – Approximately 525 m south-west of the premises boundary.

## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the licence holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the licence holder'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 licence holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

The revised licence L9159/2018/2 that accompanies this Amendment Report authorises emissions associated with the operation of the premises i.e. landfilling activities.

The conditions in the revised licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

**Table 3. Risk assessment of potential emissions and discharges from the premises during operation**

Risk Event					Risk rating <sup>1</sup>	Licence holder's controls sufficient?	Conditions <sup>2</sup> of licence	Reasoning
Source/ Activities	Potential emission	Potential pathways and impact	Receptors	Licence holder's controls	C = consequence L = likelihood			
Resumption of landfilling activities in partially filled Cells 4 and 5	Dust	Air/windborne pathway causing impacts to health and amenity.	Nearby commercial premises and private residences	Refer to Section 5.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Conditions 1 and 2 - Waste acceptance Condition 3 - Waste processing requirements Condition 9 - Visible dust prevention	The delegated officer considers the applicant's proposed controls and existing conditions within the current licence to be sufficient in managing dust emissions.
	Odour				C = Moderate L = Possible <b>Medium Risk</b>	Y	Conditions 1 and 2 - Waste acceptance Condition 3 - Waste processing requirements Condition 11 - Odour management Condition 19 - Landfill management Condition 20 - Cover requirements Condition 21 - Landfill gas management Condition 22 - Waste excavation prohibited	The delegated officer considers the applicant's proposed controls and existing conditions within the current licence to be sufficient in managing odour emissions.
	Noise	Air/windborne pathway causing impacts to amenity			C = Minor L = Unlikely <b>Medium Risk</b>	Y	N/A	The delegated officer considers the applicant's controls to be sufficient to manage noise emissions.  The Environmental Protection (Noise) Regulations 1997 also apply.
	Spills or leaks of hazardous wastes and/or leachate	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality.  Seepage into underlying soils causing localized			Underlying groundwater of the Cockburn Groundwater Area.  Threatened/priority ecological community buffers and threatened fauna surrounding the	C = Moderate L = Possible <b>Medium Risk</b>	Y	Conditions 1 and 2 - Waste acceptance Condition 3 - Waste processing requirements Conditions 4 and 5 - Containment infrastructure Condition 14 - Pollution control maintenance Condition 15 - Hazardous material storage Condition 16 - Spill management Condition 29 & 30 - Ambient groundwater monitoring

Licence: L9159/2018/2



Risk Event					Risk rating <sup>1</sup>	Licence holder's controls sufficient?	Conditions <sup>2</sup> of licence	Reasoning
Source/ Activities	Potential emission	Potential pathways and impact	Receptors	Licence holder's controls	C = consequence L = likelihood			
		contamination. Infiltration into groundwater potentially causing ecosystem disturbance or impacting groundwater quality.	premises. Geomorphic wetlands located ~ 320m west of the premises boundary.					managing the risks associated with spills and leachate seepage in the short term, with long-term management to be addressed in the subsequent amendment currently under assessment.
	Potentially contaminated stormwater		DBCA land tenure located ~200m west of the premises boundary.		C = Minor L = Unlikely <b>Medium Risk</b>	Y	Conditions 4 and 5 - Containment infrastructure Condition 8 - Waste burning prohibited	The delegated officer considers the applicant's proposed controls and existing conditions within the current licence to be sufficient in managing emissions from firewater and stormwater runoff.
	Firewater				C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Condition 16 - Spill management Condition 17 -Stormwater management	
	Smoke	Air/windborne pathway causing impacts to health and amenity.	Nearby commercial premises and private residences		C = Moderate L = Possible <b>Medium Risk</b>	Y	Conditions 1 and 2 - Waste acceptance Condition 3 - Waste processing requirements Conditions 6 and 7 - Site security Condition 8 - Waste burning prohibited	The delegated officer considers the applicant's proposed controls and existing conditions within the current licence to be sufficient in managing emissions associated with any smoke generated by fire.
	Windblown waste / litter	Air/wind dispersion causing impacts to amenity			C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 12 -Windblown waste management Condition 18 - Landfill management Condition 19 - Cover requirements	The delegated officer considers the applicant's proposed controls and existing conditions within the current licence to be sufficient in managing windblown waste / litter.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed Licence Holder's controls are depicted by standard text. **bold and underline text** depicts additional regulatory controls imposed by department.

## 4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

**Table 4: Consultation**

Consultation method	Comments received	Department response
Licence holder was provided with draft amendment on 14 June 2024	N/A	N/A

## 5. Conclusion

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

### 5.1 Summary of amendments

Table 5 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the revised licence as part of the amendment process.

**Table 5: Summary of licence amendments**

Condition no.	Proposed amendments
Condition 3 – Table 2 (Waste processing)	Amendment of approved landfilling cells to include Cells 4 and 5.
Condition 4 – Table 3 (Landfill infrastructure)	Inclusion of Cells 4 and 5.
23	Correction of typographical error – condition 23 had no text, just the condition number.

## References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Risk Assessments*, Perth, Western Australia