

# **BUS DEPOT, RACECOURSE ROAD WEST GOSFORD**

## **TRANSPORT IMPACT ASSESSMENT**

**PREPARED FOR WALUYA PTY LTD  
4 MAY 2023 | 300304375**

Revision	Date	Description	Author	Quality Check	Approver
A	16/12/2022	Final	Helen Aberra, Jae Jeon	Jae Jeon	Rhys Hazell
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# 1 Introduction

## 1.1 Background

A Development Application is to be lodged for a proposed bus depot on land at 7A-11 Racecourse Road, 5-9 Faunce Street and 36 Young Street, West Gosford.

Urbis on behalf of Waluya Pty Ltd engaged Stantec in November 2022 to complete a Transport Impact Assessment for the proposed development.

## 1.2 Purpose of this Report

This report sets out an assessment of the anticipated transport implications of the proposed development, including consideration of the following:

- existing traffic and parking conditions surrounding the site
- suitability of the proposed parking in terms of supply (quantum) and layout
- service vehicle requirements
- pedestrian and bicycle requirements
- the traffic generating characteristics of the proposed development
- suitability of the proposed access arrangements for the site
- the transport impact of the development proposal on the surrounding road network.

## 1.3 References

In preparing this report, reference has been made to the following:

- an inspection of the site and its surrounds
- Central Coast Development Control Plan 2022 (DCP 2022)
- Central Coast Local Environmental Plan 2022 (LEP 2022)
- State Environmental Planning Policy (Gosford City Centre) 2018 (SEPP 2018)
- other documents and data as referenced in this report.



## 2 Existing Conditions

## 2 Existing Conditions

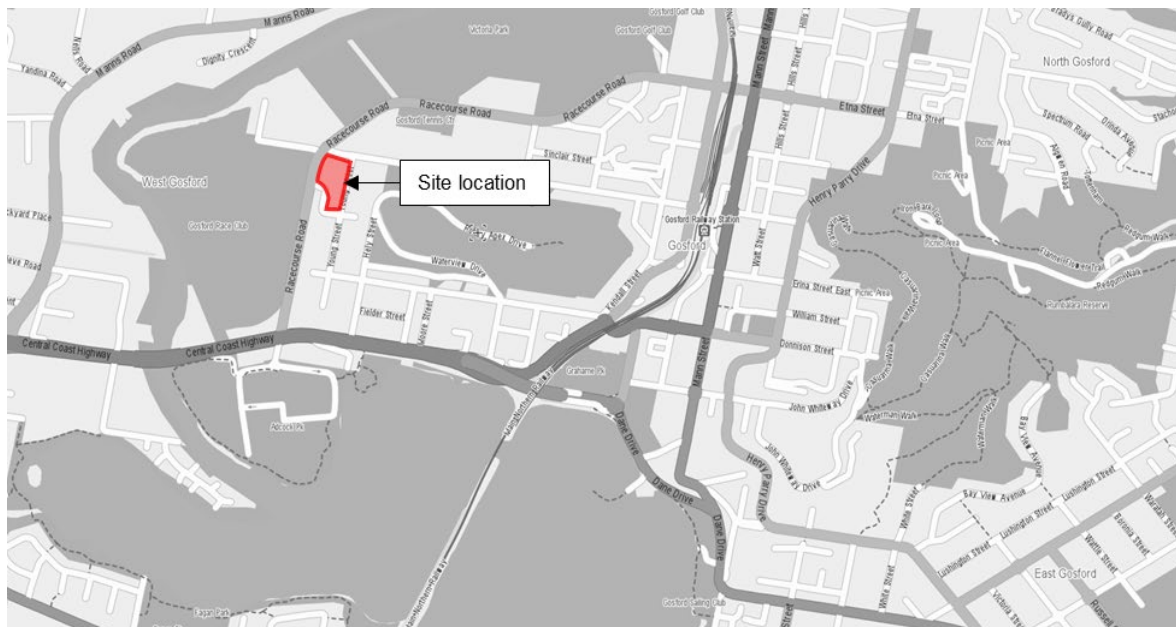
### 2.1 Location

The subject site is made up of the following sites, 7A-11 Racecourse Road, 5-9 Faunce Street and 36 Young Street, West Gosford. The site of approximately 2.5 hectares has frontages of 120 metres to Racecourse Road to the west, 33 metres to Faunce Street to the north and 124 metres to Young Street to the east. The site currently has a land use classification as B6 Enterprise Corridor and is occupied by two residential properties on the western portion with the remainder largely vacant.

The surrounding properties mostly include recreation uses east and west of the site and residential developments that is common throughout West Gosford.

The location of the subject site and its surrounding environs is shown in Figure 1 and Figure 2.

**Figure 1: Subject site and its environs**



Base image source: [street-directory.com.au](http://street-directory.com.au)



## 2 Existing Conditions

Figure 2: Subject site aerial view



Base image source: Nearthmap

## 2.2 Transport Network

### 2.2.1 ROAD HIERARCHY

Roads are classified according to the functions they perform. The main purpose of defining a road's functional class is to provide a basis for establishing the policies which guide the management of the road according to their intended service or qualities.

In terms of functional road classification, State roads are strategically important as they form the primary network used for the movement of people and goods between regions, and throughout the State. Transport for NSW (TfNSW) is responsible for funding, prioritising and carrying out works on State roads. State roads generally include roads classified as freeways, state highways, and main roads under the Roads Act 1993, and the regulation to manage the road system is stated in the Australian Road Rules.

TfNSW defines four levels in a typical functional road hierarchy, ranking from high mobility and low accessibility, to high accessibility and low mobility. These road classes are:

- Arterial Roads – Controlled by TfNSW, typically no limit in flow and designed to carry vehicles long distance between regional centres.
- Sub-Arterial Roads – Managed by either Council or TfNSW under a joint agreement. Typically, their operating capacity ranges between 10,000 and 20,000 vehicles per day, and their aim is to carry through traffic between specific areas in a sub region or provide connectivity from arterial road routes (regional links).
- Collector Roads – Provide connectivity between local sites and the sub-arterial road network, and typically carry between 2,000 and 10,000 vehicles per day.



## 2 Existing Conditions

- Local Roads – Provide direct access to properties and the collector road system and typically carry between 500 and 4,000 vehicles per day.

### 2.2.2 SURROUNDING ROAD NETWORK

Key roads surrounding the site include Racecourse Road, Young Street, Faunce Street, Central Coast Highway and Pacific Highway with a summary provided in Table 1.

**Table 1: Surrounding road network**

Road	Classification	Description
Racecourse Road	Unclassified Regional Road	<ul style="list-style-type: none"><li>• Two-way road that runs in a north-south direction between Faunce Street in the north and Donnison Street in the south.</li><li>• Approximately 13-metre-wide carriageway, effectively allowing for kerbside parking on both sides and a single lane of traffic in each direction.</li><li>• Kerbside parking restrictions vary along the length of the road.</li><li>• 50km/h speed limit.</li></ul>
Young Street	Local Road	<ul style="list-style-type: none"><li>• Two-way local road that runs in a north-south direction between Faunce Street in the north and Donnison Street in the south.</li><li>• Approximately 10-metre-wide carriageway, effectively allowing for kerbside parking on both sides of the road and a single lane of traffic in each direction.</li><li>• Unrestricted parking is permitted along the length of the road.</li><li>• 50km/h speed limit.</li></ul>
Faunce Street	Local Road	<ul style="list-style-type: none"><li>• Two-way local road that runs in an east-west direction between Racecourse Road in the west and Showground Road on the east.</li><li>• Approximately 12-metre-wide carriageway, effectively allowing for kerbside parking on both sides of the road and a single lane of traffic in each direction.</li><li>• Faunce Street is a combination of restricted and unrestricted parking along both sides of the road.</li><li>• 50km/h speed limit noting a 40km/h School Zone within the vicinity of Gosford Public School.</li></ul>
Central Coast Highway	State Highway	<ul style="list-style-type: none"><li>• Two-way road that generally runs in an east-west direction south of the site and serves as a connection between Pacific Highway and Central Coast.</li><li>• Approximately 24-metre-wide divided carriage way with three lanes of traffic in each direction.</li><li>• 70km/h speed limit.</li></ul>
Pacific Highway	Sub-arterial Road	<ul style="list-style-type: none"><li>• Two-way road that generally runs in an east-west direction running between Central Coast Highway in the south and Mann Street in the north.</li><li>• Approximately 8-metre-wide carriageway, effectively allowing for kerbside parking and a single lane of traffic on each direction.</li><li>• Kerbside parking is generally permitted on the northern side of the road.</li></ul>

## 2.3 Public Transport

The site is well serviced by public transport services with frequent bus services and Gosford Station within 1km east of the site. A review of the public transport available near the site is summarised in Table 2 and shown indicatively in Figure 3.

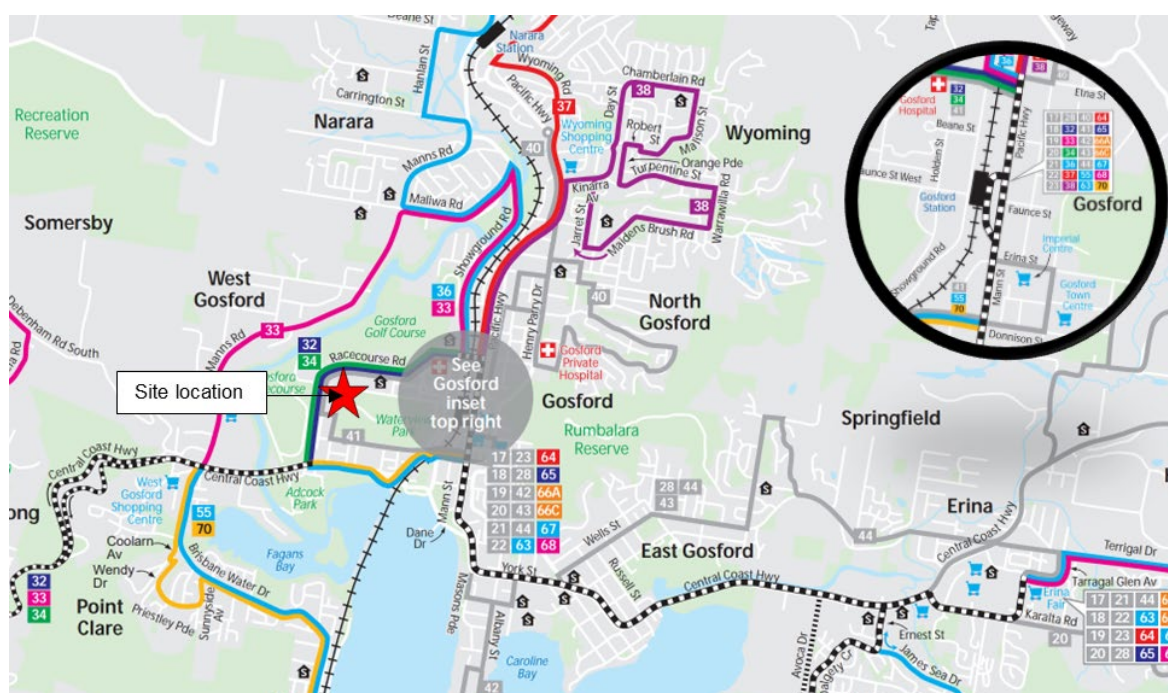


## 2 Existing Conditions

**Table 2: Public transport provision**

Service	Route number	Route description	Location of stop	Distance to nearest stop	Frequency on/off-peak
Bus	20	Gosford to Matcham	Donnison Street West at Young Street	350m	60 mins (morning and afternoon services only)
	32	Spencer to Gosford	Racecourse Road opposite Gosford Racecourse	0m	60 mins (morning and afternoon services only)
	32/4	Mangrove Mountain to Gosford			30-60 mins (morning services only)
	33	Gosford to Somersby Industrial Estate and Kariong			15- 30 mins (morning and afternoon services only)
	34	Gosford to Kariong			30 mins/ 60 mins
Train	-	Newcastle to Central	Gosford Station	1.1km	15 mins/ 30 mins

**Figure 3: Surrounding public transport network**



Base image source: [busways.com.au/sites/default/files/network-maps/](https://busways.com.au/sites/default/files/network-maps/), accessed November 2022

## 2.4 Walking and Cycling Infrastructure

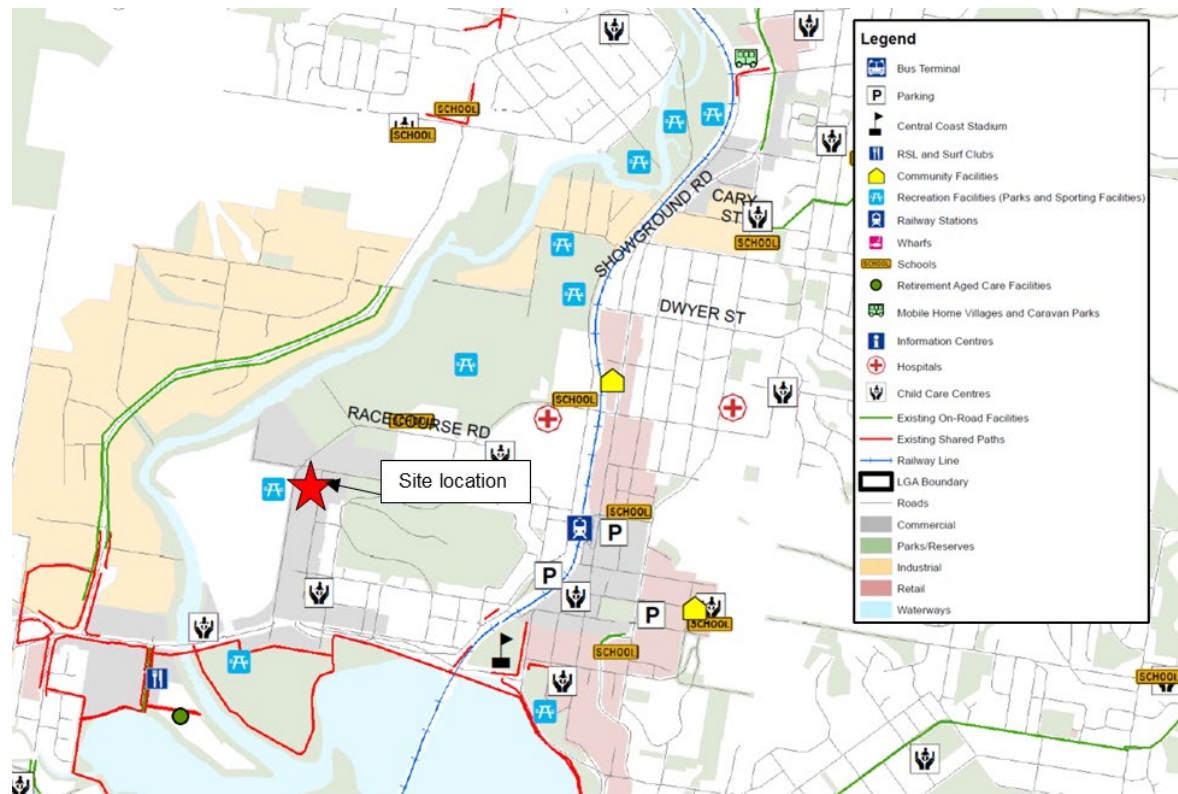
Pedestrian footpaths in the immediate vicinity of the site are limited. Pedestrian footpaths are generally provided on both sides of Faunce Street and on the western side of Racecourse Road. Formalised crossing points are provided at the signalised intersection of Racecourse Road and Central Coast Highway.



## 2 Existing Conditions

There is limited cycling infrastructure near the site, with the surrounding cycling infrastructure shown in Figure 4.

**Figure 4: Surrounding cycling network**



Base image source: Central Coast Bike Plan, Central Coast Council, accessed November 2022

### 3 Development Proposal

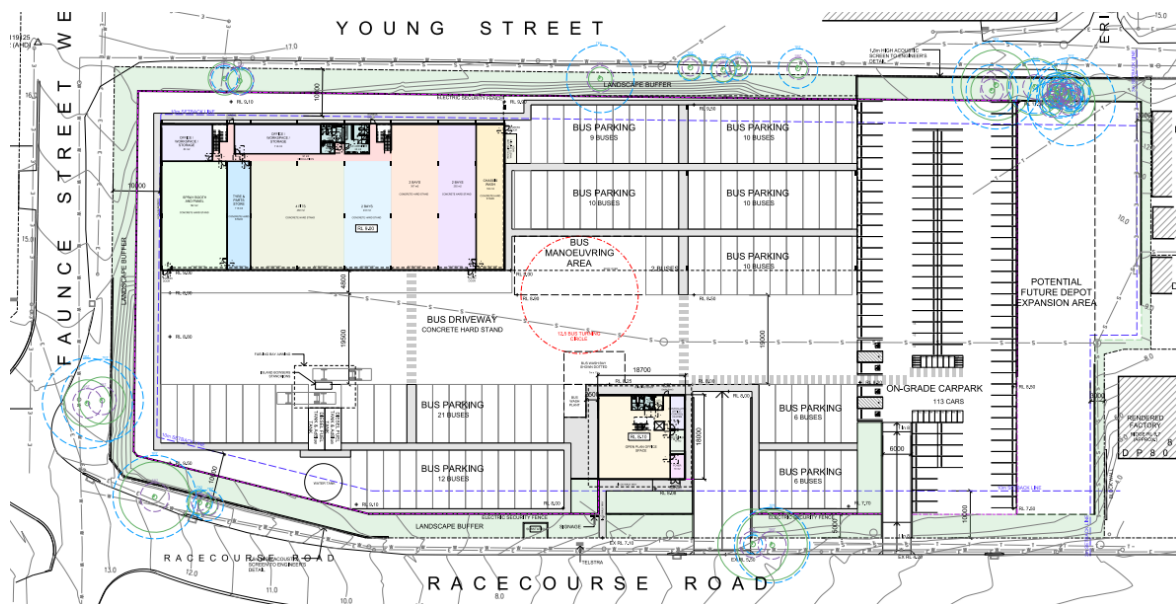
## 3 Development Proposal

The proposal involves the development of a bus depot which includes an at grade car park to provide a dedicated off-street car parking area for the staff associated with the development. The proposal seeks to provide the following:

- 96 bus parking spaces
- maintenance shed/ workshop with capacity for 12 buses
- 113 at-grade car parking spaces
- ancillary office space.

The site layout is illustrated in Figure 5.

**Figure 5: Site Layout**



Source: Site Plan, Drawing No. ar-0200, Revision No. 3, prepared by dem, dated 14 December 2022.

### 3.1 Vehicle Access

The proposal includes the provision of two access driveways on Racecourse Road along the eastern site boundary. The northern driveway is for use by buses only and the southern access for light vehicles to and from the at-grade car park at the southern end of the site.

# 4 Parking Assessment

## 4.1 Car Parking

The car parking requirements for various development types are set out in Central Coast Development Control Plan 2022 (DCP 2022). A review of the types of land use provided within DCP 2022 indicates that the proposed development resembles an industrial development compared to other uses provided within the document. The following are rates associated with industrial developments:

- |  |                                |
|--|--------------------------------|
| • industrial floor space                     | 1 space per 100m <sup>2</sup>  |
| • warehouse/ bulk stores/ self-storage units | 1 space per 300m <sup>2</sup>  |
| • ancillary office space                     | 1 space per 40m <sup>2</sup> . |

Application of the above industrial rate to the maintenance/ workshop space and the applicable office space would result in the need to provide a minimum of 33 parking spaces. This is based on about 1,880m<sup>2</sup> of maintenance/ workshop space and 535m<sup>2</sup> of ancillary office (and a total of about 2,415m<sup>2</sup> GFA).

A first principles assessment has also been completed to ensure a robust assessment of the expected parking demand, particularly that associated with bus drivers and office staff. This relies on reference to the operational details from a comparable bus depot comprising 163 bus spaces. The details of scheduled times of bus arrivals and departures and quantity of buses have been provided together with an estimated 90 per cent of bus drivers travelling to the site via private vehicle (and parking on-site). When applied to the proposed development, a maximum of about 70 car spaces will be required to accommodate the expected peak demand by bus drivers during the day. When adding the 13 spaces associated with the ancillary office and the addition of on-site workshop/ maintenance staff (estimated to be up to 15 staff), this equates to a total parking supply of up to 100 spaces

On this basis, the proposed development requires between 33 and 100 on-site parking spaces. With the site plan including 113 parking spaces, the proposed development includes an appropriate supply of on-site parking and would readily accommodate the estimated parking demand of the proposed development.

## 4.2 Accessible Parking

DCP 2022 refers to the Building Code of Australia (BCA) when referring to accessible parking requirements. With the need to provide one to two per cent of car parking spaces to be dedicated to accessible parking, the proposal requires two to three dedicated accessible spaces. The at-grade car park includes four accessible spaces and meets the requirements of the BCA.

## 4.3 Motorcycle Parking

DCP 2022 requires one motorcycle space be provided for every 50 car spaces. Application of this rate on the proposed 113 car spaces results in a minimum two to three motorcycle spaces.



## 4 Parking Assessment

### 4.4 Bicycle Facilities

DCP 2022 does not include bicycle parking rates for workshop type developments. However, to ensure that sufficient bicycle parking is provided to promote alternative modes of transport, the one space per 200m<sup>2</sup> GFA commercial rate has also been adopted for the workshop floor space.

With about 2,200m<sup>2</sup> GFA, the above results in a bicycle parking requirement of 11 bicycle spaces. The development will ensure that the spaces are provided in Class 1 category as per Austroads Part 14, Bicycles, as specified in DCP 2022.

DCP 2022 also recommends the provision of the following end of trip facilities:

- One shower for the first five bicycle spaces plus an additional shower for each additional 10 bicycle spaces.
- One change room for every shower where two or more showers are provided, then separate male and female facilities.

The proposal meets this requirement with separate male and female facilities and each providing two showers and adequate lockers.

### 4.5 Loading Facilities

The proposed development has been designed to accommodate turning movements of vehicles up to 12.5m long buses. Therefore, it is anticipated that waste collection vehicles which are typically between 10 and 12m long will have sufficient space to enter the site in a forward direction, maneuver within the site and exit in a forward direction.

The buses typically commence departure at 5:00am and hence there will be ample space for the waste collection vehicle to temporarily stand on-site and service the site as required. The expected daily site operations will ensure on-site personnel are present to manage and control access by all vehicles as necessary. A site management plan will be implemented to ensure appropriate access by waste and service vehicles.





# 5 Traffic Assessment

## 5.1 Cumulative Assessment

It is understood that there are sites within the vicinity of the subject site that are currently undergoing or have received approval for development. A high-level summary of the developments is provided below with the location of the sites illustrated in Figure 6.

### 5.1.1 NORTHSIDE PRIVATE HOSPITAL

A development application has been submitted for the Northside Private Hospital with an expected completion date in early 2025. The site is at 22-48 Faunce Street, West Gosford located north of the proposed development. The site has a total area of 11,880 square metres with access via Faunce Street and Racecourse Road.

The former Ausgrid Depot is proposed to be redeveloped into a 224-bed private hospital with 389 on-site parking spaces. The Traffic Impact Assessment prepared by Traffix dated September 2019 provides an estimate of the development traffic generation with a summary of those using Racecourse Road to and from the south summarised as follows:

- AM peak period +160 vehicular trips (+112 northbound, +48 southbound)
- PM peak period +160 vehicular trips (+52 northbound, +108 southbound).

### 5.1.2 1A RACECOURSE ROAD, WEST GOSFORD

It is understood that the Planning Secretary's Environmental Assessment Requirements (SEARs) have been provided (dated 5 July 2021) as they relate to the mixed-use development at 1A Racecourse Road, West Gosford. The SEARs Request prepared by Willow Tree Planning states that the development is to comprise 200 residential apartments, 196 hotel units and commercial uses with 527 on-site parking spaces.

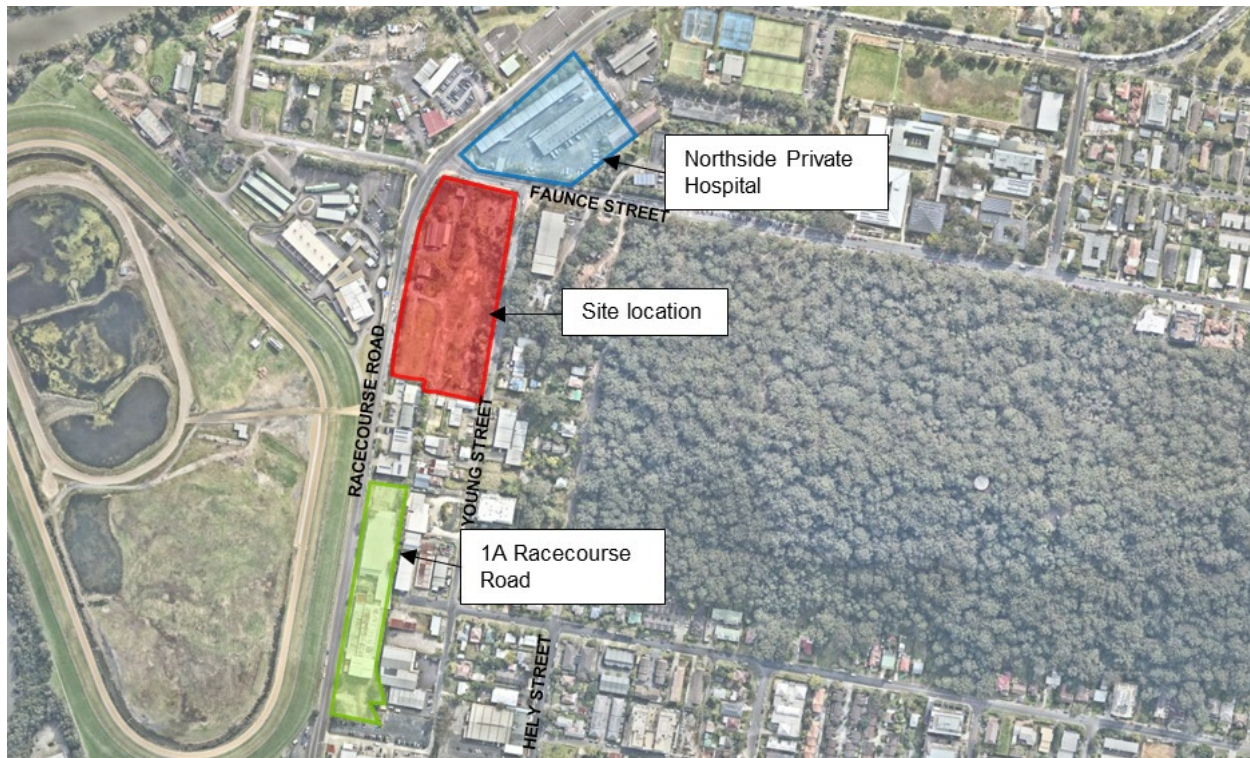
It is also understood that no further progress has been made with the submission and hence, relevant information is not available at the time of writing. This includes any such detail on estimated traffic generation. Regardless, given the site's location and existing traffic volumes through the area, most site generated traffic would likely arrive and depart to and from the south. Overall, it is estimated that this development, if it were to proceed would have a minor impact on Racecourse Road further to the north.

It is also understood that the future development of this site may need to consider extending Donnison Street West further west to connect with Racecourse Road north of Central Coast Highway. Such details will be subject to a future development application with any such broader road network impacts and/ or benefits to be considered as part of the associated traffic assessment at the time.



## 5 Traffic Assessment

Figure 6: Surrounding proposed and approved developments



Base image source: Nearmap

### 5.2 Proposed Development Trip Generation

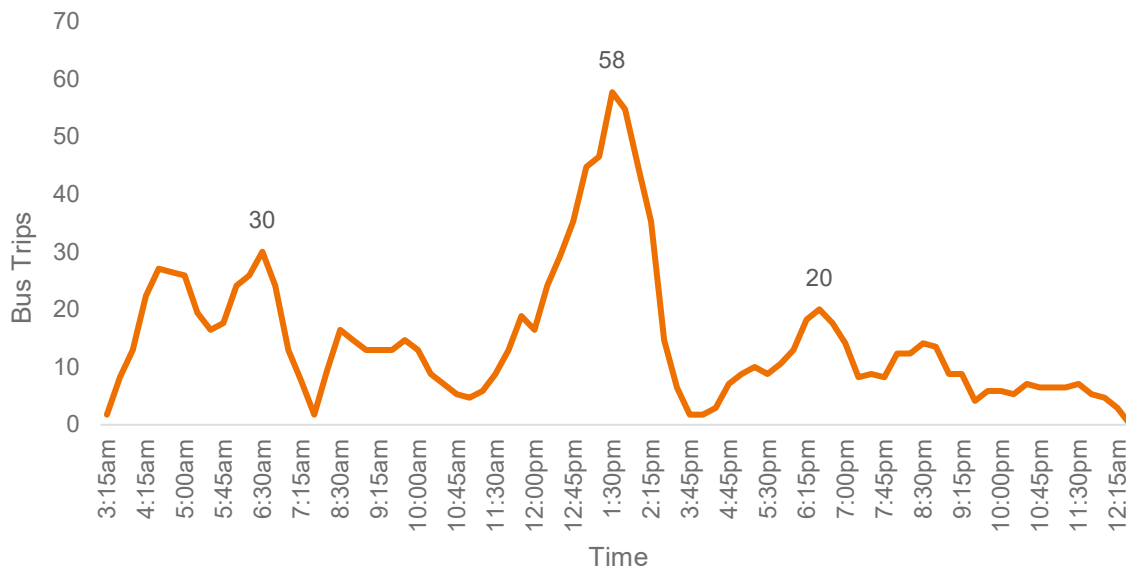
The schedule of bus arrival and departures as they relate to a comparable bus depot site has been referenced to better understand the anticipated traffic generation of the proposed development. This also allows a robust traffic assessment to assess the likely impact of the proposal on the surrounding road network during the road network peak hours. The peak bus arrival and departure times along with the estimated bus trip generations for each peak period are as follows:

- morning bus departure peak      6:30am to 7:30am      30 bus trips
- evening bus arrival peak      6:30pm to 7:30pm      20 bus trips.

As is typical for bus depot activity, the early morning period sees most buses departing the site and returning in the evening. The site peak occurs during the middle of the day between 1:30pm and 2:30pm at times when buses return to the site to refuel, drivers complete the shift changeover and then depart the site again. The analysis indicates that the peak bus trip generation would be 58 bus trips during this peak hour, as represented in Figure 7.

## 5 Traffic Assessment

**Figure 7: Estimated bus generation**



With the surrounding road network peaks being between 8:00am and 9:00am and between 5:00pm and 6:00pm weekdays, the above assessment confirms that all site peak demand periods would occur outside the road network peaks. In addition, the site is estimated to generate up to 10 bus trips during the road network peak hours. On this basis, the movement of buses to and from the site and in the immediate vicinity could not be expected to materially impact the operation of the surrounding road network.

In addition, an estimation of the traffic generation associated with the office/ administration space has also been completed. Referencing the applicable rates in TfNSW Technical Direction 2013/04a, the traffic generation rates and resultant traffic volumes are summarised in Table 3.

**Table 3: Anticipated Office Traffic Generation**

Use	GFA	Traffic generation rate		Estimated traffic volumes	
		AM Peak	PM Peak	AM Peak	PM Peak
Office	535m <sup>2</sup>	1.6 spaces per 100m <sup>2</sup>	1.2 spaces per 100m <sup>2</sup>	9	7

On this basis, the ancillary office component of the proposed development would likely generate less than 10 vehicle trips in any peak hour.

The following are assumptions that have been applied to the methodology of estimating the anticipated traffic generation of the proposed development:

- Bus drivers estimated to arrive and depart within a 30-minute period and hence would also travel outside the road network peaks.
- Office/ maintenance staff would make use of the proposed 30 on-site parking spaces with 80 per cent travelling during the road network peaks.

Based on the above, an estimated 24 vehicles would either enter or exit the site in the respective peak hours. Application of an 80 per cent inbound and 20 per cent outbound split to results in about 19 vehicles entering and five vehicles exiting the site in the AM peak, reversed in the PM.



## 5 Traffic Assessment

Such volumes are low and equate to less than two per cent of the projected 2029 Racecourse Road traffic volumes.

When adding in the estimated nine bus trips, the proposed development would not have a noticeable impact on the operation of the surrounding road network.

### 5.3 Distribution and Assignment

The directional distribution and assignment of traffic generated by the proposed development will be influenced by a number of factors, including the:

- configuration of the arterial road network in the immediate vicinity of the site
- existing operation of intersections providing access between the local and arterial road network
- distribution of households in the vicinity of the site
- likely distribution of staff residences in relation to the site
- types of developments within the vicinity of the site
- configuration of access points to the site
- catchments that the buses will be servicing.

With consideration to the above and specific bus routing advice provided, the bus trips have been distributed by way of 80 per cent arriving and departing to/ from the north along Racecourse Road and 20 per cent to/ from the south.

To understand trips associated with staff arrivals and departures, the same traffic distribution as that adopted as part of the proposed private hospital to the north has been similarly applied, as detailed below.

#### Inbound

- 21% arrive from the north via Racecourse Road from areas such as Blue Haven, Budgewoi and Chittaway Bay.
- 10% arrive from the north via Showground Road/ Faunce Street West from areas such as Blue Haven, Budgewoi and Chittaway Bay.
- 53% arrive from the south via the Central Coast Highway (east approach) from areas such as Avoca Beach, Bateau Bay and Box Head.
- 16% arrive from the south via the Central Coast Highway (west approach) from areas such as Calga and Kariong.

#### Outbound

- 31% depart to the north via Faunce Street West and Showground Road.
- 53% depart to the south via the Central Coast Highway (to the east).
- 16% depart to the south via the Central Coast Highway (to the west).



## 5 Traffic Assessment

### 5.4 Intersection Operation

The operation of the key intersections within the study area have been assessed using SIDRA INTERSECTION (SIDRA), a computer-based modelling package which calculates intersection performance.

The commonly used measure of intersection performance, as defined by the TfNSW, is vehicle delay. SIDRA determines the average delay that vehicles encounter and provides a measure of the level of service.

**Table 4: SIDRA Level of Service Criteria**

Level of service (LOS)	Average delay per vehicle (secs/veh)	Traffic signals, roundabout	Give way & stop sign
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	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70	Extra capacity required	Extreme delay, major treatment required

### 5.5 Traffic Impact Assessment

A robust assessment has been undertaken which includes assessment of various scenarios to understand the existing and projected performance and cumulative impact assessment on the local road network using SIDRA intersection. The following are the scenarios that have been analyzed for the purpose of this assessment:

- Existing 2023 Base Case
- Scenario 1a 2026 Year of Opening – Base Case + Northside Private Hospital
- Scenario 1b 2026 Year of Opening – Base Case + Northside Private Hospital + Development
- Scenario 2 2033 10 Year Horizon – Base Case + Northside Private Hospital.

To ensure a consistent approach with recent transport assessments in the local area and consistency with respect to understanding traffic related impacts, this traffic assessment has referenced the traffic data included as part of the private hospital development. This includes data at the following key intersections noting incorporation of the same two per cent annual growth in background traffic:

- Central Coast Highway/ Racecourse Road
- Faunce Street/ Racecourse Road.

The SIDRA results for the various scenarios are summarised in Table 5 with detailed results provided in Appendix A.



## 5 Traffic Assessment

**Table 5: SIDRA Results**

Intersection	Period	Scenario	Degree of saturation (DOS)	Average delay (sec)	95th percentile queue (m)	Level of service (LOS)
Central Coast Highway/ Racecourse Road	AM Peak	Existing	0.88	45	369	D
		Scenario 1a	0.94	58	470	E
		Scenario 1b	0.96	63	489	E
		Scenario 2	1.08	117	794	F
	PM Peak	Existing	0.94	41	455	C
		Scenario 1a	1.01	67	706	E
		Scenario 1b	1.02	77	731	F
		Scenario 2	1.14	105	1033	F
Faunce Street West (west)/ Racecourse Road	AM Peak	Existing	0.08	18	2	C
		Scenario 1a	0.11	28	3	D
		Scenario 1b	0.12	29	3	D
		Scenario 2	0.18	39	4	E
	PM Peak	Existing	0.10	16	3	C
		Scenario 1a	0.16	24	4	C
		Scenario 1b	0.17	25	4	D
		Scenario 2	0.27	37	6	E
Faunce Street West (east)/ Racecourse Road	AM Peak	Existing	0.14	17	4	C
		Scenario 1a	0.19	25	5	D
		Scenario 1b	0.20	27	5	D
		Scenario 2	0.28	37	7	E
	PM Peak	Existing	0.12	15	3	C
		Scenario 1a	0.17	22	4	C
		Scenario 1b	0.18	23	4	C
		Scenario 2	0.24	29	6	D
Racecourse Road/ site access (bus)	AM Peak	Scenario 1b	0.48	240	16	F
	PM Peak	Scenario 1b	0.01	22	<1	C
Racecourse Road/ site access (car park)	AM Peak	Scenario 1b	0.04	42	<1	E
	PM Peak	Scenario 1b	0.09	23	2	C

### 5.5.1 CENTRAL COAST HIGHWAY/ RACECOURSE ROAD

The SIDRA results indicate that the Central Coast Highway/ Racecourse Road signalised intersection is close to or exceeding practical capacity under existing conditions. It should be noted that the TfNSW modelling guideline suggests that a degree of saturation of 0.9 is the maximum practical threshold for a signalised intersection with the following factors to be considered when assessing the impact of the proposed development on intersection operation.

- Application of the two per cent annual growth rate results in the degree of saturation exceeding 1.0 which indicates that the intersection would exceed maximum capacity without the proposed development.
- The estimated development traffic volumes contribute less than one per cent of total traffic through the signalised intersection when assessed against existing conditions. This ratio would naturally reduce with future year background growth.





## 6 Site Layout & Design

- Peak bus depot periods are distinctly outside the surrounding road network peak periods.
- The intersection exceeds maximum capacity in 2033 base case with private hospital traffic and in such scenarios, any additional (and minor) traffic tends to show an unrealistic corresponding impact.

In this regard, the proposed development is not noticeably contributing to any such decline in the operation or function of the Central Coast Highway/ Racecourse Road signalised intersection. Broader road network improvements and/ or upgrades may be considered as part of NSW Government planning and unrelated to the proposed development.

### 5.5.2 FAUNCE STREET WEST/ RACECOURSE ROAD

The SIDRA results indicate that average delays on Faunce Street increase as traffic volumes along Racecourse Road increase in the future year scenarios. The following factors should be considered when assessing the impacts of the proposal on the intersection:

- The 'worst' movement remains the right turn from Faunce Street West at Racecourse Road with delays typically expected and accepted for such low volume turns.
- All other movements are at acceptable levels of service with average delays largely unaffected by the proposed development.

### 5.5.3 RACECOURSE ROAD/ SITE ACCESS

SIDRA analysis has been completed to assess the potential impact of the proposed site access along Racecourse Road and its likely impact on through movements on Racecourse Road. The results indicate that the right turn from Racecourse Road into the proposed site would have a minor impact on northbound traffic with no real change to northbound traffic efficiency and flow.

Reference to relevant Austroads road design guidelines does however result in the need for a channelized right turn to facilitate site access with such measures removing any such impact on through traffic and minimising any such road safety concerns. Such details have been incorporated as part of SIDRA intersection modelling and will be further developed as part of design development.

## 6 Site Layout & Design

A review of the proposed site layout plans has been completed to confirm appropriate access arrangements, internal layout and capacity. The staff and visitor car park and bus parking areas have been reviewed against the requirements of the Australian Standard for Off Street Parking (AS2890.1:2004, AS2890.2:2018 and AS2890.6:2009). This assessment included a review of the following:

- site access arrangements, gradients and queuing capacity
- bay and aisle widths
- car parking layout and circulation
- turnaround facilities
- parking for persons with disabilities
- pedestrian amenity and paths of travel.



## 6 Site Layout & Design

The assessment includes swept paths using 99<sup>th</sup> percentile vehicles and 12.5-metre-long rigid buses to assess the ability of the circulation aisles to accommodate two-way traffic flows of the largest vehicles at key locations. The site has the capacity to accommodate two-way traffic flows where necessary and allow independent access to and from all bus parking spaces. The southern spaces adjacent to the car park would also require some level of on-site management to ensure all buses can access each of the bays as required. Buses can enter the site maneuver as required, access the necessary spaces, wash areas, workshop/ maintenance areas and turnaround facilities as necessary.

There are some gradients across the site that result in necessary access ramp grades, all in accordance with Australian Standard requirements having regard to the largest design vehicle and considers all sightlines and gradients across the site boundary. Vehicle swept paths are included in Appendix B.

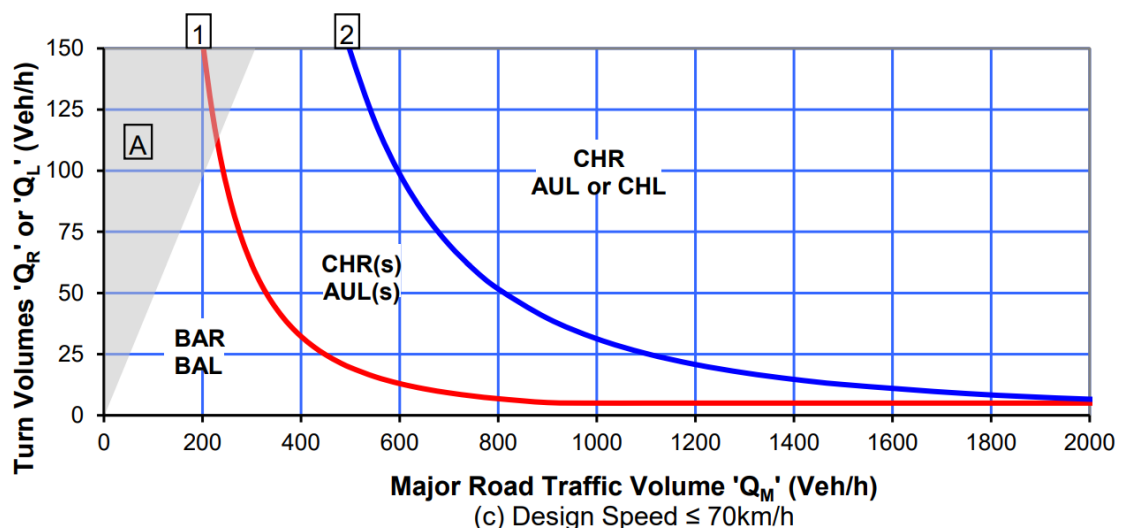
The bus travel routes to and from the site have also been considered. In this regard, the following are roads that are in the vicinity of the site and routes approved by the National Heavy Vehicle Regulator (NHVR) to be accessible by vehicles up to 19.0 metre B-Double vehicles:

- Racecourse Road
- Central Coast Highway
- Manns Road
- Pacific Highway.

On this basis, all key roads surrounding the site are anticipated to be able to cater for 12.5-metre-long buses.

As discussed, a turning warrant assessment has also been completed for the site accesses to service the proposed bus depot and staff/ visitor car park. In this regard, reference has been made to the Austroads Guide to Traffic Management Part 6 with the warrant extracted and shown in Figure 8.

**Figure 8: Warrants for turn treatments on major roads at unsignalised intersections**



Based on the warrant assessment, the site accesses for the proposed site access arrangements should both be provided with a Channelized Right Turn (CHR) treatment. With the respective accesses separated by about 30 metres, there may be limited opportunity to practically separate the



## 6 Site Layout & Design

two driveways with the most appropriate outcome being a single CHR treatment covering both accesses. Such a layout is supported on account of low traffic volumes, peak generation being outside the road network peaks, familiar users and low crossover between bus and car activity.

The design of the site access arrangements will be further developed as part of detailed design and in consultation with relevant stakeholders. The existing mid-block pedestrian crossing on Racecourse Road will likely be impacted by such works with any such modifications to be included as part of consultation and as necessary.



# 7 Overview Construction Traffic Management

## 7.1 Overview

This section sets out an overview and preliminary assessment of the construction traffic management initiatives to be implemented as part of the works associated with the proposed development.

The appointed contractor(s) will be required to prepare a more detailed Construction Traffic Management Plan (CTMP), providing traffic and pedestrian management measures to be implemented during the construction. This CTMP will include, but not limited to:

- Construction site access and circulation arrangements.
- Construction personnel parking provisions and management measures.
- Construction traffic volumes.
- Impact of construction activities on the surrounding transport network with consideration of pedestrians, cyclists, public transport, road network and nearby construction sites.
- Mitigation and management measures to minimise the impact during construction.

Traffic Guidance Schemes (previously Traffic Control Plans) would be prepared to accompany the detailed CTMP to appropriately manage traffic and pedestrians near the work site.

The overall principles of traffic management during construction include:

- Minimising the impact on pedestrian movements.
- Maintaining appropriate public transport access.
- Minimising the impact to existing traffic on adjacent roads and intersections.
- Maintaining access to/ from any adjacent properties.
- Restricting construction vehicle movements to designated routes to/ from the site.
- Managing and controlling construction vehicle activity near the site.
- Ensuring construction activity is carried out in accordance with Council's approved hours of works.

### 7.1.1 WORK HOURS

Construction will be carried out during the approved hours of work as defined in any future development consent conditions. The expected work hours are:

- 7am to 6pm Monday to Friday
- 8am to 3pm Saturdays
- No work Sundays or public holidays.

The appointed contractor will be responsible for instructing and controlling all subcontractors regarding the hours of work. Any work or deliveries required outside the approved construction hours will be subject to specific prior approval from Council.



## **7 Overview Construction Traffic Management**

### **7.1.2 CONSTRUCTION WORKERS**

It is anticipated that there will be up to 20 workers on-site during peak construction activities.

No worker parking will be provided on-site. Notwithstanding, workers would be advised to use public transport where possible, with appropriate tool/ equipment drop-off arrangements provided. Given the anticipated work hours, workers will tend to arrive and depart outside peak hours.

### **7.2 Site Access and Loading**

Construction vehicle site access will be via Racecourse Road noting flexibility dependent on the particular construction methodology as proposed by the appointed contractor. It is expected that no on-street works zone will be required given the site has ample space within the site to provide appropriate on-site haulage routes that allow construction vehicles to enter, maneuver through and exit the sites in a forward direction.

Accredited traffic controllers will be positioned at any site access to manage construction vehicles in the vicinity. Relevant signs will be provided at the site accesses to warn general traffic of trucks turning and the presence of traffic controllers, where required.

### **7.3 Heavy Vehicle Traffic Generation**

Construction vehicle access will involve a range of vehicles up to a 19 metre articulated vehicles.

It is anticipated that the construction works would generate up to five trucks per day, which will likely occur during material delivery. Based on this, the anticipated construction traffic volumes would not be expected to impact the surrounding road network.

### **7.4 Heavy Vehicle Access Routes**

The movement of all construction vehicles will be restricted to designated routes and confined to the regional road network. Designated routes will be identified as part of the detailed Construction Traffic Management Plan with the aim of minimising impacts on the local road network.

The directional distribution and assignment of traffic generated by the construction works will be influenced by several factors, most notably the origin/ destination of materials, site access points and the configuration of the regional road network.

The approach and departure routes will be via Racecourse Road, Central Coast Highway and Pacific Motorway. Construction vehicles will enter and exit the site in a forward direction. A preliminary swept path assessment has been completed using 19m articulated vehicles to assess whether the proposed routes are accessible by the largest vehicles. A more detailed assessment will be completed in the detailed CTMP.

The designated truck routes and detailed swept paths will be included in the detailed CTMP once the details of the proposed construction methodology and site layout are established.

### **7.5 Pedestrian and Cyclist Management**

All works will occur internal to the site boundaries. There is no pedestrian footpath along the frontage of the site however pedestrians and cyclists will be considered as part of any construction



## **7 Overview Construction Traffic Management**

methodology and site access arrangements. Should any on-street work zone be required, Class A fencing will be provided to maintain setbacks along the frontage of the site.

Overall, the construction activities are not expected to materially impact pedestrians and cyclists along the site frontage. Pedestrian and cyclist management may be temporarily necessary at times when construction vehicles are entering and exiting the site, with the detailed CTMP to include measures to control and maintain paths of travel.

### **7.6 Emergency Access**

Emergency vehicle access to the site and surrounding properties will be maintained at all times. Liaison with police and emergency services will be maintained as required throughout construction and a 24-hour contact would be made available for out of hours emergencies.

Emergency protocols would include a requirement for the appointed contractor to assist with emergency access. Thus, there will be no adverse impacts to the provision of existing emergency vehicle access to other neighbouring properties as a result of construction activity.





# 8 Conclusion

Based on the analysis completed the following points are made:

- The proposal involves construction of a bus depot at 7A-11 Racecourse Road, 5-9 Faunce Street and 36 Young Street, West Gosford with access proposed via separate driveways on Racecourse Road.
- Based on the applicable industrial and commercial parking rates, on-site staff generate demand for around 33 parking spaces. When considering a first principles assessment to assess the practical parking demand associated bus driver demand profiles across the day, the anticipated demand for all land uses is up to 100 parking spaces. The proposed 113 spaces can readily accommodate this demand.
- Based on a comparable site assessment and timetable of bus route activity, the peak morning bus departure and evening arrival profiles confirm that the site could generate between 20 and 30 bus trips in the site peak hours. These periods are during the middle of the day and outside the surrounding road network peaks.
- The Transport for NSW Technical Direction (TDT 2013/04a) rate for office land uses has been referenced to estimate traffic generation during the road network peak periods.
- With an estimated 25 light vehicle trips and nine bus trips during the weekday peak periods, the proposed development would not have a noticeable impact on the surrounding road network. Such volumes are low and equate to less than two per cent of the projected 2029 Racecourse Road traffic volumes.
- SIDRA analysis has been completed referencing the traffic data included as part of the private hospital development north of the site. The assessment indicates that the Central Coast Highway/ Racecourse Road signalised intersection will be close to or exceed capacity by 2026 without the proposed development. A relatively minor reduction in intersection operation will result when including proposed development traffic. On this basis, the proposed development has a nominal impact on the future operation of the intersection.
- A review of the proposed site layout plans has been completed to confirm appropriate access arrangements, internal layout and capacity. All design vehicles will enter and exit the site in a forward direction with a CHR treatment to be implemented for both the proposed bus depot and car park site accesses.
- An overview of the construction traffic management initiatives is included and intended to inform a future detailed CTMP following development approval.

Based on the details included in this report, the proposed development is supported from a transport and parking perspective.



## Appendix A SIDRA Results



**Site: 101 [AM - Central Coast Highway / Racecourse Road (Site Folder: 2023 Base)]**

Signals - EQUISAT (Fixed-Time/SCATS) Isolated      Cycle Time = 150 seconds (Site User-Given Cycle Time)

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
South: Racecourse Road												
P1	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	232.3	211.9	0.91
East: Central Coast Highway												
P2	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	244.0	227.1	0.93
North: Racecourse Road												

P3 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	233.8	213.9	0.91
P3B Slip/ Bypass	50	53	34.2	LOS D	0.1	0.1	0.92	0.92	191.4	204.3	1.07
West: Central Coast Highway											
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	246.5	230.4	0.93
P4B Slip/ Bypass	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	226.4	204.3	0.90
All Pedestrians	300	316	63.4	LOS F	0.2	0.2	0.96	0.96	229.1	215.3	0.94

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.

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**Site: 101 [PM - Central Coast Highway / Racecourse Road (Site Folder: 2023 Base)]**

Signals - EQUISAT (Fixed-Time/SCATS) Isolated      Cycle Time = 150 seconds (Site User-Given Cycle Time)

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
South: Racecourse Road												
P1	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	232.3	211.9	0.91
East: Central Coast Highway												
P2	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	244.0	227.1	0.93
North: Racecourse Road												

P3 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	233.8	213.9	0.91
P3B Slip/ Bypass	50	53	35.3	LOS D	0.1	0.1	0.92	0.92	192.5	204.3	1.06
West: Central Coast Highway											
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	246.5	230.4	0.93
P4B Slip/ Bypass	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	226.4	204.3	0.90
All Pedestrians	300	316	63.6	LOS F	0.2	0.2	0.96	0.96	229.2	215.3	0.94

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.

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# MOVEMENT SUMMARY

Site: 101 [AM - Faunce Street West / Racecourse Road (Site Folder: 2023 Base)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
1	L2	22	2	23	9.1	0.352	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	57.6
2	T1	612	25	644	4.1	0.352	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.6
Approach		634	27	667	4.3	0.352	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
North: Racecourse Road														
8	T1	468	21	493	4.5	0.292	0.6	LOS A	0.5	3.9	0.10	0.02	0.12	59.0
9	R2	19	5	20	26.3	0.292	12.0	LOS B	0.5	3.9	0.10	0.02	0.12	55.5
Approach		487	26	513	5.3	0.292	1.0	NA	0.5	3.9	0.10	0.02	0.12	58.9
West: Racecourse Road														
10	L2	18	4	19	22.2	0.071	9.6	LOS A	0.2	1.9	0.67	0.83	0.67	47.9
12	R2	10	2	11	20.0	0.071	18.4	LOS C	0.2	1.9	0.67	0.83	0.67	47.5
Approach		28	6	29	21.4	0.071	12.8	LOS B	0.2	1.9	0.67	0.83	0.67	47.7
All Vehicles		1149	59	1209	5.1	0.352	0.9	NA	0.5	3.9	0.06	0.04	0.07	58.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 Delay Model: SIDRA Standard (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

Site: 101 [PM - Faunce Street West / Racecourse Road (Site Folder: 2023 Base)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h ]	[ HV ] veh/h	[ Total veh/h ]	[ HV ] %	v/c	sec		[ Veh. veh ]	[ Dist ] m				km/h
South: Racecourse Road														
1	L2	13	1	14	7.7	0.260	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	57.7
2	T1	462	8	486	1.7	0.260	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		475	9	500	1.9	0.260	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
North: Racecourse Road														
8	T1	675	6	711	0.9	0.389	0.3	LOS A	0.4	3.1	0.06	0.02	0.07	59.5
9	R2	18	4	19	22.2	0.389	10.0	LOS B	0.4	3.1	0.06	0.02	0.07	56.1
Approach		693	10	729	1.4	0.389	0.5	NA	0.4	3.1	0.06	0.02	0.07	59.4
West: Racecourse Road														
10	L2	24	4	25	16.7	0.104	8.0	LOS A	0.3	2.5	0.62	0.80	0.62	48.5
12	R2	21	0	22	0.0	0.104	16.3	LOS C	0.3	2.5	0.62	0.80	0.62	48.7
Approach		45	4	47	8.9	0.104	11.9	LOS B	0.3	2.5	0.62	0.80	0.62	48.6
All Vehicles		1213	23	1277	1.9	0.389	0.8	NA	0.4	3.1	0.05	0.05	0.06	59.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 Delay Model: SIDRA Standard (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

▼ Site: 101 [AM - Faunce Street East / Racecourse Road (Site Folder: 2023 Base)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %	v/c	sec		[ Veh. veh	Dist ] m				km/h
South: Racecourse Road														
2	T1	499	18	525	3.6	0.439	2.3	LOS A	2.9	21.3	0.41	0.17	0.58	56.3
3	R2	131	9	138	6.9	0.439	10.7	LOS B	2.9	21.3	0.41	0.17	0.58	53.9
Approach		630	27	663	4.3	0.439	4.1	NA	2.9	21.3	0.41	0.17	0.58	55.8
East: Faunce Street West														
4	L2	78	4	82	5.1	0.135	7.4	LOS A	0.5	3.5	0.52	0.72	0.52	50.9
6	R2	15	1	16	6.7	0.135	17.2	LOS C	0.5	3.5	0.52	0.72	0.52	50.3
Approach		93	5	98	5.4	0.135	9.0	LOS A	0.5	3.5	0.52	0.72	0.52	50.8
North: Racecourse Road														
7	L2	167	5	176	3.0	0.325	5.7	LOS A	0.0	0.0	0.00	0.17	0.00	56.6
8	T1	409	21	431	5.1	0.325	0.1	LOS A	0.0	0.0	0.00	0.17	0.00	58.2
Approach		576	26	606	4.5	0.325	1.7	NA	0.0	0.0	0.00	0.17	0.00	57.7
All Vehicles		1299	58	1367	4.5	0.439	3.4	NA	2.9	21.3	0.24	0.21	0.32	56.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 Delay Model: SIDRA Standard (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

▼ Site: 101 [PM - Faunce Street East / Racecourse Road (Site Folder: 2023 Base)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
						v/c	sec							km/h
South: Racecourse Road														
2	T1	441	12	464	2.7	0.299	0.9	LOS A	0.9	6.2	0.19	0.07	0.22	58.3
3	R2	45	0	47	0.0	0.299	10.0	LOS A	0.9	6.2	0.19	0.07	0.22	56.2
Approach		486	12	512	2.5	0.299	1.7	NA	0.9	6.2	0.19	0.07	0.22	58.1
East: Faunce Street West														
4	L2	90	0	95	0.0	0.124	8.5	LOS A	0.5	3.2	0.56	0.78	0.56	51.2
6	R2	3	0	3	0.0	0.124	15.4	LOS C	0.5	3.2	0.56	0.78	0.56	50.7
Approach		93	0	98	0.0	0.124	8.8	LOS A	0.5	3.2	0.56	0.78	0.56	51.2
North: Racecourse Road														
7	L2	35	1	37	2.9	0.350	5.7	LOS A	0.0	0.0	0.00	0.03	0.00	57.8
8	T1	604	12	636	2.0	0.350	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	59.5
Approach		639	13	673	2.0	0.350	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.4
All Vehicles		1218	25	1282	2.1	0.350	1.6	NA	0.9	6.2	0.12	0.10	0.13	58.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 Delay Model: SIDRA Standard (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**Site: 101 [AM - Central Coast Highway / Racecourse Road (Site Folder: 2026 Year of Opening - Base + Northside Hospital)]**

Signals - EQUISAT (Fixed-Time/SCATS) Isolated      Cycle Time = 150 seconds (Site User-Given Cycle Time)

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

- \* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
South: Racecourse Road												
P1	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	232.3	211.9	0.91
East: Central Coast Highway												
P2	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	244.0	227.1	0.93
North: Racecourse Road												

P3 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	233.8	213.9	0.91
P3B Slip/ Bypass	50	53	34.2	LOS D	0.1	0.1	0.92	0.92	191.4	204.3	1.07
West: Central Coast Highway											
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	246.5	230.4	0.93
P4B Slip/ Bypass	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	226.4	204.3	0.90
All Pedestrians	300	316	63.4	LOS F	0.2	0.2	0.96	0.96	229.1	215.3	0.94

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.

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**Site: 101 [PM - Central Coast Highway / Racecourse Road (Site Folder: 2026 Year of Opening - Base + Northside Hospital)]**

Signals - EQUISAT (Fixed-Time/SCATS) Isolated      Cycle Time = 150 seconds (Site User-Given Cycle Time)

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
South: Racecourse Road												
P1	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	232.3	211.9	0.91
East: Central Coast Highway												
P2	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	244.0	227.1	0.93
North: Racecourse Road												

P3 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	233.8	213.9	0.91
P3B Slip/ Bypass	50	53	34.2	LOS D	0.1	0.1	0.92	0.92	191.4	204.3	1.07
West: Central Coast Highway											
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	246.5	230.4	0.93
P4B Slip/ Bypass	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	226.4	204.3	0.90
All Pedestrians	300	316	63.4	LOS F	0.2	0.2	0.96	0.96	229.1	215.3	0.94

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.

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# MOVEMENT SUMMARY

▼ Site: 101 [AM - Faunce Street West / Racecourse Road (Site  
Folder: 2026 Year of Opening - Base + Northside Hospital)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
1	L2	23	2	24	8.7	0.434	5.8	LOS A	0.0	0.0	0.00	0.02	0.00	57.5
2	T1	761	27	801	3.5	0.434	0.2	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
Approach		784	29	825	3.7	0.434	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
North: Racecourse Road														
8	T1	544	22	573	4.0	0.350	1.2	LOS A	1.0	7.3	0.14	0.02	0.19	58.3
9	R2	21	6	22	28.6	0.350	16.5	LOS C	1.0	7.3	0.14	0.02	0.19	54.8
Approach		565	28	595	5.0	0.350	1.8	NA	1.0	7.3	0.14	0.02	0.19	58.2
West: Racecourse Road														
10	L2	20	4	21	20.0	0.111	11.5	LOS B	0.3	2.8	0.78	0.91	0.78	45.4
12	R2	10	2	11	20.0	0.111	28.0	LOS D	0.3	2.8	0.78	0.91	0.78	45.0
Approach		30	6	32	20.0	0.111	17.0	LOS C	0.3	2.8	0.78	0.91	0.78	45.3
All Vehicles		1379	63	1452	4.6	0.434	1.3	NA	1.0	7.3	0.07	0.04	0.09	58.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
Delay Model: SIDRA Standard (Geometric Delay is included).  
Queue Model: SIDRA Standard.  
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

▼ Site: 101 [PM - Faunce Street West / Racecourse Road (Site  
Folder: 2026 Year of Opening - Base + Northside Hospital)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
1	L2	14	1	15	7.1	0.304	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	57.7
2	T1	542	8	571	1.5	0.304	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
Approach		556	9	585	1.6	0.304	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6
North: Racecourse Road														
8	T1	825	6	868	0.7	0.475	0.4	LOS A	0.7	4.7	0.07	0.02	0.10	59.4
9	R2	20	4	21	20.0	0.475	11.9	LOS B	0.7	4.7	0.07	0.02	0.10	56.1
Approach		845	10	889	1.2	0.475	0.6	NA	0.7	4.7	0.07	0.02	0.10	59.3
West: Racecourse Road														
10	L2	25	4	26	16.0	0.161	8.6	LOS A	0.5	3.6	0.74	0.87	0.74	46.1
12	R2	22	0	23	0.0	0.161	24.1	LOS C	0.5	3.6	0.74	0.87	0.74	46.2
Approach		47	4	49	8.5	0.161	15.9	LOS C	0.5	3.6	0.74	0.87	0.74	46.1
All Vehicles		1448	23	1524	1.6	0.475	1.0	NA	0.7	4.7	0.06	0.04	0.08	58.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
Delay Model: SIDRA Standard (Geometric Delay is included).  
Queue Model: SIDRA Standard.  
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

Site: 101 [AM - Faunce Street East / Racecourse Road (Site Folder: 2026 Year of Opening - Base + Northside Hospital)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
2	T1	642	19	676	3.0	0.552	3.3	LOS A	4.5	32.5	0.49	0.16	0.78	55.4
3	R2	139	10	146	7.2	0.552	13.3	LOS B	4.5	32.5	0.49	0.16	0.78	53.1
Approach		781	29	822	3.7	0.552	5.1	NA	4.5	32.5	0.49	0.16	0.78	55.0
East: Faunce Street West														
4	L2	83	4	87	4.8	0.187	7.9	LOS A	0.6	4.6	0.59	0.78	0.59	49.7
6	R2	16	1	17	6.3	0.187	25.4	LOS D	0.6	4.6	0.59	0.78	0.59	49.2
Approach		99	5	104	5.1	0.187	10.7	LOS B	0.6	4.6	0.59	0.78	0.59	49.6
North: Racecourse Road														
7	L2	177	5	186	2.8	0.370	5.7	LOS A	0.0	0.0	0.00	0.16	0.00	56.7
8	T1	482	22	507	4.6	0.370	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	58.3
Approach		659	27	694	4.1	0.370	1.6	NA	0.0	0.0	0.00	0.16	0.00	57.9
All Vehicles		1539	61	1620	4.0	0.552	4.0	NA	4.5	32.5	0.28	0.20	0.43	55.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
Delay Model: SIDRA Standard (Geometric Delay is included).  
Queue Model: SIDRA Standard.  
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

▽ Site: 101 [PM - Faunce Street East / Racecourse Road (Site Folder: 2026 Year of Opening - Base + Northside Hospital)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %	v/c	sec		[ Veh. veh	Dist ] m				km/h
South: Racecourse Road														
2	T1	520	13	547	2.5	0.363	1.5	LOS A	1.4	10.1	0.24	0.06	0.32	57.6
3	R2	48	0	51	0.0	0.363	12.8	LOS B	1.4	10.1	0.24	0.06	0.32	55.5
Approach		568	13	598	2.3	0.363	2.5	NA	1.4	10.1	0.24	0.06	0.32	57.4
East: Faunce Street West														
4	L2	95	0	100	0.0	0.168	10.0	LOS B	0.6	4.2	0.65	0.85	0.65	50.1
6	R2	3	0	3	0.0	0.168	22.1	LOS C	0.6	4.2	0.65	0.85	0.65	49.6
Approach		98	0	103	0.0	0.168	10.4	LOS B	0.6	4.2	0.65	0.85	0.65	50.0
North: Racecourse Road														
7	L2	37	1	39	2.7	0.430	5.7	LOS A	0.0	0.0	0.00	0.03	0.00	57.7
8	T1	749	13	788	1.7	0.430	0.2	LOS A	0.0	0.0	0.00	0.03	0.00	59.4
Approach		786	14	827	1.8	0.430	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.4
All Vehicles		1452	27	1528	1.9	0.430	1.9	NA	1.4	10.1	0.14	0.10	0.17	57.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 Delay Model: SIDRA Standard (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

## MOVEMENT SUMMARY

 **Site: 101 [AM - Central Coast Highway / Racecourse Road (Site Folder: 2026 Year of Opening - Base + Northside Hospital + Development)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %	v/c	sec		[ Veh. veh	Dist ] m				km/h
South: Racecourse Road														
1	L2	20	0	20	0.0	0.263	77.8	LOS F	2.5	17.5	0.98	0.73	0.98	25.9
2	T1	13	0	13	0.0	* 0.263	73.2	LOS F	2.5	17.5	0.98	0.73	0.98	25.9
3	R2	28	0	28	0.0	0.263	81.2	LOS F	2.5	17.5	0.99	0.72	0.99	25.1
Approach		61	0	61	0.0	0.263	78.4	LOS F	2.5	17.5	0.99	0.72	0.99	25.5
East: Central Coast Highway														
4	L2	44	1	44	2.3	0.934	77.0	LOS F	62.2	449.9	1.00	1.07	1.18	27.2
5	T1	2078	83	2078	4.0	0.934	66.1	LOS E	62.2	450.3	0.98	1.05	1.17	30.8
6	R2	214	3	219	1.4	* 0.941	98.8	LOS F	19.2	136.0	1.00	1.00	1.42	23.1
Approach		2336	87	2341	3.7	0.941	69.4	LOS E	62.2	450.3	0.98	1.04	1.20	29.8
North: Racecourse Road														
7	L2	93	2	95	2.1	0.575	53.2	LOS D	15.4	111.8	0.93	0.84	0.93	32.3
8	T1	8	0	8	0.0	* 0.575	48.9	LOS D	15.4	111.8	0.93	0.84	0.93	30.6
9	R2	399	25	400	6.3	0.575	57.3	LOS E	15.8	116.9	0.93	0.83	0.93	31.6
Approach		500	27	503	5.4	0.575	56.4	LOS D	15.8	116.9	0.93	0.83	0.93	31.7
West: Central Coast Highway														
10	L2	693	23	695	3.3	0.590	18.7	LOS B	26.9	202.6	0.56	0.76	0.56	48.3
11	T1	2107	95	2107	4.5	* 0.956	71.4	LOS F	68.3	488.9	0.96	1.07	1.21	29.7
12	R2	32	1	32	3.1	0.139	69.8	LOS E	2.1	15.1	0.92	0.73	0.92	27.6
Approach		2832	119	2834	4.2	0.956	58.4	LOS E	68.3	488.9	0.86	0.99	1.05	32.6
All Vehicles		5729	233	5739	4.1	0.956	62.9	LOS E	68.3	488.9	0.92	1.00	1.10	31.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
South: Racecourse Road												
P1	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	232.3	211.9	0.91
East: Central Coast Highway												
P2	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	244.0	227.1	0.93

North: Racecourse Road												
P3 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	233.8	213.9	0.91	
P3B Slip/ Bypass	50	53	34.2	LOS D	0.1	0.1	0.92	0.92	191.4	204.3	1.07	
West: Central Coast Highway												
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	246.5	230.4	0.93	
P4B Slip/ Bypass	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	226.4	204.3	0.90	
All Pedestrians	300	316	63.4	LOS F	0.2	0.2	0.96	0.96	229.1	215.3	0.94	

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 [PM - Central Coast Highway / Racecourse Road (Site Folder: 2026 Year of Opening - Base + Northside Hospital + Development)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
1	L2	36	0	36	0.0	0.801	86.7	LOS F	7.3	51.1	1.00	0.90	1.24	24.3
2	T1	29	0	29	0.0	* 0.801	82.1	LOS F	7.3	51.1	1.00	0.90	1.24	24.3
3	R2	107	0	107	0.0	0.801	87.7	LOS F	7.3	51.1	1.00	0.90	1.26	24.0
Approach		172	0	172	0.0	0.801	86.6	LOS F	7.3	51.1	1.00	0.90	1.25	24.2
East: Central Coast Highway														
4	L2	132	0	132	0.0	0.739	44.2	LOS D	39.8	281.4	0.86	0.84	0.86	35.7
5	T1	1925	29	1925	1.5	0.739	33.3	LOS C	40.3	285.9	0.85	0.79	0.85	42.5
6	R2	80	0	82	0.0	0.950	105.0	LOS F	7.2	50.4	1.00	0.99	1.60	22.2
Approach		2137	29	2139	1.4	0.950	36.7	LOS C	40.3	285.9	0.86	0.80	0.88	40.6
North: Racecourse Road														
7	L2	225	1	230	0.4	1.019	127.1	LOS F	46.9	330.7	1.00	1.15	1.56	19.6
8	T1	29	0	29	0.0	* 1.019	122.8	LOS F	46.9	330.7	1.00	1.15	1.56	18.9
9	R2	618	9	620	1.5	1.019	127.2	LOS F	46.9	330.7	1.00	1.14	1.56	19.6
Approach		872	10	879	1.1	1.019	127.0	LOS F	46.9	330.7	1.00	1.14	1.56	19.6
West: Central Coast Highway														
10	L2	450	13	451	2.9	0.330	11.7	LOS A	9.8	71.7	0.32	0.68	0.32	53.1
11	T1	2660	40	2660	1.5	* 1.018	102.5	LOS F	103.5	731.0	1.00	1.27	1.43	23.6
12	R2	86	0	86	0.0	* 0.992	120.1	LOS F	8.1	56.8	1.00	1.02	1.73	20.0
Approach		3196	53	3197	1.7	1.018	90.2	LOS F	103.5	731.0	0.90	1.18	1.28	25.4
All Vehicles		6377	92	6387	1.4	1.019	77.3	LOS F	103.5	731.0	0.90	1.04	1.18	27.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

\* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
South: Racecourse Road												
P1	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	232.3	211.9	0.91
East: Central Coast Highway												
P2	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	244.0	227.1	0.93

North: Racecourse Road												
P3 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	233.8	213.9	0.91	
P3B Slip/ Bypass	50	53	34.0	LOS D	0.1	0.1	0.92	0.92	191.1	204.3	1.07	
West: Central Coast Highway												
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	246.5	230.4	0.93	
P4B Slip/ Bypass	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	226.4	204.3	0.90	
All Pedestrians	300	316	63.4	LOS F	0.2	0.2	0.96	0.96	229.0	215.3	0.94	

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.

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## MOVEMENT SUMMARY

▼ Site: 101 [AM - Racecourse Road / Site Access - Bus (Site Folder: 2026 Year of Opening - Base + Northside Hospital + Development)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
						v/c	sec							km/h
South: Racecourse Road														
2	T1	903	34	951	3.8	0.499	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
3	R2	1	0	1	0.0	0.001	7.8	LOS A	0.0	0.0	0.48	0.58	0.48	51.4
Approach		904	34	952	3.8	0.499	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.6
East: Site Access														
4	L2	3	2	3	66.7	0.476	73.8	LOS F	1.4	16.4	0.98	1.04	1.14	13.9
6	R2	9	8	9	88.9	0.476	239.5	LOS F	1.4	16.4	0.98	1.04	1.14	13.7
Approach		12	10	13	83.3	0.476	198.1	LOS F	1.4	16.4	0.98	1.04	1.14	13.8
North: Racecourse Road														
7	L2	1	0	1	0.0	0.313	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	58.2
8	T1	563	24	593	4.3	0.313	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		564	24	594	4.3	0.313	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		1480	68	1558	4.6	0.499	1.8	NA	1.4	16.4	0.01	0.01	0.01	58.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: \\Au2019-ppfss01\shared\_projects\300304375\technical\modelling\230413\_sid\_racecourse\_road\_gosford - Copy.sip9

## MOVEMENT SUMMARY

▼ Site: 101 [PM - Racecourse Road / Site Access - Bus (Site Folder: 2026 Year of Opening - Base + Northside Hospital + Development)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
2	T1	560	9	589	1.6	0.318	0.5	LOS A	0.3	2.2	0.03	0.00	0.04	59.4
3	R2	3	2	3	66.7	0.318	26.5	LOS D	0.3	2.2	0.03	0.00	0.04	53.8
Approach		563	11	593	2.0	0.318	0.7	NA	0.3	2.2	0.03	0.00	0.04	59.4
East: Site Access														
4	L2	1	0	1	0.0	0.008	10.6	LOS B	0.0	0.2	0.79	0.84	0.79	46.3
6	R2	1	0	1	0.0	0.008	22.1	LOS C	0.0	0.2	0.79	0.84	0.79	45.9
Approach		2	0	2	0.0	0.008	16.3	LOS C	0.0	0.2	0.79	0.84	0.79	46.1
North: Racecourse Road														
7	L2	9	8	9	88.9	0.470	6.7	LOS A	0.0	0.0	0.00	0.01	0.00	54.0
8	T1	851	7	896	0.8	0.470	0.2	LOS A	0.0	0.0	0.00	0.01	0.00	59.6
Approach		860	15	905	1.7	0.470	0.3	NA	0.0	0.0	0.00	0.01	0.00	59.6
All Vehicles		1425	26	1500	1.8	0.470	0.4	NA	0.3	2.2	0.01	0.01	0.02	59.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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## MOVEMENT SUMMARY

▼ Site: 101 [AM - Racecourse Road / Site Access - Car Park  
(Site Folder: 2026 Year of Opening - Base + Northside Hospital +  
Development)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
2	T1	901	34	948	3.8	0.503	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
3	R2	20	0	21	0.0	0.022	8.0	LOS A	0.1	0.6	0.49	0.68	0.49	51.3
Approach		921	34	969	3.7	0.503	0.4	NA	0.1	0.6	0.01	0.01	0.01	59.4
East: Site Access														
4	L2	6	0	6	0.0	0.040	7.9	LOS A	0.1	0.8	0.77	0.81	0.77	44.7
6	R2	3	0	3	0.0	0.040	41.6	LOS E	0.1	0.8	0.77	0.81	0.77	44.3
Approach		9	0	9	0.0	0.040	19.2	LOS C	0.1	0.8	0.77	0.81	0.77	44.6
North: Racecourse Road														
7	L2	9	0	9	0.0	0.315	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	58.1
8	T1	557	26	586	4.7	0.315	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
Approach		566	26	596	4.6	0.315	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.7
All Vehicles		1496	60	1575	4.0	0.503	0.4	NA	0.1	0.8	0.01	0.02	0.01	59.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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## MOVEMENT SUMMARY

▽ Site: 101 [PM - Racecourse Road / Site Access - Car Park  
(Site Folder: 2026 Year of Opening - Base + Northside Hospital +  
Development)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
2	T1	554	11	583	2.0	0.314	0.2	LOS A	0.2	1.4	0.04	0.01	0.04	59.6
3	R2	6	0	6	0.0	0.314	13.8	LOS B	0.2	1.4	0.04	0.01	0.04	57.4
Approach		560	11	589	2.0	0.314	0.4	NA	0.2	1.4	0.04	0.01	0.04	59.6
East: Site Access														
4	L2	20	0	21	0.0	0.088	10.9	LOS B	0.3	1.9	0.77	0.90	0.77	47.3
6	R2	9	0	9	0.0	0.088	22.8	LOS C	0.3	1.9	0.77	0.90	0.77	46.9
Approach		29	0	31	0.0	0.088	14.6	LOS B	0.3	1.9	0.77	0.90	0.77	47.2
North: Racecourse Road														
7	L2	5	0	5	0.0	0.463	5.7	LOS A	0.0	0.0	0.00	0.00	0.00	58.0
8	T1	847	7	892	0.8	0.463	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
Approach		852	7	897	0.8	0.463	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.6
All Vehicles		1441	18	1517	1.2	0.463	0.6	NA	0.3	1.9	0.03	0.02	0.03	59.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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## MOVEMENT SUMMARY

▼ Site: 101 [AM - Faunce Street West / Racecourse Road (Site Folder: 2026 Year of Opening - Base + Northside Hospital + Development)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
1	L2	23	2	24	8.7	0.442	5.8	LOS A	0.0	0.0	0.00	0.02	0.00	57.5
2	T1	771	35	812	4.5	0.442	0.2	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
Approach		794	37	836	4.7	0.442	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
North: Racecourse Road														
8	T1	552	22	581	4.0	0.356	1.3	LOS A	1.1	7.7	0.14	0.02	0.19	58.3
9	R2	21	6	22	28.6	0.356	17.0	LOS C	1.1	7.7	0.14	0.02	0.19	54.7
Approach		573	28	603	4.9	0.356	1.9	NA	1.1	7.7	0.14	0.02	0.19	58.1
West: Racecourse Road														
10	L2	20	4	21	20.0	0.116	11.7	LOS B	0.3	2.9	0.79	0.91	0.79	45.1
12	R2	10	2	11	20.0	0.116	29.2	LOS D	0.3	2.9	0.79	0.91	0.79	44.7
Approach		30	6	32	20.0	0.116	17.5	LOS C	0.3	2.9	0.79	0.91	0.79	45.0
All Vehicles		1397	71	1471	5.1	0.442	1.3	NA	1.1	7.7	0.08	0.04	0.10	58.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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# MOVEMENT SUMMARY

▼ Site: 101 [PM - Faunce Street West / Racecourse Road (Site Folder: 2026 Year of Opening - Base + Northside Hospital + Development)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
1	L2	14	1	15	7.1	0.308	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	57.7
2	T1	550	8	579	1.5	0.308	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
Approach		564	9	594	1.6	0.308	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6
North: Racecourse Road														
8	T1	837	14	881	1.7	0.485	0.4	LOS A	0.7	4.9	0.07	0.01	0.10	59.4
9	R2	20	4	21	20.0	0.485	12.2	LOS B	0.7	4.9	0.07	0.01	0.10	56.1
Approach		857	18	902	2.1	0.485	0.7	NA	0.7	4.9	0.07	0.01	0.10	59.3
West: Racecourse Road														
10	L2	25	4	26	16.0	0.169	8.7	LOS A	0.5	3.8	0.75	0.88	0.75	45.8
12	R2	22	0	23	0.0	0.169	25.2	LOS D	0.5	3.8	0.75	0.88	0.75	45.9
Approach		47	4	49	8.5	0.169	16.4	LOS C	0.5	3.8	0.75	0.88	0.75	45.8
All Vehicles		1468	31	1545	2.1	0.485	1.0	NA	0.7	4.9	0.06	0.04	0.08	58.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
Delay Model: SIDRA Standard (Geometric Delay is included).  
Queue Model: SIDRA Standard.  
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

## MOVEMENT SUMMARY

▼ Site: 101 [AM - Faunce Street East / Racecourse Road (Site Folder: 2026 Year of Opening - Base + Northside Hospital + Development)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
2	T1	648	25	682	3.9	0.567	3.6	LOS A	4.8	35.3	0.51	0.16	0.83	55.1
3	R2	143	12	151	8.4	0.567	13.8	LOS B	4.8	35.3	0.51	0.16	0.83	52.8
Approach		791	37	833	4.7	0.567	5.4	NA	4.8	35.3	0.51	0.16	0.83	54.7
East: Faunce Street West														
4	L2	86	4	91	4.7	0.196	7.9	LOS A	0.7	4.8	0.60	0.79	0.60	49.6
6	R2	16	1	17	6.3	0.196	26.5	LOS D	0.7	4.8	0.60	0.79	0.60	49.1
Approach		102	5	107	4.9	0.196	10.8	LOS B	0.7	4.8	0.60	0.79	0.60	49.5
North: Racecourse Road														
7	L2	177	5	186	2.8	0.373	5.7	LOS A	0.0	0.0	0.00	0.16	0.00	56.7
8	T1	488	22	514	4.5	0.373	0.1	LOS A	0.0	0.0	0.00	0.16	0.00	58.3
Approach		665	27	700	4.1	0.373	1.6	NA	0.0	0.0	0.00	0.16	0.00	57.9
All Vehicles		1558	69	1640	4.4	0.567	4.1	NA	4.8	35.3	0.30	0.20	0.46	55.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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## MOVEMENT SUMMARY

▼ Site: 101 [PM - Faunce Street East / Racecourse Road (Site Folder: 2026 Year of Opening - Base + Northside Hospital + Development)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
2	T1	530	13	558	2.5	0.372	1.6	LOS A	1.5	10.8	0.25	0.06	0.34	57.5
3	R2	49	0	52	0.0	0.372	13.1	LOS B	1.5	10.8	0.25	0.06	0.34	55.4
Approach		579	13	609	2.2	0.372	2.6	NA	1.5	10.8	0.25	0.06	0.34	57.3
East: Faunce Street West														
4	L2	97	1	102	1.0	0.177	10.3	LOS B	0.6	4.4	0.67	0.86	0.67	49.8
6	R2	3	0	3	0.0	0.177	23.1	LOS C	0.6	4.4	0.67	0.86	0.67	49.4
Approach		100	1	105	1.0	0.177	10.7	LOS B	0.6	4.4	0.67	0.86	0.67	49.8
North: Racecourse Road														
7	L2	37	1	39	2.7	0.439	5.7	LOS A	0.0	0.0	0.00	0.03	0.00	57.7
8	T1	760	20	800	2.6	0.439	0.2	LOS A	0.0	0.0	0.00	0.03	0.00	59.4
Approach		797	21	839	2.6	0.439	0.4	NA	0.0	0.0	0.00	0.03	0.00	59.3
All Vehicles		1476	35	1554	2.4	0.439	2.0	NA	1.5	10.8	0.14	0.10	0.18	57.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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**Site: 101 [AM - Central Coast Highway / Racecourse Road (Site Folder: 2033 10 Year Horizon - Base + Northside Hospital)]**

Signals - EQUISAT (Fixed-Time/SCATS) Isolated      Cycle Time = 150 seconds (Site User-Given Cycle Time)

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
South: Racecourse Road												
P1	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	232.3	211.9	0.91
East: Central Coast Highway												
P2	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	244.0	227.1	0.93
North: Racecourse Road												

P3 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	233.8	213.9	0.91
P3B Slip/ Bypass	50	53	34.2	LOS D	0.1	0.1	0.92	0.92	191.4	204.3	1.07
West: Central Coast Highway											
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	246.5	230.4	0.93
P4B Slip/ Bypass	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	226.4	204.3	0.90
All Pedestrians	300	316	63.4	LOS F	0.2	0.2	0.96	0.96	229.1	215.3	0.94

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.

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**Site: 101 [PM - Central Coast Highway / Racecourse Road (Site Folder: 2033 10 Year Horizon - Base + Northside Hospital)]**

Signals - EQUISAT (Fixed-Time/SCATS) Isolated      Cycle Time = 150 seconds (Site User-Given Cycle Time)

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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 (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[ Ped ped	Dist ] m			sec	m	m/sec
South: Racecourse Road												
P1	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	232.3	211.9	0.91
East: Central Coast Highway												
P2	Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	244.0	227.1	0.93
North: Racecourse Road												

P3 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	233.8	213.9	0.91
P3B Slip/ Bypass	50	53	35.3	LOS D	0.1	0.1	0.92	0.92	192.5	204.3	1.06
West: Central Coast Highway											
P4 Full	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	246.5	230.4	0.93
P4B Slip/ Bypass	50	53	69.3	LOS F	0.2	0.2	0.96	0.96	226.4	204.3	0.90
All Pedestrians	300	316	63.6	LOS F	0.2	0.2	0.96	0.96	229.2	215.3	0.94

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.

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# MOVEMENT SUMMARY

Site: 101 [AM - Faunce Street West / Racecourse Road (Site Folder: 2033 10 Year Horizon - Base + Northside Hospital)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
1	L2	26	2	27	7.7	0.490	5.8	LOS A	0.0	0.0	0.00	0.02	0.00	57.5
2	T1	858	31	903	3.6	0.490	0.2	LOS A	0.0	0.0	0.00	0.02	0.00	59.5
Approach		884	33	931	3.7	0.490	0.4	NA	0.0	0.0	0.00	0.02	0.00	59.4
North: Racecourse Road														
8	T1	618	25	651	4.0	0.412	2.1	LOS A	1.7	12.6	0.19	0.02	0.27	57.4
9	R2	24	7	25	29.2	0.412	21.4	LOS C	1.7	12.6	0.19	0.02	0.27	53.9
Approach		642	32	676	5.0	0.412	2.8	NA	1.7	12.6	0.19	0.02	0.27	57.2
West: Racecourse Road														
10	L2	22	4	23	18.2	0.179	13.5	LOS B	0.5	4.2	0.86	0.95	0.88	42.5
12	R2	12	2	13	16.7	0.179	39.4	LOS E	0.5	4.2	0.86	0.95	0.88	42.1
Approach		34	6	36	17.6	0.179	22.6	LOS C	0.5	4.2	0.86	0.95	0.88	42.3
All Vehicles		1560	71	1642	4.6	0.490	1.9	NA	1.7	12.6	0.10	0.04	0.13	58.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 Delay Model: SIDRA Standard (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

▼ Site: 101 [PM - Faunce Street West / Racecourse Road (Site Folder: 2033 10 Year Horizon - Base + Northside Hospital)]

New Site

Site Category: (None)

Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
1	L2	16	1	17	6.3	0.345	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	57.7
2	T1	615	9	647	1.5	0.345	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		631	10	664	1.6	0.345	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.6
North: Racecourse Road														
8	T1	931	7	980	0.8	0.539	0.5	LOS A	0.9	6.6	0.08	0.01	0.13	59.2
9	R2	22	4	23	18.2	0.539	14.3	LOS B	0.9	6.6	0.08	0.01	0.13	56.0
Approach		953	11	1003	1.2	0.539	0.8	NA	0.9	6.6	0.08	0.01	0.13	59.1
West: Racecourse Road														
10	L2	29	5	31	17.2	0.269	11.1	LOS B	0.8	6.3	0.83	0.96	0.93	42.2
12	R2	25	0	26	0.0	0.269	36.8	LOS E	0.8	6.3	0.83	0.96	0.93	42.4
Approach		54	5	57	9.3	0.269	23.0	LOS C	0.8	6.3	0.83	0.96	0.93	42.3
All Vehicles		1638	26	1724	1.6	0.539	1.3	NA	0.9	6.6	0.08	0.05	0.11	58.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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# MOVEMENT SUMMARY

▼ Site: 101 [AM - Faunce Street East / Racecourse Road (Site Folder: 2033 10 Year Horizon - Base + Northside Hospital)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
2	T1	720	22	758	3.1	0.666	5.6	LOS A	7.3	53.1	0.65	0.18	1.19	53.3
3	R2	160	12	168	7.5	0.666	17.2	LOS C	7.3	53.1	0.65	0.18	1.19	51.2
Approach		880	34	926	3.9	0.666	7.7	NA	7.3	53.1	0.65	0.18	1.19	52.9
East: Faunce Street West														
4	L2	95	5	100	5.3	0.277	9.2	LOS A	1.0	7.3	0.67	0.89	0.76	47.8
6	R2	18	1	19	5.6	0.277	37.2	LOS E	1.0	7.3	0.67	0.89	0.76	47.3
Approach		113	6	119	5.3	0.277	13.6	LOS B	1.0	7.3	0.67	0.89	0.76	47.7
North: Racecourse Road														
7	L2	203	6	214	3.0	0.422	5.7	LOS A	0.0	0.0	0.00	0.16	0.00	56.6
8	T1	547	25	576	4.6	0.422	0.2	LOS A	0.0	0.0	0.00	0.16	0.00	58.3
Approach		750	31	789	4.1	0.422	1.7	NA	0.0	0.0	0.00	0.16	0.00	57.8
All Vehicles		1743	71	1835	4.1	0.666	5.5	NA	7.3	53.1	0.37	0.22	0.65	54.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 Delay Model: SIDRA Standard (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

Site: 101 [PM - Faunce Street East / Racecourse Road (Site Folder: 2033 10 Year Horizon - Base + Northside Hospital)]

New Site  
Site Category: (None)  
Give-Way (Two-Way)

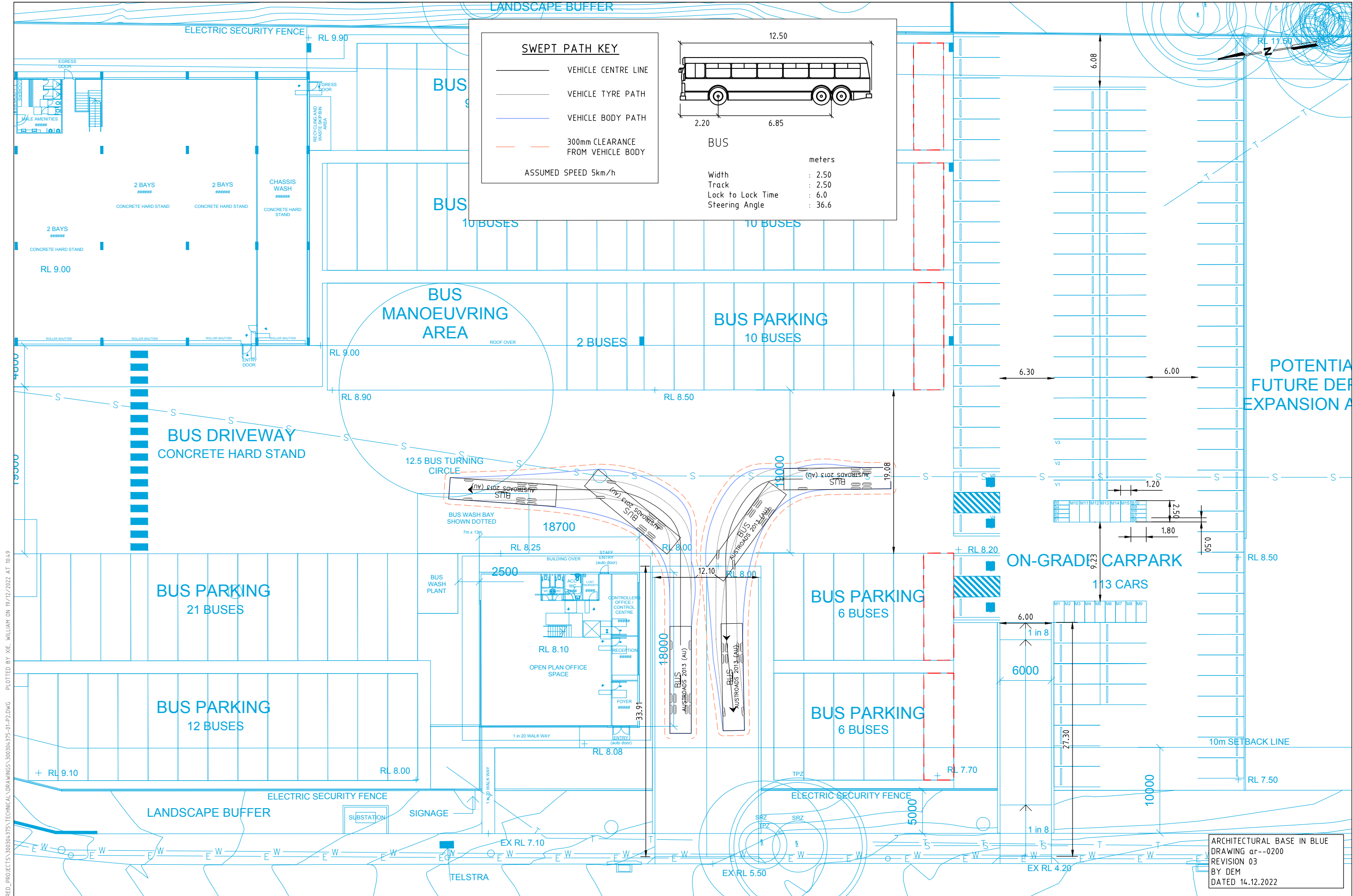
Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] veh/h	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Racecourse Road														
2	T1	537	15	565	2.8	0.404	2.5	LOS A	2.1	15.3	0.32	0.07	0.45	56.5
3	R2	55	0	58	0.0	0.404	15.3	LOS C	2.1	15.3	0.32	0.07	0.45	54.5
Approach		592	15	623	2.5	0.404	3.7	NA	2.1	15.3	0.32	0.07	0.45	56.3
East: Faunce Street West														
4	L2	110	0	116	0.0	0.238	11.8	LOS B	0.9	6.1	0.73	0.91	0.80	48.7
6	R2	4	0	4	0.0	0.238	28.8	LOS D	0.9	6.1	0.73	0.91	0.80	48.3
Approach		114	0	120	0.0	0.238	12.4	LOS B	0.9	6.1	0.73	0.91	0.80	48.7
North: Racecourse Road														
7	L2	42	1	44	2.4	0.485	5.7	LOS A	0.0	0.0	0.00	0.03	0.00	57.7
8	T1	844	15	888	1.8	0.485	0.2	LOS A	0.0	0.0	0.00	0.03	0.00	59.4
Approach		886	16	933	1.8	0.485	0.5	NA	0.0	0.0	0.00	0.03	0.00	59.3
All Vehicles		1592	31	1676	1.9	0.485	2.5	NA	2.1	15.3	0.17	0.11	0.22	57.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 Delay Model: SIDRA Standard (Geometric Delay is included).  
 Queue Model: SIDRA Standard.  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



## Appendix B Vehicle Swept Paths





**SWEPT PATH KEY**

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

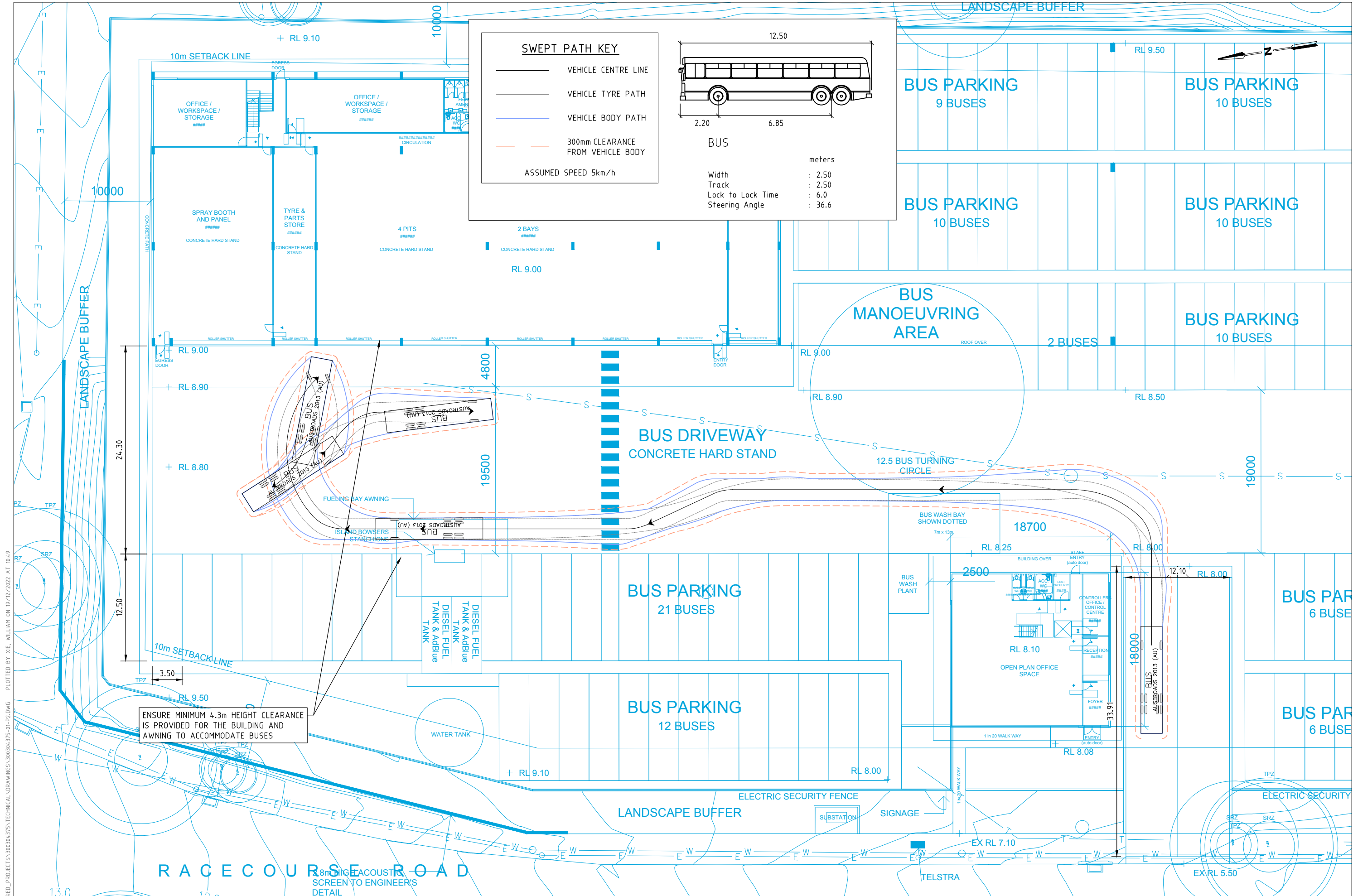
ASSUMED SPEED 5km/h

**BUS**

Width : 2.50 meters  
Track : 2.50  
Lock to Lock Time : 6.0  
Steering Angle : 36.6

\\AU2019-PPF5501\SHARED\_PROJECTS\300304375\TECHNICAL DRAWINGS\300304375-01-P2.DWG PLOTTED BY XIE, WILLIAM ON 19/12/2022 AT 10:49





\\AU2019-PPF5501\SHARED\_PROJECTS\300304375\TECHNICAL DRAWINGS\300304375-01-P2.DWG PLOTTED BY XIE, WILLIAM ON 19/12/2022 AT 10:49



**PRELIMINARY PLAN**  
FOR DISCUSSION PURPOSES ONLY  
SUBJECT TO CHANGE WITHOUT  
NOTIFICATION

**WARNING**  
BEWARE OF UNDERGROUND SERVICES  
THE LOCATIONS OF UNDERGROUND SERVICES ARE  
APPROXIMATE ONLY AND THEIR EXACT POSITION  
SHOULD BE PROVEN ON SITE. NO GUARANTEE IS  
GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

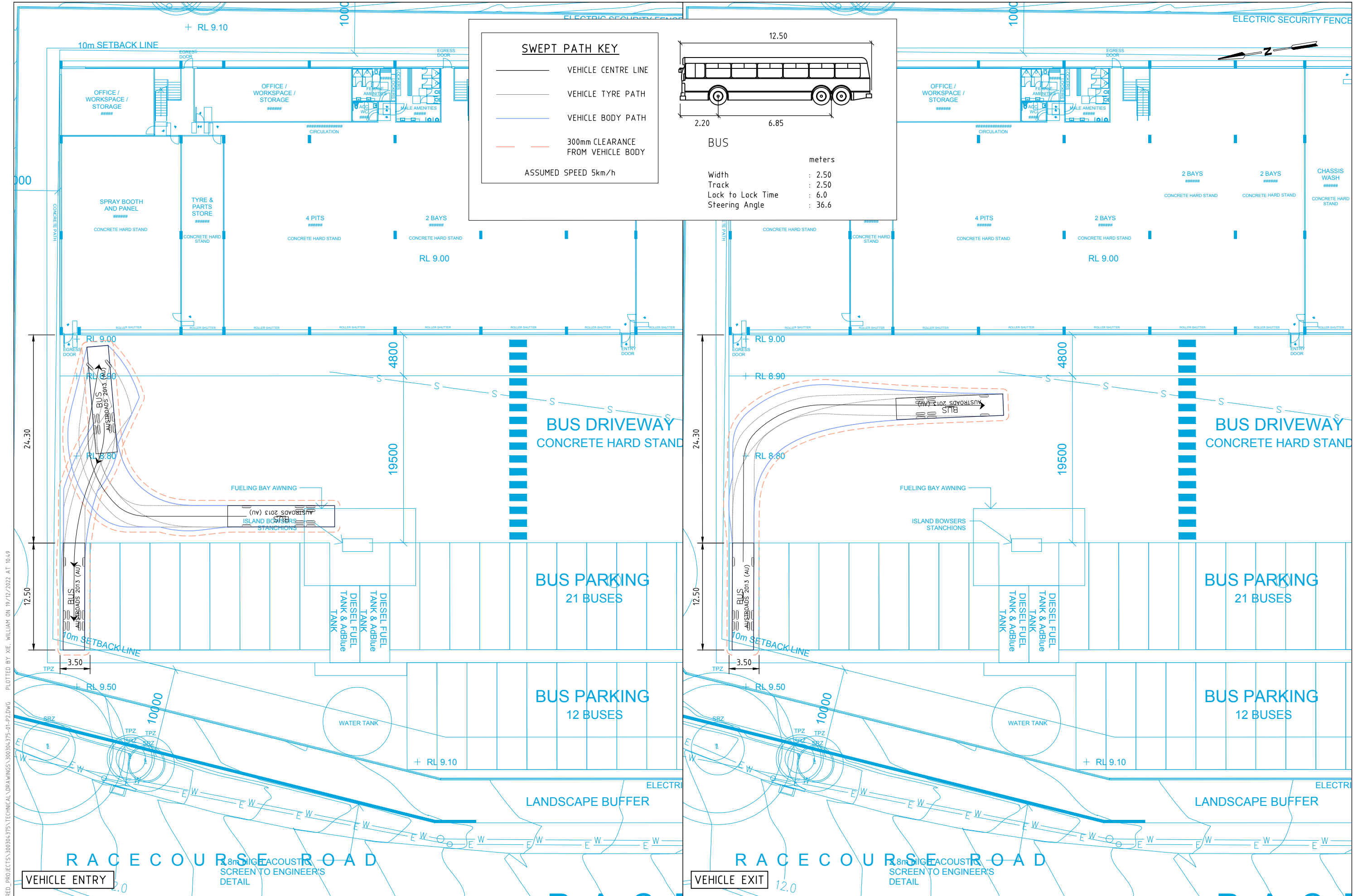
DESIGNED  
W.XIE  
  
APPROVED BY  
R.HAZELL

DESIGN CHECK  
R.HAZELL  
  
DATE ISSUED  
14 DECEMBER 2022

SCALE  
A3  
0 2 4 8 1400  
  
CAD FILE NO.  
300304375-01-P2.DWG

WALUYA PTY LTD WEST GOSFORD  
  
VEHICLE SWEEP PATH ASSESSMENT  
DRAWING NO. 300304375-01-03 SHEET 03 OF 08 ISSUE P2





**SWEPT PATH KEY**

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- - - 300mm CLEARANCE FROM VEHICLE BODY
- ASSUMED SPEED 5km/h

**BUS**

Width : 2.50 meters  
Track : 2.50  
Lock to Lock Time : 6.0  
Steering Angle : 36.6

12.50  
2.20 6.85

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**PRELIMINARY PLAN**  
FOR DISCUSSION PURPOSES ONLY  
SUBJECT TO CHANGE WITHOUT  
NOTIFICATION

**WARNING**  
BEWARE OF UNDERGROUND SERVICES  
THE LOCATIONS OF UNDERGROUND SERVICES ARE  
APPROXIMATE ONLY AND THEIR EXACT POSITION  
SHOULD BE PROVEN ON SITE. NO GUARANTEE IS  
GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED  
W.XIE

APPROVED BY  
R.HAZELL

DESIGN CHECK  
R.HAZELL

DATE ISSUED  
14 DECEMBER 2022

SCALE  
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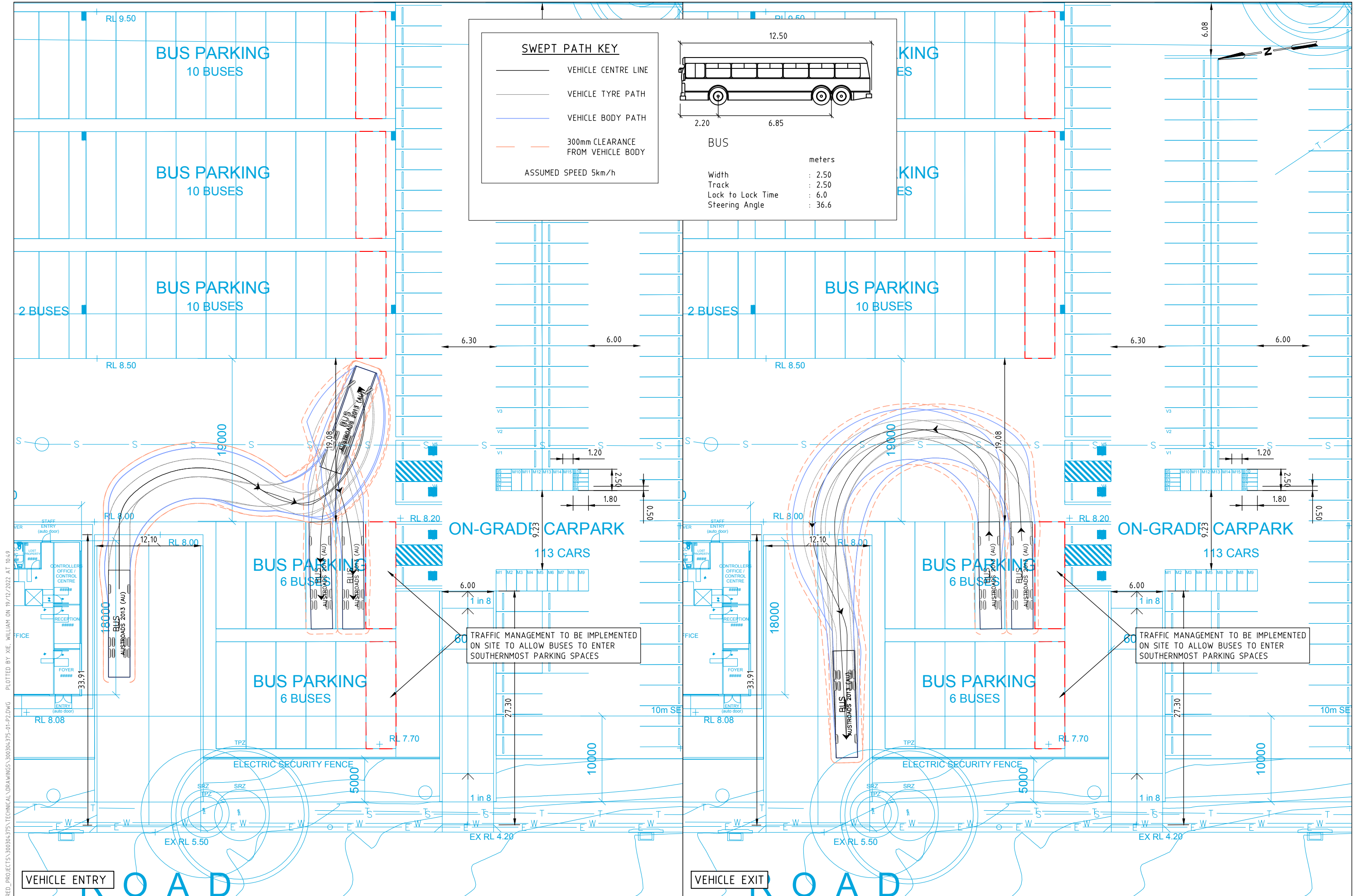
CAD FILE NO.  
300304375-01-P2.DWG

WALUYA PTY LTD WEST GOSFORD

**VEHICLE SWEPT PATH ASSESSMENT**

DRAWING NO. 300304375-01-04 SHEET 04 OF 08 ISSUE P2





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**PRELIMINARY PLAN**  
FOR DISCUSSION PURPOSES ONLY  
SUBJECT TO CHANGE WITHOUT  
NOTIFICATION

**WARNING**  
BEWARE OF UNDERGROUND SERVICES  
THE LOCATIONS OF UNDERGROUND SERVICES ARE  
APPROXIMATE ONLY AND THEIR EXACT POSITION  
SHOULD BE PROVEN ON SITE. NO GUARANTEE IS  
GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED  
W.XIE  
  
APPROVED BY  
R.HAZELL

DESIGN CHECK  
R.HAZELL  
  
DATE ISSUED  
14 DECEMBER 2022

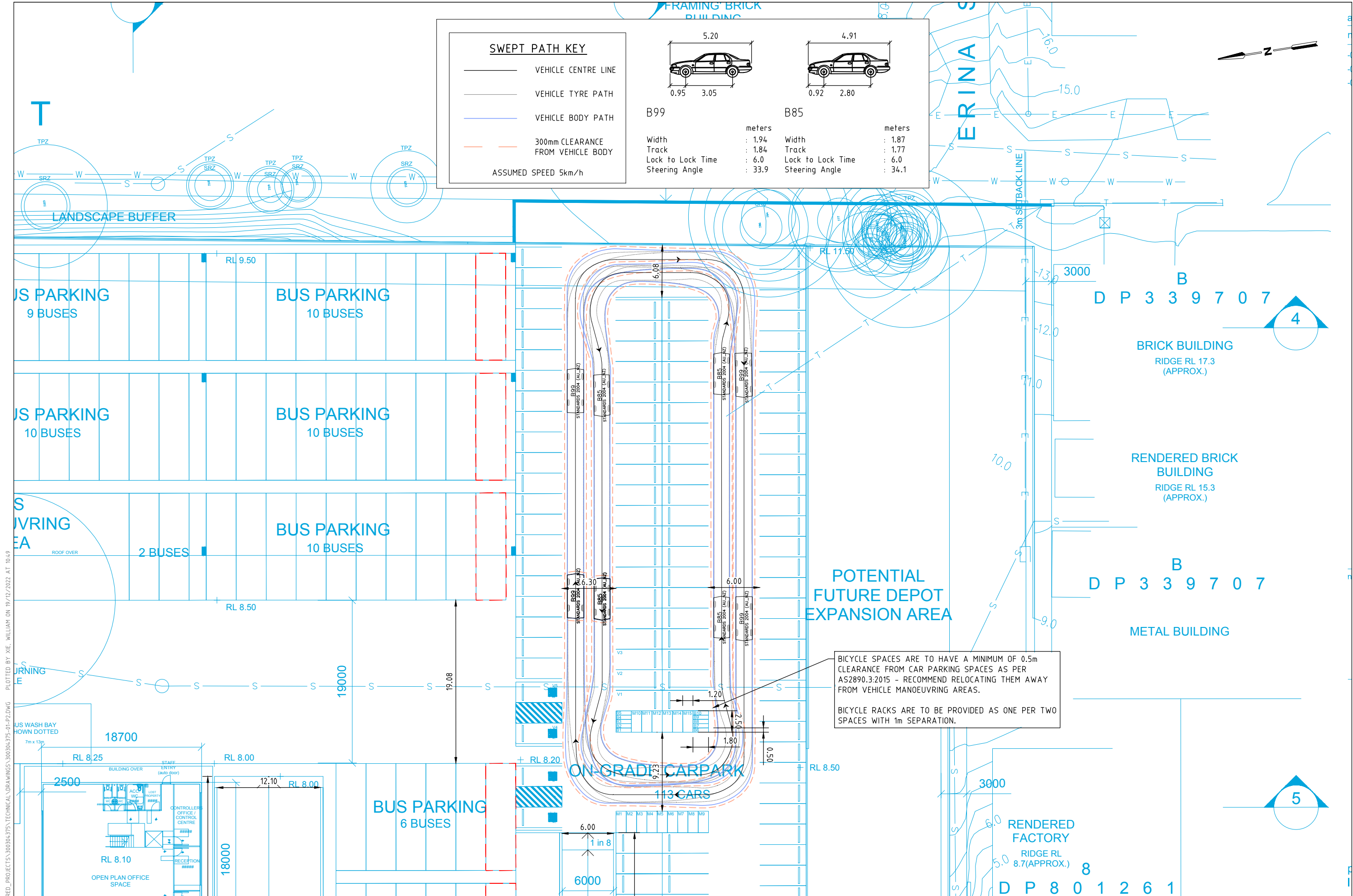
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CAD FILE NO.  
300304375-01-P2.DWG

WALUYA PTY LTD WEST GOSFORD  
  
**VEHICLE SWEPT PATH ASSESSMENT**  
DRAWING NO. 300304375-01-06 SHEET 06 OF 08 ISSUE P2









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**PRELIMINARY PLAN**  
FOR DISCUSSION PURPOSES ONLY  
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DESIGNED  
W.XIE

DESIGN CHECK  
R.HAZELL

APPROVED BY  
R.HAZELL

DATE ISSUED  
14 DECEMBER 2022

SCALE  
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CAD FILE NO.  
300304375-01-P2.DWG

WALUYA PTY LTD WEST GOSFORD

VEHICLE SWEEP PATH ASSESSMENT

DRAWING NO. 300304375-01-08 SHEET 08 OF 08 ISSUE P2