TRAFFIX
TRAFFIC AND TRANSPORT PLANNERS

TRAFFIC IMPACT ASSESSMENT (TIA)

Proposed Alterations and Additions of an Existing Tyre Recycling Facility
30 Daisy Street, Revesby

Reference: 24.343r01v05
Date: October 2024

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TRAFFIX

CONTENTS

1. INTRODUCTION

TRAFFIX has been commissioned by JEP Environmental and Planning Pty Ltd to undertake a traffic impact assessment (TIA) in support of a development application (DA) for alterations and additions of an existing tyre recycling facility at 30 Daisy Street, Revesby. The development is located within the Canterbury Bankstown Council Local Government area (LGA) and has been assessed under that Council's controls.

The report is structured as follows:

- Section 2: Describes the site and its location.
- Section 3: Documents existing traffic conditions.
- Section 4: Describes the proposed development.
- Section 5: Assesses the parking requirements.
- Section 6: Assesses traffic impacts.
- Section 7: Discusses access and internal design aspects.
- Section 8: Presents the overall study conclusions.

2. PROPOSAL DESCRIPTION

TRAFFIX has been advised as follows:

"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 4,000m2.

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.

As a consequence, BSV Tyre Recycling Australia Pty Ltd is 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 remail as 6am to 11pm on weekdays, 8 am to 5pm on Saturdays and 9am to 4pm on Sundays as per DA843/2013. Two (2) 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 (2) recycling shifts will occur on a Monday to Friday (6am to 3pm and 3pm to 11pm), and one (1) shift on Saturdays and Sundays.

Tyres will be transported to the facility in medium rigid vehicles (MRVs) 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].

Additional tyre recycling infrastructure is identified as a need under the *NSW Waste and Sustainable Materials Strategy – A Guide to Future Infrastructure Needs*[2]. By 2030, the shortfall in infrastructure capacity of tyre recycling is projected to increase to 100,000 tonnes of tyres per annum. Deployment of additional infrastructure such as that outlined in this Proposal is critical to ensure that tyres continue to be managed in a sustainable manner at the end of life in Sydney."

3. LOCATION AND SITE

The subject site is located at 30 Daisy Street, Revesby (Lot 198, DP 7866) and is located on the eastern side of Daisy Street, approximately 65.0 metres north of the intersection of Gordon Parker Street and Daisy Street in a local context. It is located approximately 1.6 kilometres north of Revesby Railway Station and 20.0 kilometres southwest of the Sydney Central Business District (CBD) in a regional context.

The site is rectangular in configuration and has a total site area of 4,043 m^2. The existing site currently operates as a tyre recycling facility. It has a western frontage of 34 metres to Daisy Street. The site is bounded by neighbouring industrial developments to the north, south, and east.

Vehicular access to the site is currently provided via Daisy Street.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**.

Reference should also be made to the photographic record presented in **Appendix A** which provides an appreciation of the surrounding road network and key intersection in the vicinity of the subject site.

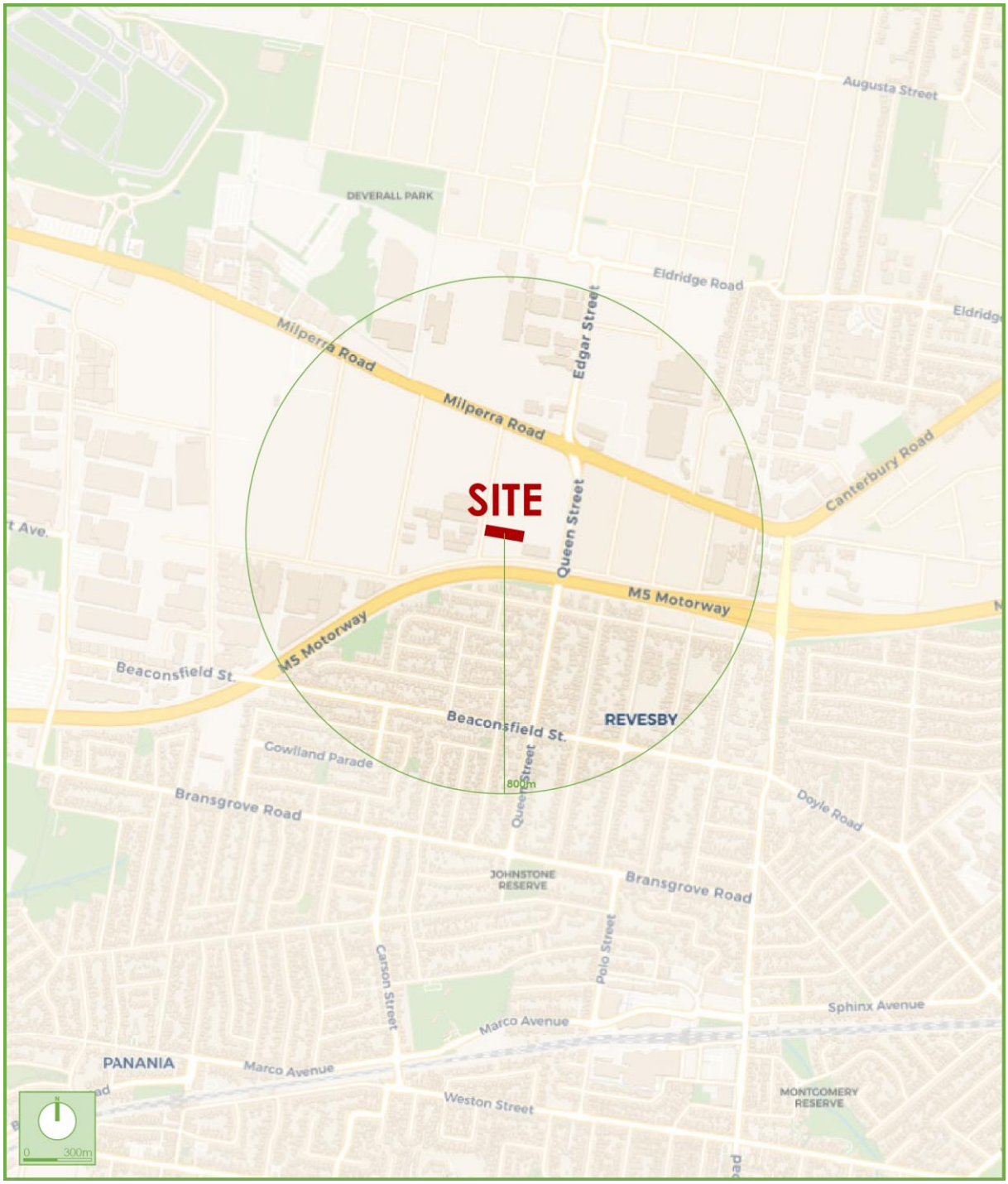


Figure 1: Location Plan

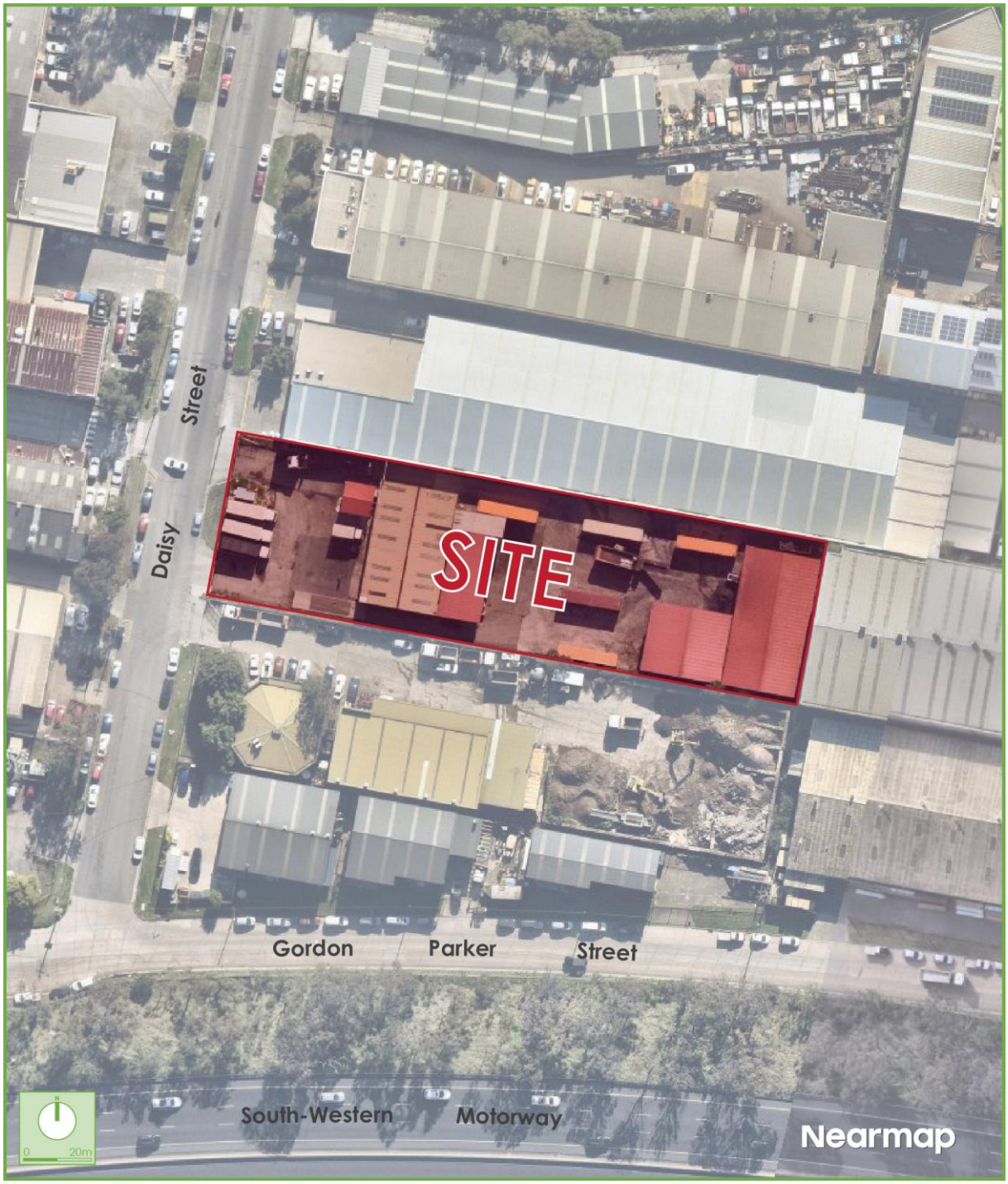


Figure 2: Site Location

4. EXISTING TRAFFIC CONDITIONS

4.1 Road Network

The road hierarchy in the vicinity of the site is shown in **Figure 3** with the following roads of particular interest:

- M5 Motorway: a TfNSW Motorway (MR6005) and TfNSW approved 26.0m B-double truck route that traverses east-west between General Holmes Drive in the east and the Hume Motorway in the west. Within the vicinity of the site, it is subject to 100 km/h speed zoning and accommodates three (3) lanes of traffic in each direction within a divided carriageway. Parking is not permitted along the M5 motorway.
- Milperra Road: a TfNSW Main Road (MR 167) and TfNSW approved 26.0m B-double truck route that traverses in an east-west direction between Canterbury Road in the east and Newbridge Road in the west. Within the vicinity of the site, it is subject to 70km/h speed zoning and accommodates three (3) lanes of traffic in each direction. Milperra Road does not permit any form of on-street parking.
- Queen Street: a local road and TfNSW approved 26.0m B-double truck route that traverses north-south between Milperra Road in the north and Horsley Road in the south. It accommodates 1-2 lanes in each direction within an undivided carriageway and is subject to 60km/h speed zoning. Parking is not permitted along either side of Queen Street.
- Gordon Parker Street: a local road TfNSW approved 26.0m B-double truck route that traverses east-west between Victoria Street in the east and Violet Street in the west. It accommodates two-way traffic flow within an undivided carriageway and is subject to 50km/h speed zoning in the vicinity of the subject site. Kerbside parking is provided along the southern side of Gordon Parker Street and parking is not permitted along its northern side.
- Daisy Street: a local road that traverses north-south between Milperra Road in the north and Gordon Parker Street in the south. Daisy Street

accommodates two-way traffic flow and is subject to 50km/h speed zoning. Unrestricted parking is generally permitted along both sides of Daisy Street.

It can be seen from the road hierarchy presented in **Figure 3** below that the subject site is conveniently located with access to Milperra Road and the wider road network.

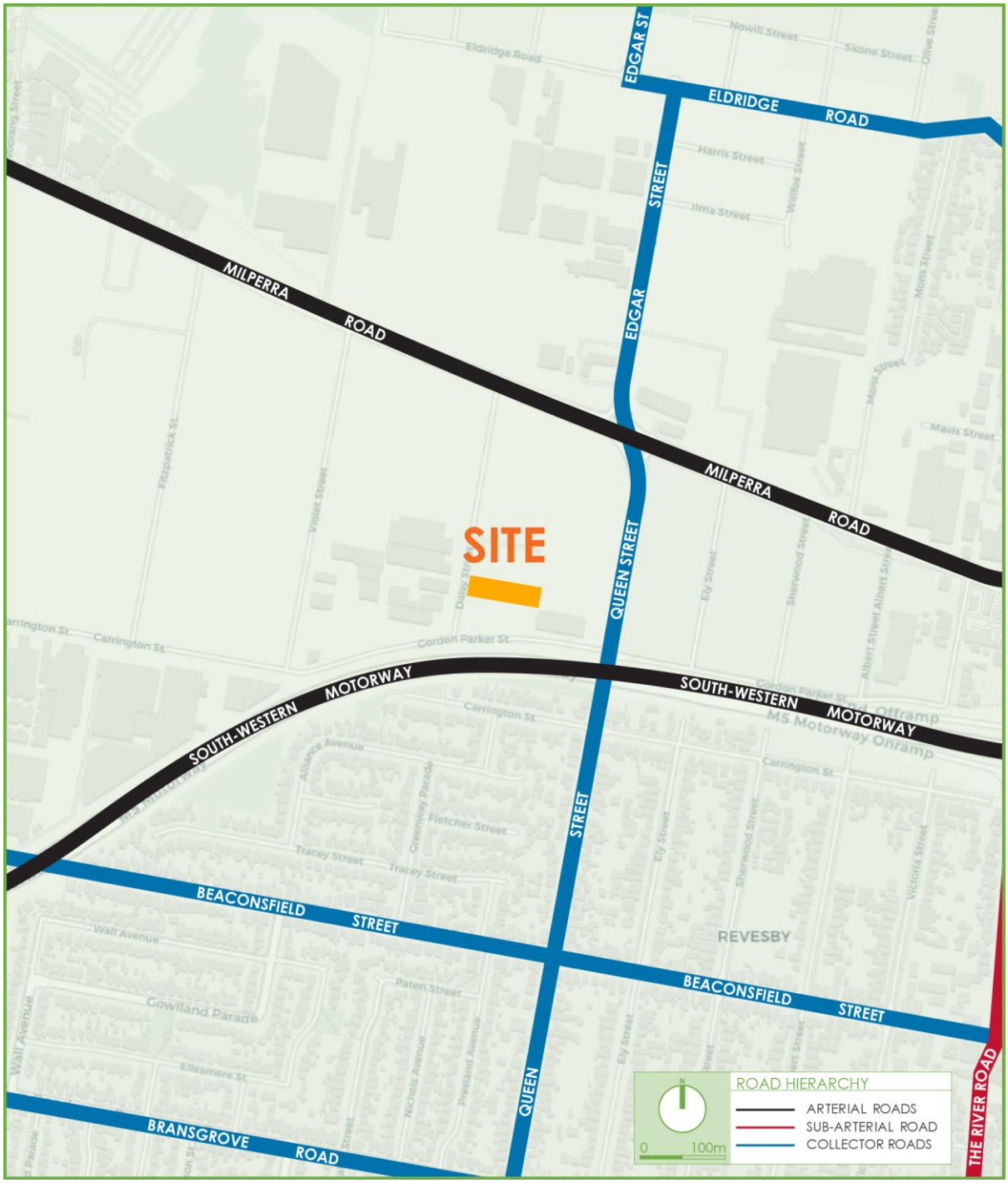


Figure 3: Road Hierarchy

4.2 Public Transport

The existing bus services that operate in the locality are shown in **Figure 4**. It is evident that the development benefits from good bus services with bus stops within 400m of the site, specifically along Milperra Road and Queen Street.

- 925 – East Hills to Lidcombe
- M90 – Burwood to Liverpool

These bus services provide a frequent and sustainable mode of transport for staff travelling to and from the subject site.

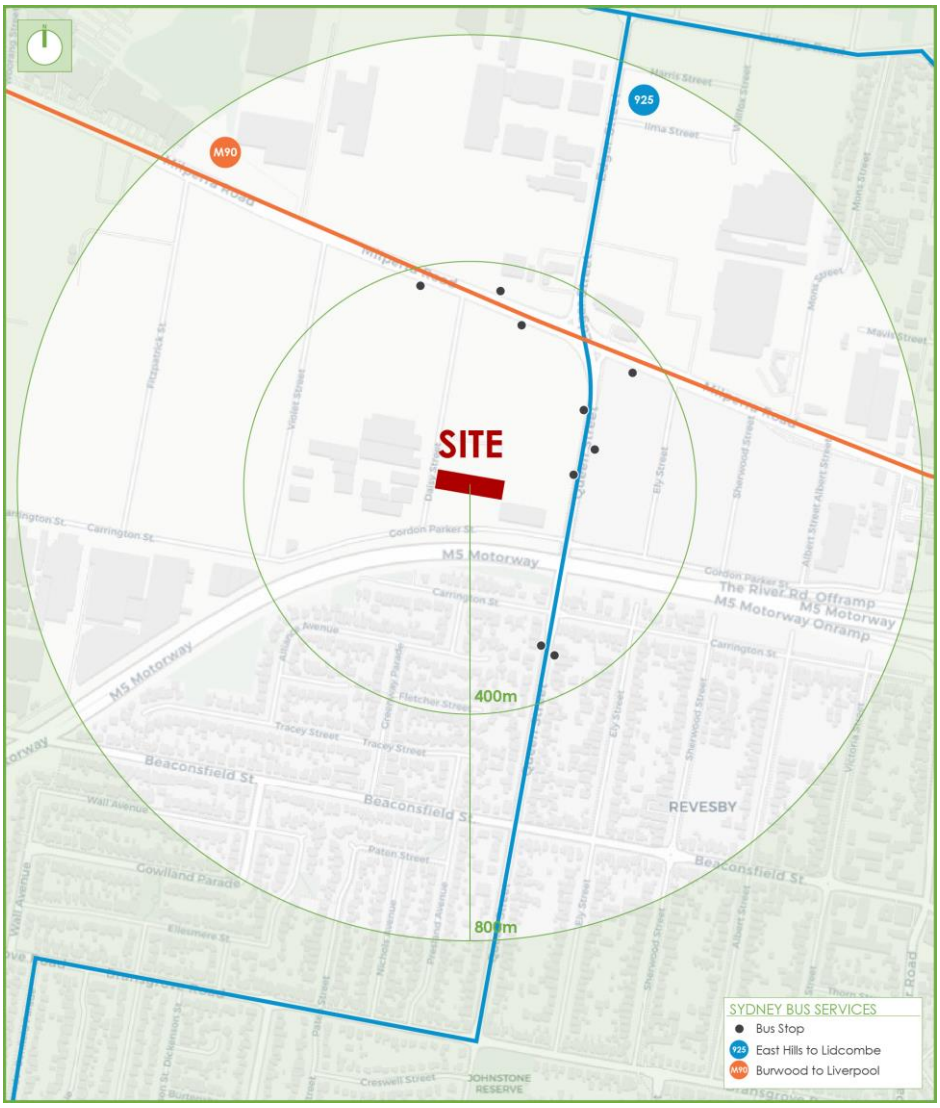


Figure 4: Public Transport

4.3 Key Intersections

The key intersections in the vicinity of the subject site are summarised as follows:

- Milperra Road / Queen Street / Edgar Street
- Queen Street / Gordon Parker Street

The key features of the above intersections are summarised below.

4.3.1 Milperra Road / Queen Street / Edgar Street

Figure 5. Intersection of Milperra Road and Queen Street and Edgar Street

As shown in **Figure 5** the intersection of Milperra Road / Queen Street / Edgar Street is a major signalised intersection. The main attributes of each approach are summarised below:

- Milperra Road
  - The western approach provides three (3) eastbound through traffic lanes, one (1) dedicated right-turn lane onto Queen Street, and one (1) priority-controlled left turn slip lane onto Edgar Street, southbound. A dedicated 'Bus Only' lane is provided past the priority-controlled left turn slip lane.

- The eastern approach provides three (3) westbound through traffic lanes, one (1) dedicated right-turn lane onto Edgar Street northbound, and one (1) priority-controlled left turn slip lane onto Edgar Street, southbound.

- Queen Street
  - The southern approach provides two (2) northbound through traffic lanes, one (1) dedicated right-turn lane onto Milperra Road eastbound, and one (1) priority-controlled left turn slip lane onto Milperra Road, westbound.

- Edgar Street
  - The northern approach provides one (1) southbound through traffic lane, two (2) dedicated right-turn lanes onto Milperra Road westbound, and one (1) priority-controlled left turn slip lane onto Milperra Road, eastbound.

4.3.2 Queen Street / Gordon Parker Street

Figure 6. Intersection of Queen Street and Gordon Parker Street

It can be seen from **Figure 6** the intersection of Queen Street and Gordon Parker Street is a priority-controlled four-leg intersection. The main attributes of each approach are outlined below:

- Queen Street
  - The northern approach provides one (1) southbound through traffic lane and one (1) dedicated right-turn lane onto Gordon Parker Street westbound.
  - The southern approach provides one (1) northbound through traffic lane and one dedicated right-turn lane onto Gordon Parker Street eastbound.
- Gordon Parker Street
  - The western approach provides one (1) left turn lane and one (1) right turn lane onto Queen Street.
  - The eastbound approach provides one (1) left turn lane only onto Queen Street.

5. KEY FEATURES OF THE PROPOSAL

A detailed description of the proposed development is provided in the Statement of Environmental Effects prepared separately. In summary, the development for which approval is now sought is for a tyre recycling facility comprising the following:

- Increase in the receival limit of tyres from 14,600 tonnes per year (existing/approved) to 29,900 tonnes per year (proposed).
- Retention of the following existing (approved) vehicular access driveways via Daisy Street:
  - Northern driveway: Passenger vehicle combined entry/egress driveway.
  - Southern driveway: Heavy vehicle combined entry/egress driveway.
- Retention of 11 existing (approved) at-grade parking spaces.
- No changes to the existing (approved) staff shift arrangements as follows:
  - Morning shift: 6:00am-3:00pm
  - Evening shift: 3:00pm-11:00pm
- Reconfiguration of the rear hardstand area comprising the following:
  - Decommissioning of the tyre baling machines located under the rear awning.
  - Alternative positioning of existing shipping containers for storage of rubber products;
  - Installation of two (2) mobile diesel shredding units
  - Establishment of a dedicated area for tyre unloading and temporary storage;
  - Installation of a pre-cast concrete panel wall along the southern boundary of the site;
  - Loading area accommodating vehicles up to a 19.0m Articulated Vehicles (AV) which is the largest vehicle requiring access to the subject site in accordance with existing approvals.
- Retention of the existing (approved) operational hours of the site as follows:
  - Monday to Friday 6:00am-11:00pm.
  - Saturday 8:00am-5:00pm.
  - Sunday 9:00am-4:00pm.

The parking and traffic impacts arising from the development are discussed in **Section 5** and **Section 6**. Reference should be made to the plans submitted separately to Council which are presented at reduced scale in **Appendix B**.

6. PARKING REQUIREMENTS

6.1 Council Controls

The Canterbury Bankstown Development Control Plan (DCP) 2023, Chapter 3.2 (Amended August 2024) requires parking for Industries to be provided by the rates shown in **Table 1** below:

Table 1: Canterbury Bankstown Council DCP 2023 Parking Rates and Provision

Type	GFA*	Parking Rate	Spaces Required	Spaces Provided
Industries, (including ancillary Office)	405m^2	1 space per 100m^2 GFA.	4	11
Totals			**4**	**11**

It can be seen from **Table 1** the subject development is nominally required to provide four (4) staff car parking spaces in accordance with Council's DCP 2023. In response, a total of 11 staff parking spaces are provided which exceeds Council's parking requirements and ensures all parking demands will continue to be accommodated onsite.

6.2 Accessible Parking

The Canterbury Bankstown Development Control Plan (DCP) 2023, Chapter 3.2 (Amended August 2024) Section 2.7 provides the following accessible parking rates for commercial and industrial premises (BCA Classes 5-8) where development contains 10 or more car spaces:

- 1 accessible car space per 50 car spaces for staff;
- 1 accessible car space for visitors per 50 car spaces where a car park has less than 500 car spaces;
- 1 additional accessible car space per 100 car spaces above 500 car spaces for visitors.

Based on the above, the subject development would be required to provide a minimum of one (1) accessible parking space with shared space and bollard as per AS2890.6 (2022) requirements. In response, accessible parking spaces are not provided which is considered acceptable in the circumstances given the subject site 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 needs basis, as as required.

6.3 Bicycle Parking

Council's DCP requires bicycle parking to be provided in accordance with Chapter 3.2 (Amended August 2024) for industries by the following rates:

- Staff Parking: 1 space per 20 staff

There will be no more than 10 staff onsite at any one time. Therefore, the proposed development requires one (1) bicycle parking to be provided and one (1) bicycle parking space is provided in response, thereby complying with Council's DCP bicycle parking requirements.

6.4 Waste Collection and Servicing

All servicing requirements are to be accommodated onsite and managed internally. 19.0m Articulated Vehicles (AV's) are the largest vehicles requiring access to the subject site. Reference should be made to the swept path analysis provided in **Appendix C** showing the satisfactory operation of 19.0m AV's entering and exiting the subject site in a forward direction by undertaking a 3-point turn onsite in accordance with the requirements of AS2890.2 (2018).

7. TRAFFIC AND TRANSPORT IMPACTS

7.1 Overview

Reference should be made to the vehicle movement schedule provided in **Appendix D**. External traffic impacts during the weekday morning and afternoon network peak have been assessed in order to determine traffic impacts during peak periods.

7.2 Existing Site Generation

The existing tyre recycling facility currently generates the following light vehicles (staff) only trips during the network peaks between 7:30am-9:30am and 4:00pm-6:00pm in accordance with the vehicle movement schedule provided in **Appendix D:**

- Morning Peak: Maximum 3 vehicle trips per hour (3 in, 0 out);
- Afternoon Peak: Maximum 3 vehicle trips per hour (0 in, 3 out)

7.3 Proposed Traffic Generation

7.3.1 Commercial Vehicles

- Morning Peak: Maximum 6 vehicle trips per hour (3 in, 3 out);
- Afternoon Peak: Maximum 2 vehicle trip per hour (1 in, 1 out).

7.3.2 Light Vehicles (Staff)

- Morning Peak: Maximum 3 vehicle trips per hour (3 in, 0 out);
- Afternoon Peak: Maximum 3 vehicle trips per hour (0 in, 3 out).

7.3.3 Net Traffic Generation

Based on the above, the net traffic generation is summarised as follows:

- Morning peak period additional vehicle trips: +6 vehicle trips (+3 in, +3 out)
- Afternoon peak period additional vehicle trips: +2 vehicle trips (+1 in, +1 out).

7.4 Truck Routes

The proposed truck routes presented in **Figure 7** below are the most direct routes to and from the M5 Motorway, thereby minimising residential impacts.

- Routes to site (*Inbound*)
  1. Trucks will arrive on M5 Motorway, westbound.
  2. Turn right onto The River Road, northbound.
  3. Turn left onto Milperra Road, westbound.
  4. Turn left onto Daisy Street, southbound.
  5. Turn left into Tyre Recycling Facility site.

- Routes from site (*Outbound*)
  1. Trucks will depart left onto Daisy Street, southbound.
  2. Turn left onto Gordon Parker Street, eastbound.
  3. Turn left onto Queen Street, northbound.
  4. Turn right onto Milperra Road, eastbound.
  5. Turn right onto The River Road, southbound.
  6. Turn left onto M5 Motorway, eastbound.

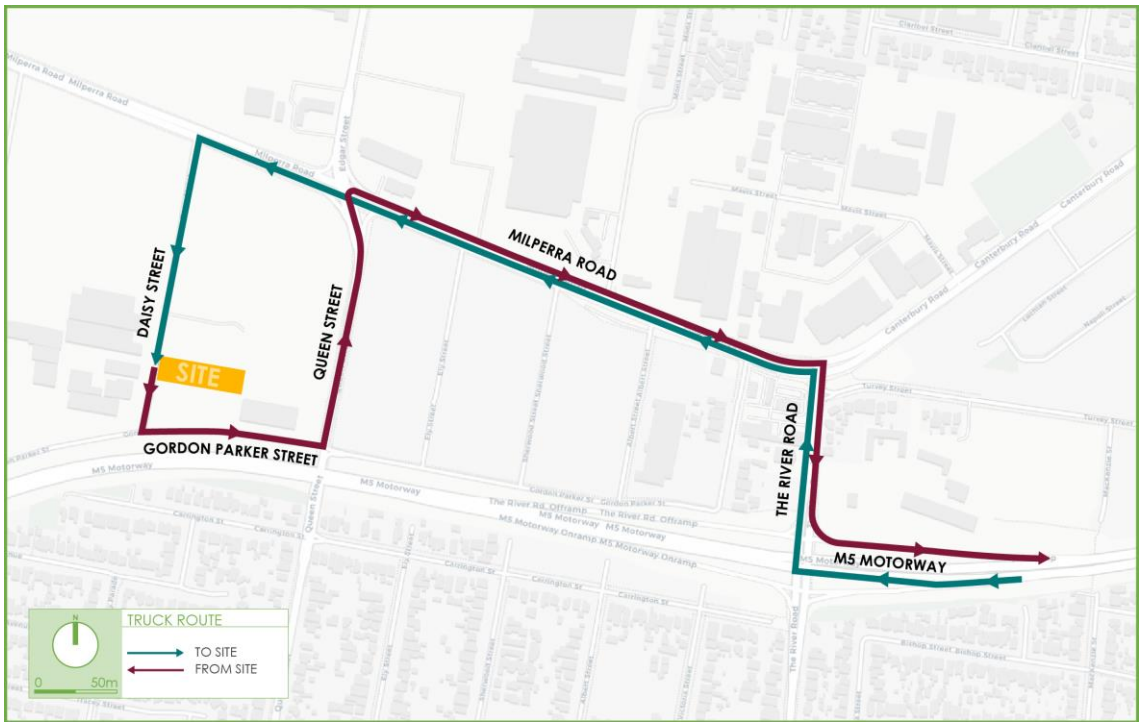


Figure 7: Truck Routes

Swept path analysis of 19.0m has also been undertaken for specific manoeuvre in and out of the site provided in **Appendix C.**

7.5 Traffic Surveys

For the purposes of assessing traffic impacts of the proposed development, traffic surveys were undertaken of two (2) key intersections as discussed in **Section 3.3** above. The surveys were undertaken during the peak periods between 7:30AM to 9:30AM and 4:00PM to 6:00PM on Wednesday 7thAugust 2024.

7.6 Traffic Distribution

The adopted traffic split for the development is based on the truck routes provide in Section 6.4 summarised as follows:

- 100% of traffic will approach and exit the subject site from Milperra Road (East)
- 100% of traffic will approach the subject site via turning left from Milperra Road onto Daisy Street
- 100% of traffic will exit the subject site by turning left to Gordon Parker Street from Daisy Street and onto Queen Street.

Reference should be made to the traffic distribution diagrams presented in **Figure 8** and **Figure 9** below showing the development traffic flows for each key intersection, respectively.

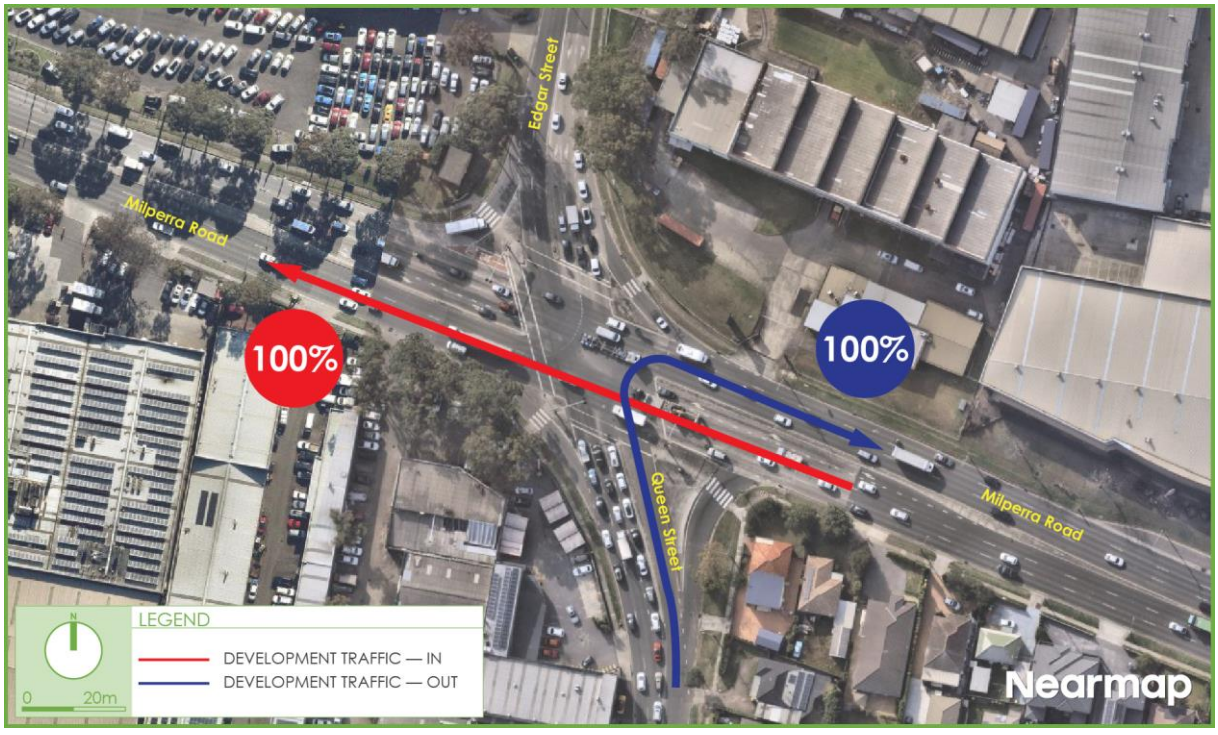


Figure 8. Traffic Distribution at Milperra Road and Queen Street and Edgar Street Intersection

Figure 9. Traffic Distribution at Queen Street and Gordon Parker Street Intersection

7.7 Peak Period Intersection Performance

7.7.1 Modelling Scenarios

In order to assess the potential traffic impacts of the proposed development, the following scenarios were assessed:

- 2024 Base Case; and
- 2024 Base Case plus Development.

7.7.2 SIDRA Intersection Analysis

As previously mentioned, traffic surveys were undertaken of the intersections mentioned above, which are considered to be most critical in relation to the site.

The traffic volumes in these surveys formed the base case volumes for software modelling undertaken to assess intersection performance characteristics under existing traffic conditions. The SIDRA model produces a range of outputs, the most useful of which are the degree of saturation (DoS) and average vehicle delay per vehicle (AVD). The AVD is in turn related to a

level of service (LoS) criteria. These performance measures can be interpreted using the following explanations:

DoS the DoS is a measure of the operational performance of individual intersections. As both queue length and delay increase rapidly as DoS approaches 1, it is usual to attempt to keep DoS to less than 0.9. When DoS exceeds 0.9 residual queues can be anticipated, as occurs at many major intersections throughout the metropolitan area during peak periods. In this regard, a practical limit at 1.1 can be assumed. For intersections controlled by roundabout or give way / stop control, satisfactory intersection operation is generally indicated by a DoS of 0.8 or less.

AVD the AVD for individual intersections provides a measure of the operational performance of an intersection. In general, levels of acceptability of AVD for individual intersections depend on the time of day (motorists generally accept higher delays during peak commuter periods) and the road system being modelled (motorists are more likely to accept longer delays on side streets than on the main road system).

LoS this is a comparative measure which provides an indication of the operating performance of an intersection as shown in **Table 2** below.

Table 2: Intersection Performance Indicators (TfNSW)

Level of Service (LoS)	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way, Stop Signs
A	less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity, at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode
F	More than 70	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment.

The traffic impacts arising from the proposed development during the morning and evening peak periods have been assessed using SIDRA Intersection model 9.1. The results are

summarised in **Table 3** below, with detailed outputs provided in **Appendix E** for individual lanes and approaches.

Table 3: Existing and Development Intersection Performance

Intersection	Period	Scenario	Degree of Saturation	Average Delay	Level of Service
Milperra Road / Queen Street / Edgar Street (Signalised)	AM	Existing	0.933	51.3	D
		Existing + Development	0.897	51.2	D
	PM	Existing	0.966	46.3	D
		Existing + Development	0.966	46.7	D
Queen Street / Gordon Parker Street (Priority-Controlled)	AM	Existing	2.336	1344.7	F
		Existing + Development	2.336	1344.7	F
	PM	Existing	2.975	1887.8	F
		Existing + Development	2.975	1887.8	F

It can be seen from **Table 3** that the signalised intersection of Milperra Road / Queen Street / Edgar Street operates at Level of Service (LoS) 'D' during both peaks for the existing and development scenarios with an average delay of 51.3 seconds during the existing morning scenario, 51.2 seconds during the development morning scenario and 46.7 seconds during the development afternoon scenario.

The priority controlled intersection of Queen Street / Gordon Street/ Parker Street operates at Level of Service (LoS) 'F' during both peaks for the existing and development scenarios with an average delay of 1344.7 seconds during both morning scenarios, and 1887.8 seconds during both afternoon scenarios.

It is emphasised there are no changes to the existing LoS during both morning and afternoon peaks for both intersections with minimal (if any) changes to the average delays with respect to the proposed development. In other words, the vehicle trips generated by the proposed development will have negligible impacts to the operation of both intersections which will continue to operate consistently with existing intersection performance parameters. Therefore, intersection upgrades are not warranted on account of the proposed development.

8. ACCESS AND INTERNAL DESIGN ASPECTS

8.1 Vehicular Access

The proposed development proposes to retain the existing (approved) vehicular access via Daisy Street with no changes proposed to the existing (approved) arrangements in this regard. Reference should be made to the swept path analysis presented in **Appendix C** showing the satisfactory operation of the existing access driveway which is able to accommodate 19.0m Articulated Vehicles being the largest vehicles requiring access to the site.

8.2 Internal Design

The internal car park complies with the requirements of AS 2890.1 (2004), AS 2890.2 (2018), and AS 2890.6 (2022), with the following characteristics noteworthy:

- All standard car parking spaces have been designed in accordance with User Class 1A being for employee parking. These spaces are provided with a minimum space length of 5.4m, a minimum width of 2.4m and a minimum aisle width of 5.8m.
- All spaces located adjacent to obstructions of greater than 150mm in height are provided with an additional width of 300mm.
- All accessible spaces have been designed in accordance with AS 2890.6 (2022), being 2.4m wide, 5.4m long and situated immediately adjacent to a dedicated shared area or the circulating aisle.
- All swept paths operate satisfactorily in accordance with AS2890 as shown by the Swept Path Analysis presented in **Appendix C**.

8.3 Summary

In summary, the internal configuration of the car park has been designed in accordance with AS 2890.1 (2004), AS 2890.2 (2018) and AS 2890.6 (2022).

9. CONCLUSIONS

In summary:

- The proposal seeks approval for an increase in the receival limit of tyres from 14,600 tonnes per year (existing/approved) to 29,900 tonnes per year (proposed) as well as changes to the internal configuration of the subject site.
- The subject development is well connected to the surrounding local and regional road network and access to public transport services as discussed in **Section 3.**
- The proposed development provides 11 car parking spaces within an at-grade carpark thereby satisfying the requirements of Council's DCP as discussed in **Section 5**.
- The traffic generation arising from the development has been assessed as a net increase over existing conditions and equates to an additional six (6) vehicle trips per hour (+3 in, +3 out) during the morning and an additional two (2) vehicle trip per hour(+1 in, 1 out) during the evening peak hour which is considered a minor increase with no noticeable impacts to nearby intersection performance based on SIDRA Intersection modelling as discussed in **Section 6.**
- The at-grade car park and internal circulation areas have been assessed to comply with the requirements of AS 2890.1 (2004), AS 2890.2 (2018) and AS 2890.6 (2022), thereby ensuring safe and efficient operation.

This traffic impact assessment therefore demonstrates that the subject application is supportable on traffic planning grounds.

APPENDIX A

Photographic Record

View looking east along Daisy Street towards the subject site access driveway.

View looking east along Daisy Street towards the subject site access driveway.

View looking west along Gordon Parker Street towards its intersection with Daisy Street.

View looking east along Gordon Parker Street towards its intersection with Queen Street.

View looking east along Queen Street towards its intersection with Milperra Road.

View looking north along Queen Street towards its intersection with Milperra Road.

APPENDIX B

Plans

Alterations and Additions to an Existing Tyre Recycling Facility

30 Daisy Street, Revesby, NSW
(Lot 198, DP7866)

PROPERTY INFORMATION

- NATIONAL CONSTRUCTION CODE BUILDING CLASS WAREHOUSE CLASS 7B
- IN1 GENERAL INDUSTRIAL

GOVERNING CODES

- STATE ENVIRONMENTAL PLANNING POLICY (TRANSPORT AND INFRASTRUCTURE) 2021
- CANTERBURY-BANKSTOWN LOCAL ENVIRONMENTAL PLAN 2023
- CANTERBURY-BANKSTOWN DEVELOPMENT CONTROL PLAN 2023.

SCOPE OF WORK

ALTERATIONS, ADDITIONS AND EXPANSION OF AN EXISTING TYRE RECYCLING FACILITY

SHEET INDEX

DEVELOPMENT STATISTICS	
LOT AREA:	4,043 SQMT
GROUND FLOOR AREA OF MAIN SHED:	360 SQMT
GROUND FLOOR AREA OF OFFICE IN MAIN SHED:	14.5 SQMT
FIRST FLOOR OFFICE OF MAIN SHED:	30.5 SQMT
GROUND FLOOR OF REAR SHED:	831 SQMT
TOTAL PROPOSED PARKING SPACES:	11 PARKING SPACES

Date	Plan Number	Cover Page
17-09-2024	101	30 Daisy Street, Revesby NSW, 2212 (Lot 198, DP7866)

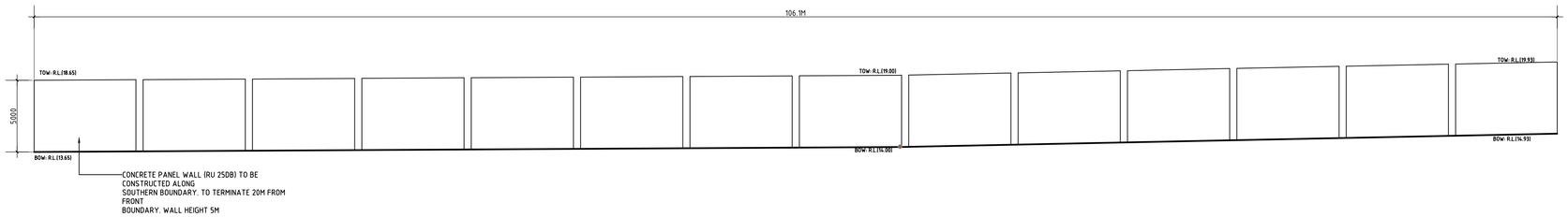
JEP Environment & Planning
Strategy | Approvals | Compliance | Licensing
A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060
E: admin@jacksonenvironment.com.au
T: 02 8056 1849
W: http://www.jacksonenvironment.com.au

JEP ENVIRONMENT & PLANNING

Client	BSV Tyre Recycling Australia Pty Ltd
Project	Alterations and Additions to an Existing Tyre Recycling Facility
Title	Cover Page
Scale	N/A
Source	JEP Environment & Planning

101

DA



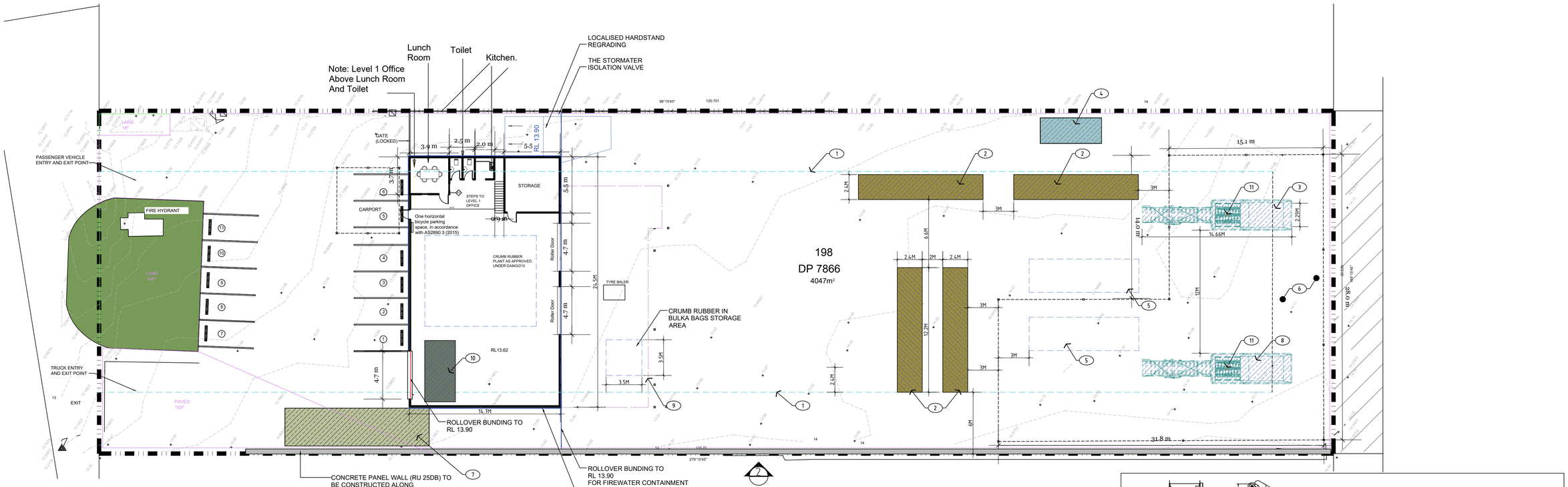
SYMBOLS LEGEND

NOTE: PROPOSE SITE CHANGES ARE SHOWN IN BLUE

1	6M BUFFER ZONE
2	SHIPPING CONTAINER FOR TYRE OR TDF STORAGE
3	HAMMEL MOBILE SHREDDER FOR TRUCK TYRES
4	WASTE SKIP BIN
5	TYRE DROP OFF AREA
6	OPEN SIDED SHED STRUCTURE
7	EXISTING WEIGHBRIDGE
8	TANA MOBILE SHREDDER
9	AWNING
10	NEW WEIGHBRIDGE OFFICE
11	LOCALIZED HOOD AND VENTILATION TO 1M DISCHARGE STACK TO ROOF OF SHED

2 PROPOSED NOISE WALL ELEVATION

SCALE 1:200 @ A1

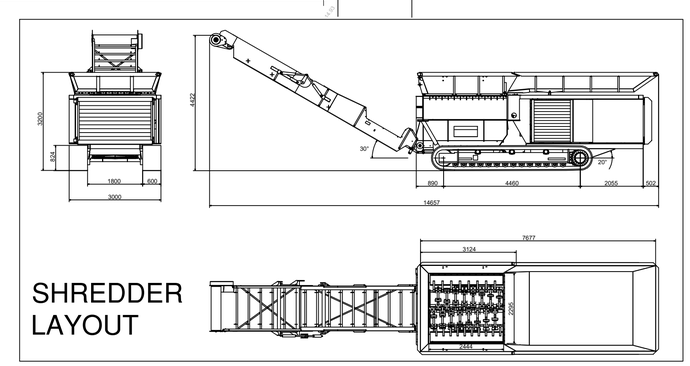


STORMWATER CATCHMENT AREA PLAN

TOTAL SITE CATCHMENT AREA	= 4,048 m2
ROOF AREA	= 1,276 m2
PAVEMENT AREA	= 2,608 m2
LANDSCAPE AREA	= 164 m2

1 PROPOSED SITE PLAN

SCALE 1:200 @ A1



Date	Plan Number	Site Location
17-09-2024	102	30 Daisy Street, Revesby NSW, 2212 (Lot 198, DP7866)

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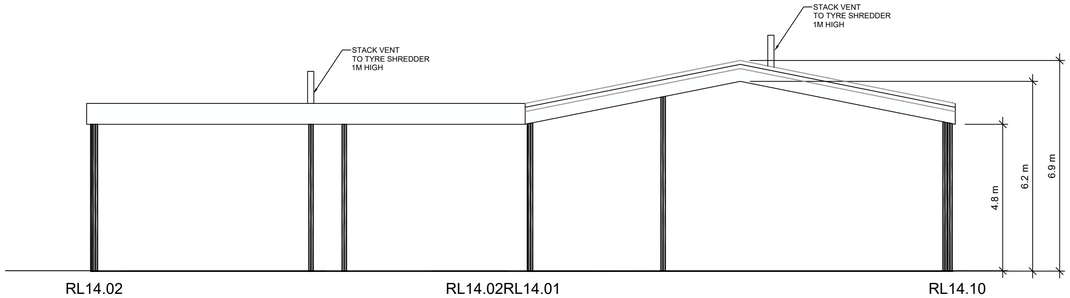
T: 02 8056 1849
W: http://www.jacksonenvironment.com.au

JEP ENVIRONMENT & PLANNING

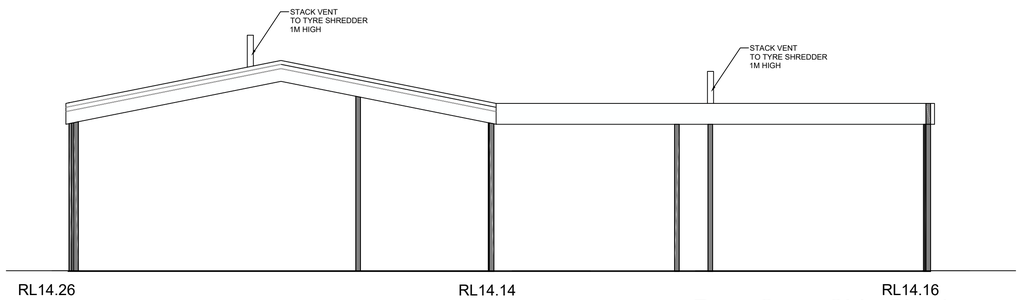
Client	BSV Tyre Recycling Australia Pty Ltd
Project	Alterations and Additions to an Existing Tyre Recycling Facility
Title	Site Plan
Scale	1:200
Source	JEP Environment & Planning

102

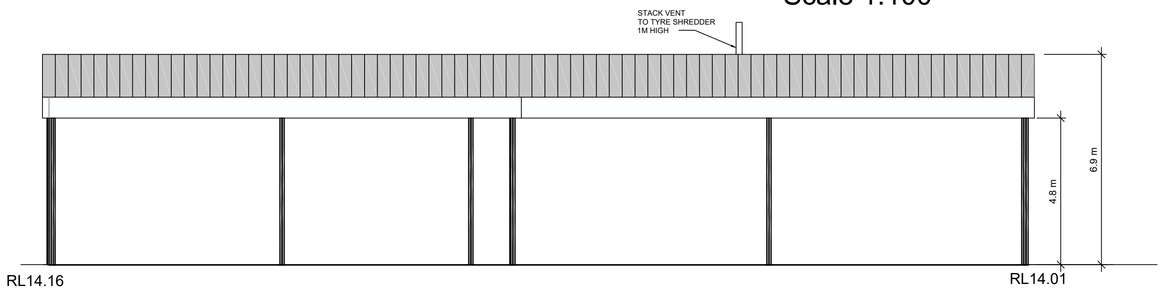
DA



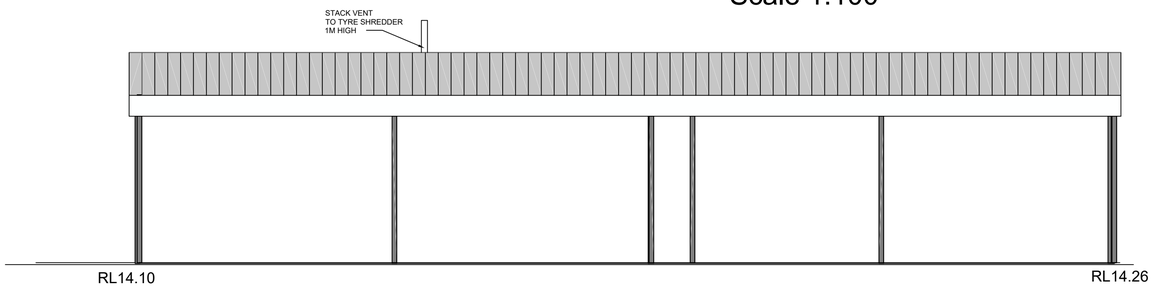
Rear Open Side Shed
Existing East Elevation
Scale 1:100



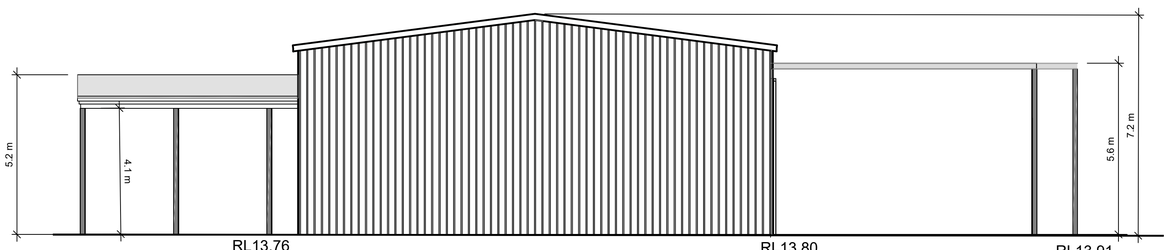
Rear Open Side Shed
Existing West Elevation
Scale 1:100



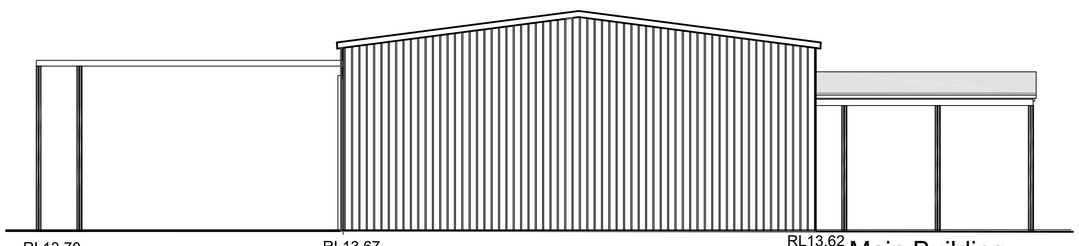
Rear Open Side Shed
Existing South Elevation
Scale 1:100



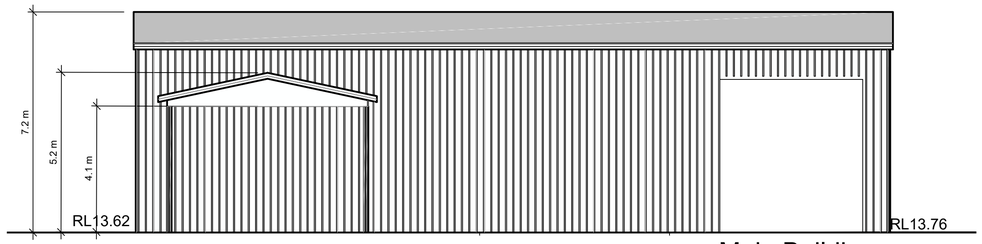
Rear Open Side Shed
Existing North Elevation
Scale 1:100



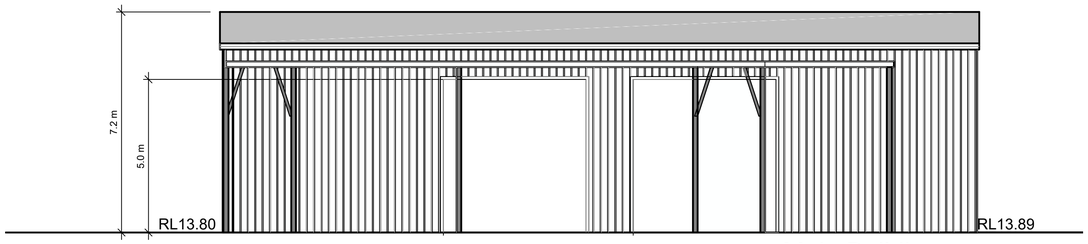
Main Building
Existing North Elevation
Scale 1:100



Main Building
Existing South Elevation
Scale 1:100



Main Building
Existing East Elevation
Scale 1:100



Main Building
Existing West Elevation
Scale 1:100

Date	Plan Number	Site Location
17-09-2024	103	30 Daisy Street, Revesby NSW, 2212 (Lot 198, DP7866)

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E: admin@jacksonenvironment.com.au
T: 02 8056 1849
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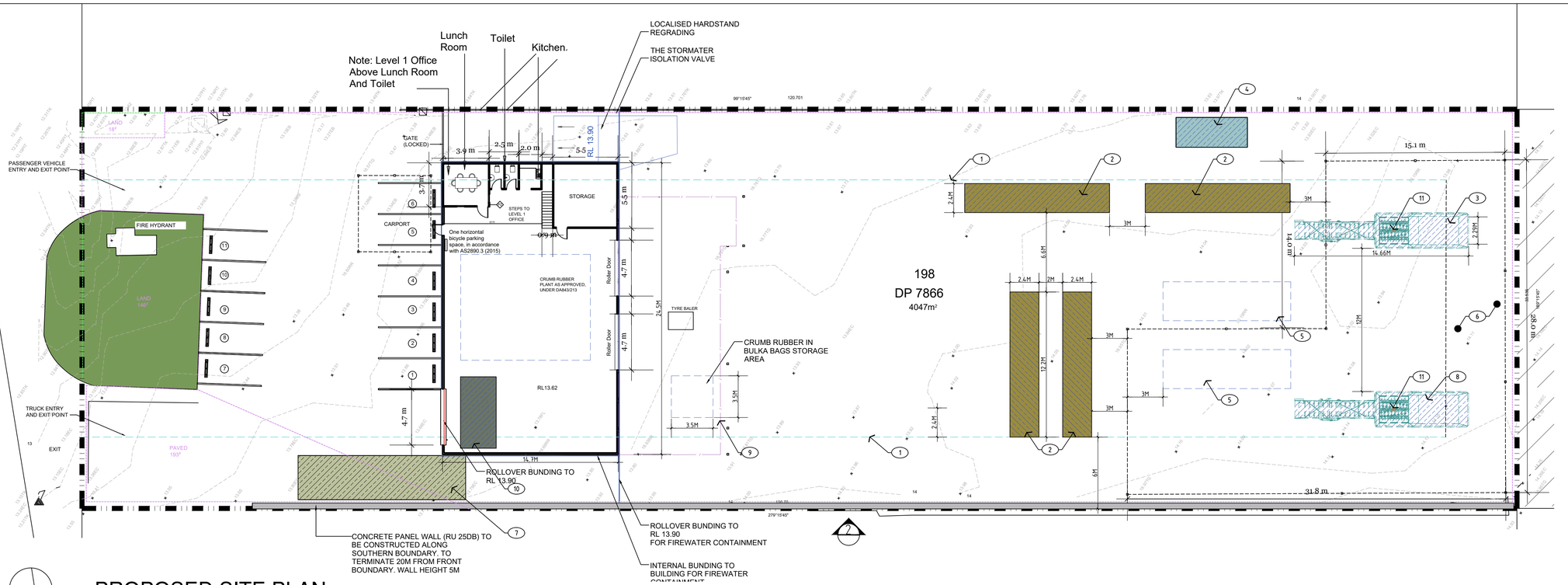
JEP ENVIRONMENT & PLANNING

Client	BSV Tyre Recycling Australia Pty Ltd
Project	Alterations and Additions to an Existing Tyre Recycling Facility
Title	Existing Elevations
Scale	1:100
Source	JEP Environment & Planning

103

DA



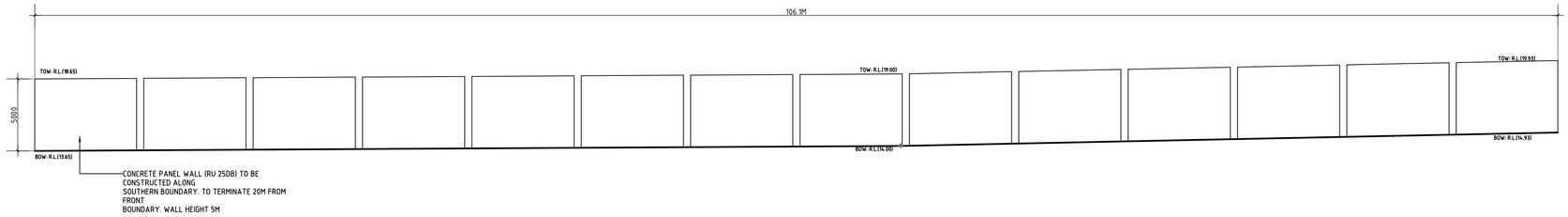
SYMBOLS LEGEND		
NOTE: PROPOSE SITE CHANGES ARE SHOWN IN BLUE		
1		6M BUFFER ZONE
2		SHIPPING CONTAINER FOR TYRE OR TDF STORAGE
3		HAMMEL MOBILE SHREDDER FOR TRUCK TYRES
4		WASTE SKIP BIN
5		TYRE DROP OFF AREA
6		OPEN SIDED SHED STRUCTURE
7		EXISTING WEIGHBRIDGE
8		TANA MOBILE SHREDDER
9		AWNING
10		NEW WEIGHBRIDGE OFFICE
11		LOCALIZED HOOD AND VENTILATION TO 1M DISCHARGE STACK TO ROOF OF SHED

STORMWATER CATCHMENT AREA PLAN

TOTAL SITE CATCHMENT AREA	= 4,048 m2
ROOF AREA	= 1,276 m2
PAVEMENT AREA	= 2,608 m2
LANDSCAPE AREA	= 164 m2

1 PROPOSED SITE PLAN

SCALE 1:200 @ A1

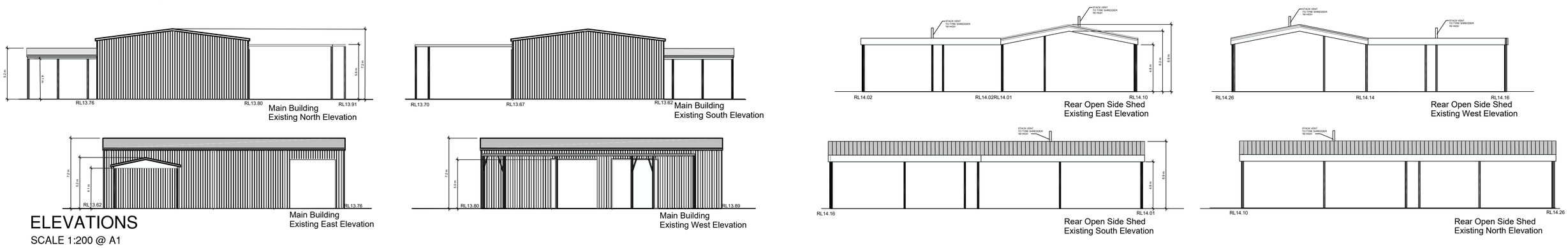


2 PROPOSED NOISE WALL ELEVATION

SCALE 1:200 @ A1

ELEVATIONS

SCALE 1:200 @ A1



Date	Plan Number	Site Location
17-09-2024	105	30 Daisy Street, Revesby NSW, 2212 (Lot 198, DP7866)

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	Alterations and Additions to an Existing Tyre Recycling Facility
Title	Notification Plan
Scale	1:200
Source	JEP Environment & Planning

104

DA

APPENDIX C

Swept Path Analysis

GATE (LOCKED)

3.0 m

2.5 m

2.0 m

5.5

RL 13

STORAGE

STEPS TO LEVEL 1 OFFICE

CARPORT

One horizontal bicycle parking space, in accordance with AS2890.3 (2015)

0.9 m

CRUMB RUBBER PLANT AS APPROVED, UNDER DA843/213

Roller Door

Roller Door

5.5 m

4.7 m

4.7 m

24.5M

TYRE BALER

RL13.62

3.7 m

4.7 m

3.5M

3.5M

CRUMB RUBBER IN BULKA BAGS STORAGE AREA

198

DP 7866

4047m²

2.4M

3M

6.6M

2.4M

2M

2.4M

3M

12.2M

3M

6M

14.7M

ROLLOVER BUNDING TO RL 13.90

ROLLOVER BUNDING TO RL 13.90 FOR FIREWATER CONTAINMENT

CONCRETE PANEL WALL (RU 25DB) TO BE CONSTRUCTED ALONG

CONCRETE PANEL WALL (RU 25DB) TO BE CONSTRUCTED ALONG SOUTHERN BOUNDARY. TO TERMINATE 20M FROM FRONT

IRE HYDRANT

PAVED 193²

AV STANDARDS 2002 (AU)

279°15'45"

120.70

14

Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards *(AS/NZS 2890.1:2004 Parking facilities - Off-street car parking,* and/or *AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Swept Path Analysis	AS	19-09-24

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect

Client

BSV Tyre Recycling Australia Pty Ltd

Scale / Plan Orientation

0 2.5 5 7.5 10m

1:250 @ A3

Project Description

30 Daisy Street, Revesby

Drawing Prepared By

TRAFFIX

TRAFFIC AND TRANSPORT PLANNERS

Suite 2.08, 50 Holt Street
Surry Hills, NSW 2010
PO Box 1124
Strawberry Hills, NSW 2012

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w: www.traffix.com.au

Drawing Title

SWEPT PATH ANALYSIS
Proposed Site Plan
19.0m Articulated Vehicle (AV)
5-Point Turn Maneouvre
Top: Entry and Loading Position Bottom: Exit

Drawn:	Checked:	Date:
AS	JP	19-09-24

24.343d05v01 TRAFFIX [240918 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
24.343	DA	TX.01	A

APPENDIX D

Vehicle Movement Schedule

ESTIMATED TRAFFIC GENERATION BASED ON EXISTING DA843/2013

BSV Tyre Recycling - Revesby - Operational traffic

Time Period	Time of day	Staff vehicles		Traffic Levels (Incoming Tyres)	Outgoing Empty MRVs	Incoming MRVs To Pickup Crumb Rubber	Outgoing Loaded MRVs (Crumb Rubber)	Incoming Empty Semi-Trailers	Outgoing Loaded Semi-Trailers (Baled Tyres)
		Incoming	Outgoing	Medium Rigid Vehicles	Medium Rigid Vehicles	Medium Rigid Vehicles	Medium Rigid Vehicles	Semi Trailers	Semi Trailers
Night	12:00am to 1:00am								
	1:00am to 2:00am								
	2:00am to 3:00am								
	3:00am to 4:00am								
	4:00am to 5:00am								
	5:00am to 6:00am	2							
	6:00am to 7:00am	3		1	1				
Day	7:00am to 8:00am								
	8:00am to 9:00am	3							
	9:00am to 10:00am								
	10:00am to 11:00am			1	1				
	11:00am to 12:00pm							1	1
	12:00pm to 1:00pm								
	1:00pm to 2:00pm					1	1		
	2:00pm to 3:00pm	5	2	1	1				
	3:00pm to 4:00pm		3						
	4:00pm to 5:00pm								
	5:00pm to 6:00pm		3						
Evening	6:00pm to 7:00pm	2		1	1				
	7:00pm to 8:00pm							1	1
	8:00pm to 9:00pm								
	9:00pm to 10:00pm								
Night	10:00pm to 11:00pm		7	1	1				
	11:00pm to 12:00am								
	Totals	15	15	5	5	1	1	2	2
	Total number of staff vehicles per day (Incoming and Outgoing)	30							
	Total number of trucks per day(Incoming and Outgoing)	16							

PROPOSED TRAFFIC GENERATION (BASED ON ANNUAL PROCESSING CAPACITY OF 29,900 TONNES PER YEAR)

BSV Tyre Recycling - Revesby - Operational traffic

Time Period	Time of day	Staff vehicles		Incoming Loaded MRVs (Incoming Tyres)	Outgoing Empty MRVs	Incoming Loaded Semi Trailers (Incoming Tyres)	Outgoing Empty Semi Trailers	Incoming empty MRVs To Pickup Crumb Rubber	Outgoing Loaded MRVs (Crumb Rubber)	Incoming empty Semi Trailers To Pickup TDF	Outgoing loaded Semi Trailers (TDF)
		Incoming	Outgoing	Medium Rigid Vehicles	Medium Rigid Vehicles	Semi Trailers	Semi Trailers	Medium Rigid Vehicles	Medium Rigid Vehicles	Semi Trailers	Semi Trailers
Night	12:00am to 1:00am										
	1:00am to 2:00am										
	2:00am to 3:00am										
	3:00am to 4:00am										
	4:00am to 5:00am										
	5:00am to 6:00am	3									
	6:00am to 7:00am	3		1	1						
Day	7:00am to 8:00am					1	1				
	8:00am to 9:00am	3		2	2						
	9:00am to 10:00am									1	1
	10:00am to 11:00am			2	2						
	11:00am to 12:00pm					1	1				
	12:00pm to 1:00pm			2	2						
	1:00pm to 2:00pm							1	1		
	2:00pm to 3:00pm	6	3	2	2					1	1
	3:00pm to 4:00pm		3			1	1				
	4:00pm to 5:00pm			1	1						
	5:00pm to 6:00pm		3								
Evening	6:00pm to 7:00pm	2		1	1						
	7:00pm to 8:00pm					1	1				
	8:00pm to 9:00pm									1	1
	9:00pm to 10:00pm			1	1						
Night	10:00pm to 11:00pm		8	1	1					1	1
	11:00pm to 12:00am										
	Totals	17	17	13	13	4	4	1	1	4	4
	Total number of staff vehicles per day (Incoming and Outgoing)	34									
	Total number of trucks per day(Incoming and Outgoing)	44									

Plus Staff Vehicles	20/day
Other vehicles	1 fuel truck/week
	1 skip bin truck/month

Currently employs 15 people. 2 additional jobs to be created
No diesel stored onsite. Tanker brought onsite for refueling.
Collects skip bin containing steel removed from tyres

Note: Deliveries and collections to occur between 04:30 and 23:00 7 days/week
*Based on the truck movements if the facility was operating at maximum approved capacity

APPENDIX E

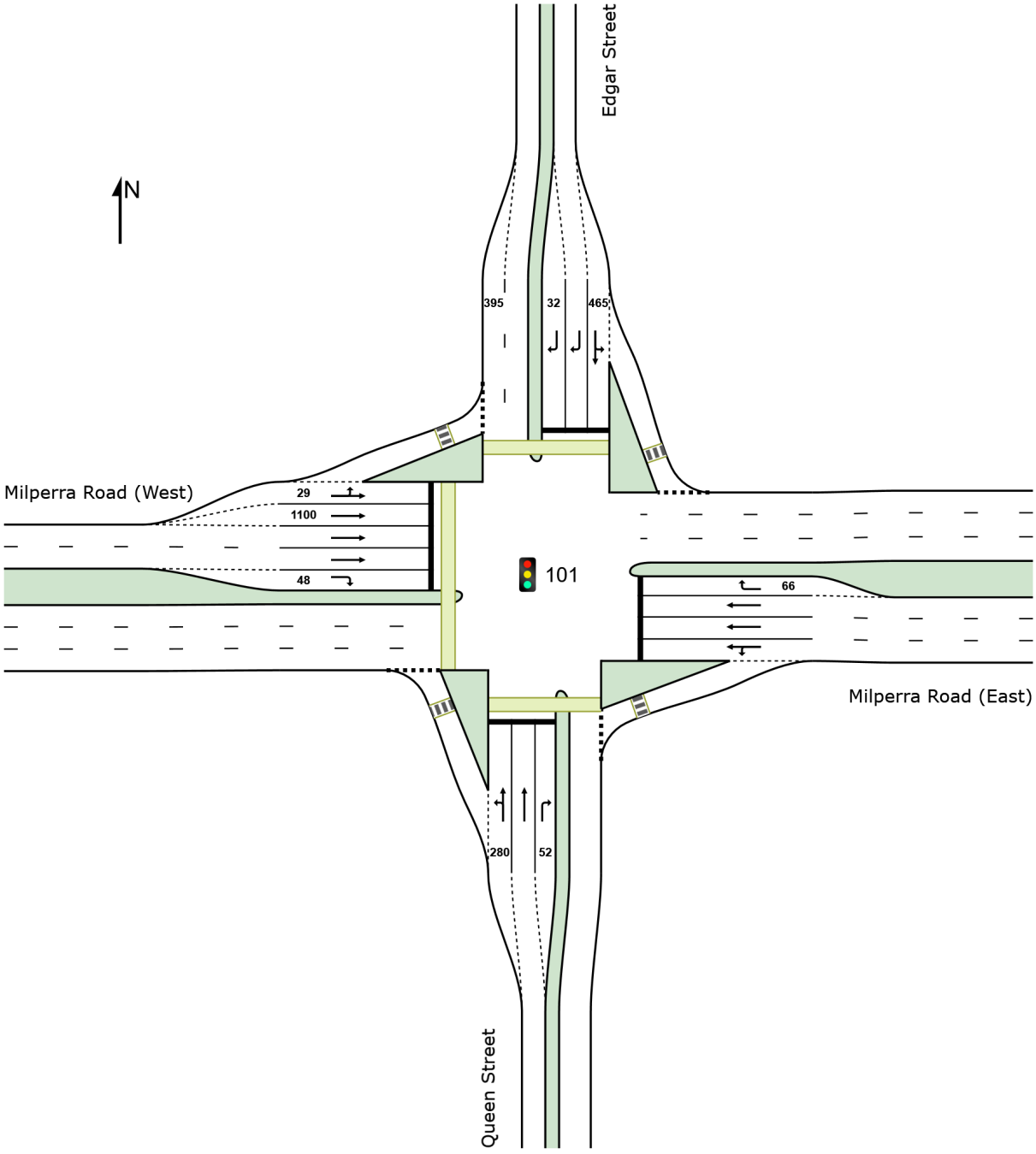
SIDRA Modelling Results

SITE LAYOUT

Site: 101 [Milperra Road/Queen Street/Edgar Street - AM Peak (Site Folder: 2024 Base)]

Milperra Road/Queen Street/Edgar Street Signalised Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Milperra Road/Queen Street/Edgar Street - AM Peak (Site Folder: 2024 Base)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Milperra Road/Queen Street/Edgar Street Signalised Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Queen Street															
1	L2	All MCs	113	11.2	113	11.2	0.705	10.9	LOS A	17.0	125.4	0.94	0.88	0.94	45.2
2	T1	All MCs	564	3.9	564	3.9	0.705	51.2	LOS D	17.0	125.4	0.95	0.86	0.96	33.8
3	R2	All MCs	194	14.1	194	14.1	* 0.933	89.9	LOS F	13.8	108.3	1.00	1.07	1.45	22.9
Approach			871	7.1	871	7.1	0.933	54.6	LOS D	17.0	125.4	0.96	0.91	1.07	31.1
East: Milperra Road (East)															
4	L2	All MCs	24	47.8	24	47.8	0.150	11.4	LOS A	1.5	13.3	0.83	0.68	0.83	40.6
5	T1	All MCs	99	14.9	99	14.9	* 0.150	47.3	LOS D	2.0	15.5	0.89	0.68	0.89	47.0
6	R2	All MCs	36	58.8	36	58.8	0.481	71.8	LOS F	2.2	23.4	1.00	0.74	1.00	27.7
Approach			159	29.8	159	29.8	0.481	47.4	LOS D	2.2	23.4	0.91	0.69	0.91	41.7
North: Edgar Street															
7	L2	All MCs	255	10.3	255	10.3	0.864	24.7	LOS B	35.1	258.7	0.97	1.05	1.07	35.2
8	T1	All MCs	397	3.4	397	3.4	* 0.864	53.1	LOS D	35.1	258.7	0.97	1.05	1.07	33.5
9	R2	All MCs	457	9.0	457	9.0	0.729	67.3	LOS E	12.8	96.7	0.97	0.87	1.04	41.6
Approach			1108	7.3	1108	7.3	0.864	52.4	LOS D	35.1	258.7	0.97	0.97	1.06	36.2
West: Milperra Road (West)															
10	L2	All MCs	69	43.9	69	43.9	0.082	11.4	LOS A	1.3	13.3	0.35	0.62	0.35	57.3
11	T1	All MCs	223	95.3	223	95.3	0.402	51.2	LOS D	4.0	50.8	0.93	0.74	0.93	44.5
12	R2	All MCs	89	10.6	89	10.6	* 0.526	43.4	LOS D	4.0	30.4	0.99	0.77	0.99	43.6
Approach			382	66.1	382	66.1	0.526	42.2	LOS C	4.0	50.8	0.84	0.73	0.84	46.2
All Vehicles			2520	17.6	2520	17.6	0.933	51.3	LOS D	35.1	258.7	0.94	0.89	1.02	36.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Queen Street												

P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
North: Edgar Street												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
West: Milperra Road (West)												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians		150	158	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Milperra Road/Queen Street/Edgar Street - AM Peak (Site Folder: 2024 Base + Development (v02))]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Milperra Road/Queen Street/Edgar Street Signalised Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Queen Street															
1	L2	All MCs	113	11.2	113	11.2	0.679	10.5	LOS A	16.7	123.2	0.93	0.90	0.93	44.8
2	T1	All MCs	564	3.9	564	3.9	0.679	50.8	LOS D	16.7	123.2	0.94	0.85	0.94	33.9
3	R2	All MCs	197	15.5	197	15.5	* 0.897	82.5	LOS F	13.3	105.7	1.00	1.02	1.35	24.1
Approach			874	7.5	874	7.5	0.897	52.7	LOS D	16.7	123.2	0.95	0.90	1.03	31.6
East: Milperra Road (East)															
4	L2	All MCs	24	47.8	24	47.8	0.148	10.4	LOS A	1.5	12.8	0.79	0.66	0.79	42.7
5	T1	All MCs	105	17.0	105	17.0	0.148	43.8	LOS D	1.9	15.4	0.88	0.67	0.88	47.9
6	R2	All MCs	36	58.8	36	58.8	* 0.562	74.1	LOS F	2.3	24.0	1.00	0.77	1.08	27.2
Approach			165	30.6	165	30.6	0.562	45.5	LOS D	2.3	24.0	0.89	0.69	0.91	42.5
North: Edgar Street															
7	L2	All MCs	255	10.3	255	10.3	0.868	25.2	LOS B	35.5	261.7	0.97	1.05	1.08	35.0
8	T1	All MCs	397	3.4	397	3.4	* 0.868	53.7	LOS D	35.5	261.7	0.97	1.05	1.08	33.3
9	R2	All MCs	457	9.0	457	9.0	0.729	67.3	LOS E	12.8	96.7	0.97	0.87	1.04	41.6
Approach			1108	7.3	1108	7.3	0.868	52.8	LOS D	35.5	261.7	0.97	0.97	1.06	36.1
West: Milperra Road (West)															
10	L2	All MCs	69	43.9	69	43.9	0.085	11.1	LOS A	1.3	13.0	0.35	0.62	0.35	57.5
11	T1	All MCs	223	95.3	223	95.3	* 0.402	51.2	LOS D	4.0	50.8	0.93	0.74	0.93	44.5
12	R2	All MCs	89	10.6	89	10.6	0.372	58.3	LOS E	4.9	37.2	0.95	0.78	0.95	39.1
Approach			382	66.1	382	66.1	0.402	45.6	LOS D	4.9	50.8	0.83	0.73	0.83	45.1
All Vehicles			2529	17.8	2529	17.8	0.897	51.2	LOS D	35.5	261.7	0.94	0.89	1.01	36.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Queen Street												

P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
North: Edgar Street												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
West: Milperra Road (West)												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians		150	158	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Milperra Road/Queen Street/Edgar Street - PM Peak (Site Folder: 2024 Base)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Milperra Road/Queen Street/Edgar Street Signalised Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Queen Street															
1	L2	All MCs	114	1.9	114	1.9	0.640	8.4	LOS A	10.6	75.6	0.95	0.81	0.95	48.1
2	T1	All MCs	396	2.4	396	2.4	0.640	48.8	LOS D	13.3	94.7	0.96	0.81	0.96	33.7
3	R2	All MCs	168	2.5	168	2.5	* 0.938	84.0	LOS F	12.0	85.5	1.00	1.07	1.48	23.3
Approach			678	2.3	678	2.3	0.938	50.8	LOS D	13.3	94.7	0.97	0.88	1.09	32.9
East: Milperra Road (East)															
4	L2	All MCs	161	5.9	161	5.9	0.357	12.8	LOS A	6.4	50.9	0.75	0.73	0.75	44.3
5	T1	All MCs	221	42.9	221	42.9	0.357	47.3	LOS D	6.4	50.9	0.89	0.74	0.89	47.4
6	R2	All MCs	164	9.0	164	9.0	* 0.966	92.5	LOS F	12.4	93.1	1.00	1.09	1.58	24.2
Approach			546	21.8	546	21.8	0.966	50.7	LOS D	12.4	93.1	0.88	0.84	1.05	38.0
North: Edgar Street															
7	L2	All MCs	204	5.2	204	5.2	0.944	39.7	LOS C	44.6	320.1	1.00	1.18	1.27	29.4
8	T1	All MCs	440	1.9	440	1.9	* 0.944	75.6	LOS F	44.6	320.1	1.00	1.18	1.27	27.1
9	R2	All MCs	544	2.3	544	2.3	0.749	37.4	LOS C	10.1	72.4	0.99	0.86	1.06	47.7
Approach			1188	2.7	1188	2.7	0.944	51.9	LOS D	44.6	320.1	1.00	1.03	1.17	36.9
West: Milperra Road (West)															
10	L2	All MCs	409	4.9	409	4.9	0.350	11.6	LOS A	6.8	50.5	0.36	0.68	0.36	58.6
11	T1	All MCs	200	35.3	200	35.3	* 0.350	49.6	LOS D	6.8	50.5	0.91	0.72	0.91	45.2
12	R2	All MCs	167	1.3	167	1.3	0.482	53.8	LOS D	8.9	62.7	0.94	0.81	0.94	40.5
Approach			777	11.9	777	11.9	0.482	30.5	LOS C	8.9	62.7	0.63	0.72	0.63	50.2
All Vehicles			3189	8.1	3189	8.1	0.966	46.3	LOS D	44.6	320.1	0.88	0.89	1.00	39.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Queen Street												

P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
North: Edgar Street												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
West: Milperra Road (West)												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians		150	158	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Milperra Road/Queen Street/Edgar Street - PM Peak (Site Folder: 2024 Base + Development (v02))]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Milperra Road/Queen Street/Edgar Street Signalised Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Queen Street															
1	L2	All MCs	114	1.9	114	1.9	0.640	8.4	LOS A	10.6	75.6	0.95	0.81	0.95	48.1
2	T1	All MCs	396	2.4	396	2.4	0.640	48.8	LOS D	13.3	94.7	0.96	0.81	0.96	33.7
3	R2	All MCs	173	3.0	173	3.0	* 0.965	91.4	LOS F	12.9	92.6	1.00	1.11	1.57	22.1
Approach			682	2.5	682	2.5	0.965	52.9	LOS D	13.3	94.7	0.97	0.89	1.11	32.3
East: Milperra Road (East)															
4	L2	All MCs	161	5.9	161	5.9	0.359	12.8	LOS A	6.4	51.2	0.75	0.73	0.75	44.3
5	T1	All MCs	222	43.1	222	43.1	0.359	47.3	LOS D	6.4	51.2	0.89	0.74	0.89	47.4
6	R2	All MCs	164	9.0	164	9.0	* 0.966	92.5	LOS F	12.4	93.1	1.00	1.09	1.58	24.2
Approach			547	21.9	547	21.9	0.966	50.7	LOS D	12.4	93.1	0.88	0.84	1.05	38.0
North: Edgar Street															
7	L2	All MCs	204	5.2	204	5.2	0.943	39.4	LOS C	44.5	319.3	1.00	1.18	1.27	29.4
8	T1	All MCs	440	1.9	440	1.9	* 0.943	75.3	LOS F	44.5	319.3	1.00	1.18	1.27	27.2
9	R2	All MCs	544	2.3	544	2.3	0.749	37.4	LOS C	10.1	72.4	0.99	0.86	1.06	47.7
Approach			1188	2.7	1188	2.7	0.943	51.8	LOS D	44.5	319.3	1.00	1.03	1.17	36.9
West: Milperra Road (West)															
10	L2	All MCs	409	4.9	409	4.9	0.350	11.6	LOS A	6.8	50.5	0.36	0.68	0.36	58.6
11	T1	All MCs	200	35.3	200	35.3	* 0.350	49.6	LOS D	6.8	50.5	0.91	0.72	0.91	45.2
12	R2	All MCs	167	1.3	167	1.3	0.482	53.8	LOS D	8.9	62.7	0.94	0.81	0.94	40.5
Approach			777	11.9	777	11.9	0.482	30.5	LOS C	8.9	62.7	0.63	0.72	0.63	50.2
All Vehicles			3195	8.2	3195	8.2	0.966	46.7	LOS D	44.5	319.3	0.88	0.89	1.01	39.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Queen Street												

P1	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
North: Edgar Street												
P3	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
West: Milperra Road (West)												
P4	Full	50	53	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96
All Pedestrians		150	158	54.3	LOS E	0.2	0.2	0.95	0.95	208.1	200.0	0.96

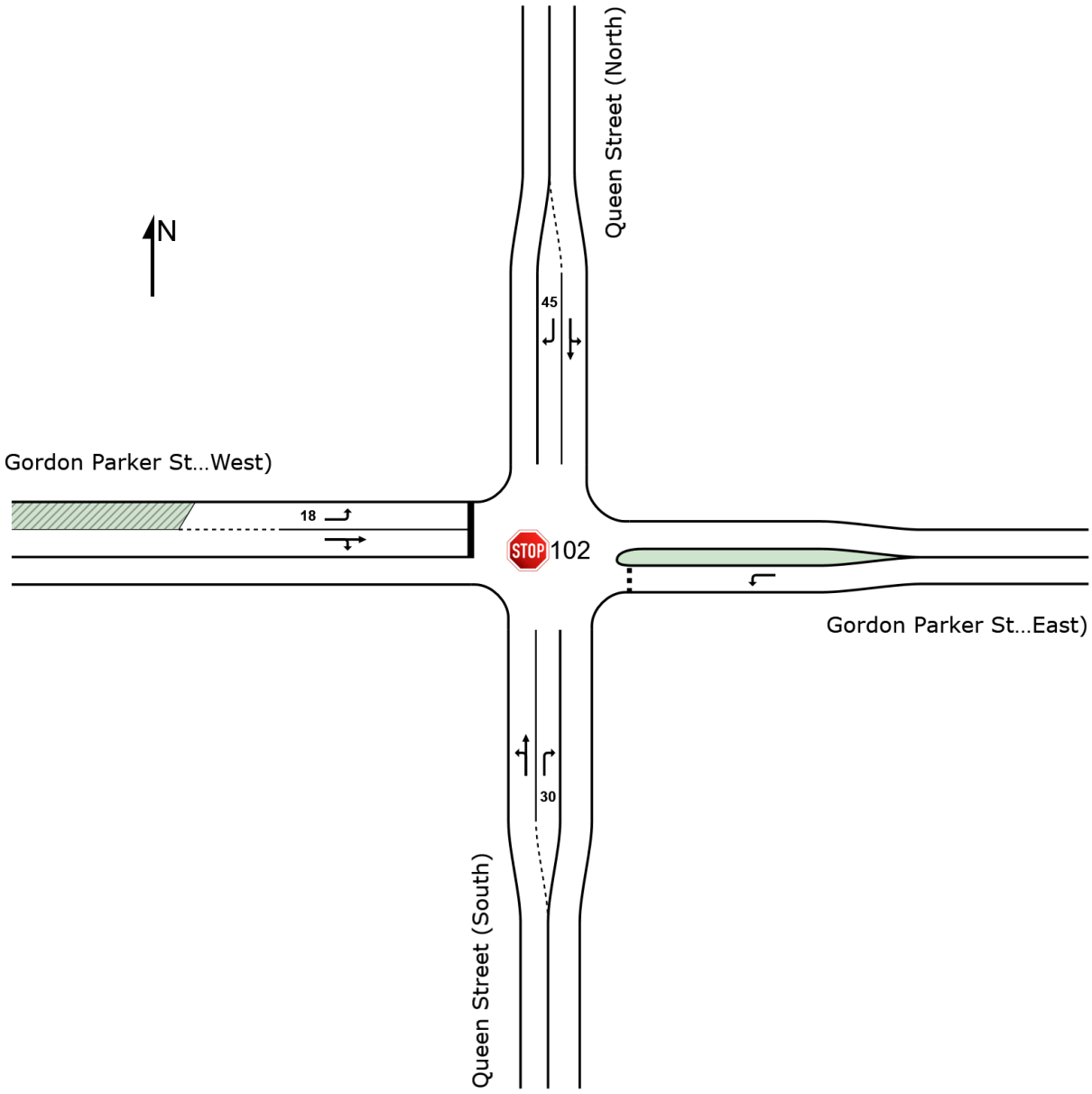
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: 102 [Queen Street/Gordon Parker Street - AM Peak (Site Folder: 2024 Base)]

Queen Street/Gordon Parker Street Priority-Controlled Intersection
Site Category: (None)
Stop (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 102 [Queen Street/Gordon Parker Street - AM Peak (Site Folder: 2024 Base)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Queen Street/Gordon Parker Street Priority-Controlled Intersection
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Queen Street (South)															
1	L2	All MCs	160	5.3	160	5.3	0.481	5.6	LOS A	0.0	0.0	0.00	0.10	0.00	50.4
2	T1	All MCs	752	2.7	752	2.7	0.481	0.1	LOS A	0.0	0.0	0.00	0.10	0.00	57.8
3	R2	All MCs	38	0.0	38	0.0	0.039	7.8	LOS A	0.2	1.1	0.53	0.69	0.53	35.2
Approach			949	3.0	949	3.0	0.481	1.3	NA	0.2	1.1	0.02	0.13	0.02	55.8
East: Gordon Parker Street (East)															
4	L2	All MCs	12	9.1	12	9.1	0.018	8.0	LOS A	0.1	0.4	0.51	0.66	0.51	33.7
Approach			12	9.1	12	9.1	0.018	8.0	LOS A	0.1	0.4	0.51	0.66	0.51	33.7
North: Queen Street (North)															
7	L2	All MCs	16	6.7	16	6.7	0.302	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	54.0
8	T1	All MCs	548	3.8	548	3.8	0.302	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
9	R2	All MCs	76	18.1	76	18.1	0.185	14.6	LOS B	0.6	5.1	0.77	0.91	0.78	39.1
Approach			640	5.6	640	5.6	0.302	1.9	NA	0.6	5.1	0.09	0.12	0.09	55.2
West: Gordon Parker Street (West)															
10	L2	All MCs	93	38.6	93	38.6	0.382	26.0	LOS B	1.3	12.6	0.81	1.10	1.07	32.9
11	T1	All MCs	2	0.0	2	0.0	2.336	1309.4	LOS F	19.0	143.0	1.00	2.09	5.21	1.1
12	R2	All MCs	45	9.3	45	9.3	2.336	1344.7	LOS F	19.0	143.0	1.00	2.09	5.21	1.0
Approach			140	28.6	140	28.6	2.336	471.7	LOS F	19.0	143.0	0.88	1.44	2.47	3.9
All Vehicles			1741	6.0	1741	6.0	2.336	39.4	NA	19.0	143.0	0.12	0.23	0.25	25.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 102 [Queen Street/Gordon Parker Street - AM Peak (Site Folder: 2024 Base + Development (v02))]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Queen Street/Gordon Parker Street Priority-Controlled Intersection
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Queen Street (South)															
1	L2	All MCs	160	5.3	160	5.3	0.481	5.6	LOS A	0.0	0.0	0.00	0.10	0.00	50.4
2	T1	All MCs	752	2.7	752	2.7	0.481	0.1	LOS A	0.0	0.0	0.00	0.10	0.00	57.8
3	R2	All MCs	38	0.0	38	0.0	0.039	7.8	LOS A	0.2	1.1	0.53	0.69	0.53	35.2
Approach			949	3.0	949	3.0	0.481	1.3	NA	0.2	1.1	0.02	0.13	0.02	55.8
East: Gordon Parker Street (East)															
4	L2	All MCs	12	9.1	12	9.1	0.018	8.0	LOS A	0.1	0.4	0.51	0.66	0.51	33.7
Approach			12	9.1	12	9.1	0.018	8.0	LOS A	0.1	0.4	0.51	0.66	0.51	33.7
North: Queen Street (North)															
7	L2	All MCs	16	6.7	16	6.7	0.302	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	54.0
8	T1	All MCs	548	3.8	548	3.8	0.302	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
9	R2	All MCs	76	18.1	76	18.1	0.185	14.6	LOS B	0.6	5.1	0.77	0.91	0.78	39.1
Approach			640	5.6	640	5.6	0.302	1.9	NA	0.6	5.1	0.09	0.12	0.09	55.2
West: Gordon Parker Street (West)															
10	L2	All MCs	96	40.7	96	40.7	0.403	26.9	LOS B	1.4	13.7	0.82	1.11	1.10	32.5
11	T1	All MCs	2	0.0	2	0.0	2.336	1309.4	LOS F	19.0	143.0	1.00	2.09	5.21	1.1
12	R2	All MCs	45	9.3	45	9.3	2.336	1344.7	LOS F	19.0	143.0	1.00	2.09	5.21	1.0
Approach			143	30.1	143	30.1	2.336	462.4	LOS F	19.0	143.0	0.88	1.43	2.46	4.0
All Vehicles			1744	6.2	1744	6.2	2.336	39.4	NA	19.0	143.0	0.12	0.24	0.25	25.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 102 [Queen Street/Gordon Parker Street - PM Peak (Site Folder: 2024 Base)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Queen Street/Gordon Parker Street Priority-Controlled Intersection
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Queen Street (South)															
1	L2	All MCs	39	13.5	39	13.5	0.297	5.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.3
2	T1	All MCs	525	2.4	525	2.4	0.297	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.1
3	R2	All MCs	35	0.0	35	0.0	0.045	9.1	LOS A	0.2	1.2	0.60	0.76	0.60	33.7
Approach			599	3.0	599	3.0	0.297	0.9	NA	0.2	1.2	0.03	0.08	0.03	57.1
East: Gordon Parker Street (East)															
4	L2	All MCs	98	0.0	98	0.0	0.173	9.5	LOS A	0.6	4.1	0.62	0.82	0.62	32.6
Approach			98	0.0	98	0.0	0.173	9.5	LOS A	0.6	4.1	0.62	0.82	0.62	32.6
North: Queen Street (North)															
7	L2	All MCs	37	2.9	37	2.9	0.388	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	54.2
8	T1	All MCs	700	1.4	700	1.4	0.388	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	59.2
9	R2	All MCs	34	25.0	34	25.0	0.044	9.1	LOS A	0.2	1.4	0.56	0.72	0.56	43.1
Approach			771	2.5	771	2.5	0.388	0.8	NA	0.2	1.4	0.02	0.06	0.02	57.7
West: Gordon Parker Street (West)															
10	L2	All MCs	151	2.8	151	2.8	0.251	13.0	LOS A	1.0	7.0	0.57	1.01	0.61	41.4
11	T1	All MCs	7	0.0	7	0.0	2.975	1846.9	LOS F	45.4	334.4	1.00	2.98	8.49	0.8
12	R2	All MCs	97	6.5	97	6.5	2.975	1887.8	LOS F	45.4	334.4	1.00	2.98	8.49	0.7
Approach			255	4.1	255	4.1	2.975	778.8	LOS F	45.4	334.4	0.75	1.81	3.83	2.4
All Vehicles			1722	2.8	1722	2.8	2.975	116.4	NA	45.4	334.4	0.17	0.37	0.63	11.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 102 [Queen Street/Gordon Parker Street - PM Peak (Site Folder: 2024 Base + Development (v02))]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

Queen Street/Gordon Parker Street Priority-Controlled Intersection
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Queen Street (South)															
1	L2	All MCs	39	13.5	39	13.5	0.297	5.7	LOS A	0.0	0.0	0.00	0.04	0.00	49.3
2	T1	All MCs	525	2.4	525	2.4	0.297	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.1
3	R2	All MCs	35	0.0	35	0.0	0.045	9.1	LOS A	0.2	1.2	0.60	0.76	0.60	33.7
Approach			599	3.0	599	3.0	0.297	0.9	NA	0.2	1.2	0.03	0.08	0.03	57.1
East: Gordon Parker Street (East)															
4	L2	All MCs	98	0.0	98	0.0	0.173	9.5	LOS A	0.6	4.1	0.62	0.82	0.62	32.6
Approach			98	0.0	98	0.0	0.173	9.5	LOS A	0.6	4.1	0.62	0.82	0.62	32.6
North: Queen Street (North)															
7	L2	All MCs	37	2.9	37	2.9	0.388	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	54.2
8	T1	All MCs	700	1.4	700	1.4	0.388	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	59.2
9	R2	All MCs	34	25.0	34	25.0	0.044	9.1	LOS A	0.2	1.4	0.56	0.72	0.56	43.1
Approach			771	2.5	771	2.5	0.388	0.8	NA	0.2	1.4	0.02	0.06	0.02	57.7
West: Gordon Parker Street (West)															
10	L2	All MCs	154	2.7	154	2.7	0.256	13.1	LOS A	1.0	7.2	0.57	1.01	0.62	41.3
11	T1	All MCs	7	0.0	7	0.0	2.975	1846.9	LOS F	45.4	334.4	1.00	2.98	8.49	0.8
12	R2	All MCs	97	6.5	97	6.5	2.975	1887.8	LOS F	45.4	334.4	1.00	2.98	8.49	0.7
Approach			258	4.1	258	4.1	2.975	769.5	LOS F	45.4	334.4	0.75	1.81	3.80	2.4
All Vehicles			1725	2.7	1725	2.7	2.975	116.2	NA	45.4	334.4	0.17	0.37	0.63	11.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
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Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.