Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

Application for Licence

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

Licence Number	L3000/2025/1
Licence Holder	Tyrecycle Pty Ltd
ACN	085 545 053
Application number	APP-0029553
Premises	Tyrecycle Wedgefield 22 Moorambine Street WEDGEFIELD WA 6721 Lot 100 on Deposited Plan 61456 As defined by the coordinates in Schedule 2 of the licence
Date of report	6 October 2025
Decision	Licence 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 operation of the premises. As a result of this assessment licence L3000/2025/1 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 12 June 2025, Tyrecycle Pty Ltd (the applicant) submitted an application for a licence to the department under section 57 of the *Environmental Protection Act 1986* (EP Act). The application is for the operation of a Category 57 used tyre storage and Category 61A solid waste facility to allow for the reprocessing of used tyres and conveyor belts to recover the rubber and steel components. The premises is located in Wedgefield, approximately 6 km south of the town of Port Hedland. The premises was constructed under works approval W6821/2023/1, commissioning has been completed and time limited operations commenced on 5 February 2025.

The Tyrecycle facility at Wedgefield is expected to receive and process approximately 60-70 large mining tyres and conveyor belts per day which will be cut into 60 – 70kg pieces. The pieces will then be transported to Tyrecycle's Rockingham facility licensed under L9448/2024/1.

Conveyor belts will be spooled onto large, upright, metal framed cradles at the originating premises then transported and stored on these cradles at the Tyrecycle premises. Tyres and cradles of conveyor belts will be stored in the yard in eight stacks on the western side of the proposed purpose-built dome structure. The dome is constructed of Colourbond steel walls and roller doors and Armourtex fabric sheeting for the roof. The process of cutting tyres and conveyor belts at Wedgefield will be carried out inside the dome shelter. Two fixed plant systems are installed: the MT Raptor to initially separate the steel bead from the tyre walls, and the MT Rex to cut the tyre walls off and reduce the rubber tyres and belts into the 60 – 70 kg pieces.

The rubber pieces will be loaded directly into trucks to provide temporary storage on site before being transported offsite for further processing. Given the premises will operate 24 hours per day, it is anticipated three trucks will be filled each day. Waste steel from the tyres and conveyor belts will be collected by a local recycling company.

The premises relates to the categories and assessed production capacities under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in licence L3000/2025/1 and Table 1 below. 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 licence L3000/2025/1.

Table 1: Approved production capacity

Category	Approved production capacity
Category 57 Used tyre storage (general): premises (other than premises within category 56) on which used tyres are stored.	48 tyres at any one time
Category 61A Solid waste facility: premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land.	12,000 tonnes per annum of used tyres or conveyor belts

The proposed activities will be carried out as per the following schedule:

- Trading and delivery hours will be from 4:00 am to 8:00 pm, Monday to Friday and weekends where required;
- Fixed plant will operate 24 hours per day;
- A-double trucks will deliver whole tyres to the site;
- Semi-trailers will collect the cut pieces of tyres from the site; and
- Rigid trucks will collect steel bead from the site.

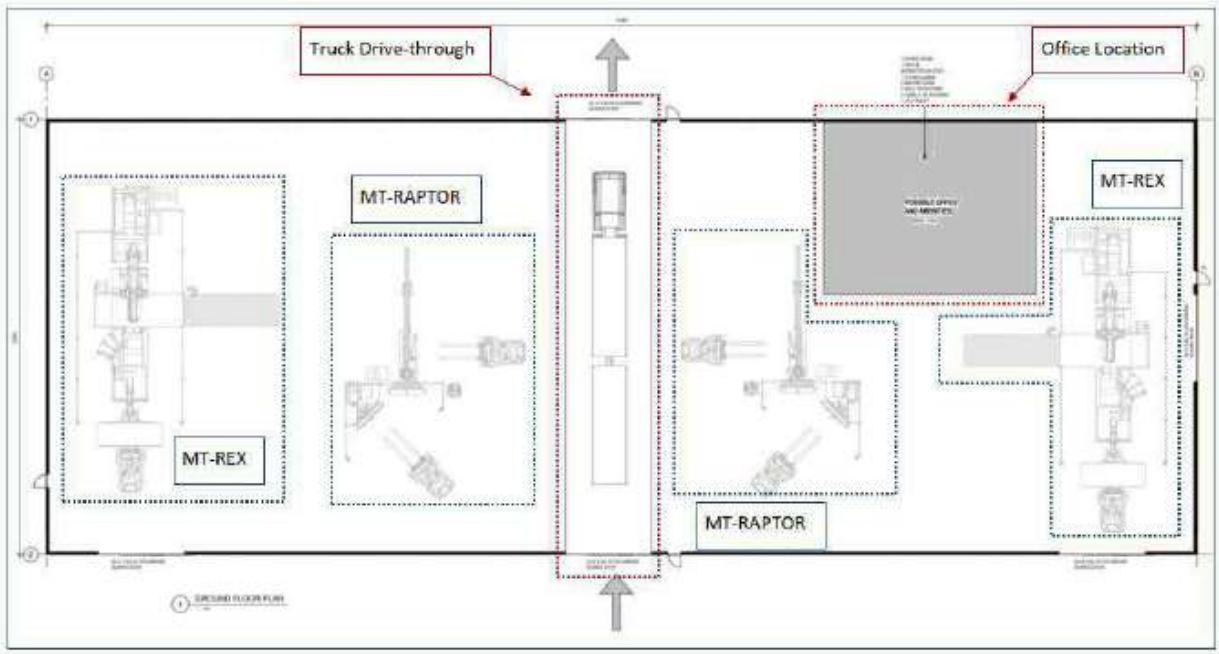


Figure 1: Proposed current and future internal layout of the dome shelter

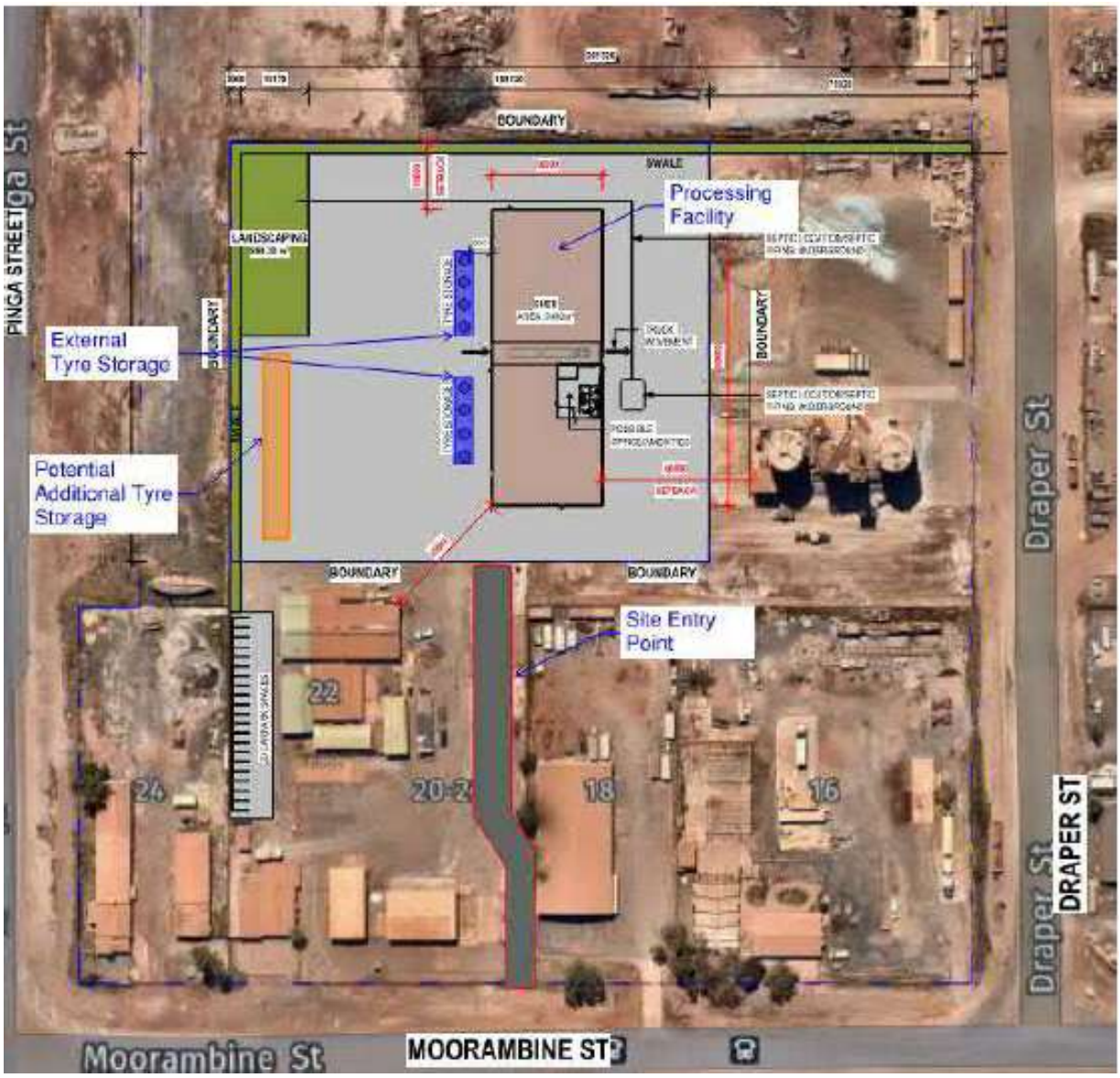


Figure 2: Premises layout plan

2.3 Stormwater and firewater containment

The premises is naturally graded to the north west corner where an existing swale currently enables infiltration of stormwater for disposal. This swale has been expanded by design to retain a volume of uncontaminated stormwater equivalent to a one in five-year ARI rainfall event with a 6 minute duration, in accordance with local government requirements. The applicant has designed the premises to ensure stormwater is prevented from infiltrating within the active yard areas and instead is directed to the north west corner of the premises, gravity fed through shut-off valves and into the existing swale for infiltration. The stormwater swale is located outside the firewater retention walls, yet within the premises boundary.

For storm events greater than a 1 in 5-year storm, uncontaminated stormwater is anticipated to overflow to the floodplains to the northeast of the site.

The applicant has calculated the volume of firefighting water required in the event of a fire to be 432,000 litres. Based on this calculation, the applicant has designed the fire prevention system in accordance with the *Guidance Note: GN02 Bulk Storage of Rubber Tyres Including Shredded and Crumbed Tyres* (DFES 2020) to deliver this volume of firefighting water and retain it, once contaminated, within the hardstand yard area which is impermeable to $\leq 1 \times 10^{-9}$ m/sec.

The extent of the hardstand area within the premises that will be inundated by firewater is outlined in Figure 3 below.

An asphalt bund wall has been installed along the northern and western boundary of the hardstand area. The asphalt bund is impermeable to ≤1x10^{-9} m/sec and built to ensure the 432,000 litres of firewater is retained within the impermeable hardstand area. This bund is located in front of the swale walls and acts as a barrier to prevent firewater from coming into contact with the stormwater swale walls.

Stormwater drains connect the inundation zone within the hardstand area to the swales and will remain open during normal operation to allow stormwater to exit via gravity feed out of the hardstand area into the swales for disposal.

Electronic shut-off valves are fitted to the stormwater drains that will automatically close during fire events to isolate the stormwater drainage lines and prevent firewater entering the stormwater swales located along the north and western boundary of the premises. The electronic shut-off valves will be controlled by the electronic fire detection system that will be installed as part of the development of this facility.

Furthermore, a concrete hump has been constructed along the eastern and southern boundaries of the hardstand area; and will act as a bund to contain the firewater and prevent offsite movement to the neighbouring premises. This hump will not contain any shut-off valves as the sole purpose is to prevent off-site movement of stormwater and firewater.

Contaminated firewater will be disposed of offsite by a licensed contractor.

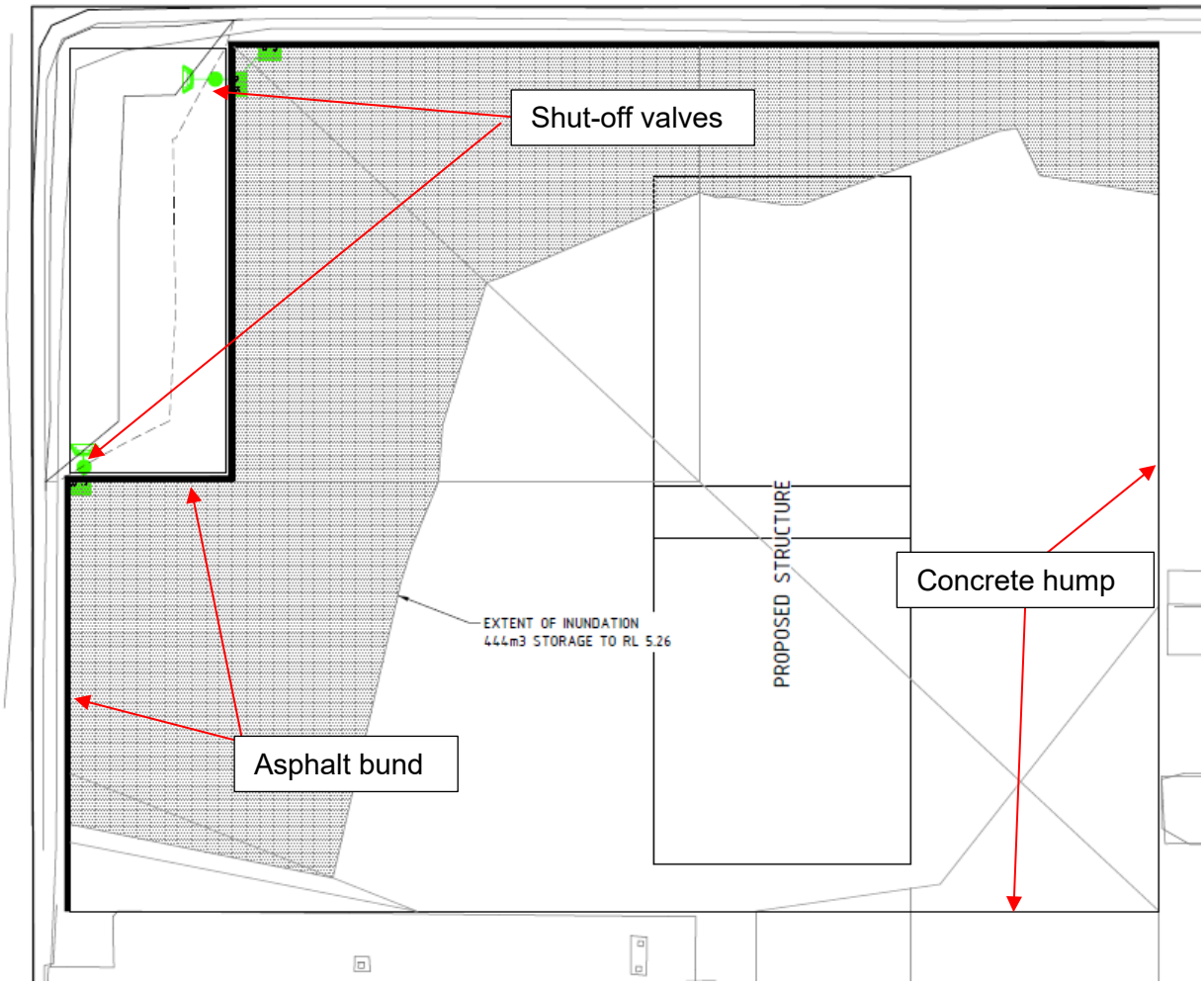
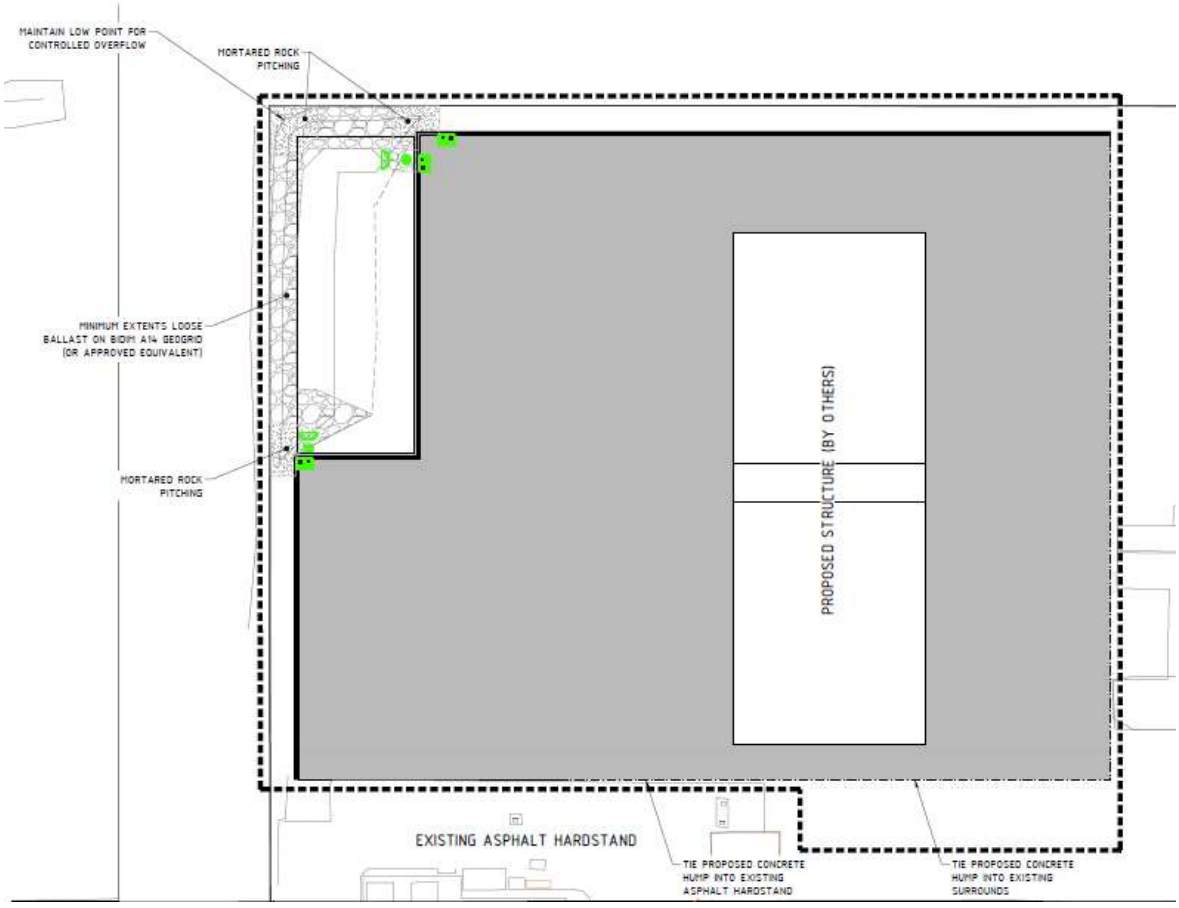


Figure 3: Extent of inundation of the premises with contaminated firewater



2.4 Noise assessment report

To support the proposed shredding plant the applicant commissioned a consultant to undertake a Noise Assessment report. The report identified there are no noise sensitive receptors present in the vicinity, with a caretaker residence located on the remainder of Lot 100 Moorambine Street. The assigned noise levels applicable at a caretaker residence are the same as industrial premises.

The assessment assumed minimum acoustic performance for the various elements of the building which will house the fixed plant. The louver openings on the northern and southern elevations have a sound transmission loss of 10 dB across the nominated frequencies. On the basis these louvres appear to be basic, architectural types, no significant noise attenuation is expected from such louvres as they are an opening in the external wall. The noise assessment report did not provide enough details to ascertain what the change in noise levels would be with the louvres providing no noise attenuation.

The consultant conducted subsequent noise modelling assessments using a performance of R_w 10dB and R_w 0dB Sound Transmission Loss to account for the effects of low frequency noise transmission through the louvre openings. This also included one indoor tyre recycling plant operating at 100%, one 12 tonne truck idling inside warehouse, all roller doors closed and no internal acoustic absorption treatment to walls and roof. A tonal penalty of +5 dB is applied to tyre recycling plant noise to account for potential tonal characteristics associated with the systems. Given this modelled scenario, the report concluded that noise levels are predicted to comply with the assigned limits at all surrounding industrial external locations.

Day-to-day building services L_{A10} operations noise levels are considered compliant when operated during daytime hours, 7.00am to 5.00pm Mondays to Fridays hence no mitigation is proposed. Where operations occur outside of these hours, compliance is also achieved by virtue of fixed limits applicable at industrial premises at all times of the day.

3. Risk assessment

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

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

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this 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

Sources	Emission	Potential pathways	Proposed controls
Operation			
Receipt, handling, storage and shredding of used tyres and conveyor belts	Dust	Air / wind dispersion	• Outside areas are bituminised hardstand. • Minimal dust generated from whole tyres and conveyor belts due to the large size of the cut pieces. • Tyre and conveyor belt processing will take place in an enclosed building. • Regular cleaning and housekeeping will be carried out.
	Noise	Air / wind dispersion	• The modelled scenarios comply with the L_{A10} assigned noise levels, when the roller doors are closed. • Further noise monitoring will be conducted during operations to determine the effectiveness of the louvres and overall compliance with the *Environmental Protection (Noise) Regulations 1997*. • Fixed plant to be inspected and serviced in accordance with manufacturer specifications. • All mobile equipment is to be inspected daily and serviced in accordance with each equipment's manufacturer recommended service schedule.

Sources	Emission	Potential pathways	Proposed controls
Receipt, handling, storage and shredding of used tyres and conveyor belts	Unauthorised fires – smoke and fire spread	Air / wind dispersion	Premises design based on DFES Guidance Note: GN02 Bulk Storage of Rubber Tyres Including Shredded and Crumbed Tyres, with the following exceptions, as reviewed by DFES: • tyres may be stored as close as 6 m from the dome structure, not the required 18 m. The dome is made from combustible materials and is expected to be lost in the event of a fire. The applicant undertook a fire safety risk assessment which determined there would be no consequence to occupant safety or fire brigade intervention. The only consequence was of a commercial nature by the loss of infrastructure, which the applicant was satisfied in accepting to enable all other aspects of operating to be achieved. • piles of tyre stacks and conveyor belt stacks are separated from other piles by a minimum of 6 m, not 18 m, as only three piles of tyre stacks will be stored at the premises at any one time. The heavy weight of the tyres and the square shaped cradle holding conveyor belts will naturally prevent a burning tyre or conveyor belt rolling into and igniting an adjacent stack. Installation of a fire hydrant system designed in compliance with AS2419.1-2005 and DFES guideline GN2 designed to operate 3 hydrants at 10 L/sec each (30 L/sec total) for a minimum of 4 hours. External tyre and conveyor belt storage: • Tyres and conveyor belts to be stored on a hardstand pad. • Conveyor belts to be stored in a cradle. • Tyre stacks are to be no more than 3.7m high with a maximum 12.5 tonnes of tyres in any single stack. • Stacks may be grouped together provided a separation distance between each stack of 2.5m is achieved, with each group not to exceed 50 tonnes.

Sources	Emission	Potential pathways	Proposed controls
			• A minimum of 6 m clear around each group of stacks shall be provided. • Stacks to be 18m away from combustible material and site boundaries, unless shielded by a non-combustible structure (i.e steel fence), except for the dome structure which may be located between 6-18m of the stacks. Internal tyre storage: • Limited to 4 whole tyres or 4 cradles of conveyor belts (2 on machines and 2 on floor awaiting reprocessing) at any one time. • Cut rubber to be stored within the delivery truck awaiting dispatch from site. Management controls: • Hot works (welding, grinding, oxygen cutting) to be undertaken in a planned manner with tyres moved away so they are no closer than 18 m during hot works events. • Electrical equipment shall be installed in accordance with AS3000, including AS61439 and will be tested and tagged in accordance with AS/NZS 3760:2010, with switchboards undergoing thermal graphic imagery scanning at least once a year to minimise the risk of faults and electrical fires. • Staff training to manage fire events. One person per shift trained in the use of the fire hose reel and portable fire extinguisher systems. To assist in early suppression prior to brigade arrival should a fire event occur. • As a minimum, one person per shift shall be available to move unburnt tyre stacks. • Fire systems shall be maintained in accordance with AS1851.
Receipt, handling, storage and shredding of used tyres	Contaminated firefighting water and/or stormwater	Overland flow Subsurface seepage	• Design based on *Guidance Note: GN02 Bulk Storage of Rubber Tyres Including Shredded and Crumbed Tyres* (DFES 2020). • Designed and constructed to retain

Sources	Emission	Potential pathways	Proposed controls
and conveyor belts			432,000 L of contaminated firefighting water within the hardstand yard area and asphalt bund walls of the premises which are both impermeable to ≤1x10^{-9} m/sec • The stormwater drainage system will contain automatic shut off valves connected to the fire detection system to close during fire events and retain contaminated firewater within the hardstand of the premises. • Contaminated firewater to be disposed of offsite by a licensed contractor.
Receipt, handling, storage and shredding of used tyres and conveyor belts	Uncontaminated stormwater	Overland flow Subsurface seepage	• The existing stormwater swale located at the north west corner has been expanded by design to retain uncontaminated stormwater equivalent to a one in five-year ARI with a 6 minute duration rainfall event. • The stormwater swale is located outside the firewater retention walls, yet within the premises boundary. • The stormwater drainage system will contain automatic shut off valves that will remain open during normal operations to enable uncontaminated stormwater to discharge to the swales. • For storm events greater than a 1 in 5-year storm, stormwater is expected to overflow to the floodplains to the north east of the site.
Receipt, handling, storage and shredding of used tyres and conveyor belts	Hydrocarbon spills during refuelling	Overland flow Subsurface seepage	• Mobile equipment will be refuelled by a scheduled mobile truck delivery. No fuel or diesel will be stored onsite. • Designated LPG storage areas onsite. Storage quantities do not exceed the threshold for dangerous goods licence requirements. • Minor quantities of grease and oil will be stored inside the dome in a designated storage area with appropriate bunding, for servicing and maintenance of the plant and equipment. • Spill kits will be available and staff trained for response.

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 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental Siting* (DWER 2020)).

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

Human receptors	**Distance from prescribed activity**
Residential premises	3.2 km south of premises boundary
Industrial premises	Immediately surrounding the premises.
Environmental receptors	**Distance from prescribed activity**
RIWI Act surface water areas	Within the Pilbara Surface Water Area
Hydrography	Major tributary located 830 m west of premises boundary
Threatened and priority fauna	There are four threatened and priority fauna within 1 km of the premises boundary, including: • one occurrence of *Ctenotus angusticeps,* a Priority 3 reptile; • four occurrences of *Chlidonias leucopterus,* a bird species of migratory importance; and • four occurrences of *Tringa glareola*, a bird species of migratory importance.

3.2 Risk ratings

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

Where the applicant has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the delegated officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence 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.

Licence L3000/2025/1 that accompanies this decision report authorises emissions associated with the operation of the premises.

The conditions in the issued licence, as outlined in Table 4 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 4: Risk assessment of potential emissions and discharges from the premises during operation

Risk events					Risk rating [1] C = consequence L = likelihood	Applicant controls sufficient?	Conditions [2] of licence	Justification for additional regulatory controls
Sources / activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicant controls**				
Operation								
Receipt, handling, storage and shredding of used tyres and conveyor belts	Dust	Air/windborne pathway causing impacts to health and amenity	Surrounding industrial receptors	See Section 3.1	C = Slight L = Unlikely **Low Risk**	Yes	Condition	N/A
	Noise	Air/windborne pathway causing impacts to health and amenity	Surrounding industrial receptors	See Section 3.1	C = Slight L = Unlikely **Low Risk**	Yes	Condition	The Delegated Officer notes the construction controls implemented by the applicant are modelled to meet the noise emission limits of the Noise Regs. Given the low risk that noise emissions pose, the Delegated Officer is satisfied no further regulatory control is required.
	Unauthorised fires – smoke and fire spread	Air/windborne pathway causing impacts to surrounding vegetation and fauna	Surrounding industrial receptors Residential receptors	See Section 3.1	C = Severe L = Unlikely **High Risk**	Yes	Condition	The Delegated Officer considers the controls proposed by the applicant are sufficient to prevent unauthorised fires occurring under most circumstances. As this risk is mitigated by adequate implementation of these applicant controls, the Delegated Officer shall enforce these controls via operational and maintenance conditions on the Licence.
	Contaminated firefighting water and/or stormwater	Overland flow Subsurface seepage Causing impacts to groundwater sources	Pilbara Surface Water Area	See Section 3.1	C = Moderate L = Unlikely **Medium Risk**	Yes	Condition	The Delegated Officer considers the controls proposed by the applicant are sufficient to prevent emissions of contaminated firefighting water and/or stormwater occurring under most circumstances. As this risk is mitigated by adequate implementation of these applicant controls, the Delegated Officer shall enforce these controls via operational and maintenance conditions on the Licence.
	Hydrocarbon spills during refueling	Overland flow Subsurface seepage Causing impacts to groundwater sources	Pilbara Surface Water Area	See Section 3.1	C = Slight L = Unlikely **Low Risk**	Yes	Condition	The Delegated Officer considers the controls proposed by the applicant are sufficient to prevent hydrocarbon spills occurring under most circumstances. As this risk is mitigated by adequate implementation of these applicant controls, the Delegated Officer shall enforce these controls via construction, operational and maintenance conditions on the Works Approval, and subsequent Licence.

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 the department.

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 (03/07/2025)	None	N/A
Application advertised in the West Australian (07/07/2025)	None	N/A
Local Government Authority advised of proposal (03/07/2025)	None	N/A
Applicant was provided with draft documents (20/08/2025)	See Appendix 1	See Appendix 1

5. Conclusion

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

References

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

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

<table>
<tr><th>Condition</th><th>Summary of applicant's comment</th><th>Department's response</th></tr>
<tr><td>Condition 2
Table 2</td><td>Delete the strike through text and reword as follows:
<table><tr><th>Waste Type</th><th>Rate at which waste is received</th><th>Acceptance specification</th></tr><tr><td>Inert Waste Type 1 (Tyres)</td><td>48 tyres at any one time</td><td>Whole, unburnt, off-the-road tyres</td></tr><tr><td>Inert Waste Type 1 (Tyres and Conveyor belts)</td><td>~~3,000~~ 12,000 tonnes per annum</td><td>Unburnt off-the-road tyres or conveyor belts</td></tr></table></td><td>Table 2 specifies the rates of acceptance for the two types of waste at the premises. Inert Waste Type 1 is limited to 48 tyres at any one time. Conveyor belts are limited to 3,000 tonnes per annum.

These two rates are differentiated within Table 2 due to the classification of each waste under the two different prescribed categories: Inert Waste Type 1 falls under Category 57 for used tyre storage, and conveyor belts fall under Category 61A for solid waste facilities.

These two waste receival rates are not combined until the used tyres are reprocessed, whereby the tonnage of cut tyre pieces are combined with the tonnage of cut conveyor belt pieces for the purpose of storage prior to transportation off site. Hence the assessed production capacity for Category 61A shown on page 1 of the licence being 12,000 tonnes per annum.

Condition wording retained.</td></tr>
<tr><td rowspan="2">Condition 3
Table 3</td><td>Correct typographical error: works approval holder to licence holder.
Correct cross referencing error: Table 3</td><td>Errors corrected</td></tr>
<tr><td>Delete the strike through text:</td><td>It is noted the conveyor belt cradles are a predetermined height, where the licence holder cannot modify this height to suit the specified</td></tr>
</table>

Condition	Summary of applicant's comment	Department's response
	'Tyres and conveyor belts stored in the yard must be: …(c) individual tyre stacks ~~or stacks of conveyor belt cradles~~ that do not exceed: (i) 3.7 metres in height; (ii) 12.5 tonnes in weight….'	storage limits. Storage limits were previously conditioned to mitigate the spread of fire should it occur, when tyres that are on fire become loose and roll thus spreading the fire. A conveyor belt cannot roll, thereby the risk is not present. The requirements of Table 3(d) provide sufficient regulation of the storage of conveyor belt cradles to mitigate the risk of fire. Condition modified as requested. Table 2 of the decision report has been modified to reflect this change.
	Delete the strike through text and reword as follows: 'Tyres and conveyor belts stored in the Dome structure are: …(c) short term storage prior to off-site transportation limited to 1 semi-trailer of reprocessed rubber pieces. ~~reprocessed rubber pieces are to be loaded into a transport truck for short term storage prior to immediate off site transportation~~…'	The proposed rewording strengthens the requirement of condition 3. Condition modified as requested.
Condition 9	Correct typographical error: works approval holder to licence holder.	Errors corrected