



## Application for Works Approval

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

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**Works Approval Number** W6560/2021/1

**Applicant** AMG WA Pty Ltd

**ACN** 159 617 044

**File number** DER2021/000242

**Premises** Peel Landfill Facility  
Part Lot 3 Buller Road, Waroona  
  
Legal description  
Lot 3 on Deposited Plan 35920  
Certificate of Title Volume 142 Folio 98A  
As defined by the premises map attached to the issued works approval

**Date of report** 11 April 2022

**Decision** Works approval granted

**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 installation and operation of the premises. As a result of this assessment, works approval W6560/2021/1 has been granted.

## 2. Scope of assessment

### 2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) 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 26 April 2021, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake development works relating to a Class 1 inert landfill and installation of a solid waste depot and crushing facility for construction and demolition waste at the premises. The premises is approximately 7.5 km east of Waroona.

The premises relates to the categories and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6560/2021/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6560/2021/1.

### 2.3 Planning approval

Planning approval for the premises and associated activities was granted by the Shire of Waroona at the Ordinary Council Meeting on 23 November 2021 (File Ref: TP2228).

### 2.4 Native vegetation clearing

Two clearing permits (CPS 6701/1 and CPS 8500/1) had been issued by DWER for the clearing of native vegetation at the premises to facilitate the previously approved sand extraction. These areas generally include the landfill areas, and neither decision accounted for landfill as the end land use. The proposed would therefore result in non-compliance with the clearing permit conditions requiring revegetation of cleared areas following the completion or cessation of sand extraction activities. Consequently, amendments to the revegetation conditions for the clearing permits were required. Amendments to the permits were made 8 April 2022 (CPS 8500/2), achieving an increased offset area and revegetation of the landfill areas be undertaken.

## 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 development and operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

**Table 1: Proposed applicant controls**

Emission	Sources	Potential pathways	Proposed controls
<b>Construction</b>			
Dust	Placement of screens, crusher, sorting facility and associated equipment including vehicle movements	Air / windborne pathway	- 50 kL available water supply - Wetting down of site internal access roads. - Use of chemical suppressants (Dustex or similar).
Noise			- Operating behind naturally occurring soil bunds, which form part of the edge of the sand quarry.
<b>Operation</b>			
Landfilling			
Noise	Waste acceptance and disposal via landfilling	Air / windborne pathway	- Unloading and loading of waste vehicles occur within the sand quarry void. - Appropriate maintenance of all plant machinery and equipment is to be conducted on a regular basis. - Operations occur within the unrestricted noise period (7.00 am to 7.00 pm). - Operating behind naturally occurring soil bunds, which form part of the edge of the sand quarry.
Odour	Waste acceptance and disposal via landfilling	Air / windborne pathway	This emission is considered as being extremely low due to the type of waste being handled on site and that waste residue will be removed from site as soon as possible.
Windblown waste	Waste acceptance and disposal via landfilling	Air / windborne pathway	- Immediate processing of waste materials. - Removal of litter generating waste sorting residue. - Perimeter fencing. - Litter collection.
Dust	Waste acceptance and disposal via landfilling	Air / windborne pathway	- Low site speed limits. - 50 kL available water supply - Wetting down of site internal access roads. - Use of chemical suppressants (Dustex or similar).

Emission	Sources	Potential pathways	Proposed controls
			- Cease operations if dust cannot be controlled.
Asbestos	Waste acceptance and disposal via landfilling	Air / windborne pathway	<ul style="list-style-type: none"> <li>- The initial inspection of the incoming materials will determine the general accessibility thereof and whether the load is deemed a low or high risk material from an asbestos management point of view.</li> <li>- Low risk material, as defined in the Asbestos Management Plan is unloaded in General Tipping Area. If the material is deemed as being clean bricks and/or concrete (no asbestos foundation shuttering etc), it may be tipped in close proximity to the crushing equipment.</li> <li>- Loads that are deemed as being potentially high risk are unloaded in the High Risk Tipping Area. Once the high risk material has been inspected and assessed as being asbestos free, the material is moved to the General Tipping Area and processed accordingly.</li> </ul>
Leachate	Waste acceptance and disposal via landfilling	Subsurface seepage	<ul style="list-style-type: none"> <li>- Minimal leachate generation due to waste types.</li> <li>- Removal of sorted waste residue as soon as possible from site.</li> </ul>
Contaminated stormwater	Waste acceptance and disposal via landfilling	Overland flow	<ul style="list-style-type: none"> <li>- Waste types reduce risk of contamination.</li> <li>- Minimising pre and post sorted material on site.</li> <li>- Removal of sorted waste residue as soon as possible from site.</li> <li>- Waste placement within the landfill is to be shaped to ensure that surface water flow generated on top of the waste is diverted off the landfill as rapidly as possible.</li> </ul>
<b>Crushing and screening</b>			
Noise	Waste acceptance, storage and processing via mechanical screening, crushing and manual sorting	Air / windborne pathway	<ul style="list-style-type: none"> <li>- Unloading and loading of waste vehicles occur within the sand quarry void.</li> <li>- Appropriate maintenance of all plant machinery and equipment is to be conducted on a regular basis.</li> <li>- Operations occur within the unrestricted noise period (7.00 am to 7.00 pm).</li> <li>- Sound screens built into waste processing equipment (screen and crusher).</li> <li>- Operating behind naturally occurring soil bunds, which form part of the edge of the sand quarry.</li> </ul>
Odour	Waste acceptance, storage and	Air / windborne	- Waste types reduce risk of odour.

Emission	Sources	Potential pathways	Proposed controls
	processing via mechanical screening, crushing and manual sorting	pathway	- Waste residue will be removed from site as soon as possible.
Windblown waste	Waste acceptance, storage and processing via mechanical screening, crushing and manual sorting	Air / windborne pathway	<ul style="list-style-type: none"> <li>- Immediate processing of waste materials.</li> <li>- Removal of litter generating waste sorting residue.</li> <li>- Perimeter fencing.</li> <li>- Litter collection.</li> </ul>
Dust	Waste acceptance, storage and processing via mechanical screening, crushing and manual sorting	Air / windborne pathway	<ul style="list-style-type: none"> <li>- Low site speed limits.</li> <li>- 50 kL available water supply</li> <li>- Wetting down of site internal access roads.</li> <li>- Use of chemical suppressants (Dustex or similar).</li> <li>- Cease operations if dust cannot be controlled.</li> <li>- Sprinklers on processing equipment.</li> <li>- Wetting down input feedstock.</li> <li>- Sprinklers on inert material stockpiles.</li> <li>- Minimising stockpile volumes on site.</li> </ul>
Asbestos	Waste acceptance, storage and processing via mechanical screening, crushing and manual sorting	Air / windborne pathway	<ul style="list-style-type: none"> <li>- The initial inspection of the incoming materials will determine the general accessibility thereof and whether the load is deemed a low or high risk material from an asbestos management point of view.</li> <li>- Low risk material, as defined in the Asbestos Management Plan is unloaded in General Tipping Area. If the material is deemed as being clean bricks and/or concrete (no asbestos foundation shuttering etc), it may be tipped in close proximity to the crushing equipment.</li> <li>- Loads that are deemed as being potentially high risk are unloaded in the High Risk Tipping Area. Once the high risk material has been inspected and assessed as being asbestos free, the material is moved to the General Tipping Area and processed accordingly.</li> <li>- For high risk material, as part of the asbestos management process, the material is spread out in thin layers and inspected.</li> <li>- The sand stockpiles will also be managed to enable the separate stockpiling of sand that is being tested for asbestos contamination, with stockpiles for pre and post tested materials.</li> <li>- Managed in accordance with <i>Sorting and Recycling Facility Asbestos Management Procedure</i>.</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
Leachate	Waste acceptance, storage and processing via mechanical screening, crushing and manual sorting	Subsurface seepage	<ul style="list-style-type: none"> <li>- Waste types reduce risk of contamination.</li> <li>- Minimising pre and post sorted material on site.</li> <li>- Removal of sorted waste residue as soon as possible from site.</li> </ul>
Contaminated stormwater	Waste acceptance, storage and processing via mechanical screening, crushing and manual sorting	Overland flow	<ul style="list-style-type: none"> <li>- Waste types reduce risk of contamination.</li> <li>- Minimising pre and post sorted material on site.</li> <li>- Removal of sorted waste residue as soon as possible from site.</li> </ul>
Smoke	Abnormal operations (fire event)	Air / windborne pathway	<ul style="list-style-type: none"> <li>- 50 kL available water supply with booster pump for firefighting water supply. Hoses connected to the booster pump and water cart for rapid reaction to fire.</li> <li>- Sorting and recycling of combustible materials as soon as practical after receipt.</li> <li>- Separate and small stocks of combustible materials maintained a minimum of 5 m apart.</li> <li>- Removal of combustible materials from site as soon as practical after sorting and recycling.</li> <li>- Appropriate site security to reduce the likelihood of vandals entering the site.</li> <li>- Appropriate firefighting equipment on site and adequate training for site operating staff.</li> <li>- Site managed in accordance with <i>Fire Management Procedure</i>.</li> </ul>
Fire washwater	Abnormal operations (fire event)	Overland flow	<ul style="list-style-type: none"> <li>- Waste types reduce risk of contamination.</li> <li>- On-site water supply and firefighting equipment to rapidly control a fire.</li> <li>- Ample space and mobile equipment to rapidly separate combustible materials to reduce fire combustible source material.</li> <li>- Ample supply of sand to use to extinguish a fire, prevent fire spread or separate stockpiles.</li> </ul>

### 3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors 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 and Figure 1 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**

<b>Human receptors</b>	<b>Distance from prescribed activity</b>
Homestead on rural property	Approximately 1.1 km north of the premises boundary
	Approximately 1.2 km northeast of the premises boundary
	Approximately 1.2 km south of the premises boundary
	Approximately 1.2 km southwest of the premises boundary
<b>Environmental receptors</b>	<b>Distance from prescribed activity</b>
Groundwater – Perth - Superficial Swan (non-potable purposes)	<p>Approximately 1.94 to 14.57 mBGL (13.10 to 14.62 mAHD) across the premises. The base of the landfill cells are located 2 m above the maximum groundwater level observed from monitoring conducted by the Applicant.</p> <p>Groundwater flow direction at the site is inferred to be west to southwesterly, based on monitoring information submitted by the Applicant.</p> <p>There are two licensed groundwater bores within a 2 km radius of the premises. One bore is located cross-gradient and south of the premises. The other bore is located downgradient and is situated on the Buller Road Refuse Disposal Site (Class II landfill).</p>
Geomorphic wetlands of the Swan Coastal Plain – Resource enhancement	Approximately 115 m north of the premises boundary
	Approximately 155 m north of the premises boundary
Geomorphic wetlands of the Swan Coastal Plain – Conservation	Approximately 65 m west of the premises boundary
	Approximately 250 m northwest of the premises boundary
Surface water – Farm dam	Approximately 40 m east of the premises boundary
Surface water – Waroona Main Drain	Approximately 1.2 km northeast of the premises boundary
DBCA Legislated Tenure – Buller Nature Reserve	Approximately 300 m southwest of the premises boundary
Threatened Ecological Community (TEC) – Banksia Dominated Woodlands of the Swan	Native vegetation within the premises consists of the TEC.





## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. 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 3.1), 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 works approval 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 3.

Works approval W6560/2021/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the premises. A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence application.

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

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
<b>Construction</b>								
Placement of screens, crusher, sorting facility and associated equipment including vehicle movements	Dust	Air / windborne pathway causing impacts to health and amenity	Rural homesteads: - 1.1 km north - 1.2 km northeast - 1.2 km south - 1.2 km southwest	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	N/A	The Delegated Officer considers that the provisions of section 49 of the EP Act is sufficient to regulate dust emissions from construction activities.
	Noise			Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	N/A	The Delegated Officer considers that the provisions of the <i>Environmental Protection (Noise) Regulations 1997</i> are sufficient to regulate noise emissions from construction activities.
<b>Operation (including time-limited-operations operations)</b>								
Waste acceptance and disposal via landfilling	Noise	Air/windborne pathway causing impacts to amenity	Rural homesteads: - 1.1 km north - 1.2 km northeast - 1.2 km south - 1.2 km southwest	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Conditions 1, 2, 3 and 6	The Delegated Officer considers that the applicant's controls and the provisions of the <i>Environmental Protection (Noise) Regulations 1997</i> are sufficient to regulate noise emissions during time-limited operations of landfill activities.
	Odour			Refer to Section 3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	<b><u>Conditions 7, 8, 9, 11, 12 and 31</u></b>	The Delegated Officer considers that the applicant's controls and the regulatory controls specified, including waste acceptance and cover requirements, are sufficient to regulate odour emissions during time-limited operations of landfill activities.
Waste acceptance and disposal via landfilling	Windblown waste	Air/windborne pathway causing impacts to amenity	Rural homesteads: - 1.1 km north - 1.2 km northeast - 1.2 km south - 1.2 km southwest	Refer to Section 3.1	C = Minor L = Rare <b>Low Risk</b>	Y	<b><u>Conditions 7, 8, 9, 11, and 12</u></b>	The Delegated Officer considers that the applicant's controls and the regulatory controls specified, including waste acceptance and cover requirements, are sufficient to regulate windblown waste emissions during time-limited operations of landfill activities.

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Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Waste acceptance and disposal via landfilling	Dust	Air/windborne pathway causing impacts to health and amenity		Refer to Section 3.1	C = Moderate L = Possible <b>Medium Risk</b>	Y	Conditions 1, 2, 3 and 6 <b><u>Conditions 11, 12 and 31</u></b>	The Delegated Officer considers that the applicant's controls and the regulatory controls specified, including waste acceptance and cover requirements, are sufficient to regulate dust emissions during time-limited operations of landfill activities.
	Asbestos	Air/windborne pathway causing impacts to health		Refer to Section 3.1	C = Major L = Unlikely <b>Medium Risk</b>	Y	Condition 1, 2, 3 6 <b><u>Condition 7 8 9 10 11 12</u></b>	The Delegated Officer considers that the applicant's controls and the regulatory controls specified, including waste acceptance and cover requirements, are sufficient to regulate asbestos emissions during time-limited operations of landfill activities.  Regulatory controls have been specified in relation to asbestos acceptance and landfilling activities.
	Leachate	Subsurface seepage causing contamination of soil and groundwater.  Lateral (horizontal) flow of impacted groundwater	Groundwater (approximately 1.94 to 14.57 mBGL (13.10 to 14.62 mAHD) across the premises.  Conservation category wetlands 65m west of premises boundary.	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	N	Conditions 1, 2, 3, and 7 <b><u>Condition 6 and 28</u></b>	See section 3.3.
	Contaminated stormwater	Overland flow causing impacts to terrestrial and aquatic ecosystems	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region  Buller Nature Reserve (300 m southwest)	Refer to Section 3.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Conditions 1, 2, 3, 6 and 7	The Delegated Officer considers that the applicant's controls and the regulatory controls specified are sufficient to regulate contaminated stormwater emissions during time-limited operations of landfill activities.  Conditions 2 and 3 require the submission of an Environmental Compliance Report to verify the works

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Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		Overland flow causing impacts to beneficial use	Farm dam (40 m east)					have been constructed in accordance with the relevant requirements.
Waste acceptance, storage and processing via mechanical screening, crushing and manual sorting	Noise	Air/windborne pathway causing impacts to health and amenity	Rural homesteads: - 1.1 km north - 1.2 km northeast - 1.2 km south - 1.2 km southwest	Refer to Section 3.1	C = Moderate L = Possible <b>Medium Risk</b>	Y	Conditions 1, 2, 3 and 6 <b><u>Condition 31</u></b>	The Delegated Officer considers that the applicant's controls and the provisions of the <i>Environmental Protection (Noise) Regulations 1997</i> are sufficient to regulate noise emissions during time-limited operations of screening activities.  Conditions 2 and 3 require the submission of an Environmental Compliance Report to verify the works have been constructed in accordance with the relevant requirements.
	Odour			Refer to Section 3.1	C = Minor L = Rare <b>Low Risk</b>	Y	<b><u>Condition 7</u></b>	The Delegated Officer considers that the applicant's controls are sufficient to regulate odour emissions during time-limited operations of screening activities.
	Windblown waste			Refer to Section 3.1	C = Minor L = Rare <b>Low Risk</b>	Y	Conditions 1, 2, 3 and 6 <b><u>Conditions 11 and 31</u></b>	The Delegated Officer considers that the applicant's controls are sufficient to regulate windblown waste emissions during time-limited operations of screening activities.
	Dust			Refer to Section 3.1	C = Moderate L = Possible <b>Medium Risk</b>	Y	<b><u>Conditions 6, 11 and 31</u></b>	The Delegated Officer considers that the applicant's controls and the regulatory controls specified, including water spray requirements on screening infrastructure, are sufficient to regulate dust emissions during time-limited operations of screening activities.  Conditions 2 and 3 require the submission of an Environmental Compliance Report to verify the works have been constructed in accordance

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Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Waste acceptance, storage and processing via mechanical screening, crushing and manual sorting								with the relevant requirements.
	Asbestos	Air/windborne pathway causing impacts to health		Refer to Section 3.1	C = Major L = Possible <b>High Risk</b>	N	<b><u>Conditions 7 to 11 and 13 to 24</u></b>	The Delegated Officer considers that the applicant's controls and the regulatory controls specified are sufficient to regulate asbestos emissions during time-limited operations of screening activities.  Regulatory controls have been specified in relation to asbestos acceptance, including load inspections, processing and screened stockpile management activities.
	Leachate	Subsurface seepage causing contamination of soil and groundwater.  Lateral (horizontal) flow of impacted groundwater	Groundwater (approximately 1.94 to 14.57 mBGL (13.10 to 14.62 mAHD) across the premises.  Conservation category wetlands 65m west of premises boundary.	Refer to Section 3.1	C = Minor L = Rare <b>Low Risk</b>	Y	<b><u>Conditions 7, 8, 9</u></b>	The Delegated Officer considers that the applicant's controls and the regulatory controls specified are sufficient to regulate leachate emissions during time-limited operations of screening activities.
	Contaminated stormwater	Overland flow causing impacts to terrestrial and aquatic ecosystems	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region  Buller Nature Reserve (300 m southwest)	Refer to Section 3.1	C = Minor L = Unlikely <b>Low Risk</b>	Y	N/A	The Delegated Officer considers that the applicant's controls and the regulatory controls specified are sufficient to regulate contaminated stormwater emissions during time-limited operations of screening activities.
		Overland flow causing impacts	Farm dam (40 m east)	Refer to Section 3.1				

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Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		to beneficial use						
Abnormal operations (fire event)	Smoke	Air/windborne pathway causing impacts to health and amenity	Rural homesteads: - 1.1 km north - 1.2 km northeast - 1.2 km south - 1.2 km southwest	Refer to Section 3.1	C = Major L = Rare <b>Medium Risk</b>	Y	Conditions 1 and 6 <b><u>Condition 25</u></b>	The Delegated Officer considers that the applicant's controls and the regulatory controls specified are sufficient to regulate fire event emissions during time-limited operations of screening activities.
	Fire washwater	Overland flow causing impacts to terrestrial and aquatic ecosystems	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region Buller Nature Reserve (300 m southwest)	Refer to Section 3.1	C = Major L = Rare <b>Medium Risk</b>	Y	Conditions 1 and 6 <b><u>Condition 25</u></b>	The Delegated Officer considers that the applicant's controls and the regulatory controls specified are sufficient to regulate fire event emissions during time-limited operations of screening activities.
		Overland flow causing impacts to beneficial use	Farm dam (40 m east)					
		Subsurface seepage causing contamination of soil and groundwater	Groundwater (minimum 2 mBGL)					

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

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

### 3.3 Detailed risk assessment for groundwater emissions

Given the potential for groundwater emissions, the application and *Groundwater Assessment, Peel Landfill Facility* (Stass Environmental, March 2021) was referred to the department's Kwinana Peel Region branch for technical advice. This advice is summarised below:

#### Key findings:

1. The location of monitoring bores on the southern boundary of the site at or about the contact point between the sand ridges and the Guildford Clay flats favour the interpretation in the report that the aquifer has low transmissivity owing to the clay and silt content. The lithology intercepted may also influence local groundwater levels.
2. At least 12 months of groundwater level data collected monthly is recommended to better constrain maximum and minimum water levels for decision making related to sand mine finished floor levels and the disposal of Class 1 inert waste material.

Further groundwater monitoring was undertaken, and the report titled *Highest Groundwater Static Water Level, Peel Landfill Facility* (Stass Environmental, December 2021) was submitted to the department on 9 December 2021. The data in this report demonstrated that the highest static groundwater level between November 2020 and November 2021 was more than 2 meters below ground level at all bore locations.

In addition to the applicant's proposed controls, further regulatory controls have been specified within the works approval to align with the technical advice, notably in relation to the continued groundwater monitoring programme for water table levels. Maintaining of a 2 m vertical separation distance between the lowest level of the landfill and highest groundwater level has also been specified within the works approval to mitigate the potential for groundwater emissions associated with landfilling inert wastes.

## 4. Consultation

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

**Table 4: Consultation**

Consultation method	Comments received	Department response
Application advertised on the department's website on 20 August 2021	None received	N/A
Local Government Authority advised of proposal on 25 June 2021	The Shire of Waroona replied on 28 July 2021 confirming that a Development Application for a Landfill and a waste sorting facility had been submitted. The application, however, was not accepted for assessment until further information was provided. Following these submissions, planning approval for the premises and associated activities was granted by the Shire of	N/A



Consultation method	Comments received	Department response
	Waroona at the Ordinary Council Meeting on 23 November 2021 (File Ref: TP2228).	
Department of Biodiversity, Conservation and Attractions (DBCA) advised of proposal on 25 June 2021	<p>The proposed operations are not consistent with clearing permit COS 8500/1.</p> <p>The management of dieback and weeds is consistent with the requirements of CPS 8500/1.</p> <p>It is DBCA's expectation that DWER will ensure that the proposed operations do not impact nearby bushland and wetland values.</p>	<p>Two clearing permits (CPS 6701/1 and CPS 8500/1) had been issued by DWER for the clearing of native vegetation at the premises to facilitate the previously approved sand extraction. These areas generally include the landfill areas, and neither decision accounted for landfill as the end land use. The proposed would therefore result in non-compliance with the clearing permit conditions requiring revegetation of cleared areas following the completion or cessation of sand extraction activities. Consequently, amendments to the revegetation conditions for the clearing permits were required. Amendments to the permits were made 8 April 2022 (CPS 8500/2) achieving an increased offset area and revegetation of the landfill areas be undertaken. These amended clearing permits satisfied the concerns raised by DBCA.</p>
Department of Health (DoH) advised of proposal on 25 June 2021	DoH raised concerns over the accumulation of non-confirming waste and the sampling of the recycled product in accordance with DWER's <i>Guidelines for managing asbestos at construction and demolition waste recycling facilities</i> .	<p>Condition 9 of the works approval requires that the works approval holder must ensure that where waste does not meet the waste acceptance criteria set out in condition 7 it is removed from the premises by the delivery vehicle or, where that is not possible, stored in a quarantined storage area or container and removed to an appropriately authorised facility as soon as practicable.</p> <p>Conditions 19 to 24 of the works approval specify asbestos sampling requirements, with recycled product to not exceed the product specification of 0.001% asbestos weight for weight (w/w) for asbestos content (in any form) within any recycled products. Maintenance of accurate, auditable books relating to the sampling events are also a requirement of condition 23.</p>
Peel-Harvey Catchment Council (PHCC) advised of proposal on 25 June 2021	<p>PHCC does not support the development of the Peel Landfill Facility, unless the following requirements are met:</p> <ul style="list-style-type: none"> <li>- Thorough restoration and monitoring plans (which includes groundwater/surface water</li> </ul>	<p>Rehabilitation and restoration will be managed through the Revegetation Management Plan specified in CPS 8500/2 and CPS 6701/2.</p> <p>Condition 25 of the works approval specifies the installation and</p>

Consultation method	Comments received	Department response
	<p>management plans) being developed and approved prior to works.</p> <ul style="list-style-type: none"> <li>- Installation of appropriate fencing to exclude rabbits and kangaroos and contain litter.</li> <li>- Increased groundwater monitoring regime.</li> <li>- Increased monitoring and mapping of dieback in adjacent Banksia Woodlands and prevention and treatment implemented based on the outcome of this, with results being publicly available.</li> <li>- Contingency plans being developed in the case where restoration goals are not achieved (particularly for tree species on the landfill cap), with results being publicly available.</li> <li>- Post-closure monitoring being increased to 10 years, based on best practice (Dept. of Mines &amp; Petroleum Guidelines for Preparing Mine Closure Plans state a minimum monitoring period after Mine closure is usually in the order of 10 years).</li> </ul>	<p>maintenance of suitable fencing to prevent unauthorised access to the site.</p> <p>Static groundwater level monitoring has been specified in condition 28 of the works approval. However, the Delegated Officer considers that the risk profile of the activities does not necessitate groundwater quality monitoring. This risk is mitigated through other regulatory controls within the works approval, including waste acceptance and processing restrictions.</p> <p>Clause 21 of the planning approval requires A Dieback Management Plan to be submitted to the local government for approval by the local government. This approved Dieback Management Plan is to be implemented to the satisfaction of the local government.</p> <p>Post-closure management and monitoring will be considered during the licence application assessment and examined throughout the duration of the licence.</p>
<p>Applicant was provided with draft documents on 19 January 2022</p>	<p>The applicant queried the descriptor used for residual waste within the waste acceptance table (Condition 7, Table 3).</p>	<p>Reference to residual waste has been removed from Table 3 to remove any ambiguity. Any non-conforming waste received in mixed inert waste type 1 loads must be managed in accordance with Condition 9 and wastes must be removed from the premises as soon as practicable (generally within 7 calendar days).</p> <p><b>Please note:</b> for consistency with other licenced premises, the department will elect to state specific timeframes within conditions of the licence (once granted) to ensure the timely removal of non-conforming waste from the premises.</p>

## 5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

## 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. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

## Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY				
Application type				
Works approval	<input checked="" 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	26 April 2021			
Applicant and Premises details				
Applicant name/s (full legal name/s)	AMG WA Pty Ltd			
Premises name	Peel Landfill Facility			
Premises location	Lot 3 on Diagram 35920 Certificate of Title Volume 142 Folio 98A			
Local Government Authority	Shire of Waroona			
Application documents				
HPCM file reference number:	DER2018/001042-5~45			
Key application documents (additional to application form):	Supporting Document Site Plans (multiple) Facility Waste Management Plan Landfill Facility Asbestos Management Procedure Sorting and Recycling Facility Asbestos Management Procedure Groundwater Assessment Fire Management Procedures			
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.	<i>Works approval</i> Development of a Class 1 inert landfill (Category 63) and			

	<p>installation of a solid waste depot and crushing facility for construction and demolition waste (Category 13 and 62).</p> <p>The premises is currently being used to extract sand for sale as a basic raw material. The applicant intends to accept Class 1 inert waste material for disposal via landfilling in two quarry voids present on the site; one existing small void located on the western portion of the lot and a larger void located in the east of the lot. The western void has existed for a number of years and sand extraction is currently occurring within the eastern void. The applicant intends to fill the western void first and then progressively fill the eastern void, with the tipping front progressing slightly behind the extraction operation. The final waste heights will approximate the pre-disturbance topography of the area and the waste mass will be progressively capped and rehabilitated using native vegetation. Revegetation of the area is required by their existing clearing permit CPS 8500/1. The landfills are unlined and as a result only the following waste types are proposed to be accepted for landfilling:</p> <ul style="list-style-type: none"> <li>• Clean Fill;</li> <li>• Inert Waste Type 1;</li> <li>• Contaminated solid waste meeting Class I acceptance criteria;</li> <li>• Inert Waste Type 2 – tyres and plastics; and</li> <li>• Special Waste Type 1 (asbestos and asbestos cement products).</li> </ul> <p>Additional to landfilling, the Applicant also intends to accept construction and demolition waste for sorting and crushing in order to create recycled sand, drainage rock and road base product for sale. Construction and demolition waste will be sorted via mechanical screening and manual sorting to separate processable material, other recyclable material and residual wastes. Processable material will be passed through a jaw crusher. Other recyclable material and residual waste that is separated from the crushable material will be temporarily stored and disposed of at an offsite facility.</p> <p>Construction at the premises will include the following:</p> <ul style="list-style-type: none"> <li>• Roadworks;</li> <li>• Processing area roadbase platform;</li> <li>• Gatehouse;</li> <li>• Crib room and ablutions;</li> <li>• Water tank and associated pipework, pumps and sprinkler systems; and</li> <li>• Weighbridge.</li> </ul> <p>Equipment to be installed/used at the premises will include the following:</p> <ul style="list-style-type: none"> <li>• Dozer – Minimum D7;</li> <li>• Excavator – Minimum 25t;</li> <li>• Water cart;</li> <li>• Vibrating screen - PowerTrack 800;</li> <li>• Trommel screen - WasteStar ST1; and</li> <li>• Jaw crusher - Terex Pegson 1165 PT</li> </ul>
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Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 13: Crushing of building material	Max – 200,000 tonnes per annual period Actual – 50,000 tonnes per annual period	N/A
Category 62: Solid waste depot	Max – 500,000 tonnes per annual period Actual – 200,000 tonnes per annual period	N/A
Category 63: Class I inert landfill site	Max – 500,000 tonnes per annual period Actual – 200,000 tonnes per annual period	N/A

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 checked="" 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 checked="" 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 checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input checked="" 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 checked="" type="checkbox"/> N/A <input type="checkbox"/>	Approval: Expiry date:
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CPS No: 8500/1 Only partially related to the proposal. The permit is to clear for sand extraction, not to create a landfill.

Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A Not a CAWS Act controlled catchment.
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 checked="" type="checkbox"/>	Application reference No: Licence/permit No: Water is sourced from a standpipe located offsite.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Name: Murray Groundwater Area Type: Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Regional office: Kwinana Peel
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to <a href="#">WQPN 25</a> )? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
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 checked="" type="checkbox"/> No <input type="checkbox"/>	<i>Environmental Protection (Controlled Waste) Regulations 2004</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Peel Harvey Environmental Protection Policy
Is the Premises subject to any EPP requirements?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Subject to environmental quality objectives of the Peel Harvey EPP

<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 checked="" type="checkbox"/></p>	<p>Classification: N/A Date of classification: N/A</p>
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