VILLAGE HUB PROJECTS PTY LTD

TRAFFIC REPORT FOR PROPOSED HUNGRY JACKS, 254-256 GOONOO GOONOO ROAD, SOUTH TAMWORTH

NOVEMBER 2024

[redacted]

Email: [redacted]

REF: 12410/2

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1. INTRODUCTION

1.1 Colston Budd Rogers and Kafes Pty Ltd has been commissioned by [redacted] to prepare a report examining the traffic and parking implications of the proposed Hungry Jacks at 254-256 Goonoo Goonoo Road, South Tamworth. The site of the proposed development is shown in Figure 1.

1.2 In 2015, Tamworth Regional Council approved a fast food outlet (Carls Jr) with a drive through facility on the subject site. The approved fast food outlet had access to Scott Road and Goonoo Goonoo Road in similar locations to the proposed Hungry Jacks.

1.3 This report assesses the traffic and parking implications of the proposed development through the following chapters:

- Chapter 2 - describing the existing conditions; and
- Chapter 3 - assessing the traffic implications of the proposed development.

2. EXISTING CONDITIONS

Site Location and Road Network

2.1 The subject site is located on the northeastern corner of Goonoo Goonoo Road and Scott Road in South Tamworth, as shown in Figure 1. The site is currently vacant and has existing driveways onto Goonoo Goonoo Road and Scott Road. Access from Goonoo Goonoo Road is limited to left in left out. Surrounding land use is a mix of neighbourhood shops and low density residential. As noted in Chapter 1, a fast food outlet with a drive through was approved on the site in 2015.

2.2 The road network in the vicinity of the site includes Goonoo Goonoo Road and Scott Road / Vera Street. Goonoo Goonoo Road runs along the western boundary of the site. It provides a four lane divided carriageway with two traffic lanes in each direction. Goonoo Goonoo Road provides a north/south through link between South Tamworth and Tamworth CBD. Goonoo Goonoo Road is subject to a 60km/h speed limit and provides left in/left out access to the subject site. Goonoo Goonoo Road (south of Scott Road) and Scott Road form part of the New England Highway.

2.3 Scott Road forms the southern boundary of the site. In the vicinity of the site, it provides two traffic lanes in each direction with the kerb side lanes converting to parking lanes east of the site. It connects to Goonoo Goonoo Road via a two lane roundabout at the southeast corner of the site. Scott Road provides the major link between South Tamworth and East Tamworth. It has a posted speed limit of 50km/h.

2.4 Vera Street is located west of the roundabout and is a local road with a posted speed limit of 50 km/h.

Traffic Flows

2.5 Traffic generated by the proposed development will have its greatest effects during weekday morning and afternoon peak periods when it combines with other traffic on the surrounding road network. In order to gauge traffic conditions, counts were undertaken during weekday afternoon peak period (Thursday 8th November 2024) and weekday morning peak period (Friday 9th November 2024) at the roundabout controlled intersection of Goonoo Goonoo Road/Scott Road/Vera Street. The results of the surveys are shown in Figures 2 and 3 and summarised in Table 2.1.

Table 2.1:	**Summary of Existing Two-Way (sum of both directions) Peak Hour Traffic Flows**	
Location	**Weekday AM**	**Weekday PM**
Goonoo Goonoo Road – north of Scott Road – south of Scott Road	 1608 2350	 1752 2515
Scott Road – east of Goonoo Goonoo Road	 1407	 1519
Vera Street – west of Goonoo Goonoo Road	 660	 762

2.6 Examination of Table 2.1 reveals that:

- Goonoo Goonoo Road carried some 1,610 to 2,515 vehicles per hour (two way) during the weekday morning and afternoon peak periods with traffic flows highest south of Scott Road;

- Scott Road carried some 1,405 to 1,520 vehicles per hour (two way) during the weekday morning and afternoon peak periods; and

- Vera Street carried some 600 to 760 vehicles per hour (two way) during the weekday morning and afternoon peak periods.

Intersection Operation

2.7 The capacity of the road network is largely determined by the capacity of its intersections to cater for peak period traffic flows. The intersections listed above have been analysed using the SIDRA 9 program for the traffic flows shown in Figures 2 and 3.

2.8 SIDRA simulates the operations of intersections to provide a number of performance measures. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle. Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):

ρ For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Good with minimal delays and spare capacity
29 to 42	=	"C"	Satisfactory with spare capacity
43 to 56	=	"D"	Satisfactory but operating near capacity

57 to 70	=	"E"	At capacity and incidents will cause excessive delays. Roundabouts require other control mode.
>70	=	"F"	Unsatisfactory and requires additional capacity

ρ For give way and stop signs, the average delay per vehicle in seconds is selected from the movement with the highest average delay per vehicle, equivalent to following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Acceptable delays and spare capacity
29 to 42	=	"C"	Satisfactory but accident study required
43 to 56	=	"D"	Near capacity and accident study required
57 to 70	=	"E"	At capacity and requires other control mode
>70	=	"F"	Unsatisfactory and requires other control mode

2.9 It should be noted that for roundabouts, give way and stop signs, in some circumstances, simply examining the highest individual average delay can be misleading. The size of the movement with the highest average delay per vehicle should also be taken into account. Thus, for example, an intersection where all movements are operating at a level of service A, except one which is at level of service E, may not necessarily define the intersection level of service as E if that movement is very small. That is, longer delays to a small number of vehicles may not justify upgrading an intersection unless a safety issue was also involved.

2.10 The SIDRA analysis found that the roundabout controlled intersection of Goonoo Goonoo Road, Scott Road and Vera Street is operating with average delays for the highest delayed movement (southbound right turn) of less than 25 seconds per

vehicle during weekday morning and afternoon peak periods. This represents level of service B, an acceptable level of intersection operation.

2.11 SIDRA movement summaries are provided in Attachment A.

Public Transport

2.12 Local bus services are provided by Busline Group. Buses operate along Goonoo Goonoo Road adjacent to the site. These services include Route 435 and Route 436 which provide access to the greater Tamworth area and Tamworth Station.

2.13 The site therefore has access to public transport.

3. IMPLICATIONS OF PROPOSED DEVELOPMENT

3.1 The proposed development includes a Hungry Jacks (260m^2) with 38 internal seats and dual lane drive through facility. Vehicular access is provided from Goonoo Goonoo Road and Scott Road (both left in/left out).

3.2 This chapter assesses the implications of the proposed development through the following sections:

- public transport;
- future works;
- parking provision;
- access, servicing and internal layout;
- traffic effects;
- response to pre-DA traffic matters; and
- summary.

Public Transport

3.3 As previously discussed in Chapter 2, buses currently use Goonoo Goonoo Road close to the site.

3.4 The proposed Hungry Jacks is therefore consistent with government objectives and the planning principles of:

(a) improving accessibility to employment and services by walking, cycling, and public transport;

(b) improving the choice of transport and reducing dependence solely on cars for travel purposes;

(c) moderating growth in the demand for travel and the distances travelled, especially by car; and

(d) supporting the efficient and viable operation of public transport services.

Parking Provision

3.5 The Tamworth Regional Development Control Plan 2010 includes the following parking requirement for drive-in take-away food shops:

- one space per 8.5m^2 GFA plus one space per three seats, with an exclusive area for queuing of cars for a drive through facility (five to 12 cars measured from the pick-up point, including four cars from the ordering point).

3.6 Based on the above requirements, the site would require 44 parking spaces.

3.7 By comparison, the TfNSW "Guide to Transport Impact Assessment" includes parking rates for drive in take-away food outlets with drive-through facilities, based on extensive surveys of these facilities. The TfNSW guidelines recommend a parking provision of the greater of one space per two seats (internal) or one space per three seats (internal plus external) plus queuing area within the drive through for five to eight cars for a Hungry Jacks.

3.8 Therefore, the proposed development would require 19 parking spaces The proposed provision of 19 spaces satisfies this requirement. One of the 19 spaces is designated as an accessible parking space.

3.9 The drive-through facility provides queuing for a minimum of 12 vehicles with six vehicles from the order points. In addition, one waiting bay is provided after the collection point. This layout satisfies the DCP and TfNSW requirements of a drive through for Hungry Jacks.

Access, Servicing and Internal Layout

3.10 Vehicular access will be provided from Goonoo Goonoo Road and Scott Road at the northern and eastern boundaries of the site (as far as practical from the intersection of Goonoo Goonoo Road and Scott Road). Access from Goonoo Goonoo Road is restricted to left in / left out by the median on Goonoo Goonoo Road. Due to the high traffic flows on Scott Road, access will also be limited to left in/left out with appropriate signage. Both driveways have been designed to allow a vehicle to enter to depart the site at the same time (see vehicle swept paths provided in Attachment B).

3.11 Within the site, parking spaces will be a minimum of 2.6 metres wide by 5.4 metres long. The disabled space will be 2.4 metres wide, with a 2.4 metre wide adjacent area. These dimensions satisfy the requirements of the Australian Standard for Parking Facilities (Part 1: Off-street car parking and Part 6: Off-street parking for people with disabilities), AS 2890.1:2004 and AS 2890.6:2022.

3.12 The drive through facility will provide queuing for a minimum of 12 vehicles with queuing for six vehicles prior to the order point. The drive through will be designed

in accordance with AS2890.1:2004 with the circulation lanes to be a minimum 3.0 metres wide and accommodate vehicle swept paths. One wait bay will be provided after the collection point.

3.13 Service vehicles will include delivery trucks and garbage collection. As shown in the attached swept paths, service vehicles (up to 12.5 metre large rigid trucks) will make deliveries within the loading dock adjacent to the building. The design provides for service vehicles to enter and exit the site in a forward direction. Vehicle swept paths are provided in Attachment B.

3.14 The southern part of the site is subject to easement to allow a windfarm to be transported over this section of the site until the end of 2027. No structure is provided in this section of the site to facilitate this occurring.

3.15 The proposed access and parking layout have been designed in accordance with AS2890.1-2004. Following DA approval (prior to the issue of a construction certificate), access arrangements, parking layouts, servicing and vehicle swept paths should be reviewed and confirmed for compliance certification.

Traffic Effects

3.16 Traffic generated by the proposed development will have its greatest effects during the weekday morning and afternoon peak periods when it combines with other traffic on the surrounding road network.

3.17 TfNSW "Guide to Transport Impact Assessment" suggests a traffic generation for a Hungry Jacks of 45 vehicles (two-way) during the weekday morning peak hour and 63 vehicles (two-way) during the weekday afternoon peak hour. TfNSW Guidelines

suggest that the proportion of passing trade is typically 50%. A traffic generation of 50 and 70 vehicles per hour (two-way) has been adopted for the morning and afternoon peak periods respectively.

3.18 Additional traffic has been assigned to the road network as shown in Figures 2 and 3 and summarised in Table 3.1.

Table 3.1: Existing Weekday Afternoon + Development Two Way (sum of both directions) Traffic Flows

Location	Weekday AM		Weekday PM	
	Existing	+ Dev	Existing	+ Dev
Goonoo Goonoo Road				
– north of Site Access	1608	+10	1752	+10
– north of Scott Road	1608	+15	1752	+15
– south of Scott Road	2350	+10	2515	+10
Scott Road				
– east of Goonoo Goonoo Road	1407	+10	1519	+15
– east of site access	1407	+10	1519	+15
Vera Street				
– west of Goonoo Goonoo Road	660	+0	762	+5
Site Access				
– east of Goonoo Goonoo Road	0	+15	0	+25
– north of Scott Road	0	+35	0	+45

3.19 Examination of Table 3.1 reveals that:

- traffic flows Goonoo Goonoo Road would increase by some 10 to 15 vehicles per hour (two way) during the weekday morning and afternoon peak periods;

- traffic flows on Scott Road would increase by some 10 to 15 vehicles per hour (two way) during the weekday morning and afternoon peak periods;

- traffic flows on Vera Street would increase by some 5 vehicles per hour (two way) during the weekday morning and afternoon peak periods; and
- the site accesses would generate some 15 to 45 vehicles per hour (two way) during the weekday morning and afternoon peak periods.

3.20 The intersections assessed in Chapter 2 have been reanalysed with SIDRA for the additional development traffic flows shown in Figure 2 and 3.

3.21 The analysis found that:

- the roundabout controlled intersection of Goonoo Goonoo Road, Scott Stret and Vera Street would continue to operate with average delays for the highest delayed movement (southbound right turn) of less than 25 seconds per vehicle during weekday morning and afternoon peak periods. This represents level of service B, an acceptable level of operation.

- the site accesses would operate with average delays for the highest delayed movement (left turn out of site) of less than 15 seconds per vehicle during weekday afternoon peak period. This represents level of service A/B, a good level of operation.

3.22 Therefore, the road network will be able to cater for the additional traffic from the proposed development.

<u>Response to Pre-DA matters</u>

3.23 Pre-DA meetings were held with TfNSW (5 August 2024) and Tamworth Regional Council (20 June 2024). The matters raised and our responses are set out below.

Traffic Matters raised by TfNSW

- *Replacement of roundabout at intersection of Goonoo Goonoo Road/Scott Road with traffic signals*

3.24 TfNSW advised that at this stage funding has been provided for investigation of the traffic signal options. However, there is no funding or timing for replacement of roundabout with traffic signals. TfNSW were not able to provide any details on the design of the traffic signal. Hence no assessment of traffic signals has been undertaken.

- *Wind Farm access across site - TfNSW requested DA to include information on how the site will operate when wind farms are being transported across the corner of the site*

3.25 As noted in Section 3.14 the site has been designed with no obstructions within the area (southern section) that the easement for access covers, noting that the easement only extends until the end of 2027. Noted that the easement expires at the end of 2027. Appropriate traffic management would be in place for the short periods when wind farms are transported over the site.

- *Access - TfNSW advised that access to Scott Road would be limited to left in/left out. If a median is proposed, then how does this impact access to properties on opposite side of Scott Road. With traffic signals at the intersection of Goonoo Goonoo Road/Scott Road, TfNSW suggested the Goonoo Goonoo Road access be relocated to the northern boundary*

3.26 Noted. Scott Road access limited to left in/left out with appropriate signage. No median proposed. The Goonoo Goonoo Road access is located on the northern boundary.

- *Internal Circulation - TfNSW requested that the DA include swept paths of vehicles manoeuvring within the site and that a car and truck can pass concurrently when entering/exiting the site*

3.27 Noted. Swept paths in Attachment B show cars passing each other at the Scott Road access and a car and truck passing each other at the Goonoo Goonoo Road.

Traffic Matters Raised by Council

The following matters need to be addressed in the traffic report supporting the DA:

- *access arrangements (noting both the Scotts Road and Goonoo Road driveways will be left in/left out*
    - Addressed in Sections 3.10 to 3.15*;*
- *Replacement of roundabout at intersection of Goonoo Goonoo Road/Scott Road with traffic signals*
    - Addressed in Section 3.24;
- *Parking provision- noting that parking is proposed to comply with TfNSW Guidelines*
    - Addressed in Sections 3.5 to 3.8*;*
- *Assessment of Drive through queuing capacity*
    - Addressed in Section 3.9*;*
- *Assessment of traffic generated by the proposed development on the adjacent road network*
    - Addressed in Sections 3.16 to 3.22*;*

- *Provision of vehicle swept paths*
    - Provided in Attachment B;
- *Consideration of existing windfarm easement*
    - Addressed in Section 3.14.

Summary

3.28 In summary, the main points relating to the traffic implications of the proposed development are as follows:

i) the development is accessible by public transport;

ii) the proposed parking provision is appropriate;

iii) vehicular access, internal circulation and servicing arrangements will be provided in accordance with AS 2890.1:2004 and AS 2890.2:2018;

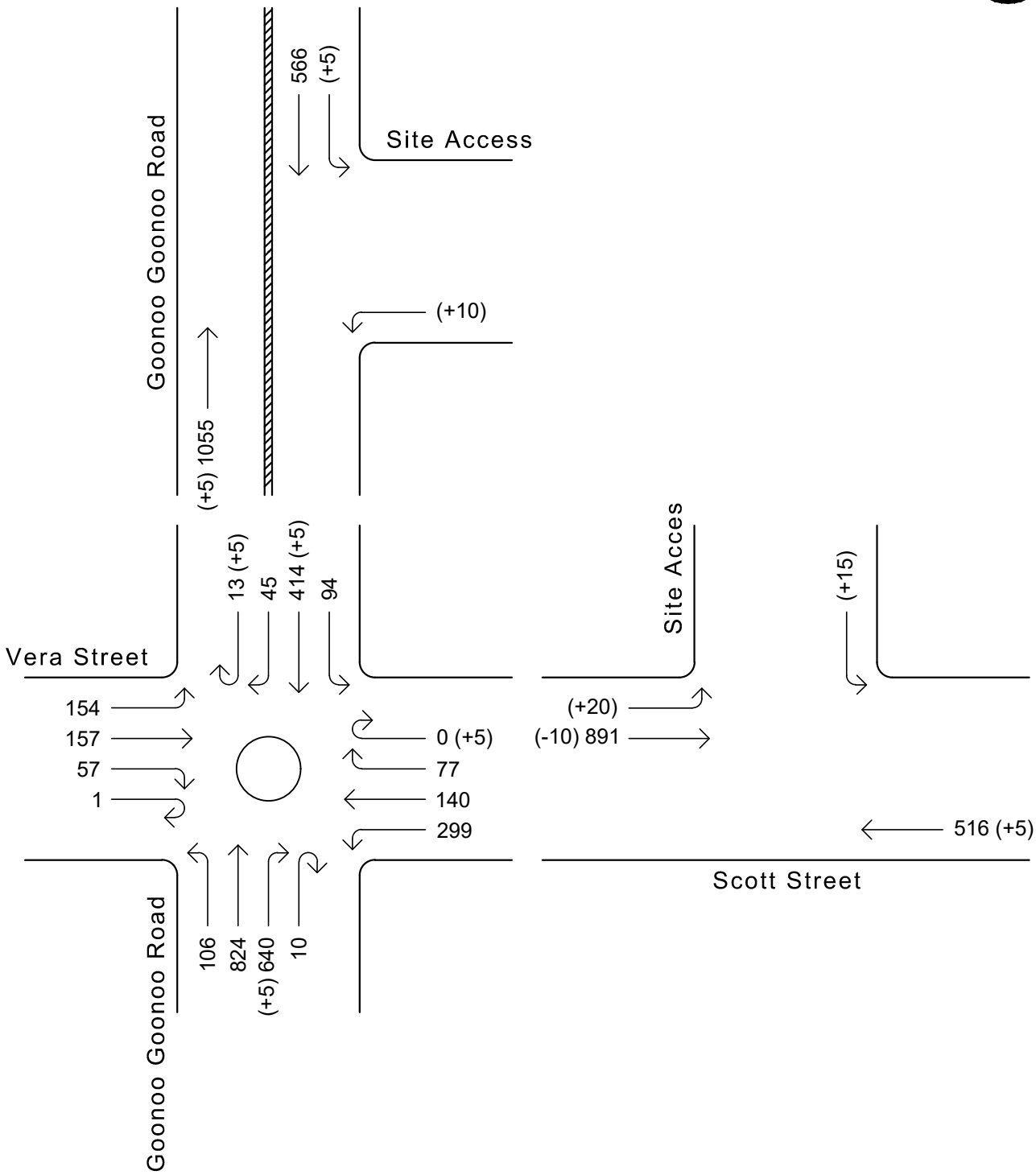
iv) The proposed access and parking layout have been designed in accordance with AS2890.1-2004. Following DA approval (prior to the issue of a construction certificate), access arrangements, parking layouts, servicing and vehicle swept paths should be reviewed and confirmed for compliance certification.

v) the road network will be able to cater for the traffic generation of the development; and

vi) the pre-DA traffic matters have been addressed.

Click: https://goo.gl/maps/ERU8xwShirj

Location Plan



LEGEND

100 - Existing Peak Hour Traffic Flows
(+10) - Additional Development Traffic
◯ - Roundabout

Existing weekday morning peak hour traffic flows plus development traffic

Figure 2

Colston Budd Rogers & Kafes Pty Ltd

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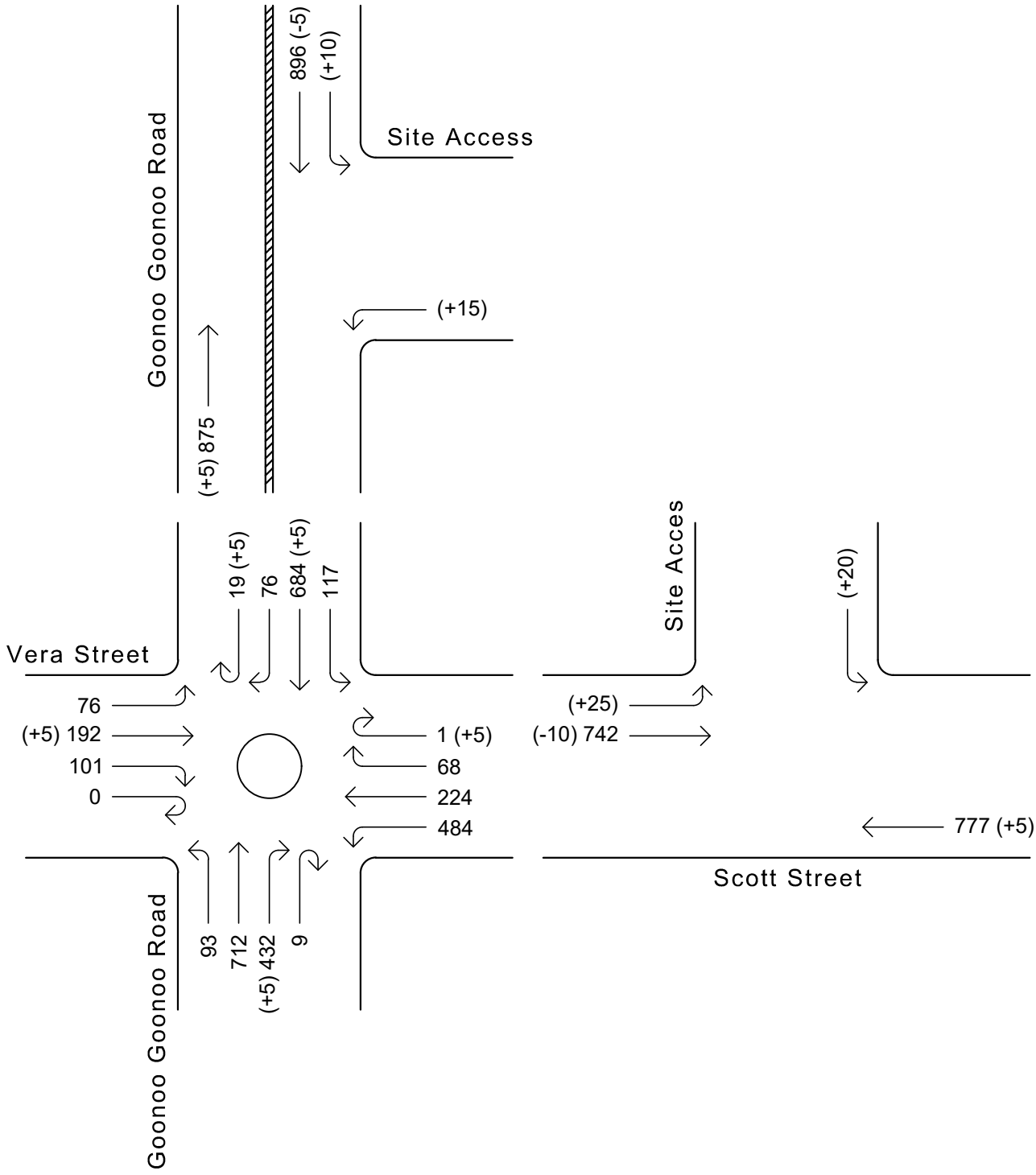

LEGEND

100 - Existing Peak Hour Traffic Flows
(+10) - Additional Development Traffic
◯ - Roundabout

Existing weekday afternoon peak hour traffic flows plus development traffic

Figure 3

Colston Budd Rogers & Kafes Pty Ltd

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ATTACHMENT A

SIDRA MOVEMENT SUMMARIES

USER REPORT FOR SITE

All Movement Classes

Project: 12410 Tamworth Hungry Jacks

Template: Movement Summaries

Site: 101 [AM EX - Goonoo Goonoo Road - Vera Street (Site Folder: Existing)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Goonoo Goonoo Road														
1	L2	106	7	112	6.6	0.682	6.9	LOS A	7.6	55.3	0.75	0.68	0.80	48.6
2	T1	824	42	867	5.1	0.682	7.0	LOS A	7.6	54.4	0.75	0.69	0.80	53.2
3	R2	640	11	674	1.7	0.682	12.5	LOS A	7.6	54.4	0.78	0.79	0.86	48.0
3u	U	10	0	11	0.0	0.682	14.5	LOS B	7.6	54.4	0.78	0.79	0.86	51.9
Approach		1580	60	1663	3.8	0.682	9.2	LOS A	7.6	55.3	0.76	0.73	0.83	50.6
East: Vera Street														
4	L2	299	12	315	4.0	0.329	5.0	LOS A	1.7	12.6	0.62	0.67	0.62	49.4
5	T1	140	2	147	1.4	0.278	4.9	LOS A	1.4	9.8	0.61	0.66	0.61	46.6
6	R2	77	4	81	5.2	0.278	9.6	LOS A	1.4	9.8	0.61	0.66	0.61	49.5
6u	U	1	0	1	0.0	0.278	13.0	LOS A	1.4	9.8	0.61	0.66	0.61	50.5
Approach		517	18	544	3.5	0.329	5.7	LOS A	1.7	12.6	0.61	0.66	0.61	48.6
North: Goonoo Goonoo Road														
7	L2	94	2	99	2.1	0.512	14.8	LOS B	4.4	31.8	0.93	1.03	1.13	45.8
8	T1	414	19	436	4.6	0.512	13.5	LOS A	4.4	31.8	0.93	1.03	1.13	49.4
9	R2	45	0	47	0.0	0.512	18.4	LOS B	4.1	29.7	0.92	1.04	1.13	46.1
9u	U	13	1	14	7.7	0.512	21.0	LOS B	4.1	29.7	0.92	1.04	1.13	49.4
Approach		566	22	596	3.9	0.512	14.3	LOS A	4.4	31.8	0.93	1.03	1.13	48.5
West: Vera Street														
10	L2	154	2	162	1.3	0.395	10.2	LOS A	2.0	14.4	0.83	0.94	0.95	46.7
11	T1	157	1	165	0.6	0.409	10.1	LOS A	2.4	16.9	0.86	0.96	0.96	45.5
12	R2	57	4	60	7.0	0.409	12.9	LOS A	2.4	16.9	0.86	0.96	0.96	48.2
12u	U	1	0	1	0.0	0.409	16.2	LOS B	2.4	16.9	0.86	0.96	0.96	49.2
Approach		369	7	388	1.9	0.409	10.6	LOS A	2.4	16.9	0.85	0.95	0.96	46.4
All Vehicles		3032	107	3192	3.5	0.682	9.7	LOS A	7.6	55.3	0.78	0.80	0.86	49.3

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.
Roundabout Capacity Model: SIDRA Standard.
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 [PM EX - Goonoo Goonoo Road - Vera Street (Site Folder: Existing)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Goonoo Goonoo Road														
1	L2	93	3	98	3.2	0.608	7.4	LOS A	6.1	44.7	0.79	0.76	0.86	48.5
2	T1	712	38	749	5.3	0.608	7.7	LOS A	6.1	44.7	0.79	0.78	0.87	52.8
3	R2	432	12	455	2.8	0.608	13.2	LOS A	6.0	43.1	0.81	0.86	0.92	47.8
3u	U	9	0	9	0.0	0.608	15.2	LOS B	6.0	43.1	0.81	0.86	0.92	51.7
Approach		1246	53	1312	4.3	0.608	9.6	LOS A	6.1	44.7	0.80	0.80	0.89	50.6
East: Vera Street														
4	L2	484	12	509	2.5	0.662	8.7	LOS A	5.2	37.1	0.87	1.03	1.12	47.6
5	T1	224	4	236	1.8	0.507	7.9	LOS A	3.0	21.7	0.80	0.94	0.94	45.8
6	R2	68	2	72	2.9	0.507	12.5	LOS A	3.0	21.7	0.80	0.94	0.94	48.7
6u	U	1	0	1	0.0	0.507	16.0	LOS B	3.0	21.7	0.80	0.94	0.94	49.5
Approach		777	18	818	2.3	0.662	8.8	LOS A	5.2	37.1	0.84	0.99	1.05	47.2
North: Goonoo Goonoo Road														
7	L2	117	1	123	0.9	0.663	14.9	LOS B	7.1	50.5	0.93	1.10	1.30	45.4
8	T1	684	22	720	3.2	0.663	14.3	LOS A	7.1	50.5	0.93	1.10	1.30	49.0
9	R2	76	4	80	5.3	0.663	19.5	LOS B	6.6	47.7	0.93	1.11	1.31	45.6
9u	U	19	1	20	5.3	0.663	21.6	LOS B	6.6	47.7	0.93	1.11	1.31	49.0
Approach		896	28	943	3.1	0.663	15.0	LOS B	7.1	50.5	0.93	1.10	1.30	48.2
West: Vera Street														
10	L2	76	0	80	0.0	0.199	8.4	LOS A	0.9	6.0	0.75	0.85	0.75	47.8
11	T1	192	3	202	1.6	0.476	8.6	LOS A	2.9	20.4	0.83	0.93	0.96	45.6
12	R2	101	3	106	3.0	0.476	12.0	LOS A	2.9	20.4	0.83	0.93	0.96	48.4
12u	U	1	0	1	0.0	0.476	15.5	LOS B	2.9	20.4	0.83	0.93	0.96	49.3
Approach		370	6	389	1.6	0.476	9.5	LOS A	2.9	20.4	0.81	0.92	0.92	46.8
All Vehicles		3289	105	3462	3.2	0.663	10.9	LOS A	7.1	50.5	0.85	0.94	1.04	48.7

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.
Roundabout Capacity Model: SIDRA Standard.
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.

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 12410 Tamworth Hungry Jacks

Template: Movement Summaries

Site: 101 [AM EX + Dev - Goonoo Goonoo Road - Vera Street (Site Folder: AM Existing + Development)]

Network: 1 [AM Existing + Development (Network Folder: Existing + Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Goonoo Goonoo Road														
1	L2	112	6.6	112	6.6	0.690	7.1	LOS A	3.2	23.2	0.76	0.70	0.83	48.6
2	T1	867	5.1	867	5.1	0.690	7.2	LOS A	3.2	22.7	0.77	0.71	0.83	47.0
3	R2	679	1.7	679	1.7	0.690	12.8	LOS A	3.2	22.7	0.79	0.80	0.89	43.6
3u	U	11	0.0	11	0.0	0.690	14.8	LOS B	3.2	22.7	0.79	0.80	0.89	51.7
Approach		1668	3.8	1668	3.8	0.690	9.5	LOS A	3.2	23.2	0.78	0.75	0.86	45.9
East: Vera Street														
4	L2	315	4.0	315	4.0	0.332	3.8	LOS A	0.7	5.1	0.62	0.71	0.62	51.6
5	T1	147	1.4	147	1.4	0.285	4.0	LOS A	0.6	4.1	0.61	0.73	0.61	45.8
6	R2	81	5.2	81	5.2	0.285	8.1	LOS A	0.6	4.1	0.61	0.73	0.61	23.8
6u	U	6	0.0	6	0.0	0.285	10.7	LOS A	0.6	4.1	0.61	0.73	0.61	23.8
Approach		549	3.4	549	3.4	0.332	4.6	LOS A	0.7	5.1	0.62	0.72	0.62	48.2
North: Goonoo Goonoo Road														
7	L2	99	2.1	99	2.1	0.530	10.8	LOS A	1.9	13.6	0.95	1.05	1.17	11.5
8	T1	441	4.5	441	4.5	0.530	12.0	LOS A	1.9	13.6	0.94	1.05	1.17	44.4
9	R2	47	0.0	47	0.0	0.530	16.2	LOS B	1.8	12.7	0.93	1.05	1.17	39.5
9u	U	19	5.6	19	5.6	0.530	18.5	LOS B	1.8	12.7	0.93	1.05	1.17	12.0
Approach		606	3.8	606	3.8	0.530	12.3	LOS A	1.9	13.6	0.94	1.05	1.17	41.6
West: Vera Street														
10	L2	162	1.3	162	1.3	0.403	10.4	LOS A	0.8	5.9	0.84	0.95	0.96	39.1
11	T1	165	0.6	165	0.6	0.416	8.4	LOS A	1.0	7.0	0.86	0.96	0.97	40.1
12	R2	60	7.0	60	7.0	0.416	13.1	LOS A	1.0	7.0	0.86	0.96	0.97	48.0
12u	U	1	0.0	1	0.0	0.416	16.4	LOS B	1.0	7.0	0.86	0.96	0.97	49.1
Approach		388	1.9	388	1.9	0.416	10.0	LOS A	1.0	7.0	0.85	0.96	0.97	41.6
All Vehicles		3213	3.5	3213	3.5	0.690	9.3	LOS A	3.2	23.2	0.79	0.83	0.89	44.8

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

Site: 101 [AM EX + Dev - Scott Street - South Site Access (Site Folder: AM Existing + Development)]

Network: 1 [AM Existing + Development (Network Folder: Existing + Development)]

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

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Scott Street														
5	T1	548	3.5	548	3.5	0.145	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		548	3.5	548	3.5	0.145	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: South Site Access														
7	L2	16	0.0	16	0.0	0.013	8.2	LOS A	0.0	0.1	0.22	0.54	0.22	52.9
Approach		16	0.0	16	0.0	0.013	8.2	LOS A	0.0	0.1	0.22	0.54	0.22	52.9
West: Scott Street														
10	L2	21	0.0	21	0.0	0.082	3.1	LOS A	0.0	0.0	0.00	0.08	0.00	56.3
11	T1	927	1.6	927	1.6	0.412	0.3	LOS A	0.0	0.0	0.00	0.01	0.00	59.6
Approach		948	1.6	948	1.6	0.412	0.4	NA	0.0	0.0	0.00	0.01	0.00	59.5
All Vehicles		1513	2.2	1513	2.2	0.412	0.3	NA	0.0	0.1	0.00	0.01	0.00	59.5

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

Site: 101 [AM EX + Dev - Goonoo Goonoo Road - East Site Access (Site Folder: AM Existing + Development)]

Network: 1 [AM Existing + Development (Network Folder: Existing + Development)]

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

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Goonoo Goonoo Road														
2	T1	1116	4.6	1116	4.6	0.299	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1116	4.6	1116	4.6	0.299	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
East: East Site Access														
4	L2	11	0.0	11	0.0	0.018	6.7	LOS A	0.0	0.1	0.34	0.58	0.34	49.0
Approach		11	0.0	11	0.0	0.018	6.7	LOS A	0.0	0.1	0.34	0.58	0.34	49.0
North: Goonoo Goonoo Road														
7	L2	5	0.0	5	0.0	0.258	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	58.1
8	T1	596	3.9	596	3.9	0.258	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
Approach		601	3.9	601	3.9	0.258	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6
All Vehicles		1727	4.3	1727	4.3	0.299	0.1	NA	0.0	0.1	0.00	0.01	0.00	59.7

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

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 12410 Tamworth Hungry Jacks

Template: Movement Summaries

Site: 101 [PM EX + Dev - Goonoo Goonoo Road - Vera Street (Site Folder: PM Existing + Development)]

Network: 2 [PM Existing + Development (Network Folder: Existing + Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Goonoo Goonoo Road														
1	L2	98	3.2	98	3.2	0.583	6.4	LOS A	2.2	16.0	0.75	0.65	0.76	48.7
2	T1	749	5.3	749	5.3	0.583	6.7	LOS A	2.2	16.0	0.75	0.68	0.77	47.0
3	R2	460	2.7	460	2.7	0.583	12.0	LOS A	2.2	15.7	0.77	0.79	0.82	44.6
3u	U	9	0.0	9	0.0	0.583	14.1	LOS A	2.2	15.7	0.77	0.79	0.82	52.4
Approach		1317	4.2	1317	4.2	0.583	8.6	LOS A	2.2	16.0	0.75	0.72	0.79	46.5
East: Vera Street														
4	L2	509	2.5	509	2.5	0.636	6.9	LOS A	2.0	14.0	0.84	1.00	1.06	47.8
5	T1	236	1.8	236	1.8	0.491	6.6	LOS A	1.2	8.3	0.78	0.92	0.91	44.1
6	R2	72	2.9	72	2.9	0.491	10.6	LOS A	1.2	8.3	0.78	0.92	0.91	20.2
6u	U	6	0.0	6	0.0	0.491	13.2	LOS A	1.2	8.3	0.78	0.92	0.91	20.2
Approach		823	2.3	823	2.3	0.636	7.1	LOS A	2.0	14.0	0.82	0.97	1.00	45.7
North: Goonoo Goonoo Road														
7	L2	123	0.9	123	0.9	0.630	10.6	LOS A	2.1	15.0	0.92	1.07	1.24	12.0
8	T1	731	3.2	731	3.2	0.630	11.7	LOS A	2.1	15.0	0.91	1.07	1.24	45.0
9	R2	8	50.0	8	50.0	0.630	18.0	LOS B	2.1	15.0	0.91	1.08	1.25	39.4
9u	U	25	4.2	25	4.2	0.630	18.1	LOS B	2.1	15.0	0.91	1.08	1.25	12.2
Approach		887	3.3	887	3.3	0.630	11.8	LOS A	2.1	15.0	0.91	1.07	1.24	42.9
West: Vera Street														
10	L2	80	0.0	80	0.0	0.197	8.5	LOS A	0.3	2.4	0.74	0.85	0.74	40.7
11	T1	207	1.5	207	1.5	0.478	7.6	LOS A	1.2	8.2	0.83	0.94	0.97	40.4
12	R2	106	3.0	106	3.0	0.478	12.1	LOS A	1.2	8.2	0.83	0.94	0.97	48.4
12u	U	1	0.0	1	0.0	0.478	15.6	LOS B	1.2	8.2	0.83	0.94	0.97	49.3
Approach		395	1.6	395	1.6	0.478	9.0	LOS A	1.2	8.2	0.81	0.93	0.92	43.5
All Vehicles		3422	3.2	3422	3.2	0.636	9.1	LOS A	2.2	16.0	0.82	0.89	0.97	45.0

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

Site: 101 [PM EX + Dev - Scott Street - South Site Access (Site Folder: PM Existing + Development)]

Network: 2 [PM Existing + Development (Network Folder: Existing + Development)]

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

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Scott Street														
5	T1	823	2.3	823	2.3	0.227	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		823	2.3	823	2.3	0.227	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: South Site Access														
7	L2	21	0.0	21	0.0	0.017	7.5	LOS A	0.0	0.2	0.19	0.54	0.19	53.0
Approach		21	0.0	21	0.0	0.017	7.5	LOS A	0.0	0.2	0.19	0.54	0.19	53.0
West: Scott Street														
10	L2	26	0.0	26	0.0	0.070	3.1	LOS A	0.0	0.0	0.00	0.11	0.00	56.0
11	T1	771	2.2	771	2.2	0.348	0.2	LOS A	0.0	0.0	0.00	0.02	0.00	59.6
Approach		797	2.1	797	2.1	0.348	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
All Vehicles		1641	2.2	1641	2.2	0.348	0.3	NA	0.0	0.2	0.00	0.02	0.00	59.5

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

Site: 101 [PM EX + Dev - Goonoo Goonoo Road - East Site Access (Site Folder: PM Existing + Development)]

Network: 2 [PM Existing + Development (Network Folder: Existing + Development)]

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

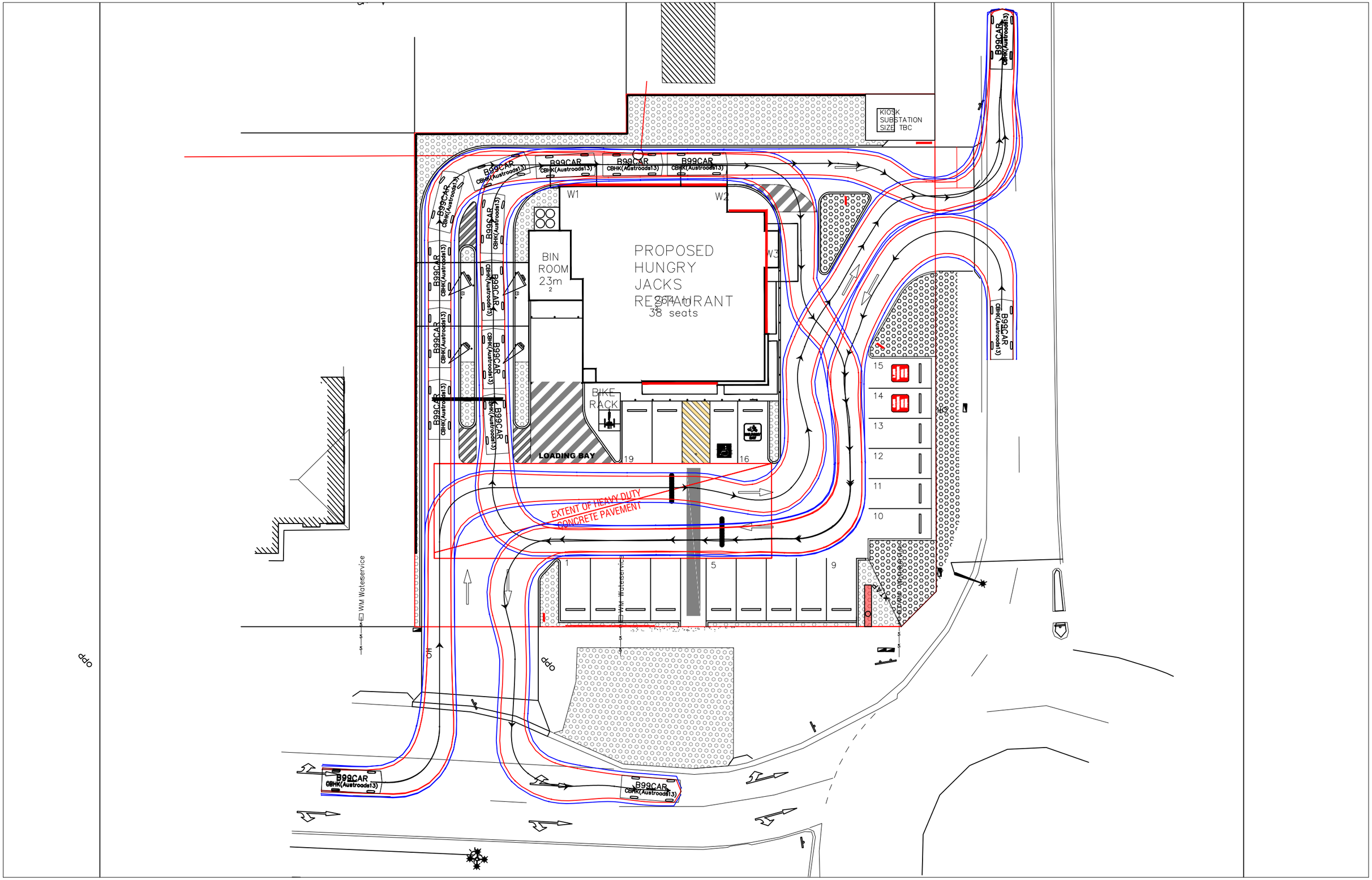
Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Goonoo Goonoo Road														
2	T1	926	4.7	926	4.7	0.249	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		926	4.7	926	4.7	0.249	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
East: East Site Access														
4	L2	16	0.0	16	0.0	0.039	7.8	LOS A	0.0	0.2	0.45	0.67	0.45	48.0
Approach		16	0.0	16	0.0	0.039	7.8	LOS A	0.0	0.2	0.45	0.67	0.45	48.0
North: Goonoo Goonoo Road														
7	L2	11	0.0	11	0.0	0.251	5.6	LOS A	0.4	3.1	0.00	0.01	0.00	58.1
8	T1	938	3.1	938	3.1	0.251	0.1	LOS A	0.4	3.1	0.00	0.01	0.00	59.7
Approach		948	3.1	948	3.1	0.251	0.1	NA	0.4	3.1	0.00	0.01	0.00	59.7
All Vehicles		1891	3.8	1891	3.8	0.251	0.1	NA	0.4	3.1	0.00	0.01	0.00	59.7

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

ATTACHMENT B

VEHICLE SWEPT PATHS



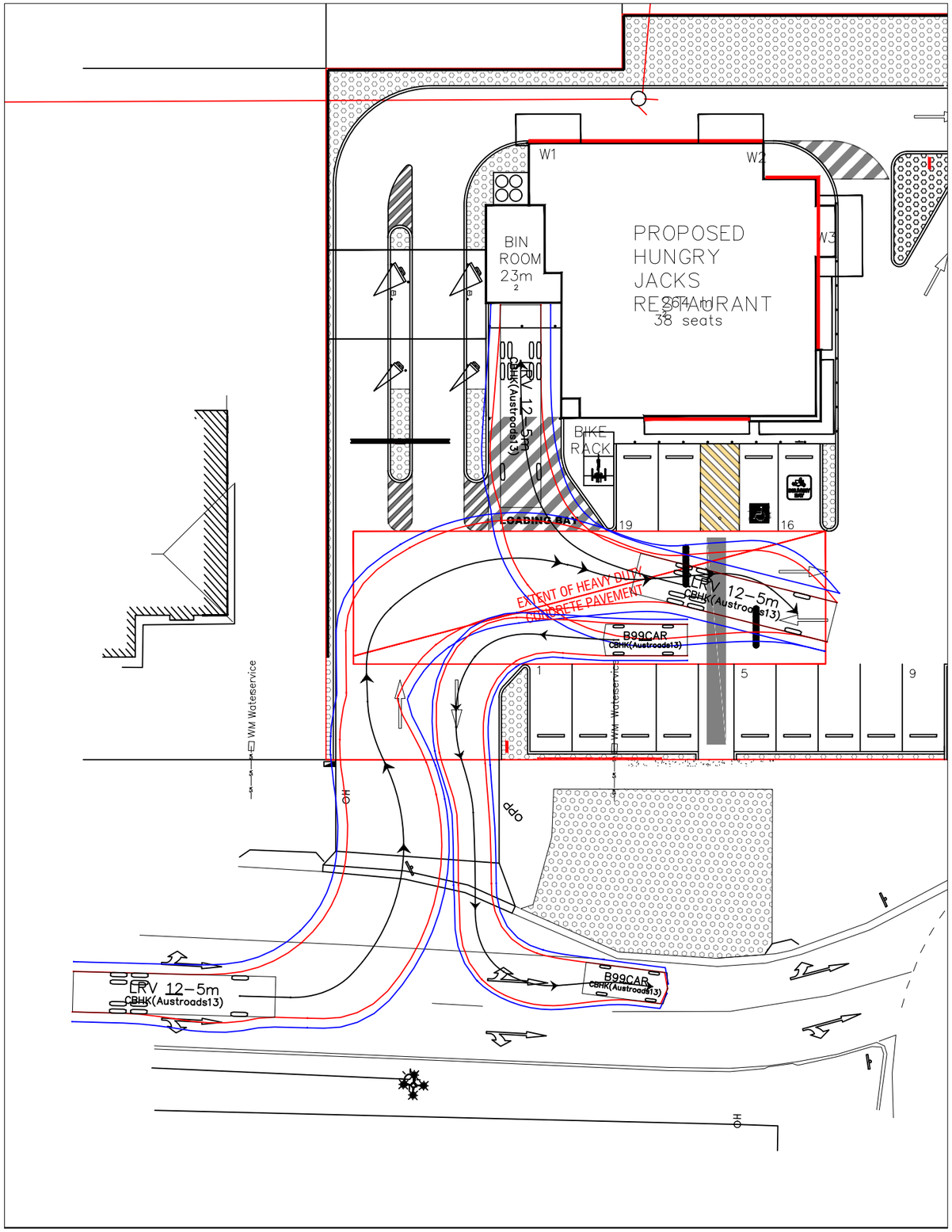
NOTE:
SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS. THIS PLAN SHOULD NOT BE USED FOR COMPLIANCE CERTIFICATION OR FOR CONSTRUCTION.

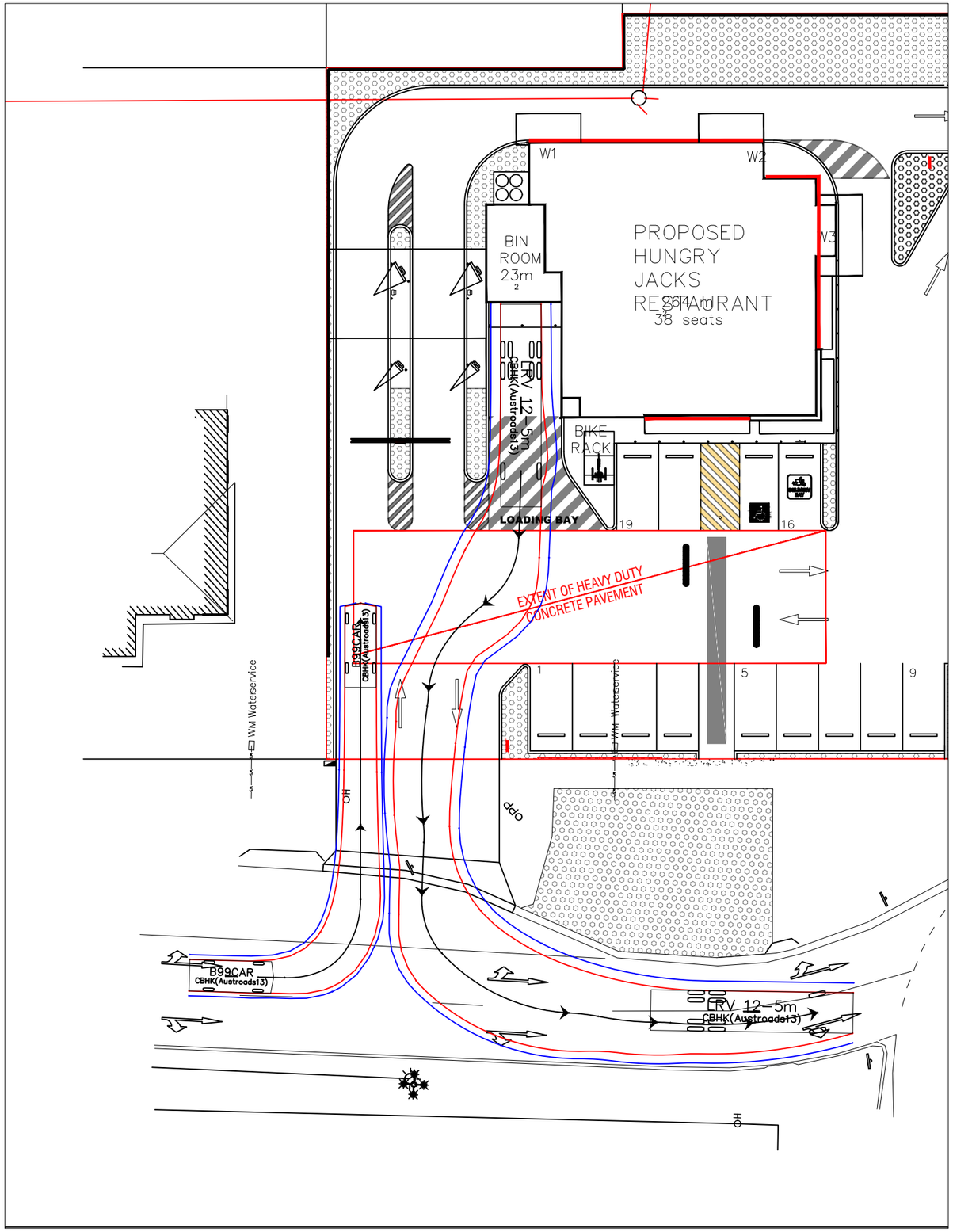
Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

B99 VEHICLE SWEPT PATHS

DRAWN BY CBRK Pty Ltd_mc Ref: 12410 10.10.2024

A1





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Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

B99 & 12.5m LARGE RIGID VEHICLE SWEPT PATHS

DRAWN BY CBRK Pty Ltd_mc Ref: 12410 10.10.2024

A2