Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Works Approval

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

Works Approval Number	W2977/2025/1
Applicant	Mario Michele Giacci
ACN	165 448 920
File number	APP-0027982
Premises	Lot 62 Ludlow-Hithergreen Road RUABON WA 6280 Legal description Lot 62 on Deposited Plan 4002 Certificate of Title Volume 2631 Folio 291
Date of report	01 August 2025
Decision	Works approval granted

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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 W2977/2025/1 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 11 March 2025, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act). The premises is approximately 16 km east of Busselton in the municipality of the City of Busselton.

The application is to undertake construction of a category 12 mobile crushing and screening plant for the crushing and screening of gravel. The equipment will be located within the extraction area on the floor of the quarry.

The available volume of gravel is to be extracted in four stages of no greater than 3 ha each. The premises will be excavated to an approximate maximum depth of 1.5 m below the elevation of the northwest corner, 24.67 m AHD, commencing in the north and moving in a southerly direction in cells 1 and 2, followed by west to east in cells 3 and 4 (Figure 2). Topsoil, overburden, sand and gravel will be stockpiled on site.

A 10,000 L water truck will be available for dust suppression and management with water to be sourced from an on site bore and stored in a 160,000 L water tank. The land owner holds a groundwater licence (GWL169309(4)) for the abstraction of 30,500 kL annually at the premises. The applicant has provided a written letter of authorisation from the land owner, authorising the applicant to apply for all necessary approvals and conduct gravel extraction and associated activities on the property.

The proposed maximum throughput capacity is 200,000 tonnes per annum with hours of operation from 7:00am to 6:00pm Monday to Friday, and 7:00am to 1:00pm on Saturdays. No activities to occur on Sundays or Public Holidays.

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 works approval W2977/2025/1. 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 W2977/2025/1.

2.3 Other approvals

A Development Approval was granted by the Joint Development Assessment Panel (DAP) in the DAP Decision Notice (DAP/23/02533) dated 12 February 2024. The conditional DAP development approval is for a five-year period and permits an extractive industry on the premises including crushing and screening in accordance with the Excavation Works Plan (23089-03) (version E dated 3 November 2023).

A Partial Permit to Commence has been issued by the City of Busselton on 10 January 2025. This only permits the extraction, processing and movement of material for the construction of

the driveway/internal haulage road and crossover. A Permit to Commence certificate has not yet been granted.

The Delegated Officer notes that the onus rests with the applicant to ensure compliance with all relevant regulatory bodies.

3. Noise modelling and monitoring

3.1 Acoustic modelling and assessment

3.1.1 Acoustic assessment summary

The applicant submitted an *Extractive Industry Acoustic Assessment* (HAS 2023). This report documents noise modelling at the premises with key activities being gravel extraction operations.

The most noise-sensitive receivers were identified and labeled (R1, R2, R3, R4 and R5) and are located to the north, south, east and west of the proposed premises.

As the applicant has proposed to only operate during the day, the applicable acoustic criterion for the neighbouring residences is the assigned L_{A10} day period noise level of 45 dB(A).

Sound power levels, used in the assessment calculations, are based on measured sound pressure levels of similar equipment proposed for use on the premises (Table 1).

Table 1: List of noise sources and their representative sound power levels

Source / Equipment Name	Sound Power Level (dBA)
Loaders (Cat 980 H or similar)	105
Screening Plant (McCloskey S190 Screener or similar)	101
Surface Miner (Wirtgen 2500 or similar)	116
Crusher (Terex J1175 or similar)	113

An operating scenario was developed initially with the noise sources located at the existing surface level which resulted in a potential to exceed the regulatory criteria at the nearest residential locations. Further noise modelling was conducted with the inclusion of 3-meter high bunding, used for noise control.

3.1.2 Results

The noise modelling in the *Extractive Industry Acoustic Assessment* (HAS 2023) has been calculated to comply with the *Environmental Protection (Noise) Regulations 1997*. These calculations have been based on parameters which include 3-meter high bunding (dependent on the locations of the operating equipment), daytime operating times and with the inclusion of a +5 dB(A) penalty for tonality.

The noise received at the nearest residential premises has been determined in the assessment to be 45 dB(A) for gravel extraction operations for the highest noise level at any stage of the operations. Table 2 summarises the calculated and assessable noise levels for each of the receivers which each comply with the assigned noise level of 45 dB(A).

Table 2: Calculated and assessable levels of noise emissions at each receiver

Receiver	Calculated noise level (dBA)	Tonality Adjustment	Assessable Noise Level (dBA)
R1	38	+5	43
R2	40	+5	45
R3	40	+5	45
R4	40	+5	45
R5	36	+5	41

3.1.3 DWER technical review

The department completed a technical review of the *Extractive Industries Acoustic Assessment.* The review found that the acoustic modelling is adequate, and representative of the proposed works and the noise control and management methods seem able to reduce the noise impacts on receptors.

A review of an updated version of the *Extractive Industries Acoustic Assessment* found that the latest version of the report significantly reduced the sound power level (SPL) of the Wirtgen 2500 (or similar) Surface Miner, to 98 dB(A) compared to the previous SPL of 116 dB(A) noted in the previous version.

The department notes that the equipment used for gravel extraction, such as the surface miner, is not regulated under Part V of the *Environmental Protection Act 1986.* However, the noise from this equipment was taken into consideration within the acoustic assessment provided by the applicant and is not expected to increase the resulting noise levels in Table 2. The operation of the surface miner is not considered further in this assessment.

4. 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.

4.1 Source-pathways and receptors

4.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises installation / operation which have been considered in this decision report are detailed in Table 3 below. Table 3 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 3: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Installation / Construction			
Dust	Placement and mobilisation of screening plant, mobile crusher and associated equipment (including vehicle movements)	Air / windborne pathway	• Speed restrictions (20 km/hr within site) and a ban on exhaust braking.
Noise			• Use flashing lights/broadband alarms instead of tonal reversing alarms on excavators/loaders. • Limiting operating hours to 7:00 am – 6:00 pm, Monday to Friday, 7:00 am – 1:00 pm Saturday.
Operation			
Dust	Screening, crushing, unloading, loading and storage of material Vehicle movements	Air / windborne pathway	• Use of 30,000 L water carts to water down unsealed roads during operation and as required. • Operation of sprayers and sprinklers, equipped on the crushing and screening equipment, to dampen material stockpiles. • Topsoil stripping shall not occur when forecasted winds exceed 20 km/hr. • Ground disturbance and rehabilitation will be gradual in nature and proceed in stages. • Topsoil stockpiles will be no greater than 2 m in height and other stockpiles will not exceed 3 m in height. • No excavation works or loading of trucks is to occur in winds greater than 40 km/hr. • Transport of material will be via covered trucks or dampened prior to transport.
Noise			• Machinery / equipment shut off when not in use. • Use flashing lights/broadband alarms instead of tonal reversing alarms on excavators/loaders. • 3 m high earth bunding for the active stage of operation and at the southern side of each stage. • 3 m high earth bunding to the west and north of the crusher and screener. • Noisiest activities scheduled to the least sensitive times of the day. • Regular reviews of meteorological data (wind speeds and direction) to guide decisions on quarrying activities.
Sediment		Overland	• Any surface water falling outside of the pit will

Emission	Sources	Potential pathways	Proposed controls
Laden Stormwater		runoff / direct discharge to land	be diverted around the pit by the perimeter bunds to the drainage system. The bunding will be installed for Cells 1 and 2 initially in an east to west direction. On completion of excavation within these cells, this bunding will be removed and a second bund will be installed to divert stormwater around Cells 3 and 4 (Figure 2). Surface water retained within the excavated areas will either evaporate or infiltrate through the pit ensuring water quality to the drainage system is maintained.
Hydrocarbon discharge	Vehicle movements	Overland runoff and seepage into groundwater	• Mobile refueling of equipment and vehicles will be undertaken off site, at the nearby MGM Bulk depot. • Spill kits containing appropriate equipment for control, containment and cleanup of hydrocarbons and chemical spills will be available in appropriate locations onsite and maintained. • No vehicles or machinery are to be serviced or cleaned within the extraction area.

4.1.2 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 4 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 4: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Residential receptors	The closest residential receptor is 500 m south of the extraction area boundary (Figure 1).
Environmental receptors	**Distance from prescribed activity**
Native vegetation	Surrounding the prescribed premises boundary. Vegetation within the subject site has been cleared previously to accommodate the existing land use (agriculture) and is dominated by grazing grasses. A total of seven individual Eucalyptus rudis (flooded gum) trees are located within the extraction area and will require clearing.

	A clearing permit CPS 10448/1 has been approved by the department for this clearing.
Surface water line	170 m north of the prescribed premises boundary. The subject site is located within the Wonnerup subarea of the unproclaimed South West surface water area. There are no surface water features located within the prescribed premises, with the closest surface water feature, the Abba River tributary drain, located to the north of the property
Endangered shrublands on southern Swan Coastal Plain Ironstones	Encompasses the prescribed premises. None of the vegetation within the subject site is representative of this Threatened Ecological Community due to its 'completely degraded' condition and the complete absence of key indicator species such as Banksia spp., *Brachysema modestum, Eucalyptus gomphocephala, Melaleuca huegelii, M. systena and Banksia sessilis*. Accordingly, the premises does not contain any conservation significant vegetation. **This receptor has therefore been screened out of further assessment.**
Underlying Groundwater	The underlying aquifers are the Superficial, the Yarragadee and the Leederville. The Superficial aquifer, which is mainly unconfined and shallow, contains fresher groundwater resting on saline groundwater. The Superficial aquifer is hydraulically connected to the underlying Leederville aquifer.
Multiple Use (MU) wetland (UFI 15,809)	The entire premises is located on a Multiple Use wetland. A Multiple Use wetland is described as having few remaining attributes and functions. Use, development and management, for a MU wetland, should be considered in the context of ecologically sustainable development and best management practice catchment planning through landcare (Semeniuk 1995).

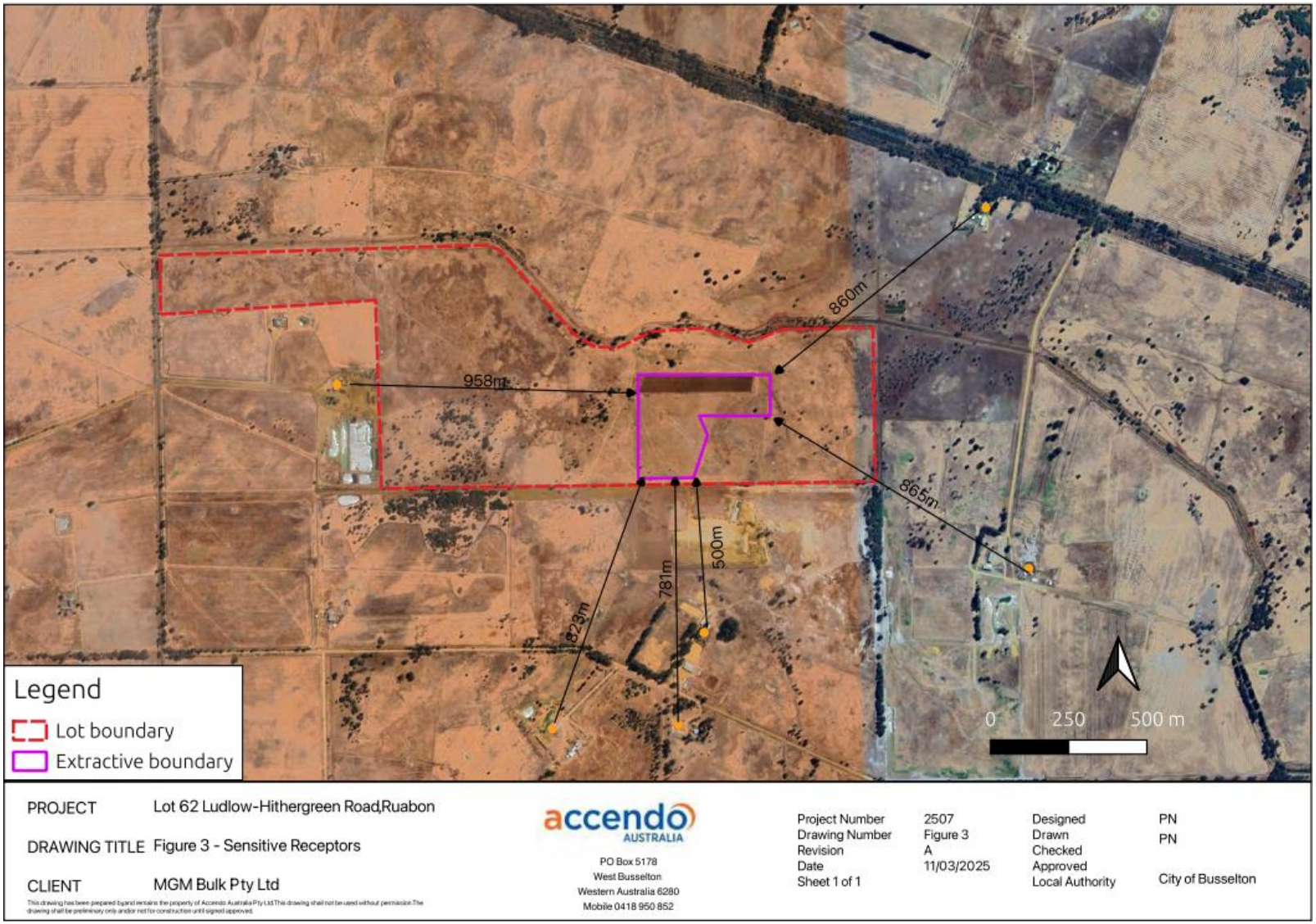

Figure 1: Distance to sensitive receptors

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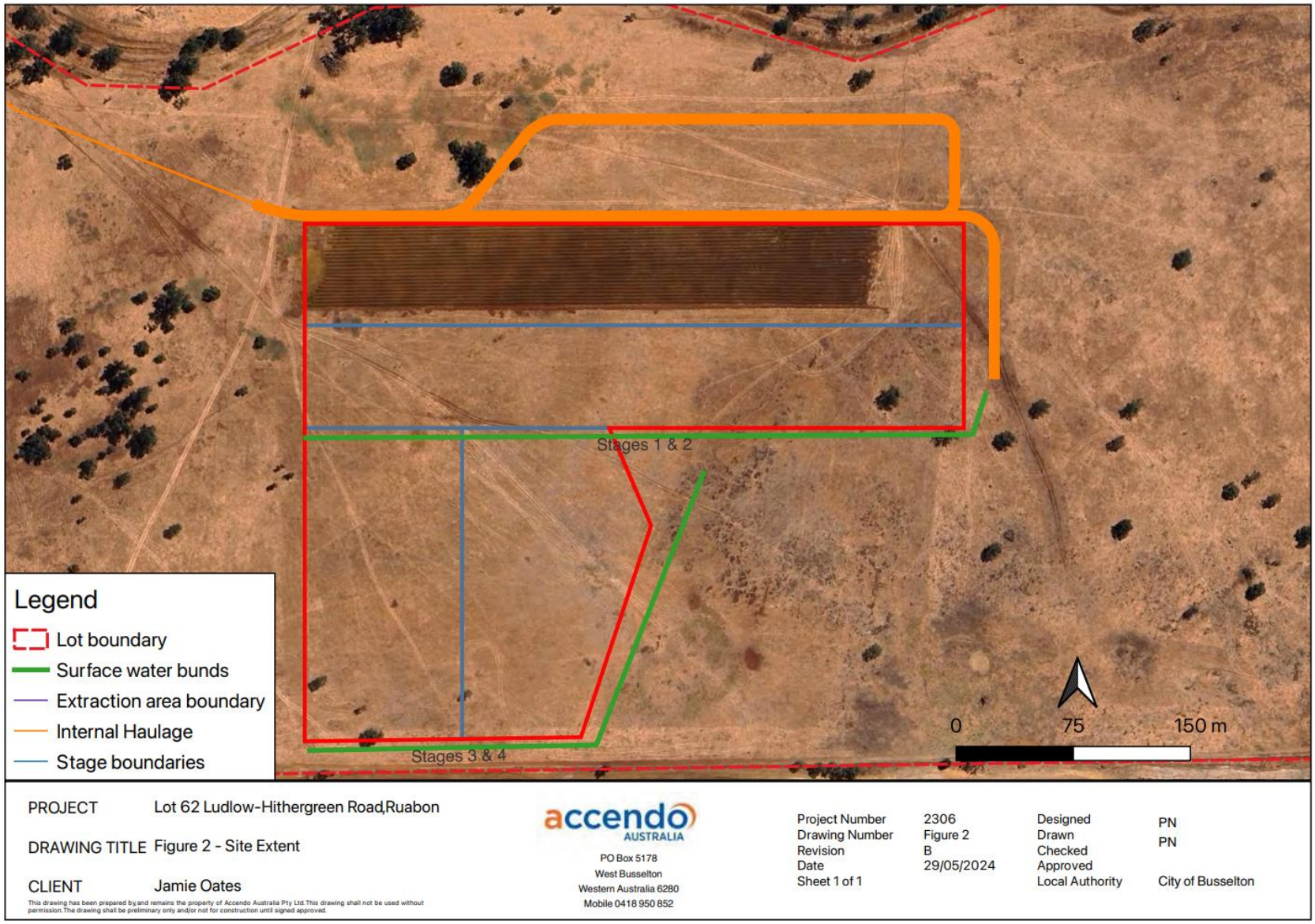

Figure 2: Surface water bunds

4.2 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 4.1. 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 4.1), 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 5.

Works approval W2977/2025/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 5 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 i.e. crushing and screening activities. 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 5: Risk assessment of potential emissions and discharges from the premises during construction and operation

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Installation / Construction								
Placement and mobilisation of screening plant, mobile crusher and associated equipment (including vehicle movements)	Dust	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	Adjacent native vegetation Residents 500 to 1000 m from prescribed premises boundary	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	Y	Condition 1	N/A
	Noise		Residents 500 to 1000 m from prescribed premises boundary	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	Y	Condition 1	N/A
Operation (including time-limited-operations operations)								
Screening, crushing, unloading, loading and storage of material Vehicle movements	Dust	**Pathway:** Air/windborne pathway **Impact:** Health and amenity	Surface water line 170 m north of the prescribed premises Adjacent native vegetation	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	Y	Conditions 1, 6, 7, 8, 9	N/A
	Noise		Residents 500 to 1000 m from prescribed premises boundary	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	Y	Conditions 1, 6, 9	N/A
	Sediment laden stormwater	**Pathway:** Overland runoff **Impact:** Ecosystem disturbance or impact to surface water	Surface water line 170 m north of the prescribed premises Adjacent native vegetation	Refer to Section 3.1	C = Moderate L = Possible **Medium Risk**	Y	Condition 1, 6	N/A

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of works approval	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
		quality						
Vehicle movements	Hydrocarbon discharge	**Pathway:** Overland runoff and seepage into groundwater **Impact:** Ecosystem disturbance or impact to surface water quality	Localised soils and groundwater	Refer to Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 1, 6	N/A

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.

5. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

Table 6: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website on 16 June 2025.	No comments received	N/A
Local Government Authority (City of Busselton) advised of proposal on 17 June 2025.	The City of Busselton provided comment on 24 June 2025 confirming that a conditional development approval has been granted. However, only a Partial Permit to Commence has been issued due to compliance with the conditional development approval still being outstanding.	The Delegated Officer notes that the onus rests with the Works Approval Holder to ensure compliance with all relevant regulatory bodies.
Residential addresses advised of proposal via mail on 17 June 2025.	No comments received	N/A
Applicant was provided with draft documents on 18 July 2025.	The applicant proposed the installation of a 160,000 L water tank, to be installed on site, for water sourced from the on site bore to be used for dust suppression and management. This water will supply a 10,000 L water truck, instead of the originally proposed 30,000 L water truck supplied with water from off-site. The applicant has noted that Building Approval for the tank installation has been approved by the City of Busselton and the tank installation is pending the pad construction and will be complete prior to any works commencing on site *Comment received from the applicant on 28 July 2025.*	The Delegated Officer notes the change to the water truck capacity and that the water will be sourced from the on-site bore. The Delegated Officer notes that the land owner, Jamie Oates, holds a groundwater licence (GWL169309(4)) for the abstraction of 30,500 kL annually at the premises. The applicant has provided a written letter of authorisation from the land owner. The onus rests with the Works Approval Holder to ensure compliance with the groundwater licence.

6. 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.
4. Herring Storer Acoustics (HSA) 2023, *Extractive Industry Lot 62 Ludlow-Hithergreen Road, Ruabon, Acoustic Assessment,* Western Australia.
5. Semeniuk, C. A. & Semenuik, V. 1995, A geomorphic approach to global classification for inland wetlands. *Classification and Inventory of the World's Wetlands, 103-124.*