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	W2870/2025/1
Applicant	South32 Worsley Alumina Pty Ltd
ACN	008 905 155
Application Number	APP-0026590
Premises	Nullaga Mine Development Project – Crushing and screening plants Boddington WA 6390 Within tenements: M258SA, M70/25, M70/564, M70/1428 and L70/223.
Date of report	23 May 2025
Decision	Works approval granted

Christine Pustkuchen
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MANAGER, RESOURCE INDUSTRIES
ENVIRONMENTAL REGULATION (STATEWIDE DELIVERY)
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 construction and time limited operations (TLO) of the premises. As a result of this assessment, works approval W2870/2025/1 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

South32 Worsley Alumina Pty Ltd (the applicant) currently operates and manages the Worsley Bauxite-Alumina Project (Worsley) where the mining and crushing of ore occurs at the Boddington Bauxite Mine (BBM). Ore is transported to the Worsley Refinery (the Refinery) by an overland bauxite conveyor for processing and refining to produce alumina. The alumina is then transported by rail to the Bunbury Port for export. These activities are subject to a Part IV Ministerial Statement (MS 1237) which is further discussed in section 2.3 of this decision report. The BBM and the Refinery are regulated under two different Environmental Protection Act 1986 (EP Act) Part V, Division 3 licences (L5960/1983/11 and L4504/1981/17 respectively).

To support ongoing operations the applicant is intending to extend its mining operations north of Marradong into the Nullaga area where ore will be transported back to the Marradong facility (authorised under licence L5960/1983/11) via a new 11 km haul road. The ore will be crushed and transported to the Refinery via an overland bauxite conveyor. This project is called the Nullaga Mine Development Project. To facilitate the construction of the haul road and non-process infrastructure area (NPI) the applicant submitted an application to the department under section 54 of the EP Act for a works approval on 2 December 2024. The application is to install and operate two mobile crushing and screening plants to produce material (such as road base) for the construction of the haul road.

The premises relates to Category 12 and assessed production capacity (700,000 tonnes per year) under Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations) which are defined in works approval W2870/2025/1. 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 2020a) are outlined in works approval W2870/2025/1.

This decision report and works approval is limited to the construction and operations of two crushing and screening plants. It does not include assessment or discussion of the wider mining and refinery operation. The works approval application is seeking approval for the construction and operation of two additional mobile crushing and screening plants in addition to the two already approved under Works approval W6887/2024/1. The risk assessment presented in section 3 will assess potential cumulative impacts from both works approvals i.e. for a total of four crushing and screening plants. W6887/2024/1 is discussed further in section 2.2.1 of this amendment report.

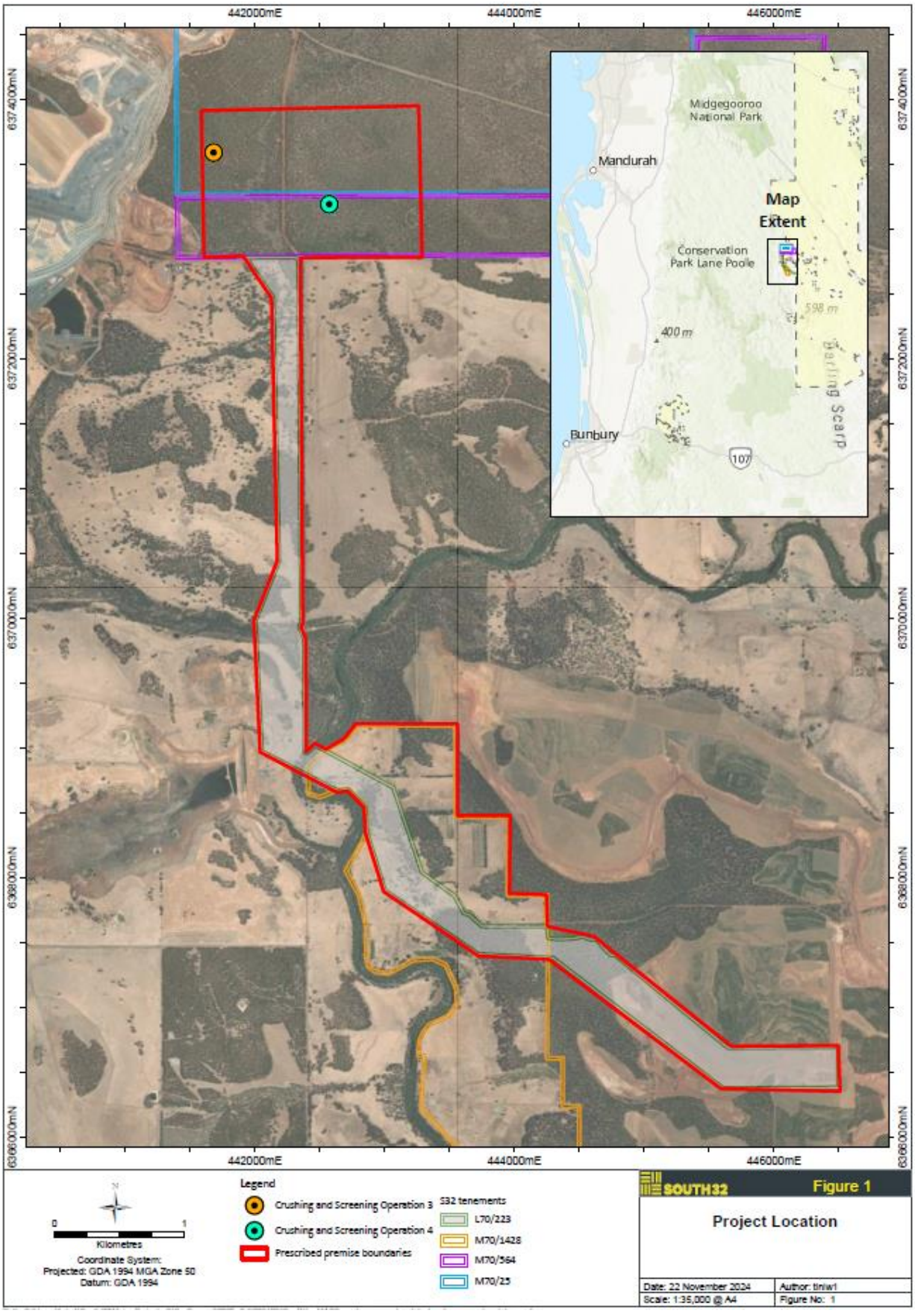

Figure 1: Prescribed premises boundary and initial location of crushing and screening plants (Sourced from South32 2024a).

2.2.1 Works Approval W6887/2024/1

A previous Works approval (W6887/2024/1) was granted on 14 January 2025 which authorised the applicant to construct and operate two mobile crushing and screening plants with a proposed maximum production output of 700,000 tonnes per year and the construction and operation of an oily water separator (OWS) within the same premises.

During the department's assessment of W6887/2024/1 it was identified by the applicant that there was a need for two additional crushing and screening plants (four total) to enable the construction of the haul road. The department recommended that the two additional plants were assessed under a separate works approval application.

2.2.2 Proposed crushing and screening infrastructure

Two separate crushing and screening plants is proposed to be constructed and used to provide materials for the construction of the haul and other items of infrastructure relating to the Nullaga Mine Development Project. The initial proposed location of the crushing and screening plants is presented in Figure 1, the locations were selected due to nearby identified borrow source areas.

The applicant is considering the potential of relocating the crushing and screening plants throughout the prescribed premises to reduce the movement of material throughout the premises, reducing fuel consumption, noise and dust emissions. Due to the potential relocation of crushing and screening plants, the identified potential sensitive receptors (described in section 3.1.2) have been measured from the proposed prescribed premises boundary, as presented in Figure 1 and Figure 3. The department notes these distances are conservative and actual distances from emissions source (i.e., mobile crushing and screening plants) to receptors will be greater than those assessed under the works approval.

Each crushing and screening location will be approximately 200 x 150 m in size and consists of the following:

Stockpiles consisting of feed material and product;

- Crusher feed ramp;
- Mobile crusher;
- Container dome workshop area;
- Parking area, with designated separate light and heavy vehicle parking area;
- Ablution and crib facilities;
- Diesel fuelled generators;
- Portable and raw water tanks; and
- Self-bunded fuel storage tanks.

In addition, the following plant may also be used to support each crushing and screening plant:

- One front end loader (eg CAT 980 or similar);
- One excavator (eg CAT 330 30t or similar);
- One water cart (minimum 15 kL capacity); and
- Approximately four articulated dump trucks.

The crushing and screening plants will each have a processing capacity of 250 tonnes per hour (tph). Figure 2 provides the indicative layout of the crushing and screening plant. The applicant has proposed to operate the crushing and screening plants and associated infrastructure 24 hours a day, seven days a week. It is expected that each crusher will have a maximum throughput of 350,000 tonnes per year.

Construction of the mobile crushing and screening plants includes mobilisation of equipment to site and establishment of the mobile crusher and associated infrastructure. The construction phase is expected to take approximately seven days. Following construction, mechanical commissioning of the mobile crushing and screening plants is estimated to take two days.

Mechanical commissioning will include the following activities:

- Dry commission – dry run of the plant (no feed material) by using the start and stop method to make sure all connections are operational.
- Wet commission – feeding process materials through the crusher and screener to ensure all parts are operating correctly. Followed by increasing the throughput of feed material to the nominated design capacity.

As commissioning activities are to occur over a two-day period, the department has determined that a specified environmental commissioning phase under the works approval is not required. The mechanical commissioning activities are considered as part of construction activities. The applicant has requested authorisation to undertake time limited operations for up to 180 days.

The duration for the operation of the mobile crushing and screening plants is anticipated to be approximately 18 months. The applicant will be required to apply for a licence under Part V Division 3 of the EP Act to continue operating the mobile crushing and screening plants beyond the requested time limited operations assessed under this works approval.

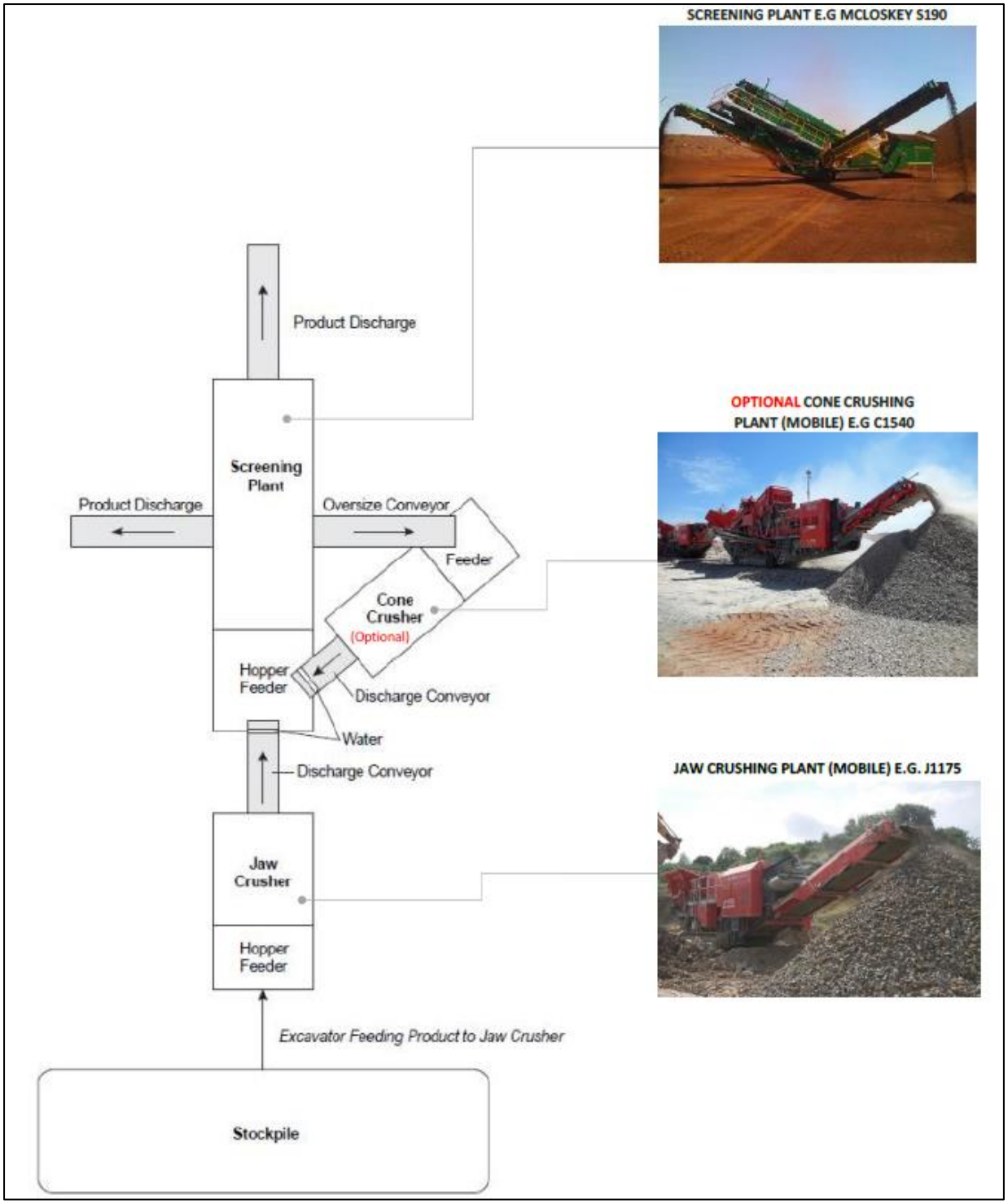

Figure 2: Indicative layout of crushing and screening plant (Sourced from South32 2024a).

2.3 Part IV of the EP Act

2.3.1 Ministerial Statement

In April 2019, Worsley Alumina submitted a referral for the Worsley Mine Expansion to support the ongoing mining operations. This proposal included the following activities:

- Amendment to the existing approved boundaries;
- Development of a bauxite transport corridor (BTC);
- Development of a contingency mining area and maintenance work at the Refinery; and
- Development of associated mine/support infrastructure.

On 20 December 2024 the applicant received approval under ministerial statement MS 1237 for the operation of the Worsley Mine Expansion of which the applicant now currently operates the mining, transport and processing of bauxite. The previous Ministerial Statement (MS 719A) for the existing Worsley Alumina - Production to Maximum Capacity of 4.7 Mtpa Alumina is superseded under section 40AA(6)(b) of the EP Act and is no longer applicable.

MS 1237 (Condition A1-1) authorises the clearing of native vegetation of up to 160 hectares (ha) within the bauxite transport corridor (BTC) which the prescribed premises boundary is located within. The department has reviewed the newly granted ministerial statement to ensure that no works approval conditions contradict with the current ministerial statement.

2.4 Department of Climate Change, Energy, the Environment and Water

The referral was assessed under the *Environmental Protection Biodiversity Conservation Act 1999* (EPBC Act) under EPBC 2019/8437. EPBC 2019/8437 was granted by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) on 11 February 2025 under section 130(1), 133(1) and conditions on the approval under 134(1A) of the EPBC Act. EPBC 2019/8437 provides conditions that the approval holder (South32 Worsley Alumina Pty Ltd) must comply with. Conditions within the approval include (but not limited to): clearing limits of native vegetation in ecological linkages, pre-clearance surveys requirements for specific flora and fauna and environmental offset requirements etc.

The department has reviewed the newly granted approval to ensure that no works approval conditions contradict with the approval.

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 2020a).

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 construction 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
Construction			
Dust (including <10 µm)	Placement of mobile crushing and screening plants and associated equipment including vehicle movements (reversing alarms).	Air / windborne pathway	• Short construction/installation timeframe (approximately seven days); • Maintain watercart or similar onsite to dampen roads and tracks during mobilisation to minimise dust lift off; • Implement traffic control measures (speed limits) on site to minimise dust generation from vehicle movements; and • Visually monitor the activities for dust emissions and temporarily cease works in high dust emission or high wind conditions are observed. Dampening of cleared areas by water carts to occur prior to works recommencing.
Noise	Placement of mobile crushing and screening plants and associated equipment including vehicle movements (reversing alarms).	Air / windborne pathway	• Implement traffic control measures (speed limits) on site to minimise noise generation from vehicle movements; • Vehicle machinery and equipment maintenance will be kept up to date; • All vehicles and machinery (where required) will be fitted with broadband non-tonal reversing alarms; • All equipment/machinery operators will be advised to prevent unnecessary engine idling; and • Noise emissions managed as per Construction Noise Management Plan (CNMP).
Operation *(time limited)*			
Dust (including <10 µm)	Crushing and screening of material, handling of material, vehicle movements, lift-off from stockpiles and/or stored product, etc.	Air / windborne pathway.	• Visually monitor the activities for dust emissions and temporarily cease works in high dust emission or high wind conditions are observed. Dampening of cleared areas by water carts to occur prior to works recommencing; • Both crushing and screening areas will have dust management control

Emission	Sources	Potential pathways	Proposed controls
			infrastructure in the form of reticulated mist sprays on conveyors and material transfer points; • Rubber shrouds will be equipped to each mobile crusher; • Both crushing and screening areas will have dust management control infrastructure in the form of reticulated mist sprays on conveyors and material transfer points; • 50 kL raw water tank to be installed near the plant and pipelines leading from the tank to the plant for the purposed of dust suppression; • A watercart will be used to precondition feed materials, control the dust around the crusher pad and dampen stockpiles; • Identified personnel will undergo dust management and awareness training; • Premises boundary located away from sensitive receptors (approximately 2.5 km); and • Implement traffic control measures (speed limits) on site to minimise dust generation from vehicle movements.
Noise	Crushing and screening of material, handling of material, vehicle movements (including reversing alarms).	Air / windborne pathway.	• Crushing and screening plant equipment, vehicles and equipment will undergo regular and effective maintenance (in accordance with manufacturer's specifications) to ensure applicable noise levels are maintained; • Identified personnel will undergo noise management and awareness training; • Premises boundary located away from sensitive receptors (approximately 2.5 km); • Implement traffic control measures (speed limits) on site to minimise noise generation from vehicle movements; • All vehicles and machinery (where required) will be fitted with

Emission	Sources	Potential pathways	Proposed controls
			broadband non-tonal reversing alarms; • Compression breaks on tricks will be reduced as far as practicable; • Plant will be throttled down or shutdown when not in use; • All engine and enclosure panels will be kept closed; • Any noisy works will be undertaken during less sensitive periods, and where possible, move away from sensitive receptors during nightime operations; • The number of individual plants/equipment that are operational during out of hours, will be kept to the minimum required for the task; • Noise emissions managed as per Construction Noise Management Plan (CNMP) (refer to section 3.3); • Noise levels of plant and equipment will have operating sound power levels equal to or below those specified in the CNMP: o Mobile crusher – 108 db(A); o Mobile screen – 107 db(A); o Front end loader – 109 dB(A). • Simultaneous operation of noisy plant within discernible range of a sensitive receptor will be avoided, and the offset distance maximised; • Structures will be used to shield sensitive receptors from noise emissions, where practicable; • Verification noise monitoring will be undertaken in the vicinity of receptor R7 during pre-construction, during high-noise activities (e.g., piling), and during worst case works scenario to assess whether tonal penalty applies; • Simultaneous operation of noisy plant within discernible range of a sensitive receptor will be avoided, and the offset distance maximised; and

Emission	Sources	Potential pathways	Proposed controls
			• Attended noise monitoring will be undertaken in the event of a noise complaint.
Sediment laden stormwater runoff	Excess water used for dust control during all onsite activity including stockpile dust management and large rainfalls resulting in stormwater.	Excess water runoff.	• Stormwater will be managed in accordance with the Baxite Mine Site Drainage (South32 2023) which includes: ○ Drainage lines to be secure and control the flow of water to natural or purpose built sumps; ○ Sump floors are initially loosened to aid water infiltration; ○ Locate sumps where run-off would unavoidably pond or would be carried over long distances significantly scouring drains and turbidity build up; ○ Install overflow structures for all sumps where construction material does not allow seepage; ○ Ensure drainage systems remain operational throughout the year; and ○ Design perimeter drains to ensure collection of all water runoff into a settling sump. • Regular inspection of drainage/stormwater management to assess and maintain integrity and operation.
Hydrocarbons and Potentially contaminated (hydrocarbon) stormwater runoff	Operation of mobile plant or vehicles on the premises. Fuel storage associated with plants.	Direct discharge, runoff or infiltration from spills or leaks caused by infrastructure failure, spilling or overflowing.	• Regular inspection for site drainage/stormwater management; • Fuel storage tanks will be self-bunded; and • Spill kits to be available at all works fronts and immediate clean-up of any spills.

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020a), 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 provides a summary of potential human receptors Figure 3 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 2020b)). Distances provided in Table 2 are from the proposed prescribed premises boundary. As previously mentioned in section 2.2.2, the applicant anticipates that there is a potential to relocate the crushing and screening plants throughout the prescribed premises during operations to reduce haulage of material throughout the premises. Measuring distances to receptors from the boundary of the premises is conservative as the main two locations of the crushers is likely to be even further away from receptors (see Figure 3), providing an additional buffer of distance between emission sources and sensitive receptors.

The nearest town is the town of Boddington which is located approximately 5.5 km east of the proposed premises boundary. The EPA's Guidance for the *Assessment of Environmental Factors: Separation Distances between Industrial and Sensitive Land Uses* (2005) recommends a separation distance between sensitive human receptors and 'screening works' or 'extractive industries' (which include the crushing and screening of hard rock, sand and limestone) to be between 300 and 1,000 meters to provide a sufficient buffer for emissions of noise and dust emissions. Table 2 below shows that all human receptors are located greater than the recommended distance from the proposed premises boundary.

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

Human receptors	**Distance from prescribed activity**
Residential receptors (Figure 3)	The closest human receptors (R7 and R9) are located approximately 2.5 km west and northeast of the premises boundary (Figure 3). The next closest human receptor is 2.9 km east (R5) of the premises boundary. The closest human receptor to either of the initial crushing and screening plant locations is approximately 4.5 km southeast of crushing and screening plant 3 (R1) and 5.4 km southeast of crushing and screening plant 3 (R5). Receptor R6 been identified as part of the Boddington Tip and is not assessed as a sensitive receptor (South32 2024b). Residential dwellings located 840 m south and 950 m south of boundary (not shown in Figure 3) are vacant and the applicant has indicated that they have amenity agreements in place with the owners of these dwellings. As such, these dwellings are not considered as sensitive receptors in the risk assessment.
Environmental receptors	**Distance from prescribed activity**
Threatened and priority fauna	Surveys completed by the applicant have identified both species and potential habitat for the following species: • *Calyptorhynchus banksii naso* (Forest Red-Tailed Black Cockatoo); • *Zanda latirostris* (Carnaby's Cockatoo); • *Zanda baudinii* (Baudin's Cockatoo); • *Bettongia penicillate* (Woylie); • *Myrmecobius fasciatus* (Numbat); • *Dasyurus geoffroii* (Chuditch); • *Isoodon obesulus fusciventer* (Southern Brown Bandicoot); • *Oxyura australis* (Blue-billed Duck);

	• *Falsistrellus mackenziei* (Western False Pipistrelle); and • *Ctenotus delli* (Dell's Skink). Sitings recorded on the departments internal has recorded a combination of vulnerable, endangered, priority and conservation dependent bird and mammal species have been sighted within the proposed prescribed premises and/or within 500 m of the premises boundary. Sitings have been recorded between from 2001 to 2017.
Native vegetation	• Native vegetation surrounds adjacently to the northern portion of the prescribed premises boundary to the west, north and east; and • Native vegetation is present adjacent to the premises boundary to the north, east and west where crushing and screening plant 3 and 4 will be initially located.
Threatened and priority flora	• Priority 1: *Gastrolobium sp.* identified at the central and southern portions of the Project approximately within and 30 m east from the proposed prescribed premises boundary.
Priority Ecological Communities (PECs)	• Two PEC *Eucalypt Woodlands of the Western Australian Wheatbelt* (DBCA-038) occurs within the Project Area and adjacent to the proposed prescribed Premises boundary.
Surface water bodies	• The Hotham Farm Dam is located approximately 220 m west of the proposed prescribed premises boundary; • The Thirty-Four Mile Brook intersects the premises and proposed haul road which then flows into the Hotham River. Thirty-Four Mile Brook is located approximately 2.0 km southwest of the initial location of crushing and screening plant 3; • Wattle Hollow Brook intersects the premises and proposed haul road which then flows into Thirty-Four Mile Brook. The Wattle Hollow Brook appears to be located approximately 470 m east of the initial location of the crushing and screening plant 3 and approximately 440 m west of crushing and screening plant 4; • The Hotham River intersects the proposed premises once along the proposed haul road and is located approximately 2.8 km south of the proposed crushing and screening plant 4. The Hotham River is also classified as a registered Aboriginal heritage site.
Groundwater	Groundwater in the area ranges from fresh to highly saline (The applicant has recorded TDS concentrations at 10 – 12,000 mg/L) and ranges in depth from 15 to 40 meters below ground level (mbgl). The premises is not within any proclaimed or priority drinking water areas.
Heritage receptors	**Distance from prescribed activity**
Hotham River – Mythological – OBJECTID 24044 *Status – Registered site*	River intersects the proposed Premises once along the proposed haul road and is located approximately 2.8 km south of the crushing and screening plant 4 initial location.
Worsley Timber 3 – Artefacts / Scatter –	Located within the proposed prescribed premises approximately 3 km south from the crushing and screening plant 4 initial location.

OBJECTID 4126. *Status – Historic*	**Assessed by the Department of Planning, Lands and Heritage (DPLH) as not meeting Section 5 of the *Aboriginal Heritage Act 1972* (AH Act) and has therefore been screened out as a receptor.**
Boddington Forrest 10 – Artefacts / Scatter – OBJECTID 5460. *Status - Stored data / Not a site*	Located within the northern portion of the proposed prescribed premises approximately 150 m north from the proposed crushing and screening plant 4. **Assessed by DPLH as not meeting Section 5 of the AH Act and has therefore been screened out as a receptor.**
Boddington Forrest 12 – Artefacts / Scatter – OBJECTID 5463. *Status - Stored data / Not a site*	Located within the northern portion of the proposed prescribed premises approximately 215 m east of the crushing and screening plant 3. **Assessed by DPLH as not meeting Section 5 of the AH Act and has therefore been screened out as a receptor.**
Boddington Forrest 13 – Artefacts / Scatter – OBJECTID 5464. *Status - Stored data / Not a site*	Located within the northern portion of the proposed prescribed premises approximately 500 m west from the proposed crushing and screening plant 4 and 500 m southwest of crushing and screening plant 3. **Assessed by DPLH as not meeting Section 5 of the AH Act and has therefore been screened out as a receptor.**

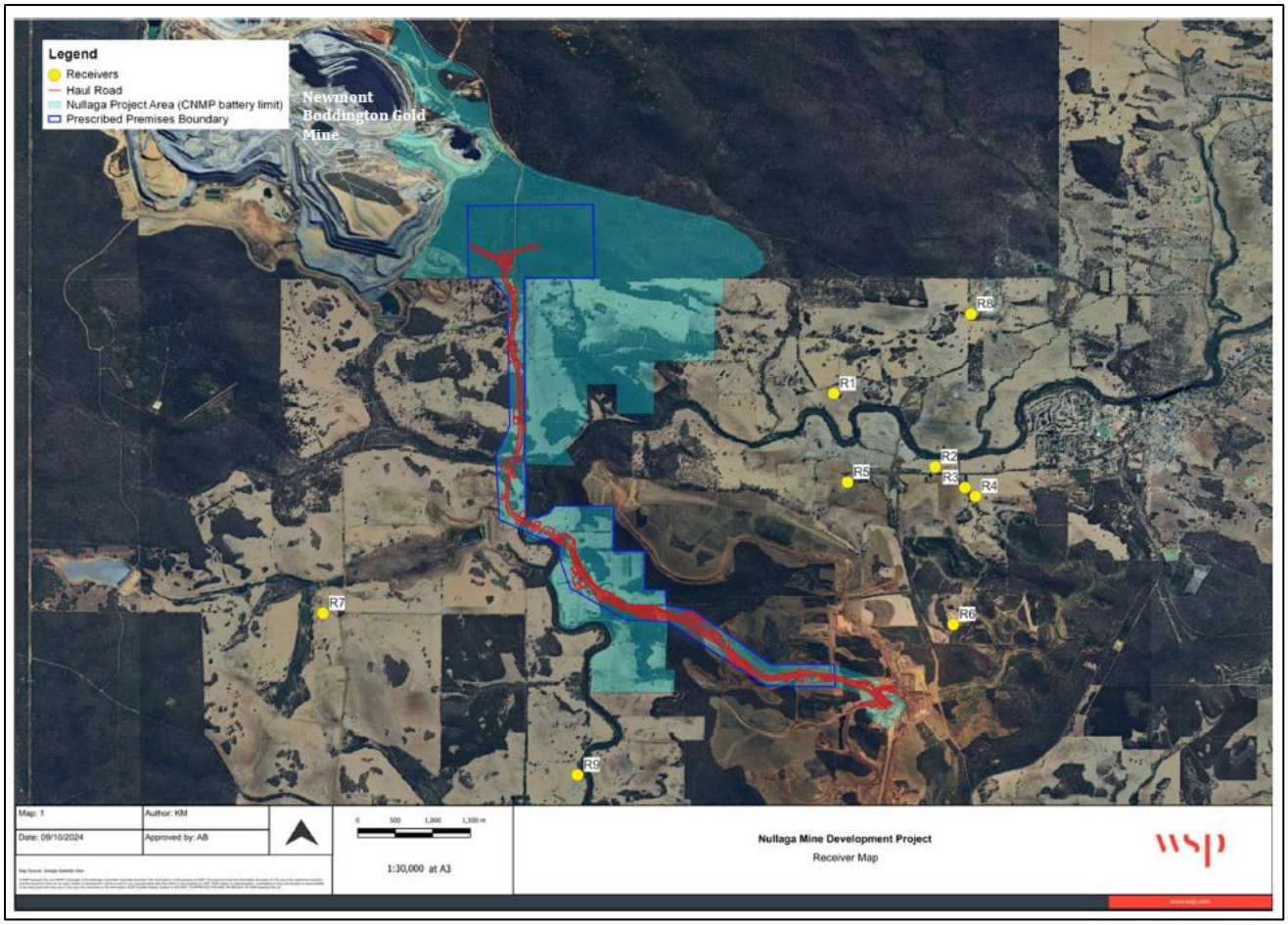

Figure 3: Location of sensitive receptors (Sourced from South32 2024b).

3.1.3 Meteorology

Meteorology data was sourced from the Bureau of Meteorology (BoM) website (BoM 2024). The closest monitoring location which records wind strength and direction is the Wandering weather station (site number 010917). The weather station is located approximately 30 km northeast of the prescribed premises boundary. The average monthly wind speed recorded at 9am and 3pm from the monitoring station is presented in Figure 4. Wind speed appears to be greater in the afternoon (3pm) than the morning (9am) and average wind speed was recorded higher during the summer months (December to January) when compared with the winter months (June to August). Figure 5 presents wind roses illustrating the average annual wind direction and speed recorded at 9am and 3pm from December 1998 to 10 August 2024 at the monitoring station. Each branch of the rose represents wind coming from that direction, with north at the top of the diagram. Wind speed is represented by the colour as shown in Figure 5. The length of each segment shows how often the wind was blowing from that direction and at that speed. The wind roses (Figure 5) indicate that on an annual average the highest wind speeds recorded at 9am generally blows from the north and southeast direction while at 3pm wind strength is greatest from the southeast and northwest followed closely by wind coming from the west and south.

The closest sensitive receptors to the premises are located to the east, south and west of the premises (Figure 3). Figure 5 indicates that receptor R8 to the south is likely to receive prevailing winds from the direction of the premises during the morning period (9am). It is noted that readings in the afternoon (3pm) indicate that there is no clear prevailing wind direction although, wind direction from the southeast, northwest, west and south appear to occur the majority of the time when compared with other cardinal directions. As such, sensitive receptors to the east of the prescribed premises have a likelihood to experience prevailing winds from the premises

during the afternoon (3pm). Using information presented in Figure 4 and Figure 5 the following observations and statements have been recognised:

- Sensitive receptors to the east (R1 to R5) are more likely to experience a prevailing wind from the premises between September to March in the afternoon (3pm); and
- The sensitive receptors to the south and west (R8 and R7) are more likely to experience a prevailing wind from the premises between November to February in the morning (9am).

It is important to note that these wind roses show historical windspeed and historical wind direction data for the Wandering weather station and should not be used to predict future data, this data is presented to provide a general assumption and indication of future wind patterns.

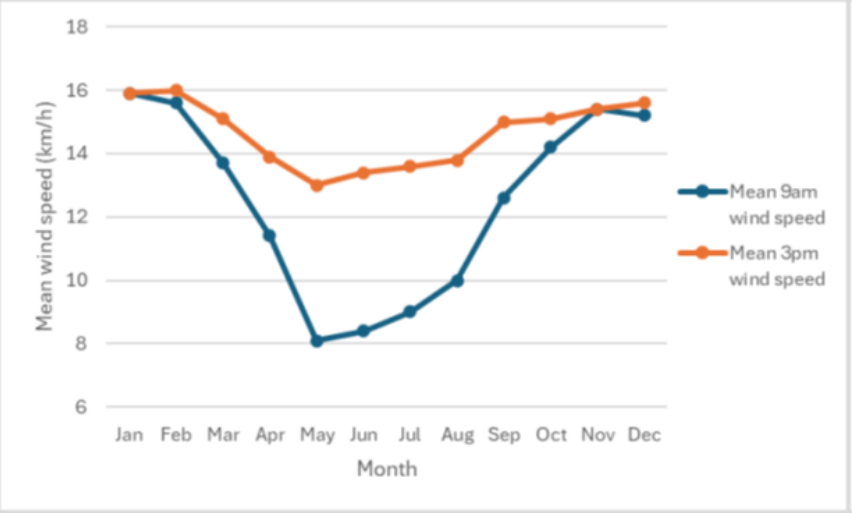

Figure 4: Average monthly wind speeds recorded at Wandering weather station (site number: 010917) from 1998 to 2010 (Sourced from BoM 2024).

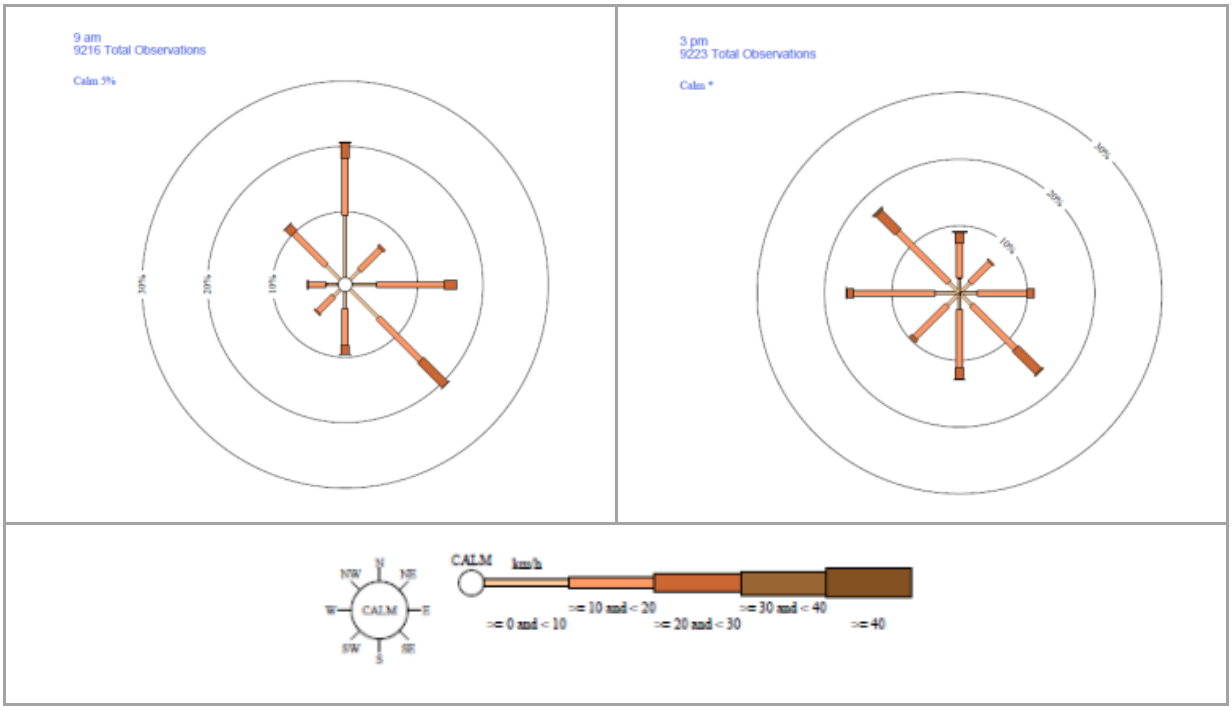

Figure 5: Wind rose plots, average annual 9am (left) and 3pm (right) fomr the Wandering weather station (Sourced from BoM 2024).

Note asterisk (*) indicates that clam is less than 0.5%.

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020a) 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 W2870/2025/1 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 i.e. category 12 crushing and/or 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 3: Risk assessment of potential emissions and discharges from the premises during construction and time limited operations

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**				
Construction								
Placement of **two** crushing and screening plant and associated equipment including vehicle movements (reversing alarms).	Dust	**Potential Pathway:** Dust generated via activity being transported offsite with aid by wind to the receptor. **Potential Impacts:** Deposition of dust resulting in reduced vegetation health or stress, impacting fauna habitats. Reduced water quality from particulate matter deposition.	• **Native vegetation (including PEC and Priority Flora)** (adjacent to premises boundary) • **Threatened and priority fauna** (sighted within and surrounding premises) • **Surface water bodies** (intercepts through the premises)	Refer to Section 3.1.1	C = Slight L = Unlikely **Low Risk**	Y	Condition 1: Water truck requirement during construction	Minimal dust emissions are expected during the construction/installation of the mobile crushing and screening plants. Works are expected to only occur for a short time period (seven days) and do not involve significant dust generating activities (vehicle movement, placement of infrastructure, minor earthworks). The applicant's proposed controls for managing dust generated during the construction phase have been deemed to be sufficient for managing dust emissions. In addition, the distance to residential receptors from dust sources (greater than 2.5 km) means it is unlikely that impacts from dust emissions on human health or amenity will occur during the construction phase. The department has determined that additional regulatory controls are not required to manage this risk event.
		Potential Pathway: Dust generated via activity being transported offsite with aid by wind to the receptor. **Potential Impacts:** Impacts to public health or amenity from dust emissions.	• **Residential receptors** (closest being 2.5 km from premises boundary, 2.7 km from initial crusher locations)			Y		
	Noise	**Potential Pathway:** Noise generated via activity being transported offsite with aid by wind to the receptor. **Potential Impacts:** Reduction in amenity.	• **Residential receptors** (closest being 2.5 km from premises boundary, 2.7 km from initial crusher locations)		C = Minor L = Unlikely **Medium Risk**	Y	N/A	Minimal offsite impacts to amenity from noise emissions are expected during the construction/installation of the mobile crushing and screening plants due to the distance to sensitive receptors (greater than 2.5 km). Works also do not involve significant noise generating activities and will generally be comprised of vehicle movement, placement of infrastructure, minor earthworks and therefore it is unlikely that amenity or health impacts will occur during the construction phase. The department has determined that additional regulatory controls are not required to manage this risk event.
Operation (including TLO)								
Operation of two new crushing and screening	Dust	**Potential Pathway:** Dust generated via	• **Native vegetation (including PEC and Priority**	Refer to Section	C = Moderate	Y	Condition 1: Dust suppression	The applicant has proposed several measures to minimise dust emissions generated from the crushing and screening activity from

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**				
plants (in addition to the two already authorised under W6887/2024/1) involving crushing, unloading, loading and stockpiling of material, and vehicle movements.		activity being transported offsite with aid by wind to the receptor. **Potential Impacts:** Deposition of dust resulting in reduced vegetation health or stress, impacting fauna habitats, and reduction in water quality.	**Flora)** (adjacent to premises boundary) • **Threatened and priority fauna** (sighted within and surrounding premises) • **Surface water bodies** (intercepts through the premises)	3.1.1	L = Unlikely **Medium Risk**		requirements for mobile crushing and screening plant Condition 6: Dust suppression requirements during crushing and screening operations Condition 7: Dust management requirement	the crushing and screening plants such as: rubber shrouds, water sprays installed at conveyors and material transfer points, water cart used to precondition of feed materials and used to control dust around the crusher pad and to dampen stockpiles. The department has determined that these controls are acceptable and should be sufficient to manage the risk of potential impacts to environmental receptors from dust emissions emitted during plant commissioning and TLO. The applicant's proposed controls have been conditioned within the works approval in accordance with the department's *Guideline: Risk Assessment* (2020a). The department has determined that additional regulatory controls are not required to manage this risk event.
Operation of (in addition to the two already authorised under W6887/2024/1) crushing and screening plants involving crushing, unloading, loading and stockpiling of material, and vehicle movements.	Dust	**Potential Pathway:** Dust generated via activity being transported offsite with aid by wind to the receptor. **Potential Impacts:** Impacts to public health or amenity from dust emissions.	• **Residential receptors** (closest being 2.5 km from premises boundary, 2.7 km from initial crusher locations)	Refer to Section 3.1.1	C = Moderate L = Unlikely **Medium Risk**	Y	Condition 1: Dust suppression requirements for mobile crushing and screening plant Condition 6: Dust suppression requirements during crushing and screening operations Condition 7: Dust management requirement	It is expected that the crushing and screening plants will each have a production throughput of 350,000 tonnes per annum. Due to the applicants intention to remobilise crushing and screening plants to different locations throughout the prescribed premises boundary, the distances to residential receptors have been measured to the closest boundary of the premises. This is a conservative approach as the distances between the crushing plants and human receptors is likely to be greater than from the premises boundary (~2.7 km). The separation distance between the boundary of the proposed prescribed premises and the closest human (residential) receptor is 2.5 km. This distance is greater than the distance recommended by the EPA's *Guidance for the Assessment of Environmental Factors: Separation Distances between Industrial and Sensitive Land Uses* (2005), which recommends a separation distance between 300 – 1,000 m between similar activities (such as 'screening works' or 'extractive industries' (which include the crushing and screening of hard rock, sand and limestone) and human receptors. The department notes that it is expected that dust emissions will increase with the operation of the two new crushing and screening plants plus the two plants already approved for operation under works approval W6887/2024/1. However the department has determined that the applicants controls are acceptable and should be sufficient to manage potential impacts to receptors from dust emissions. The applicant's proposed controls have been conditioned within the works approval in accordance with the department's *Guideline: Risk Assessment* (2020a). The department has determined that additional regulatory controls are not required to manage this risk event.
Operation of (in addition to the two already authorised under W6887/2024/1) crushing and screening plants involving crushing, unloading, loading and stockpiling of material, and vehicle movements (including	Noise	**Potential pathway:** Noise generated via crushing and screening activity being transported offsite with aid by wind to the receptor. **Potential impacts:** Emissions causing	**Residential receptors** (closest being 2.5 km from premises boundary, 2.7 km from initial crusher locations)	Refer to Section 3.1.1	C = Moderate L = Possible **Medium Risk**	Y	Condition 1: Sound power level requirement for mobile crushing and screening plant Condition 6: Noise mitigation requirement for vehicles and mobile	Refer to section 3.3.

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**				
reversing alarms)		disruption to receptors and/or the reduction of site amenity.					machinery **<u>Condition 8 to 11: Noise verification monitoring requirements during time limited operation of mobile crushing and screening plants</u>**	
Operation of (in addition to the two already authorised under W6887/2024/1) crushing and screening plants involving crushing, unloading, loading and stockpiling of material, and vehicle movements	Sediment laden stormwater	**Potential pathway:** Stormwater runoff from stockpiles (feed and crushed material) carrying sediment offsite. **Potential impacts:** Disruption of fauna habitats, waterways and native vegetation through the addition of extra sediment potentially transported in stormwater.	• **Native vegetation (including PEC and Priority Flora)** (adjacent to premises boundary) • **Threatened and priority fauna** (sighted within and surrounding premises) • **Surface water bodies** (intercepts through the premises)	Refer to Section 3.1.1	C = Minor L = Possible **Medium Risk**	Y	Condition 1: Construction requirement for stormwater management infrastructure Condition 6: Operation and maintenance of stormwater management infrastructure.	Sediment laden stormwater may be generated during rainfall events from the stockpiling of material (for feed or post crushing) and from the operation of the crushing and screening plant. The applicant has proposed to manage stormwater via the existing Worsley's standard operating procedures and has provided the department with the minimum performance requirements for design and inspection of drainage structures at the Boddington Bauxite Mine (South32 2023). The department has determined that stormwater management infrastructure is required to specifically manage the risk of potential impacts to environmental receptors from sediment laden stormwater emitted during the plants commissioning and time limited operations. Conditions 1 and 6 require the applicant to construct, operate, and maintain stormwater management infrastructure to divert clean stormwater away from the operational areas, as well as capture contaminated and potentially contaminated stormwater within the operational area.
	Hydrocarbons	**Potential pathway:** Spills or leaks from mobile plants or vehicles resulting in direct discharge to land and infiltration to groundwater. **Potential Impacts:** Contamination or environmental damage to receptors, impacting fauna habitats.	• **Native vegetation** (adjacent to premises boundary) • **Threatened and priority fauna** (sighted within and surrounding premises) • **Localised soils** • **Surface water bodies** (intercepts through the premises) • **Groundwater**	Refer to Section 3.1.1	C = Slight L = Unlikely **Low Risk**	N/A	N/A	General provisions of the EP Act apply, and the *Environmental Protection (Unauthorised discharge) Regulations* 2004 adequately regulate this risk event. No additional regulatory controls (in the form of conditions under this works approval) are required.

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

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

3.3 Detailed risk assessment for noise emissions from crushing and screening activities

3.3.1 Background

The applicant is proposing to operate a total of four mobile crushing and screening plants (two already approved under works approval W6887/2024/1) seven days a week for 24 hours per day to carry out the construction of a haul road. The estimated operating life of the crushing and screening plants is approximately 18 months. Noise emissions from the operation of the mobile crushing and screening plants is expected to be generated, which have the potential to impact nearby noise sensitive receptors (residential dwellings), particularly outside of daytime hours (0700 to 1900 hours Monday to Saturday).

Figure 6 outlines the location of the nearest noise sensitive receptors and the premises boundary. The closest residential receptor to the initial location of the two new crushing and screening plants 3 and 4 is approximately 4.5 km. Due to the applicant's proposal to remobilise the crushing and screening plants throughout the premises, the closest sensitive receptor (R7 and R9) may be as close as 2.5 km from the premises boundary. As a conservative approach, the department has applied 2.5 km as the separation distance to the closest sensitive receptor to assess potential impacts from noise emissions. It is however noted that distances between the noise source and receptors will likely be greater than 2.5 km during operations of the crushing and screening plants.

The applicant has developed a Construction Noise Management Plan (CNMP) (2024b) to support construction of the Nullaga Mine Expansion Project, which forms a portion of the Worsley Mine Expansion (Revised Proposal) (EPA Report 1768). The CNMP applies to the construction of different aspects within the Worsley Mine Expansion (Revised Proposal), including the construction of the proposed haul road (including two river crossings), operation of four crushing and screening plants, and development of support infrastructure.

The CNMP includes modelling of potential noise emissions from various construction activities. Predicted noise emissions from crushing and screening operations have been reviewed by technical experts within the department to inform this risk assessment. The scope of this detailed risk assessment is limited to noise emissions associated with the construction and operation of the two new mobile crushing and screening plants in addition to the two already approved under W6887/2024/1.

3.3.2 Criteria for assessment

Regulation 7 of the *Environmental Protection (Noise) Regulations 2007* (Noise Regulations) specifies that noise emitted from any premises, when received at other premises, must not exceed the relevant assigned level outlined in Regulation 8. Assigned noise levels vary depending on the time and day of the week. However, Regulation 13 of the Noise Regulations makes provision for construction work to be carried out without meeting the relevant assigned level in Regulation 8.

The department has determined that the operation of the crushing and screening plants do not meet the definition of 'construction work', as defined in sub-regulation 13(1) of the Noise Regulations. As such, Regulation 7 applies and the noise emissions from crushing and screening activities will be required to comply with relevant assigned levels under Regulation 8 of the Noise Regulations.

The assigned levels are statistical noise levels over a representative assessment period (RAP). For this project, the applicant had adopted a RAP of 15 minutes as the minimum assessment time. As the proposed activities are expected to be operational for over 10% of the RAP, the $L_{A\ 10}$ statistical noise criterion was determined to be the most applicable. The relevant assigned levels vary depending on the day and time. However, as crushing and screening activities are

expected to be continuous (i.e., 24 hours a day, seven days a week), noise emissions must be able to comply with several assigned levels. The assigned noise levels adopted for this assessment is detailed in Table 4.

Table 4: Assigned levels for noise sensitive receptors

Type of premises receiving noise	Time of day	Assigned level, $L_{A\ 10}$ (db)
Noise sensitive premises: highly sensitive area	Monday to Saturday 0700 to 1900 hours	45 + influencing factor
	Sunday and public holidays: 0900 to 1900 hours	40 + influencing factor
	All days: 1900 to 2200 hours	40 + influencing factor
	Monday to Saturday: 2200 to 0700 hours Sunday and public holidays: 2200 to 0900 hours	35 + influencing factor

3.3.3 Environmental noise impact assessment

As part of the CNMP, the applicant has undertaken environmental noise modelling, utilising the SoundPLAN 8.2 Industrial Module. The CONCAWE method was adopted for the noise model to enable the consideration of meteorological conditions in the noise model, under worst case scenario wind conditions (i.e., wind blowing directly from the noise source to the sensitive receptors). Wind speeds of 4 m/s and 3 m/s were adopted for daytime (i.e., 0700 to 1900) and nighttime (i.e., 2000 to 0700) noise modelling, respectively.

Up to six scenarios were modelled, with each scenario represented a different component of the construction activities planned for the Nullaga Mine Expansion Project. Scenario 6, simulating the operation of up to **four** crushing and screening plants, related directly to the assessment of this works approval. Due to the proposal to allow the re-mobilising of crushing and screening plants within the prescribed premises, the noise model was created using the premises boundary as the noise source to address worst case scenario for the plant siting location. Scenario 6 included a mobile crusher, mobile screen, and front-end loader. Sound power levels and associated spectral data for this equipment was obtained from reference material.

The predicted noise level received at each noise sensitive receptor is presented in Table 5. A contour map of predicted noise level from the premises is also shown in Figure 6. Based on the noise model, operation of the crushing and screening plants is unlikely to exceed the assigned levels at nearby residential receptors R1 to R9 at all times and days of the week. Crushing and screening activities also appear unlikely to contribute significantly[1] to the noise received at the sensitive receptors, except at receptor R7 during nighttime operations. There is a risk that noise emissions from crushing and screening activities may marginally exceed the assigned level, particularly if the noise is tonal, under worst-case meteorological conditions.

[1] Regulation 7(2) of the Noise Regulations specifies that a noise emission is taken to significantly contribute to a level if it exceeds a value which is 5 dB below the assigned level at the point of reception.

Table 5: Predicted noise levels from crushing and screening activities (four plants) at sensitive receptors

Receptor[3]	Distance from premises boundary	Assessment criteria, $L_{A\ 10}$ (dB)[2]				Predicted noise level, $L_{A\ 10}$ (dB)
		Weekday	Sunday	Evening	Night	
R1	4.1 km	45	40	40	35	16
R2	4.8 km					<5
R3	5.2 km					<5
R4	5.3 km					<5
R5	3.6 km					9
R7	2.8 km[4]					31[1]
R8	5.9 km					<5
R9	2.6 km[4]					28[1]

Note 1: 5 dB penalty was applied to the predicted noise level for potential intrusive tonal noise.
Note 2: Weekday represented Monday to Saturday from 0700 to 1900 hours; Sunday represented Sunday and public holidays from 0900 to 1900 hours; Evening represented all days from 1900 to 2200 hours; and Night represented Monday to Saturday from 2200 to 0700 hours and Sunday and public holidays from 2200 to 0900 hours.
Note 3: The applicant has identified receptor R6 as the Boddington Tip and does not consider it to be a noise sensitive receptor, therefore R6 has been excluded from this assessment.
Note 4: The separation distances between the premises boundary and these sensitive receptors appear to be overestimated in the CNMP. Siting analysis undertaken by the department has estimated the distance of the premises boundary to the receptors R7 and R9 as being approximately 2.5 km.

Furthermore, in reviewing the noise model, the sound power levels used for the mobile crusher [107 dB(A)] and mobile screen [108 dB(A)] appear to be more characteristic of smaller models. As such, the predicted noise levels received at the receptors may be underestimated.

The CNMP outlines several measures for managing noise emissions from the operation of the crushing and screening plant, as well as the wider construction activities at the premises. Noise mitigation controls relevant to the crushing and screening activities are detailed in Table 1.

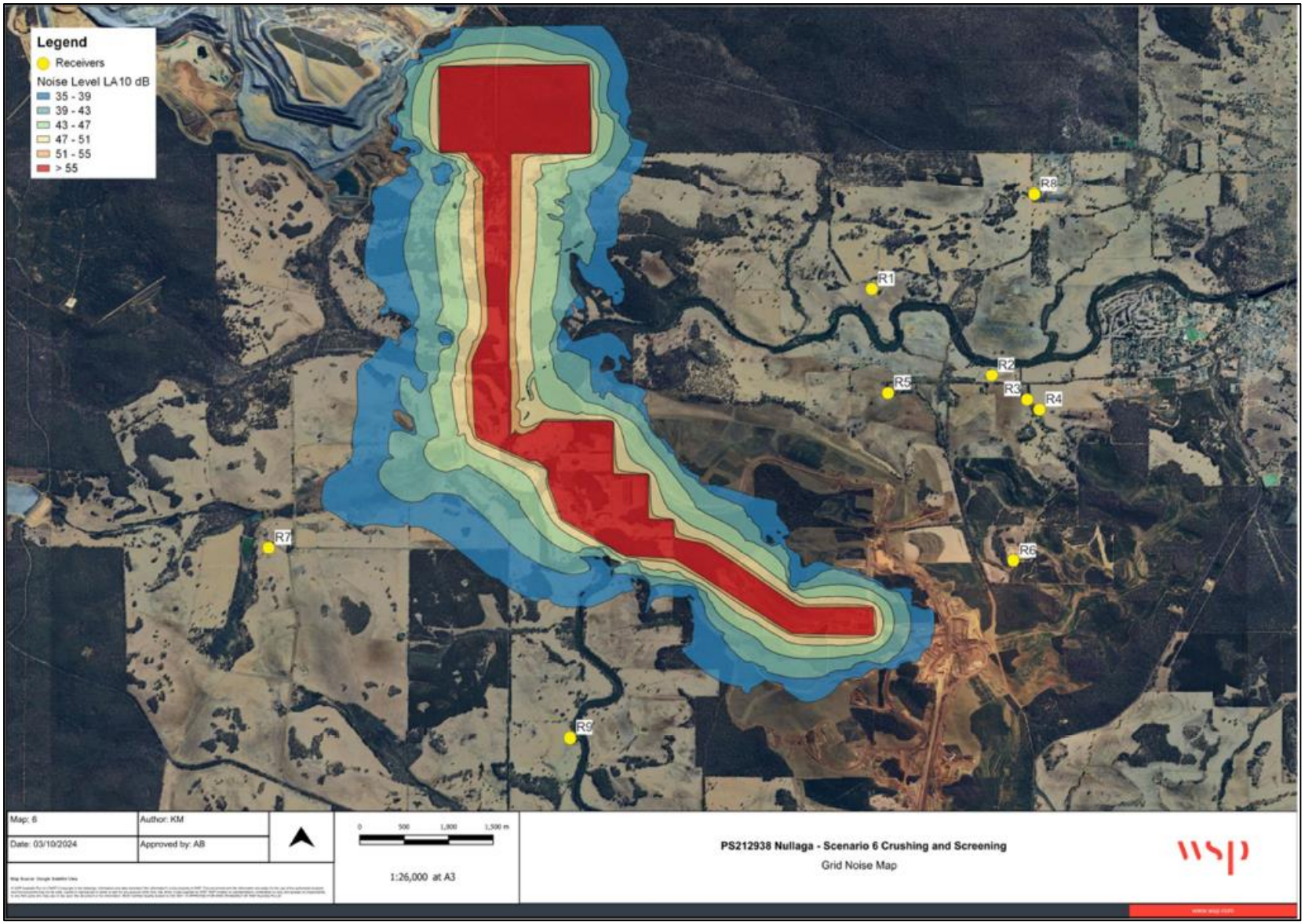

Figure 6: Noise modelling for crushing and screening plants (Sourced from South32 2024b)

3.3.4 Risk assessment and additional regulatory requirements

It has been determined that the noise emissions from the proposed crushing and screening operations modelling based on four plants in operation and the potential impact on nearby sensitive receptors are likely to meet the relevant assigned noise levels at all nearby sensitive receptors during day-time hours, and all receptors except for receptor R7 during night-time operations. Noise emissions may exceed the assigned level for night-time operation under worst-case meteorological conditions at receptor R7.

While the sensitive human receptors surrounding the premises would also receive noise emissions from wider construction activities for the Nullaga Mine Expansion Project, assigned levels do not apply to these construction activities as they are exempt under Regulation 13. It is likely that noise emission sources received at the nearby receptors will not be limited to the operation of the four crushing and screening plants, but the wider construction activities at the premises. The applicant intends to manage noise emissions from the various construction activities through the CNMP.

While the department has reviewed and commented on the CNMP, it was determined that the approval of the CNMP under regulation 13(3) of the Noise Regulations (for the purposes of out of hours construction activities) is better undertaken by the chief executive officer (CEO) of the Shire of Boddington. The department considers the Shire of Boddington to have a better understanding of the local siting and is better placed to manage potential noise issues that may arise during construction of the project. Further, the department does not support general approval for all out of hour construction activities encompassing the entire construction program. Approval for each out of hours construction activity event should be carefully planned/scheduled, justified (i.e., rationale for the construction needing to be undertaken during out of hours), and managed on a case-by-case basis (in accordance with the approved CNMP).

In considering the predicted noise levels, frequency and duration of the proposed crushing and screening activities, the Delegated Officer has determined the consequence of this risk event as **moderate**. Further, in considering the predicted noise levels and the proposed noise mitigation measures, the Delegated Officer has determined the likelihood of this risk event to be **possible**. The resultant risk rating for this risk event is **Medium risk**. It should be noted that the sound power level for the crushing and screening equipment may be underestimated in the noise model, and the department has taken this uncertainty into consideration in determining the risk rating.

Consistent with the measures proposed in the CNMP, the Delegated Officer has conditioned the following requirements in works approval W2870/2025/1:

- Ensuring that the mobile crushing and screening plants installed at the premises have sound power levels that reflect those utilised in the noise model; and
- Use of non-tonal reversing alarms for mobile vehicles and machinery.

While the CNMP proposed a number of verification noise monitoring programs, including for confirming the sound power level of impact and vibratory sheet piling rig, noise received at receptor R7 during sheet piling activities, as well as in response to noise complaints, no verification noise monitoring was proposed for the operation of the crushing and screening plants.

As predicted noise levels indicate a likelihood of the relevant assigned levels being exceeded in some scenarios, the department has included conditions 8 to 10 to require the applicant to investigate the nature and extent of noise emissions during the normal operation of the crushing and screening plants, specifically in relation to night-time operations. Similar to the other verification noise monitoring programs detailed in the CNMP, the department considers receptor R7 to be the sensitive noise receiver most likely to be impacted.

If the required noise monitoring identifies that the relevant assigned noise levels are not being

met, condition 11 requires the applicant to prepare and implement a plan to ensure compliance with the relevant assigned levels can be demonstrated. In accordance with the CNMP, this may include a number of proposed measures, including the use of alternative siting, constructing noise attenuation bunds, etc.

4. 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 11 February 2025. Application advertised in the West Australian on 17 February 2025. 33 interested stakeholders were advised of the proposal on 11 February 2025.	Four submissions were received by the department. Refer to Appendix 1.	The department has considered the comments received during the public comment period. Responses to comments are presented in Appendix 1.
Local Government Authority advised of proposal on 11 February 2025.	No comments received	N/A
The South West Aboriginal Land & Sea Council advised of proposed on 11 February 2025.	No comments received	N/A
Gnaala Karla Booja Aboriginal Corporation (GKB AC) advised of proposal on 11 February 2025.	GKB ACs response was received on 3 March 2025 and has made the following comments. 1. A Section 18 consent was issued to South32 under the *Aboriginal Heritage Act 1972* (AHA) over tenement L70/223. A condition of the Section 18 consent requires South32 to offer GKB AC in writing giving 60 days' notice to nominate two members to be present for ground disturbing works on the Land where works intersect the boundary of ID 27935 (Hothman River). 2. Heritage surveys have been conducted over the proposed works approval boundary noting previous works have occurred	The department acknowledges the comments received by GKB AC. The department recommends that the applicant ensures that they are compliant with all aspects of the AHA including any Section 18 received for the proposed works.

	within the boundary. It is possible that cultural heritage is present due to: a. Poor surface visibility during cultural heritage survey; b. Potential for subsurface archaeological material; and c. Disturbance of archaeological material during previous works in some areas, noting such material does still exist after previous clearing. 3. Due to item 2 (above) GKB AC has sought the opportunity to identify collect and repatriate any such cultural material through two Traditional Owner monitors being present during clearing. South32 responded that for this specific Works Approval, monitors will not be engaged for these works. 4. GKB AC is deeply concerned over the non-engagement from South32 which is considered standard practice across industry for this type of situation. GKB AC does not consider that South32 has undertaken adequate cultural heritage due diligence and GKB AC reserves its rights.	
Applicant was provided with draft documents on 15 May 2025.	The applicant responded to the department on 19 May 2025 and identified a typographical error within the draft decision report. The applicant has also waIved the remaining time for the draft review and has requested the works approval to be issued.	Amended typographical error.

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. Burro of Meteorology 2024, Summary statistics for Wandering weather station, available at http://www.bom.gov.au/climate/averages/tables/cw_010917.shtml sourced on 18 October 2024.
2. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
3. Department of Water and Environmental Regulation 2020a, *Guideline: Risk Assessments*, Perth, Western Australia.
4. DWER 2020b, *Guideline: Environmental Siting*, Perth, Western Australia.
5. Environmental Protection Authority (EPA), *Environmental Protection (Noise) Regulations 1997*.
6. EPA 2005, Guidance of the Assessment of Environmental Factors (in accordance with the Environmental Protection Act 1986) Separation Distances between Industrial and Sensitive Land Uses, No.3.
7. EPA 2004, *Environmental Protection (Unauthorised Discharges) Regulations 2004*.
8. South32 2021, Bauxite Mine Site Drainage, South32 Worsley Alumina Boddington Bauxite Mine STA.402, Version 6.0.
9. South32 2024a, Nullaga Mine Development Additional Mobile Crusher Works Approval Application, Document Number: WOR-71183-FS-DWER-APL-0008.
10. South32 2024b, Nullaga Construction Noise Management Plan, Document Number: WOR-71183-FS-ENV-PLN-0004.

Appendix 2: Summary of comments submitted during public comment period

Item	Concern	Description of concern	Department's response
1.	Dust emissions	Multiple respondents have mentioned that they are concerned over the dust emissions from the proposal including: a. Residents are currently suffering from dust emissions from the existing South32 operations; b. Potential current and future health impacts of the residents; c. If South32 are required to report all dust complaints they receive from community complaints; and d. A respondent has indicated that within the application form the applicant has not included "respirable crystalline silica" or particulates (total PM).	a. The assessment of this works approval is limited to the construction and time limited operation of two mobile crushing screening plants (in addition to the two already authorised). The expected emissions from the crushing and screening plants are unlikely to significantly contribute to current emissions due to the applicants proposed controls (Table 1). b. The emissions and discharges associated with the four crushing and screening plants and the potential risk of impacts to surrounding human receptors have been assessed in section 3.1.2. In determining the risk associated with each risk event, the department has also considered relevant controls proposed by the applicant (listed in Table 1). The department notes that a dust monitor that monitors PM_{10} is situated between the prescribed premises and the town of Boddington. The monitor is a requirement under licence L5960/1983/11. c. The applicant is required to keep a record of all complaints received (including from dust). There is no requirement for the applicant to submit the complaints under the works approval to the department however a condition is within the works approval that requires the holder to produce the complaints to the department when requested. The department notes the applicant holds a licence (L5960/1983/11) which requires them to submit all complaints received annually to the department. d. Respirable silica and other particle sizes associated with dust is included within "dust" emissions listed in Table 1 which has been considered as part of the risk assessment presented in Table 3.
2.	Risk assessment within the applicants application	Multiple respondents have concerns from the application form including: a. Incomplete application form; b. The control of soil erosion run-off has not been discussed;	a. The department conducts its own risk assessment and any incomplete information within the application for or supporting information can be requested from the applicant by the department. In this circumstance the department has not requested any additional information from the applicant; b. The management of contaminated run-off / stormwater has been assessed in section 3 of this report. The works approval has a

Item	Concern	Description of concern	Department's response
		c. Waste and leachate (including hydrocarbons) was not ticked within the application form; d. Gaseous and Particulate emissions was not ticked within the application form; and e. Greenhouse gas emissions was not ticked within the application form.	requirement that stormwater management infrastructure must be constructed surrounding the crushing and screening plant and stormwater within the crushing and screening operating areas is to be captured and retained on-site. c. Waste and leachate were not considered as potential emissions associated with the proposed crushing and screening plant operations. Hydrocarbons have been included as potential emissions from the operations and has been considered within the risk assessment presented in section 3.1.1. d. Particulate emissions associated with the crushing and screening plants have been included within "dust" emissions listed in Table 1 which has been considered as part of the risk assessment presented in Table 3. Gaseous emissions are not considered within this decision report due to the small scale of the operation. e. Greenhouse gas emissions are not considered under Part V of the EP Act.
3.	Salinity increase in surface waters	A respondent has mentioned there is concern over the reported increase of salinity levels of the following water lines: • Hotham River; • Tunnel Creek; • Tributary from Saddleback; and • Murray River.	The reported historical increase of salinity within the water lines is not within the scope of the assessment of the crushing and screening plants. The risk assessment of potential impacts to surface water from emissions caused by the crushing and screening plants are included within section 3.2 of this decision report.
4.	Impacts to fauna	Damage to native fauna including removal of habitat, nesting places for migratory birds.	The department has considered the potential impacts to native, threatened, and priority fauna in its risk assessment (refer to section 3.2), in accordance with the department's *Guideline: Risk Assessment* (2020a). Clearing activities related to the overall Worsley Mine Expansion – Revised Proposal and is regulated under MS 1237
5.	Applicant's operating history	Respondents have concerns regarding the applicants history of fines, financial penalties and other Premises operations.	The department has considered the history of non-compliances, fines, fees and complaints against the applicant. The compliance and operational history of the applicant is taken into consideration during the risk assessment, (refer to section 3) when determining the likelihood rating for risk events, in accordance with the department's *Guideline: Risk Assessment* (2020a).
6.	Issues relating to the applicants submitted Worsley Mine Expansion	A respondent had the following concerns relating to the ASSMP.	The works approval application and proposed time limited operations relating to the construction and operation of the crushing and screening plants does

Item	Concern	Description of concern	Department's response
	Acid Sulfate Soil Management Plan (ASSMP)	a. Unable to read the legend for an Acid Sulphate Soils (ASS) risk map; b. If the "post-watering monitoring closure report" will be available for public scrutiny; and c. Concerns over the exceedance of recommended holding time for pH F Soil and pH FOX Soil for samples used within the report.	not identify ASS as a potential risk and therefore the report is not applicable to the scope of the application. ASS is not considered an emission associated with the construction and operation of the crushing and screening plants. The department has reviewed the ASSMP and has determined it does not relate to emissions associated with the crushing and screening plants. The has not considered the "post-watering monitoring closure report" or the exceedance of recommended holding times for soil analysis of parameters as it is outside the scope of this works approval.
7.	Construction noise	A respondent queried if the department will be advised of all noise/vibration complaints received by the proponent during construction work.	This works approval is limited to the construction and time limited operations of two crushing and screening plants (in addition to the two already approved). Construction noise of the installation of the crushing and screening plants have been considered within Table 3, vibration and the construction of other infrastructure is outside the scope of this works approval. In addition, the department operates a 24/7 complaints report system, Environment Watch, where anyone can lodge an environmental complaint. Environment Watch can be accessed via the department's website: https://www.wa.gov.au/service/environment/pollutant-prevention/environment-watch.
8.	Current surface water quality	Multiple respondents have concerns over current surface water quality near the prescribed premises: a. Concentrations of metals, hydrocarbons and PFAS parameters exceed water quality guidelines within a variety of surface water locations. b. Requests to suspend works or decisions until the source and cause of potential impacts is identified. c. There is a concern that the 5C licence to take water (surface) could also be impacted by the previously mentioned water quality results and should be re-examined. d. There is a recommendation that an aquatic invertebrate study is initiated by the Department of Biodiversity Conservation and Attractions (DBCA) to establish impacts to surface waters.	The department has received the report relating to the potential exceedances of relevant water quality guidelines within surface water near the premises. The report and sampling data is currently under investigation by the department.

Item	Concern	Description of concern	Department's response
9.	Baseline monitoring of surface waters and sediments	A respondent recommended that baseline testing and regular monitoring of surface waters and sediments should occur to prevent its operations being implicated in future community, DWER, DBCA and/or Department of Health (DoH) water or public health assessment programs.	Potential impacts to surface water from the construction and time limited operation of the crushing and screening plants have been considered and are addressed within the completed risk assessment (Table 3). The risk assessment and proposed controls (Table 1) are considered suitable to manage potential impacts to surface waters and sediments.
10.	Lack of community and stakeholder contact	Multiple respondents have mentioned that there has not been any community stakeholder engagement for over 12 months and there has never been any mention for the crushing and screening plants.	Applicants are encouraged to engage with the community regarding new and planned proposals. It is, however, not a legal requirement for the applicant when applying for an approval under Part V Division 3 of the EP Act. Under section 54(2)(b) and section 57(2) of the EP Act, the department may seek comment from any public authority or person who (in the opinion of the CEO and/or their Delegated Officers) has a direct interest in the subject matter of the application. In addition, section 54(2a) and section 57(2a) of the EP Act also requires the application for a new works approval or licence to be advertised on the department's website, where any person who wishes to comment on it may do so within the period specified in the advertisement. Submissions received by the department during the public consultation stage are considered in the risk assessment process.
11.	Vegetation clearing	Multiple respondents had concerns relating to vegetation clearing, including: • Destruction of the state forest and native vegetation; • No dates for proposed clearing to be taken place within the application; and • Applicant has previously burnt large piles of timber/debris during previous clearing activity. The respondent queried if this activity (if the applicant is intending to do it again) is included as an emission, discharge or waste.	Vegetation clearing (including burning) is outside the scope of this works approval. Clearing activities related to the overall Worsley Mine Expansion – Revised Proposal and is regulated under MS 1237.
12.	Use of watercarts as dust suppression	A respondent made a concern that the use of water carts for dust suppression risks the mobilisation of potential contamination from dust/soil from excess water runoff.	The works approval has a requirement that stormwater management infrastructure must be constructed surrounding the crushing and screening plant and stormwater within the crushing and screening operating areas is to be captured and retained on-site.

Item	Concern	Description of concern	Department's response
13.	Impacts to human health	A respondent wanted a human health impact study of Boddington residents by the DoH.	Dust emission impacts from the crushing and screening plants have been considered and are addressed within the completed risk assessment (Table 3). The risk assessment and proposed controls (Table 1) are considered suitable to manage potential impacts from dust emissions.