



## Application for Works Approval

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

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<b>Works Approval Number</b>	W3132/2025/1
<b>Applicant</b>	Process Minerals International Pty Ltd
<b>ACN</b>	063 988 984
<b>File number</b>	APP-0029383
<b>Premises</b>	Lamb Creek Iron Ore Mine Great Northern Highway NEWMAN WA 6753  Legal description Tenements L47/1008 and M47/1592
<b>Date of report</b>	17 December 2025 ( <b>FINAL</b> )
<b>Decision</b>	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 construction and operation of the premises. As a result of this assessment, works approval W3132/2025/1 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 June 2025, the applicant applied for a works approval under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction works relating to prescribed premises categories 5, 6, 12 and 54 at the premises. The premises is approximately 130 km from the nearest town of Newman.

The premises relates to the categories and assessed production / design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W3132/2025/1. 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 W3132/2025/1.

This works approval is for a new iron ore mining and processing operation. There is no infrastructure currently on the premises.

#### 2.2.1 Category 5 - Processing or beneficiation of metallic or non-metallic ore

Iron ore processing capacity of 19 Mtpa is proposed by the construction of a fixed modular processing plant (10 Mtpa) and multiple mobile crushing plants (total capacity 9 Mtpa).

Processing is only dry crushing and screening, with no additives except for a small amount of water as needed for dust control. No tailings will be produced.

The fixed ore processing plant includes loading, crushing, screening, stacking, product stockpiles and road train load-out components. The proposed location is shown as 'process plant area' in Figure 1. The processing plant is designed to have a lump and fines circuit (primary and secondary crushing), with provision for modifications to convert to a fines only operation with the addition of a tertiary crushing circuit if required. An indicative process flowsheet for the crushing and screening circuits is provided in Figure 2. The processing plant is planned to operate 24 hours per day.

Processed ore will be loaded onto road trains for transport to Port Hedland, from where it will be shipped out. Mining and overburden management is outside the scope of this assessment and is managed under the *Mining Act 1978*.

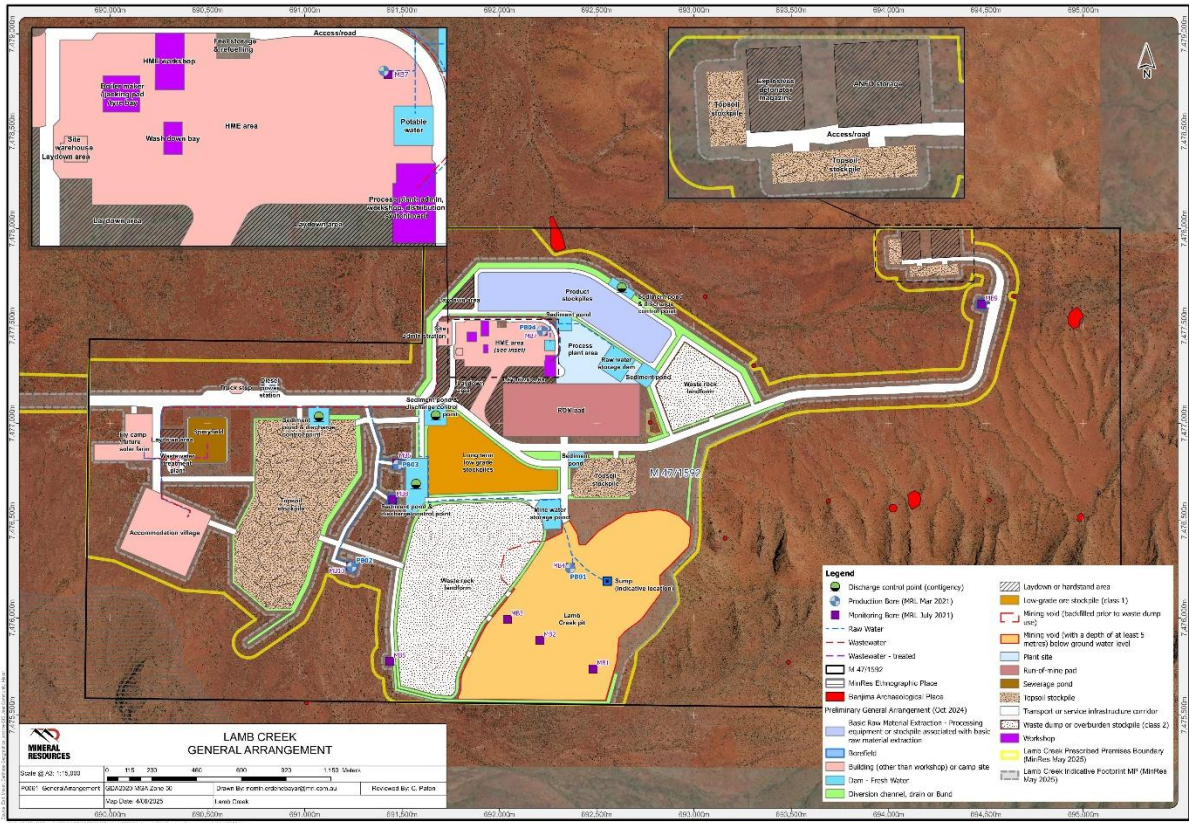


Figure 1: Indicative site layout

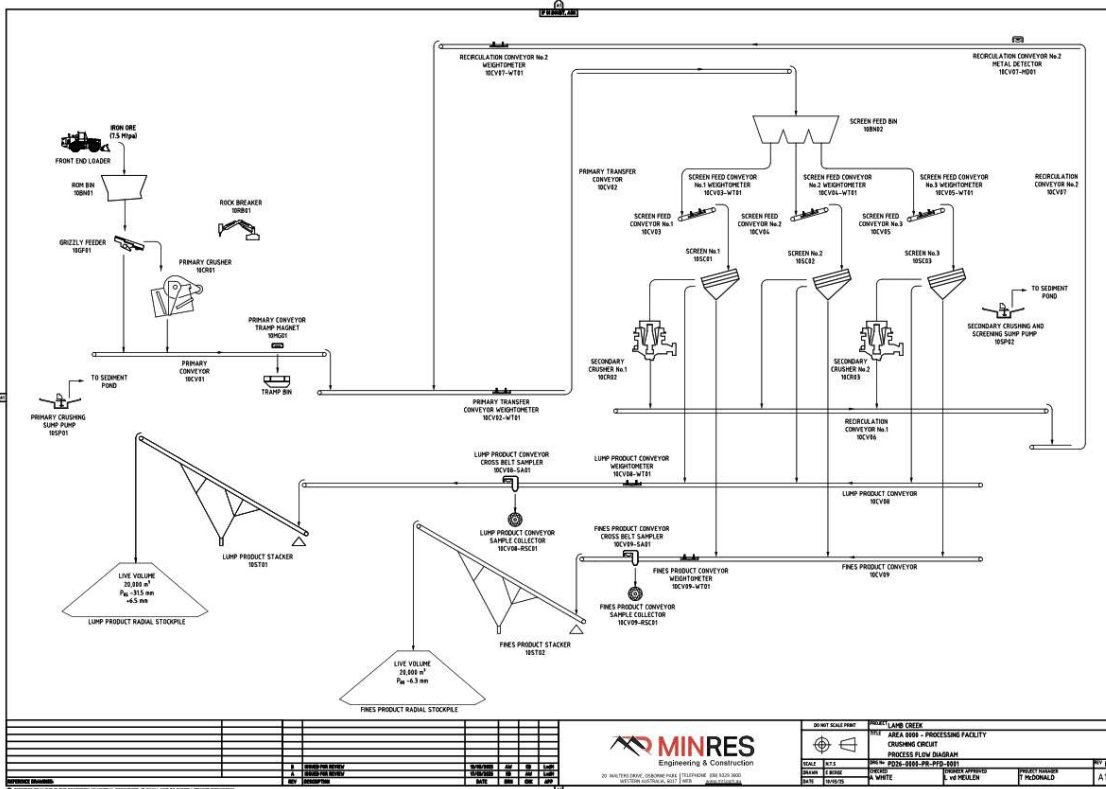


Figure 2: Indicative fixed crushing and screening plant process flow – primary and secondary circuits only

The mining plan is to mine and process 10 Mtpa of ore from the premises. Where extra ore processing capacity is needed (e.g. during shutdowns of the fixed plant, or where the fixed plant is not operating at capacity), mobile crushing and screening (MCS) plants detailed under category 12 (below) will be used in ore processing as supplementary processing capacity. When processing ore, mobile plants will be located either within the ROM pad or close to the pit. The maximum capacity of MCS plants on the premises will be 9Mtpa, made up of separate small plants. Operation may be up to 24 hours per day.

The assessed category 5 capacity for this application is 19 Mtpa which is the combined capacity of the fixed and mobile plants.

The application states that commissioning of the fixed crushing and screening plant is expected to take up to six months, involving the following stages:

- Pre-commissioning- energising the equipment and pre-commissioning tests.
- No load commissioning - establishes the equipment's fully functional operational performance without the introduction of ore into the system.
- Load commissioning - introduces ore or similar bulk material to verify the response and operational functionality of the machine under load.

For the purposes of this works approval, the delegated officer considers that pre-commissioning and no load commissioning (including testing of water sprays) are part of the construction phase and do not have separate environmental risks that require assessment and conditioning. Load commissioning has the same emission and discharge risks as the operational phase, and so can take place during the time limited operations phase.

## 2.2.2 Category 6 – Mine dewatering

Some sections of each mining stage will be below the water table and dewatering of the pit will be required. This will be achieved via production bores, with in-pit sumps if required.

The dewatering rate is expected to vary from approximately 17 L/s to 58 L/s, with the water entering the mine water circuit to be stored and used within the premises. Routine discharge is not expected, as the predicted long-term water demand for the premises is up to 0.95 GL/year (approximately 30 L/s). Groundwater extraction whether for mine dewatering or production is regulated under the *Rights in Water and Irrigation Act 1914*.

The groundwater under the mining area is relatively fresh (Electrical conductivity less than 800  $\mu\text{S}/\text{cm}$ ) and neutral to slightly alkaline, with no identified contaminants.

Mine dewater will be transported by pipelines and stored in lined and unlined dams, and/or water bladders as illustrated in Figure 3. Expected discharge to the environment will only be seepage or leaks from this infrastructure, or discharge via sedimentation ponds in the case of extreme rain events. If mine water storages are full, water may be transferred between containment facilities within the premises, including to sediment ponds.

The mine water ponds will include a spillway, with any discharge being captured withing the surface water management infrastructure and subsequently report to sedimentation ponds. Therefore, in high rainfall events a small portion of the mine dewater (in stormwater) may be discharged to the environment as detailed in the following section 'stormwater management'.



**Figure 3: Typical water storage bladder in use**

Given the quality of the mine dewater, potential impacts are limited to erosion and sedimentation, along with any contaminants collected in stormwater (see following section).

### **Stormwater management**

Site stormwater management is included in this assessment as an associated activity, and because some mine dewater may be discharged to the environment via the stormwater management system.

A Surface Water Management Plan (SWMP) has been developed for the premises. The proposed infrastructure includes drains, diversion channels, flood protection bunds, and cross drainage infrastructure features. The conceptual infrastructure is shown in Figure 4, based on preliminary design criteria of 20% Annual Exceedance Probability (AEP).

The system includes sedimentation ponds around the site, designed to capture sediment-laden surface water runoff from local areas and allow settlement before discharging during a 10% AEP event. Sedimentation pond will be designed to also contain the critical 20% AEP 20 minute storm event (first flush). Indicative locations of sedimentation ponds are shown in Figure 4.

The sedimentation ponds will be unlined with a low-permeability (98% MMDD) fill base layer. Each will have contingency spillways that in extreme rainfall events may discharge to existing ephemeral drainage lines. The spillways will be lined with geofabric and riprap for erosion control. If discharge is sustained, weekly and monthly water quality monitoring is proposed.

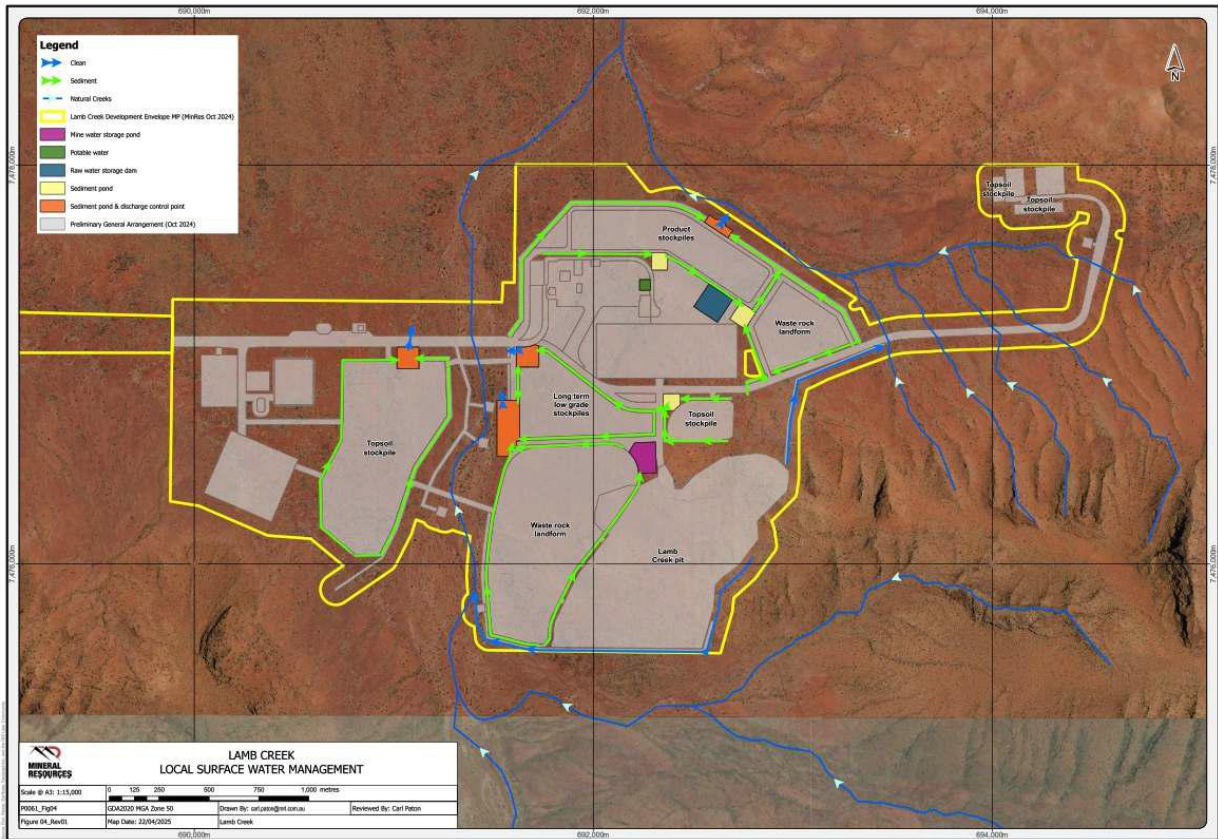


Figure 4: Local Surface Water Management (indicative)

### 2.2.3 Category 12 - Screening etc. of material

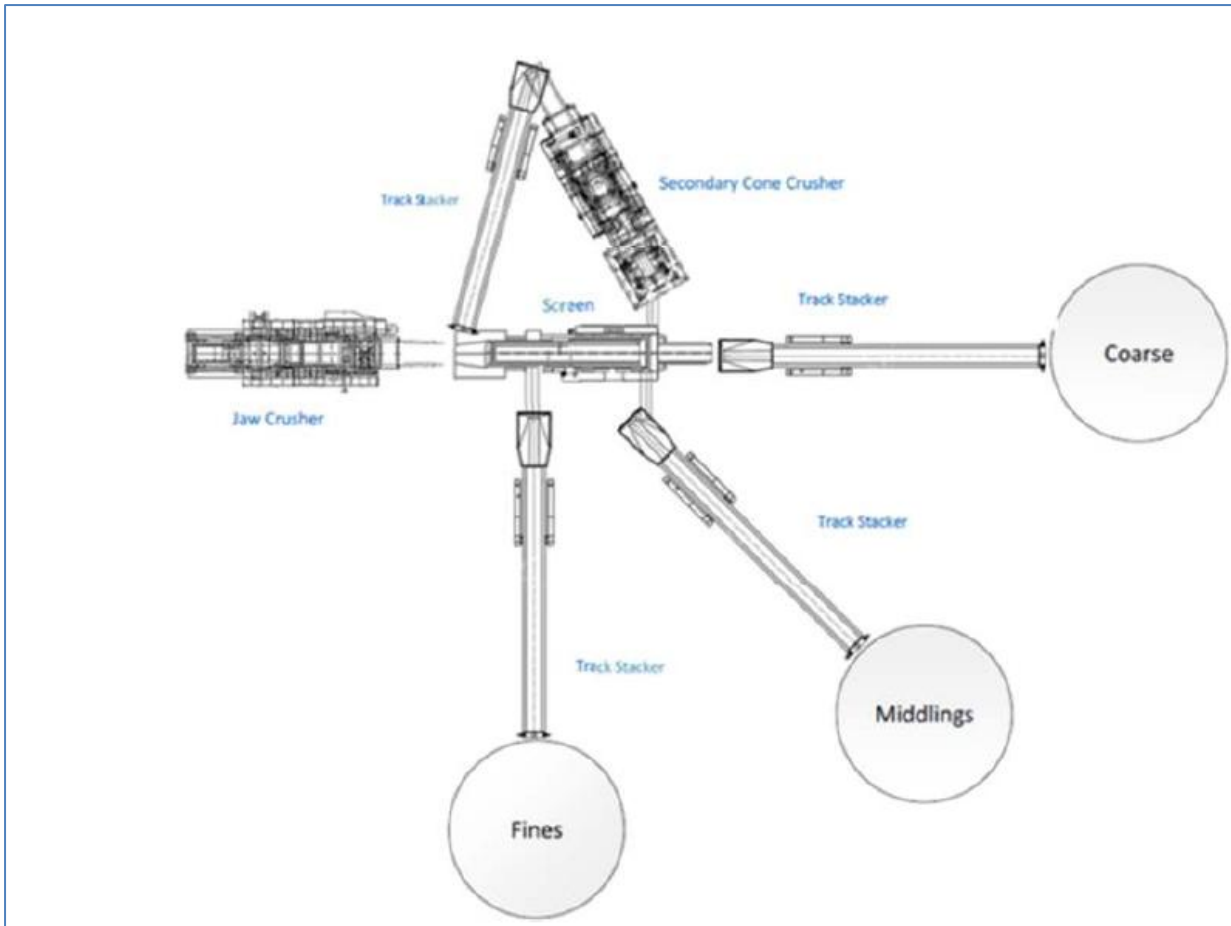
MCS plants with a combined capacity of 9 Mtpa will be used to crush non-ore materials to support construction. They have an expected throughput of 0.5 Mtpa of non-ore (Category 12) materials in the first year of operation. There is potential for these MCS plants to remain onsite to facilitate any road maintenance during operations. These plants may also be utilised for ore crushing under category 5 as required (refer to section 2.2.1).

The application states that the majority of waste rock material is expected to be non-acid forming, but a small amount of shale waste may be potentially acid forming (PAF). The approved mining proposal (Approvals Statement AS-01076 v1.00) states that this PAF material will be retained in the pit and covered to prevent oxidation. There is no intention to crush this material. Management of PAF within the pit is outside the scope of Part V Division 3 of the EP Act.

The applicant requests that these plants be authorised to operate anywhere within the prescribed premises. Each new MCS plant brought to the premises is considered a separate item of infrastructure for the purposes of compliance with conditions of this works approval.

Operation is expected to be predominantly during daylight hours, but assessment includes authorisation for operation after dark if required.

The MCS plants will be self-contained modular style units. A typical configuration with a jaw crusher, screen, cone crusher, stacker and conveyers is shown in Figure 5.



**Figure 5: Typical Two-Stage Mobile Crushing and Screening Plant Layout**

Correct installation of equipment and functionality of water sprays shall be checked as part of construction. Any load commissioning is assessed under the operational phase and is subject to operational conditions. TLO is requested.

#### 2.2.4 Category 54 - Sewage facility

Wastewater from the accommodation camp will be treated by a wastewater treatment plant (WWTP), and treated effluent will be discharged to a dedicated irrigation spray field. The WWTP design will be based upon peak capacity of 300 persons to accommodate the overlap between construction and operational requirements. WWTP sludge will be periodically removed to licensed off site facility.

A sequence batch reactor (SBR) type system is proposed, providing containerised 'plug and play' functionality. The process comprises 5 steps:

1. Filling of reactor basin
2. A reaction phase
3. A settling phase
4. A decant phase
5. An idle phase.

Before step one is an external balance tank into which untreated wastewater is fed. Up to 25 m<sup>3</sup>/day of RO backwash waste is proposed be added to this tank prior to input into the WWTP. This has low levels of nitrogen and phosphorous.

The containerised WWTP has a design capacity to treat up to 100 m<sup>3</sup> per day of wastewater (predicted sewage throughput up to 75 m<sup>3</sup>/day based on 300 persons). The applicant states this may be achieved through two 50 m<sup>3</sup>/day units or one 75 m<sup>3</sup>/day SBR units. The plant designer has advised that adding 25 m<sup>3</sup>/day of RO backwash (with minimal nutrients) does not reduce the volumetric sewage treatment capacity.

Chlorine, sodium hypochlorite and aluminium chloride will be added during water treatment. The process is controlled by an electrical panel located in a control room within the SBR unit.

The proposed WWTP is designed to treat wastewater to the low Exposure Risk Level (ERL) detailed in the DoH Guidelines for the 'Non-potable Uses of Recycled Water in Western Australia' (DoH 2024), as shown in Table 4.

**Table 1: WWTP Influent and Effluent Design Parameters**

Parameter (Unit)	Influent	Treated effluent
BOD (mg/L)	350	<20
TSS (mg/L)	350	<30
Total Nitrogen (mg/L)	60	<30
Total Phosphorus (mg/L)	14	<8
E. coli (CFU 100 mL)	-	<1,000
pH	6.5 – 8.5	6.5 – 8.5
Residual free chlorine (mg/L)	-	0.2 – 2.0

Reverse Osmosis (RO) plant reject (brine, estimated 35 m<sup>3</sup>/day and salinity of up to 3,500 mg/L) will be mixed with treated effluent from the WWTP for co-disposal to the irrigation spray field. The predicted TDS of the combined water to be irrigated is 2,000 - 2,500 mg/L.

Pre-commissioning testing should be carried out during the construction stage. The delegated officer has determined that 'environmental commissioning' for this assessment will comprise only wet commissioning (with water) and the initial treatment of sewage, with monitoring to verify the performance of the WWTP. Treated effluent that does not meet the design parameters will be collected and re-treated as necessary. Treated effluent that meets the design parameters will be irrigated to the spray field.

### 2.2.5 Category 54 – Spray field

The irrigation spray field will be fenced with 1.2 m high, three strand non-barbed steel wire, and signposted. A 5 m spray buffer will be allowed between the irrigation area and the fence.

The applicant states that the spray field area is covered by clearing permit 11031/1, therefore authorised to be cleared. The delegated officer notes that CP 11031/1 authorises clearing within the specified area 'for the purpose of mineral production and associated activities'. The clearing permit does not authorise discharges to a spray field to kill or impact the health of vegetation. Existing native vegetation is considered a receptor for the purposes of this assessment.

### 2.2.6 Associated activities that do not trigger a prescribed premises category

Concrete batching is proposed, but only for construction use within the premises so it does not meet the definition of category 77. This is not considered further in this assessment. The *Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998* apply.

Waste oils and lubricants generated on site will be collected and stored in 1,000 L Intermediate Bulk Containers (IBC) for return to supplier or recycling at an appropriately licensed facility. The IBCs will be stored within 40 foot self-bunded containers until removed from the premises. Category 61 is not triggered as the waste is generated on the premises, plus volumes are expected to be below the category 61 threshold.

Category 73 is not expected to be triggered as the total storage volume of bulk chemicals (Chlorine, fuels) is only proposed to be approximately 576 m<sup>3</sup>.

Electric power generation of 3 MW is proposed using either diesel or natural gas generators. This is below the threshold for both category 52 and 84.

A desalination plant is proposed with a capacity of 0.013 GL per year. This is below the capacity threshold for category 85B. However, as the brine is proposed to be discharged to a spray field mixed with the WWTP wastewater, this discharge will be assessed under category 54.

Stormwater from the premises may be discharged to a drainage line during extreme rainfall events. This discharge will be assessed as a related activity.

The *Environmental Protection (Unauthorised discharges) Regulations 2004* apply to all non-assessed activities on the premises.

## 2.3 Part IV of the EP Act

The Lamb Creek Iron Ore Mine was referred to the EPA on 8 January 2025 under Part IV of the EP Act (Environmental Protection Authority 2025). A decision was made on 11 April 2025 not to assess the proposal, citing the short operating timeframe and capacity of other regulatory processes to adequately regulate the anticipated environmental impacts.

## 2.4 Environment Protection and Biodiversity Conservation Act 1999

The Lamb Creek project was assessed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), with approval EPBC 2023/09754 issued on 19 November 2025. The project is a controlled action due to potential impacts to listed threatened species and communities.

This works approval risk assessment considers these species and communities as receptors, but assesses only impacts to them from emissions and discharges from prescribed activities in accordance with Part V Division 3 of the EP Act. A works approval under the EP Act does not imply any approval under the EPBC Act.

## 3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk Assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

## 3.1 Source-pathways and receptors

### 3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this decision report are detailed in Table 2 below. Table 2 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

**Table 2: Proposed applicant controls**

Emission	Sources	Potential pathways	Proposed controls
<b>Construction</b>			
Dust	Vehicle movements, earthworks	Air / windborne pathway	<ul style="list-style-type: none"> <li>Water carts used on roads, areas cleared only as needed.</li> <li>Vehicle speed limits.</li> <li>Ground clearing (including topsoil stripping) shall not be undertaken during periods of high wind, unless soil moisture levels are sufficient to inhibit dust.</li> </ul>
Noise	Earthworks, vehicle and construction noise	Airborne pathway	<ul style="list-style-type: none"> <li>Maintain manufacturers noise suppression equipment (e.g. mufflers).</li> <li>Equipment regularly serviced and maintained.</li> <li>Works will be carried out in accordance with Australian Standard AS2436-1981 "Guide to Noise Control on Construction, Maintenance and Demolition Sites".</li> <li>Noise, vibration and artificial light awareness training shall be delivered to all personnel as part of the induction process.</li> </ul>
Light	Machinery, plant lighting	Airbourne pathway	<ul style="list-style-type: none"> <li>Most construction to occur within daylight hours.</li> <li>Noise, vibration and artificial light awareness training shall be delivered to all personnel.</li> <li>Lights, if required, will face inwards towards the proposal activities to reduce impacts to fauna.</li> </ul>
Sediment laden stormwater	Cleared areas	Overland flow, contingency overflow from sediment ponds	<ul style="list-style-type: none"> <li>Stormwater runoff management around cleared areas which may include temporary (construction) or permanent controls such as diversions, drains/bunds, cross drainage infrastructure.</li> <li>Diverted flows returned to original catchment downstream of infrastructure.</li> <li>Stormwater collection from cleared areas</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
			<p>within main mine / processing area (mine hub), treated in settling pond before reuse as process water or for dust suppression.</p> <ul style="list-style-type: none"> <li>• Sedimentation dams in mine hub area to settle out particulates before discharging during a 10% AEP event, also designed to contain the critical 20% AEP 20 minute storm event (first flush).</li> <li>• Excess water in sedimentation dams will only be discharged after passing through settling ponds and sediment traps.</li> <li>• Inspection of water containment structures to monitor available freeboard daily during rainfall events or if overflows occurring.</li> </ul>
Hydrocarbons	Spills or leaks from vehicles and mobile equipment	Direct emission to groundwater, contamination of stormwater discharging to surface water	<ul style="list-style-type: none"> <li>• HME workshop and maintenance facilities on impermeable foundation.</li> <li>• Absorbent materials, catch trays used under machinery likely to leak oil while servicing in the field workshop.</li> <li>• Surface water management infrastructure as in SWMP.</li> <li>• Stored and handled according to the <i>Dangerous Goods Safety Act 2004</i>, <i>Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007</i> and <i>Dangerous Goods Safety (Explosives) Regulations 2007</i>.</li> <li>• Regular inspection of bunded areas to ensure capacity is maintained.</li> <li>• Workshop and washdown effluents will report to a central oil/water interceptor/separator.</li> <li>• Spills will be cleaned up and disposed of as per appropriate SDS, relevant environmental and safety guidelines and the site environmental procedure.</li> <li>• Spill response training shall be delivered to all personnel as part of the induction process.</li> </ul>
<b>Commissioning and Operation</b>			
Dust	Loading of ore, crushing of material, vehicle movements, lift-off from stockpiles and/or stored or	Air / windborne pathway	<ul style="list-style-type: none"> <li>• Water carts will dampen work areas and surface mining equipment running tracks.</li> <li>• Water spray systems tested during commissioning.</li> <li>• Feed material will be conditioned by water</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
	transported product.		<p>cart prior to being fed into the mobile plant, as required.</p> <ul style="list-style-type: none"> <li>• Operate dust suppression systems (hoses and spray bars) on strategic points of the Processing Plant equipment to dampen material as required.</li> <li>• Water sprays on stockpiles as required.</li> <li>• Routine maintenance and housekeeping practices to prevent dust build up.</li> <li>• Visual monitoring for generation of dust.</li> <li>• An assessment/inspection each work shift of the potential for dust generation, considering the nature of activities and predicted weather conditions.</li> <li>• If visible dust emissions are noted outside of the prescribed activity area, an assessment of the source will be made and additional water or alternative treatments will be applied to key source areas.</li> <li>• Shut down of plant if dust originating from the Processing Plant or MCS plant are generating negative impacts off-site due to wind conditions.</li> </ul>
Noise	Vehicle movements, pumps, generators, crushing/screening	Airborne pathway	<ul style="list-style-type: none"> <li>• Maintain manufacturers noise suppression equipment (e.g. mufflers).</li> <li>• Equipment regularly serviced and maintained.</li> <li>• Works will be carried out in accordance with the <i>Environmental Protection (Noise) Regulations 1997</i> (WA).</li> <li>• The WWTP units will be enclosed.</li> <li>• Noise, vibration and artificial light awareness training shall be delivered to all personnel.</li> <li>• Nearest Ghost Bat cave is more than 1 km from fixed processing plant.</li> </ul>
Light	Mobile equipment, processing plants	Direct incidence	<ul style="list-style-type: none"> <li>• If required, plant lights will face inwards towards the processing plant to reduce impacts to fauna.</li> <li>• Noise, vibration and artificial light awareness training shall be delivered to all personnel.</li> </ul>
Sediment laden	Cleared areas	Runoff	Controls as for construction.

Emission	Sources	Potential pathways	Proposed controls
stormwater			
Spillage or leakage of raw sewage, treated effluent and RO wastewater	Spills, leaks	Direct discharge, runoff	<ul style="list-style-type: none"> <li>The WWTP will be installed on compacted ground with earthen bund around perimeter.</li> <li>The WWTP is installed with systems to monitor the tank volume levels, and an alarm system to notify the operator of high-risk volumes.</li> <li>Components of the WWTP will be regularly inspected.</li> <li>Pipelines will be visually monitored for leaks weekly.</li> <li>WWTP tanks will be water-tested with raw water.</li> </ul>
Irrigation of treated sewage effluent and RO wastewater	WWTP	Direct discharge	<ul style="list-style-type: none"> <li>Off the shelf reactor style WWTP installed to manufacturers specifications.</li> <li>Spray field sized to meet nutrient loading limits specified in Water Quality Protection Note 22.</li> <li>Wastewater will be evenly distributed over the irrigation area to prevent pooling and soil erosion.</li> <li>Spray field irrigation will be designed so run-off, spray drift or other discharge does not occur beyond the boundary of the designated irrigation area.</li> <li>Spray field inspected weekly to ensure no visible runoff.</li> </ul>
WWTP chemicals	Storage areas and pipelines	Spills or leaks contaminating soil or groundwater	<ul style="list-style-type: none"> <li>Surface water management infrastructure as in SWMP.</li> <li>Chemical storage areas will be bunded with a containment capacity equivalent to 110% of the capacity of any tank and 25% of the total capacity of an interlinked system.</li> <li>Regular inspection of bunded areas to ensure capacity is maintained.</li> <li>Spills will be cleaned up and disposed of as per appropriate SDS, relevant environmental and safety guidelines and the site environmental procedure.</li> <li>Spill response training shall be delivered to all personnel as part of the induction process.</li> </ul>
Odour	WWTP	Airborne	<ul style="list-style-type: none"> <li>WWTP units maintained in accordance</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
		pathway	with the manufacturer's specifications. <ul style="list-style-type: none"> <li>Regular checks for any odours outside of the WWTP.</li> </ul>
Hydrocarbons	Vehicles, mobile equipment	Spills or leaks contaminating soil or groundwater	<ul style="list-style-type: none"> <li>Controls as listed under construction.</li> </ul>

### 3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the delegated officer has excluded the applicant's employees, visitors, and contractors from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 3 and Figure 6 and Figure 7 below provide a summary of potential environmental receptors that may be impacted by activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental Siting* (DWER 2020)).

**Table 3: Sensitive human and environmental receptors and distance from prescribed activity**

Environmental receptors	Distance from prescribed activity
Native vegetation	Within the premises including the irrigation spray field
Threatened and/or priority fauna Confirmed: <ul style="list-style-type: none"> <li>Western Pebble-mound Mouse (<i>Pseudomys chapmani</i>; P4)</li> <li>Fork-tailed Swift (<i>Apus pacificus</i>; Migratory)</li> </ul> Likely to occur in the Proposal area: <ul style="list-style-type: none"> <li>Ghost Bat (<i>Macroderma gigas</i>)</li> <li>Northern Quoll (<i>Dasyurus hallucatus</i>)</li> <li>Pilbara Olive Python (<i>Liasis olivaceus barroni</i>)</li> <li>Gane's Blind Snake (<i>Anilius ganei</i>)</li> <li>Pilbara Barking Gecko (<i>Underwoodisaurus seorsus</i>)</li> <li>Grey Falcon (<i>Falco hypoleucos</i>)</li> <li>Peregrine Falcon (<i>Falco peregrinus</i>)</li> </ul>	Within the premises
Threatened and/or priority flora <ul style="list-style-type: none"> <li><i>Aristida jerichoensis</i> var. <i>subspinulifera</i> (P3)</li> <li><i>Aristida lazaridis</i> (P3)</li> <li><i>Corchorus</i> sp. (Potentially undescribed)</li> <li><i>Eremophila naaykensis</i> (P3)</li> <li><i>Euphorbia ferdinandi</i> s. lat. (Potentially undescribed)</li> <li><i>Hibiscus</i> sp. Gurinbidy Range (M.E. Trudgen MET 15708) (P2)</li> </ul>	Within and adjacent to the premises
Potable groundwater - Pilbara groundwater area	Underlying the premises

Environmental receptors	Distance from prescribed activity
Groundwater depth under the WWTP is approximately 36 to 48 m below ground level.	
<p>Surface water:</p> <p>The premises is within the Pilbara surface water area. The premises is in the catchment of Mine Creek (ephemeral) which drains north into Marillana Creek, which flows into Weeli Wolli Creek and eventually transitions to a channel with an alluvial fan floodplain before discharging to the Fortescue Marsh situated approximately 100 km downstream of the premises.</p>	Across and downstream of the premises

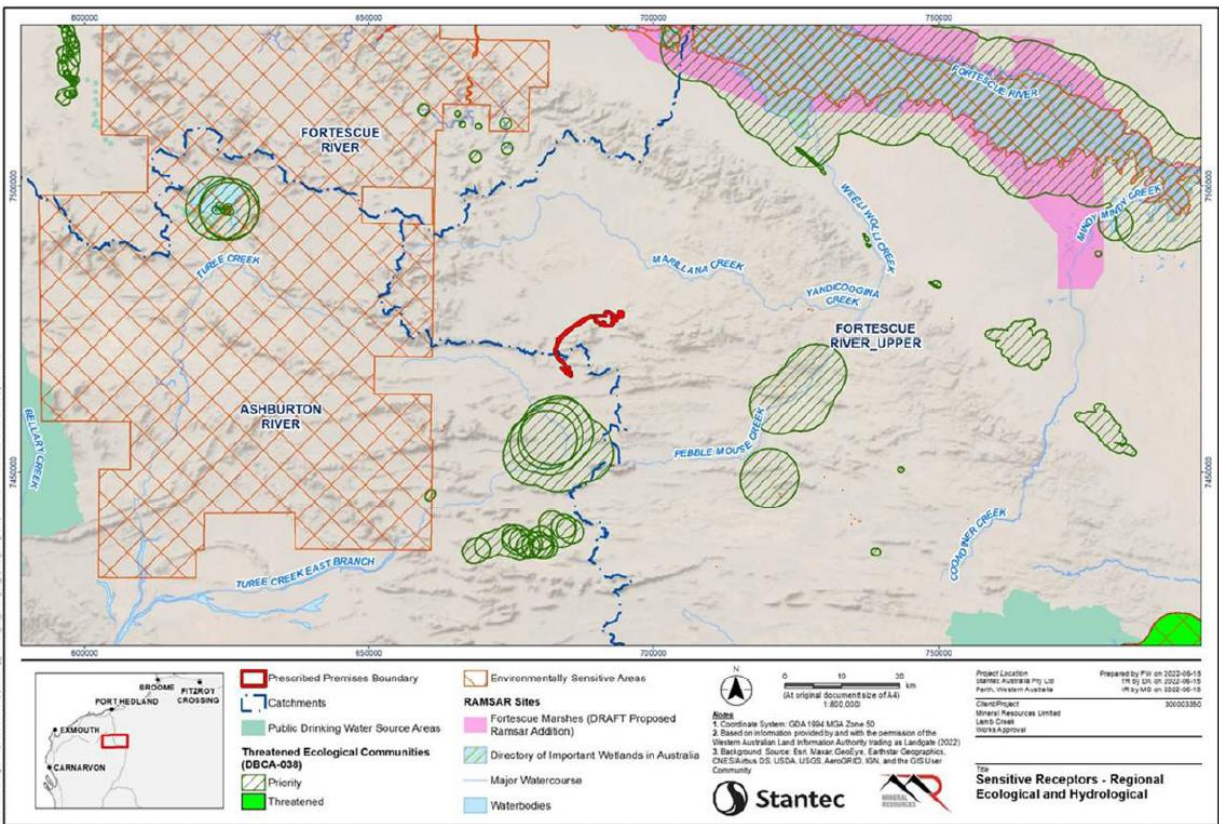


Figure 6: Distance to offsite potential receptors

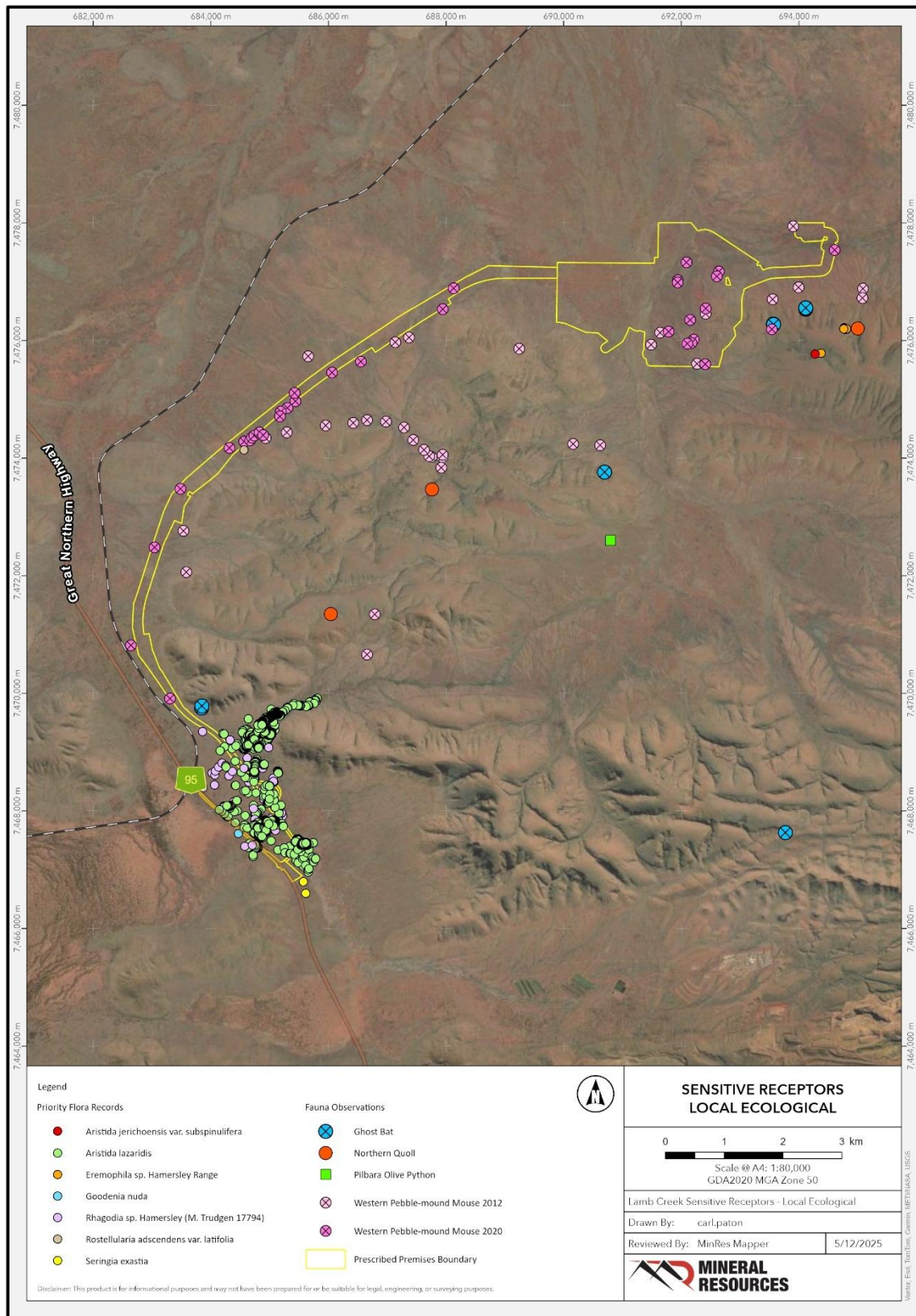


Figure 7: Identified priority flora and fauna locations

## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete 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 4.

Works approval W3132/2025/1 that accompanies this decision report authorises construction, commissioning and time-limited operations. The conditions in the issued works approval, as outlined in Table 4 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

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

**Table 4: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation**

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
<b>Construction</b>								
Site preparation earthworks, assembly / installation of fixed and mobile crushing and screening plants, dewatering pipelines and water storages, wastewater treatment plant.	Noise	<b>Pathway:</b> Airborne pathway <b>Impact:</b> Significant disruption of fauna behaviour	Fauna including threatened species	Refer to Section 3.1.1	C = Minor L = Rare <b>Low Risk</b>	Y	N/A	N/A
	Dust from earthworks, vehicle movements	<b>Pathway:</b> Air/windborne pathway <b>Impact:</b> Reduced vegetation health	Native vegetation, including priority flora	Refer to Section 3.1.1	C = Slight L = Possible <b>Low Risk</b>	Y	N/A	N/A
	Light	<b>Pathway:</b> Direct incidence <b>Impact:</b> Significant disruption of fauna behaviour	Fauna including threatened species	Refer to Section 3.1.1	C = Minor L = Rare <b>Low Risk</b>	Y	N/A	N/A
	Stormwater containing hydrocarbons from spills and leaks, and sediment from earth moving activities	<b>Pathway:</b> Direct discharge, overland flow <b>Impact:</b> Contamination of surface water, soils and/or groundwater with hydrocarbons, or increased sediment, erosion due to water velocity	Surface water ecosystems, soils and/or groundwater	Refer to Section 3.1.1	C = Minor L = Rare <b>Low Risk</b>	Y	N/A	N/A

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
<b>Commissioning</b>								
Commissioning of WWTP and spray field	Irrigation of treated sewage (elevated N, P)	<b>Pathway:</b> Surface runoff, infiltration <b>Impact:</b> Contamination of surface water, changes to vegetation assemblage including weed spread	Native vegetation, surface water, groundwater	Refer to Section 3.1.1	C = Minor L = Unlikely <b>Medium Risk</b>	N	Condition 1 – construction requirements ( <b>minimum irrigation area specified</b> ) Condition 5 – commissioning requirements Condition 6 – commissioning discharge authority Condition 7 – commissioning monitoring	Larger minimum spray area required for assessed plant capacity (100 m <sup>3</sup> /day) Refer to section 3.3.1
	Irrigation of treated RO backwash and brine brackish	<b>Pathway:</b> Direct incidence to soil and vegetation, surface runoff <b>Impact:</b> Contamination of soil or water; impacts to vegetation health, change in vegetation assemblage	Soil, native vegetation, surface water	Refer to Section 3.1.1	C = Minor L = Possible <b>Medium Risk</b>	N	Condition 1 – construction requirements Condition 5 – commissioning requirements Condition 6 – commissioning discharge authority <b>Condition 7 – commissioning monitoring</b>	Monthly photo monitoring to establish baseline vegetation condition Refer to section 3.3.1 and 3.3.2.
<b>Operation</b>								
<b>Category 5 and 12:</b> Crushing and screening, unloading, loading and storage of ore (cat 5) and other extracted materials (cat 12); vehicle movements	Dust from stockpiles, material transfer points, conveyers, mobile fleet	<b>Pathway:</b> Air/windborne pathway <b>Impact:</b> Vegetation health	Surrounding vegetation	Refer to Section 3.1.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1 – construction requirements Condition 13 – TLO operational requirements	N/A
	Noise	<b>Pathway:</b> Air/windborne pathway <b>Impact:</b>	Fauna including threatened species	Refer to Section 3.1.1	C = Minor L = Rare <b>Low Risk</b>	N	N/A	N/A

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		Significant disruption of key fauna behaviours						
	Light	<b>Pathway:</b> Direct incidence <b>Impact:</b> Interruption of fauna behaviour	Fauna including threatened species	Refer to Section 3.1.1	C = Moderate L = Rare <b>Medium Risk</b>	Y	Condition 1 – construction requirements Condition 13 – TLO operational requirements	Threatened species including bats may be impacted by artificial light.
	Sediment laden stormwater	<b>Pathway:</b> Overland runoff <b>Impact:</b> Impact to surface water quality and ecosystem function	Surface water ecosystems	Refer to Section 3.1.1	C = Minor L = Possible <b>Medium Risk</b>	Y	Condition 1 – construction requirements Condition 13 – TLO operational requirements	N/A
<b>Category 54:</b> WWTP	Spillage or leakage of chemicals stored in the WWTP	<b>Pathway:</b> Direct incidence, surface runoff, seepage <b>Impact:</b> Contamination of soil or water; impacts to vegetation	Soil, native vegetation, surface water, groundwater	Refer to Section 3.1.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Condition 1 – construction requirements Condition 13 – TLO operational requirements	N/A
	Spillage and leakage of raw sewage, sludge, biosolids, treated effluent or RO wastewater							
<b>Category 54:</b> Irrigation spray field	Irrigation of treated sewage (elevated N, P)	<b>Pathway:</b> Surface runoff, infiltration <b>Impact:</b> Contamination of surface water; changes to vegetation assemblage including weed	Native vegetation, surface water, groundwater	Refer to Section 3.1.1	C = Minor L = Possible <b>Medium Risk</b>	N	Condition 1 – construction requirements ( <b>minimum irrigation area specified</b> ) Condition 13 – TLO operational requirements Condition 14 – TLO discharge authority Condition 15 – TLO	Refer to section 3.3.1

Risk events					Risk rating <sup>1</sup> C = consequence L = likelihood	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
		spread					monitoring	
	Irrigation of treated RO backwash and brine brackish)	<b>Pathway:</b> Direct incidence to soil and vegetation, surface runoff <b>Impact:</b> Contamination of soil or water; impacts to vegetation health	Soil, native vegetation, surface water	Refer to Section 3.1.1	C = Moderate L = Possible <b>Medium Risk</b>	N	Condition 1 – construction requirements Condition 13 – TLO operational requirements Condition 14 – TLO discharge authority <b><u>Condition 15 – TLO monitoring</u></b>	Refer to section 3.3.1 and 3.3.2. Photo vegetation monitoring required to determine if there are impacts to vegetation.
<b>Category 6:</b> Failure of dewatering pipeline	Mine dewater (neutral to slightly alkaline, generally less than 800µS/cm).	<b>Pathway:</b> Catastrophic failure of pipeline <b>Impact:</b> erosion of soil	Soil, native vegetation in the immediate vicinity	Refer to Section 3.1.1	C = Slight L = Possible <b>Low Risk</b>	Y	N/A	N/A
<b>Category 6:</b> Storage of mine dewater	Mine dewater	<b>Pathway:</b> Seepage <b>Impact:</b> Groundwater mounding	Vegetation	N/A	C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 1 – construction requirements	N/A
<b>Contingency discharge of stormwater which may include mine dewater</b>	Stormwater with potential contaminants including sediment and hydrocarbons	<b>Pathway:</b> Direct discharge to drainage line <b>Impact:</b> disruption of aquatic ecosystems	Surface water, vegetation	Refer to Section 3.1.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 15 – monitoring during discharge	Controls for hydrocarbon are reasonable. The risk is low enough to not require hydrocarbon monitoring on discharge.

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

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

### 3.3 Detailed risk assessment for irrigation to spray field

The treated effluent from the wastewater treatment plant, combined with reverse osmosis plant (RO) backwash and brine is proposed to be irrigated to the irrigation spray field.

#### 3.3.1 Nutrient loadings

Maximum loadings (kg/ha/yr) of nitrogen and phosphorus have been calculated in accordance with Water Quality Protection Note 22 (Department of Water 2008) (WQPN22). The delegated officer notes that WQPN22 is intended for crop irrigation and not native vegetation, however given the size of the WWTP and distance to watercourses, this is considered an adequate reference.

The soils in the proposed spray field area are fine grained red shallow loams and indicated to be strongly phosphorus absorbing. The spray field is not within 500 m of any surface waters, therefore under WQPN22 the risk category is D.

The applicant calculated a minimum irrigation area of 2.19 ha based on nitrogen loading limits in WQPN22 for the expected throughput of 75 m<sup>3</sup>/day, with small amounts of additional nutrients from the RO backwash and RO reject waste streams. However, as this risk assessment is for plant capacity up to 100 m<sup>3</sup>/day of raw sewage, the minimum spray field size calculated under WQPN22 for that capacity would be 2.76 ha.

The applicant has stated that spray field irrigation will be designed so run-off, spray drift or other discharge does not occur beyond the boundary of the designated irrigation area, and wastewater will be evenly distributed over the irrigation area to prevent pooling and soil erosion.

Increased nutrient loads could alter the existing vegetation assemblage in favour of non-native weed species.

The delegated officer considers that during operation, **minor** consequences (low level onsite impacts) are **possible**. This gives a risk rating of **medium**.

During commissioning there may be a higher chance of target exceedances but over a short duration. The delegated officer considers that during operation, **minor** consequences (low level onsite impacts) are **unlikely**. This gives a risk rating of **medium**.

#### 3.3.2 Salinity

The RO reject (brine) has a salinity of up to 3,500 mg/L. Once mixed with the treated effluent (which includes RO backwash), the irrigation water is expected to be brackish with a TDS of approximately 2000-2500 mg/L. Irrigation of this water to native vegetation in the spray field may impact soil and the health of vegetation sensitive to salinity.

There is no known research relating to the application of brackish water to this specific vegetation association. The applicant has advised that visual monitoring of vegetation health in the WWTP irrigation area at their Mount Marion Operation has not shown any adverse impacts from irrigation of water of similar water quality. However, it is also noted that the soils at Mount Marion are naturally sodic and the vegetation is adapted to higher salinities.

Impacts of saline water on vegetation may include osmotic stress and nutrient imbalances, leading to reduced plant vigour and a change in vegetation community structure toward more salt tolerant species.

Due to the high level of uncertainty around the susceptibility of the spray field vegetation to brackish water, the delegated officer considers that **moderate** consequences (mid-level onsite impacts) are **possible**. This gives a risk rating of **Medium**.

During the shorter period of commissioning, the delegated officer considers that **minor** consequences (low level onsite impacts) are **possible**. This gives a risk rating of **Medium**.

## 4. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

**Table 5: Consultation**

Consultation method	Comments received	Department response
Application advertised on the department's website on 25 August 2025	None	N/A
Local Government Authority (Shire of East Pilbara) advised of proposal on 25 August 2025.	None	N/A
Comment sought from Department of Mines, Petroleum and Exploration (DMPE) regarding proposal on 25 August 2025	DMPE replied on 27 August 2025 with a copy of the submitted Mining Proposal. Response confirmed that categories 5, 6, 12, 56 are included in the Mining Proposal which is under assessment. DMPE does not have any concerns that are likely to impact DWER's assessment.	Noted.
Banjima Native Title Aboriginal Corporation was advised of proposal on 25 August 2025.	None	
Applicant was provided with draft documents on 25 November 2025.	Refer to Appendix 1	Refer to Appendix 1

## 5. Conclusion

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

## References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Western Australia.
2. Department of Water 2008, *Water Quality Protection Note 22 - Irrigation with nutrient-rich wastewater*, Western Australia
3. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Western Australia.
4. DWER 2020, *Guideline: Risk Assessments*, Western Australia.
5. Environmental Protection Authority 2025, <https://www.epa.wa.gov.au/proposals/lamb-creek-iron-ore-project>, accessed 20 November 2025.

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

Comments on draft instrument		
Condition	Summary of applicant's comment	Department's response
Cover page	Query if category 54 design capacity should be 125 m <sup>3</sup> /day to include reverse osmosis inputs.	The design capacity for category 54 is based on sewage processing capacity. Text added to clarify - <i>100 m<sup>3</sup> per day of sewage (up to 25 m<sup>3</sup>/day of RO backwash additional)</i>
1 (construction) and 13 (TLO); infrastructure item 1 (fixed processing plant)	Requesting more flexibility in location descriptor to allow for changes in location and shape of area. Proposed 'indicative location' descriptor.	The delegated officer is satisfied that minor changes to the location do not change the risk but does not accept the proposed wording. Change partially accepted with 'approximate location' descriptor.
1; infrastructure item 3 (MCS plant) point e.	Changes requested for stormwater management around mobile plants when used outside the main mining area.	Changes are consistent with the application – accepted.
1; infrastructure item 6 (WWTP) points a and b	WWTP to be installed on 'compacted selected fill' rather than 'hardstand' for clarity.	Clarification accepted.
1; infrastructure item 6 (WWTP) points (a) (c)	Revise total nitrogen from <20 mg/L to <30 mg/L – this is consistent with the updated spray field size calculations provided on 28/8/25.	List numbering amended for clarity – this is now point (a) (iii).  Yes the minimum spray field calculation was based on <30 mg/L. Updated.
1; infrastructure item 7 (sprayfield) point (g)(b)	Typing error in spray field size – inconsistent with decision report.	List numbering amended for clarity – this is now point (a) (ii).  Error corrected. 2.76ha is calculated minimum spray field size.
7	Delete SAR and EC from Table 4 as there are no limits specified.	Although there are no limits specified, this monitoring was committed to in the application and these parameters will provide data that will inform the licence assessment. Monitoring requirements for SAR and EC are retained.
7	Requesting vegetation photo	Accepted.

Comments on draft instrument		
Condition	Summary of applicant's comment	Department's response
	monitoring reduced from weekly to monthly during commissioning (up to 6 months)	
11	Query whether the joiner between clause (a) and (b) should be 'or' rather than 'and'.	This is a standard condition wording used by the department. The applicant may commence TLO for infrastructure items without commissioning in accordance with clause (a), and infrastructure items with commissioning under clause (b).
13; infrastructure item 2 (MCS plant)	Rewording to PAF material management measures not PAF management plan because PAF management is within the waste rock management plan, not a standalone PAF management plan.  Rewording of stormwater management condition, removing need for a sediment pond as these will not be available outside the main processing area.	Accepted.
13; infrastructure item 4 (settlement pond spillways)	Daily freeboard requirement only if raining of actively overflowing.	Accepted.
15; irrigation spray field.	Delete SAR and EC from Table 4 as there are no limits specified.	Although there are no limits specified, monitoring of these parameters was committed to in the works approval application and provides data that will inform the licence assessment. Monitoring requirements for SAR and EC are retained.
	Request TSS, TDS, TN, TP monthly instead of weekly (following weekly monitoring during commissioning).	The frequencies in the draft works approval were those proposed in the works approval application. However monthly is acceptable.
	Requesting to report on overflow status of each pond only, rather than discharge volume.	Acknowledging that this water will be mostly stormwater, this is accepted. The delegated officer notes that once a licence is issued for the premises, the volume of mine dewater discharged to the stormwater system and subsequently the discharge points will need to be estimated for licence fee submissions.

Comments on decision report		
Section	Summary of applicant's comment	Department's response
2.2.2 – 4 <sup>th</sup> paragraph	If mine water storages are full, water may be <b>transferred</b> between containment facilities within the premises, including to sediment ponds  Replace the word 'piped' with 'transferred' to give flexibility.	Accepted.
2.2.3 – 2 <sup>nd</sup> paragraph	Status update - AS-0176 v1.00 issued by DMPE on 28 November 2025.	Updated.
2.2.4 – Table 1	Total Nitrogen effluent value updated to <30mg/L	Updated. This is the updated figure that the minimum spray field area was calculated on.
2.2.4 – 1 <sup>st</sup> and 2 <sup>nd</sup> paragraph below Table 1	Reworded duplication of the same content.	Agreed. Second paragraph removed.
2.4 – 1 <sup>st</sup> paragraph	Status update - EPBC 2023/09754 issued on 19 November 2025.	Updated
3.1.1 – Table 2	Revisions to stormwater management controls to differentiate between measures and infrastructure at the main processing area and the mobile crushing units.	Accepted proposed controls for construction and operation. Consistent with application.
Figure 7	Higher quality image attached	Updated.
Table 4	Photo monitoring of vegetation requested monthly rather than weekly during commissioning.	Accepted that this is likely to be adequate.