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	L9444/2024/1
Applicant	Matters Enterprises Pty Ltd Trading as RUBBERGEM
ACN	090 053 384
File number	DER2024/000271 & APP-0026144
Premises	Rubbergem 1228 & 1250 Rockingham Road (via Henry Street, off Hope Valley Road) Legal description Lot 18 and Lot 19 on Diagram 19020 Lot 18 Certificate of Title Volume 1193 Folio 623 Lot 19 Certificate of Title Volume 1838 Folio 629 As defined by the coordinates in Schedule 2 of the licence
Date of report	7 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 L9444/2024/1 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 2024, 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 to seek a licence relating to conveyor belt repurposing and storage at the premises. The premises is approximately 4.2 km north-northwest of Medina.

The premises relates to the category and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in licence L9444/2024/1. 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 licence L9444/2024/1.

Matters Enterprises Pty Ltd operates a conveyor belt repurposing facility at the premises. Used conveyor belts from the mining and industrial sectors are transported to the premises where they are unloaded, inspected and stored. Up to 20,000 tonnes of used conveyor belts are accepted on-site per annum and approximately 18,800 tonnes of finished product is produced per annum.

Existing on-site infrastructure includes loading crane equipment, office buildings, two water tanks, an equipment store and a workshop containing reprocessing equipment. The area within Lot 18 and the western half of Lot 19 (refer to Figure 7) is sealed hardstand; however, the ground within the eastern half of Lot 19 consists of compacted gravel.

Conveyor belts in good condition that meet requirements for repurposing are reprocessed, grooved and cut within the workshop using custom-built DairyGrip machinery. Conveyor belt reprocessing is mostly automated; however, some manual cleaning and cutting is required. The processed conveyor belts are re-used / sold as repurposed products (e.g. agricultural / industrial rubber flooring and mats), and the final product is stored within the open yard prior to redistribution.

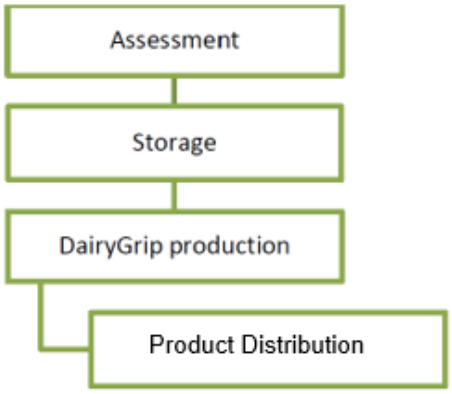

Figure 1: Overview of site operations

Conveyor belt reel off-cuts resulting from conveyor belt reprocessing will be stored in an on-site skip bin prior to removal to Rubbergem's Rockingham facility (for processing) or to an appropriately licensed landfill facility. Approximately 30 m^3 of legacy rubber crumb is also stored within a 20 ft sea container within the equipment store building. Up to 20,000 tonnes of used conveyor belts, conveyor belt reel off-cuts and final product will be stored in the open yard of the premises.

The applicant has been issued works approval W6783/2023/1 for a tyre recycling facility in Rockingham which is currently under construction and is a prescribed premises for category 57 (used tyre storage) and category 61A (solid waste) activities under works approval W6783/2023/1.

In the event that the Rockingham Rubbergem facility is permitted to commence time limited operations under works approval W6783/2023/1, the waste rubber generated from conveyor belt reprocessing at the Henry Street premises and conveyor belts that don't meet the requirements to enable reprocessing, will be transported to the Rockingham facility for further processing.

The amount of waste material stored at the Henry Street Rubbergem premises will gradually reduce during the transition period which is expected to commence in September 2025 and will continue for approximately 12 months. After this time, the Henry Street premises will continue to store and process conveyor belts; however, rubber crumb and shredded rubber will not be produced or stored on site once the Rockingham Rubbergem facility is operational.

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 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
Air particulates	Reprocessing conveyor belts	Air / windborne pathway	None proposed
Noise	Vehicle movements	Air / windborne pathway	Premises is within an industrial zoned area Site is accessible via major roads Truck route does not intercept residential areas Vehicle drivers instructed to avoid idling when facility is closed, to adhere to speed limits and to service / maintain vehicles to minimise noise emissions Site layout caters for truck ingress and egress Designated car bays for staff parking
	Conveyor belt reprocessing		Reprocessing is to occur within the workshop. Noise generated by reprocessing (DairyGrip) equipment does not involve grinding or shredding and is deemed by the applicant to be levels that will not result in impacts
Firefighting water	Fire event on the premises - ignition of stored conveyor belts, rubber crumb, conveyor belt reel off-cuts or reprocessed product	Seepage to soil and groundwater	Refer to section 3.3.3 on fire management
Fumes, particulate matter and smoke	Fire event on the premises	Air / windborne pathway	Refer to section 3.3.3 on fire management
Contaminated stormwater	Contaminated stormwater due to contact with stored material	Seepage to soil and groundwater	Used conveyor belts stored on hardstand areas No controls proposed to prevent stormwater entering site drainage system

3.1.2 Receptors

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

Table 2 and Figure 2 below provide a summary of potential human and environmental receptors that may be impacted as a result of activities upon, or emission and discharges from the prescribed premises *(Guideline: Environmental Siting* (DWER 2020)).

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

Human receptors	**Distance from prescribed activity**
Industrial/Commercial properties	Immediately adjacent properties northeast (bordering Lot 18), and southeast (remaining part of Lot 19) and 270 m south. Note: Non-sensitive receptor (Alcoa of Australia Ltd. prescribed premises L5245/1967/14) is located to the west of the facility, on the opposite side of Rockingham Road.
Aboriginal Sites and Heritage Places Mount Brown – Booyeeanup Place ID 20865 (Mythological) - Lodged	250 m northwest measured from the northernmost corner of the premises boundary. Note: The premises is within Gnaala Karla Booja Indigenous Land Use Agreement (ILUA registered in 2018).
Groundwater licence holders: Alcoa of Australia Limited - GWL159085 City of Kwinana - GWL109202	GWL159085 – 366 m southwest, measured from the southwestern corner of the premises boundary. GWL109202 – 389 m south-southwest, measured from the southwestern corner of the premises boundary. Note that other bores exist within 500 m of the site within surrounding prescribed premises and have not been included as they are not considered sensitive receptors.
Environmental receptors	**Distance from prescribed activity**
Geomorphic Wetlands of the Swan Coastal Plain	Unnamed resource enhancement sumpland basin immediately adjacent to the south and west of the premises. Unnamed resource enhancement sumpland is located approximately 1.3 km south-southeast measured from the southern premises boundary. Long swamp, a conservation class sumpland basin is located approximately 1.2 km southeast of the premises measured from the easternmost premises boundary to the closest water body boundary. Lake Mount Brown, a conservation class sumpland basin is located approximately 1.6 km northeast of the premises measured from the northernmost premises boundary to the closest southern water body boundary. A multiple use dampland basin and a resource enhancement dampland basin are located approximately 2 km to the southeast of the premises – screened out due to distance.

Threatened Ecological Communities (TECs) - Priority 3 Northern Spearwood shrublands and woodlands	Within 400 m of the premises boundary. TEC buffer zone within and adjacent to the premises to the west, north-west and north. Note that the TECs closest to the premises are located within Alcoa of Australia Ltd Licence L5245/1967/14 boundary to the west of Lots 18 and 19.
Threatened, endangered fauna	Within 200 m of premises boundary.
Regional Parks - Beeliar Park - Conservation area - The section of the park to the north contains Priority 3 TECs. - The section of the park to the north is DBCA legislated land and is classified as a conservation park	The park is southwest, west, northwest, north and northeast of the premises. It is located 870 m west, measured from the southwestern corner of the premises boundary to the eastern boundary of Beeliar Park and is 860 m north-northeast, measured from the northernmost corner of the premises boundary to the closest park boundary to the north of the premises. DBCA legislated land is located within Beeliar Park to the northwest, north and northeast of the premises, 1.02 km north measured from the northernmost corner of the premises boundary to the closest park boundary.
Indian Ocean State Environmental (Cockburn Sound) Policy 2005 – Eastern Moderate Ecological Protection Area	930 m west, measured from the western premises boundary to the closest policy protection area boundary.
Underlying groundwater (non-potable purposes) - Cockburn Groundwater Area (RIWI Act)	Within the premises. - Depth to groundwater is ~ 10 to 12 mbgl - Groundwater salinity is ~ 500-1000 TDS mg/L - Surface geology is Tamala Limestone, predominately calacarenite.
Perth Regional Ecological Linkage ID 76	East, northeast and north of the premises - 450 m east, measured from the easternmost premises boundary and 310 m northeast measured from the northernmost premises boundary to the closest linkage border to the premises.

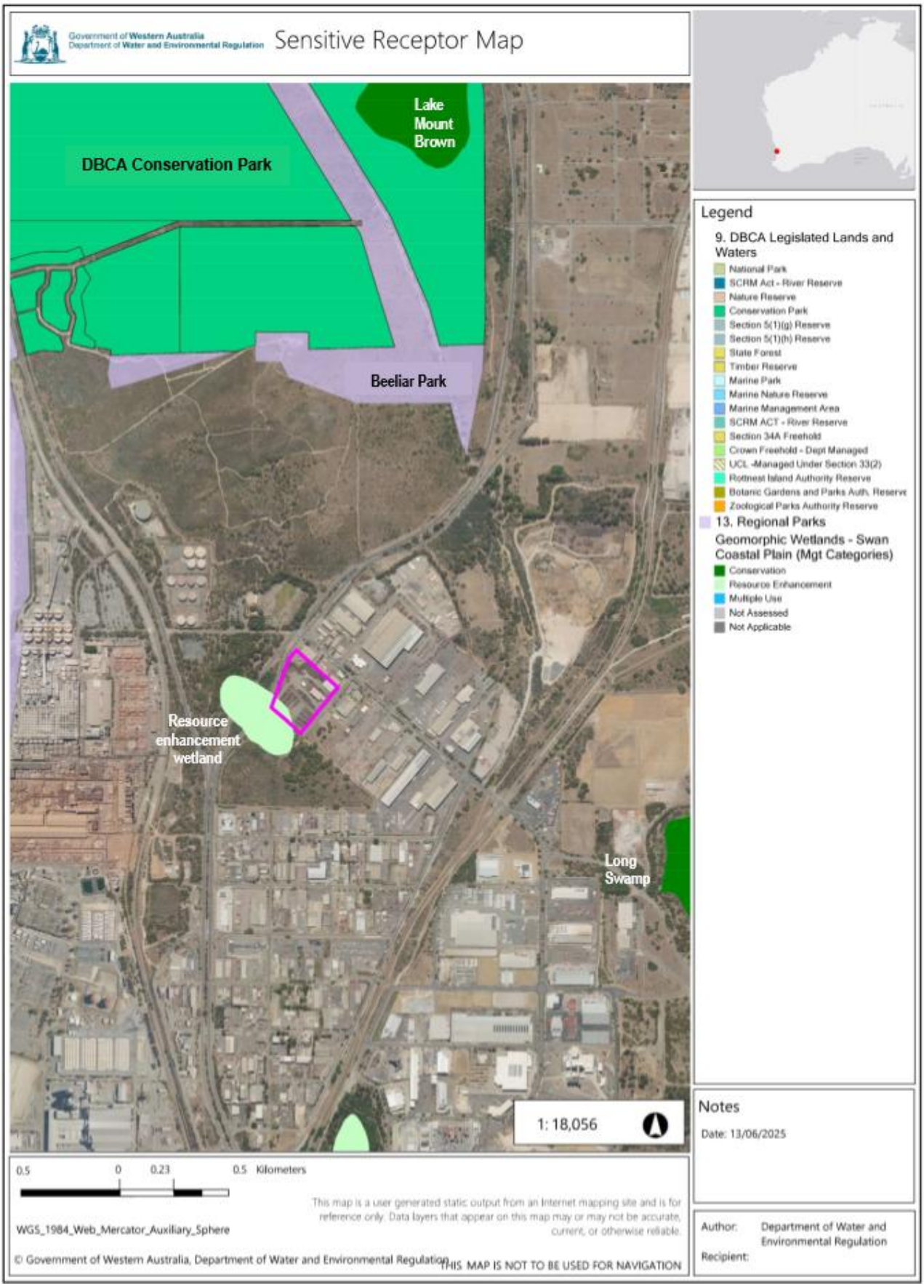

Figure 2: Distances from the premises (pink boundary) to sensitive receptors

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 3.

Licence L9444/2024/1 that accompanies this decision report authorises emissions associated with the operation of the premises i.e. category 61A activities.

The conditions in the issued licence, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 3: 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**				
Vehicle movements - delivery of used conveyor belts and removal of product	Dust	Air / windborne pathway causing impacts to health and amenity	Surrounding industrial / commercial properties – closest adjacent to premises Threatened Fauna within 220 m	Refer to Section 3.1	C = Slight L = Rare **Low Risk**	Y	None	N/A
	Noise		Residences 420 m north and 800 m south-east	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	None	Noise generated by two trucks per day entering the premises to deliver materials and two trucks per day removing product from premises is adequately regulated under the *Environmental Protection (Noise) Regulations 1997*.
Operation of conveyor belt processing equipment and processing of material	Air particulate emissions	Air / windborne pathway causing impacts to health and amenity	Surrounding industrial / commercial properties – closest adjacent to premises Threatened Fauna within 220 m	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	None	Provisions of the *Environmental Protection Act (Unauthorised Discharges) 2004* are sufficient to manage the risk of standard, non-fire related operations
	Noise				C = Slight L = Unlikely **Low Risk**	Y	None	Noise generated by reprocessing activities (such as regrooving) is unlikely to reach sensitive receptors as it occurs only within the workshop and within business hours only. The premises has been operational since 2001 with no recorded noise complaints received by the department. The *Environmental Protection (Noise) Regulations 1997* are deemed sufficient to manage noise emissions generated by conveyor belt reprocessing.

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**				
	Smoke, toxic fumes and particulates generated during a fire event				C = Major L = Unlikely **Medium Risk**	N	**Conditions 1 to 4, 12, 13, 17 & 26**	Refer to section 3.3
	Contaminated firefighting water generated during a fire event	Overland flow and seepage through soil to groundwater leading to groundwater contamination and ecosystem disturbance	Cockburn groundwater area (depth to groundwater is ~ 10 to 12 mbgl) Groundwater users - 366 m southwest and 386 m south-southwest Geomorphic wetlands - closest is adjacent to the premises. Closest conservation class wetland is 1.4 km southeast Indian Ocean - *State Environmental (Cockburn Sound) Policy 2005* ~ 930 m west	Refer to Section 3.1	C = Major L = Unlikely **Medium Risk**	N	**1 to 4, 12 to 17 & 26.**	Refer to section 3.3
Storage of conveyor belt material; and	Smoke, toxic fumes and particulates generated during a fire event	Air/windborne pathway causing impacts to health and amenity	Surrounding industrial / commercial properties – closest adjacent to premises Threatened Fauna within 220 m	Refer to Section 3.1	C = Major L = Possible **High Risk**	N	**Conditions 1 to 13, 17 to 20, 24 and 26.**	Refer to section 3.3

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**				
Storage of final reprocessed product, conveyor belt reel off-cuts and rubber crumb	Contaminated stormwater due to contact with stored material	Overland flow and seepage through soil to groundwater leading to groundwater contamination and ecosystem disturbance	Geomorphic wetlands - closest adjacent to the premises. Closest conservation class wetland is 1.4 km southeast Indian Ocean - *State Environmental (Cockburn Sound) Policy 2005* ~ 930 m west Note: Depth to groundwater beneath premises is ~10 to 12 mbgl	Refer to Section 3.1	C = Minor L = Rare **Low Risk**	Y	N/A	Provisions of the *Environmental Protection Act (Unauthorised Discharges) 2004* are sufficient to manage the risk of impacts from contaminated stormwater associated with normal (non-fire related) activities.
	Contaminated firefighting water generated during a fire event				C = Major L = Possible **High Risk**	N	**Conditions 1 to 20, 24 and 26.**	Refer to section 3.3 on fire management.

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 – Fire event

3.3.1 Description of risk event

Fire events have potential to release toxic gases and particulates into the air, while firefighting water used to extinguish fires has potential to contaminate soil, groundwater and possibly nearby surface waters with contaminants released from burning materials and fire-fighting foams.

Conveyor belts require prolonged heat or flame exposure for an extended period to ignite; however, once ignited they burn intensely, are difficult to extinguish and release thick plumes of black smoke containing toxic gases. They are therefore classed as a 'special hazard' and require additional firefighting provisions. Intense fires involving 'special hazards' may take days to extinguish (DFES, 2020).

Bushfire attack

The highest risk of ignition of stored conveyor belts and rubber product at the premises is from a fire originating within surrounding bushland.

7 hectares of bushland zoned as 'bushfire prone' exists immediately southeast of the premises at 1274 Rockingham Rd and partly within the premises as shown in Figure 3. The bushland is low woodland with an overstorey of 5-10 m *Eucalyptus sp.* and an understorey of small to medium sized shrubs (grasses). There is bushland to the west of the site and there is a history of bushfires within the vicinity of the Threatened Ecological Communities (TECs) to the north of the site.

As the premises is within a bushfire prone area, a Bushfire Attack Level (BAL) assessment was carried out by TESG Fire Engineering Pty Ltd on behalf of the applicant on 26 July 2024 to determine the overall level of bushfire risk to the premises. An assessment of vegetation, slope and fuel load was conducted by a qualified engineer to determine BAL ratings. BAL ratings range from BAL-Low (the lowest risk) to BAL-Flame Zone (the highest risk) as shown in Figure 3, Figure 4 and Table 4.

The BAL assessment has determined this area to have a BAL Flame Zone (FZ) rating. A BAL Flame Zone (FZ) is required to adhere to *State Planning Policy 3.7* bushfire prone legislation and poses a risk to the premises of ember attack, radiant heat and/or direct flame contact.

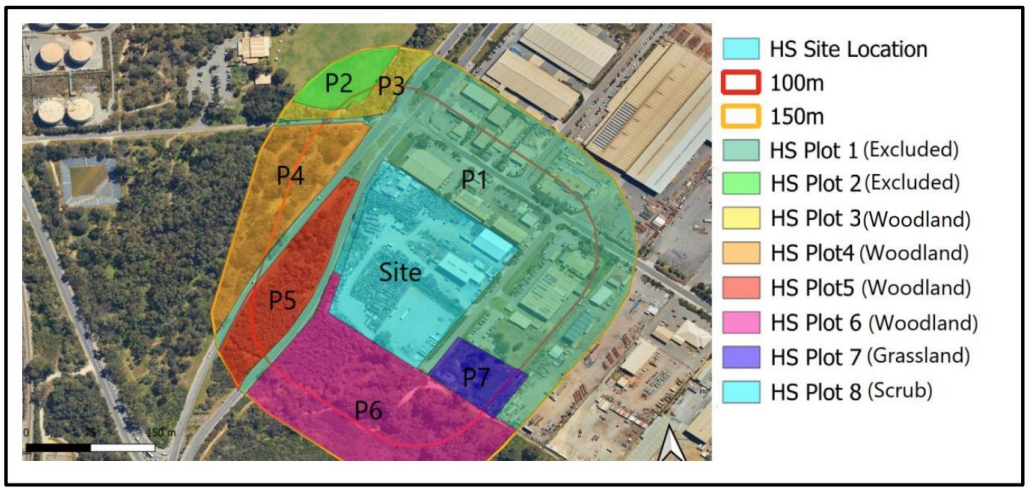

Figure 3: Vegetation classification map for bushland adjacent to the premises

Plot ID	Vegetation Classification	Effective Slope	Separation (m)	BAL
PLOT 1	Exclusion 2.2.3.2 (e)	Upslope >0 to 5 degrees	0	BAL-LOW
PLOT 2	Exclusion 2.2.3.2 (e)	Downslope >0 to 5 degrees	92	BAL-LOW
PLOT 3	Group B Woodland	Downslope >0 to 5 degrees	70	BAL-12.5
PLOT 4	Group B Woodland	Downslope >0 to 5 degrees	75	BAL-12.5
PLOT 5	Group B Woodland	Downslope >0 to 5 degrees	25	BAL-29
PLOT 6	Group B Woodland	Downslope >0 to 5 degrees	6	BAL-FZ
PLOT 7	Group G Grassland	Upslope >0 to 5 degrees	22	BAL-12.5
PLOT 8	Group D Scrub	Downslope >0 to 5 degrees	8	BAL-40

Table 4: BAL ratings for bushland adjacent to the premises

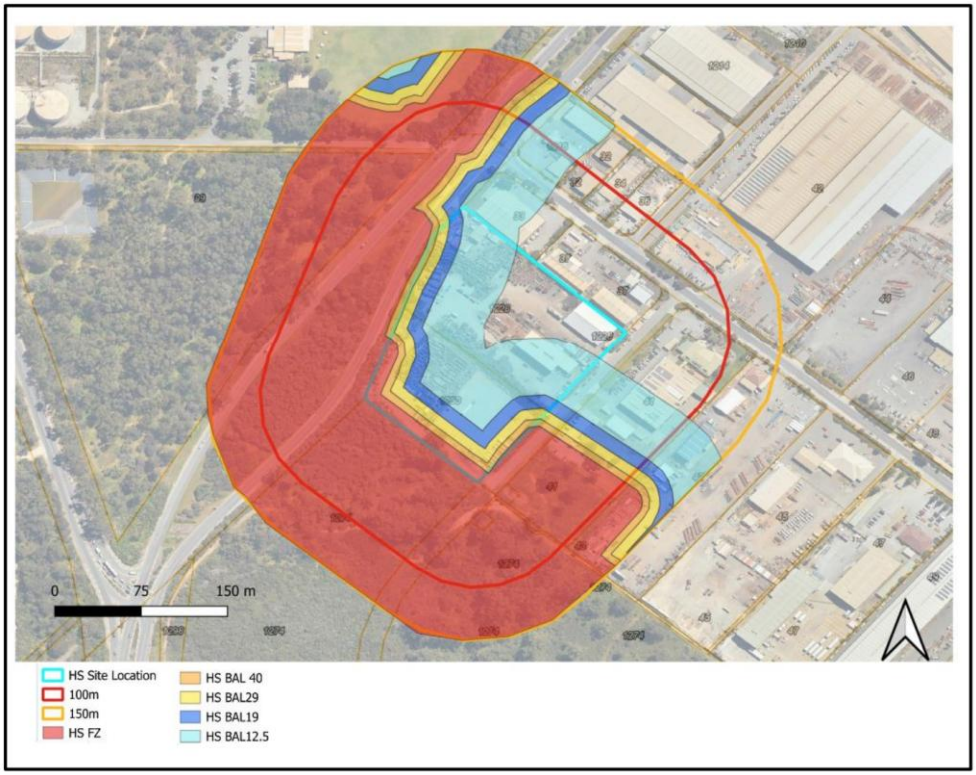

Figure 4: BAL contour map with the red area denoting BAL-Flame Zone rated bushland.

Firefighting water run-off and site drainage

According to the proposed development plan approved by the City of Kwinana for Lot 19 (dated August 2014), the site drainage system consists of 17 interconnected drains (soakwells) each 1800 mm diameter x 1500 mm deep as shown in **Figure 5**.

There is no bunding or containment surrounding the on-site hardstand areas. The site slopes downwards in a southerly direction; therefore, firefighting water run-off will move predominately towards unlined sumps and drains within and adjacent to the premises and to the bushland area and wetland adjacent to the southern premises boundary (refer to Figure 6). Given existing site drainage and infrastructure, firefighting water run-off is likely to infiltrate into soil with the potential to seep into groundwater located approximately 10 to 12 mbgl.

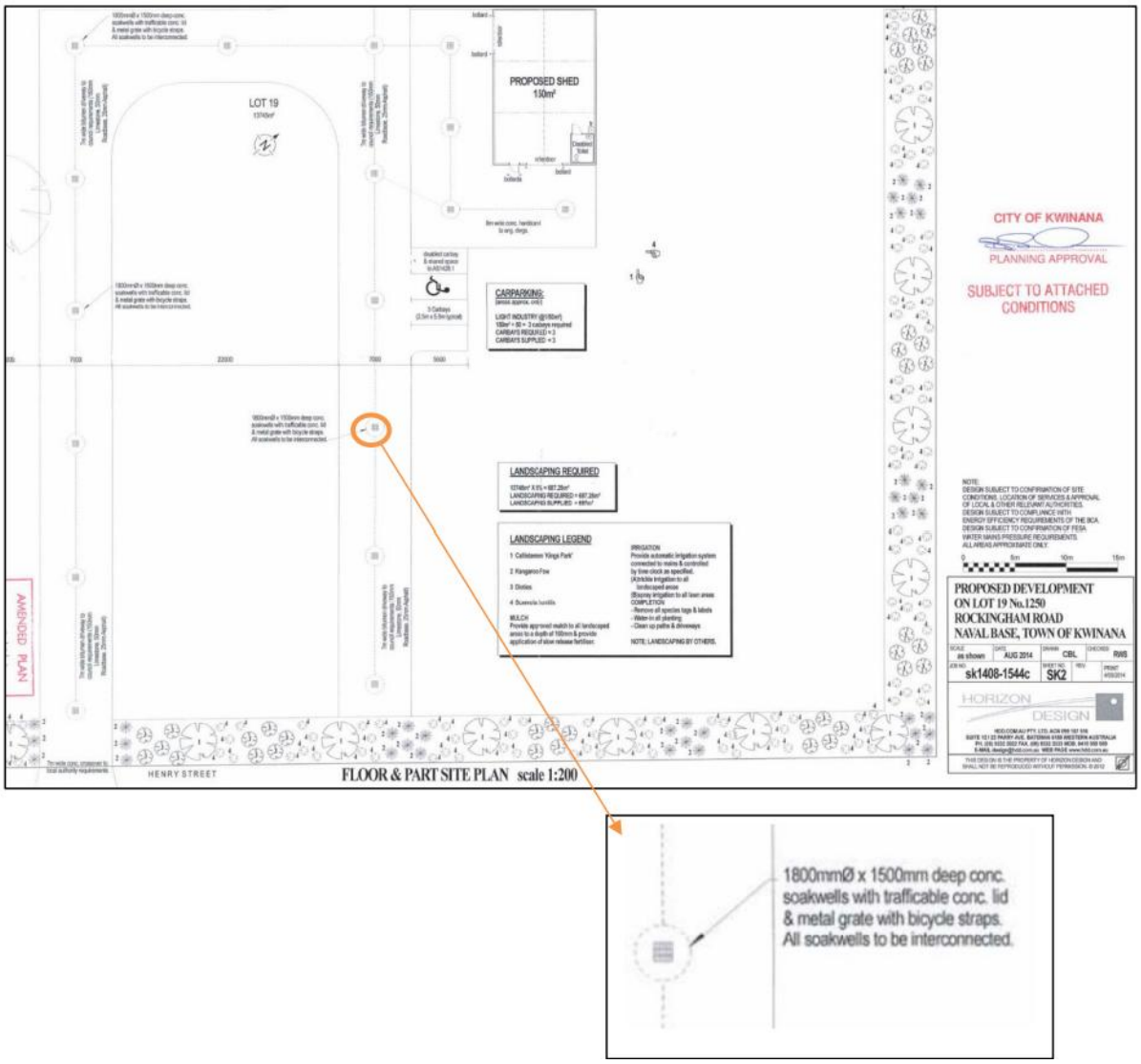

Figure 5: Arrangement of interconnected on-site soakwells

In December 2022, an on-site inspection was conducted at the premises by the department to assess site drainage relating to firefighting water run-off. The assessment noted that there are two compensation basins (stormwater sump and drainage sump) within the premises equating to a total capacity of 1080 m^2. There is also a 260 m^2 unlined compensation basin (stormwater sump) on Henry St which connects with street stormwater drains. The site drainage does not connect to Cockburn Sound.

A swale is located adjacent to the southern border of the premises within an area listed as a resource enhancement wetland within the Department of Biodiversity, Conservation and Attractions (DBCA) database. Both compensation basins and on-site soakwells infiltrate to groundwater and therefore provide a pathway for contaminants present in firefighting water to enter the soil and groundwater, with potential to impact sensitive receptors, particularly surrounding wetlands and vegetation.

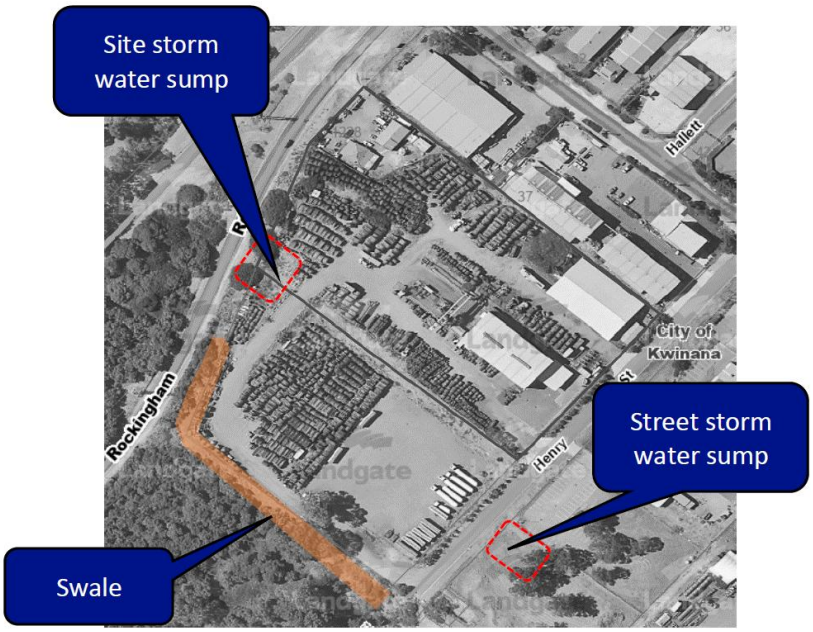

Figure 6: Drainage within and adjacent to the premises

3.3.2 Criteria for assessment

Due to the risk of fire at solid waste storage and reprocessing facilities and the additional 'special hazard' requirements, the department refers to the Department of Fire and Emergency Services (DFES) for guidance. Conveyor belts pose a comparable fire risk to tyres; therefore, *Guidance Note 2: Bulk Storage of Rubber Tyres Including Shredded and Crumbed Tyres* [DFES GN02] (DFES 2020) is primarily used to determine appropriate fire mitigation and suppression measures to be utilised on site and has been identified as the appropriate guideline for use in assessing this application. Additionally, the general principles of the DFES guidelines are applicable to sites storing combustible waste as noted in DFES GN02.

The following documents have been utilised during the risk assessment:

1. Department of Fire and Emergency Services 2020, *Guidance Note GN01 Firefighting Water Supply Considerations for Special Hazard & Dangerous Goods Sites,* Perth, Western Australia.
2. Department of Fire and Emergency Services 2019, *Guidance Note GN02 Bulk storage of rubber tyres including shredded and crumbed tyres,* Perth, Western Australia.
3. Department of Fire and Emergency Services 2020, *Guidance Note GN03 Fire Safety Considerations for Open Yard Storage*, Perth, Western Australia.
4. Department of Fire and Emergency Services 2020, *Guidance Note GN04 Fire Prevention and Management in a Recycling Facility*, Perth, Western Australia.

3.3.3 Applicant controls

Revised operational controls

Open yard conveyor belt storage

Following DFES and DWER advice, the open yard conveyor belt storage layout was revised by the applicant. The size of the premises restricted the ability to adhere to separation distances set out in DFES GN02. Rubbergem leased the remaining eastern half of Lot 19 on Diagram 19029 to provide an additional 5200 m^2 of land, resulting in a total external storage area of

16,850 m^2, allowing for greater separation distances between stockpiles. Movement of conveyor belt stock into the newly leased eastern half (southeastern corner of the premises) of Lot 19 commenced in January 2025.

Firefighting water supply

The closest fire hydrant to the premises is on Henry Street, 20 metres from the premises. During a fire event, the fire brigade is required to park 20 m from the hydrant and run hoses from the fire truck to the hydrant to access the water supply from the street hydrant.

A 25,000 L water tank was installed on the premises, adjacent to the existing rainwater tank (refer to Figure 7) on 10 March 2025 to increase the volume of firefighting water available for firefighting purposes. DFES consulted with TESG Fire Engineering Pty Ltd (on behalf of Rubbergem) on the 16 October 2024 and advised Rubbergem to install a rainwater tank to provide additional firefighting water during a fire event, as the capacity of the nearby fire hydrant was insufficient. As per *Department of Fire and Emergency Servies Built Environment Branch Guideline GL–08* (DFES, 2019), the connectors installed were 125 mm Storz coupling with 100 mm male Camlock coupling, enabling DFES to connect to the water supply in a fire event.

Additionally, an impairment notice has been submitted by the applicant to notify DFES district officers of the reduced water supply available at the site in the event of fire as per DFES advice provided to Rubbergem on 16 October 2024.

Figure 7: Location of the installed water tank

Fire Management Plan (FMP) and Fire Emergency Response Plan (FERP)

On 30 August 2024, the department requested information from the applicant outlining how fire will be prevented, detected, responded to, suppressed, contained, and controlled for all proposed activities (including waste and product handling, sorting, storage, and processing), following advice provided by the Department of Fire and Emergency Services (DFES). This information was required to fill knowledge gaps and to inform the risk assessment.

A revised Fire Management Plan was submitted to the department, alongside a Fire Emergency Response Plan (FERP) on 17 April 2025.

The revised FMP and FERP outline applicant controls to prevent, detect, suppress and contain fire and are listed/summarised below:

Fire prevention

Based on the documentation submitted by the applicant in the application, Rubbergem proposes to:

- Implement evacuation and emergency response procedures to protect human life and ensure staff are aware of their roles and duties.
- Regularly inspect equipment and storage facilities.
- Install 'no smoking' signs at locations deemed appropriate, such as areas containing hazardous materials.
- Limit on-site storage of hazardous and combustible material.
- Regularly inspect and maintain on-site mobile equipment, machinery and vehicles that may pose a heat or ignition risk, to identify leaks and damage, and to ensure proper lubrication.
- Inspect all on-site electrical equipment in accordance with the *Electrical Safety Regulation 2022* (WA), the *Electrical Safety Act 2002* (WA) and Australian Standards AS3000, AS3760, AS3010 and AS3786. Electrical equipment found to be damaged or non-compliant will be decommissioned or repaired.
- Ensure the high-voltage installation within the premises is adequately locked, preventing unauthorised access.
- Secure damaged fencing along the northwestern boundary of the premises (adjacent to Rockingham Rd) to prevent unauthorised access to the property, reducing potential for malicious fires.
- Remove rubber crumb from the premises by July 2025.
- Conduct mechanical processing only on Lot 19, away from the southern boundary of the premises.
- Security patrols to prevent unauthorised access to the site after hours, preventing malicious fires.
- Document and investigate the cause of a fire event, the impact of the fire, and the emergency responses to facilitate future fire prevention.
- Monitor DFES and EmergencyWA bushfire information when an extreme or high fire danger warning is present.

Fire detection

- Smoke detectors (AS 1670 compliant) are installed within the office building.
- Linear Heat Detection (LHD) heat sensing cables are installed in both workshops (warehouse buildings) and are connected to the Fire Indicator Panel (FIP).
- Fire warning system is in place (local alarms).

Fire suppression and firefighting

- A 25,000 L tank has recently been installed as an additional firefighting water supply.
- Forklifts and other mobile equipment to be fitted with 1 kg portable dry chemical powder fire extinguishers to extinguish fires detected in the open yard.
- Staff designated to help control /extinguish workplace fires will be trained in the use of fire extinguishers and other fire safety equipment.
- Fire detection equipment to be regularly maintained and tested.
- Fire extinguishers and fire hose reels are located and distributed in accordance with Australian Standard AS 2444-2001 and AS 2441:2005 respectively. Fire hose reels are installed within 40 m of the workshop floorspace.
- Fire extinguishers, fire hose reels and other fire safety equipment will be regularly inspected and maintained in accordance with Australian Standard AS 1851. Hard copies of the inspections are to be stored at the site's Fire Indicator Panel (FIP).
- Portable fire extinguishers are fitted within the buildings to comply with the *National Construction Code* DtS Provision E1.6 and AS 2444.

Fire containment & on-site storage

Rubbergem proposes to:

- Relocate conveyor belts away from the northern premises boundary
- Remove shredded rubber stockpiles away from the northern premises boundaries.
- Create a 6 m buffer between stockpiles and adjacent industrial premises to reduce the risk of fire spreading to and from adjacent premises.
- During a fire event, staff are to use fire hose reels and fire extinguishers to extinguish the fire, and combustible material close to the fire is to be removed (if deemed safe), electrical supplies are to be isolated, and operating equipment is to be switched off and removed from the emergency area.
- Reduce maximum storage areas for conveyor belts to be less than 500 m^2.
- Create a separation distance between conveyor belt storage areas to be a minimum of 4 m.
- Create an 18 m buffer zone between the southern premises boundary and conveyor belt storage areas to ensure stockpiles are distanced from high bushfire risk areas.
- Store rubber crumb in 1 m^3 bulka bags within the equipment store building as shown in Figure 8. There are approximately 30 bulka bags stored within shipping containers. The applicant aims to move the rubber crumb stored within the equipment store building to Rubbergem's Rockingham facility once the facility is operating under time limited operations. This is expected to occur in July 2025. Rubber crumb will not be stored within the equipment store building at the Henry Street facility after this time.

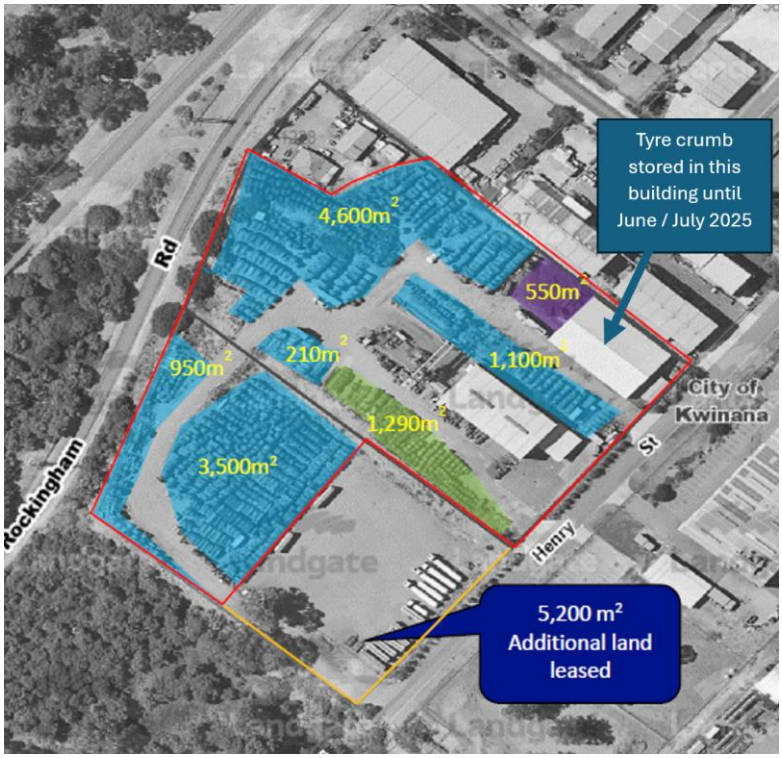

Figure 8: Tyre crumb storage area and additional land acquired

Firefighting water containment

The applicant proposes to build an earthen bund 60 m wide by 2 m high to the south of the site to contain an estimated 260 m^3 of firefighting water, preventing entry into the drain and adjacent bushland. The applicant estimates the volume of firefighting water generated during four hours of firefighting to be 144 m^3, calculated based on Australian Standard AS 2419.1 and a flow of 10 L/s. Soil contaminated with firefighting water will be removed to an appropriately licensed facility.

3.3.4 Key findings

The Delegated Officer has reviewed the information relating to fire management and has determined:

Fire prevention

- Measures to prevent ignition of combustible rubber material reduces the likelihood of an on-site fire event and subsequently emissions resulting from fumes and firefighting water. DairyGrip machinery and other operating equipment may generate sparks capable of igniting a fire within the premises. The applicant proposes to prevent/minimise generation of sparks by adequately lubricating machinery, maintaining equipment, inspecting machinery and vehicles for faults or defects and by conducting electrical inspections. These measures will be included in the licence as regulatory controls to prevent sources of ignition. Note that DFES recommends that the licence holder creates formal procedures for any operation that is likely to cause a spark or is a possible source of ignition.
- The applicant has proposed to isolate all electrical supplies at the main switchboard during a fire event and has confirmed that the on-site high voltage installation is able to be isolated during a fire event.

Fire detection

- Fire detection systems installed on site include linear heat detection cables within the warehouses, a smoke alarm within the office and a manual call point to set off a localised fire alarm. Alarms to directly and immediately alert the fire brigade of a fire event are not installed on-site. During office hours, staff are present on-site to detect fire and notify emergency services; however, if a fire event occurs after hours, the fire may go undetected until it is seen and reported to emergency services by a member of the general public or by a security officer during periodic security patrols. A lengthy delay between the commencement of a fire event and notification of emergency services is probable if a fire event occurs after hours. It is possible that a fire would reach high intensity before being identified, making it difficult for emergency services to extinguish.
- Prompt identification of a fire event leading to early implementation of fire suppression measures is required to reduce the intensity and spread of fire if ignition does occur. Early fire-fighting intervention reduces the risk of harm to the environment and community resulting from air emissions and firefighting water contaminants; therefore, regulatory controls to install a Direct Brigade Alarm (DBA) is required.

Fire suppression

- Adequate water supply is required to facilitate firefighting efforts and special hazard fires often require larger volumes of firefighting water due to the lengthy timeframes required to extinguish such intensely burning fires. Greater than 50 tonnes of combustible special hazard waste is stored within the open yard of the premises and as the open yard storage area is 16,850 m^2 and the buildings are non-sprinklered, a fire hydrant system consisting of a minimum of 6 fire hydrants is recommended to supply adequate fire-fighting water for the premises in the event of a fire, according to Table 1 of DFES GN02. This requirement would be applied to the licence; however, the applicant installed a 25,000 L water tank and lodgement of an impairment notice following advice received by the applicant from DFES during a meeting on 16 October 2024. Therefore, ongoing engagement with DFES is advised to ensure firefighting water supply continues to meet DFES requirements both short-term and long term.
- It is stated within the FMP that maintenance and inspection of fire extinguishers, fire hose reels and fire safety equipment will be conducted in accordance with AS 1851; however, physical testing and effective operation of on-site smoke detectors, fire hose reels, fire extinguishers, fire alarm systems, water supply infrastructure and any other fire suppression equipment/systems were stated within the FMP as being outside the scope of the document and there is no documentation to show they are in working order; therefore, regulatory controls are required to ensure fire suppression equipment (e.g. fire hose reels, fire extinguishers) are maintained to Australian Standards and are operational.
- Approximately 30 tonnes of rubber crumb (30 bulka bags of 1m^3), is stored within the equipment store building, which is a single fire compartment of 800 m^2 in size. According to DFES GN02, where combustible material exceeds 10 tonnes and the building's single fire compartment floor area exceeds 2000 m^2, smoke and heat ventilation as well as sprinkler protection is required within the building. As the floor area of both the warehouses is less than 2000 m^2, venting and sprinkler protection is not required based on DFES GN02 guidance.
- It is a requirement of DFES GN04 for a building storing combustible waste (which includes rubber products) that has a single fire compartment with a floor area exceeding 1000 m^2 to contain a fire suppression system. The floor area of the workshop is 1080 m^2 and the workshop will contain small volumes of conveyor belt reel off-cuts generated during conveyor belt reprocessing; however, considering the floor

area only slightly exceeds the lower limit and still fits within DFES GN02 requirements, and that the building has other fire suppression systems in place, the risk is deemed acceptable.

- Smoke hazard management within the warehouses is required for buildings containing combustible material as per Section 6.10 of DFES GN04, to ensure firefighters have adequate visibility during a fire event. As the fire load is minimal within the workshop and there are adequate low level openings providing ventilation and dispersal of smoke, the risk is deemed acceptable providing shredded rubber and conveyor belt reel off-cuts are not stored within the workshop. However, as 30 tonnes of combustible waste is stored within the equipment store building and there is no smoke hazard management and only one open side within this building, either smoke hazard management is to be implemented or the rubber crumb is to be removed.

Fire containment and storage layout

- The external storage layout of conveyor belts, conveyor belt reel off-cuts, rubber crumb and final product determines how quickly a fire can spread and subsequently the intensity with which a fire burns. Separation of stockpiles adhering to minimum distances provided within DFES GN02 minimises the risk of fire spread during a fire event and improves the outcome of firefighting efforts, subsequently minimising the intensity of a fire. Following an assessment of the site and discussion with the applicant, DFES advised that the best fire prevention measure (given limitations posed by existing infrastructure) is physical separation of stockpiles within the premises as per DFES GN02.
- There is no mention of stacking height or undivided maximum volume/mass stored within the storage layout map provided within the revised FMP. DFES expressed concern that conveyor belt stacks of 500 m^2 considerably exceed DFES GN02 guidelines. Additionally, burning rolls that are stacked high have potential to roll and migrate during a fire event, further spreading fire to other stockpiles, surrounding bushland, onto public roads or to adjacent premises, increasing the size of the fire and emissions generated. The revised open yard storage layout exceeds DFES GN02 requirements; therefore, regulatory controls are applicable to ensure onsite storage of conveyor belts and conveyor belt reel off-cuts are stored in accordance with DFES GN02 requirements (or to requirements as confirmed acceptable by DFES) in the short-term during the transition period and are adhered to in the long-term post-transition.
- Rubber crumb is stored within bulka bags which are Flexible Intermediate Bulk Containers (FIBC's) and as noted by DFES in GN02 (and in advice provided by DFES directly), this poses a risk of spontaneous ignition of rubber crumb. Storage of rubber crumb within the warehouse is to adhere to DFES GN02 requirements to reduce the risk of ignition, to separate the material from sources of ignition, to enable material to be removed during a fire event to prevent fire spread, to enable sufficient ventilation, to ensure access to on-site fire suppression equipment located within the workshop and to ensure emergency services have access to the product to enable efficient firefighting operations. Regulatory controls are therefore necessary to ensure that a fire is prevented or extinguished promptly, reducing the quantity of emissions and firefighting water generated during a fire event; therefore, reducing impacts on sensitive receptors.
- An adequate separation distance between the bush fire prone area and the adjacent conveyor belt storage piles is required, to provide a separation distance which limits the likelihood of conveyor belt ignition due to fire spreading from adjacent bushland or adjacent premises.
- Limiting the volume of conveyor belts stored together in one area limits the volume of conveyor belts that will ignite in a fire event. Separating these storage areas in accordance with DFES GN02 requirements, limits fire spread between storage areas,

reducing the fuel source and reducing emissions discharged to the environment.

Firefighting water containment

- Measures proposed to prevent firefighting water entering the environment are limited to construction of an earthen bund to block entry into the southern drain and removal of the resulting contaminated soil (as outlined in section 3.3.3). Design and construction details for the proposed earthen bund have not been provided and it has not been demonstrated that this is an effective measure to contain firefighting water or that the bund will not erode. Construction of an earthen bund was not included in the application and as a result, the impacts on sensitive receptors have not been assessed; therefore, the Delegated Officer has concerns over additional environmental impacts resulting from construction and use of the bund including the ability of the bund to contain the firefighting water without eroding into the adjacent bushland and wetland and the possibility of contaminants within firefighting water, permeating through the soil bund into the receiving environment.
- The newly leased portion of Lot 19 (as shown in Figure 8) is compacted gravel and is therefore not a sealed hardstand, providing a pathway for firefighting water to enter the soil (and potentially groundwater) and the wetland to the south of the premises, increasing the likelihood of firefighting water reaching soil and groundwater.
- Other provisions to prevent contaminants present in firefighting water entering soil and groundwater via soakwells, sumps, drains and exposed bare soil, have not been proposed. In summary, proposed controls fail to demonstrate that firefighting water will not enter the stormwater drainage system that directly infiltrates to soil adjacent to, and beneath the premises and regulatory controls are required to ensure firefighting water is contained within the premises.
- Correspondence received from DFES noted that lack of firefighting water containment is likely to prevent or hinder initial aggressive firefighting operations, potentially resulting in a fire of greater intensity. As intense fires produce greater emissions and increase the risk of impacts to sensitive receptors, regulatory controls to ensure firefighting water is contained within the premises and within the hardstand are required.
- The lack of provisions for firefighting water containment increases reliance on regulatory controls to prevent, detect, suppress and contain fire to eliminate/reduce the need for firefighting water, warranting a tighter degree of regulatory control in these areas.

3.4 Regulatory Controls

The Delegated Officer will incorporate the following controls into the licence.

The following regulatory controls imposed by the department aim to prevent, suppress, detect and contain fire in order to:

1. Prevent/reduce the release of air emissions resulting from fire.
2. Prevent/reduce the volume of firefighting water generated during a fire event; thereby reducing the level of contaminants released into the surrounding environment.

3.4.1 Firefighting water containment

Firefighting water that enters sumps, drains and soakwells on-site and adjacent to the premises will directly infiltrate to soil beneath and surrounding the premises. Firefighting water contains contaminants emitted from burning stockpiles and chemicals used in firefighting efforts and will therefore enter the environment via this pathway, potentially impacting sensitive receptors. Additionally, since the site slopes downwards to the south, large volumes of firefighting water

run-off are likely to migrate from the hardstand towards the southern bushland and wetland. The applicant has not provided assurance that firefighting water will be contained within the premises; therefore, regulatory controls are required to ensure firefighting water is contained within the hardstand and does not enter the drainage system or environment.

The requirement for the workshop and open yard to consist of an impermeable hardstand provides a physical barrier to reduce the likelihood of firefighting water entering the environment via leaks or defects or seepage through permeable ground.

As the newly leased portion of Lot 19 (as shown in Figure 8) is compacted gravel and is therefore not a sealed hardstand, regulatory controls are required to prevent storage of rubber crumb or shredded rubber in this area due to the potential of shredded or crumbed rubber to spontaneously ignite in large stockpiles when exposed to heat. Additionally, stockpiles of shredded or crumbed rubber are difficult to move and separate in the event of fire, whereas conveyor belts and rubber product (matting) can be moved to prevent fire spread to the unsealed area, enabling firefighting water to be contained within the sealed hardstand. It also enables the fire to be effectively extinguished and contained if the fire originates within the unsealed hardstand area.

Due to the increased risk of storing combustible materials on a permeable hardstand within the newly leased area, and the increased risk of erosion and contamination that may result from generation of large volumes of firefighting water and the resulting run-off, additional regulatory controls are required to mitigate the risks. Therefore, preparation, submission and implementation of a Firefighting Water Management Plan is required to ensure that firefighting water is able to be effectively managed on-site.

3.4.2 Storage layout

Open yard storage

The most effective measure to minimise fire size and impact is ensuring adequate separation of combustible materials. DFES GN02 provides guidance on storage requirements designed to manage and contain fire. Limiting pile and stack size enables a fire within the open yard to be contained and extinguished.

Regulatory controls are applied to ensure storage of conveyor belts, conveyor belt reel off-cuts and recycled rubber product are stored to adequately:

1. Reduce the intensity of fire by enabling access to stockpiles for firefighting purposes.
2. Enable removal of combustible materials to prevent fire spread during a fire event.
3. Prevent/reduce migration of fire to and from adjacent bushland and properties via appropriate separation distances.

The submitted site layout plan indicates that the applicant is unable to currently comply with DFES GN02 requirements. TESG Fire Engineering Pty Ltd (TESG) consulted with DFES on behalf of the applicant to ensure that proposed firefighting requirements have been met. Minutes of the meeting have been provided; however, confirmation that the current site layout meets DFES requirements have not been provided within the documents submitted to the department. As a result, evidence of consultation with DFES confirming that the current arrangement of stockpiles is acceptable in terms of fire management is added as a regulatory control.

A 6 m separation distance between stockpiles and buildings on adjacent premises and an 18 m separation distance between stockpiles and bushfire prone areas are proposed by the applicant. These measures are deemed appropriate to mitigate the risk of fire originating from surrounding bushland and surrounding premises; however, separation distances between stockpiles and between stockpiles and on-site buildings do not comply with DFES GN02 and may not be sufficient to allow effective and efficient firefighting operations if a fire event is to occur. Height restrictions and restrictions to size of stacks have also been applied as these issues were

highlighted by the DFES Special Operations Branch. A 4 m separation distance between stockpiles (proposed by the applicant in the FMP) has also been added as a regulatory control.

The applicant aims to reduce the volume of conveyor belts and conveyor belt reel off-cuts stored within the open yard commencing September 2025 and transition is expected to occur over a 12 to 18-month period. Storage requirements have been added to ensure compliance with DFES GN02 (or alternative layout with written confirmation from DFES that the alternative proposed layout is acceptable) is achieved within a 12-month time period.

In the DFES meeting minutes provided to the department in the third revision of the FMP in April 2025, the following comments were made by DFES to TESG relating to open yard storage:

- 'DFES recognises that the most effective fire prevention measure for this site would be to physically separate the conveyer belts into areas of maximum storage with adequate separation distances between the areas to reduce fire spread. DFES Guidance Note 2 (Bulk Storage of Rubber Tyres) should be used as a reference for storage pile sizes and separation distances'.
- 'A clear timeline should be provided as part of the application, with anticipated milestones for when stock will be reduced and the separation of stockpiles to occur'.
- 'The brigade asks that the site have some formal procedures in place for the operation for machinery or any activity that could potentially cause a spark during a total fire ban'.

This advice is used to inform the development of regulatory controls.

Internal storage

Storage of rubber crumb within the equipment store building poses a risk of spontaneous ignition. Fires within the Perth Metropolitan Region have occurred where the storage guidelines outlined in DFES GN02 have not been adhered to; therefore, regulatory controls are required to mitigate the risk of spontaneous ignition of rubber crumb. The department notes that the applicant intends to remove the rubber crumb from the Henry St Rubbergem premises to the Rockingham Rubbergem premises when operational. In the short-term, measures to reduce the risk of spontaneous ignition of conveyor belt derived rubber crumb are applied to the licence to comply with DFES GN02 guidance.

Given the size of the equipment store building storing the rubber crumb and considering the rubber crumb is to be moved to the new premises commencing September 2025, the provision to install a fire suppression system and ventilation system has not been included in the licence. The Delegated Officer considers the long-term storage of the rubber crumb under current conditions at the premises to be an unacceptable risk requiring controls around the length of storage of this material onsite.

Combustible waste will not be stored within the workshop and the risk assessment has taken this into consideration; however, during conveyor belt reprocessing some waste rubber will be generated and will temporarily be located within the building. To ensure shredded rubber or conveyor belt reel cut-offs are not stored within this building, the requirement to remove the waste rubber from the workshop daily is included as a regulatory control.

3.4.3 Fire prevention, detection and suppression measures

Implementation of effective fire prevention, detection and suppression measures as well as effective fire management practices ensure the severity of fires within the premises is minimised and the likelihood of a fire event occurring is reduced.

Waste type, acceptance and processing

Solid waste facilities where mixed waste is unsorted poses a greater fire risk. Regulatory controls relating to waste acceptance and waste processing to limit the amount and type of

combustible waste permitted to be stored and processed on the premises, mitigates this risk. Due to the proximity of the site to surrounding bushland, roads and other industrial premises, various types of combustible waste materials may accumulate on-site, providing an additional fuel source for fire; therefore, a requirement to keep the premises free of debris, litter and vegetation and other combustible waste is also applied.

Hazardous materials

Although only small quantities of hazardous material are currently stored on-site, flammable liquids are easily ignited and pose a fire hazard if exposed to a spark or flame; therefore, regulatory controls are applied to provide assurance that any spills of hazardous materials (such as fuels and oils) are removed and appropriately disposed of to a licensed facility.

Emergency services provisions

Firefighter vehicle access onto the premises and access to buildings and storage areas ensures that firefighters have adequate provisions and space to enable effective firefighting interventions; therefore, conditions to ensure a suitable width for emergency services vehicle access as per DFES GN02 is required as a regulatory control.

Heat detection cables are installed within the workshop; however, they are not connected to an automatic fire detection system, and they do not alert emergency services if a fire event occurs after hours. Similarly, the alarm system currently installed within the workshop is activated by on-site personnel when a fire is observed. After business hours, no staff are present on-site, and detection of fire is reliant on observations by the general public or by security patrols (frequency of patrols is unknown and variable). As per DFES advice and DFES GN04, an alarm system to alert emergency services (Direct Brigade Alarm) to a fire event is required to ensure immediate action to assist in managing, controlling and extinguishing a fire in its earliest stages.

Signage at the front of the premises containing site specific HAZMAT information is required to inform emergency services and any other first responder on the site of the hazards, fire prevention equipment and premises contact information to improve response time and preparedness.

On-site fire management

On-site fire suppression measures are crucial to prevent minor fires escalating to major fires prior to the arrival of emergency services. Fire extinguishers and fire hose reels are installed on-site; however, to be effective they need to provide coverage to the entire open yard and to buildings to promptly extinguish a fire and must be operational; therefore, maintenance in accordance with Australian Standards and is a requirement of the licence.

Rubber crumb stored within the equipment store building in bulka bags is able to spontaneously ignite and mechanical equipment operating within the workshop are potential on-site sources of ignition. Although fire extinguishers and hose reels are located within these buildings, personnel are not present to operate the fire suppression equipment after hours; therefore, a direct fire brigade alarm is required to alert the fire brigade if fire detection equipment in the workshop or equipment store building sets off the on-site central Fire Indicator Panel (FIP) alarm.

3.4.4 Site security

A portion of the fence along Rockingham Rd is agricultural style fencing and does not provide adequate security to prevent members of the general public from entering the premises. Unauthorised access to the premises may provide an opportunity for malicious fires. The applicant proposes to replace this section of fencing to improve on-site security. Provisions to ensure the site is secure after hours and that site security is regularly reviewed, are also necessary to prevent unauthorised access to the site, mitigating the risk of a fire event due to malicious fires resulting from unauthorised access to the site.

Provisions to install a sign at the site entrance provides the general public with a contact point, if a fire or unauthorised access is noted on-site. Additionally, signage reiterates the penalties for arson as a warning to the public with the aim of fire prevention.

3.4.5 Notifications

A fire event within the premises poses a significant threat to the environment and public health and the extent of impacts is correlated with the intensity of the fire. Notification of a fire event to the department enables identification of impacts to the environment or public health and allows prompt action to mitigate or minimise the effects of a reported event while also informing site-specific risk factors to prevent future occurrences.

The requirement to report any non-compliances is applied to ensure identification and follow-up are undertaken in a timely manner to prevent impacts to sensitive receptors and to identify whether preventative and/or follow-up actions are required.

The requirement to record and submit waste input and output information is necessary to ensure that waste stored on-site does not exceed the licence production/design capacity. Additionally, premises output and input informs the department of the timing of transfer of materials and operations to the Rubbergem Rockingham premises.

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 01/08/24	None received	N/A
Local Government Authority advised of proposal on 01/08/24	The City of Kwinana replied on 12/08/24 noting that processing operations take place in existing buildings and storage is on existing outdoor hardstands and that no additional works or development is proposed for the premises. In the City of Kwinana's Town Planning Scheme No. 2., Lot 18 and Lot 19 on Diagram 19020 are zoned for 'general industry' and the proposed use is permitted within this scheme. Planning approval is not required for the proposed land use; however, any new works or development that occurs on-site requires planning approval.	N/A
Department of Fire and Emergency Services advised of proposal 01/08/24	Land Use Planning Branch (Rural Fire Division) replied on 27/08/24, advising that future development at the premises must comply with *State Planning Policy 3.7 (Planning in Bushfire Prone Areas)* and with associated guidelines.	Noted.
	Built Environment Branch (BEB) replied on 26/08/24, raising concerns over the lack of proposed fire management and prevention measures. BEB advice is to install flame detectors from the shed to provide coverage for external storage areas with an automatic direct brigade alarm (DBA) to autonomously alert the local fire brigade to the site, particularly when the site is unmanned after hours.	Noted.

	Special Operations Response (Operations Capability) replied on 27/08/24. Refer to Appendix 2 for comments	N/A
Department of Fire and Emergency Services – advised of revised FMP on 21/05/25	Further advice / comment sought from Special Operations Response and BEB on revised Fire Management Plan; however, no correspondence received to date (24/09/25).	The Delegated Officer proceeded with the assessment with the information available.

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.
4. Department of Fire and Emergency Services 2019, *Guidance Note GN02 Bulk Storage of Rubber Tyres including Shredded and Crumbed Tyres,* Perth, Western Australia.
5. Department of Fire and Emergency Services 2020, *Guidance Note GN04 Fire Prevention and Management in a Recycling Facility*, Perth, Western Australia.
6. Department of Fire and Emergency Services 2020, *Guidance Note GN01 Firefighting Water Supply Considerations for Special Hazard & Dangerous Goods Sites,* Perth, Western Australia.
7. Department of Fire and Emergency Services 2020, *Guidance Note GN03 Fire Safety Considerations for Open Yard Storage*, Perth, Western Australia.
8. Tyre Stewardship Australia 2020, *Shredded tyres*. TSA website, accessed 16 September 2025.

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

Condition	Summary of applicant's comment	Department's response
1 Table 1 Item 2	Request to amend fire hose reel installation date to 1 February 2026 to allow time for supply and install. Rubbergem proposes to install a portable fire tank to be placed in the yard areas.	The Delegated Officer considers the timeframe acceptable, providing the installation of an additional water tank does not impede on firefighting emergency services access and the size of the portable tank is adequate.
4 Table 2 Item 3(c)	Processing equipment is maintained in accordance with Rubbergem Standard Operating Procedures (SOPs) and work instructions. Weekly maintenance of equipment is not required and is conducted in line with SOPs; therefore, the applicant requests to change the condition to 'processing equipment to be maintained and serviced regularly in accordance with the relevant SOP/s'.	Maintenance of reprocessing equipment is outlined in condition 3(a) and states that maintenance is to occur 'as per manufacturer's specifications', which is likely to align with the SOPs. Weekly inspections as outlined in condition 3(c) are to identify visible, unforeseen faults and defects to ensure prompt identification and repair, mitigating the risk of sparks/ignition. The equipment will only require maintenance if a fault or defect is detected; therefore, the condition remains unaltered.
4 Table 2 Item 4(c)	Rubbergem is unable to ensure that on-site fire extinguishers will extinguish a conveyor belt fire. A Fire Emergency Response Plan has been developed, and fire mitigation/management measures have been provided. Request to amend condition to 'portable fire extinguishers to be located and distributed in accordance with Australian Standard, AS 2444-2001'.	Specifications relating to the location, distribution and type of portable fire extinguishers within *AS 2444-2001 Portable fire extinguishers and fire blankets – Selection and location* are general and are not specific to the site or to environmental risks. As the materials stored on-site are composed of rubber materials which burn intensely and have potential to release toxic gases and particulates into the environment when ignited, it is vital that fire extinguishers can extinguish rubber fires. Not all fire extinguishers are able to extinguish rubber fires; therefore, the Delegated Officer considers inclusion of this condition necessary to ensure fires are promptly extinguished before the fire intensity escalates. Considering the applicant's comments, condition wording has been amended to 'able to extinguish' in place of 'capable of extinguishing' to remove ambiguity. The requirement to extinguish 'conveyor belt fires' has been removed, with the condition specifying 'rubber fires' only, as these changes do not alter the intent of the condition.
4 Table 2 Item 4(d)	There is no guarantee that portable fire extinguishers on equipment will extinguish fires within the open yard and mobile equipment requires specific extinguishers. Request to amend condition to 'Forklifts or other mobile equipment to be fitted with appropriate fire extinguishers'.	Considering the applicant's comments, the Delegated Officer has removed the requirement 'to promptly extinguish fires in the open yard'; however, the requirement to have fire extinguishers fitted to forklifts and mobile equipment at all times is necessary to ensure fire-fighting equipment is readily available should a fire ignite within the open yard.

6 Table 4 Long term storage for conveyor belts and final product - point vii (previously v)	An 18 m long term separation distance between piles leaves a large area of the land unusable. Request to amend condition to 'piles separated by a minimum distance of 6 m'. This allows access and manoeuvrability for fire services vehicles and mitigates the spread of any potential fire risk.	The 18 m separation distance between piles is the distance required to mitigate the risk of fire spread as per DFES GN02.In the absence of further information, the Delegated officer considers the 6m suggested separation distance too low for such large and high-risk stockpiles. Considering the inability of the applicant to meet this requirement, the Delegated Officer has revised the separation distance required to 10 m which is considered more acceptable to achieve isolation and access objectives whilst allowing some degree of operational flexibility. The licence holder may submit an application to vary this distance if strong supporting evidence such as DFES endorsement is obtained.
6 Table 4 Storage requirements for conveyor belt reel off-cuts	Conditions deemed not appropriate for conveyor belt reel off-cuts. A photograph of off-cuts provided to show the nature of the material. Off-cuts stored on-site are to be transported to Rubbergem's Rockingham facility for recycling, commencing September 2025 as priority. Off-cuts generated during ongoing processing will be stored in a 4m^3 on-site skip bin and will be moved to Rubbergem Rockingham facility weekly. Request to amend condition to 'any off-cuts from repurposing operations to be stored in a skip bin/s on site and disposed to an appropriate licenced facility for recycling or disposal'.	Shredded rubber refers to rubber that is less than ~50-80 mm in size (Tyre Stewardship Australia, 2020). Based on the photograph of conveyor reel off-cuts provided by the applicant, the majority of off-cuts are larger pieces; therefore, the requirement to store the off-cuts as per DFES GN02 requirements for shredded rubber have been altered and the Delegated Officer considers the storage of off-cuts within an on-site skip bin acceptable. The storage time of one week has been added to the licence to mitigate the risk of spontaneous ignition that can occur when rubber with a large surface area is stored for several weeks without adequate ventilation in an enclosed space. As off-cuts vary in size and smaller pieces may be present, this provision is deemed necessary to ensure spontaneous ignition of stored off-cuts does not occur.
14 Table 5 Points (i), (iii) & (v)	The site is not engineered to contain large volumes of firewater and measures to contain/direct firewater using booms and bunding are being investigated for the southern boundary. Firewater will be contained within the premises boundary and will not enter adjacent premises, pending climatic conditions. During consultations, DFES has not stipulated a guarantee of containment of all firewater. Request to amend condition to 'Rubbergem implement firewater direction and containment measures on site in line with the development of the Firefighting Water Management Plan and noting volumes that need to be contained'.	The Firefighting Water Management Plan has not been submitted and has therefore not been reviewed by the department as being suitable to contain firewater and prevent release of contaminants contained in firefighting water into the environment. Additionally, measures to contain firefighting water submitted to date do not demonstrate that management or containment options mitigate the risk of emissions. Consultation with DFES is noted; however, while DFES requirements and the requirements of the department generally align, they may differ in some circumstances as the department's role is to prevent environmental harm under the EP Act, and DFES's requirements relate to provision of emergency services and community protection. The Delegated Officer considers points (i), (iii) and (v) necessary to mitigate the risks to the environment associated with release of firefighting water to the environment.
14 Table 5 Point (iv)	Due to potential health and safety implications, Rubbergem oppose this condition. Semi-permanent measures to manage	Condition amended from 'immediately deployed' to 'as soon as practicable' to address concern over health and safety implications due to immediate deployment.

	firewater within area labelled D19028 (in Figure 4 of the licence) are being investigated and will be provided in the Firefighting Water Management Plan. Request to amend condition to 'where safe and practicable, Rubbergem to deploy any firewater containment measures in line with the developed Firefighting Water Management Plan'.	As previously mentioned, the Firefighting Water Management Plan has not been submitted and has therefore not been reviewed by the department and the provision to implement the plan is a requirement of condition 15; therefore, is not repeated in condition 14(iv).
14 Table 5 Point (iv)	Controlled waste carrier contacts will be readily available to on-site personnel. The timing of arrival and capacity of controlled waste carriers cannot be controlled or guaranteed. Request to amend condition to 'Contingency arrangements must exist for the removal of firewater by a carrier licensed under the *Environmental Protection (Controlled Waste) Regulations 2004*, to mitigate firewater discharging to the environment where containment capacity is exceeded'.	The proposed condition wording does not alter the condition requirements and current condition wording is in line with standard licence condition wording; therefore, the condition wording will remain unaltered.
18(a)	There has been ongoing consultation with DFES regarding operations (reduction of conveyor belt stock over 18 months and ongoing repurposing operations). Short-term and long-term storage has been discussed with DFES. Rubbergem has asked TESG to meet with DFES a second time to discuss condition 18, the on-site long-term storage layout and stockpile separation distances. Request to extend date for provision of information to 31 October 2025 due to lengthy timeframes required to arrange a meeting. Request to amend condition to 'licence holder provide evidence to DWER of efforts to schedule meeting by 30 September 2025 (if a meeting has not yet been held)'.	While minutes from the TESG & DFES meeting on 16 October 2024 have been provided, it is unclear whether DFES is aware of the long-term operation of the facility as the documented DFES comments refer to the transition period only. TESG states within the meeting minutes that Rubbergem will "transition to the new site over the next 18 months" and mentions that the DFES meeting is to "provide input for firefighter operational requirements applicable for the transitional period". Additionally, DFES advised Rubbergem to lodge an impairment notice (usually a temporary measure) and to install a water tank "for the transitional period"; however, the long-term requirements are not stated. Based on the meeting minutes provided, it is unclear whether the DFES advice is only applicable to the "transitional period" or whether it is acceptable for the long-term operation of the facility, hence the inclusion of conditions 18(a) and 18(b). As requested, the date for provision of information for condition 18 is extended to 24 December 2025. This is the only date in the condition mentioning provision of information; therefore, remaining condition requirements remain unaltered.
18(b)	A water tank has been installed and additional fire reels will be installed. Request to omit the condition as these aspects have been discussed with DFES.	
18(c)	A storage layout map was submitted to DFES following DFES discussions and recommendations. Request to omit the condition as these aspects have been discussed with DFES.	While a storage layout map was submitted to DFES, evidence of a response stating that the layout is acceptable has not been provided to the department; therefore, the condition remains unchanged.
18(d)	DFES do not provide confirmation, 'sign-off' or advice on equipment	The DFES/TESG meeting minutes state that 'the size and type of connection/fitting will be

	installation. TESG assessed the fittings as suitable. Request to omit the condition as these aspects have been discussed with DFES.	confirmed with DFES', hence the inclusion of this condition; however, considering revised information and that TESG has assessed the fittings as suitable, the Delegated Officer considers the justification acceptable and condition 18(d) has been removed.

Appendix 2: Summary of consultation undertaken by the department – DFES Special Operations Response

Consultation method	Comments received in response to the original Fire Management Plan submission.	Department response
Department of Fire and Emergency Services (Special Operations Response) advised of proposal 1/08/24.	**Legislation** 1.5 Legislation should also refer to the *Bushfires Act 1954* and the *Fire Brigades Acts 1942.* This would relate to (for example) LG Fire break notices (if / as applicable) – the appearance of the site in the photos provided in the report is such that it appears unlikely that the site complied with firebreak (and possibly other) requirements under the Bushfires Act 1954 for the last fire season.	Noted.
	Ignitability of Rubber Table 3 discusses how unlikely ignition of bulk conveyor rubber is but omits to mention that the shredded / crumbed rubber product produced in the process is much more easily ignited and can in some circumstances self-heat and / or self-ignite. Spontaneous ignition of shredded and crumbed rubber product is well documented and has been observed in several fires in the Perth metro area. As such, the current stockpiling of shred / crumb with poor access would make firefighting difficult and may subject adjacent premises to avoidable fire risk, especially where shred/crumb is stockpiled immediately against a structure on the neighbouring premises to the north.	Noted.
	Poor access / Stack sizes Figure 6 show poor access to the shred pile for firefighting purposes. Figure 7 shows indoor storage of rubber crumb in flexible intermediate bulk containers (FIBCs), again with poor access for firefighting. DFES has attended spontaneous ignition of rubber crumb inside FIBCs in recent years. The proposal mentions storage of conveyor in individual areas not exceeding 500 m2. This area is in considerable excess of the advice provided for storage of used/waste tyres in *DFES Guidance Note: GN002 Bulk Storage of Rubber Tyres Including Shredded and Crumbed Tyres*. The report also omits to mention a maximum stacking height, to provide a total undivided maximum volume or mass of conveyor stored. It is noted that conveyor is already stacked too high on site (see below on stack heights). A 500 m^2 fire involving rolls of burning conveyor would be very difficult to contain, control and extinguish, particularly where there is poor secondary containment to intercept firefighting water runoff, and no pump or tank system on the premises, with street hydrants as the only water supply for firefighting operations.	Noted.

Consultation method	Comments received in response to the original Fire Management Plan submission.	Department response
	Fire station proximity The report mentions the proximity of Hope Valley (2 minutes) and Rockingham (12 minutes) Fire Stations, but then seems to assume those stations are always attended / backfilled - in part to justify the lack of other fire protection on the site?	
	High voltage hazard/s The report mentions high voltage hazard presented by on site electrical equipment. It does not recognise or mention the hazard a fire on the site would present (through production of thick black acrid smoke) to the high voltage infrastructure external to the site.	Noted.
	Runoff The site sump referred to in the documentation seems to be uphill of a significant part of the site, and it is not clear from the information provided that firefighting water runoff can or would be contained on the premises. Lack of such information may preclude initial aggressive firefighting operations and result in a more significant scale and duration of fire if the rubber products are involved. The mentioned swale drain to the south does not appear adequate.	Noted.
	Perimeter Bushfire Buffer The report recommends (pg 22, bottom dot point) a 15 metre buffer zone between bushfire risk and the storage of any rubber raw material or product (i.e. conveyor shred, crumb, matting etc) on the site. This recommendation should be **mandated** for the site to operate.	Noted.
	Fire Detection The buildings on site are fitted with a fire detection system, but it is not clear whether the system is connected to a direct fire brigade alarm (DBA), or if it just sounds a local alarm after hours. If not connected by DBA, there may be a significant delay and escalation in a fire before a passerby reports an afterhours fire.	Noted.