JEP
ENVIRONMENT & PLANNING

# Statement of Environmental Effects – Alterations and Additions to an Existing Tyre Recycling Facility

## BSV Tyre Recycling Australia Pty Ltd

Prepared for BSV Tyre Recycling Australia Pty Ltd

Jackson Environment and Planning Pty Ltd

ABN 43 614 057 788

ACN 614 057 788

**Head office location**
Suite 102, Level 1
25-29 Berry St
North Sydney NSW 2060
Australia

**Authors**
Author 1: Jafar Tanana, B.Sc. (Env.Sc.) Graduate Environmental Planner.

Author 3: Dr Mark Jackson, Director and Principal Consultant, B.Sc (Hons), PhD, Grad. Cert. Mgmt., Exec. Masters Public Admin., Certified Environmental Practitioner CEnvP (1542), Impact Assessment Specialist (IA11071), NSW Registered Environmental Assessment Practitioner REAP (R80020).

www.jacksonenvironment.com.au

**Acknowledgements**
JEP Environment & Planning would like to thank all contributors that have informed this report. All recommendations and views in this report are attributable to JEP Environment & Planning unless otherwise stated.



**We declare that**
The report contains all available information that is relevant to the assessment of the Site and proposed development, activity or infrastructure to which the report relates, and the information contained in the report is neither false nor misleading.

This document has been prepared in accordance with the scope of services described in the contract or agreement between Jackson Environment and Planning Pty Ltd ACN 614 057 788 (Trading as JEP Environment & Planning) and the Client. This document is supplied in good faith and reflects the knowledge, expertise and experience of the advisors involved. The document and findings are subject to assumptions and limitations referred to within the document. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the Client. JEP Environment & Planning accepts no responsibility whatsoever for any loss occasioned by any person acting or refraining from action because of reliance on the document. The document has been prepared solely for use by the Client and JEP Environment & Planning accepts no responsibility for its use by other parties.

| Version | Authors | Date | Reviewer | Approved for issue | Date |
|---|---|---|---|---|---|
| **Draft** | J. Tanana | 10/10/2024 | Dr M.Jackson | Dr M.Jackson | 12/07/2024 |
| **Final v1** | J. Tanana | 14/10/2024 | Dr M.Jackson | Dr M.Jackson | 15/10/2024 |
| **Final v2** | J. Tanana | 11/12/2024 | Dr M.Jackson | Dr M.Jackson | 12/12/2024 |

# Executive Summary

BSV Tyre Recycling Australia Pty Ltd (BSV Tyre Recycling) operates a tyre recycling facility at 30 Daisy Street, Revesby. The facility holds consent under DA843/2013 and operates under an Environmental Protection Licence (EPL) 20387 to process up to 14,600 tonnes of waste tyres annually. Historically, the site has relied on the baling and export of used tyres; however, following the 1 December 2021 ban on the export of whole tyres, the facility shifted its focus to producing crumb rubber and Tyre Derived Fuel (TDF) for local and export markets. The transition is in response to the Council of Australian Governments' (COAG) decision to support the national movement towards a circular economy under the *National Waste Policy Action Plan* 2022.

To meet growing demand for TDF and support global efforts to reduce fossil fuel dependence, BSV Tyre Recycling is seeking approval for alterations and additions to expand its tyre recycling capacity. This proposal will increase the facility's tyre receival and processing limit from 14,600 tonnes per year to 29,900 tonnes per year, while maintaining the ability to produce crumb rubber when domestic demand increases. The proposed upgrades will enhance the facility's ability to contribute to the sustainable management of waste tyres.

The Statement of Environmental Effects has been prepared to support the application to alter and add to the existing operations. Key elements of the proposal include:

- Decommissioning of the tyre baling machines located under the rear awning of the site;
- Amending location of existing shipping containers for storage of rubber products (whole tyres and TDF);
- Installation of two mobile diesel shredding units to increase the production of TDF on the rear hardstand of the site, to be located under the rear awning with local exhaust ventilation;
- Establishment of a dedicated area for tyre unloading and temporary storage prior to processing;
- Installation of a pre-cast concrete panel wall along the southern boundary of the site to improve fire safety and noise attenuation;
- Replace the single head fire hydrants with dual fire hydrants near the tyre storage area, including provision of fire extinguishers, fire hose reels and provision for at least 108m$^3$ of fire water containment bunding;
- Installation of a new firewater isolation valve to the north-eastern side of the site; and
- Inclusion of a dedicated bicycle space.

This development is consistent with the zoning of the site as IN1 General Industrial under the *Canterbury-Bankstown Local Environmental Plan* 2023. The facility is classified as a 'Waste or resource management facility,' which is also permissible with consent under Section 2.152 and 2.153(1) *State Environmental Planning Policy (Transport and Infrastructure)* 2021. The proposal does not trigger designated development under Schedule 3 of the *Environmental Planning and Assessment Regulation* 2021. As a result, the proposal is considered local development and is to be assessed under Part 4 of the *Environmental Planning and Assessment Act* 1979. The consent authority for the proposal is Canterbury Bankstown Council.

A comprehensive assessment of potential environmental impacts, including noise, air pollution, waste, traffic, fire, and stormwater management has demonstrated that the proposed changes will not significantly affect the surrounding environment and suitable mitigation measures will be implemented.

The proposal will enhance the facility's operational efficiency and capacity while adhering to best practice environmental management. Additionally, it will provide a boost to the local economy with two additional full-time positions being generated once the facility is in full operation. The Estimated Development Cost of the proposal is $3.072M, which will further support local employment and economic growth.

A summary of findings from the environmental assessment is outlined as follows:

### Hazards and Risks

A preliminary hazard analysis has been conducted to identify and assess potential hazards associated with the proposed development, in line with the *State Environmental Planning Policy (Resilience and Hazards)* 2021. The assessment evaluated risks to human health, property and the environment from potential fire hazards, spills, and equipment malfunctions. Mitigation measures, such as enhanced fire safety protocols, regular maintenance and training, have been proposed to reduce the likelihood of hazardous events. The analysis concludes that the proposed development poses a low risk to the surrounding area, with all identified hazards managed through appropriate safety measures and compliance with relevant guidelines.

### Site Contamination

The existing site is completely sealed with a concrete and asphalt hardstand so the operation of the tyre recycling facility has posed minimal risk of contamination from historical activities. While the construction of a pre-cast concrete panel wall and stormwater pit with an isolation valve will involve the excavation of approximately 21m³ of soil, no significant disturbance or contamination is anticipated. All excavated material will be responsibly managed and disposed or recycled of at a licensed facility to ensure compliance with environmental standards and prevent any potential impacts.

### Waste Management

The BSV Tyre Recycling facility currently processes up to 14,600 tonnes of waste tyres per year and aims to increase its capacity to 29,900 tonnes per year. The facility achieves nearly 100% waste recovery, converting tyres into Tyre Derived Fuel (TDF), crumb rubber, recovered steel and cotton. The alterations and additions will not alter the type of waste received, and all materials will be handled according to strict EPA guidelines. There will be minimal waste generated during the demolition and construction phase, with 100% of materials to be recycled. The recycling rate from office and garden maintenance activities is expected to be 78%. An updated Waste Minimisation and Management Plan has been prepared to outline how wastes will be sustainably managed.

### Air Quality

An Air Quality Impact Assessment (AQIA) determined that emissions from the increased tyre processing will not exceed EPA limits for particulate matter and nitrogen dioxide. The use of diesel-powered shredders may increase emissions of oxides of nitrogen (NOx), however the installation of the local exhaust ventilation at the rear awning where the diesel mobile shredders will be placed will mitigate air pollution, ensuring compliance with air quality standards. Traffic-related emissions are also predicted to have minimal impact on sensitive receptors.

### Traffic and Parking

The proposed development will increase vehicle movements to and from the facility, including medium rigid vehicles and semi-trailers. Traffic studies show that the additional vehicle movements will not significantly affect local traffic flow or increase congestion. The site provides 11 parking spaces, exceeding the required number, ensuring adequate parking for staff. Truck movements will be scheduled outside of peak hours to minimise traffic disruptions, and all vehicles will enter and exit the site in a forward direction over the weighbridge.

### Fire Safety

The proposed development includes significant improvements to fire safety, such as installing dual fire hydrants near the tyre storage area, 108m³ of firewater containment bunding and a new stormwater isolation valve. A pre-cast concrete panel wall along the southern boundary will provide additional fire protection, while local exhaust ventilation for shredders will prevent excessive heat buildup. The site fully complies with the FRNSW's Fire Safety Guidelines. Regular inspections, proper housekeeping, and a no-smoking policy further mitigate fire risks.

### Noise and Vibration

A noise impact assessment concluded that the proposed alterations and additions, including the installation of mobile shredders, will comply with established noise criteria for surrounding residential and industrial areas. The construction of a 5-meter-high concrete panel wall along the southern boundary will help attenuate noise emissions. Predicted noise levels from vehicle movements, tyre shredding, and other operations will remain within permissible limits, ensuring minimal disruption to the surrounding community.

### Stormwater

The existing stormwater system includes grated drains, a gross pollutant trap (GPT), and a stormwater isolation pit (SIP) to manage runoff. Although no new impervious areas will be added, excavation for support posts for a concrete wall and new stormwater pit with an isolation valve, may cause minor sediment runoff. To mitigate this, measures such as sediment fences and geotextile filters will be implemented. A new stormwater isolation mechanism near the north of the shed will be installed, and the hardstand in this area will also be regraded. Moreover, rollover bunding will be added to contain firewater. Ongoing inspections will ensure compliance and prevent contamination.

The proposed alterations and additions to the BSV Tyre Recycling facility have been thoroughly assessed, and the findings indicate that the impacts on the environment and surrounding community are minor. The development will

provide critically-needed tyre recycling infrastructure capacity, helping to reduce waste and increase resource recovery. The changes will improve the environmental performance of the facility by incorporating mitigation measures for hazards and risks, site contamination, waste management, air quality, traffic, fire safety, noise and stormwater management.

### Operational Environmental Management Plan

A detailed site Operational Environmental Management Plan has been prepared, setting out how the operation will be managed and operated in accordance with environmental best practice. The Operational Environmental Management Plan provides a guide as to how the operation will implement all mitigation and management measures as recommended in this environmental assessment.

This Statement of Environmental Effects outlines the findings of a comprehensive environmental evaluation of the Proposal. As the Proposal complies with all planning and legislative requirements, and will have minimal impact on people and the local environment, the proposal is therefore recommended for approval.

# CONTENTS

# 1. Introduction

This Statement of Environmental Effects (SEE) has been prepared by JEP Environment & Planning to support BSV Tyre Recycling Australia Pty Ltd's (BSV Tyre Recycling) Development Application under the *Environmental Planning and Assessment Act* 1979 for alterations and additions to an existing tyre recycling facility (the Facility) at 30 Daisy Street, Revesby (Lot 198, DP 7866) (the Site).

BSV Tyre Recycling has been acquired by Tempe Tyres Pty Ltd, one of Australia's largest tyre suppliers. The Site operates under an existing development consent (DA843/2013) for the receipt, processing, and production of various tyre-derived products from used car and truck tyres, with a maximum receival limit of 14,600 tonnes per annum. The Facility is approved for the shredding, crumbing, and baling of tyres and has historically focused on the baling and export of used tyres. However, recent regulatory changes, specifically the Council of Australian Government (COAG) ban on whole tyre exports, have prompted the company to shift towards crumb rubber production and the export of chipped tyres in the form of tyre-derived fuel (TDF).

The alterations and additions will increase the receival limit of tyres to 29,900 tonnes per annum and TDF production capacity whilst retaining the capability for crumb rubber production (the Proposal). Key components of the Proposal include decommissioning of tyre baling machines, reconfiguration of storage containers, installation of mobile diesel shredding units, establishment of a dedicated unloading and temporary storage area, and significant fire safety enhancements.

## 1.1. Applicant Details

BSV Tyre Recycling Australia Pty Ltd (BSV Tyre Recycling) is the Proponent and corporate lessee of the Site at 30 Daisy Street, Revesby.

In 2022, the BSV Tyre Recycling was acquired by Tempe Tyres Pty Ltd, a leading company in the tyre industry. This acquisition further improves BSV's capacity and operational efficiency in the tyre recycling sector. The purchase provides Tempe Tyres, with an ability to offer all its tyre customers with sustainable solutions for management of end-of-life tyres and assists in achieving their sustainability goals.

BSV Tyre Recycling commenced operations in 2013 to deliver best practice tyre recycling options in NSW. The company is accredited by Tyre Stewardship Australia (TSA), the peak industry body established to ensure the sustainable management of used tyres in Australia.

BSV Tyre Recycling receives waste tyres from tyre retailers across Sydney. These tyres are sorted and processed either by baling, shredding, or crumbing. Historically, baled tyres were exported to countries such as Malaysia and India, for production of TDF.

The Proposal will enable BSV to increase production capacity, meet growing market demands for TDF, and continue to contribute to the sustainable management of used tyres in Australia.

## 1.2. Site History and Approvals Background

The Facility operates under a series of development consents and approvals. Table 1.1 provides a summary of the key consents and approvals related to the Site:

**Table 1.1 Development consents related to the Site.**

| DA number | Description | Date approved | DA status |
|---|---|---|---|
| **DA-843/2013** | Use of premises for tyre recycling and transportation | 19/11/2013 | DA implemented |
| **DA-764/2016** | Installation of Weighbridge | 09/09/2016 | DA implemented |

## 1.3. Existing Environment Protection Licence

BSV Tyre Recycling operates under EPL 20387 that authorises the following fee-based activities:

- Recovery of waste tyres; and
- Waste storage - waste tyres.

The quantity of waste tyres processed at the Facility must not exceed 14,600 tonnes per year. The authorised amount of waste (processed and unprocessed) permitted on the Facility cannot exceed 150 tonnes at any one time. The maximum height of any processed or unprocessed waste tyres stored at the Facility cannot exceed 3.7 metres in height above ground level.

Other operational and reporting conditions also apply.

The Proponent will need to seek a variation from the NSW EPA to the existing annual limit stipulated in EPL 20387, following development approval of this alterations and additions application.

## 1.4. Project Approval Pathway

BSV Tyre Recycling is proposing to continue the use of the Site as a tyre recycling facility and is seeking planning approval to alter and add to the Site layout approved under an existing development consent (DA-843/2013) to include the following:

- Decommissioning of the tyre baling machines located under the rear awning of the site;
- Amending location of existing shipping containers for storage of rubber products (whole tyres and TDF);
- Installation of two mobile diesel shredding units to increase the production of TDF on the rear hardstand of the site, to be located under the rear awning with local exhaust ventilation;
- Establishment of a dedicated area for tyre unloading and temporary storage prior to processing;
- Installation of a pre-cast concrete panel wall along the southern boundary of the site to improve fire safety and noise attenuation;
- Replace the single head fire hydrants with dual fire hydrants near the tyre storage area, including provision of fire extinguishers, fire hose reels and provision for at least 108m$^3$ of fire water containment bunding;
- Installation of a new firewater isolation valve to the north-eastern side of the site; and
- Inclusion of a dedicated bicycle space.

This development is proposed on land zoned as IN1 General Industry under the *Canterbury-Bankstown Local Environmental Plan* 2023. The tyre recycling facility can be defined as a 'Waste or resource management facility,' which is described under the definitions of the *Canterbury-Bankstown Local Environmental Plan* 2023 as:

> *Waste or resource management facility means any of the following:*
>
> *a) A resource recovery facility,*
> *b) A waste disposal facility,*
> *c) A waste or resource transfer station,*
> *d) A building or place that is a combination of any of the things referred to in paragraphs (a)-(c)."*

'Waste or resource management facilities' are not expressly defined as permissible with consent or prohibited. However, this type of use can be permissible with consent asunder the *Canterbury-Bankstown Local Environmental Plan* 2023 'any other development' not specified as 'Permissible with consent' or 'Prohibited' is permissible on IN1 zoning. Also under Clause 2.153(2a) of *State Environmental Planning Policy (Transport and Infrastructure)* 2021, 'Waste or resource management facilities' are also permissible with consent in IN1 zones.

It is noted that this project could potentially trigger the requirement for a designated development (Schedule 3, Clause 45(4)(f)) of the *Environmental Planning and Assessment Regulation* 2021), as the facility is located within 500 metres of a residential zone or 250 metres of a dwelling not associated with the development and, in the opinion of the consent authority, having regard to topography and local meteorological conditions, is likely to significantly affect the amenity of the neighbourhood by reason of noise, visual impacts, vermin, traffic or air pollution, including odour, smoke, fumes or dust. The closest residential receiver to the site is approximately 120 meters away.

However, a detailed environmental assessment has been performed in relation to hazard and risks, site contamination, waste management, air quality, traffic, noise and vibration, fire safety and stormwater. As a result, the study found the Proposal will not significantly affect the amenity of the neighbourhoods by reason of hazard and risks, site contamination, waste management, air quality, traffic, noise and vibration, fire safety and stormwater impacts. Consequently, the Proposal does not trigger Designated Development. The Proposal therefore should be

assessed as a local development by Canterbury–Bankstown Council (the Consent Authority) under Part 4 of the *Environmental Planning and Assessment Act* 1979.

Also, the Proposal will be integrated development under Clause 4.47 of the *Protection of the Environment Operations Act* 1997 and the *Roads Act* 1993. ‘

## 1.5. Development application checklist

The application has been prepared to address all Canterbury-Bankstown Council development application checklist requirements. Please see Table 1.2 for the checklist and where in the application these requirements have been addressed.

**Table 1.2. Canterbury-Bankstown Council content requirements for a development application and the relevant sections of this report that address those requirements.**

| Content Requirements | Details of Relevant Section |
|---|---|
| **Applicant name** | BSV Tyre Recycling Australia Pty Ltd |
| **Applicant address** | 30 Daisy Street Revesby, NSW 2212 |
| **Description of the development** | Section 3 |
| **Required/Supporting Documents** | |
| **Owners Consent** | See DA Package |
| **Section 10.7** | Appendix J |
| **Architectural Plans** | Appendix A |
| **Survey Plan** | Appendix I |
| **Site Analysis Plan** | Appendix A |
| **Floor Plan** | Appendix A |
| **Elevations/Sections** | Appendix A |
| **Shadow Diagram** | Appendix A |
| **Neighbour Notification Plan** | Appendix A |
| **Statement of Environmental Effects** | This Report |
| **Waste Management Plan** | Section 9 and Appendix B |
| **Erosion/Sediment Control Plan** | Appendix G |
| **Quantity Surveyor Report** | Appendix H |
| **Schedule of Colour and Finishes** | Appendix A |
| **Drainage Plans/OSD Details** | Appendix G |
| **Acoustic or Traffic Report** | Acoustic (Section B and Appendix F) and Traffic (Section 11 and Appendix C) |
| **Disability Access Report** | Not required - addressed in Traffic impact Assessment. See Section 11 and Appendix C |
| **Air Quality Report** | Section 10 and Appendix D |
| **Fire Safety** | Section 12 and Appendix E |
| **Plan of Management** | An Operational Environmental Management Plan is provided in Appendix M |

**Figure 1.1. General locality of the Site at 30 Daisy Street Revesby NSW (Lot 198, DP 7866). Site boundaries are shown in yellow.**


| Date | Revision | Drawn By | Site description |
|---|---|---|---|
| 18/07/2024 | Revision A | J.Tanana | 30 Daisy Street, Revesby (Lot 198, DP 7866) |
| | | | |
| | | | |
| | | | |

**JEP Environment & Planning**
**Strategy | Approvals | Compliance | Licensing**
**A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060**
**E:** admin@jacksonenvironment.com.au
**T: 02 8056 1849**
**W:** http://www.jacksonenvironment.com.au

JEP ENVIRONMENT & PLANNING

| Client | BSV Tyre Recycling Australia Pty Ltd |
|---|---|
| Project | Tyre Recycling Facility Alteration and Additions |
| Title | General Locality |
| Scale | Not to Scale |
| Source | Nearmap |

**Figure 1.2. Land use zoning IN1 General Industry under Canterbury-*Bankstown Local Environmental Plan* 2023. Site boundaries are shown in yellow.**


| Date | Revision | Drawn By | Site description | JEP Environment & Planning | Client | BSV Tyre Recycling Australia Pty Ltd |
|---|---|---|---|---|---|---|
| 18/07/2024 | Revision A | J.Tanana | 30 Daisy Street, Revesby (Lot 198, DP 7866) | **Strategy \| Approvals \| Compliance \| Licensing**<br>**A:** Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060<br>**E:** admin@jacksonenvironment.com.au<br>**T:** 02 8056 1849<br>**W:** http://www.jacksonenvironment.com.au | Project | Tyre Recycling Facility Alteration and Additions |
| | | | | | Title | Land Use Zonings |
| | | | | | Scale | Not to Scale |
| | | | | | Source | NSW Spatial Viewer |

**Figure 1.3. Aerial view of 30 Daisy Street Revesby NSW (Lot 198, DP 7866). Approximate Site boundaries are shown in yellow.**

| Date | Revision | Drawn By | Site description | JEP Environment & Planning<br>Strategy \| Approvals \| Compliance \| Licensing<br>A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060<br>E: admin@jacksonenvironment.com.au<br>T: 02 8056 1849<br>W: http://www.jacksonenvironment.com.au | | Client | BSV Tyre Recycling Australia Pty Ltd |
|---|---|---|---|---|---|---|---|
| 18/07/2024 | Revision A | J.Tanana | 30 Daisy Street, Revesby (Lot 198, DP 7866) | | | Project | Tyre Recycling Facility Alteration and Additions |
| | | | | | | Title | Site Location |
| | | | | | | Scale | Not to Scale |
| | | | | | | Source | Nearmap |

# 2. Strategic Context

This section provides a justification of the proposed development with regards to relevant government strategies, policies and plans; the regional and local land use planning context; the suitability of the Site and an analysis of alternatives. The strategic context also considers key risks or hazards for the proposal and whether the project is likely to generate cumulative impacts with other developments in the area.

## 2.1. Project Justification

The proposed alterations and additions to the BSV Tyre Recycling facility at 30 Daisy Street, Revesby are justified based on several strategic considerations, including alignment with regional planning frameworks and key state strategies focused on waste management and sustainability.

### 2.1.1. Greater Sydney Region Plan

The *Greater Sydney Region Plan, A Metropolis of Three Cities* is built on a vision of three cities where most residents live within 30 minutes of their jobs, education and health facilities, services and great places.

The *Greater Sydney Region Plan*, A Metropolis of Three Cities has the following objectives:

- Sets a 40-year vision (to 2056) and establishes a 20-year plan to manage growth and change for Greater Sydney in the context of social, economic and environmental matters;
- Informs district and local plans and the assessment of planning proposals;
- Assists infrastructure agencies to plan and deliver for growth and change and to align their infrastructure plans to place-based outcomes; and
- Informs the private sector and the wider community of the growth management and infrastructure investment intentions of government.

The *Greater Sydney Region Plan* applies to the Greater Sydney Region, and sets the planning framework for the districts which make up the region.

The demand for industrial and urban services land across Greater Sydney is driven by these different locational needs and infrastructure requirements. Urban services identified in the plan include the provision of waste and recycling services dispersed across Greater Sydney on varied sized lots, close to surrounding residential and commercial centers they directly serve and relying on proximity to markets.

The Proposal is in line with, and would assist in implementation of, the *Greater Sydney Region Plan*.

### 2.1.2. NSW Waste and Sustainable Materials Strategy 2041

The *NSW Waste and Sustainable Materials Strategy* 2041: Stage 1 – 2021-2027 is the approved waste strategy for NSW. It sets out the long-term vision for managing waste, planning for infrastructure, reducing carbon emissions, creating jobs, and refocusing the way NSW produces, consumes and recycles products and materials. The strategy will be used to track, review and measure NSW's progress toward meeting the targets set out in the National Waste Policy Action Plan. The targets are to:

- Reduce total waste generated by 10% per person by 2030;
- Have an 80% average recovery rate from all waste streams by 2030;
- Significantly increase the use of recycled content by governments and industry;
- Phase out problematic and unnecessary plastics by 2025;
- Halve the amount of organic waste sent to landfill by 2030.

The proposed alterations and additions at BSV Tyre Recycling directly supports several key objectives of this strategy, including:

- Increasing Resource Recovery: By boosting the facility's capacity to process and recycle used tyres, the Proposal contributes to higher resource recovery rates and supports the strategy's goal of diverting waste from landfills;
- Supporting the Circular Economy: The production of tyre-derived fuel (TDF) and crumb rubber promotes the reuse of materials, aligning with the strategy's emphasis on circular economy principles; and

- Reducing Greenhouse Gas Emissions: The use of TDF as a coal replacement in industries helps reduce greenhouse gas emissions, supporting the strategy's environmental objectives.

### 2.1.3. NSW EPA Strategic Plan 2021-24

The *NSW Environment Protection Authority (EPA) Strategic Plan* 2021-24 outlines its ambition to be a modern, innovative world-class regulator addressing environmental challenges through a proactive, science-based approach. Focused on waste management, sustainable development, water quality, contaminant control, and climate change, the EPA aims to reduce harmful impacts, promote a circular economy, ensure safe water, mitigate contaminant risks, and support climate resilience. By leveraging technology, engaging with communities, and emphasising Aboriginal knowledge, the EPA strives for outcomes that balance government, community, and business priorities, fostering a healthy and thriving environment for future generations.

The proposed development aligns with the EPA's strategic objectives by:

- Enhancing Compliance and Performance: The facility's compliance with stringent operational standards and the implementation of enhanced fire safety measures reflect the EPA's commitment to high environmental and safety performance; and
- Promoting Sustainable Waste Management: The alterations and additions supports the EPA's goal of promoting sustainable waste management practices through increased recycling and resource recovery.

### 2.1.4. NSW Waste and Sustainable Materials Strategy: A guide to Future Infrastructure Needs

The *NSW Waste and Sustainable Materials Strategy: A guide to future infrastructure needs*, is a supplement to the *NSW Waste and Sustainable Materials Strategy* 2041. The guide outlines the emerging needs in NSW's waste and circular economy infrastructure network. The needs have been grouped by material types with a focus on materials commonly found in municipal solid waste (MSW) and commercial and industrial (C&I) waste streams. Significant gaps exist in our system for the reprocessing of some of these materials that have historically been exported for processing.

The guide sets out how the NSW Government will support the development of new infrastructure through facilitating infrastructure, e.g., through planning activities; investing in high priority projects; strategically planning for infrastructure with local communities; and aligning policy and regulation with the Strategy. The three key areas of focus, based on extensive analysis of material flows, current and planned capacity and proposed policy changes, are residual waste, organics and plastics.

The guide specifically addresses the current market, processing capacity, throughput and future needs, and the opportunities and challenges associated with processing of plastics, organics, glass, paper and cardboard, and tyres. The guide identifies a deficit of approximately 85,000 to 100,000 tonnes per annum (tpa) in the State's current tyre processing capacity, with a lack of local markets for tyre-derived products being a major challenge for the industry.

The proposed alteration and additions to the BSV Tyre Recycling facility address several identified infrastructure needs:

- Increased Processing Capacity: By doubling the facility's tyre receival limit and enhancing its processing capabilities, the Proposal addresses the projected shortfall in tyre recycling infrastructure capacity;
- Improved Operational Efficiency: The installation of new shredding units and reconfiguration of the Site layout contribute to more efficient processing and handling of waste tyres; and
- Enhanced Fire Safety: The implementation of additional fire safety measures, such as the installation of a pre-cast concrete panel wall and fire hydrants, aligns with the strategy's focus on ensuring the safety and resilience of waste management facilities.

### 2.1.5 2018 National Waste Policy: Less Waste, More Resources

The 2018 *National Waste Policy* was developed to provide a framework for a national approach to waste management, recycling and resource recovery, helping the country move towards a circular economy. The five overarching principles for waste management set out in the policy are:

- Avoid waste;

- Improve resource recovery;
- Increase use of recycled material and build demand and markets for recycled products;
- Better manage material flows to benefit human health, the environment and the economy; and
- Improve information to support innovation, guide investment and enable informed consumer decisions.

Supporting the policy is the *National Waste Policy Action Plan* 2019 (the Plan). The Plan recognises the need to build a local market for the processing and reuse of problem wastes, ensuring Australia takes responsibility for its' waste production and moving toward a circular economy. Transforming problem wastes into high value materials will support job creation, build a more sophisticated industry, and provide positive environmental and community wellbeing outcomes. The Plan presents the targets and actions to implement the policy and aims to address impediments to a circular economy in Australia. The targets are:

1. Ban the export of waste plastic, paper, glass and tyres commencing in the second half of 2020;
2. Reduce total waste generated in Australia by 10% per person by 2030;
3. 80% average resource recovery rate from all waste streams following the waste hierarchy by 2030;
4. Significantly increase the use of recycled content by governments and industry;
5. Phase out problematic and unnecessary plastics by 2025;
6. Halve the amount of organic waste sent to landfill by 2030; and
7. Make comprehensive, economy-wide and timely data publicly available to support better consumer, investment and policy decision.

Historically, the facility relied on the baling and export of whole tyres but following the 1st December 2021 export ban on whole tyres (with exceptions for certain re-treadable truck, bus, and aviation tyres), BSV Tyre Recycling shifted its focus to producing crumb rubber for use in asphalt and playground surfaces, as well as tyre-derived fuel (TDF) for export. This transition has allowed the facility to adapt to the new regulatory landscape while continuing to contribute to sustainable tyre recycling.

To meet the increasing demand for TDF and support the goals of the export ban, BSV is seeking approval to add two new mobile shredders capable of producing 25 tonnes of TDF per day. These shredders will complement the existing crumb rubber plant, which produces 3 tonnes per day.

Whilst directly supporting government waste reduction targets, BSV Tyre Recycling will also demonstrate the importance of small-scale tyre processing facilities in improving the network of tyre recycling infrastructure within NSW.

## 2.2. Key Features of the Site and Surrounds

The Site is located at 30 Daisy Street, Revesby (Lot 198, DP 7866) within the City of Canterbury-Bankstown local government area, with an area of approximately 4,000 m². The general locality of the Site is shown in Figure 1.1. The Site is a single lot located entirely within land use zone IN1 General Industrial as shown in Figure 1.2. An aerial view of the Site is shown in Figure 1.3.

The Site contains a single storey industrial building with associated mezzanine office level. The factory environment within this building is used for tyre shredding and crumbing with mechanical plant and equipment. A weighbridge is located on the southern boundary of the site. A large outdoor covered area at the rear eastern side of the site has been historically used for tyre storage and baling.

### 2.2.1. Site Topography and Drainage

The Site is relatively flat with a minor slope down toward the northern boundary.

Stormwater runoff generally drains in a north-westerly direction into a concrete lined dish drain extending the length of the Site's northern boundary. Rainwater from the roof of the open-sided shed discharges into the dish drain. Rainwater from the workshop roof discharges directly to the Council's stormwater drainage network. Part of the front section of the Site (used for parking and Site entry/exit) also bypasses the dish drain.

All runoff flowing into the dish drain is discharged to a pit fitted with an Enviropod™ – a structural basket designed to trap pollutants greater than 200 microns. Water is then directed to an adjacent pit fitted with an isolation valve, then to a third pit (external to the Site) fitted with an Enviropod™ prior to discharge to Council's stormwater drainage network.

### 2.2.2. Waterways

The Georges River is located approximately 2.9 km to the west of the Site. A tributary of the Georges River passes to the north of the Site. The tributary has been channelised and runs through a heavily industrialised area. The Georges River catchment drains an area of 960 km$^2$, extending from the Illawarra Escarpment and Appin through to Botany Bay. A large portion of the catchment is affected by urban and industrial development.

### 2.2.3. Adjoining Premises and Sensitive Receivers

The Site is located within a heavily industrialised area, in the vicinity of the Bankstown Airport and the M5 South Western Motorway (Figure 1.1). All immediately adjoining premises are industrial lots. The nearest residential area is approximately 130m east of the site, separated from the Site by commercial and industrial properties. The M5 South Western Motorway passes between the Site and residential properties to the south. A number of primary schools and high schools, along with an aged care facility and the Bankstown-Lidcombe Hospital are located within approximately 1 km of the site. The Site is separated from these sensitive receptors by other industrial and commercial lots, major roadways and dense residential areas. Table 2.1 lists the adjoining premises and nearest sensitive receptors and their distance from the site.

Whilst this Proposal will result in an increase in the volume of rubber tyres processed on Site, the Proposal will not result in any significant increases in traffic, noise or pollution and is unlikely to have any additional impacts on adjoining premises and nearby sensitive receptors.

**Table 2.1. The location and distance from Site of adjoining premises and nearest sensitive receptors.**

| Business Name | Address | Distance from site |
|---|---|---|
| **Japan Ceramics (office and warehouse)** | 26 Daisy Street | Northern neighbour |
| **KM One Pty Ltd (asbestos removalist)** | 34 Daisy Street | Southern neighbour |
| **U-Go Mobility (bus depot)** | 29 Daisy Street | Western side of Daisy Street |
| **Topstar Australia (furniture warehouse)** | 32 Queen St | Eastern neighbour |
| **Beechwood Aged Care** | 3-17 Albert Street, Revesby | 560m east |
| **Broderick Gillawarna School** | 36/48 Victoria Street, Revesby | 623 m southeast |
| **First Steps Learning Academy (preschool)** | 112 Queen Street, Revesby | 680 m south |
| **Revesby Public School** | 71 Victoria Street, Revesby | 865 m southeast |
| **Sir Joseph Banks High School** | Turvey Street, Revesby | 887 m east |
| **Panania North Public School** | 202-204 Bransgrove Road, Panania | 900 m southwest |
| **St Luke's Catholic Primary School** | 75/79 Victoria Street, Revesby | 920 m southeast |
| **Bankstown-Lidcombe Hospital** | Eldridge Road, Bankstown | 1,036 m northeast |

### 2.2.4. Traffic

Daisy Street is classified as a local road accessed from Milperra Road in the north and Gordon Parker Street in the south. Daisy Street is a two-way street and has a speed limit of 50km/hr, parking on both sides of the street.

A detailed traffic impact assessment was not done to support the application determined under DA-843/2013, however an assessment of existing traffic levels suggests that the site receives up to sixteen (16) truck movements

per day (incoming and outgoing) comprising twelve (12) Medium Rigid Vehicle movements and four (4) semi-trailer (19m) movements. Truck arrivals and departures are currently managed and spread evenly throughout the day, in order to avoid congestion on the site.

The existing development employs fifteen (15) staff in total, with a maximum of seven (7) staff members on-site at any given time, ensuring compliance with available parking spaces as per DA-843/2013. Two recycling shifts operate from Monday to Friday (6am to 3pm and 3pm to 11pm), and one shift occurs on Saturdays and Sundays. See Appendix K for DA-843/2013 consent conditions

### 2.2.5. Identified Risks or Hazards

The Site contains a single storey industrial building with associated mezzanine office level. The factory environment within this building is used for tyre shredding and crumbing with mechanical plant and equipment. A weighbridge is located on the southern boundary of the site. A large outdoor covered area at the rear eastern side of the Site is the location for one of the mobile tyre shredders for the shredding of tyres. The lot has a total area of approximately 4,000m$^2$ zoned IN1 General Industrial. No major hazards are located or identified on the site. Further detail and analysis are in the hazard and risk assessment, see Section 6.

### 2.2.6. Operating hours

Table 2.2 show the current operating hours as approved under DA-843/2013.

**Table 2.2. Current approved operating hours.**

| Day | Approved Operating Hours |
|---|---|
| **Monday - Friday** | 06:00 to 23:00 |
| **Saturday** | 08:00 to 17:00 |
| **Sunday** | 09:00 to 16:00 |

A breakdown of the weekday operations is as follows:

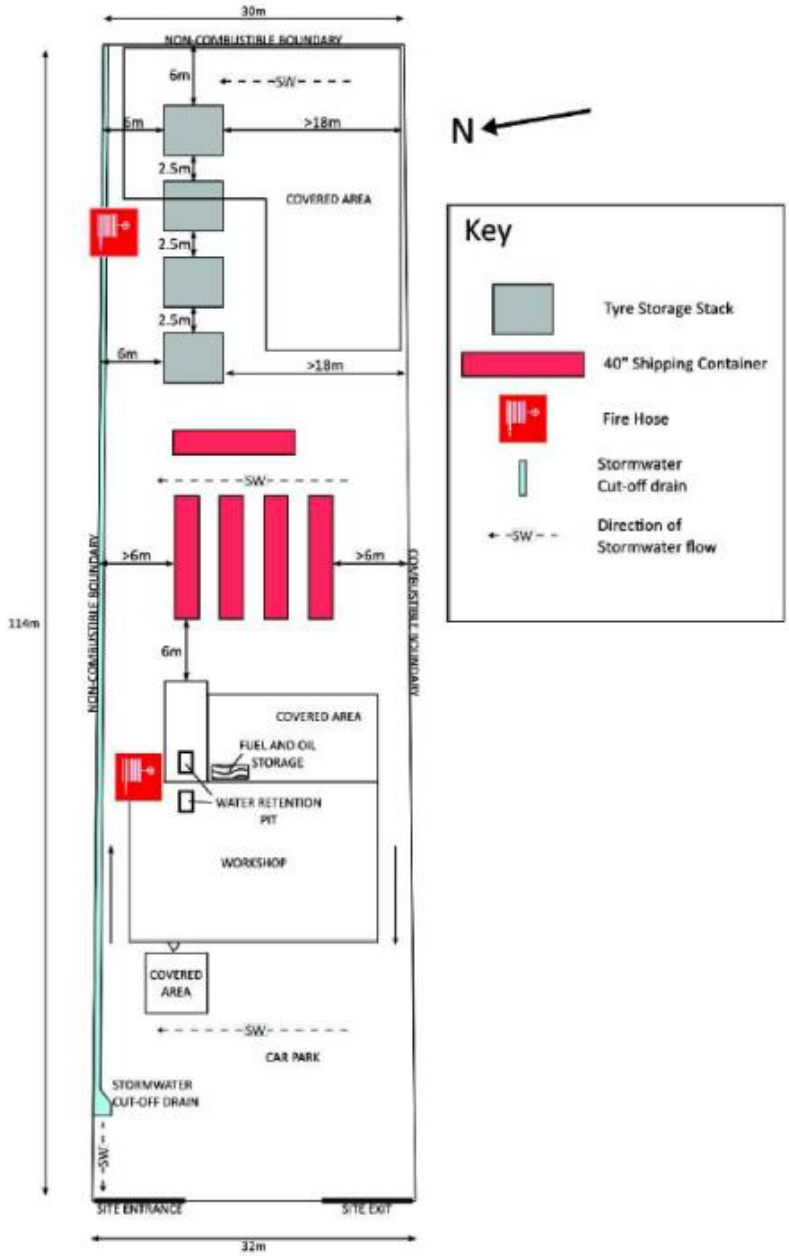
- Main Office: 9:00am - 6:00pm;
- Tyre Recycling: Shift 1: 6:00am - 3:00pm;
- Tyre Recycling: Shift 2: 3:00pm - 11:00pm;
- Cleaning, packaging and maintenance: 6:00pm - 11:00pm; and
- Delivery Hours: 6.00am – 6.00pm.

### 2.2.7. Overview of Existing Approval Under DA-843/2013

The existing operations approved under DA-843/2013, allow for the processing of up to 14,600 tonnes of tyres per year. The operations are entirely contained within existing buildings on-site. Tyres are stored in both internal and external areas following NSW Fire Brigade Guidelines, with an on-site storage limit of 150 tonnes at any time, in compliance with DA-843/2013 and EPL 20387. The crumb rubber production process involves removing the beads from the tyres, followed by mechanical shredding. Metals, cotton, and fibre are separated and transferred to storage bins or bulk bags. The processed crumb rubber is then packed into bulk bags and stored for dispatch. This crumb rubber is primarily used in the production of asphalt and playground surfaces.

Separately, the facility also operates a baling process for tyres. Tyres received are sorted and baled into compact units, which are then stored in containers. These baled tyres are exported for recycling, with a maximum of two shipping containers, each holding up to 20 tonnes, being dispatched per day. Both processes ensure non-conforming waste is rejected, and residual waste from processing is disposed of at licensed facilities by a responsible contractor.

**Figure 10.2.1. Site plan and tyre storage layout as approved under DA843-2013.**




| Date | Revision | Drawn By | Site description | Client | BSV Tyre Recycling Australia Pty Ltd |
|---|---|---|---|---|---|
| 03/10/2024 | Revision A | J Tanana | 30 Daisy Street, Revesby (Lot 198, DP 7866) | **Project** | Tyre Recycling Facility Alteration and Additions |
| | | | | **Title** | Site plan and Layout as per DA-843/2013 |
| | | | | **Source** | BSV Tyre Recycling Australia Pty Ltd OEMP (2023) |


**JEP Environment & Planning**
**Strategy | Approvals | Compliance | Licensing**

**A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060**
E: admin@jacksonenvironment.com.au
T: 02 8056 1849
W: http://www.jacksonenvironment.com.au

# 3. Project Description

BSV Tyre Recycling Australia Pty Ltd operates an EPA licenced resource recovery facility for used tyres at 30 Daisy Street, Revesby NSW (EPL 20387). The company is accredited by Tyre Stewardship Australia (TSA), the peak industry body established to ensure the sustainable management of used tyres in Australia.

The site contains a single storey industrial building with associated mezzanine office level. The factory environment within this building is used for tyre shredding and crumbing with mechanical plant and equipment. A weighbridge is located on the southern boundary of the site. A large outdoor covered area at the rear eastern side of the site is used for tyre storage, baling and containerisation. The lot has a total area of approximately 4,000m$^2$.

BSV has development consent under DA843/2013 for the receipt, processing and production of various tyre derived products from used car and truck tyres received. The site has historically relied on the baling and export of used tyres. In 2019, the Council of Australian Governments (COAG) agreed to ban the export of a range of waste types including whole tyres (except truck, bus and aviation tyres being exported for re-treading), which commenced on 1 December 2021. Since this date, the facility has focused on crumb rubber production for use in asphalt making and sustainable children playground surfaces, and the production of a tyre chip which is exported as a coal replacement (referred to as a Tyre Derived Fuel or TDF).

Over the past two years, export markets have been growing rapidly for TDF, as countries look for fossil fuel replacements to support the energy transition and reduce greenhouse gas emissions. The use of TDF as a coal replacement can assist industries like the cement and steel industry lower their emissions. At the same time, demand for crumb rubber domestically has been very low. As a consequence, the company has been directing all tyres into TDF for export as a fuel replacement.

BSV Tyre Recycling Australia Pty Ltd is now seeking approval for alterations and additions to its development consent to increase the production of TDF. The Proposal will increase the receival limit of tyres from 14,600 tonnes per year to 29,900 tonnes per year, whilst retaining the ability to manufacture rubber crumb when demand is displayed by the domestic market. Crumb rubber production capability will remain as approved in the shed under DA843/2013.

The proposal includes the following components:

- Decommissioning of the tyre baling machines located under the rear awning of the site;
- Amending location of existing shipping containers for storage of rubber products (whole tyres and TDF);
- Installation of two mobile diesel shredding units to increase the production of TDF on the rear hardstand of the site, to be located under the rear awning with local exhaust ventilation;
- Establishment of a dedicated area for tyre unloading and temporary storage prior to processing;
- Installation of a pre-cast concrete panel wall along the southern boundary of the site to improve fire safety and noise attenuation;
- Replace the single head fire hydrants with dual fire hydrants near the tyre storage area, including provision of fire extinguishers, fire hose reels and provision for at least 108m$^3$ of fire water containment bunding;
- Installation of a new firewater isolation valve to the north-eastern side of the site; and
- Inclusion of a dedicated bicycle space.

No change in operating hours is proposed, and will remain as 6am to 11pm on weekdays, 8am to 5pm on Saturdays and 9am to 4pm on Sundays as per DA843/2013. Two additional staff members will be employed, bringing the total staff from fifteen (15) to seventeen (17). Also, a maximum of nine (9) staff members will be on-site at any given time which ensures compliance with available parking spaces. Two recycling shifts will occur on a Monday to Friday (6am to 3pm and 3pm to 11pm), and one shift on Saturdays and Sundays.

Tyres will be transported to the facility in medium rigid vehicles (MRV's) and in forty cubic foot shipping containers transported by side loading semi-trailers. All vehicles will enter the site in a forward direction over the weighbridge on the southern side of the site, and will exit in the forward direction over the weighbridge and out of the site. All product hauled off-site will be containerised in forty cubic foot shipping containers for transport via semi-trailers to Port Botany for export.

The alterations and additions to the existing tyre recycling facility will help improve operational efficiency, reduce the need for tyre stockpiling outside and will help the facility to better support the tyre recycling needs on the Sydney

Metropolitan Area. The Proposal is compliant with the requirements of NSW Fire & Rescue (2014) *Fire Safety Guideline – Guideline for Bulk Storage of Rubber Tyres*[1].

## 3.1. Proposed Operating hours

The proposed operating hours will remain the same as previous approved DA843/2013, as summarised in Table 3.1.

**Table 3.1. Current approved operating hours will remain unchanged.**

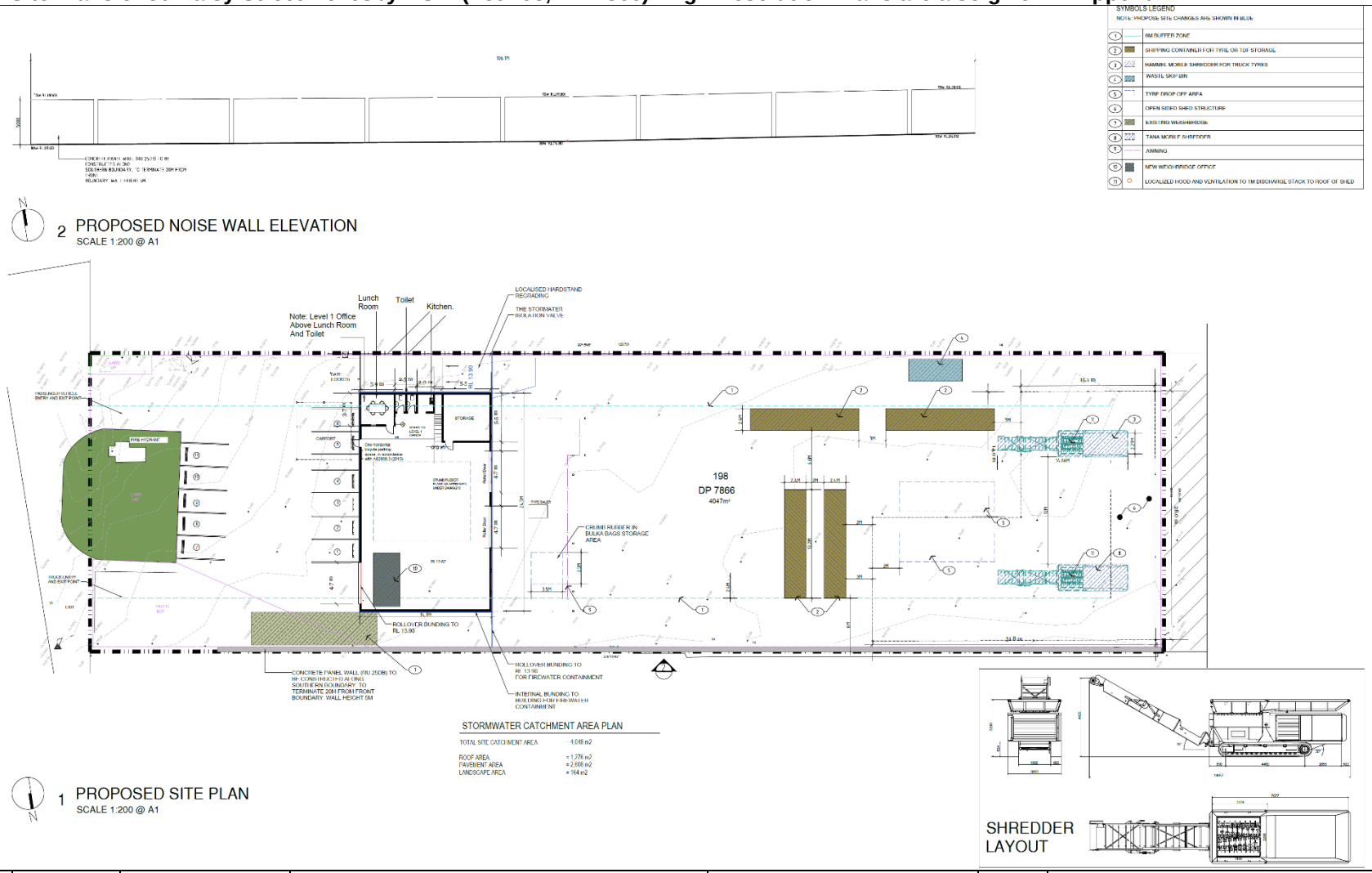
| Day | Approved Operating Hours | Proposed Operating Hours | Net Change |
|---|---|---|---|
| **Monday - Friday** | 06:00 to 23:00 | 06:00 to 23:00 | No Change |
| **Saturday** | 08:00 to 17:00 | 08:00 to 17:00 | No change |
| **Sunday** | 09:00 to 16:00 | 09:00 to 16:00 | No change |

A breakdown of the weekday operations is as follows:

- Main Office: 9:00am - 6:00pm;
- Tyre Recycling: Shift 1: 6:00am - 3:00pm;
- Tyre Recycling: Shift 2: 3:00pm - 11:00pm;
- Cleaning, packaging and maintenance: 6:00pm - 11:00pm; and
- Delivery Hours: 6.00am – 6.00pm.

[1] Fire & Rescue NSW (2014). *Fire Safety Guideline – Guideline for Bulk Storage of Rubber Tyres.* Published by Fire & Rescue NSW, December 2014. Internet publication: https://www.fire.nsw.gov.au/gallery/files/pdf/guidelines/rubber_tyres.pdf

**Figure 3.1. Proposal Site Plans of 30 Daisy Street Revesby NSW (Lot 198, DP 7866). High Resolution Plans are also given in Appendix A.**

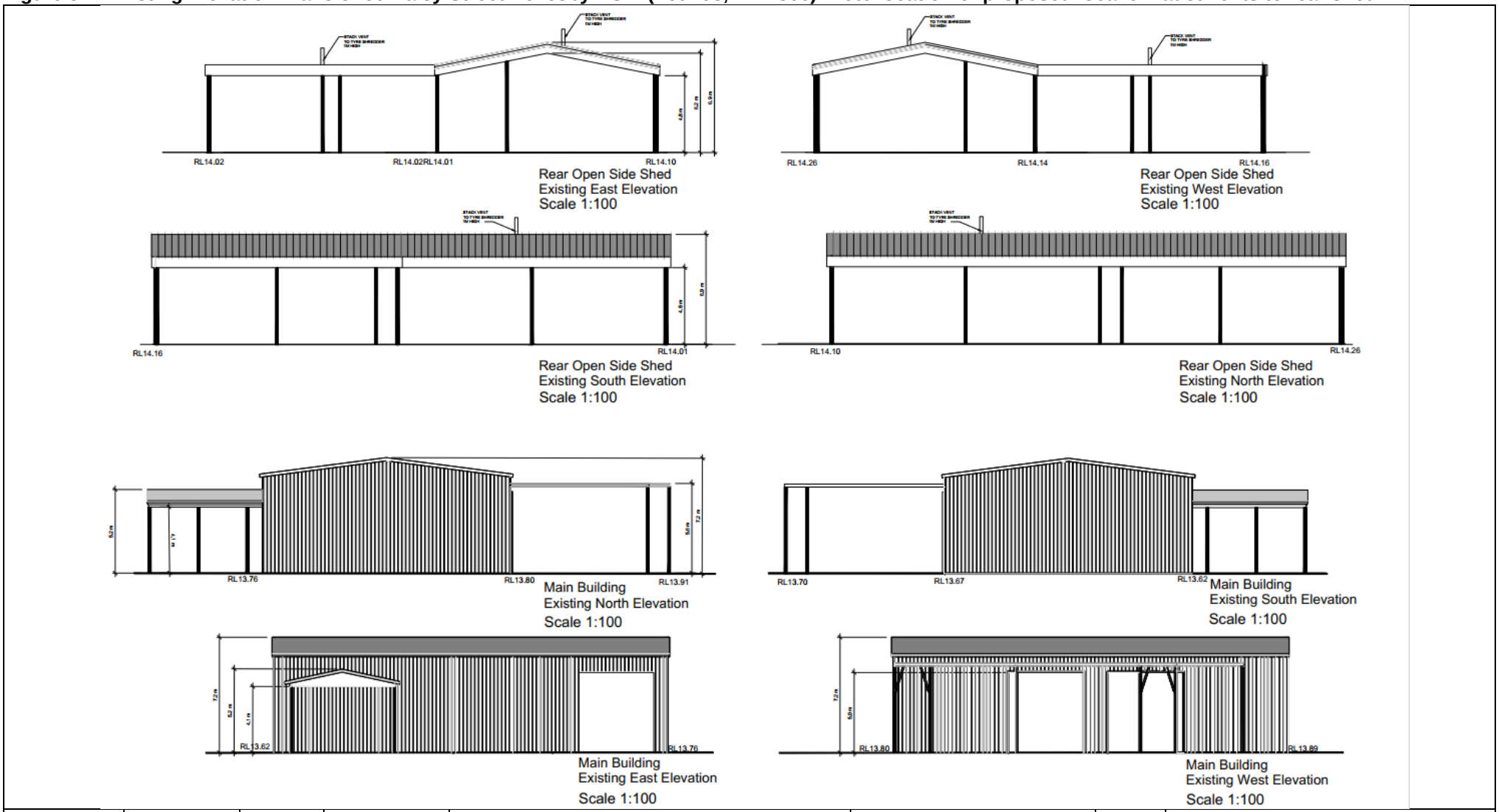



| Date | Revision | Drawn By | Site description |
|---|---|---|---|
| 18/07/2024 | Revision A | J.Tanana | 30 Daisy Street, Revesby (Lot 198, DP 7866) |
| | | | |
| | | | |


**JEP Environment & Planning**
**Strategy | Approvals | Compliance | Licensing**
**A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060**
**E:** admin@jacksonenvironment.com.au
**T: 02 8056 1849**
**W:** http://www.jacksonenvironment.com.au


| Client | BSV Tyre Recycling Australia Pty Ltd |
|---|---|
| Project | Tyre Recycling Facility Alteration and Additions |
| Title | Proposed Site Plan |
| Scale | To Scale |
| Source | JEP Environment & Planning |

**Figure 3.2. Existing Elevation Plans of 30 Daisy Street Revesby NSW (Lot 198, DP 7866). Note location of proposed local exhaust vents to rear shed.**




| Date | Revision | Drawn By | Site description | JEP Environment & Planning | Client | BSV Tyre Recycling Australia Pty Ltd |
|---|---|---|---|---|---|---|
| 18/07/2024 | Revision A | J.Tanana | 30 Daisy Street, Revesby (Lot 198, DP 7866) | **Strategy \| Approvals \| Compliance \| Licensing**<br>**A:** Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060<br>**E:** admin@jacksonenvironment.com.au<br>**T:** 02 8056 1849<br>**W:** http://www.jacksonenvironment.com.au | Project | Tyre Recycling Facility Alteration and Additions |
| | | | | | Title | Existing Elevations |
| | | | | | Scale | To Scale |
| | | | | | Source | JEP Environment & Planning |

## 3.2. Waste Handling

### 3.2.1. Quantities of waste materials to be received and stored

The current approval permits up to 150 tonnes of waste tyres to be stored onsite at any one time. BSV Tyre Recycling is not seeking to increase the storage capacity. Under the Proposal, however, the annual receival and processing limit will increase from 14,600 tonnes to 29,900 tonnes.

All waste tyres are brought to the Site in tyre collection trucks, directly from tyre retailers. No other waste materials are accepted onsite.

**Table 3.2. Locations for storage of whole tyres and processed tyre products, including estimates of the maximum quantity to be stored at any one point in time.**

| Flow of material | Materials | Type of material | Waste Classification | Estimated tonnes per annum | Maximum storage at any one point in time (tonnes) | Storage Area | Type of storage |
|---|---|---|---|---|---|---|---|
| **Input** | Whole Tyres | Input material | Special Waste | 29,900 | 40 | Whole Tyre Storage Area Awaiting Processing | Temporary storage in two designed areas in rear yard only. No tyres to be stored unprocessed and left outdoors overnight |
| **Output** | Crumb Rubber | Output material | Not applicable | 947.7 | 10 | Underneath the Awning of the Shed Building | 1 tonne bulka bags (or in shipping containers at night) |
| **Output** | Baled Steel (Wire) | Output Material | Recovered Metal | 73.71 | | Underneath the Awning of the Shed Building | 1 tonne blocks |
| **Output** | Cotton | Output Material | Recovered Material | 31.59 | | Underneath the Awning of the Shed Building | 1 tonne bulka bags (or in shipping containers at night) |
| **Output** | Shredded Tyres - Tyre Derived Fuel (TDF) | Output material | Not applicable | 28,847 | 100 | Shipping containers in rear yard | 40ft$^3$ Containers |
| **Total (tonnes)** | | | | **29,900** | **150** | | |

The Facility will continue to maintain high standards of cleanliness and contamination control, ensuring that only waste tyres are accepted and processed onsite.

### 3.2.2. Storage and transport of recovered materials

BSV Tyre Recycling stores all waste tyres awaiting processing in stacks within the designated outdoor hardstand area and the open-sided shed, and within the airtight shipping containers. This approach ensures efficient use of space and proper segregation of materials.

The BSV Tyre Recycling facility is currently licensed to store up to 150 tonnes of waste tyres at any one time. No changes to the storage capacity is proposed. The following measures and areas are designated for waste storage:

- Dedicated Unloading Area: A specific area is established for the unloading of tyres, at the rear end of the site ensuring a streamlined process and minimising handling time;
- Shipping Containers: Repositioned shipping containers are used for the storage of rubber products, ensuring secure and organised storage;
- Mobile Shredding Units: Two mobile diesel shredding units are installed on the rear hardstand of the site, equipped with conveyors to manage the increased production of Tyre Derived Fuel (TDF). The shredder tyre rubber will then be stored inside the shipping containers;
- Crumb Rubber Storage: An area under the shed building's rear awning is designated for storing crumb rubber in bulka bags, ensuring it is kept in optimal conditions until it is ready for transport or further use;
- Steel Storage: An area under the shed building's rear awning is designated for storing baled steel wire, until it is ready for transport or further use;
- Cotton Storage: An area under the shed building's rear awning is designated for storing cotton in bulka bags, ensuring it is kept in optimal conditions until it is ready for transport or further use; and
- Tyre Storage Requirements: All tyres received during the day will be processed and contained in shipping containers, so no outdoor storage of whole tyres overnight is required.

### 3.2.3. Vehicles access

Tyre Derived Fuel is removed from Site in shipping containers by 19m semi-trailers. Crumb rubber is transported offsite in enclosed Medium Rigid Vehicles (MRVs) in bulk packaging bags. Other vehicles entering the Site include HRV skip bin collection trucks, fuel tankers for refuelling of diesel plant and equipment and staff vehicles.

Note that as part of proposed operations, all trucks will enter the Site from the southern entry, manoeuvre through to the weighbridge for split weighing, then continue forward into the site processing area for loading. Once loaded trucks will then exit the site in a forward direction.

### 3.2.4. Waste Tyre Receival

Tyres will be received at the facility primarily in medium rigid vehicles (MRVs) specifically designed for tyre transport. These vehicles typically feature a flatbed enclosed by a cage, ensuring secure and efficient transportation of waste tyres. Additionally, tyres will also be delivered in shipping containers transported by semi-trailers. After processing, the same containers will be loaded with Tyre Derived Fuel (TDF) and exported. A significant portion of the waste tyres received will come from Tempe Tyres, following BSV's acquisition by Tempe Tyres, one of Australia's largest tyre importers, retailers, and distributors.

All vehicles follow a streamlined process upon entering the Site:

- Entry: Vehicles enter the Site from Daisy Street through the dedicated entry on the southern side of the site;
- Weighbridge: Vehicles proceed through the Site to the weighbridge on the southern side, passing the personnel parking area. The trucks are weighed upon entry;
- Processing Area: After the initial weighing, trucks move into the processing area and reverse back to the two 9.1m x 3.3m designated tyre drop off areas at the rear of the site, where tyres are unloaded and stacked waiting to be processed;
- Second Weighing: Once unloading is complete, the trucks proceed to the weighbridge again for a second weighing to determine the net weight of the delivered tyres; and
- Exit: Trucks then exit the Site in a forward direction through the dedicated exit on the southern side.

A total of thirteen (13) MRVs and four (4) 19m Semi Trailers will bring waste tyres into the Facility and a total of one (1) MRV and four (4) 19m Semi trailers will deliver processed tyres out of the facility every day. This is based on the number of tyres which are processed per day (at maximum production capacity of 29,900 tonnes per year).

Turning paths for heavy vehicles entering and manoeuvring within the Site are provided in Figures 3.4, with high-resolution plans available in Appendix C.

### 3.2.5. Offsite Transport of processes tyres and tyre products

TDF is transported from the Site in 40ft$^3$ shipping containers by 19m semi-trailers. The truck and container combinations can transport a maximum of 25 tonnes. A maximum of two (2) semi-trailers will transport product off-site per day.

Crumb rubber is transported offsite in enclosed Medium Rigid Vehicles (MRV's) with a capacity of 3.2 tonnes. Crumb rubber is stored in bulk packaging bags under the awning of the shed building whilst awaiting transport. A maximum of one (1) MRV will transport crumb rubber offsite per day.

All trucks transporting processed materials offsite enter the Site from Daisy Street through the dedicated Site entry on the southern side of the site. Vehicles proceed through the processing area at the rear of the site, around the warehouse and onto the weighbridge on the southern side of the personnel parking area. Following weighing, trucks will move into the processing area for loading. Once loaded, trucks proceed to the weighbridge again before exiting the Site in the forward direction through the dedicated exit on the southern side of the site.

### 3.2.6. Other vehicles Accessing the site

Other vehicles entering the Site include MRV and HRV bin collection trucks, fuel tankers for refuelling of diesel plant and equipment, and personnel vehicles. All vehicles will enter the Site from Daisy Street through the dedicated Site entry on the southern side of the site. Personnel vehicles will proceed directly to the parking area provided at the front of the warehouse and will not enter the processing area at the rear of the site. The facility will employ seventeen (17) people. Tyre processing operations are undertaken in two shifts over the course of a weekday so there will not be more than nine (9) people onsite at a time.

Skip bin trucks and fuel tankers will follow the same route along the southern side of the Site to the processing area and around the warehouse to exit the Site through the dedicated exit on the southern side of the site. Skip bin trucks will be weighed on entry and exit to determine the nett weight of waste transported off site. A maximum of one (1) fuel tanker is expected to enter the Site per week. A maximum of one (1) skip bin truck is expected to enter the Site per month.

### 3.2.7. Infrastructure requirements

No construction works are required for the installation of the shredders. However, a local exhaust ventilation point is required to be installed in the roof of the rear awning over the shredders. The Proposal will require the construction and installation of a light-weight pre-cast concrete panel wall along most of the southern boundary of the site, firewater containment bunding, dual headed hydrants, a new localised hardstand and a stormwater isolation valve.

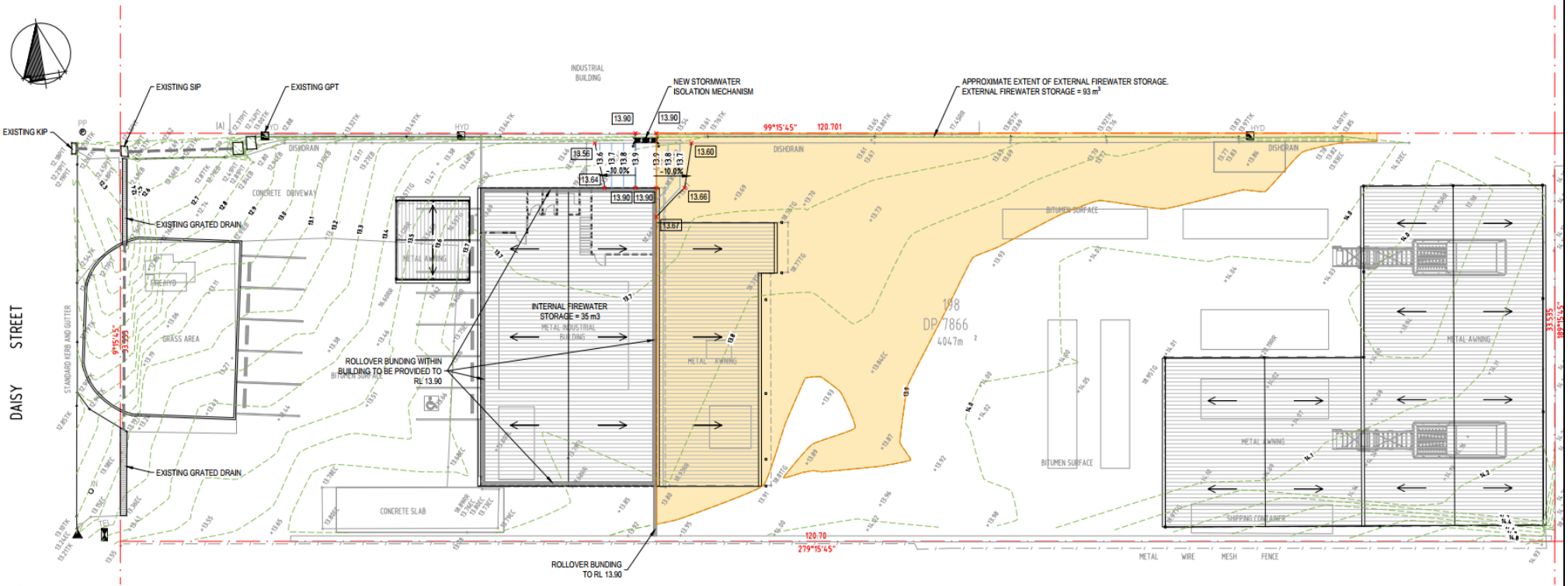
The southern boundary of the Site currently consists of an open chain-link fence along the entire length. The proposed wall will be constructed to 5m high and will extend approximately 100m from the rear boundary, terminating approximately 20m from the front boundary of the Site (see Figure 3.1 and Site layout plans in Appendix A).

Construction will require some excavation for the placement of the fence posts. Each post hole is expected to extend to a depth of approximately 1.7m and require the excavation of approximately 0.5 $m^3$ of soil. The total number of post holes will be dependent on the width of the pre-cast panels to be used, but it is anticipated that approximately 40 post holes will be required, with a total excavation volume of 20 $m^3$ of soil. All excavated material will be placed directly into skip bins and transported to an appropriate licensed facility for disposal. No soil will be stockpiled on the Site. The concrete panel wall is required to reduce noise impacts from the operation on neighbouring properties. The wall is also required to provide flame inhibition in the event of a fire.

A firewater containment bund will be constructed around to contain at least 108$m^3$. The bund will consist of a concrete roll-over at the Site entry and exit. The remainder of the bund will be constructed from concrete or angled steel and will be dependent on the conditions at the boundary. Additionally, the single headed fire hydrants will be replaced with dual headed fire hydrants.

Also, a new stormwater pit with an isolation valve is proposed to be constructed to improve fire water management (in the unlikely event of a fire) and meet councils' requirements.

**Figure 3.3. Proposed Civil/Stormwater and Drainage Plans of 30 Daisy Street Revesby NSW (Lot 198, DP 7866). Refer to Appendix G for the full plan set.**

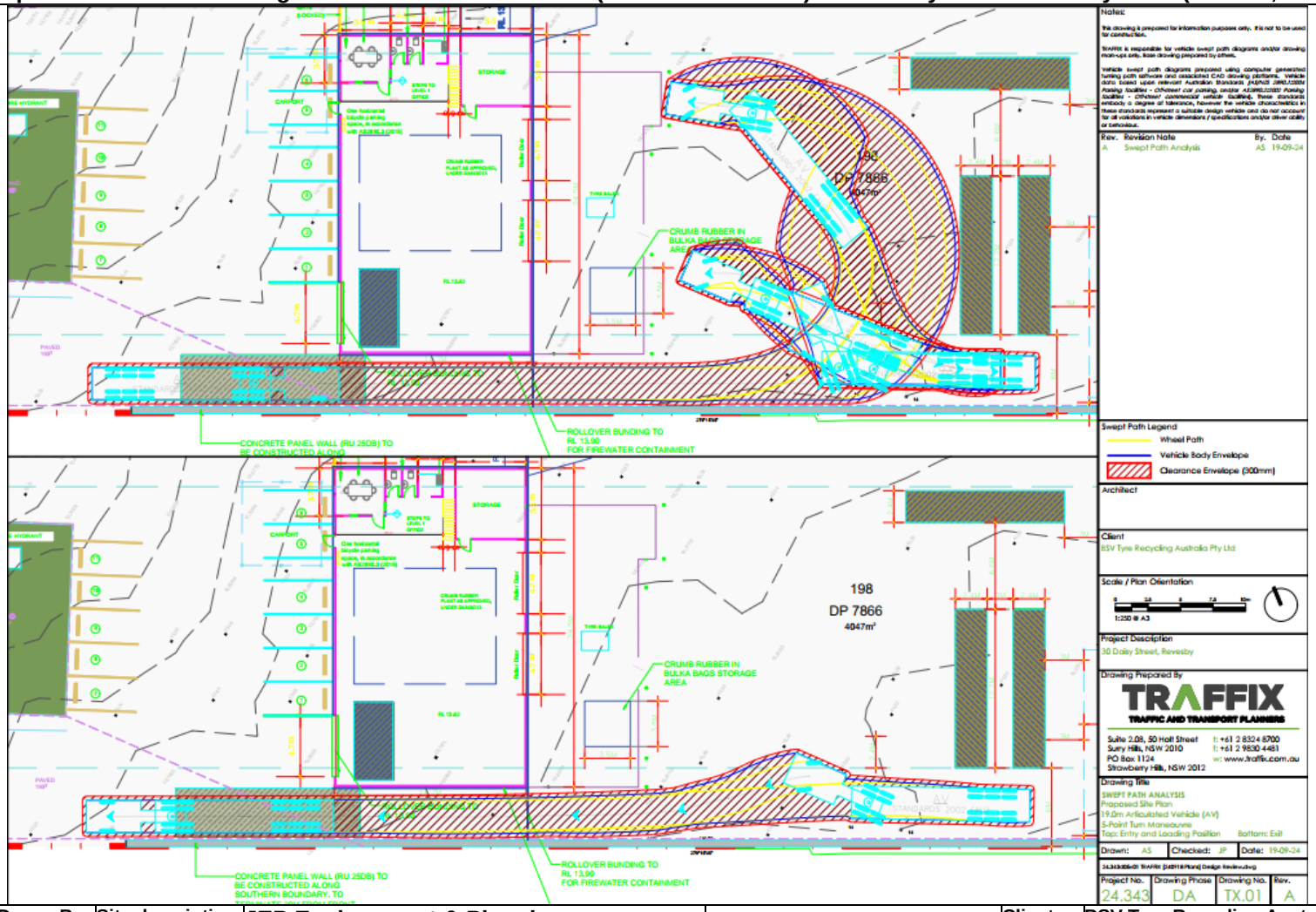



| Date | Revision | Drawn By | Site description |
|---|---|---|---|
| 03/10/2024 | Revision A | J.Tanana | 30 Daisy Street, Revesby (Lot 198, DP 7866) |
| | | | |
| | | | |


**JEP Environment & Planning**
**Strategy | Approvals | Compliance | Licensing**
**A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060**
**E:** admin@jacksonenvironment.com.au
**T: 02 8056 1849**
**W:** http://www.jacksonenvironment.com.au


| Client | BSV Tyre Recycling Australia Pty Ltd |
|---|---|
| Project | Tyre Recycling Facility Alteration and Additions |
| Title | Proposed Stormwater and Drainage Plans |
| Scale | To Scale |
| Source | Eclipse |

**Figure 3.4. Proposed Swept Path Plans for the largest vehicle to enter the site (19m Semi-Trailers) of 30 Daisy Street Revesby NSW (Lot 198, DP 7866).**




| Date | Revision | Drawn By | Site description | JEP Environment & Planning | Client | BSV Tyre Recycling Australia Pty Ltd |
|---|---|---|---|---|---|---|
| 18/09/2024 | Revision A | J.Tanana | 30 Daisy Street, Revesby (Lot 198, DP 7866) | **Strategy \| Approvals \| Compliance \| Licensing**<br>**A:** Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060<br>**E:** admin@jacksonenvironment.com.au<br>**T:** 02 8056 1849<br>**W:** http://www.jacksonenvironment.com.au | Project | Tyre Recycling Facility Alteration and Additions |
| | | | | | Title | Proposed Swept Path Plan |
| | | | | | Scale | Shown |
| | | | | | Source | Traffix |

# 4. Planning and Legislative Requirements

For the purpose of this development application, the Proposal is considered a 'waste or resource management facility'. This development is proposed on land zoned as IN1 General Industry under the *Canterbury-Bankstown Local Environmental Plan* 2023. Under the *Canterbury-Bankstown Local Environmental Plan* 2023, waste or resource management facilities are not expressly defined as permissible with consent or prohibited. However, this type of use can be permissible with consent as:

- Under the *Canterbury-Bankstown Local Environmental Plan* 2023 'any other development' not specified as 'Permissible with consent' or 'Prohibited' is permissible in IN1 zonings; and
- Under Clause 2.153 (2a) of *State Environmental Planning Policy (Transport and Infrastructure)* 2021, 'Waste or resource management facilities' are permissible with consent in prescribed zones (which includes IN1 zoned land).

The following sections outline the town planning, legislation and strategy that is applicable to the Proposal.

## 4.1. Commonwealth Legislation

The *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) came into force from 16 July 2000. The EPBC Act requires actions which are likely to have a significant impact on matters of National Environmental Significance, or which have a significant impact on Commonwealth land, to be referred to the Commonwealth Minister for the Environment for approval

The nine matters of National Environmental Significance protected under the EPBC Act are:

- World heritage properties;
- National heritage places;
- Wetlands of international importance (listed under the Ramsar Convention);
- Listed threatened species and ecological communities;
- Migratory species protected under international agreements;
- Commonwealth marine areas;
- The Great Barrier Reef Marine Park;
- Nuclear actions (including uranium mines); and
- A water resource, in relation to coal seam gas development and large coal mining development.

No National Environmental Significance matters would be impacted by the Proposal.

## 4.2. NSW State Legislative Requirements

### 4.2.1. Environmental Planning and Assessment Act 1979

Section 4 of *the Environmental Planning and Assessment Act* 1979 (EP&A Act) and the accompanying Regulation provide the framework for environmental planning in NSW. It includes provisions to ensure that proposals which have the potential to impact the environment are subject to detailed assessment and to provide opportunity for public involvement.

The Proposal is consistent with the nominated objectives of the EP&A Act and is considered capable of fulfilling the statutory requirements. Site investigations have determined that the Proposal will not result in any significant negative impacts that cannot be adequately mitigated or managed.

The Proposal is considered a local development requiring assessment under Part 4 of the EP&A. Canterbury-Bankstown Council is the determining authority.

### 4.2.2. Environmental Planning and Assessment Regulation 2021

While the EP&A Act provides the overarching framework for the planning system in NSW, the *Environmental Planning and Assessment Regulation* 2021 (the EP&A Regulation), supports the day-to-day requirements of this system. It supplements the broader provisions of the Act and covers matters such as local environmental plans and development control plans, which are used by councils to manage growth and development through the use of land use zoning, development standards and other planning mechanisms. It also contains key operational provisions

relating to the development assessment and consent process, requirements associated with development contributions, and fees for planning services.

Under Schedule 3, Clause 45(4)(f) of the *Environmental Planning and Assessment Regulation* 2021 a development is considered to be Designated Development if it is:

> *within 500 metres of a residential zone or 250 metres of a dwelling not associated with the development and, in the consent authority's opinion, considering topography and local meteorological conditions, are likely to significantly affect the amenity of the neighbourhood because of noise, visual impacts, vermin, traffic or air pollution, including odour, smoke, fumes or dust.*

The closest residential properties (R2 Low Density Residential) are located approximately 120m to the east and 130m to the south.

The other parts of Clause 45 under Schedule 3 are not applicable.

However, a detailed environmental assessment has been performed on the hazard and risks, site contamination, waste management, air quality, traffic, noise and vibration, fire safety and stormwater. As a result, the study found the Proposal will not significantly affect the amenity of the neighbourhoods by reason of hazard and risks, site contamination, waste management, air quality, noise and vibration, fire safety and stormwater impacts. Consequently, the Proposal does not trigger Designated Development. The proposal therefore should be assessed as a local development by Canterbury -Bankstown Council (the Consent Authority) under part 4 of the *Environmental Planning and Assessment Act* 1979.

**Proposal is Not Considered Designated Development**

Clause 7(1) of the EP&A Regulation states that "development" described in Part 2 of Schedule 3 is declared to be designated development unless it is not designated development under Part 3 of Schedule 3.

Part 3 of Schedule 3 in the EP&A Regulation considers circumstances where and when development is not designated development. Clause 48 specifies if proposed alterations or additions to an existing or approved development do not significantly increase the environmental impact of the total development, then the development is not designated development for the purposes of Section 4.10 of the EP&A Act.

Clause 48(2) provides those factors that must be considered by Council in making the determination whether the Proposal does not significantly increase the environmental impacts of the existing or approved development. These factors along with information regarding the Proposal, are provided in Table 4. and 4.2.

The Site is located within a heavily industrialized area, in the vicinity of the Bankstown Airport and the M5 Motorway. The residential properties to the east and west are separated from the Site by other commercial and industrial sites as well as the Soth Western Motorway.

The Proposal seeks to alter and add to the existing operations and improve the site's processing capacity without changing the nature of the activities on-site. The increase in tyre receival and processing capacity from 14,600 tonnes per year to 29,900 tonnes per year is aimed at meeting the growing market demands for tyre-derived fuel (TDF) and crumb rubber, while continuing to comply with environmental and safety regulations.

In relation to the assessment of noise, visual impacts, vermin, traffic, and air pollution (odour, smoke, fumes or dust) the associated impacts are relatively minor and can be managed through mitigation measures. The studies conducted to support the development application demonstrate that the proposal is unlikely to significantly affect the amenity of the neighbourhood. Key points include:

- Noise: The installation of new mobile diesel shredding units and the reconfiguration of the Site layout have been designed to minimise noise impact. Additional noise attenuation measures, such as the installation of a pre-cast concrete panel wall along the southern boundary to further mitigate potential noise;
- Visual Impacts: The Site is located in an industrial area with limited visibility from residential properties. The proposed changes, including the reconfiguration of storage containers and the addition of new processing equipment, will have minimal visual impact;
- Vermin: Waste management practices, including regular cleaning and maintenance, will continue to prevent vermin. The proposed changes do not increase the risk of vermin;
- Traffic: The increase in tyre receival and processing capacity will be managed by optimising delivery schedules and ensuring that all vehicles enter and exit the Site in a forward direction. Traffic studies indicate that the proposed development will not significantly impact local traffic conditions; and

- Air Pollution: The installation of a local exhaust ventilation (LEV) system above the two shredding units will ensure that air pollutants remain below EPA criteria, allowing for the site to be compliant. And with the mitigation measures in place, impacts on air quality, including odour, smoke, fumes, and dust are expected to be negligible.

Furthermore, we also assessed fire safety and stormwater and the assessment found with the additional improvements there will be negligible impacts, with environmental performance of the site expected to improve. The key points for these include:

- Fire Safety: The proposed development includes improvements such as dual fire hydrants near the bin storage area, 108m³ of firewater containment bunding, and a pre-cast concrete panel wall along the southern boundary are proposed for added fire protection so the site will fully comply with Fire and Rescue NSW (FRNSW) Fire Safety Guidelines, supported by regular inspections, housekeeping measures, and a no-smoking policy to mitigate fire risks; and
- Stormwater Management: The existing stormwater system will be enhanced by the installation of a new stormwater pit with an isolation valve, ensuring effective management of runoff. Sediment control measures such as sediment fences and geotextile filters will be implemented during excavation works, and rollover bunding will be installed to contain any firewater runoff. Ongoing inspections will ensure compliance with council regulations and effective stormwater management, ensuring stormwater quality is protected at all times.

As a result, Clause 45(4)(f) of the *Environmental Planning and Assessment Regulation* 2021 does not apply to the Proposal. The development can proceed as a local development, supported by the findings of the environmental impact assessments and the effective implementation of mitigation measures.

**Table 4.1. Assessment of matters potentially triggering Designated Development under Clause 45 Waste management facilities or works.**

| Appropriate clause in Schedule 3 of the EP&A Regulation<br><br>**Clause 45**<br>**Waste management facilities or works** | Assessment of triggers for designated development |
|---|---|
| **(1) Development for the purposes of a waste management facility or works is designated development if—**<br>**(a) the facility or works dispose of solid or liquid waste by landfilling, thermal treatment, storing, placing or other means, and**<br>**(b) the waste —**<br>**(i) includes a substance classified in the ADG Code or medical, cytotoxic or quarantine waste, or**<br>**(ii) comprises more than 100,000 tonnes of clean fill in a way that, in the consent authority's opinion, is likely to cause significant impacts on drainage or flooding, or**<br>**(iii) comprises more than 1,000 tonnes per year of effluent or sludge, or (iv) comprises more than 200 tonnes per year of other waste material.** | Not applicable to the Proposal. No solid or liquid wastes to be disposed on site. Proposal will continue to accept tyres for recycling only. |
| **(2) Development for the purposes of a waste management facility or works is designated development if—**<br>(a) **the facility or works sorts, consolidates or temporarily stores waste at a transfer station or material recycling facility for transfer to another Site for final disposal, permanent storage, reprocessing, recycling, use or reuse, and**<br>(b) **the facility or works—**<br>(i) **handle substances classified in the ADG Code or medical, cytotoxic or quarantine waste, or**<br>(ii) **have an intended handling capacity of more than 10,000 tonnes per year of waste containing food or livestock, agricultural or food processing industries waste or similar substances, or**<br>(iii) **have an intended handling capacity of more than 30,000 tonnes per year of waste such as glass, plastic, paper, wood, metal, rubber or building demolition material.** | Not applicable to the Proposal. The Proposal will accept tyres only, at a maximum of 29,900 tonnes per year, being below the 30,000 tonne per year annual threshold for designated development. |
| **(3) Development for the purposes of a waste management facility or works that purify, recover, reprocess or process more than 5,000 tonnes per year of solid or liquid organic materials is designated development.** | Not applicable to the Proposal. Solid or liquid organic materials will not be accepted. |

| Appropriate clause in Schedule 3 of the EP&A Regulation | Assessment of triggers for designated development |
|---|---|
| **Clause 45**<br>**Waste management facilities or works** | |
| **(4) Development for the purposes of a waste management facility or works is designated development if the facility or works are located—**<br>(a) **in or within 100 metres of a natural waterbody, wetland, coastal dune field or environmentally sensitive area of State significance, or**<br>(b) **in an area of high watertable, highly permeable soils, acid sulfate, sodic or saline soils, or**<br>(c) **in a drinking water catchment, or**<br>(d) **in a catchment of an estuary where the entrance to the sea is intermittently open, or**<br>(e) **on a floodplain, or**<br>(f) **within 500 metres of a residential zone or 250 metres of a dwelling not associated with the development and, in the consent authority's opinion, considering topography and local meteorological conditions, are likely to significantly affect the amenity of the neighbourhood because of noise, visual impacts, vermin, traffic or air pollution, including odour, smoke, fumes or dust.** | The Proposal is located more than 100 metres away from any natural waterbody, wetland, coastal dune field or environmentally sensitive area. The Proposal is located in an area of Class 5 acid sulphate soils but will involve minor ground disturbance, for the construction of the stormwater isolation valve pit and the light weight pre-cast concrete panel wall. The Proposal is not within a drinking water catchment. The Proposal is not within a catchment of an estuary where the entrance to the sea is intermittently open. The Proposal is not on a floodplain. The Site is within 500 metres of a residential zone, or 250 metres of a dwelling not associated with the development. However, having regard to topography and local meteorological conditions and the impacts associated with the development, the Proposal is not likely to significantly affect the amenity of the neighbourhood from noise, visual impacts, air pollution (including odour, smoke, fumes or dust), vermin or traffic. |
| **(4A) Despite subsection (4)(f), development for the purposes of waste or resource transfer stations carried out by or on behalf of a public authority is not designated development if the development is carried out—**<br>(a) **within 500m of a residential zone or 250m of a dwelling not associated with the development, and**<br>(b) **under State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, Part 5A.** | |

**Table 4.2. Assessment of triggers for Designated Development – Clause 48 - Alterations or additions to existing or approved development**

| Appropriate clause in Schedule 3 of the EP&A Regulation<br><br>**Clause 48**<br>Alterations or additions to existing or approved development | Assessment of triggers for designated development |
|---|---|
| **(1) Development involving alterations or additions to development, whether existing or approved, is not designated development if, in the consent authority's opinion, the alterations or additions do not significantly increase the environmental impacts of the existing or approved development.** | A detailed environmental assessment has been performed on the hazard and risks, site contamination, waste management, air quality, traffic, noise and vibration, fire safety and stormwater. As a result, the study found the Proposal will not significantly affect the amenity of the neighbourhoods by reason of hazard and risks, site contamination, waste management, air quality, noise and vibration, fire safety and stormwater impacts. Consequently, the Proposal does not trigger Designated Development. The Proposal therefore should be assessed as a local development by Canterbury-Bankstown Council (the Consent Authority) under part 4 of the *Environmental Planning and Assessment Act* 1979. |
| **(2) In forming its opinion, a consent authority must consider the following—**<br><br>**(a) the impact of the existing development, including the following—**<br>**(i) previous environmental management performance, including compliance with the conditions of any consents, licences, leases or authorisations by a public authority and compliance with any relevant codes of practice,**<br>**(ii) rehabilitation or restoration of any disturbed land,**<br>**(iii) the number and nature of all past changes and their cumulative effects,**<br><br>**(b) the likely impact of the proposed alterations or additions, including the following—**<br>**(i) the scale, character or nature of the proposal in relation to the development,**<br>**(ii) the existing vegetation, air, noise and water quality, scenic character and special features of the land on which the development is, or will be, carried out and the surrounding locality,**<br>**(iii) the degree to which the potential environmental impacts can be predicted with adequate certainty,**<br>**(iv) the capacity of the receiving environment to accommodate changes in environmental impacts,** | a) BSV Tyre Recycling has worked with the NSW EPA and Canterbury-Bankstown Council in all aspects of complying with the current development approval and EPL 20387. The land is an industrial lot, no rehabilitation or restoration is required. This part is not applicable. No significant changes have occurred over the life of the operations. The amount of increase is considered reasonable and is expected to have negligible cumulative effects as provided by the included specialist reports and conclusion of the SEE.<br><br>b) The changes are consistent with the existing use and surrounding industrial areas. The Proposal would not increase the environmental impact of the total development at the Site. The Site is located on existing industrial land. Additional fire safety measures will be included in the design and construction. |

| Appropriate clause in Schedule 3 of the EP&A Regulation | Assessment of triggers for designated development |
|---|---|
| **Clause 48**<br>**Alterations or additions to existing or approved development** | |
| **(c) proposals to mitigate the environmental impacts and manage residual risk**<br><br>**(d) proposals to facilitate compliance with relevant standards, codes of practice or guidelines published by the Department or other public authorities.** | There is no change to the approved use of the facility. This SEE assesses potential impacts from the Proposal and provides reasonable certainty that no significant impacts would occur due to the Proposal. There are existing and proposed environmental management controls used on the Site to prevent and minimise potential impacts.<br><br>The Site is an existing industrial facility located in a highly industrialised area. This SEE has assessed that the potential impacts from the Proposal would be managed and mitigated to insignificant levels.<br><br>c) Specialist assessments for, stormwater, fire, noise and vibration, and air quality, and traffic impacts have been prepared to ensure potential environmental impacts are managed through operational and/or other mitigation measures. There are existing and proposed environmental management controls used on the Site to prevent and minimise potential impacts and residual risks. These mitigation measures are given in Section 15.<br><br>d) The Proposal is designed, and will be constructed and managed, in accordance with relevant legislation, policy and guidelines. There are existing and proposed environmental management controls used on the Site to prevent and minimise potential impacts. These mitigation measures are mentioned in Table 10.1. |

### 4.2.3. Protection of the Environment Operations Act 1997

The *Protection of the Environment Operation Act* 1997 (POEO Act) prohibits any person from causing pollution of waters, or air and provides penalties for air, water and noise pollution offences. Section 48 of the Act requires a person to obtain an Environment Protection License from the NSW Environment Protection Authority before carrying out any of the premise-based activities described in Schedule 1 of the Act.

Schedule 1, Part 1 (34) of the Act lists 'Resource recovery' including 'recovery of waste tyres' as an activity. 'Recovery of waste tyres' means the receiving of waste tyres from off Site and their processing, otherwise than for the recovery of energy.

This activity is declared to be a scheduled activity if it meets the following criteria:

*(a) It meets the criteria set out in Column 2 of that Table, and*
*(b) Either*
*i. Less than 50% by weight of the waste received in any year requires disposal after processing…*

For recovery of waste tyres, Column 2 specifies:

> *Involves having on Site at any time (other than in or on a vehicle used to transport the tyres to or from the premises) more than 5 tonnes of waste tyres or 500 waste tyres, or*
>
> *Involves processing more than 5,000 tonnes of waste tyres per year.*

Schedule 1, Part 1 (42)(3)(b) of the Act lists 'Waste Storage' as an activity. 'Waste Storage' means the receiving from off Site and storing (including storage for transfer) of waste.

> *more than 5 tonnes of waste tyres or 500 waste tyres is stored on the premises at any time (other than in or on a vehicle used to transport the tyres to or from the premises).*

BSV Tyre Recycling holds Environment Protection Licence No. 20387 permitting resource recovery and waste storage of waste tyres at 30 Daisy St, Revesby NSW. The facility is approved to store up to 150 tonnes of waste tyres at any one time, and the facility is approved to process 14,600 tonnes per year.

An application for a variation to EPL 20387 to increase the processing capacity from 14,600 tonnes to 29,900 tonnes per year will be required, following the approval of this alterations and additions application.

### 4.2.4. Protection of the Environment Operations (Waste) Regulation 2014

During 2013-14, the EPA conducted an extensive review and consultation process on NSW's waste regulatory framework, resulting in the Protection of the *Environment Operations (Waste) Regulation* 2014 (the Waste Regulation). This regulation enhances the EPA's ability to protect human health and the environment while ensuring a modern and equitable waste industry in NSW. The EPA implemented the new rules under the Waste Regulation in stages over 2014-2017.

Key changes included amended thresholds for environment protection licences and reforms to the waste levy system. The Waste Regulation is supported by the Waste Levy Guidelines, which outline how to measure waste to calculate waste levy liability, the deductions waste operators can claim, and the EPA's requirements for records, surveys, and reports. All licensed processing, disposal, recycling, and storage facilities within the metropolitan levy area or regional levy area are subject to the levy system. Additionally, a scheduled waste facility in a levy-payable area must ensure that a weighbridge is installed at the facility.

BSV installed a new weighbridge in 2016 and will continue to comply with the waste levy requirements as per the Waste Regulation. The Facility's adherence to these regulations ensures accurate measurement of waste for levy purposes, maintains comprehensive records, helps to monitor the quantity of tyres and tyre products held on site and supports environmental protection objectives.

## 4.3. Environmental Planning Instruments and Policies

### 4.3.1. State Environmental Planning Policy (Transport and Infrastructure) 2021

The aim of the *State Environmental Planning Policy (Transport and Infrastructure)* 2021 (Infrastructure SEPP) is to facilitate the effective delivery of infrastructure across NSW by improving regulatory certainty and efficiency through a consistent planning regime for infrastructure and the provision of services. It also provides greater flexibility in the location of infrastructure and service facilities.

Other key aims of the Infrastructure SEPP are to allow for the efficient development, redevelopment, or disposal of surplus government-owned land, and to identify the environmental assessment category into which different types of infrastructure and services development fall, including identifying certain development of minimal environmental impact as exempt development. The Infrastructure SEPP also seeks to help proponents identify matters to be considered in the assessment of development adjacent to particular types of infrastructure development and provide for consultation with relevant public authorities about certain development during the assessment process or prior to development commencing.

The Proposal is permissible with consent in IN1 land use zones under Section 2.152 and 2.153(1) of the *State Environmental Planning Policy (Transport and Infrastructure)* 2021. However, the provisions of the Infrastructure SEPP are not needed to confirm the permissibility of the development as the Proposal is permissible with consent under the *Canterbury-Bankstown Local Environmental Plan* 2023.

### 4.3.2. State Environmental Planning Policy (Resilience and Hazards) 2021

***Remediation of Land***

Under the *State Environmental Planning Policy (Resilience and Hazards)* 2021, Chapter 4 - Remediation of Land, Clause 4.6, applicants for consent must carry out a preliminary Site investigation for any development consent sought on land previously used for activities that may cause contamination.

Specifically, Clause 4.6 of the Resilience and Hazards SEPP requires the approval authority to have regard to certain matters before granting approval. These matters include:

- Whether the land is contaminated;
- Whether the land is, or would be, suitable for the purpose for which development is to be carried out;
- If remediation is required for the land to be suitable for the proposed purpose, whether the land will be remediated before the land is used for that purpose.

The Resilience and Hazards SEPP also imposes obligations to carry out any remediation work in accordance with relevant guidelines, developed under the Contaminated Lands Management Act 1997 (discussed further below) and to notify the relevant council of certain matters in relation to any remediation work.

The contaminated land record of notices is maintained by the NSW Office of Environment and Heritage in accordance with Part 5 of the *Contaminated Land Management Act* 1997 (CLM Act). A Site will be on the register where Site contamination is significant enough to warrant regulation and the NSW EPA has issued a notice under the CLM Act.

The search results indicated that, with regard to the site, there are:

- No orders made under Part 3 of the *Contaminated Land Management Act* 1997 (CLM Act);
- No approved voluntary management proposals under the CLM Act that have not been fully carried out and where the approval of the Environment Protection Authority has not been revoked;
- No Site audit statements provided under Section 53B of the CLM Act that relate to significantly contaminated land;
- No copies of anything formerly required to be part of the public record (where practicable); and
- No actions taken by the EPA under Section 35 or 36 of the Environmentally Hazardous Chemicals Act 1985.

A search of the NSW EPA public register of contaminated sites notified to NSW EPA under Section 60 of the CLM Act did not identify any records for the Site or any land adjacent to the site.

The Proposal does not require any significant ground disturbance; therefore, further assessment under the Resilience and Hazards SEPP is not warranted.

***Hazardous and Offensive Development***

*State Environmental Planning Policy (Resilience and Hazards)* 2021 outlines the requirements for a Preliminary Hazard Analysis screening test, required to be undertaken for hazardous and potentially hazardous industries.

A potentially hazardous industry is defined within the SEPP as a development for the purpose of any industry which, if the development were to operate without employing any measures to reduce or minimise its impact, would pose a significant risk to human health, life or property, or to the biophysical environment.

Part 3 of the *State Environmental Planning Policy (Resilience and Hazards)* 2021 applies to:

(a) Development for the purposes of a potentially hazardous industry, and
(b) Development for the purposes of a potentially offensive industry, and
(c) Development notified, for the purposes of this Part, by the Director in the Gazette as being a potentially hazardous or potentially offensive development.

A SEPP Preliminary Hazard Analysis was carried out to identify and assess potential risks associated with the Proposal and ensure appropriate mitigation measures are in place to minimise any significant risks to human health, life, property, and the environment. By adhering to the requirements of the Resilience and Hazards SEPP, the proposed development ensures regulatory compliance and promotes the safe and sustainable operation of the tyre recycling facility.

The findings of the assessment are summarised in Section 6 of this report. The Proposal complies with the provisions of the Resilience and Hazards SEPP.

### 4.3.3. State Environmental Planning Policy (Industry and Employment) 2021

The aim of *State Environmental Planning Policy (Industry and Employment)* 2021 (Industry and Employment SEPP) is to facilitate the effective delivery of industrial and employment-related development across NSW by providing a consistent planning framework that supports economic growth and employment opportunities. This policy also aims to ensure that development is compatible with the desired amenity and visual character of an area, provides effective communication in suitable locations, and is of a high-quality finish and design.

Part 3 of the Industry and Employment SEPP details the requirements that a consent authority must be satisfied with prior to granting development consent:

*A consent authority must not grant development consent to an application for industrial and employment development unless the consent authority is satisfied:*

*(a) that the development is consistent with the objectives of this Policy as set out in clause 3 (1) (a), and*
*(b) that the development the subject of the application satisfies the assessment criteria specified in Schedule 1.*

Part 3 clause 3.7 of the SEPP details the types of industrial and employment development to which this Part applies and states:

This Part applies to all industrial and employment development to which this Policy applies, other than the following:

*(a) business identification signs;*
*(b) building identification signs;*
*(c) signage that, or the display of which, is exempt development under an environmental planning instrument that applies to it; and*
*(d) signage on vehicles.*

The Industry and Employment SEPP does not apply to the Proposal, as no new signage is proposed to be installed. The existing signage at the Site is defined as a 'business identification sign' and complies with the relevant planning controls.

## 4.4. Canterbury-Bankstown Local Environmental Plan 2023

The following sections provide the local planning and legislative framework for the proposed development. The purpose of this section is to outline the approval process and identify the applicable local planning controls that

relate to the proposed development. This includes relevant local environmental plans, including *Canterbury-Bankstown Local Environmental Plan* 2023 (Canterbury-Bankstown LEP).

### 4.4.1. Zone Objectives

The objectives of zone IN1 General industrial are:

- To provide a wide range of industrial and warehouse land uses;
- To encourage employment opportunities;
- To minimise any adverse effect of industry on other land uses;
- To support and protect industrial land for industrial uses; and
- To promote a high standard of urban design and local amenity.

### 4.4.2. Land Use Permissibility

This development is proposed on land zoned as IN1 General Industry under the *Canterbury-Bankstown Local Environmental Plan* 2023. The tyre recycling facility can be defined as a 'Waste or resource management facility', which is described under the definitions of the *Canterbury-Bankstown Local Environmental Plan* 2023 as:

> *Waste or resource management facility means any of the following:*
>
> *(a) A resource recovery facility,*
> *(b) A waste disposal facility,*
> *(c) A waste or resource transfer station,*
> *(d) A building or place that is a combination of any of the things referred to in paragraphs (a)-(c)*

'Waste or resource management facilities' are not expressly defined as permissible with consent or prohibited. However, this type of use can be permissible with consent as:

- Under the *Canterbury-Bankstown Local Environmental Plan* 2023, 'any other development' not specified as 'Permissible with consent' or 'Prohibited' is permissible in IN1 zonings; and
- Under Clause 2.153 (2a) of *State Environmental Planning Policy (Transport and Infrastructure)* 2021, 'Waste or resource management facilities' are permissible with consent in prescribed zones (which include IN1 zoned land).

## 4.5. Canterbury-Bankstown Development Control Plan 2023

The purpose of the *Canterbury-Bankstown Development Control Plan* 2023 (Canterbury-Bankstown DCP) is to regulate effective and orderly development in the City of Canterbury-Bankstown by providing objectives, zones, and development standards. The relevant section of the Canterbury-Bankstown DCP for the proposed development is Part 9.1 Industrial Precincts.

The objectives and development advice of this Part generally applies to land within Zone IN1 General Industrial and Zone IN2 Light Industrial, and to land where high technology industry is an additional permitted use.

The objectives of this Part are:

a) To support and protect industrial land for industrial uses;
b) To ensure development is compatible with the desired character of the industrial precincts;
c) To enhance the amenity for people who work in and visit the industrial precincts;
d) To facilitate ecologically sustainable development; and
e) To ensure Site configurations are practical for industrial operations, including space for off-street parking, loading activities, vehicle manoeuvring and access.

The General Industrial Precinct will continue to support successful employment and economic activity as its primary role. This precinct is vital to Canterbury-Bankstown's position and future economic success in the Central River City and will continue to offer residents jobs closer to home. The built form will be mostly contemporary industrial development set on large lots within a safe and high-quality environment. Non-industrial development will be limited to land uses that are compatible with the primary employment role of the precinct.

Consideration of all relevant aspects of the Canterbury-Bankstown DCP has been carried out in preparing the SEE for the proposal. Sections and provisions of Part 9.1 relevant to the proposal are described in Table 4.3.

**Table 4.3. Relevant *Canterbury-Bankstown Development Control Plan* 2023 Specifications and Standards. This table outlines how the proposal complies with the planning controls.**

| Section | Description of Relevant Provisions | Compliance Status |
|---|---|---|
| **General Requirements, Chapter 3.2– Parking** | | |
| **Section 2 – Off Street Parking schedule** | Off–street parking spaces<br><br>2.1 Development must calculate the amount of parking required using the schedule of off–street parking requirements.<br><br>For "Industries and light industries…" 1 car space per 100m$^2$ of gross floor area. | Proposal Complies.<br><br>The gross floor area at the site is 405m$^2$. The proposal requires a minimum of four (4) car spaces, however eleven (11) marked spaces will be provided on the site, to accommodate up to nine (9) staff that will be on site at any time. |
| **Section 3 – Design and Layout - Parking location** | 3.1 Development must not locate entries to car parking or delivery areas:<br><br>(a) close to intersections and signalised junctions;<br>(b) on crests or curves;<br>(c) where adequate sight distance is not available;<br>(d) opposite parking entries of other buildings that generate a large amount of traffic (unless separated by a raised median island);<br>(e) where right turning traffic entering may obstruct through traffic;<br>(f) where vehicles entering might interfere with operations of bus stops, taxi ranks, loading zones or pedestrian crossings; or<br>(g) where there are obstructions which may prevent drivers from having a clear view of pedestrians and vehicles.<br><br>3.2 Parking areas for people with disabilities should be close to an entrance to development. Access from the parking area to the development should be by ramps or lifts where there are separate levels.<br><br>3.3 Where above ground parking is the only solution possible, locate to the rear of buildings. | Proposal Complies.<br><br>Existing buildings are approved. This Proposal does not seek to modify or extend the coverage of buildings within the property.<br><br>The proposed concrete panel wall on the southern boundary will terminate approximately 20m from the front property boundary. The wall will improve visual privacy to the neighbouring lot. The wall will be adjacent to the driveway of the neighbouring lot – shadowing created by the wall will not impact any office or operational areas of the lot. |
| **Section 3 – Design and layout - Access and driveway design** | 3.8 The location of driveways to properties should allow the shortest, most direct access over the nature strip from the road.<br><br>3.9 The appropriate driveway width is dependent on the type of parking facility, whether entry and exit points are combined or separate, the frontage road type and the number of parking spaces served by the access facility.<br><br>3.10 Driveway widths for existing dwellings and extensions to the existing properties are assessed on their merits. | Proposal Complies.<br><br>The location and width of existing driveways is provided in the Site plan. The entry and exit for passenger vehicles and trucks will be separated. |

| Section | Description of Relevant Provisions | Compliance Status |
|---|---|---|
| **Section 3 – Design and Layout - Loading and Unloading facilities** | 3.15 The design of loading docks must:<br>(a) be separate from parking circulation or exit lanes to ensure safe pedestrian<br>(a) movement and uninterrupted flow of other vehicles in the circulation roadways;<br>(b) allow vehicles to enter and leave the site in a safe manner; and<br>(c) have minimum dimensions of 4m by 7m per space.<br>3.17 Service vehicles are to enter and leave the site in a forward direction. | Proposal Complies.<br>Loading and Unloading will be done at the rear end of the site, with sufficient space for containers/tyres to be loaded and unloaded. See site plans and swept path plans in Figures 3.1 and 3.4. |
| **Section 3 – Pedestrian Access and Visitor Parking** | 3.20 Parking areas should be designed so that through-traffic is excluded, and pedestrian entrances and exits are separate from vehicular entrances and exits.<br>3.32 Visitor parking should be located near the main pedestrian entrance to the building and can be located in front of the building alignment, but not encroach upon the front setback areas. | Proposal Complies.<br>Sufficient parking is provided for visitors, as a maximum of nine (9) staff will be on site at any given time, and there are eleven (11) parking spaces provided. |
| **Section 3 – Bicycle Parking** | If necessary, refer to this section in DCP | Proposal Complies.<br>One bicycle parking space provided within the main shed as a rack. |
| **General Requirements, Chapter 3.6– Signs** | | |
| **Section 2 – Location and Design - Signs in Zones B5, B6, IN1 and IN2** | 2.5 Council may allow development to have a pylon sign provided:<br>(a) it is limited to one pylon sign for each site boundary that adjoins a classified road;<br>(b) the sign is predominantly rectangular in shape with a vertical proportion;<br>(c) the envelope of the sign is 4m or 9m in height (to encourage two consistent heights rather than a variety of heights) and a maximum 2m in width;<br>(d) the sign only identifies the businesses on the site and the street number to assist customers and visitors.<br>2.6 Council may allow development to have other business or building identification signs<br>provided:<br>(a) The total sign area on sites with a single street frontage does not exceed 1m$^2$ per 2m of the street frontage.<br>(b) The total sign area on sites with more than one street frontage does not exceed 0.5m$^2$ per 2m of the street frontages.<br>(a) (c) Signs are suitably integrated with the architectural style of the building. | The Proposal does not include the installation of any new business or building identification signage. |

| Section | Description of Relevant Provisions | Compliance Status |
|---|---|---|
| **Section 2 – Location and Design - Design** | 2.9 Corporate colours, logos and other graphics must achieve a high degree of compatibility with the architecture, materials, finishes and colours of the building and streetscape.<br>2.10 Building identification signs and business identification signs that are painted or attached to a building must not screen windows and other significant architectural features of the building.<br>2.11 Signs are not to dominate in terms of scale, number, proportion and form or any other attributes.<br>2.12 The amount of signs may be limited due to the cumulative impact on a locality or a building.<br>2.13 The design and place of signs are not to adversely impact on the amenity of residential sites.<br>2.14 Signs are to be designed for easy maintenance.<br>2.15 Development must remove signs that are no longer necessary or unsightly to avoid clutter.<br>2.16 Signs are not to include offensive or objectionable material in the content of an advertisement (such as discriminatory messages, promotion of unlawful or anti-social behaviour, encouraging excessive consumption of alcohol, pornography, or offensive language). | The Proposal does not include the installation of any business or building identification signage. |
| **General Requirements, Chapter 3.6– Landscape** | | |
| **Section 2 – Landscape Design - Existing vegetation and natural features** | 2.1 New landscaping is to complement the existing street landscaping and improve the quality of the streetscape.<br>2.2 Development, including alterations and additions, is to minimise earthworks (cut and fill) in order to conserve site soil. Where excavation is necessary, the reuse of excavated soil on site is encouraged. | The Proposal does not include any changes to existing landscaping. |
| **Section 2 – Landscape Design - Existing vegetation and natural features** | 2.3 The landscape design is to contribute to and take advantage of the site characteristics.<br>2.4 The landscape design is to improve the quality of the streetscape and communal open spaces by:<br>(a) providing appropriate shade from trees or structures;<br>(b) defining accessible and attractive routes through the communal open space and between buildings;<br>(c) providing screens and buffers that contribute to privacy, casual surveillance, urban design and environmental protection, where relevant;<br>(d) improving the microclimate of communal open spaces and hard paved areas;<br>(e) locating plants appropriately in relation to their size including mature size;<br>(f) softening the visual and physical impact of hard paved areas and building mass with landscaping that is appropriate in scale;<br>(g) including suitably sized trees, shrubs and groundcovers to aid climate control by providing shade in summer and sunlight in winter. | The Proposal does not include any changes to existing landscaping. |

| Section | Description of Relevant Provisions | Compliance Status |
|---|---|---|
| | 2.5 The landscape of setbacks and deep soil zones must:<br>(a) provide sufficient depth of soil to enable the growth of mature trees;<br>(b) use a combination of groundcovers, shrubs and trees;<br>(c) use shrubs that do not obstruct sightlines between the site and the public domain; and<br>(d) where buffer or screen planting is required, use continuous evergreen planting consisting of shrubs and trees to screen the structure, maintain privacy and function as an environmental buffer. | |
| **Section 2 – Landscape Design - Trees** | 2.6 Development must consider the retention of existing trees in the building design.<br>2.7 Development must plant at least one canopy tree for every 12m of front and rear boundary width and:<br>(a) Canopy trees are to be of a minimum 75 litre pot size.<br>(b) Use deciduous trees in small open spaces, such as courtyards, to improve solar access and control of microclimate.<br>(c) Place evergreen trees well away from the building to allow the winter sun access.<br>(d) Select trees that do not inhibit airflow.<br>(e) Provide shade to large hard paved areas using tree species that are tolerant of compacted/deoxygenated soils.<br>2.8 Development must provide street trees that will contribute to the canopy where possible. | The Proposal does not include any changes to existing landscaping. |
| **Section 3 – Biodiversity** | 3.1 Development must retain, protect and enhance indigenous/native vegetation and natural site features and incorporate it into the landscape design.<br>3.2 Development must create a buffer zone to adjoining bushland and use indigenous planting in the buffer zone.<br>3.3 Development must manage habitat values by reinforcing biodiversity links.<br>3.4 The landscape design may consider using the following features to encourage native wildlife:<br>(a) Trees and shrubs native to the area can provide nectar and seeds – an important food for native birds.<br>(b) Prickly shrubs and dense hedges protect bird nests from predators such as cats.<br>(c) Leaf litter and bark provide feeding areas for small animals such as frogs and lizards.<br>(d) Hollow logs provide shelter for small marsupials and lizards.<br>(e) Small caves and crevices serve as burrows and nesting sites for small animals.<br>(f) Where structurally sound, tree hollows provide nesting holes essential for birds and possums.<br>(g) Strong, healthy tree limbs provide habitat for tree dwellers and allow safe movement through the canopy.<br>(h) Tree branches provide safe perching places for birds.<br>(i) Rocks provide shelter, shade and sun bathing opportunities for small animals. | The Proposal does not include any changes to existing landscaping. |
| **Industrial Precinct, Chapter 9– General Requirements** | | |

| Section | Description of Relevant Provisions | Compliance Status |
|---|---|---|
| **Section 2 – Building form and Landscape – Site Cover** | 2.1 The sum of the total area of building(s) on the ground floor level must not exceed 70% of the site area. | Existing buildings are approved. This Proposal does not seek to modify or extend the coverage of buildings within the property. |
| **Section 2 – Building form and Landscape – Street Setbacks** | 2.2 This clause applies to land within the former Bankstown Local Government Area:<br>(a) Where sites adjoin a state or regional road (refer to Appendix 1), the minimum setback to the primary and secondary street frontages is 15m.<br>(b) Where sites do not adjoin a state or regional road, the minimum setback to:<br>i. the primary street frontage is 10m; and<br>ii. the secondary street frontage is 3m.<br>2.3 This clause applies to land within the former Canterbury Local Government Area:<br>(a) The minimum setback to the primary street frontage is 5m.<br>(b) The minimum setback to the secondary street frontage is 2m.<br>2.4 Despite clauses 2.2 and 2.3, Council may vary the minimum setback provided the development:<br>(a) complies with any statutory alignment that applies to the site; or<br>(b) provides adequate space to meet the vehicle access, car parking, loading and landscaping controls; or<br>(c) demonstrates compatibility with the building alignment of neighbouring development or the desired character of the area; or<br>(d) achieves an appropriate bulk and scale. | Proposal Complies.<br>Existing buildings are approved. This Proposal does not seek to modify or extend the coverage of buildings within the property.<br>The proposed concrete panel wall on the southern boundary will terminate approximately 20m from the front property boundary. The wall will improve visual privacy to the neighbouring lot. The wall will be adjacent to the driveway of the neighbouring lot – shadowing created by the wall will not impact any office or operational areas of the lot. |
| **Section 2 – Building form and Landscape – Side and rear setbacks** | 2.5 Council may require minimum setbacks to the side and rear boundaries of the site:<br>(a) to maintain reasonable solar access or visual privacy to neighbouring dwellings; or<br>(b) to avoid an easement or tree dripline on the site or adjoining sites; or<br>(c) to comply with any multi-level risk assessment undertaken for a development that ascertains the need for an appropriate setback or buffer zone between the development and any adjoining or neighbouring land within a residential zone.<br>2.6 The design of buildings must ensure that:<br>(a) At least one living area of a dwelling on an adjoining site must receive a minimum three hours of sunlight between 8.00am and 4.00pm at the mid-winter solstice. Where this requirement cannot be met, the development must not result with additional overshadowing on the affected living areas of the dwelling.<br>(a) (b) A minimum 50% of the required private open space for a dwelling that adjoins a development receives at least three hours of sunlight between 9.00am and 5.00pm at the equinox. Where this requirement cannot be met, the development must not result with additional overshadowing on the affected private open space. | |

<table>
<tr><th>Section</th><th>Description of Relevant Provisions</th><th>Compliance Status</th></tr>
<tr><td>Section 2 – Building form and Landscape – Open Space</td><td>2.10 Development must provide a landscaped area along the primary and secondary street frontages of a site in accordance with the following minimum widths:<br><table><tr><th>Site Area</th><th>Sites Adjoining a State or Regional Road / Minimum Width for Landscaped Area</th><th>Sites Not Adjoining a State or Regional Road / Minimum Width for Landscaped Area to Primary Street Frontage</th><th>Sites Not Adjoining a State or Regional Road / Minimum Width for Landscaped Area to Secondary Street Frontage</th></tr><tr><td>Greater than 4,000m²</td><td>10m</td><td>10m</td><td>3m</td></tr></table>Despite this clause, Council may vary the minimum setback provided the development complements a high quality landscaped image of neighbouring development or the desired future character of the area.<br><br>2.11 Development must:<br><br>(a) retain and protect any existing trees identified by Council on the site and adjoining sites; and<br>(b) must not change the ground level (existing) within 3m of the base of the trunk or within the dripline, whichever is the greatest.<br><br>2.12 Development must plant at least one street tree at 5m intervals along the length of the primary and secondary street frontages. Council may vary this requirement in response to proposed tree species, site constraints limit their inclusion or a street tree already exists in good condition.<br><br>2.13 Development must plant trees in the landscaped area at a minimum rate of one canopy tree per 30m² of the landscaped area. The canopy tree must be capable of achieving a mature height greater than 5m.</td><td>Proposal Complies.<br><br>A landscaped area of 9m width is provided at the front of the property within the property boundary. An additional 4m wide landscaped area is located immediately outside the property boundary. The Proposal will not result in any changes to the current landscaping.</td></tr>
<tr><td>Section 2 – Building form and Landscape – Employee Amenities</td><td>2.15 Development must provide an outdoor employee amenity area with a minimum area of 25m2. This area should include a combination of grass, plantings, pavement, shade, and seating to allow employees to engage in a pleasant working environment.<br><br>2.16 Development must locate the employee amenity area away from sources of intrusive noise (such as loading and servicing, and heavy machinery), dust, vibration, heat, fumes, odour or other nuisances.</td><td>N/A, as there is a designated indoor lunchroom within the office. This lunchroom provides employees with a comfortable and convenient space to take breaks, protected from external nuisances.</td></tr>
<tr><td>Section 3 – Building design - Facade and Roof Design</td><td>3.1 Development must articulate the facades to achieve a unique and contemporary architectural appearance that:<br><br>(a) unites the facades with the whole building form;<br>(b) composes the facades with an appropriate scale and proportion that responds to the use of the building and the desired contextual character;<br>(c) combines high quality materials and finishes;<br>(d) considers the architectural elements shown in Figure 3a; and<br>(e) considers any other architectural elements to Council's satisfaction.</td><td>Proposal Complies.<br><br>Two local exhaust ventilation (LEV) is to be installed on roof line of existing rear awning. These are to be constructed of high-quality materials.<br><br>No changes to the main sheds design are proposed, however building and materials align with</td></tr>
</table>

| Section | Description of Relevant Provisions | Compliance Status |
|---|---|---|
| | 3.6 Development must use:<br>(a) quality materials such as brick, glass, and steel to construct the facades to a development (Council does not permit the use of standard concrete block);<br>2.2 Development must incorporate an innovative roof design that:<br>(a) achieves a unique and contemporary architectural appearance; and<br>(b) combines high quality materials and finishes. | industrial warehouse façade and design standards. |
| **Section 3 – Building design – Safety and Security** | 3.8 The front door to buildings should face the street.<br>3.9 The administration offices or industrial retail outlets must locate at the front of buildings.<br>3.11 Access to loading docks or other restricted areas in buildings must only be available to tenants via a large security door with an intercom, code or lock system.<br>3.12 Unless impractical, access to outdoor car parks must be closed to the public outside of business hours via a lockable gate.<br>3.13 Development must provide lighting to the external entry paths, common lobbies, driveways and car parks using vandal resistant, high mounted light fixtures.<br>3.14 Where the site shares a boundary with a railway corridor or an open stormwater drain, any building, solid fence, or car park on the site should, wherever practical, be setback a minimum 1.5m from that boundary. The setback distance must be:<br>(a) treated with hedging or climbing vines to screen the building, solid fence, or car park when viewed from the railway corridor or open stormwater drain; and<br>(b) the hedging or climbing vines must be planted prior to the completion of the development using a minimum 300mm pot size; and<br>(c) the planter bed area must incorporate a commercial grade, sub-surface, automatic, self-timed irrigation system; and<br>(d) the site must be fenced along the boundary using a minimum 2m high chain-wire fence; and<br>(e) the fence provides an appropriate access point to maintain the landscaping within the setback area; and<br>(f) where a car park adjoins the boundary, hedging or climbing vines must also be planted along the sides of any building or solid fence on the site that face the railway corridor or open stormwater drain. | Proposal Complies.<br>Existing buildings are approved. This Proposal does not seek to modify the layout of the buildings or locations of doors and windows.<br>Lockable gates are located on the Site entry and exit. |
| **Section 3 – Building design - General** | 3.15 Council must take into consideration the following matters for development in the industrial zones:<br>(a) whether the proposed development will provide adequate off-street parking, relative to the demand for parking likely to be generated;<br>(b) whether the site of the proposed development will be suitably landscaped, particularly between any buildings and the street alignment;<br>(c) whether the proposed development will contribute to the maintenance or improvement of the character and appearance of the locality; | Proposal Complies.<br>(a) Eleven (11) parking spaces will be provided, exceeding business requirements.<br>(b) Landscaping area included. |

| Section | Description of Relevant Provisions | Compliance Status |
|---|---|---|
| | (d) whether access to the proposed development will be available by means other than a residential street but, if no other means of practical access is available, the consent authority must have regard to a written statement that:<br>(j) illustrates that no alternative access is available otherwise than by means of a residential street; and<br>i. demonstrates that consideration has been given to the effect of traffic generated from the site and the likely impact on surrounding residential areas; and<br>ii. identifies appropriate traffic management schemes which would mitigate potential impacts of the traffic generated from the development on any residential environment;<br>(e) whether goods, plant, equipment and other material used in carrying out the proposed development will be suitably stored or screened;<br>(f) whether the proposed development will detract from the amenity of any residential area in the vicinity; and<br>(g) whether the proposed development adopts energy efficiency and resource conservation measures related to its design, construction and operation. | (c) No proposed changes to the appearance of the site.<br>(d) Access available through streets in IN1 zoned area.<br>(e) No changes proposed to storage of plant and equipment.<br>(f) The Site is within an industrial area and is in keeping with surrounding properties.<br>(g) BSV uses modern technology and fuel-efficient vehicles as part of their operations. |
| **Section 4 – Environmental Management – Acoustic Privacy** | 4.1 Development must:<br>(a) consider the Noise Policy for Industry and the acoustic amenity of adjoining residential zoned land; and<br>(a) (b) may require adequate soundproofing to any machinery or activity that is considered to create a noise nuisance. | A Noise and Vibration Impact Assessment has been conducted for the Proposal. |
| **Section 4 – Environmental Management – Pollution Control** | 4.2 Development must adequately control any fumes, odour emissions, and potential water pollutants in accordance with the requirements of the relevant public authority. | An Air Quality Impact Assessment has been conducted for the Proposal |
| **Section 5 – Site Facilities – Storage Areas** | 5.1 The storage and use of hazardous materials must comply with the requirements of WorkCover NSW and other relevant public authorities.<br>5.2 The storage and use of dangerous goods must comply with the Dangerous Goods (Road and Rail Transport) Act 2008 and its regulations, and any other requirements of WorkCover NSW. | No dangerous or hazardous goods will be stored at the facility. |
| **Section 5 – Site Facilities - Building design (utilities and building services)** | 5.3 The location and design of utilities and building services (such as plant rooms, hydrants, equipment and the like) must be shown on the plans.<br>5.4 Utilities and building services are to be integrated into the building design and concealed from public view.<br>5.5 External lighting to industrial development must give consideration to the impact of glare on the amenity of adjoining residents. | No changes to the design of the building are proposed, all of these requirements are met and shown in the architectural plans. |

| Section | Description of Relevant Provisions | Compliance Status |
|---|---|---|
| | 5.6 Council may require development to include public domain improvements to an adjacent footpath in accordance with a design approved by Council's Landscape Architect. | |
| **Section 5 – Site Facilities - Building design (Substation)** | 5.7 The location and design of substations must be shown on the plans.<br><br>5.8 Substations should locate underground. Where not possible, substations are to be integrated into the building design and concealed from public view.<br><br>5.9 Substations must not locate forward of the front building line. | No Substation is proposed on the site. |
| **Section 5 – Site Facilities – Front Fences** | 5.11 The maximum fence height for front fences is 1.8m.<br><br>5.12 The external appearance of front fences along the primary and secondary street frontages must ensure:<br><br>(a) the section of the front fence that comprises solid construction (not including pillars) does not exceed a fence height of 1m above ground level (existing); and<br>(b) the remaining height of the front fence comprises open style construction such as spaced timber pickets or wrought iron that enhance and unify the building design.<br><br>5.13 Council does not allow the following types of front fences:<br><br>(a) chain wire, metal sheeting, brushwood, and electric fences; and noise attenuation walls. | The Proposal does not include changes to the existing fence. The existing fence is consistent with fencing on other properties along Daisy Street. |

## 4.6. Other Applicable Legislation or Strategies

### 4.6.1. Fire and Rescue NSW – Guideline for Bulk Storage of Rubber Tyres

Fire & Rescue NSW (FRNSW) has published guidelines for the bulk storage of rubber tyres, or related subsidiary products to provide minimum recommended guidelines for internal and external bulk storage of rubber tyres. Whilst rubber tyres are not easily ignitable, due to their physical properties, fires can be difficult to extinguish. The guideline identifies maximum tyre stack sizes and minimum distances between stacks and other on-site features which assist fire services to contain and extinguish tyre fires.

BSV Tyre Recycling is currently approved to store up to 150 tonnes of rubber tyres at any one time as per the guidelines, the BSV Tyre Recycling is classed as an unsprinklered building, which falls within the guidelines. According to the guidelines, there should be a minimum distance of 3 m between the top of the tyre stack and the building roof as well as the sides of the tyre stack to the building walls. The GBSRT limits tyre stockpiles to 3.7 m. The width of the stockpile is 2.4 m and the length is 12.2 m. This results in an area of 29.28 m², therefore compliant and below the maximum allowable area specified in the GBSRT of 30 m².

A Fire Impact Management Plan has been conducted for the proposal. The results are presented in Section 12 and the Fire Impact Management Plan is provided in Appendix E.

### 4.6.2. Fire and Rescue NSW – Access for Fire Brigade Vehicles and Firefighters guidelines

The Proposal complies with Fire and Rescue NSW (FRNSW) guidelines for access for fire brigade vehicles and firefighters. The Site will provide adequate access routes, hardstand areas, and ensure the load-bearing capacities of roads and structures support fire appliances.

Key compliance points include:

- Vehicle Access Requirements: Minimum carriageway widths of 4.5 m for general fire appliances and 6 m for specialist fire appliances. Turnaround areas for dead-end carriageways longer than 120m. No constricted access narrower than 3.2 m or longer than 50 m. Overhead clearance heights of 4 m (general) and 4.5 m (specialist). Maximum grade of 1:6 (16.6%) for ramps and carriageways. Removable or fail-safe gates for emergency access;
- Hardstand Areas: Located within 20 m of any feed fire hydrant, within 8 m of any fire hydrant booster assembly, and within 50 m of an external attack fire hydrant. These areas will be flat, level, and free of obstructions;
- Load Support: Carriageways and hardstand areas will support weights of up to 15 tonnes for general fire appliances and 28 tonnes for specialist appliances; and
- Compliance with NCC: Fire brigade vehicle access will comply with Performance Requirement CP9, ensuring continuous forward direction vehicular access with a minimum width of 6 m.

By following these guidelines, the Proposal will ensure effective and efficient access for fire brigade vehicles, enhancing Site safety and emergency response capabilities. The Fire Impact Management Plan shows compliance with the Access for Fire Brigade Vehicles and Firefighters guidelines. See Section 12 and Appendix E for more information.

# 5. Project Justification

## 5.1. Greater Sydney Regional Plan

The Proposal aligns with the objectives of the *Greater Sydney Region Plan*, "A Metropolis of Three Cities," which envisions a connected city where most residents can access jobs, education, and essential services within 30 minutes. The plan sets out a 40-year vision (to 2056) and a 20-year framework to manage growth, change, and infrastructure across Greater Sydney, integrating social, economic, and environmental considerations. This facility supports the plan's focus on industrial and urban services land, specifically the provision of waste and recycling services. By operating within proximity to the residential and commercial centres it serves, the facility helps meet the demand for waste management infrastructure in alignment with the growth management and infrastructure investment intentions outlined by the government.

Furthermore, the Proposal reinforces the plan's goal of ensuring that infrastructure delivery is aligned with growth, while providing essential urban services. The facility's strategic location and purpose contribute to the efficient management of resources and recycling, directly supporting the implementation of the Greater Sydney Region Plan.

## 5.2. NSW Waste and Sustainable Materials Strategy: A guide to future infrastructure needs

The *NSW Waste and Sustainable Materials Strategy* provides a roadmap for managing waste, planning infrastructure, reducing carbon emissions, and advancing towards a circular economy in the state. Backed by $356 million in funding, the strategy supports priority programs and policy reforms that align with the NSW Circular Economy Policy Statement, the Net Zero Plan Stage 1: 2020–2030, and the *National Waste Policy Action Plan* 2019.

One of the key goals of the strategy is to ensure the necessary infrastructure is in place to manage the expected waste streams over the next two decades. This includes a focus on residual waste, organics, and plastics, with a strong emphasis on leveraging private sector and government investment in waste processing facilities. Tyre recycling is a recognised infrastructure need, with a projected processing capacity gap of approximately 100,000 tonnes per year by 2030. This Proposal will directly support the state's efforts in expanding tyre recycling capacity, helping to meet the objectives of the circular economy and the waste management targets outlined in the strategy.

## 5.3. Council of Australian Government (COAG) Waste Export ban

In 2019, the Council of Australian Governments (COAG) committed to banning the export of waste materials such as plastic, paper, glass, and tyres, while simultaneously boosting Australia's recycling and waste processing industries. The phased implementation of the ban began on 1 January 2021, with the prohibition of unprocessed glass exports. By 1 December 2021, the export of whole used tyres, including baled tyres, was also banned. This shift underscores the urgent need to enhance Australia's capacity for processing waste tyres domestically, driving investment in local recycling infrastructure and creating sustainable solutions for tyre waste management.

The increased processing capacity and shift towards crumb rubber processing and TDF export makes the proposal support the objectives of the COAG export ban.

## 5.4. Sustainability and Environmental

The facility will support the *NSW Waste and Sustainable Materials Strategy* 2041: Stage 1 – 2021-2027, the approved waste strategy for NSW. It sets out the long-term vision for managing waste, planning for infrastructure, reducing carbon emissions, creating jobs, and refocusing the way NSW produces, consumes, and recycles products and materials. The strategy will be used to track, review, and measure NSW's progress toward meeting the targets set out in the *National Waste Policy Action Plan* 2019. The targets are to:

- Reduce total waste generated by 10% per person by 2030;
- Have an 80% average recovery rate from all waste streams by 2030;
- Significantly increase the use of recycled content by governments and industry;
- Phase out problematic and unnecessary plastics by 2025; and
- Halve the amount of organic waste sent to landfill by 2030.

In addition to the above targets, NSW has committed to:

- Introduce a new overall litter reduction target of 60% by 2030 and a plastic litter reduction target of 30% by 2025, as set out in the NSW Plastics Action Plan;
- Set a goal to triple the plastics recycling rate by 2030, as set out in the NSW Plastics Action Plan;
- Reaffirm the commitment to the goal of net zero emissions from organic waste by 2030, as laid out in the NSW Net Zero Plan Stage 1: 2020–2030;
- Establish new indicators to help track progress on infrastructure investment and the cost of waste services; and
- Develop a new measure of the emissions performance of waste and materials management to track performance across the lifecycle of materials.

A major focus area of the strategy is to increase waste infrastructure and services to meet future needs. The highest priority is to extend the life of existing landfills by reducing the volume of waste being sent to landfill. Whilst the main focus is on waste avoidance, improving recycling capacity is an important aspect of waste management. This Proposal will:

- Contribute towards the recycling targets of NSW.
- Help achieve a more circular economy through the recycling and re-using of materials.
- Facilitate the use of recycled materials in the making of tyre derived fuel and other rubber derived products, replacing the use of virgin materials.

Given the ban on the export of whole tyres, an increase in capacity at BSV Tyre Recycling Australia Pty Ltd will directly support the *National Waste Policy Action Plan* 2019, *NSW Waste and Sustainable Materials Strategy* 2041: Stage 1 – 2021-2027 and the NSW Government's efforts to increase recycling across all industries and waste types.

The environmental impact of this Proposal has been assessed. With the implementation of some key mitigation measures, the Proposal is to have negligible impact on the surrounding environment. These mitigation measures include:

- Construction of a concrete wall along the southern boundary to reduce off-site noise impacts from recycling operations and to increase fire safety;
- Use of a local exhaust ventilation system on the proposed shredder to ensure operations comply with standards for air quality;
- Installation of a firewater containment bund around the entire Site boundary to complement the stormwater isolation system in the event of a fire;
- Replacement of single headed fire hydrants with dual headed fire hydrants; and
- Hardstand regrading and installation of new stormwater isolation valve.

## 5.5. Social And Economic

Increased investment in resource recovery infrastructure is good for public health and the economy. The resource recovery sector creates jobs and stimulates innovative technology. With a move towards a circular economy, the recycling industry will play a major role in the creation of new jobs in NSW. It has been demonstrated that, for every 10,000 tonnes of material, the recycling industry generates three times as many jobs as landfill disposal.

The Proposal will provide additional employment opportunities in the region as well as benefits to the local economy. It is expected that five jobs over a three-month period will be created during construction and an additional two full time jobs will be created on an ongoing basis once the Site is in full operation.

The Proposal will also involve a capital investment of $3.072 million, helping to support the local economy.

# Environmental Assessment

## 6. Hazards and Risks

The aims of the *State Environmental Planning Policy (Resilience and Hazards)* 2021 are to amend the definitions of hazardous and offensive industries where used in environmental planning instruments. This policy ensures that provisions of any environmental planning instrument that prohibit development for the purpose of a storage facility on the grounds that the facility is hazardous, or offensive are rendered ineffective if the facility does not meet the criteria for hazardous or offensive storage establishments as defined in this policy.

Additionally, the *State Environmental Planning Policy (Resilience and Hazards)* 2021 sets out requirements for development consent for hazardous or offensive development, particularly in ensuring that any measures proposed to reduce the impact of the development are taken into account when determining if a development is hazardous or offensive. This policy ensures that the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimize any adverse impact. It also requires the advertising of applications to carry out any such development.

Development that is potentially hazardous and/or offensive is permissible under *State Environmental Planning Policy (Resilience and Hazards)* 2021 if the facility is capable of securing an Environment Protection Licence (EPL) from the NSW Environment Protection Authority (EPA). This ensures that appropriate environmental safeguards and operational standards are maintained to protect human health and the environment

### 6.1. Relevance to the proposed development

A preliminary hazard analysis and environmental risk assessment has been prepared to address the proposed alteration and additions to the existing tyre recycling facility. The objective of this assessment was to identify the risks posed to people, property and the environment. The assessment also considers off-site risks to people, property and the environment (in the presence of controls) arising from atypical and abnormal hazardous events and conditions (i.e. equipment failure, operator error and external events). The hazard treatment measures that have been proposed assist in producing a 'low' risk in accordance with the risk acceptance criteria.

### 6.2. Preliminary hazard analysis and environmental risk assessment

The preliminary hazard analysis and environmental risk assessment has been performed to identify key potential impacts of the development, as well as potentially offensive or hazardous issues that need to be considered as part of the Development Application process. The assessment has been conducted in accordance with AS/NZS ISO 31000:2009 *Risk Management – Principles and Guidelines* and has been informed by *the Hazardous and Offensive Development Application Guidelines*. We have also considered the following guidelines published by the NSW Department of Planning:

- Hazardous Industry Planning Advisory Paper No 2 - Fire Safety Study Guidelines[2];
- Hazardous Industry Planning Advisory Paper No 3 - Risk Assessment[3];
- Hazardous Industry Planning Advisory Paper No 4 - Risk Criteria for Land Use Safety Planning[4]; and
- Hazardous Industry Planning *Advisory Paper No 6 - Hazard Analysis*[5].

[2] NSW Department of Planning (2011). Hazardous Industry Planning Advisory Paper No 2 - Fire Safety Study Guidelines. Published by the NSW Department of Planning. Internet publication: http://www.planning.nsw.gov.au/Policy-and-Legislation/~/media/CCC734E980C4427DB95D319DF073C41A.ashx

[3] NSW Department of Planning (2011). Hazardous and Offensive Development Application Guidelines- Risk Criteria for Land Use Safety Planning. Published by NSW Department of Planning. Internet publication: http://www.planning.nsw.gov.au/Policy-and-Legislation/~/media/0D39F08E7889409BBA1FA88D5FB859FD.ashx

[4] NSW Department of Planning (2011). Hazardous Industry Planning Advisory Paper No 4 - Risk Criteria for Land Use Safety Planning. Published by the NSW Department of Planning. Internet publication: http://www.planning.nsw.gov.au/Policy-and-Legislation/~/media/0D39F08E7889409BBA1FA88D5FB859FD.ashx

[5] NSW Department of Planning (2011). Hazardous Industry Planning Advisory Paper No 6 - Hazard Analysis. Published by NSW Department of Planning. Internet publication: http://www.planning.nsw.gov.au/Policy-and-Legislation/~/media/3ACC37BE3EFE4BAAB3EBA5872AFBA8BD.ashx

This comprehensive assessment ensures that all potential risks associated with the development are identified and addressed, facilitating a thorough and effective planning and approval process in line with *the State Environmental Planning Policy (Resilience and Hazards)* 2021.

## 6.3. Scope

The assessment has been performed to identify the risks posed to people, property, and the environment, and to identify potential hazardous and offensive issues that need to be addressed as part of the development to ensure compliance with the *State Environmental Planning Policy (Resilience and Hazards)* 2021. The assessment also considers off-site risks to people, property, and the environment (in the presence of controls) arising from atypical and abnormal hazardous events and conditions (e.g., equipment failure, operator error, and external events). The hazard treatment measures that have been proposed assist in producing a 'low' level of risk in accordance with the risk acceptance criteria.

## 6.4. Method

The method used to inform preliminary hazard analysis and environmental risk assessment has included the following steps:

- Identify and screen the hazards associated with the proposed development;
- Examine the maximum reasonable consequence of identified events;
- Qualitatively estimate the likelihood of events;
- Proposed risk treatment measures;
- Qualitatively assess risks to the environment, member of the public and their property arising from atypical and abnormal events and compare these to applicable qualitative criteria;
- Recommend further risk treatment measures if considered warranted; and
- Qualitatively determine the residual risk assuming the implementation of the risk treatment measures.

## 6.5. Risk Management

The environmental risk assessment has been informed by AS/NZ 31000: 2009 *Risk Management Principles and Guidelines* and *Hazardous Industry Planning Advisory Paper No 3 - Risk Assessment* (NSW Department of Planning, 2011). The risk management process has been informed by the following elements:

- Establish the context;
- Identify the risks;
- Analyse the risks;
- Evaluate the risks; and
- Treat risks.

The following principles have been adopted to identify and assess risk in this study. This has been informed by the *Hazardous Industry Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning* (NSW Department of Planning, 2011):

- The avoidance of all avoidable risks;
- The risk from a major hazard should be reduced wherever practicable, even where the likelihood of exposure is low;
- The effects of significant events should, wherever possible be contained within the Site boundary; and
- Where the risk from an existing installation is already high, further development should not pose any incremental risk.

## 6.6. Qualitative measurement of consequence, likelihood, and risk

To undertake a qualitative risk assessment, it is useful to describe the levels of consequence of a particular event, and the likelihood or probability of such an event occurring. Risk assessment criteria have been developed in AS/NZS ISO 31000: 2009 which allows the risk assessor to develop risk criteria during the establishment of the context.

In according with AS/NZS ISO 31000: 2009, the following tables (Table 6.1 and Table 6.2) have been reviewed as part of establishing the context of the proposed development. These tables were considered to be consistent with the specific objectives of the preliminary hazard analysis and environmental risk assessment.

**Table 6.1. Qualitative measures of probability.**

| Event | Likelihood | Description |
|---|---|---|
| A | Almost certain | Happens often |
| B | Likely | Could easily happen |
| C | Possible | Could happen and has occurred elsewhere |
| D | Unlikely | Hasn't happened yet but could |
| E | Rare | Conceivable, but only in extreme circumstances |

**Table 6.2. Qualitative measures of maximum reasonable consequence.**

| Event | People | Environment | Asset / Production |
|---|---|---|---|
| 1 | Multiple fatalities | Extreme environmental harm (e.g. widespread catastrophic impact on environmental values of an area) | More than $1B loss or production delay |
| 2 | Permanent total disabilities, single fatality | Major environmental harm (e.g. widespread substantial impact on environmental values of an area) | $100M to $1B or production delay |
| 3 | Minor injury or health effects (e.g. major lost workday case / permanent disability) | Serious environmental harm (e.g. widespread and considerable impact on environmental values of an area) | $5M - $100M loss or production delay |
| 4 | Minor injury or health effects (e.g. restricted work or minor lost workday case) | Material environmental harm (e.g. localised and considerable impact on environmental values of an area) | $250K to $5M loss or production delay |
| 5 | Slight injury or health effects (e.g. first aid / minor medical treatment needed) | Minimum environmental harm (e.g. minor impact on environmental values of an area) | Less than $250K or production delay |

Combining the probability and consequence tables, Table 6.3 provides a qualitative risk analysis matrix to assess risk levels.

**Table 6.3. Qualitative risk analysis matrix used in this preliminary hazard analysis and environmental risk assessment.**

| Consequence | Probability[1] | | | | |
|---|---|---|---|---|---|
| | A | B | C | D | E |
| 1 | 1 (H) | 2 (H) | 4 (H) | 7 (M) | 11 (M) |
| 2 | 3 (H) | 5 (H) | 8 (M) | 12 (M) | 16 (L) |
| 3 | 6 (H) | 9 (M) | 13 (M) | 17 (L) | 20 (L) |
| 4 | 10 (M) | 14 (M) | 18 (L) | 21 (L) | 23 (L) |
| 5 | 15 (M) | 19 (L) | 22 (L) | 24 (L) | 25 (L) |

[1] Legend – L: low; M: Moderate; H: high; Risk numbering: 1 – highest; 25 – lowest risk. Colour coding: Blue: tolerable risk; orange: ALARP – as low as reasonably practicable; red: intolerable risk.

Risk acceptance criteria for the proposed development have been formulated following consideration of the *Hazardous Industry Planning Advisory Paper No 4 - Risk Criteria for Land Use Safety Planning* (NSW Department of Planning and Environment, 2011) and AS/NZS ISO 31000 2009 – *Risk Management Principles and Guidelines.*

In assessing the tolerability of risk from potentially hazardous development, both qualitative and quantitative aspects need to be considered. Relevant general principles considered in this study as documented in the *Hazardous Industry Planning Advisory Paper No 4 - Risk Criteria for Land Use Safety Planning* (NSW Department of Planning, 2011):

- The avoidance of all avoidable risks;
- The risk from a major hazard should be reduced wherever practicable, even where the likelihood of exposure is low;
- The effects of significant events should, wherever possible be contained within the Site boundary; and
- Where the risk from an existing installation is already high, further development should not pose any incremental risk.

## 6.7. Site Description and process

The Facility is located at 30 Daisy Street, Revesby. The Site is also identified as Lot 198, DP 7866 in IN1 zoned land under *Canterbury-Bankstown Local Environmental Plan* 2023.

A full description of the proposal is given in Section 3.

## 6.8. Hazardous Material Stored on Site

The NSW Department of Planning (2011) in the SEPP 33 sets out a process for screening potentially hazardous materials that are stored on Site as part of a proposed development.

Potential risk typically of holding certain types of hazardous materials on Site depends on:

- The properties of the substance(s) being handled or stored;
- The conditions of storage or use;
- The quantity involved;
- The location with respect to the Site boundary; and
- The surrounding land uses.

Risk screening needs to be undertaken as part of the SEPP 33 guidelines based on an estimate of the consequences of fire, explosion or toxic release from material(s) being handled. It considers information from the proponent on the properties of the materials, quantity, type of storage or use, and location. A risk screening analysis for the proposed development is given in Table 6.4 below.

## 6.9. Tyres

Tyres are not classified as dangerous goods according to the Australian Dangerous Goods Code, However, tyres present a significant fire risk. Whilst rubber tyres do not ignite easily, once alight the resulting fire has a high energy release and generates a high volume of smoke. Tyre fires are extremely difficult to extinguish due to their physical properties.

A fire impact management plan for the development has been conducted (see Section 12 and Appendix F) to prepare an acceptable solution for the safe storage and processing of tyres under the *NSW Fire and Rescue Fire Safety Guideline for Bulk Storage of Rubber Tyres* (2014)[6] and the *Hazardous Industry Planning Advisory Paper (HIPAP)* No. 2 – Fire Safety Guidelines.

## 6.10. Diesel

Diesel with a flashpoint < 60 °C is classified as a Dangerous Good Class 3 Packaging Group 3 (flammable liquids). Diesel fuel will be used onsite for fuelling of diesel-fuelled plant on-site. In the event of a spill, diesel is damaging to soils and aquatic ecosystems and fires can occur if it is ignited (flash point 61 to 150°C).

The risks associated with this proposed development include diesel handling and use. The use of diesel will be in accordance with the requirements of AS 1940: 2017 - *The Storage and Handling of Flammable and Combustible liquids.*

Diesel will not be stored on the site. It will be brought to Site on a weekly basis by a fuel tanker and plant and equipment will be filled directly.

## 6.11. Lubricants

Oil and grease for use as lubricants in plant and equipment are not classified as dangerous goods, however, they pose a risk of environmental harm if a spill occurs, and they present a fire risk.

A maximum of two 240L steel drums containing oil or grease are stored onsite at any one time. The drums are stored on bunded pallets within the chemical storage area on the ground floor of the main shed building. Empty drums will be transported offsite for lawful disposal.

## 6.12. LPG Cylinders

LPG is used onsite to power the forklifts. LPG is an extremely flammable gas and its use on Site presents a fire risk. Additionally, in the event of a fire, gas cylinders can explode when heated, posing an additional risk to fire fighters.

A maximum of four 18kg LPG cylinders are stored on Site at any one time. The cylinders are stored under the awning adjacent to the main industrial shed in a well-ventilated area that is protected from the weather, and in a secure cage.

**Table 6.4. Risk screening analysis of potentially hazardous materials held on Site as part of the development.**

| Material / potential pollutant | Storage location | Dangerous Goods Class[1] | Packing Group[2] | Maximum quantity on site | Screening method[3] | Threshold[4] | Notes |
|---|---|---|---|---|---|---|---|
| **Tyres** | Unprocessed tyres stacked in the yard awaiting processing<br>Processed tyres (TDF, crumb rubber) stored in | n/a | n/a | 150 tonnes | n/a | n/a | Not a dangerous good but potentially flammable |

[6] NSW Fire and Rescue Fire Safety Guideline for Bulk Storage of Rubber Tyres (2014). Published by NSW Government. Internet publication: https://www.fire.nsw.gov.au/gallery/files/pdf/guidelines/rubber_tyres.pdf

| Material / potential pollutant | Storage location | Dangerous Goods Class[1] | Packing Group[2] | Maximum quantity on site | Screening method[3] | Threshold[4] | Notes |
|---|---|---|---|---|---|---|---|
| | airtight shipping containers | | | | | | |
| **Diesel for refuelling vehicles and equipment** | Not stored – brought to Site in fuel tanker | 3 | III | 500L | n/a | n/a | N/a |
| **Lubricants (oil and grease)** | Steel drums on bunded pallets in chemical storage area | n/a | n/a | 480L | n/a | n/a | Not classified as a dangerous good but potentially flammable and may cause environmental harm in the event of a spill |
| **Cleaning products** | In bunded containers in the chemical storage area | n/a | n/a | Domestic quantities | n/a | n/a | Standard chemicals in domestic quantities for office, kitchen and bathroom cleaning |
| **LPG gas bottles** | Stored on gas cylinder trolley in chemical storage area | 2.1 | n/a | 72kg | n/a | 10 tonne | N/a |

Dangerous Goods are classified as 'flammable liquids'; [2] Packing Group III is a group of dangerous goods that are classified as 'substances presenting lower danger'. [3] Screening method is the methodology used to assess dangerous goods in the NSW Department of Planning (2011) *Hazardous and Offensive Development Application Guidelines - Applying SEPP 33*. [4] Where dangerous goods are stored on-site which exceed the nominated thresholds as per Department of Planning (2011) *Hazardous and Offensive Development Application Guidelines - Applying SEPP 33*, the proposed development is considered to be hazardous and requires detailed assessment under SEPP 33.

## 6.13. Further hazard identification, scenarios, consequence, likelihood analysis and risk assessment

To help understand further hazards possible as part of the proposed development, a series of potential worst-case scenarios have been assessed to determine possible consequences, likelihood and risk. The *NSW Department of Planning's* (2011) *Hazardous Industry Planning Advisory Paper No 6 - Hazard Analysis* has been used to assist in guiding this analysis.

As per the above guidelines, a qualitative assessment of the impacts of the largest possible event on people, plant and the environment, has been conducted. The worst-case scenarios reflect any foreseeable factors that could exacerbate the severity of an accident, including abnormal process conditions, out of hours manning levels, and the potential for control measures to be disabled or rendered inoperable by the accident.

The worst-case scenarios we have assessed include the following:

- Vehicle collision on entry to the site, resulting in fire and possible death;
- Leaks / spills on vehicle entry to the site, with potential impacts on stormwater and fire risk;
- Vehicle theft and malicious damage, leading to equipment failure and injury to person(s);
- Leaks / spills in processing Facility, with potential impacts on stormwater and fire risk;
- Vehicle theft and malicious damage in processing Facility, leading to equipment failure and injury to person(s);
- Vehicle collision between delivery vehicles with other on-site vehicles through driver error, or pedestrian, resulting in possible fire or death near the processing warehouse;
- Leak / spill from vehicle collision with potential impacts on stormwater and fire risk;
- Fire caused by ignition source (e.g. cigarette);
- Vehicle or material within workshop stolen, and leads to equipment failure and possible safety risk to staff; and
- Fire caused by ignition source (e.g. cigarette, hot work such as welding) and flammable materials in workshop (e.g. fuels, oils) catch fire due to spark from cigarette or hot work.

Prevention and treatment measures to reduce the likelihood and resulting consequences from these worst-case scenarios are mapped out in Table 6.5 below. Note that a risk rating category has been prepared to understand the significance of these risks – on the environment and human health. Note that the risk ratings estimated as part of the qualitative analysis are specified after implementation of the risk prevention, treatment and detection measures.

As a result of this analysis, it is suggested that the worst-case scenarios modelled with risk prevention, treatment and detection measures are all low risks.

## 6.14. Conclusion

The proposed development is not considered a potentially hazardous development as per SEPP33, so no further Preliminary Hazard Analysis or Multi-Level Risk Assessment has been performed.

**Table 6.5. Hazard identification, scenario, consequence, prevention/treatment measures and risk rating table.**

| Facility / event | Cause / comment | Possible scenarios, results & consequences | Prevention, Treatment Measures and Detection Protection Required | Likelihood | Consequence | Risk rating and category (after treatment measures)[1] |
|---|---|---|---|---|---|---|
| **Vehicle collision** | Possible collision of delivery vehicles with other on-site vehicles through driver error, or pedestrian, resulting in possible fire or death | Fire possible outside of processing Facility, potentially spreading to processing Facility. Possible impacts on stormwater from discharge of fire water.<br><br>Death or injury to personnel | + Ensure vehicle speed limits and regular driver education<br>+ Firefighting equipment<br>+ Emergency management / response plan<br>+Pollution incident response management plan / Environmental management plan<br>+ Traffic management plan<br>+ Work health and safety plan<br>+ Hazardous material management plan<br>+ Operator and driver training<br>+ Spill response equipment and training<br>+ Contact emergency services (NSW Fire Service) | Unlikely (D) | 3 | 17 (Low risk) |
| **Leak / spill** | Vehicle collision / damage causes spill / leak of hazardous material | Collision causes leakage of vehicle fuel or oil onto hardstand and possible stormwater impacts and a fire risk | + Ensure vehicle speed limits and regular driver education<br>+ Firefighting equipment<br>+ Emergency management / response plan<br>+Pollution incident response management plan / Environmental management plan<br>+ Traffic management plan<br>+ Work health and safety plan<br>+ Hazardous material management plan<br>+ Operator and driver training<br>+ Spill response equipment and training | Possible (C) | 5 | 22 (Low risk) |

| Facility / event | Cause / comment | Possible scenarios, results & consequences | Prevention, Treatment Measures and Detection Protection Required | Likelihood | Consequence | Risk rating and category (after treatment measures)[1] |
|---|---|---|---|---|---|---|
| | | | + Emergency response<br>+ Communications<br>+ Spill containment and sweeping of hardstand<br>+ Contact emergency services (NSW Fire Service) | | | |
| **Vehicle theft / malicious damage** | Vehicle or material within truck stolen | Components of a truck are stolen and leads to equipment failure and possible safety risk to staff | + Ensure staff compliance with Site security measures<br>+ Emergency management / response plan<br>+ Traffic management plan<br>+ Work health and safety plan<br>+ Contact emergency services (Police)<br>+ Site security / limited access | Possible (C) | 5 | 22 (Low risk) |
| **Excess dust and fire** | Fire caused by excess dust and build-up of electrostatic electricity or spark and fire | Excess build-up of dust during operations, and spark through electrostatic electricity or spark through electrical failure | + Ensure staff compliance with hot work procedures<br>+ Regular machinery maintenance and safety inspections<br>+ Dust minimisation practices<br>+ Firefighting equipment<br>+ Emergency management / response plan<br>+Pollution incident response management plan / Environmental management plan<br>+ Traffic management plan<br>+ Work health and safety plan<br>+ Hazardous material management plan<br>+ Operator and driver training | Possible (C) | 4 | 18 (Low risk) |

| Facility / event | Cause / comment | Possible scenarios, results & consequences | Prevention, Treatment Measures and Detection Protection Required | Likelihood | Consequence | Risk rating and category (after treatment measures)[1] |
|---|---|---|---|---|---|---|
| | | | + Spill response equipment and training<br>+ Contact emergency services (NSW Fire Service) | | | |
| **Equipment breakdown and excess stockpiling** | Excess stock increases stored in Facility increases risk of vehicle collision or fire | Collision of vehicles due to constrained operational area, possible fire as a result | + Cease receipt of tyres on the Site and divert trucks to other facilities<br>+ Firefighting equipment<br>+ Emergency management / response plan<br>+Pollution incident response management plan / Environmental management plan<br>+ Traffic management plan<br>+ Work health and safety plan<br>+ Hazardous material management plan<br>+ Operator and driver training<br>+ Spill response equipment and training<br>+ Contact emergency services (NSW Fire Service) | Unlikely (D) | 5 | 24 (Low risk) |
| **Fire** | Fire caused by ignition source (e.g. cigarette) | Flammable liquid is ignited through contact with an ignition source (e.g. cigarette) | + Ensure strict non-smoking policy is enforced at all times<br>+ Firefighting equipment<br>+ Emergency management / response plan<br>+Pollution incident response management plan / Environmental management plan<br>+ Traffic management plan<br>+ Work health and safety plan<br>+ Hazardous material management plan<br>+ Operator and driver training | Possible (C) | 4 | 18 (Low risk) |

| Facility / event | Cause / comment | Possible scenarios, results & consequences | Prevention, Treatment Measures and Detection Protection Required | Likelihood | Consequence | Risk rating and category (after treatment measures)[1] |
|---|---|---|---|---|---|---|
| | | | + Spill response equipment and training<br>+ Contact emergency services (NSW Fire Service) | | | |
| **Use of fuels and hydrocarbons** | Leakage of fuel | Spills of fuels and oils occur in workshop, and potentially ignite and/or move into stormwater, through human error or malicious act | + Ensure all fuels and oils are stored in fully bunded containers<br>+ Staff training on safe storage of fuels and oils<br>+ Emergency management / response plan<br>+Pollution incident response management plan / Environmental management plan<br>+ Traffic management plan<br>+ Work health and safety plan<br>+ Hazardous material management plan<br>+ Spill response equipment and training<br>+ Emergency response<br>+ Communications<br>+ Spill containment and sweeping of hardstand<br>+ Contact emergency services (NSW Fire Service) | Possible (C) | 4 | 18 (Low risk) |
| **Fire** | Fire caused by ignition source (e.g. cigarette, hot work such as welding) | Flammable materials in workshop (e.g. fuels, oils) catch fire due to spark from cigarette or hot work) | + Ensure strict non-smoking policy is enforced at all times<br>+ Follow correct procedures for full containment of any hot work<br>+ Firefighting equipment<br>+ Emergency management / response plan<br>+Pollution incident response management plan / Environmental management plan | Unlikely (D) | 3 | 17 (Low risk) |

| Facility / event | Cause / comment | Possible scenarios, results & consequences | Prevention, Treatment Measures and Detection Protection Required | Likelihood | Consequence | Risk rating and category (after treatment measures)[1] |
|---|---|---|---|---|---|---|
| | | | + Traffic management plan<br>+ Work health and safety plan<br>+ Hazardous material management plan<br>+ Operator and driver training<br>+ Spill response equipment and training<br>+ Contact emergency services (NSW Fire Service) | | | |

# 7. Contaminated Land Assessment

The aim of this *State Environmental Planning Policy (Resilience and Hazards*) 2021 is to provide for a State-wide planning approach for the remediation of contaminated land. *SEPP (Resilience and Hazards)* 2021 aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment:

(a) by specifying when consent is required, and when it is not required, for a remediation work;
(b) by specifying certain considerations that are relevant in rezoning land and in determining development applications in general and development applications for consent to carry out a remediation work in particular; and
(c) by requiring that a remediation work meet certain standards and notification requirements.

Under the provisions of *State Environmental Planning Policy (Resilience and Hazards)* 2021, it is necessary to establish if the proposed development is to be developed on land which has been declared or found to be contaminated, where rezoning of the land is proposed or where development contemplates a change of use. Specifically, clause 4.6(1) states:

*A consent authority must not consent to the carrying out of any development on land unless:*

> *(a) it has considered whether the land is contaminated, and*
>
> *(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and*
>
> *(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.*

Clause 4.6(2) states:

> *Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in subclause (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.*

And Clause 4.6(3) states:

> *The applicant for development consent must carry out the investigation required by subclause (2) and must provide a report on it to the consent authority. The consent authority may require the applicant to carry out, and provide a report on, a detailed investigation (as referred to in the contaminated land planning guidelines) if it considers that the findings of the preliminary investigation warrant such an investigation.*

The contaminated land - record of notices is maintained by the NSW Office of Environment and Heritage in accordance with Part 5 of the Contaminated Land Management Act 1997 (CLM Act). A Site will be on the register where Site contamination is significant enough to warrant regulation and the NSW EPA has issued a notice under the CLM Act.

The search results indicated that, with regard to the Site, there are:

- No orders made under Part 3 of the *Contaminated Land Management Act* 1997 (CLM Act);
- No approved voluntary management proposals under the CLM Act that have not been fully carried out and where the approval of the Environment Protection Authority has not been revoked;
- No Site audit statements provided under Section 53B of the CLM Act that relate to significantly contaminated land;
- No copies of anything formerly required to be part of the public record (where practicable); and
- No actions taken by the EPA under Section 35 or 36 of the *Environmentally Hazardous Chemicals Act* 1985.

A search of the NSW EPA public register of contaminated sites notified to NSW EPA under Section 60 of the CLM Act did not identify any records for the Site or any land adjacent to the Site.

The Site is sealed with a concrete and asphalt hardstand, protecting underlying soils from contamination from historic activities. The proposed development works will require minor excavation of soil for the installation of fence posts along the southern boundary of the site and the stormwater pit with an isolation valve. The development is

expected to remove no more than 20m$^3$ of soil which will be transported offsite for lawful disposal or recycling.

Given the nature of works and the low risk of Site contamination from existing Site uses further assessment under *State Environmental Planning Policy (Resilience and Hazards)* 2021 is not warranted.

# 8. Site Suitability and Assessment of Environmental Impacts

Key environmental and social issues addressed in this section include:

- General Site suitability;
- Traffic and parking;
- Fire safety;
- Air quality, odour and dust;
- Noise and vibration; and
- Waste management.

The following sections provide an assessment of baseline environmental conditions, assesses impacts and proposes mitigation measures (where appropriate) to ensure that the facility is designed in line with best practice and does not impact on people or the local environment. These issues have been considered based on the requirements of the *Canterbury-Bankstown Development Control Plan* 2023.

## 8.1. Existing conditions and Potential Impacts

Table 8.1. addresses the general Site suitability of the Site for the proposal.

**Table 8.1. Existing general Site conditions and potential impacts of the proposed development.**

| Consideration | Existing Conditions | Potential Impact |
|---|---|---|
| **Landslip** | The Site is not within a known landslip area. | Nil |
| **Mine Subsidence** | The Site is not within a Mine Subsidence District. | Nil |
| **Soil Erosions** | No soil erosion issues have been identified at the Site. The entire site is paved (except for the landscaped area). | Nil |
| **Acid Sulfate Soils** | The Site is located in an area of Class 5 acid sulfate soils and is within 500m of Class 4 land. However, no works are proposed below 5m AHD and works will not cause the water table to be lowered. | Nil |
| **Bushfire** | The Site is not located in or is not surrounded by bushfire vegetation. | Nil |
| **Terrestrial Biodiversity** | The Site is located in an industrial area. | Nil |
| **Heritage** | No aboriginal heritage or items of cultural heritage significance are known to be present on the site. | Nil |

## 8.2. Existing conditions and Potential Impacts

Table 8.2. outlines the general environmental management and mitigation measures that will be implemented at the Facility to minimise the potential for adverse impacts on the local environment and surrounding receptors.

**Table 8.2. General Management and Mitigation Measures.**

| Mitigation Measures | Responsibility | Timing / Frequency |
|---|---|---|
| **BSV Tyre Recycling will implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the operation of the Facility.** | Operations Management | On-going |

| Mitigation Measures | Responsibility | Timing / Frequency |
|---|---|---|
| **Pests, vermin and declared noxious weeds will be controlled on Site by appropriate means, such as spraying.** | Operations Management | On-going |
| **Fires will be extinguished promptly.** | Operations Management | On-going |
| **Adequate fire fire-fighting capacity will be maintained on site.** | Operations Management | On-going |
| **Bunding for containment of firefighting water** | Operations Management | On-going |
| **A perimeter fence and security gates have been installed and they will be maintained and locked at all times when the Site is unattended.** | Operations Management | On-going |
| **Employees and contractors will be suitably inducted and trained prior to commencing any work on site.** | Operations Management | Inductions prior to commencing employment / contract.<br>As needed toolbox talks. |
| **Contact details will be displayed on signage at the entrance to the site.** | Operations Management | On-going |
| **Any new signage will be installed in consultation with City of Canterbury-Bankstown and shall comply with the *State Environmental Planning Policy (Industry and Employment) 2021*** | Operations Management | As required (prior to installation of new signage) |
| **All plant and equipment used for the Facility will be maintained in a proper and efficient condition and operated in a proper and efficient manner.** | Operations Management | On-going |
| **BSV Tyre Recycling will repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the Development.** | Operations Management | On-going |
| **All chemicals, fuels and oils used on Site will be stored in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's *Storing and Handling Liquids: Environmental Protection – Participant's Manual 2007*** | Operations Management | On-going |
| **Accidental spillage or poor management of fuels, oils, lubricants, hydraulic fluids, solvents and other chemicals during the operation of the Development will be controlled through spill management actions to prevent water quality and ecological impacts.** | Operations Management | On-going |
| **Waste contained in hook lift bins/Skip Bins will not exceed the rim of the bin.** | Operations Management | On-going |

# 9. Waste Minimisation and Management Plan

## 9.1. Methodology

Waste management practices outlined below address the economic, environmental and safety imperatives during the operational phase of the facility. These enhanced management practices also produce triple bottom line benefits including financial efficiencies, and a safe work site.

The benefits of the management practices outlined in the plans will be realised from the outset by both the business and the broader community in the form of reduced costs of disposal, reduced costs of legal liability and common good through:

- Maximising recovery of resources;
- Exercising due diligence for safe disposal of waste; and
- Providing a safe worksite.

A summary of the Waste Minimisation and Management Plan is presented in this section. The full Waste Minimisation and Management Plan can be found in Appendix B.

## 9.2. Existing Environment

The BSV Tyre Recycling facility at 30 Daisy Street, Revesby, is currently licensed to accept and process up to 14,600 tonnes of waste tyres per year. The proposal seeks to increase the facility's processing capacity to 29,900 tonnes per annum, significantly enhancing its operational efficiency and output.

Waste tyres are the sole form of waste accepted at the site. These tyres are delivered directly from tyre retailers within Sydney, primarily from Tempe Tyres, one of Australia's largest importers, retailers, and distributors of tyres. As the tyres are delivered in source-separated loads, the contamination of incoming waste loads is virtually nil. The Site is currently approved to store up to 150 tonnes of waste tyres at any one point in time under EPA licence condition L2.2 of EPL 20387, so no changes to the storage limit of tyres is proposed.

The office operations associated with the Facility will generate waste from office administration and personnel activities (e.g., staff meals). Whilst waste generation from these activities is considered minor, they need to be appropriately managed to ensure that waste is minimised and recycled in accordance with the waste hierarchy in the *Waste Avoidance and Resource Recovery Act* 2001.

## 9.3. Potential Impacts

### 9.3.1. Demolition Phase

The demolition works will be minimal, involving the removal of the existing chain-link fence along the southern boundary to facilitate the construction of a new concrete wall. The waste materials expected include concrete post footings, steel fencing wire and steel fence posts. These materials will be sorted and placed directly into skip bins, ensuring they are taken for off-site recycling at a licensed facility.

**Table 4.1. Breakdown of the waste from the demolition phase.**

| Waste Type | Waste Identified | Waste Description | Disposal Method | Suggest Receiving Facility | Tonnes | Recycling rate |
|---|---|---|---|---|---|---|
| **General Solid Waste (non-putrescible)** | Concrete | Concrete footings from existing fence posts | Off-site recycling | Bingo Industries 37-51 Violet St, Revesby Environment Protection Licence 20607 | 2 | 100% |
| | Steel | Chain-link fence and steel fence posts | Off-site recycling | | 1 | 100% |
| **TOTAL Amount of waste generated (tonnes)** | | | | | 3 | |
| **TOTAL Amount of waste recycled (tonnes)** | | | | | 3 | |
| **Overall recycling rate (%)** | | | | | 100% | |

### 9.3.2. Construction Phase

The construction phase involves the following key activities

- Installation of Local Exhaust Vents on the roof of the rear awning to ventilate the mobile shredders, mitigating air and odour emissions during operations;
- Construction of a Lightweight Pre-cast Concrete Panel Wall along most of the southern boundary. The 5-meter-high wall will extend approximately 100 meters from the rear boundary, stopping 20 meters from the front boundary, and will serve to mitigate noise from the shredders and the crumb rubber plant, as well as provide flame inhibition in case of fire; and
- Stormwater Pit Installation with an isolation valve in the rear yard to manage stormwater effectively on-site.

The excavation work for the fence post holes and stormwater pit will generate approximately 20 m³ of soil from the installation of fence posts and an additional 1 m³ from the construction of the stormwater pit. The post holes are expected to be around 1.7 meters deep, and the total volume of soil generated will depend on the width of the pre-cast panels used. All excavated soil will either be reused on-site where possible or transported off-site for recycling or disposal at an appropriate licensed facility.

**Table 9.2. Breakdown of the waste from the construction phase.**

| Waste Type | Waste Identified | Waste Description | Disposal Method | Suggest Receiving Facility | Tonnes | Recycling rate |
|---|---|---|---|---|---|---|
| **General Solid Waste (non-putrescible)** | Concrete | Fence post and stormwater pit | Off-site recycling | Bingo Industries 37-51 Violet St, Revesby Environment Protection Licence 20607 | 2 | 100% |
| | Soil | Fence post holes and stormwater pit | Reuse on site where possible or off-site recycling | | 21 | 100% |
| **TOTAL Amount of waste generated (tonnes)** | | | | | 23 | |
| **TOTAL Amount of waste recycled (tonnes)** | | | | | 23 | |
| **Overall recycling rate (%)** | | | | | 100% | |

### 9.3.3. Operational Phase

The site operations generate little waste. Whole waste tyres are the only form of waste brought to the site and are received directly from tyre retailers. As the tyres are separated from other waste types at the source, there is virtually no contamination in the loads brought to site.

The proposal will involve the recycling of up to 29,900 tonnes of tyres per annum. The shredding of tyres does not produce any residual waste. Crumb rubber production can recover and recycle 100% of the tyre. The existing crumb rubber plant will have the same processing capacity at 1,053 tonnes per year, and the new mobile shredders for TDF will have a processing capacity of 28,847 tonnes per year.

All tyres (truck and car tyres) that are received during the day will be processed and stored in containers, meaning no tyres will be stockpiled outdoors. This reduces the risks involved with tyre storage. An overview of the storage location and maximum quantity of tyres and tyre-derived products to be held on site any one time is shown in Table 9.3.

The office operations associated with the Facility will generate waste from office administration and personnel activities (e.g., staff meals). Whilst waste generation from these activities is considered minor, they need to be appropriately managed to ensure that waste is minimised and recycled in accordance with the waste hierarchy in the *NSW Government's Waste Avoidance and Resource Recovery Act* 2001.

The operation will generate minimal waste as part of the office operations. However, a co-mingled recycling system is used to separate waste. Co-mingled recycling and general waste is stored in 240 L wheelie bins under the awning of the shed building. It is proposed that a 240L food organics / garden organics (FOGO) bin will be provided, for collection and recycling of any food from staff lunches, and garden organics from garden maintenance activities. Residual waste, co-mingled recycling and FOGO is to be collected by a commercial contractor via a MRV or a HRV.

An overview of waste generation and recycling estimates as part of the office operations is provided in Table 4.4. Waste generation and recycling estimates are from *Multi-unit and Commercial Development Waste and Recycling*

*Generation Rates Calculator*[7]. Overall, it is estimated that the office operations will recycle approximately 80% of all waste generated.

**Table 9.3. Locations for storage of whole tyres and processed tyre products, including estimates of the maximum quantity to be stored at any one point in time.**

| Flow of material | Materials | Type of material | Waste Classification | Estimated tonnes per annum | Maximum storage at any one point in time (tonnes) | Storage Area | Type of storage |
|---|---|---|---|---|---|---|---|
| **Input** | Whole Tyres | Input material | Special Waste | 29,900 | 40 | Whole Tyre Storage Area Awaiting Processing | Temporary storage in two designed areas in rear yard only. No tyres to be stored unprocessed and left outdoors overnight |
| **Output** | Crumb Rubber | Output material | Not applicable | 947.7 | 10 | Underneath the Awning of the Shed Building | 1 tonne bulka bags (or in shipping containers at night) |
| **Output** | Baled Steel (Wire) | Output Material | Not applicable | 73.71 | | Underneath the Awning of the Shed Building | 1 tonne blocks |
| **Output** | Cotton | Output Material | Not applicable | 31.59 | | Underneath the Awning of the Shed Building | 1 tonne bulka bags (or in shipping containers at night) |
| **Output** | Shredded Tyres - Tyre Derived Fuel (TDF) | Output material | Not applicable | 28,847 | 100 | Shipping containers in rear yard | 40ft$^3$ Containers |
| **Total (tonnes)** | | | | **29,900** | **150** | | |

[7] Sustainability Victoria (2019), Better Multi-unit and Commercial Development Waste and Recycling Generation Rates Calculator; https://calculators.sustainability.vic.gov.au/mud-waste-management/

**Table 9.4. Waste and recycling measures for waste generated by office and garden maintenance operations.**

| Key Waste Stream | Volume of waste generated per day per 100m$^2$ floor area (for offices) (L) | Weekly waste generation (based on a 7-day working week and office floor area of 100m$^2$) (L) | Segregation Areas / Containers | Reuse / Recycling / Disposal Method | Waste Type (NSW EPA Pre-classified Waste) | Suggested Receiving Facility | Recycling rate (%) |
|---|---|---|---|---|---|---|---|
| **Co-mingled recycling: plastic / glass containers / metal cans / paper and cardboard** | 1.15 | 8.05 | 240L recycling bin (serviced fortnightly) | Off-site recycling | General waste (non-putrescible) | Visy Smithfield (EPL20752) | 100% |
| **FOGO** | 3.4 | 20.8 | 240L recycling bin (serviced fortnightly or as required) | Off-site recycling | General waste (non-putrescible) | Cleanaway Kemps Creek – Advanced Resource Recovery Technology (ARRT) (EPL 12889) | 100% |
| **General waste (non recyclable residual waste)** | 1.15 | 8.05 | 240L general waste bin (serviced weekly) | Off-site disposal | General waste (non-putrescible) | Cleanaway Kemps Creek Landfill – (EPL4068) | 0% |
| **Waste generated (Litres per week)** | | 36.9 | | | | | |
| **Waste recycled (Litres per week)** | | 28.85 | | | | | |
| **Overall recycling rate (%)** | | 78.2% | | | | | |

## 9.4. Products Recovered

Under the proposed alterations and additions, BSV Tyre Recycling anticipates recycling approximately 100% of all incoming waste tyres, equating to around 29,900 tonnes per annum. The following products are produced through the recycling process:

- Tyre Derived Fuel (TDF): Shredded tyres, or tyre chips, used as a fuel alternative, primarily in industries such as cement kilns;
- Crumb Rubber: Rubber crumbs produced in various sizes for different applications, including playground soft-fall surfaces and asphalt production;
- Cotton: Cotton fibers extracted from tyres during the processing stage, typically from the fabric layers within the tyres. The extracted cotton can be recycled or repurposed for various applications; and
- Steel: Steel is extracted from tyres using bead removal machines or during the crumb rubber process; and the recovered steel is then sent to steel manufacturers for recycling.

The facility's enhanced focus on TDF and crumb rubber production aims to maximise the value recovered from waste tyres and support environmental sustainability through effective recycling practices.

## 9.5. Waste Storage

The BSV Tyre Recycling facility is licensed to store up to 150 tonnes of waste tyres at any one time, with no changes proposed to this capacity. Key areas designated for waste storage include:

- Dedicated Unloading Area: A specific area is established for the unloading of tyres, at the rear end of the site ensuring a streamlined process and minimising handling time;
- Shipping Containers: Repositioned shipping containers are used for the storage of rubber products, ensuring secure and organised storage;
- Mobile Shredding Units: Two mobile diesel shredding units are installed on the rear hardstand of the site, equipped with conveyors to manage the increased production of Tyre Derived Fuel (TDF). The shredder tyre rubber will then be stored inside the shipping containers;
- Crumb Rubber Storage: An area under the shed building's rear awning is designated for storing crumb rubber in bulka bags, ensuring it is kept in optimal conditions until it is ready for transport or further use;
- Steel Storage: An area under the shed building's rear awning is designated for storing baled steel wire, until it is ready for transport or further use;
- Cotton Storage: An area under the shed building's rear awning is designated for storing cotton in bulka bags, ensuring it is kept in optimal conditions until it is ready for transport or further use; and
- Tyre Storage Requirements: All tyres received during the day will be processed and contained in shipping containers, so no outdoor storage of whole tyres overnight is required.

These measures ensure efficient, safe management of waste materials in compliance with regulations, minimising environmental and safety risks.

## 9.6. Mitigation Measures

A comprehensive Waste Management Plan (WMP) has been prepared to guide the facility in dealing with waste in the most environmentally sustainable manner. The WMP includes strategies for waste segregation, storage, transport, and disposal, ensuring compliance with relevant regulations. The following additional waste management and mitigation measures will be implemented at the facility, as outlined in Table 9.5.

**Table 9.5. Waste management mitigation measures.**

| Mitigation measure | Responsibility | Timing / Frequency |
|---|---|---|
| **No materials or waste (as defined by the POEO Act) generated outside the Site will be received at the Site for storage, treatment, processing or reprocessing except as expressly permitted by the EPL.** | Operations Management | On-going |
| **BSV Tyre Recycling will not receive or process on the Site more than 29,900 tonnes of waste tyres per calendar year.** | Operations Management | On-going |

| Mitigation measure | Responsibility | Timing / Frequency |
|---|---|---|
| **Clearly assign and communicate responsibilities to ensure that all personnel are aware of their responsibilities in relation to the waste management plan** | Operations Management | On-going |
| **Subcontractors will be informed of Site waste management procedures.** | Operations Management | On-going |
| **All whole tyres and processed tyre products (TDF, crumb rubber and cotton) are to be placed in sealed shipping containers at the end of the day. No outdoor storage of whole tyres or tyre products will be performed overnight.** | Operations Management | Daily |

## 9.7. Conclusion

This proposed alterations and additions to the site aims to maximise the recovery of materials on site. The Plan for management of demolition and construction waste include - source separation, reuse, recovery and recycling of materials. 100% of materials will be recovered and reused/recycled on-site or at lawful facilities during demolition and construction.

Management will utilise best contemporary waste management practices to ensure that waste is minimised during operation of the facility. A recycling rate of 78% is expected during office operations.

# 10. Air Quality Impact Assessment

The purpose of this Air Quality Impact assessment (AQIA) conducted by Northstar Air Quality Pty Ltd (Northstar) is to assess the potential impact of air emissions resulting from the operation of the premises with the proposed alterations and additions to the tyre recycling facility. The AQIA adopts established methods for dispersion modelling and emissions estimation, considering source characteristics, emission rates, local meteorology, terrain, land use, and sensitive receptor locations.

The AQIA has been performed with reference to the following relevant statutory legislative guidelines and assessment documents (in no order):

- *Protection of the Environment Operations Act* 1997 (POEO Act)[8];
- *Protection of the Environment Operations (Clean Air) Regulation* 2022 (POEO CAR)[9];
- *Approved Methods for the Modelling and Assessment of Air Quality in NSW* (NSW EPA, 2022a)[10]; and
- *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW* (NSW EPA, 2022b)[11].

A summary of the findings of the AQIA is presented in this section. The full AQIA is given in Appendix D.

## 10.1. Existing Environment

The Air Quality Impact Assessment (AQIA) for the BSV Tyre Recycling Facility alterations and additions evaluates the existing conditions to understand potential impacts on air quality. The assessment identified twelve discrete sensitive receptor locations, including residential, industrial, and recreational areas, using GIS and population density data from the 2021 Australian Census. These receptors are critical for assessing air quality changes due to the facility's modifications, as they represent areas with potential human exposure to emissions. The assessment's findings guide the implementation of mitigation measures to minimize adverse effects on the surrounding community.

The AQIA also included a detailed analysis of the meteorological conditions around the facility, utilising data from the Bankstown Airport Automatic Weather Station (AWS). The data, spanning 2019 to 2023, highlighted wind patterns and speeds crucial for predicting pollutant dispersion. Additionally, background air quality data was obtained from the Lidcombe Air Quality Monitoring Station (AQMS) to provide baseline pollutant concentrations, essential for assessing cumulative impacts from facility emissions. The topography around the facility is relatively flat, which simplifies the modeling of pollutant dispersion, as there are no significant terrain features that could affect air quality predictions.

**Table 10.1. Discrete Sensitive Receptor Locations.**

| Receptor ID | Address | Land Use Description | Co-ordinates (m, UTM 56) | |
|---|---|---|---|---|
| | | | mE | mS |
| R1 | Daisy Street, Revesby | Industrial | 315 965 | 6 242 925 |
| R2 | Queen Street, Revesby | Industrial | 316 173 | 6 242 835 |
| R3 | Queen Street, Revesby | Residential | 316 209 | 6 242 834 |
| R4 | Daisy Street, Revesby | Industrial | 315 959 | 6 242 839 |
| R5 | Carrington Street, Revesby | Residential | 315 955 | 6 242 718 |
| R6 | Daisy Street, Revesby | Industrial | 315 918 | 6 242 885 |
| R7 | Queen Street, Revesby | Industrial | 316 082 | 6 242 947 |
| R8 | Carrington Street, Revesby | Recreational | 315 789 | 6 242 685 |
| R9 | Daisy Street, Revesby | Industrial | 316 034 | 6 242 998 |
| R10 | Queen Street, Revesby | Residential | 316 232 | 6 242 994 |
| R11 | Queen Street, Revesby | Residential | 316 228 | 6 242 932 |
| R12 | Queen Street, Revesby | Residential | 316 148 | 6 242 697 |

**Figure 10.1. Population density and discrete sensitive receptor location.**

[8] Protection of the Environment Operations Act 1997 (POEO Act). Published by NSW Government. Internet publication: https://legislation.nsw.gov.au/view/html/inforce/current/act-1997-156

[9] Protection of the Environment Operations (Clean Air) Regulation 2022 (POEO CAR). Published by NSW Government. Internet publication: https://legislation.nsw.gov.au/view/pdf/asmade/sl-2022-811

[10] Approved Methods for the Modelling and Assessment of Air Quality in NSW (NSW EPA, 2022a). Published by NSW Environment Protection Authority. Internet publication: https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/air/22p3487-approved-methods-for-air-in-nsw.pdf

[11] Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (NSW EPA, 2022b). Published by NSW Environment Protection Authority. Internet publication: https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/air/22p3487-approved-methods-for-air-in-nsw.pdf


| Date | Revision | Drawn By | Site description | Client | BSV Tyre Recycling Australia Pty Ltd |
|---|---|---|---|---|---|
| 27/08/2024 | Revision A | J Tanana | 30 Daisy Street, Revesby (Lot 198, DP 7866) | Project | Tyre Recycling Facility Alteration and Additions |
| | | | | Title | Population density and sensitive receptors |
| | | | | Source | Northstar AQIA |

**JEP Environment & Planning**
**Strategy | Approvals | Compliance | Licensing**

**A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060**
E: admin@jacksonenvironment.com.au
T: 02 8056 1849
W: http://www.jacksonenvironment.com.au

## 10.2. Impact Assessment

### 10.2.1. Identification of Potential Emissions to Air

These emissions are likely to be generated from the following activities and processes:

- Transportation and unloading of End-of-Life Tyres (ELTs) to the premises;
- Transfer of ELTs to the de-beader using a tyre trolley;
- Conveyance of materials between different processes by belt conveyors;
- Removal of metals, textiles, and fibres before the shredding process;
- Grinding and shredding of rubber materials, specifically for the production of crumb rubber and tyre-derived fuel (TDF);
- Transfer of TDF and crumb rubber products to designated storage areas; and
- Dispatch of products from the storage area for off-site processing or sale.

Diesel-powered shredding equipment, specifically the TANA SHARK 440DT and HAMMEL VB 950DK, further contributes to emissions of oxides of nitrogen ($NO_x$) and particulate matter as by-products of combustion.

Vehicle emissions also play a significant role, with approximately 22 vehicle movements per day associated with the delivery of ELTs and the dispatch of TDF and crumb rubber products. Additional emissions stem from the operation of forklifts and bobcats within the premises, contributing to particulate matter emissions from vehicular movement on paved surfaces. Furthermore, fugitive emissions are considered due to potential wind erosion from freestanding areas of the site. This comprehensive identification of emission sources informs the need for targeted mitigation strategies to minimise the facility's air quality impact.

**Table 10.2. Summary of Identification of Potential Emissions to Air.**

| Process/Activity | Emissions Considered | | | |
|---|---|---|---|---|
| | Particulates | Combustion Gasses | Air Toxics (Toxicity) | Air Toxics (Odour) |
| Crumb Rubber Processing | ✓ | - | ✓ | ✓ |
| TDF Processing | ✓ | ✓ | ✓ | ✓ |
| Delivery/Dispatch Vehicles | ✓ | - | - | - |
| Forklift and Bobcat Movements | ✓ | - | - | - |
| Fugitive Wing-Generated Emissions | ✓ | - | - | - |

**Table 10.3. Summary of background air quality used in the AQIA – Lidcombe AQMS 2021.**

| Pollutant | Averaging Period | Units | Measured Value | Notes |
|---|---|---|---|---|
| Nitrogen dioxide ($NO^2$) | 1 hour | $\mu g \cdot m^{-3}$ | Hourly Varying | The 1-hour maximum $NO_2$ concentration in 2021 was 102.5 $\mu g.m^{-3}$ |
| | Annual | $\mu g \cdot m^{-3}$ | 19.0 | |
| Particles (as TSP) (derived from $PM_{10}$) | Annual | $\mu g \cdot m^{-3}$ | 32.2 | Estimated on a TSP:PM10 ratio of 2.0551: 1 |
| Particles (as $PM_{10}$) | 24 hour | $\mu g \cdot m^{-3}$ | Daily Varying | The 24-hour maximum PM10 concentration in 2021 was 39.2 $\mu g.m^{-3}$ |
| | Annual | $\mu g \cdot m^{-3}$ | 15.7 | |
| Particles (as $PM_{2.5}$) | 24 hour | $\mu g \cdot m^{-3}$ | Daily Varying | The 24-hour maximum $PM_{2.5}$ concentration in |

| Pollutant | Averaging Period | Units | Measured Value | Notes |
|---|---|---|---|---|
| | | | | 2021 was 31.5 $\mu g.m^{-3}$ |
| | Annual | $\mu g \cdot m^{-3}$ | 6.1 | |
| **Photochemical oxidants (as ozone)** | 1 hour | $\mu g \cdot m^{-3}$ | 184.0 | Maximum 1-hour average in 2021 |
| | Annual | $\mu g \cdot m^{-3}$ | 33.8 | Annual average in 2021 |
| **Dust deposition** | Annual | $g \cdot m^{-2} \cdot$month-1 | 2.0 | Difference in NSW EPA maximum allowable and incremental impact criterion |

### 10.2.2. Approach to Assessment

The AQIA is a quantitative assessment designed to align with the approach outlined in (NSW EPA, 2022)[12] for evaluating potential air quality impacts during the operational phase of development.

***Dispersion Modelling***

The Air Quality Impact Assessment (AQIA) for the BSV Tyre Recycling Facility alterations and additions employs a quantitative approach aligned with the NSW EPA guidelines (2022a) to evaluate potential air quality impacts during the facility's operational phase. The assessment uses the CALPUFF atmospheric dispersion model in a 2-dimensional (2-D) mode, which is suitable given the relatively flat terrain and the proximity of sensitive receptor locations. The model assesses both typical operations for long-term (annual average) air quality impacts and peak activities for short-term (1-hour and 24-hour) impacts. These scenarios provide a comprehensive understanding of the facility's emissions, including their cumulative effects when combined with background air quality data, guiding appropriate mitigation measures to minimise potential impacts.

***Emission Estimations***

Emission estimation was conducted using direct measurements and emission factors specific to the facility's activities, including transportation, shredding, and material handling. An emissions inventory was developed to quantify various pollutants such as particulates, nitrogen oxides (NOx), and hazardous air pollutants (HAPs). For specific processes like crumb rubber and Tyre-Derived Fuel (TDF) production, emission factors from US EPA AP-42 documentation were applied. Vehicle emissions, both from delivery vehicles and onsite equipment like forklifts and bobcats, were also comprehensively evaluated, using relevant emission factors to estimate their contribution to the total emissions. Fugitive emissions due to wind erosion were conservatively estimated to account for potential particulate matter from exposed areas.

**Table 10.4. EU Stage IIIA/V emission standards and emission rates adopted in AQIA.**

| Category | Net Power (P) | Emission Standard (g-kWh) | | Power Rating (kW) | Emission Rate ($g \cdot s^{-1}$) | |
|---|---|---|---|---|---|---|
| | | $NO_x$ | PM | | $NO_x$ | PM |
| **TANA SHARK 440DT / Cummins X1** | | | | | | |
| **H** | 130 ≤ P ≤ 560 | 4.0 | 0.2 | 399 | 4.43E-02 | 2.77E-03 |
| **HAMMEL VB 950DK / CAT C18** | | | | | | |
| **NRE-v/c-7** | P > 560 | 3.5 | 0.045 | 597 | 5.80E-01 | 7.46E-03 |

The AQIA also considers different exposure averaging periods for pollutants to reflect both acute and chronic health impacts at various receptor locations, applying appropriate methodologies for converting NOx to NO2 to ensure accurate impact assessments. This thorough approach helps identify potential air quality issues and supports effective mitigation planning.

***Emission Controls***

BSV Tyre Recycling Facility has implemented several measures, such as covering truck loads, sweeping paved surfaces, and limiting vehicle speeds. Emission controls aim to reduce particulate emissions significantly, ensuring compliance with air quality standards. The emission control efficiencies associated with these measures are based

[12] NSW EPA (2022). Approved Methods for the Modelling and Assessment of Air Quality in NSW Published by NSW Environment Protection Authority. Internet publication: https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/air/22p3487-approved-methods-for-air-in-nsw.pdf

on the guidelines from the NPI Emissions Estimation Technique Manual (EETM) for Rubber Product Manufacture (NPI, 2002), AP-42 documentation (US EPA, 1995), Katestone Environmental (2011), and Countess Environmental (2006).

**Table 10.5. Summary of emission reduction methods adopted as part of premises' operation.**

| Emission control method | Control efficiency (%) |
|---|---|
| **All truck loads are covered during transportation to prevent wind-borne losses and spillages** | Unquantified |
| **Sweeping of paved road surfaces and outdoor hardstand areas** | Unquantified |
| **Vehicle speed limited at the premises to less than 10 km·hr$^{-1}$** | 85 |
| **Minimized drop heights during tyre unloading activities** | 30 |
| **Performance of tyre processing operations within an enclosed building enclosure** | 70 |
| **Tyre and tyre products to be stored indoors** | 99 |

### 10.2.3. Particulate Matter

**Annual Average TSP, PM10 and PM2.5 Concentrations**

The assessment of annual average concentrations for Total Suspended Particulates (TSP), PM10, and $PM_{2.5}$ is essential for understanding potential long-term air quality impacts at various receptor locations around the BSV Tyre Recycling Facility. The analysis focuses on receptor sites where long-term exposure is likely, such as residential areas (R3, R5, R10, R11, and R12). The predicted incremental concentrations of TSP, $PM_{10}$, and $PM_{2.}5$ at these locations are relatively low, representing 6.5% of the annual average TSP criterion, 12.0% of the PM10 criterion, and 9.1% of the $PM_{2.5}$ criterion, indicating minimal long-term impact on air quality from facility operations.

**Table 10.6. Predicted annual average TSP, $PM_{10}$ and $PM_{2.5}$ concentrations.**

| Receptor ID | Land use description | Annual average concentration (µg·m$^{-3}$) TSP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | TSP | | | $PM_{10}$ | | | $PM_{2.5}$ | | |
| | | Incr. | Bkg. | Cumul. | Incr. | Bkg. | Cumul. | Incr. | Bkg. | Cumul. |
| **Criterion** | | | 90 | | | 25 | | | 8 | |
| **Max. % of criterion** | | 6.5 | 35.8 | 42.3 | 12 | 62.8 | 74.8 | 9.1 | 76.3 | 85.3 |
| **R1** | **Industrial** | 3 | 32.2 | 35.2 | 1.5 | 15.7 | 17.2 | 0.5 | 6.1 | 6.6 |
| **R2** | **Industrial** | 0.8 | 32.2 | 33 | 0.5 | 15.7 | 16.2 | 0.3 | 6.1 | 6.4 |
| **R3** | **Residential** | 0.5 | 32.2 | 32.7 | 0.4 | 15.7 | 16.1 | 0.2 | 6.1 | 6.3 |
| **R4** | **Industrial** | 5.8 | 32.2 | 38 | 3 | 15.7 | 18.7 | 0.7 | 6.1 | 6.8 |
| **R5** | **Residential** | 0.5 | 32.2 | 32.7 | 0.3 | 15.7 | 16 | 0.1 | 6.1 | 6.2 |
| **R6** | **Industrial** | 2.3 | 32.2 | 34.5 | 1.1 | 15.7 | 16.8 | 0.3 | 6.1 | 6.4 |
| **R7** | **Industrial** | 1.3 | 32.2 | 33.5 | 0.8 | 15.7 | 16.5 | 0.4 | 6.1 | 6.5 |
| **R8** | **Recreational** | 0.2 | 32.2 | 32.4 | 0.1 | 15.7 | 15.8 | <0.1 | 6.1 | 6.2 |
| **R9** | **Industrial** | 0.9 | 32.2 | 33.1 | 0.5 | 15.7 | 16.2 | 0.3 | 6.1 | 6.4 |
| **R10** | **Residential** | 0.3 | 32.2 | 32.5 | 0.2 | 15.7 | 15.9 | <0.1 | 6.1 | 6.2 |
| **R11** | **Residential** | 0.4 | 32.2 | 32.6 | 0.3 | 15.7 | 16 | 0.1 | 6.1 | 6.2 |
| **R12** | **Residential** | 0.3 | 32.2 | 32.5 | 0.2 | 15.7 | 15.9 | 0.1 | 6.1 | 6.2 |

**Note**: Incr. = Incremental, Bkg.= Background, Cumul. = Cumulative

**Annual Average Dust Dispersion Rates**

The annual average dust deposition rates are assessed to determine the potential impact of particulate matter deposition around the facility. The predicted dust deposition rates at all receptor locations are within acceptable limits, with impacts reaching 22.6% of the incremental criterion and 61.3% of the cumulative criterion. This suggests compliance with air quality standards for dust deposition, ensuring minimal adverse effects on the surrounding environment.

### Maximum 24-hour Average PM10 and PM2.5 Concentrations

The assessment of maximum 24-hour average PM10 and PM2.5 concentrations focuses on short-term exposure impacts at receptor locations. The results indicate that incremental concentrations of PM10 and PM2.5 at relevant receptors are minor, with maximum 24-hour PM10 and PM2.5 concentrations well below the criteria. However, a contemporaneous analysis reveals that while there are no exceedances for PM10, there are four predicted exceedances for PM2.5 due to external factors such as statewide hazard reduction activities. These exceedances highlight the importance of considering background conditions when assessing air quality impacts.

**Table 10.7. Predicted Maximum Incremental 24-hour $PM_{10}$ and $PM_{2.5}$ Concentrations.**

| Receptor ID | Land use description | Maximum 24-hour average concentration (µg·m$^{-3}$) | |
|---|---|---|---|
| | | $PM_{10}$ | $PM_{2.5}$ |
| Criterion | | 50 | 25 |
| Max. % of criterion | | 23.6 | 20.6 |
| R1 | Industrial | 8.8 | 4.2 |
| R2 | Industrial | 3.4 | 2.2 |
| R3 | Residential | 2.4 | 1.5 |
| R4 | Industrial | 11.8 | 5.2 |
| R5 | Residential | 1.9 | 1.2 |
| R6 | Industrial | 7.1 | 2.8 |
| R7 | Industrial | 4.6 | 3.2 |
| R8 | Recreational | 1.3 | 0.9 |
| R9 | Industrial | 4.3 | 2.5 |
| R10 | Residential | 1.3 | 0.7 |
| R11 | Residential | 1.6 | 0.9 |
| R12 | Residential | 2 | 1.2 |

**Table 10.8. Summary of Contemporaneous Impact and Background – $PM_{10}$ Concentrations.**

| Date | 24-hour average $PM_{10}$ concentration (µg·m$^{-3}$) – Receptor R1 | | | Date | 24-hour average $PM_{10}$ concentration (µg·m$^{-3}$) – Receptor R4 | | |
|---|---|---|---|---|---|---|---|
| | Incr. | Bkg. | Cumul. | | Incr. | Bkg. | Cumul. |
| 4/05/2021 | 4.6 | 39.2 | 43.8 | 24/05/2021 | 11.8 | 10.3 | 22.1 |
| 27/04/2021 | 4 | 37.8 | 41.8 | 3/06/2021 | 11.4 | 31.7 | 43.1 |
| 30/04/2021 | 2.3 | 34.5 | 36.8 | 1/05/2021 | 10.2 | 13.3 | 23.5 |
| 23/01/2021 | 0.2 | 36.4 | 36.6 | 22/10/2021 | 9.3 | 12.3 | 21.6 |
| 3/05/2021 | <0.1 | 36.2 | 36.3 | 28/04/2021 | 8.9 | 24.7 | 33.6 |
| 3/06/2021 | 4.4 | 31.7 | 36.1 | 12/05/2021 | 8.5 | 13.2 | 21.7 |
| 15/01/2021 | 1.7 | 33.1 | 34.8 | 8/12/2021 | 8.5 | 15.7 | 24.2 |
| 21/08/2021 | <0.1 | 33.1 | 33.2 | 29/08/2021 | 8.3 | 18.4 | 26.7 |
| 29/10/2021 | 0.1 | 31.9 | 32 | 7/03/2021 | 8.2 | 18.4 | 26.6 |
| 9/10/2021 | 0.1 | 31.8 | 31.9 | 30/06/2021 | 8.1 | 14.9 | 23 |
| These data represent the highest cumulative impact 24-hour $PM_{10}$ predictions (outlined in red) due to premises operations. | | | | These data represent the highest incremental impact 24-hour $PM_{10}$ predictions (outlined in blue) due to premises operations. | | | |

**Note**: Incr. = Incremental, Bkg.= Background, Cumul. = Cumulative.

**Table 10.9. Summary of Contemporaneous Impact and Background – $PM_{2.5}$ Concentrations.**

| Date | 24-hour average $PM_{2.5}$ concentration ($\mu g \cdot m^{-3}$) - Receptor R2 | | | Date | 24-hour average $PM_{2.5}$ concentration ($\mu g \cdot m^{-3}$) - Receptor R4 | | |
|---|---|---|---|---|---|---|---|
| | Incr. | Bkg. | Cumul. | | Incr. | Bkg. | Cumul. |
| 4/05/2021 | 1.2 | 31.5 | 32.7 | 3/06/2021 | 5.2 | 19.4 | 24.6 |
| 21/08/2021 | 1.8 | 24.8 | 26.6 | 30/06/2021 | 4.2 | 6.4 | 10.6 |
| 3/05/2021 | 0.3 | 26.2 | 26.5 | 24/05/2021 | 4.2 | 4.6 | 8.8 |
| 27/04/2021 | 0.5 | 25.6 | 26.1 | 30/04/2021 | 3.2 | 23.9 | 27.1 |
| 30/04/2021 | 0.4 | 23.9 | 24.3 | 8/04/2021 | 3.2 | 2.2 | 5.4 |
| 22/08/2021 | 0.8 | 21.8 | 22.6 | 5/11/2021 | 3.1 | 3.1 | 6.2 |
| 3/06/2021 | 0.2 | 19.4 | 19.6 | 28/04/2021 | 3 | 15.1 | 18.1 |
| 14/08/2021 | 0.8 | 17.5 | 18.3 | 29/08/2021 | 2.9 | 13.4 | 16.3 |
| 8/07/2021 | 1.2 | 16.3 | 17.5 | 20/02/2021 | 2.8 | 3.4 | 6.2 |
| 9/07/2021 | <0.1 | 16.8 | 16.9 | 1/05/2021 | 2.8 | 7.5 | 10.3 |
| These data represent the highest cumulative impact 24-hour $PM_{2.5}$ predictions (outlined in red) due to premises operations. | | | | These data represent the highest incremental impact 24-hour $PM_{2.5}$ predictions (outlined in blue) due to premises operations. | | | |

**Note**: Incr. = Incremental, Bkg.= Background, Cumul. = Cumulative

**Figure 10.2. Predicted incremental 24-hour $PM_{10}$ impacts.**


| Date | Revision | Drawn By | Site description | Client | BSV Tyre Recycling Australia Pty Ltd |
|---|---|---|---|---|---|
| 31/08/2024 | Revision A | J Tanana | 30 Daisy Street, Revesby (Lot 198, DP 7866) | Project | Tyre Recycling Facility Alteration and Additions |
| | | | | Title | Predicted incremental 24-hour $PM_{10}$ impacts |
| | | | | Source | Northstar AQIA |

**JEP Environment & Planning**
**Strategy | Approvals | Compliance | Licensing**

**A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060**
E: admin@jacksonenvironment.com.au
T: 02 8056 1849
W: http://www.jacksonenvironment.com.au

**Figure 10.3. Predicted incremental 24-hour $PM_{2.5}$ impacts.**


| Date | Revision | Drawn By | Site description | Client | BSV Tyre Recycling Australia Pty Ltd |
|---|---|---|---|---|---|
| 31/08/2024 | Revision A | J Tanana | 30 Daisy Street, Revesby (Lot 198, DP 7866) | Project | Tyre Recycling Facility Alteration and Additions |
| | | | | Title | Predicted incremental 24-hour $PM_{2.5}$ impacts |
| | | | | Source | Northstar AQIA |


**JEP Environment & Planning**
**Strategy | Approvals | Compliance | Licensing**

**A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060**
E: admin@jacksonenvironment.com.au
T: 02 8056 1849
W: http://www.jacksonenvironment.com.au

### 10.2.4. Nitrogen Dioxide

The maximum predicted 1-hour and annual average cumulative $NO_2$ concentrations at the surrounding receptor locations. The results show no exceedances of the 1-hour $NO_2$ criteria at any receptor location, nor are there exceedances of the annual average $NO_2$ criteria at the relevant residential receptors. This indicates that the facility's operations are unlikely to cause adverse short-term or long-term $NO_2$ exposure impacts at these locations.

### 10.2.5. Air Toxics

The Air Toxics assessment evaluates the potential short-term exposure to hazardous air pollutants (HAPs) or air toxics at various receptor locations around the BSV Tyre Recycling Facility. The 1-hour average air toxic concentrations should be assessed at all receptor locations where short-term exposure is reasonably assumed.

The results of the predicted 1-hour incremental air toxic concentrations at the surrounding receptor locations indicate no predicted exceedances for any of the air toxic pollutants, suggesting that the facility's operations are unlikely to pose a significant short-term health risk to nearby receptors.

## 10.3. Mitigation Measures

### 10.3.1. Mitigation

The mitigation measures for the BSV Tyre Recycling Facility alterations and additions focus on complying with air quality standards and minimising emissions. The facility modifications will meet criteria for Total Suspended Particulates (TSP), $PM_{10}$, and $PM_{2.5}$, with predicted levels below relevant limits except for the 24-hour $PM_{2.5}$, which is influenced by external hazard reduction burns, not the facility.

Existing Controls include an enclosed shed for crumb rubber processing and shredding. An air pollution control (ACP) system such as baghouse dust control system is recommended to further reduce emissions from the crumb rubber production process.

Local Exhaust Ventilation (LEV) Systems will be installed at the external shredders to capture and discharge emissions effectively through a stack, ensuring proper dilution and dispersion, following US EPA guidelines.

The facility also adheres to best practice guidelines from Fire & Rescue NSW for the safe storage of rubber tyres, ensuring both safety and environmental compliance.

This table provides a concise overview of the mitigation measures currently implemented and recommended for the facility to manage air quality impacts effectively.

**Table 10.10. Summary of mitigation measures.**

| Mitigation Measures | Responsibility | Timing / Frequency |
|---|---|---|
| Enclosed industrial shed to house the crumb rubber plant and internal shredder to contain emissions. | Site Management | Prior to installation of new equipment |
| Installation of Local Exhaust Ventilation (LEV) systems on the rear awning on top of the two mobile shredders to capture and discharge emissions through a dedicated stack. | Site Management | Prior to installation of new equipment |
| Implement an air pollution control (ACP) system such as a baghouse dust control system for the crumb rubber process to further reduce particulate matter emissions. | Site Management | Prior to operating crumb rubber plant |
| Maintain cyclones, baghouses, and electrostatic precipitators (ESPs) to control particulate matter emissions. | Site Management | On-going |

### 10.3.2. Management

To manage particulate emissions at the BSV Tyre Recycling Facility:

- Site Maintenance: Seal external areas and regularly sweep roadways, hardstands, and warehouse floors to reduce dust. Remove loose material from site entrances and exits;
- Storage and Operations: Keep all tyre storage and processing indoors and ensure storage areas are clearly marked. Use covered conveyors where possible;
- Vehicle Controls: Limit vehicle speeds to 5 km/hr using speed bumps and signage;

- Operational Management: Implement an updated Operational Environmental Management Plan (OEMP) with daily dust monitoring and a complaints procedure. Keep doors closed during operations to contain dust; and
- Equipment and Training: Maintain equipment regularly and provide proper training for staff.

The OEMP and Pollution Incident Response Management Plan (PIRMP) will be updated for new procedures, and a variation to the existing licence (EPL 20387) will be required to align with regulatory standards.

### 10.3.3. Monitoring

The AQIA predicts no exceedances of air quality criteria, considering background $PM_{10}$ and $PM_{2.5}$ levels and the use of Local Exhaust Ventilation (LEV) systems for shredders. To ensure continued compliance, the following monitoring measures are recommended:

- Emission Monitoring: Evaluate emissions from the crumb rubber processing equipment and shredders against the AQIA assumptions. This may include specific testing as required by the NSW EPA;
- Compliance Audits: Conduct regular audits to verify the implementation of air quality control measures as outlined in the AQIA; and
- Complaint Handling: Maintain records of dust and odour complaints from neighboring receptors and document responses and corrective actions taken promptly.

Regular monitoring and audits will ensure the facility's operations meet the expected air quality standards and respond effectively to any emissions concerns.

## 10.4. Conclusion

The AQIA assessed potential air quality impacts using atmospheric dispersion modelling, adhering to NSW EPA's approved methods. The analysis considered dust deposition, particulate matter (TSP, $PM_{10}$, $PM_{2.5}$), $NO_x$ (as $NO_2$), and hazardous air pollutants, comparing predicted concentrations against air quality criteria at sensitive receptors.

Results indicate compliance with air quality criteria for $NO_2$, $PM_{10}$, annual $PM_{2.5}$ concentrations, dust deposition rates, and air toxics at all receptors. Predicted exceedances of the 24-hour $PM_{2.5}$ criteria were attributed to exceptional hazard reduction burns in NSW, not facility operations. The report recommends additional emission control measures, including a Local Exhaust Ventilation (LEV) system, to further minimise emissions. With these measures, the facility is expected to comply with all air quality standards.

# 11. Traffic Impact Assessment

TRAFFIX was commissioned to carry out a Traffic Impact Assessment (TIA) in support of the Development Application (DA) for the proposed alterations and additions of the existing tyre recycling facility at 30 Daisy Street, Revesby. This assessment was undertaken in accordance with the relevant controls and guidelines set by the Canterbury-Bankstown Council Local Government Area (LGA) to ensure that the development complies with local traffic management requirements and assesses any potential impacts on the surrounding road network.

A summary of the findings of the TIA is presented in this section. The full TIA is given in Appendix C.

## 11.1. Existing Environment

### 11.1.1. Road Network

The site at 30 Daisy Street, Revesby, is serviced by several key roads that facilitate traffic flow and access to the facility:

- M5 Motorway: A significant transport route classified as a TfNSW Motorway (MR6005), approved for 26.0m B-double trucks. The motorway runs east-west, connecting General Holmes Drive to the Hume Motorway. In the vicinity of the site, it has a speed limit of 100 km/h and accommodates three lanes of traffic in each direction within a divided carriageway. No parking is allowed along the M5;
- Milperra Road: Another major road (TfNSW Main Road MR 167), also approved for 26.0m B-double trucks, traverses east-west between Canterbury Road and Newbridge Road. Near the site, it has a speed limit of 70 km/h, with three lanes in each direction. On-street parking is not permitted on Milperra Road;
- Queen Street: A local road, also approved for 26.0m B-double trucks, runs north-south between Milperra Road and Horsley Road. It typically accommodates 1-2 lanes in each direction on an undivided carriageway and has a speed limit of 60 km/h. Parking is not allowed on either side of Queen Street;
- Gordon Parker Street: A local road approved for 26.0m B-double trucks, runs east-west between Victoria Street and Violet Street. It supports two-way traffic flow within an undivided carriageway and has a speed limit of 50 km/h near the site. Kerbside parking is available on the southern side, while parking is prohibited on the northern side; and
- Daisy Street: Another local road, running north-south between Milperra Road and Gordon Parker Street. It accommodates two-way traffic flow with a speed limit of 50 km/h. Unlike the other roads, unrestricted parking is generally permitted on both sides of Daisy Street.

The strategic location of the site offers convenient access to Milperra Road and the broader road network, facilitating efficient traffic movement and access.

### 11.1.2. Public Transport

The site is well-served by public transport, with bus stops within 400 meters along Milperra Road and Queen Street. The bus services available in the vicinity include:

- 925: Connects East Hills to Lidcombe; and
- M90: Connects Burwood to Liverpool.

### 11.1.3. Key Intersections

Two key intersections near the site significantly impact traffic flow:

*Milperra Road / Queen Street / Edgar Street: A major signalised intersection with the following configurations:*

Milperra Road:

- Western approach: Three eastbound through lanes, one right-turn lane onto Queen Street, and a priority-controlled left turn slip lane onto Edgar Street, southbound. There is also a 'Bus Only' lane past the slip lane; and
- Eastern approach: Three westbound through lanes, one right-turn lane onto Edgar Street northbound, and a priority-controlled left turn slip lane onto Edgar Street, southbound.

Queen Street:

- Southern approach: Two northbound through lanes, one right-turn lane onto Milperra Road eastbound, and a priority-controlled left turn slip lane onto Milperra Road, westbound.

Edgar Street:

- Northern approach: One southbound through lane, two right-turn lanes onto Milperra Road westbound, and a priority-controlled left turn slip lane onto Milperra Road, eastbound.

*Queen Street / Gordon Parker Street: A priority-controlled four-leg intersection with the following configurations:*

- Queen Street:
- Northern approach: One southbound through lane and one right-turn lane onto Gordon Parker Street westbound.
- Southern approach: One northbound through lane and one right-turn lane onto Gordon Parker Street eastbound.

Gordon Parker Street:

- Western approach: One left-turn lane and one right-turn lane onto Queen Street.
- Eastbound approach: One left-turn lane only onto Queen Street.

#### 11.1.4. Parking Requirements

The parking requirements for the facility are governed by the *Canterbury-Bankstown Development Control Plan* (DCP) 2023, Chapter 3.2, as amended in August 2024. According to the DCP, industrial developments, including ancillary office space, are required to provide parking at a rate of one space per 100 square meters of Gross Floor Area (GFA). Given the facility's GFA of 405 square meters, this results in a requirement of four parking spaces. However, the facility provides a total of 11 parking spaces, exceeding the minimum requirement and ensuring that all parking needs are met on-site.

For accessible parking, the DCP mandates one accessible parking space for every 50 staff parking spaces for developments with 10 or more parking spaces. The facility requires to provide a minimum of one accessible parking space with shared space and bollard, however it is considered acceptable that the premises does not need an accessible parking as the facility is not accessible to the public and all parking is restricted to staff parking, as discussed. Therefore, all accessible parking requirements (if any) can be managed internally by the site operator on a need's basis, as required.

Additionally, bicycle parking is required at a rate of one space per 20 staff members. With no more than 10 staff present at any given time, the facility is required to provide one bicycle parking space. Sufficient space is available on-site to accommodate this, ensuring all bicycle parking needs are met.

Regarding waste collection and servicing, all activities are managed internally, and the largest vehicles accessing the site are 19-meter Articulated Vehicles (AVs).

### 11.2. Impact Assessment

#### 11.2.1. Proposed Traffic Generation

The existing facility does not generate vehicle trips during peak hours (7:30-9:30 AM and 4:00-6:00 PM). With the proposed changes, commercial vehicle traffic will increase modestly, with three trips in and out, during the morning peak and one trip in and out, in the afternoon. Staff traffic will increase making it 3 trips in, during the morning peak and 3 trips out during the afternoon peak. Overall, the development will add 6 vehicle trips in the morning peak and two in the afternoon.

#### 11.2.2. Truck Routes and Traffic Distribution

Trucks will follow designated routes to minimise residential impact, primarily using the M5 Motorway, Milperra Road, and Daisy Street. Traffic surveys of key intersections (Milperra Road / Queen Street / Edgar Street and Queen Street / Gordon Parker Street) indicate that all site traffic will enter and exit via Milperra Road and Daisy Street, ensuring efficient traffic flow.

#### 11.2.3. Peak Period Intersection Performance

Traffic modelling using the SIDRA Intersection software assessed current and future intersection performance. Results show that Milperra Road / Queen Street / Edgar Street operates at a Level of Service (LoS) 'D' during peak times, indicating it is near capacity but still functioning. The Queen Street / Gordon Parker Street intersection, however, operates at LoS 'F,' reflecting significant delays and congestion. Despite these conditions, the proposed

development is not expected to worsen intersection performance significantly, as the added traffic load is minimal. Consequently, no intersection upgrades are required.

### 11.2.4. Access and Internal Design

No changes are proposed to the vehicular access and internal car park design, and this all complies with relevant standards. Swept path plans shown in Figure 11.1.

## 11.3. Mitigation Measures

The increase in traffic is negligible and there are no impacts arising. Overall, the traffic impact assessment supports the proposed development on traffic planning grounds. Therefore, there are no external mitigation measures require; however, the below measures will be implemented to continue the safe and efficient operation:

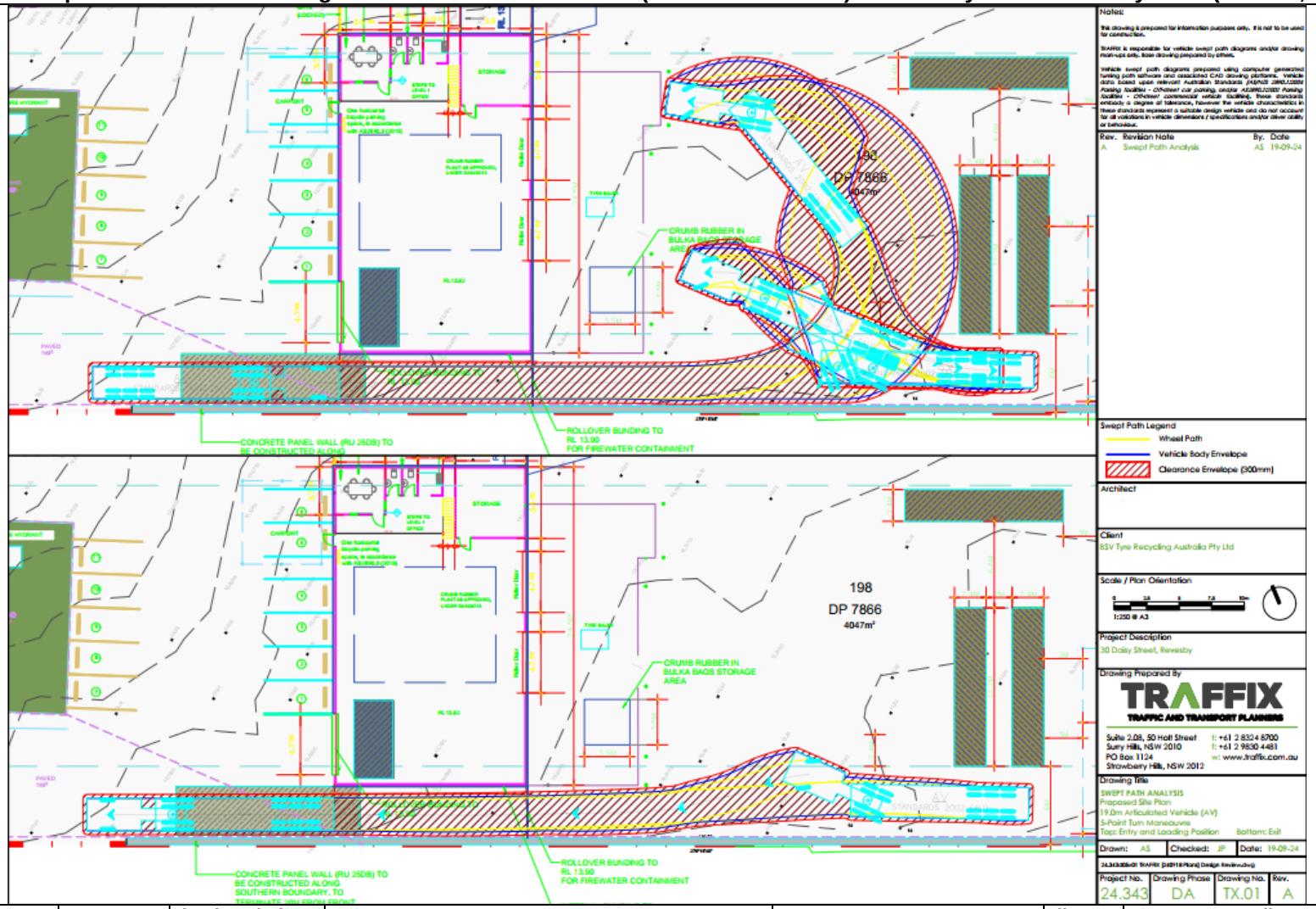
**Table 11.1. Traffic and Access Mitigation Measures.**

| Mitigation Measures | Responsibility | Timing / Frequency |
|---|---|---|
| **The site entrance and exit will be clearly signposted to ensure correct vehicle circulation through the site.** | Site Management | Prior to installation of new equipment |
| **The turning path for vehicles in the rear processing area will be clearly marked to ensure the path is always kept free of obstacles.** | Site Management | Prior to installation of new equipment |
| **A total of 11 car parking spaces will be provided for staff parking.** | Site Management | On-going |
| **All vehicles will enter and leave the site in a forward direction.** | Operations Management | On-going |
| **Site access, driveways and parking areas will be maintained in accordance with the latest versions of Australian Standards AS 2890.1, AS 2890.2, AS 2890.6 and AS 1428.1.** | Site Management | On-going |
| **All vehicles will turn off their engines when stationary (no idling), where practicable.** | Operations Management | On-going |
| **The Facility will not result in any vehicles parking or queuing on the public road network, where practical.** | Operations Management | On-going |
| **All vehicles will be wholly contained on site before being required to stop, where practical.** | Operations Management | On-going |
| **The turning areas in the car park will be kept clear of any obstacles, including parked cars, at all times.** | Operations Management | On-going |
| **Trucks entering and leaving the premises that are carrying loads will be covered at all times, except during loading and unloading.** | Operations Management | On-going |
| **Inbound and outbound truck movements, particularly semi-trailers, will be scheduled outside of peak times wherever possible.** | Operations Management | On-going |

## 11.4. Conclusion

The traffic and parking impacts associated with the proposed development at 30 Daisy Street, Revesby, have been thoroughly assessed. With the site's strategic location near major roads such as the M5 Motorway and Milperra Road, access to the facility is efficient and avoids residential areas. The proposed development will result in a minor increase in vehicle movements, including truck and staff traffic, but these will not significantly impact the operation of nearby intersections or the broader road network. Sufficient on-site parking, including provisions for bicycles, is provided, exceeding regulatory requirements. Additionally, mitigation measures have been implemented to ensure safe and efficient vehicle circulation within the site. As a result, the traffic impact of the development is considered negligible, and no external traffic mitigation measures are required.

**Figure 11.1. Proposed Swept Path Plans for the largest vehicles to enter the site (19m Semi-Trailers) of 30 Daisy Street Revesby NSW (Lot 198, DP 7866).**




| Date | Revision | Drawn By | Site description | JEP Environment & Planning | Client | BSV Tyre Recycling Australia Pty Ltd |
|---|---|---|---|---|---|---|
| 18/09/2024 | Revision A | J.Tanana | 30 Daisy Street, Revesby (Lot 198, DP 7866) | Strategy \| Approvals \| Compliance \| Licensing<br>A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060<br>E: admin@jacksonenvironment.com.au<br>T: 02 8056 1849<br>W: http://www.jacksonenvironment.com.au | Project | Tyre Recycling Facility Alteration and Additions |
| | | | | | Title | Proposed Swept Path Plan |
| | | | | | Scale | As shown |
| | | | | | Source | Traffix |

# 12. Fire Impact Management Plan

The Fire Impact Management Plan (FIMP) for the BSV Tyre Recycling facility was prepared by Riskcon Engineering in accordance with *HIPAP No. 2 Guidelines* and *Fire and Rescue NSW – Guideline for Bulk Storage of Rubber Tyres* to identify and mitigate fire risks. Key steps included:

- Identifying Hazards: Potential fire hazards were identified and assessed for their ability to impact the facility and surrounding areas;
- Impact Analysis: The potential effects of fire, including heat radiation, were evaluated to determine the impact on critical areas and firefighting capabilities;
- Firefighting Strategy Review: Existing firefighting strategies were reviewed and updated as needed based on equipment and storage locations; and
- Response Planning: The response times of Fire & Rescue NSW (FRNSW) were analysed to ensure effective emergency response.

The FIMP focuses on fire risk management and does not cover sabotage, vandalism, or property damage beyond fire incidents. It is based on the current project scope and information provided. This approach ensures fire safety measures are adequate to protect the facility and surrounding areas.

A summary of the findings of the assessment is presented in this section. The full FIMP is given in Appendix E.

## 12.1. Existing Environment

The BSV Tyre Recycling facility consists of a main industrial shed with an area of approximately 360m² and an attached office space of 44.5m². Additionally, the site includes a rear awning covering an area of 831m². The fire safety equipment currently installed on-site includes four (4) single-headed fire hydrants.

## 12.2. Impact Assessment

### 12.2.1. Properties of Dangerous Goods

The type of DGs and quantities stored and used at the site has been described in Table 12.2.1 below.

**Table 12.1. Properties of Dangerous goods and materials stored on site.**

| Class | Hazardous Properties |
|---|---|
| **n/a – Rubber Tyres** | Rubber tyres are not easily ignitable, but when alight, they release a high amount of energy, resulting in a very hot fire (twice that of most combustible materials) and generate considerable smoke. The shape and stacking of tyres create difficult-to-access pockets, making fires hard to extinguish. Rubber repels water, causing extinguishing mediums to shed away. |
| **2.1 – Flammable Gas** | Class 2.1 includes flammable gases that are ignitable when mixed with air at 13% or less by volume or have a flammable range with air of at least 12 percentage points. Ignited gas may result in an explosion or flash fire. |
| **3 – Flammable Liquids** | Class 3 includes flammable liquids or mixtures that give off flammable vapours at temperatures not exceeding 60°C (closed-cup test) or 65.6°C (open-cup test). Vapours released can mix with air and, if ignited at the right concentration, can result in pool fires at the liquid surface. |
| **8 – Corrosive Substances** | Class 8 substances (corrosive substances) can cause damage upon contact with living tissue (necrosis) or, if leaked, may damage or destroy other materials. Releases to the environment can cause harm to sensitive receptors. |
| **C1/C2 – Combustible Product** | C1/C2 products are not classified as DGs but are combustible liquids. They can sustain combustion, although ignition is difficult due to their high flash point. They do not generate flammable vapours, eliminating the potential for flash fires or explosions when confined. |

### 12.2.2. Hazard Identification

Based on the hazard identification table, the following hazardous scenarios have been developed:

| Table 12.2. Hazardous Scenario Identification.Hazardous Scenario | Description |
|---|---|
| **Flammable liquid release, delayed ignition, and flash fire or explosion** | Potential for flammable liquid spills in the crumb plant area due to accidents or packaging deterioration, leading to vapour cloud accumulation, ignition, and possible explosion. The risk is considered low due to minor storage and the preventive measures being implemented like DG cabinets and spill kits. |
| **Flammable material spill, ignition and fire** | Low potential for flammable material spills, contained within bunded sections of cabinets to prevent exposure to ignition sources. Risk of significant fire is negligible. |
| **LPG release, ignition and flash fire, explosion, or fire** | Low likelihood of LPG release due to rigorous quality assurance; potential for ignition if flammable vapour cloud forms and contacts an ignition source. Precautions include dedicated storage areas and compliance with AS/NZS standards. |
| **Corrosive substances release and environmental incident** | Potential leaks from storage tanks could cause environmental damage if not contained. Corrosive substances are stored according to AS3780:2023 standards to minimise risks. Safety measures include proper placement of DG cabinets and availability of spill kits. The likely hood of corrosive substance leakage is low if not negligible. |
| **Ignition of engine oil or grease, combustible liquid fire** | Potential for spills of combustible liquids like engine oil and grease is unlikely, also ignition is difficult due to high flash points. Storage in bunded pallets reduces risk further. Liquid storage area should be assessed to AS 1940:2017. |
| **Tyre ignition in delivery trucks, tyre fire in whole tyres storage area** | While ignition of tyres during transport is unlikely, tyre fires in storage areas pose significant risks due to high energy release and smoke production. Mitigated through compliance with FRNSW guidelines on tyre storage. |
| **Tyre contamination, tyre fire in loose tyres and TDF storage area** | Contamination of tyres with fuels or solvents increases fire risk. Inspections and short storage times minimise risks. This risk is highly unlikely, even negligible. |
| **Tyre fire in the crumb tyre storage area and crumb rubber plant** | Crumb rubber's high surface area increases fire risk. Stored in compacted bulka bags to reduce ignition potential. Further assessment needed due to difficulty in extinguishing such fires. |
| **Tyre Fire in The Tyre Drop Off Area and Product Storage Area** | FRNSW guidelines for bulk storage of tyres require specific arrangements to facilitate fire control. Crumb rubber storage poses additional fire risks due to its high surface area, susceptibility to self-heating, and combustion, however the storage of crumb rubber indoors in bulka bags allows for minimal ventilation, lowering the risk of ignition. Also Temporary tyre drop off area is compliant with GBSRT guidelines being a total of 29.28m$^2$ which is below the allowable area of 30m$^2$ also stockpile heights will not exceed 3.7m. Further assessment needed to evaluate fire propagation and radiant heat impacts on firefighting equipment. |
| **Smoke dispersion in the loose tyre storage area and processing area** | Tyre fires could release toxic gases (CO, $CO_2$, $SO_2$), impacting air quality and firefighter safety. The risk of significant exposure is low as high concentration of each chemical is needed to cause harm, and also the high levels of oxygen. |
| **Production line fault, tyre fire in the tyre processing area** | Low risk of fire in processing areas, but due to difficulties in extinguishing a rubber tyre, this scenario is carried forward for further analysis. |
| **Rubber fire, potentially contaminated fire water and environmental damage** | Firefighting water contaminated with rubber particles could cause environmental damage if not contained. Site bunding at a minimum of 108m$^3$ is recommended to contain potentially contaminated water. |

### 12.2.3. Consequence Analysis

The following incidents were identified to have the potential to impact off-site:

- Ignition of diesel or grease, combustible liquid fire;
- Tyre fire in the tyre incoming area and outgoing storage area;
- Heavy smoke dispersion in the tyre delivery area and outgoing storage area; and
- Production line fault, tyre fire in the current and proposed tyre processing area.

**Table 12.3. Consequence Analysis.**

| Hazardous Scenario | Description |
|---|---|
| **Ignition of Diesel or Grease, Combustible Liquid Fire** | Potential for a fire in the combustible liquid area could impact fire protection systems, making them inoperable for FRNSW. Radiant heat impact distances indicate that no fire hydrants are within the 23 kW/m² contour, minimising the risk of hydrant impairment. Further assessment needed to ensure site safety. |
| **Tyre Fire in The Tyre Incoming Area and Outgoing Storage Area** | Fire potential in tyre incoming and outgoing storage areas could affect fire protection systems. However, backup hydrants are available within 60 meters, providing adequate fire coverage even if the nearest hydrant is impacted. The analysis shows conservative estimates, and actual risks may be lower than modelled. |
| **Smoke Dispersion from The Tyre Delivery Area and Outgoing Storage Area Fire** | Fire could lead to the release of pollutants such as sulfur dioxide, carbon dioxide, and soot (carbon). However, modelling indicates that smoke will rise above the inversion layer, preventing ground-level impacts and ensuring the safety of FRNSW personnel during firefighting operations. It is recommended the site to host FRNSW for site familiarisation and to understand if any potential for tyre fires and potential for toxic smoke formation. |
| **Production Line Fault, Tyre Fire in Tyre Processing Area** | Potential for fire in the production area could impact fire protection systems. Radiant heat impact analysis shows manageable risks due to available backup hydrants. Conservative modelling assumptions suggest actual fire propagation and impact may be less severe. |

### 12.2.4. Details of Prevention, Detection, Protection and Mitigation Measures

The following fire prevention, detection and mitigation measures are proposed:

***Fire Prevention***

1. Control of Ignition Sources: Several controls are in place to reduce the likelihood of ignition:
    - A no-smoking policy is enforced across the site;
    - Housekeeping procedures are implemented to prevent dust accumulation in delivery and processing areas;
    - Rubber tyres and products are stored following FSGBRT and FRNSW fire safety guidelines;
    - All fixed electrical equipment is designed and installed per AS/NZS 3000:2018 standards;
    - Security measures, including fencing, staffing during business hours, and CCTV monitoring, are in place to prevent arson; and
    - A permit-to-work system and risk assessments are required for any hot work.

2. Separation of Incidents: Inspections of rubber tyres are conducted upon unloading to ensure compliance with storage guidelines, preventing contaminated or ignited tyres from entering the facility. The tyre storage areas are kept below 30 m² in size and 3.5 m in height, ensuring safe separation from other site areas.
3. Housekeeping: The site maintains a high standard of housekeeping to reduce fire risks. Debris from transport, storage, and processing is regularly cleaned and removed.
4. Work Practices: Safe work practices are implemented, including the proper identification and placarding of dangerous goods (DG), availability of safety data sheets, adherence to HAZCHEM codes, proper handling of unlabeled containers, and adherence to the Work Health and Safety Regulation 2017. Regular training for personnel and the availability of personal protective equipment further supports these practices.
5. Emergency Plan: An Emergency Response Plan (ERP) is developed per the *Hazardous Industry Planning Advisory Paper No.* 2. An Emergency Services Information Pack (ESIP) is also prepared to provide critical information to emergency responders.
6. Site Security: Access to the site is restricted, and only authorized personnel are allowed. These security measures help prevent fires from being started by intruders or accidents.

***Fire Detection***

1. Detection of Contamination: Incoming tyres are manually inspected to detect contamination, reducing the risk of fire escalation.
2. Detection of Fire: Site personnel are present during operational hours to detect fires and alert Fire & Rescue NSW (FRNSW). Fires are unlikely outside business hours unless caused by malicious acts.

***Fire Protection***

1. Extinguishers: The facility is equipped with suitable fire extinguishers should be located within 10 meters of areas where rubber products are stored, sorted, or handled.
2. Fire Hydrants: The site is equipped with four fire hydrants, meeting FSGBRT requirements. Two hydrants are located near the tyre storage area, ensuring comprehensive coverage. A hydraulic analysis is to confirm that the hydrants comply with AS 2419.1:2021 standards. The hydrants will be supplied by water mains and are capable of providing flow at 20 L/s at a pressure head of 26 m, which is equivalent of 2 hydrants operating 254 kPa at once. Dual-head hydrants are recommended for increased capacity and redundancy.
3. Sprinklers: According to FSGBRT guidelines, sprinklers are not required for this facility.

***Fire Mitigation***

1. Fire Water Supply: The firewater supply is provided by street mains with guaranteed pressure from Sydney Water. This supply is expected to be sufficient for the identified fire scenarios.
2. Smoke Hazard Management: Although not anticipated due to the building's size, the need for smoke hazard management systems should be reviewed and confirmed by a Fire Engineer to ensure compliance and safety.

### 12.2.5. Local Brigade Access and Egress

The fire brigade's arrival time from the nearest fire station is approximately 17.3 minutes after ignition. It is further estimated that an additional 5.65 minutes are needed to assess the situation, locate the fire, and prepare equipment, resulting in an initial attack on the fire approximately 22.98 minutes after ignition.

**Table 12.4. Summary of Response time - Fire Brigade Intervention Model (FBIM).**

| Fire Station | Alarm Time (s) | Travel Time (s) | Time for Access & Assessment (s) | Set-up Time (s) | Time of Attack (minutes) | Time for Search & Rescue (s) |
|---|---|---|---|---|---|---|
| Revesby Fire Station | 320 s | 720 s | 112 s | 68 s | 1,379 s (22.98 minutes) | 159 s |

### 12.2.6. Fire Water Supply and Contaminated Fire Water Retention

The facility's fire water system is deemed sufficient to manage potential fire scenarios with four hydrants, as they meet the discharge flow requirements of 20 L/s at 26m head (255 kPa), in line with AS 2419.1:2021 standards. To ensure optimal performance, it is recommended to conduct a hydraulic analysis of the hydrants to confirm that even the most hydraulically disadvantaged hydrant maintains adequate pressure.

In the event of a fire, the facility must contain approximately 108 m³ of potentially contaminated water to prevent offsite environmental impacts. This can be achieved through existing containment systems within the building and site infrastructure. It is recommended to install an isolation system to prevent external discharge and ensure that the containment capacity is verified by civil engineers to meet the *Best Practice Guidelines for Contaminated Water Retention and Treatment Systems.*

## 12.3. Mitigation Measures

The facility fully complies with FRNSW *Fire Safety in Waste Facility Guidelines*, and the fire risks were identified, and recommendations/mitigations have been recommended in Table 12.5. below.

**Table 12.5. Mitigation measures and recommendation for fire safety on site.**

| No. | Mitigation Measures / Recommendations |
|---|---|
| 1 | Ensure appropriate fire prevention measures and emergency response strategies are in place. |
| 2 | Allocate separate DG storage cabinets for flammable liquids and corrosive substances in accordance with AS 1940:2017 and AS 3780: 2023, respectively. |
| 3 | Locate adequate spill kits adjacent to the combustible liquids storage area, flammable liquid cabinet, and corrosive cabinet locations. |
| 4 | Ensure combustible liquid tanks comply with AS 1692. |
| 5 | Place two powder-type extinguishers within 15 m of the grease and engine oil store, not closer than 3 m and not further than 10 m from flammable and corrosive cabinets. |

| No. | Mitigation Measures / Recommendations |
|---|---|
| 6 | Mark stockpile limits within the storage areas are 3.7m in height and 30m$^2$ in area. |
| 7 | Host FRNSW for site familiarisation to highlight potential tyre fires and toxic smoke formation risks. |
| 8 | Install a windsock at the site to assist FRNSW in identifying wind direction to avoid establishing command centres downwind of potential toxic gas release. |
| 9 | Ensure all site attendees, staff, and drivers adhere to the no-smoking policy implemented on site. |
| 10 | Develop a hot work permit system to control any hot work undertaken at the site. |
| 11 | Consider installing CCTV to monitor for intruders. |
| 12 | Upgrade the Emergency Response Plan (ERP) as per the new proposal and process setup for the site in accordance with the Hazardous Industry Planning Advisory Paper No. 2. |
| 13 | Develop an Emergency Services Information Pack (ESIP) for the site in accordance with Fire & Rescue NSW fire safety guidelines. |
| 14 | Review the requirement for smoke hazard management systems by a fire engineer to confirm whether they are necessary. |
| 15 | Provide a suitable fire extinguisher within 10 m of any area where rubber products are stored, sorted, or handled. |
| 16 | Replace single-head fire hydrants with dual fire hydrants near tyre storage areas, within 60 m of each other, to ensure each can be supported by an adjacent hydrant. |
| 17 | Ensure facility/site boundaries can contain 108 m$^3$ of water within the building footprint, stormwater pipework, or other containment areas. |
| 18 | Civil engineers designing the site containment must demonstrate it can contain at least 108 m$^3$. |
| 19 | Regularly maintain and test the isolation system designed to prevent external discharge of potentially contaminated firewater to ensure effectiveness. |
| 20 | Undertake a hydraulic analysis of the hydrants to confirm that the available pressure for the most hydraulically disadvantaged hydrant complies with AS 2419.1:2021. |
| 21 | Ensure the fire hose reel system complies with AS 2441:2005. |
| 22 | Ensure portable fire extinguishers comply with AS 2444:2001. |

## 12.4. Conclusion

The Fire Impact Management Plan (FIMP) provides a comprehensive approach to managing fire risks, following HIPAP No. 2 guidelines. The plan includes identifying potential fire hazards, assessing their impact on the facility and surrounding areas, and reviewing existing firefighting strategies. It also evaluates Fire & Rescue NSW (FRNSW) response times and ensures the adequacy of fire safety measures, such as fire hydrants, spill kits, and emergency response strategies. Mitigation measures have been implemented in adherence to FRNSW guidelines, to minimise the risks of fire incidents and ensure environmental protection. With these measures, the facility is well-prepared to manage fire-related risks effectively, ensuring the safety of both the site and nearby areas.

# 13. Noise and Vibration

A Noise and Vibration Impact Assessment (NVIA) has been conducted by Acoustic Logic to evaluate potential operational noise and vibration emissions associated with the BSV Tyre Recycling Australia facility at 30 Daisy Street, Revesby. This assessment also considers noise impacts from additional traffic on nearby public roads as a result of the development. The report was prepared to support the Development Application and has relied on site-specific plans and documents in accordance with relevant NSW EPA guidelines and local planning controls:

- NSW EPA – Noise Policy for Industry ("NPfI") October 2017[13];
- NSW EPA – Road Noise Policy ("RNP") March 2011[14];
- Canterbury Bankstown Council Development Consent (DA843/2013); and
- NSW Environmental Protection Licence (EPL 20387).

A summary of the findings of the NVIA is presented in this section. The full NVIA is given in Appendix F.

## 13.1. Existing Environment

The proposed development will maintain its current operating hours, from 6 am to 11 pm on weekdays, 8 am to 5 pm on Saturdays, and 9 am to 4 pm on Sundays, as per the existing Development Application (DA843/2013). Two additional jobs will be created bringing staff levels from 15 to 17 employees, however only 9 staff members will be on site at any given time meeting parking demand. Tyres will continue to be transported to and from the facility in medium rigid vehicles (MRVs) and in 40 cubic foot shipping containers transported by side-loading semi-trailers.

Nearby sensitive receivers potentially impacted by the facility's operations are identified in Table 13.1 below:

**Table 13.1. Noise Sensitive Receivers.**

| Noise Catchment Area (Refer Figure 1) | Receiver Type | Comment |
|---|---|---|
| **NCA1** | Residential | Single and multi-level residential receivers from 55-75 Carrington Street, Revesby, 68-74 Queen Street, Revesby, and 27-48 Greenway Parade, Revesby |
| **NCA2** | Industrial | Single and multi-level industrial receivers from 27-39 Daisy Street, Revesby, and 33-81 Violet Street, Revesby |
| **NCA3** | Industrial | Single and multi-level industrial receivers from 34-38 Daisy Street, Revesby, and 32-38 Queen Street, Revesby. |
| **NCA4** | Industrial | Single and multi-level industrial receivers from 22-26 Daisy Street, Revesby, and 22-30 Queen Street, Revesby. |

## 13.2. Impact Assessment

### 13.2.1. Operational Noise

The noise impact assessment identifies key noise sources and assesses their impact on surrounding areas. Significant noise sources include internal activities such as the operation of crumb rubber plants, shredders, forklifts, and bobcat operations, as well as truck movements on-site and on local roads.

The assessment used the Noise Policy for Industry (NPfI) guidelines to establish noise criteria and predict the impact on sensitive receivers grouped into catchment areas. Noise levels were predicted for various operational scenarios using SoundPLAN noise modelling software. The model accounted for worst-case weather conditions and included mitigation measures to ensure compliance with noise criteria.

[13] NSW EPA – Noise Policy for Industry ("NPfI") October 2017. Published by NSW Environment Protection Authority. Internet publication: https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/noise-policy-for-industry-(2017)
[14] NSW EPA – Road Noise Policy ("RNP") March 2011. Published by NSW Environment Protection Authority. Internet publication: https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/noise/2011236nswroadnoisepolicy.pdf

**Table 13.2. Project Specific Noise Trigger Levels.**

| Noise Catchment Area | Time | RBL dB(A) $L_{90}$ | Trigger Noise Level (dB(A) $L_{eq}$,15min) | | |
|---|---|---|---|---|---|
| | | | Intrusiveness | Amenity | Max Event |
| NCA1 – Residential Receivers | Day | 56 | 61 | 48 | N/A |
| | Evening | 55 | 60 | 45 | N/A |
| | Night | 44 | 49 | 43 | 49 $L_{eq}$<br>59 $L_{max}$ |
| NCA2 – 4 – Industrial receivers | Day | N/A | N/A | 68 | N/A |

Noise modelling showed compliance with the project-specific noise trigger levels across all scenarios and sensitive receiver locations.

**Table 13.3. Predicted Operational Noise Levels.**

| Scenario | Receiver | Predicted Noise Level – dB(A) $L_{eq}$ (15-min) | Project Noise Trigger Level – dB(A) | Comment |
|---|---|---|---|---|
| Daytime/Evening Operation Scenario 1 - (Heavy rigid vehicle manoeuvres into the site and reverses into the designated area, two tyre shredders are operating simultaneously, and three forklifts/bobcats are in operation.) | NCA1 | 44 | 45 $L_{eq}$ (15-min) | Complies |
| | NCA2 | 56 | 68 $L_{eq}$ (15-min) | Complies |
| | NCA3 | 64 | | Complies |
| | NCA4 | 58 | | Complies |
| Daytime/Evening Operation Scenario 2 - (Heavy rigid vehicle exits the site from the designated area, two tyre shredders are operating simultaneously, and three forklifts/bobcats are in operation.) | NCA1 | 44 | 45 $L_{eq}$ (15-min) | Complies |
| | NCA2 | 56 | 68 $L_{eq}$ (15-min) | Complies |
| | NCA3 | 64 | | Complies |
| | NCA4 | 58 | | Complies |
| Night-time Operation Scenario 1 - (Heavy-rigid vehicle manoeuvres into the site and reverses into the designated area with 1 forklift in operation.) | NCA1 | <44 | 45 $L_{eq}$ (15-min) | Complies |
| | NCA2 | 52 | 68 $L_{eq}$ (15-min) | Complies |
| | NCA3 | <44 | | Complies |
| | NCA4 | 60 | | Complies |
| Night-time Operation Scenario 2 - (Heavy-rigid vehicle exits the site from the designated area with 1 forklift in operation.) | NCA1 | <44 | 45 $L_{eq}$ (15-min) | Complies |
| | NCA2 | 50 | 68 $L_{eq}$ (15-min) | Complies |
| | NCA3 | <44 | | Complies |
| | NCA4 | 64 | | Complies |
| Night-time Intermittent Event (Truck Airbrake & Unloading/Loading Activity) | NCA1 | 52 | 59 $L_{max}$ | Complies |

The assessment shows that the noise emissions from the facility are compliant with the established criteria, ensuring minimal impact on the surrounding environment.

### 13.2.2. Road Traffic Noise

The road traffic noise impact from the proposed development has been assessed using the EPA Road Noise Policy (RNP). The RNP provides criteria for assessing noise at residential and non-residential receivers. According to the RNP, if existing traffic noise levels are close to or exceed these criteria, the focus should be on any noise increase, rather than the absolute levels. An increase of up to 2dB is considered minor and generally imperceptible.

The proposed development is expected to generate 44 heavy vehicle movements per day, including medium rigid vehicles and semi-trailers. The breakdown of the vehicle movements is shown in Table 13.4.

**Table 13.4. Operational Traffic Analysis.**

| Total Proposed Inbound Traffic Volume | | Total Proposed Outbound Traffic Volume | |
|---|---|---|---|
| **Medium Rigid Vehicles** | **Semi-Trailers** | **Medium Rigid Vehicles** | **Semi-Trailers** |
| **14** | 8 | 14 | 8 |

Traffic routes have been planned to utilise major roads such as the M5 South-western Motorway and Milperra Road, minimising the impact on local streets. As a result, the additional traffic from the development is not expected to significantly increase noise levels near residential areas.

### 13.2.3.Construction Noise and Vibration

The proposal does not include any demolition, excavation, or major construction work, except for the erection of a southern concrete panel wall, which may cause some noise emissions. However it is unlikely that such noise emissions will have adverse impacts on nearby receivers. If future work involves more significant construction activities, a noise and vibration assessment following the EPA *Interim Construction Noise Guideline* (ICNG) should be conducted to identify impacted receivers, establish management levels, predict impacts, and recommend mitigation measures. A project specific Construction Noise and Vibration Management Plan should also be developed to manage any potential impacts effectively.

## 13.1. Mitigation Measures

Initial modelling indicated that additional mitigation is needed to achieve compliance with the trigger levels. This additional mitigation is described below, along with other measures to minimise impacts:

**Table 13.5. Summary of Mitigation measures.**

| Noise Type | Mitigation Measure | Description |
|---|---|---|
| **Operational Noise** | Management Controls | Maintain hours of operation as specified in Section 3.1 (6 am to 11 pm on weekdays, 8 am to 5 pm on Saturdays, and 9 am to 4 pm on Sundays). |
| | | Minimise vehicle idling to the extent feasible. |
| | Physical Controls | Construct a 5m high solid and imperforate concrete panel wall along the southern boundary to attenuate noise. Suggested products include Modular Wall Systems, Wallmark, etc. |
| **Construction Noise** | Management Controls | If demolition, excavation, or major construction work is proposed, develop a project-specific Construction Noise and Vibration Management Plan. The plan should include noise and vibration monitoring, community engagement, complaints handling, mitigation strategies, and training. |

## 13.2. Conclusion

The noise and vibration impact assessment for focused on operational noise emissions, noise from additional traffic on nearby public roads, and potential vibration impacts. This study was prepared to support the Development Application and followed relevant NSW EPA guidelines and Canterbury Bankstown Council controls. The assessment concluded that with the proposed mitigation measures, noise emissions from the facility will comply with the established noise criteria, ensuring minimal impact on surrounding residential and industrial areas.

# 14. Stormwater/Civil Management

The concept stormwater and civil design management plan was conducted by Eclipse Consulting Engineers. This section outlines the proposed stormwater management strategies and civil infrastructure upgrades necessary to support the development. The assessment focuses on ensuring compliance with local and state government requirements while mitigating potential impacts on stormwater runoff, water quality, and site infrastructure. The recommendations provided in this plan are intended to ensure that the facility operates efficiently, safely, and sustainably.

The Stormwater and Civil Management Plan is given in Appendix G.

## 14.1. Existing Environment

The site at 30 Daisy Street, Revesby, covers a total area of approximately 4,000 m², consisting of 1,276 m² of roof area, 2,607 m² of paved surfaces, and 164 m² of landscaped zones. The existing stormwater management system includes grated drains, kerb inlet pits (KIP), a gross pollutant trap (GPT), V-drains, and a Stormwater Isolation Pit (SIP). These elements are designed to manage and control stormwater runoff from the site. The system currently operates without a detention system, as the proposed development does not increase the impervious catchment area compared to the existing layout. To maintain stormwater quality, the GPT captures pollutants before discharge into the downstream system, preventing contamination of local water bodies.

## 14.2. Impact Assessment

The construction of the concrete wall along the southern boundary will require excavation of approximately 20m$^3$ of soil for installation of the support posts. The excavation works may result in a minor increase in sediment runoff into the site's drainage system.

The development will lead to increased pollutants such as oil, sediment, and waste material from the recycling operations could enter the stormwater system if left unmanaged, posing a risk to water quality. Furthermore, in the event of a fire, the contaminated firewater could potentially escape the site and cause environmental contamination if not properly contained.

## 14.3. Mitigation Measures

To manage stormwater effectively and minimise potential environmental impacts, several mitigation measures will be implemented. These measures are designed to control runoff, prevent contamination, and ensure compliance with local stormwater management requirements, particularly in the event of fire or heavy rainfall. The following strategies in table 14.1 outline the key controls that will be put in place to protect the site and surrounding environment.

**Table 14.1. Stormwater and drainage mitigation measures.**

| Mitigation Measures | Responsibility | Timing / Frequency |
|---|---|---|
| **Sediment fences and a geotextile inlet filter will be installed and maintained to prevent sediment from entering the stormwater system during construction. Stockpiles of materials will be kept more than 5 meters away from concentrated water flow areas.** | Site Supervisor | During Construction |
| **New stormwater isolation mechanism to be installed to manage and contain stormwater runoff, near the north of the shed.** | Site Supervisor | During Construction |
| **Localised hardstand to be regraded to the north of the site near the new stormwater isolation mechanism will be installed.** | Site Supervisor | During Construction |
| **Rollover bunding will be provided along the perimeter of the building to an RL 13.90 to contain firewater and prevent contaminated water from leaving the site. A total of 108 m$^3$ of firewater containment is proposed (35 m³ internal and 93 m³ external).** | Site Supervisor | During Construction |
| **Inspect and remove any build-up of sediment, debris, litter, and vegetation within gutter systems and dish drain.** | Site Management | On-going |
| **Toolbox meetings to discuss any safety and compliance issues that have arisen since the previous meeting** | Site Management | On-going |
| **Inspect all drainage structures noting any dilapidation, carry out required repairs.** | Site Management | On-going |

## 14.4. Conclusion

In conclusion, the concept stormwater and civil design management plan developed by Eclipse Consulting Engineers provides comprehensive strategies to effectively manage stormwater runoff and ensure compliance with local and state requirements. The proposed measures, including sediment control, stormwater isolation mechanisms, and firewater containment, will mitigate potential impacts on water quality and drainage infrastructure. These actions are essential to protecting the surrounding environment, particularly during construction and operational phases. The ongoing maintenance and monitoring of drainage systems will further safeguard the site and its surroundings, ensuring the facility operates sustainably and in accordance with best practices for stormwater management.

# 15. Summary of Mitigation Measures

A range of mitigation measures to prevent or minimise environmental impacts from the proposed development have been detailed below. This section compiles those considered necessary to minimise impacts and maximise positive outcomes on the physical, social and economic environments of the local area and the wider region.

The recommended mitigation measures and strategies will be implemented and managed, so the development complies with statutory obligations under EPA licenses and approvals. These measures are summarised in Table 15.1.

## 15.1. Operational Environmental Management Plan (OEMP)

The Operational Environmental Management Plan (OEMP) provides a detailed framework for managing environmental and operational risks. The plan also sets out how the management and mitigation measures that are recommended in this environmental assessment (and summarized in Table 15.1) are to be implemented.

The plan, included in Appendix M, has been developed in accordance with AS/NZ ISO14001 (2015) *Environmental Management Systems* standard and the NSW EPA's *Environmental Management System* guidelines. It outlines measures to ensure compliance with statutory requirements, uphold best practices, and promote continuous improvement.

The OEMP details the facility's operational practices, including the safe receival, processing, and storage of tyres and tyre-derived products. It includes robust procedures for managing non-conforming waste to maximise resource recovery while maintaining compliance with environmental laws. The plan also addresses traffic management, weighbridge operations, and the use of tyre tracking systems to ensure seamless and environmentally responsible operations.

The OEMP has identified ways to mitigate risks through the implementation of robust processes and systems designed to protect the environment and ensure safe and efficient operations. These measures include stringent controls for managing stormwater, preventing pollution, and minimising hazards such as dust, noise, and fire.

The OEMP focuses on performance monitoring and continual improvement. Regular internal and external audits ensure the facility complies with its Environment Protection Licence (EPL 20387) and other legal requirements. These efforts reflect the facility's commitment to reducing environmental impacts and meeting all regulatory obligations. Full details of the OEMP is provided in Appendix M.

**Table 15.1. Summary of mitigation measures and strategies.**

| Issue | Mitigation Strategy |
|---|---|
| **General** | BSV Tyre Recycling will implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the operation of the Facility. |
| | Pests, vermin and declared noxious weeds will be controlled on Site by appropriate means, such as spraying. |
| | Fires will be extinguished promptly. |
| | Adequate fire fire-fighting capacity will be maintained on site. |
| | A perimeter fence and security gates have been installed and they will be maintained and locked at all times when the Site is unattended. |
| | Employees and contractors will be suitably inducted and trained prior to commencing any work on site. |
| | Contact details will be displayed on signage at the entrance to the site. |
| | Any new signage will be installed in consultation with City of Canterbury-Bankstown and shall comply with the *State Environmental Planning Policy (Industry and Employment)* 2021. |
| | All plant and equipment used for the Facility will be maintained in a proper and efficient condition and operated in a proper and efficient manner. |
| | BSV Tyre Recycling will repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the Development. |
| | All chemicals, fuels and oils used on Site will be stored in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's *Storing and Handling Liquids: Environmental Protection – Participant's Manual* 2007. |
| | Accidental spillage or poor management of fuels, oils, lubricants, hydraulic fluids, solvents and other chemicals during the operation of the Development will be controlled through spill management actions to prevent water quality and ecological impacts. |
| | Waste contained in hook lift bins/Skip Bins will not exceed the rim of the bin. |
| **Waste Management** | No materials or waste (as defined by the POEO Act) generated outside the Site will be received at the Site for storage, treatment, processing or reprocessing except as expressly permitted by the EPL. |
| | BSV Tyre Recycling will not receive or process on the Site more than 29,900 tonnes of waste tyres per calendar year. |
| | Clearly assign and communicate responsibilities to ensure that all personnel are aware of their responsibilities in relation to the waste management plan |
| | Subcontractors will be informed of Site waste management procedures. |
| | No materials or waste (as defined by the POEO Act) generated outside the Site will be received at the Site for storage, treatment, processing or reprocessing except as expressly permitted by the EPL. |
| | All whole tyres and processed tyre products (TDF, crumb rubber and cotton) are to be placed in sealed shipping containers at the end of the day. No outdoor storage of whole tyres or tyre products will be performed overnight. |
| **Air Quality** | Enclosed industrial shed to house the crumb rubber plant and internal shredder to contain emissions. |
| | Installation of Local Exhaust Ventilation (LEV) systems on the rear awning on top of the two mobile shredders to capture and discharge emissions through a dedicated stack. |
| | Implement an air pollution control (ACP) system such as a baghouse dust control system for the crumb rubber process to further reduce particulate matter emissions. |
| | Maintain cyclones, baghouses, and electrostatic precipitators (ESPs) to control particulate matter emissions. |
| **Traffic and Parking** | The site entrance and exit will be clearly signposted to ensure correct vehicle circulation through the site. |
| | The turning path for vehicles in the rear processing area will be clearly marked to ensure the path is always kept free of obstacles. |
| | A total of 11 car parking spaces will be provided for staff parking. |
| | All vehicles will enter and leave the site in a forward direction. |

| Issue | Mitigation Strategy |
|---|---|
| | Site access, driveways and parking areas will be maintained in accordance with the latest versions of Australian Standards AS 2890.1, AS 2890.2, AS 2890.6 and AS 1428.1. |
| | All vehicles will turn off their engines when stationary (no idling), where practicable. |
| | The Facility will not result in any vehicles parking or queuing on the public road network, where practical. |
| | All vehicles will be wholly contained on site before being required to stop, where practical. |
| | The turning areas in the car park will be kept clear of any obstacles, including parked cars, at all times. |
| | Trucks entering and leaving the premises that are carrying loads will be covered at all times, except during loading and unloading. |
| | Inbound and outbound truck movements, particularly semi-trailers, will be scheduled outside of peak times wherever possible. |
| **Noise and Vibration** | Maintain hours of operation as specified in Section 3.1 (6 am to 11 pm on weekdays, 8 am to 5 pm on Saturdays, and 9 am to 4 pm on Sundays). |
| | Minimise vehicle idling to the extent feasible. |
| | Construct a 5m high solid and imperforate concrete panel wall along the southern boundary to attenuate noise. Suggested products include Modular Wall Systems, Wallmark, etc. |
| | If demolition, excavation, or major construction work is proposed, develop a project-specific Construction Noise and Vibration Management Plan. The plan should include noise and vibration monitoring, community engagement, complaints handling, mitigation strategies, and training. |
| **Fire Safety** | Ensure appropriate fire prevention measures and emergency response strategies are in place. |
| | Allocate separate DG storage cabinets for flammable liquids and corrosive substances in accordance with AS 1940:2017 and AS 3780: 2023, respectively. |
| | Locate adequate spill kits adjacent to the combustible liquids storage area, flammable liquid cabinet, and corrosive cabinet locations. |
| | Ensure combustible liquid tanks comply with AS 1692. |
| | Place two powder-type extinguishers within 15 m of the grease and engine oil store, not closer than 3 m and not further than 10 m from flammable and corrosive cabinets. |
| | Mark stockpile limits within the storage areas are 3.7m in height and 30m2 in area. |
| | Host FRNSW for site familiarisation to highlight potential tyre fires and toxic smoke formation risks. |
| | Install a windsock at the site to assist FRNSW in identifying wind direction to avoid establishing command centres downwind of potential toxic gas release. |
| | Ensure all site attendees, staff, and drivers adhere to the no-smoking policy implemented on site. |
| | Develop a hot work permit system to control any hot work undertaken at the site. |
| | Consider installing CCTV to monitor for intruders. |
| | Upgrade the Emergency Response Plan (ERP) as per the new proposal and process setup for the site in accordance with the Hazardous Industry Planning Advisory Paper No. 2. |
| | Develop an Emergency Services Information Pack (ESIP) for the site in accordance with Fire & Rescue NSW fire safety guidelines. |
| | Review the requirement for smoke hazard management systems by a fire engineer to confirm whether they are necessary. |
| | Provide a suitable fire extinguisher within 10 m of any area where rubber products are stored, sorted, or handled. |
| | Replace single-head fire hydrants with dual fire hydrants near tyre storage areas, within 60 m of each other, to ensure each can be supported by an adjacent hydrant. |
| | Ensure facility/site boundaries can contain 108 $m^3$ of water within the building footprint, stormwater pipework, or other containment areas. |
| | Regularly maintain and test the isolation system designed to prevent external discharge of potentially contaminated firewater to ensure effectiveness. |

| Issue | Mitigation Strategy |
|---|---|
| | Undertake a hydraulic analysis of the hydrants to confirm that the available pressure for the most hydraulically disadvantaged hydrant complies with AS 2419.1:2021. |
| | Ensure the fire hose reel system complies with AS 2441:2005. |
| | Ensure portable fire extinguishers comply with AS 2444:2001. |
| **Stormwater Management** | Sediment fences and a geotextile inlet filter will be installed and maintained to prevent sediment from entering the stormwater system during construction. Stockpiles of materials will be kept more than 5 meters away from concentrated water flow areas. |
| | New stormwater isolation mechanism to be installed to manage and contain stormwater runoff, near the north of the shed. |
| | Localised hardstand to be regraded to the north of the site near the new stormwater isolation mechanism will be installed. |
| | Rollover bunding will be provided along the perimeter of the building to an RL 13.90 to contain firewater and prevent contaminated water from leaving the site. A total of 108 $m^3$ of firewater containment is proposed (35 $m^3$ internal and 93 $m^3$ external). |
| | Inspect and remove any build-up of sediment, debris, litter, and vegetation within gutter systems and dish drain. |
| | Toolbox meetings to discuss any safety and compliance issues that have arisen since the previous meeting |
| | Inspect all drainage structures noting any dilapidation, carry out required repairs. |

# 16. Estimated Development Cost

An Estimated Development Cost (EDC) has been prepared by Muller Partnership for the proposed development at 30 Daisy Street, Revesby. The total estimated project costs (excluding GST) amount to $3,072,238 (ex. GST). This estimate includes key construction elements necessary for the facility's upgrade and development.

A detailed breakdown is provided in Table 16.1 below, and the full report is available in Appendix H.

**Table 16.1. Estimated Development Cost Summary.**

| Ref | Description | Cost (Excl. GST) |
|---|---|---|
| 1 | Amend Location of Waste Skip Bin | $250 |
| 2 | Establishment of a Dedicated Tyre Drop-Off Area | $710 |
| 3 | Amend Location of Shipping Container for Tyres or TDF Storage | $1,000 |
| 4 | New Concrete Panel Wall (5m H x 110m L) | $303,000 |
| 5 | New Demountable Weighbridge Office | $50,000 |
| 6 | New Tana Mobile Shredder | $1,250,000 |
| 7 | New Hammel Mobile Shredder for Truck Tyres | $600,000 |
| 8 | New Nissan Forklift | $20,000 |
| 9 | New Bobcat | $101,000 |
| 10 | Decommission Existing Tyre Baling Machine | $1,500 |
| 11 | Replace Single Head Fire Hydrants with Dual Fire Hydrants | $7,500 |
| 12 | Localised Hood and Ventilation to 1m Discharge Stack | $15,000 |
| 13 | New Dedicated Horizontal Bicycle Space | $600 |
| 14 | New Parking Spaces | $700 |
| 15 | Rollover Bunding | $9,100 |
| 16 | Internal Bunding for Firewater Containment | $44,200 |
| 17 | Relocation of Firewater Isolation Valve | $3,550 |
| 18 | Localised Hardstand Regrading | $4,800 |
| 19 | Preliminaries Overheads & Profit (12%) | $241,291 |
| 20 | Escalation (5% p.a. to midpoint construction September 2025) | $132,710 |
| 21 | Contingency (5%) | $132,710 |
| 22 | Professional Fees (5%) | $132,710 |
| 23 | Authority Fees (0.75%) | $19,907 |
| 24 | Client Costs | EXCL |
| 25 | GST | EXCL |
| 26 | **TOTAL PROJECT COST [EXCL. GST]** | **$3,072,238** |

# 17. Conclusion

BSV Tyre Recycling Australia Pty Ltd operates a tyre recycling facility at 30 Daisy Street, Revesby, under DA843/2013 and Environment Protection Licence (EPL) 20387. The facility currently processes up to 14,600 tonnes of used tyres annually, with operations primarily focused on tyre shredding, crumbing, and baling for export. However, in response to the Council of Australian Governments' (COAG) ban on the export of whole tyres (effective from 1 December 2021), the facility has transitioned to producing crumb rubber and tyre-derived fuel (TDF) for both local and export markets.

Given the growing demand for TDF as a replacement for coal in international markets, BSV Tyre Recycling Australia Pty Ltd is seeking approval for alterations and additions to increase its production capacity. The proposal involves increasing the tyre receival and processing limit from 14,600 tonnes per year to 29,900 tonnes per year while retaining the capability to produce crumb rubber when domestic demand increases.

A comprehensive environmental assessment has been undertaken for the Proposal, which will involve the following alterations and additions to the existing tyre recycling facility:

- Decommissioning the tyre baling machines located under the rear awning;
- Installing two mobile diesel shredding units under the rear awning to increase TDF production;
- Reconfiguring the location of shipping containers used for the storage of rubber products (whole tyres and TDF);
- Establishing a dedicated area for tyre unloading and temporary storage;
- Enhancing fire safety with the installation of a pre-cast concrete panel wall along the southern boundary, dual fire hydrants, fire extinguishers, fire hose reels, and 108m³ of firewater containment bunding;
- Installing a new firewater isolation valve on the north-eastern side of the site; and
- Including a dedicated bicycle space.

This development is consistent with the zoning of the site as IN1 General Industrial under the *Canterbury-Bankstown Local Environmental Plan* 2023. The facility is classified as a 'Waste or Resource Management Facility,' which is permissible with consent under Section 2.152 and 2.153(1) of the *State Environmental Planning Policy (Transport and Infrastructure)* 2021. The proposal does not trigger designated development under Schedule 3 of the *Environmental Planning and Assessment Regulation* 2021, as the alterations and additions do not result in a significant environmental impact. As a result, the proposal is considered local development and will be assessed under Part 4 of the *Environmental Planning and Assessment Act* 1979, with Canterbury-Bankstown Council as the consent authority. A comprehensive assessment of potential environmental impacts, including noise, air quality, waste management, traffic, fire safety and stormwater management, has been conducted. The findings demonstrate that the proposed changes will not significantly impact the surrounding environment, and suitable mitigation measures will be implemented to manage any risks.

The Proposal will enhance operational efficiency, reduce tyre stockpiling, and increase the site's capacity to meet the growing demand for sustainable energy alternatives such as TDF. The proposal will also contribute to the local economy through a direct capital investment of $3.072M, creating additional employment opportunities and supporting regional development. Two full-time positions will be added to the existing workforce, and the site will accommodate up to nine (9) staff members at any given time. Vehicle movements, including the use of medium rigid vehicles (MRVs) and side-loading semi-trailers, will continue to be managed efficiently, with all vehicles entering and exiting the site in a forward direction.

In conclusion, this Statement of Environmental Effects has demonstrated that the proposed development is unlikely to adversely impact the amenity of the surrounding neighbourhood, complies with relevant planning regulations, and is well-positioned to support the future tyre recycling needs of the Sydney Metropolitan Area. The proposal is recommended for approval.

# Appendix A: Architectural Plans

# Appendix B: Waste Management Plan

# Appendix C: Traffic Impact Assessment

# Appendix D: Air Quality Impact Assessment

# Appendix E: Fire Impact Management Plan

# Appendix F: Noise and Vibration Assessment

# Appendix G: Stormwater/Civil Management Plans

# Appendix H: Estimated Development Cost

# Appendix I: Site Survey

# Appendix J: Section 10.7 (2 & 5) Certificates

# Appendix K: Existing Development Consent (DA: 843/2013)

# Appendix L: Existing EPA Licence

# Appendix M: Operational Environmental Management Plan (OEMP)