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I. INTRODUCTION

- 1.1 Colston Budd Rogers and Kafes Pty Ltd has been commissioned by BW Cranebrook Pty Ltd to prepare a traffic report to support the DA for the proposed mixed use development (petrol station, fast food outlets, swim school, car wash and child care centre). The site is located at I Renshaw Street, near the north western corner of the intersection of Andrews Road, Cranebrook, as shown in Figure 1.
- 1.2 This report assesses the implications of the proposed development through the following chapters:-
 - Chapter 2: describing existing conditions; and
 - Chapter 3: assessing the implications of the proposed development.

2. EXISTING CONDITIONS

Site Location and Road Network

- 2.1 The site is located on the western side of Renshaw Road near the north western corner of the intersection with Andrews Road, Cranebrook. The site is currently vacant land. Surrounding land use is a mix that includes a childcare centre to the north and KFC/gym to the east. A number of sites along Renshaw Street are undeveloped. The site location is shown in Figure 1.
- 2.2 Andrews Road runs in an east-west direction to the south of the site. It connects The Northern Road in the east with Castlereagh Road to the west. In the vicinity of the site it provides one travel lane in each direction. The intersection with Renshaw Street is a priority controlled intersection with Andrews Road the main road. Separate left and right turn lanes are provided on Andrews Road.
- 2.3 Renshaw Street runs along the eastern boundary of the site and connects Andrews Road to the south with Laycock Street to the east. It provides one traffic lane in each direction, with kerbside parking (except at the bend in the road where no stopping restrictions apply). Two lanes (separate left and right turn lanes) are provided on the approach to the intersection with Andrews Road.
- 2.4 Laycock Street is located to the east of the site and runs in a north south direction from Andrews Road. It provides one traffic lane in each direction, with kerbside parking clear of intersections. The intersection with Renshaw Street is a priority controlled intersection, with Laycock Street the main road. A separate left lane is provided in Renshaw Street.

Traffic Flows

2.5 In order to establish existing traffic flows, traffic counts were undertaken during the weekday morning and afternoon peak periods at the intersections of Renshaw Street with Andrews Road and Laycock Street. The results are summarised in Table 2.1 and displayed in Figures 2 and 3.

Table 2.1: Existing Weekday Mornin both directions) Traffic Fl	ng and Afternoon Hourl Iows	y Two Way (sum of		
Location	Weekday AM	Weekday PM		
Andrews Road				
- east of Renshaw Street	1065	1425		
- west of Renshaw Street	1125	1480		
Renshaw Street				
- east of Laycock Street	190	280		
- north of Andrews Road	130	205		
Laycock Street				
- north of Renshaw Street	605	670		
- south of Renshaw Street	565	610		

2.6 Examination of Table 2.1 reveals that:

- Andrews Road carried some 1,065 to 1,480 vehicles per hour (two way) during the weekday morning and afternoon peak periods;
- Renshaw Street carried some 130 to 280 vehicles per hour (two way) during the weekday morning and afternoon peak periods;
- Laycock Street carried some 565 to 670 vehicles per hour (two way) during the weekday morning and afternoon peak periods; and
- traffic flows were higher in the weekday afternoon peak hour.

Intersection Operation

- 2.7 The capacity of the road network is generally determined by the capacity of its intersections to cater for peak period traffic flows. The surveyed intersections have been analysed using the SIDRA program. SIDRA is designed to analyse traffic signal controlled intersections, roundabouts and priority intersections.
- 2.8 The program produces a number of measures of intersection operations. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle.
- 2.9 Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):-
 - 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

2.10 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.

2.11 The SIDRA analysis found that:

- the intersection of Andrews Road with Renshaw Street operates with average delays (for the movement with the highest delay, right turn out of Renshaw Street) of less than 20 seconds per vehicle during the weekday morning peak period. This represents level of service B; a good level of service. In the weekday afternoon peak period, the intersection operates with average delays (for the movement with the highest delay, right turn out of Renshaw Street) of less than 30 seconds per vehicle. This represents level of service C; a satisfactory level of service; and
- the intersection of Laycock Street with Renshaw Street operates with average delays (for the movement with the highest delay, right turn out of Renshaw Street) of less than 15 seconds per vehicle during the weekday peak periods. This represents level of service A/B, a good level of service.
- 2.12 SIDRA movement summaries are provided in Attachment A.

Public Transport

2.13 Transport NSW operates the Route 783 service along Lakeview Drive, north of the site, and the Route 673 service along Laycock Street, north of the site. The

Route 783 service connects Penrith to Werrington via Jordan Springs and the Route 673 service connects Penrith to Windsor via Cranebrook. The site is therefore accessible by regular bus services.

3. IMPLICATIONS OF PROPOSED DEVELOPMENT

- 3.1 The proposed development includes a petrol station with convenience store, automatic car wash, three food and drink premises/fast food outlets with drive throughs (Hungry Jacks, El Jannah and Taco Bell), swim school and 100 place child care centre. The convenience store includes a drive through, which customers can use to purchase goods from the convenience store, rather than parking and walking into the store. Vehicular access will be via two driveways to Renshaw Street. This chapter assesses the traffic implications of the proposed development through the following sections:
 - public transport;
 - □ parking provision;
 - access, servicing and internal layout;
 - □ traffic effects; and
 - □ summary.

Public Transport

- 3.2 As previously discussed in Chapter 2, the site is accessible by public transport with buses operating along Lakeside Drive and Laycock Street north of the site.
- 3.3 The proposed development will provide increased employment uses adjacent to existing public transport and will strengthen the demand for these services.
- 3.4 The proposed development 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; and
- (d) supporting the efficient and viable operation of public transport services.

Parking Provision

- 3.5 Section C10 of the Penrith DCP 2014 sets out the following parking requirements for the proposed development:
 - take away food and drink premises/fast food outlets one space per 6m² seating area
 - child care facility one space per 10 children plus one space per staff; and
 - petrol station convenience stores one space per 25m² GFA.
- 3.6 The DCP has no specific rates for swim schools or a car wash. For the swim school, the fitness centre rate of seven spaces per 100m² GFA has been applied. No parking is required for the automatic car wash, with cars either parked in the five vacuum bays or four car wash bays. There would be some customers using more than one component of the development, which would reduce the overall parking requirement. A 5% reduction has been applied for this shared use. Parking requirements for the proposed development are set out in Table 3.1 below.

Table 3.1	Summary of Parking Requirements									
Component	Size	Rate	Spaces							
Petrol Station	281 m ² GFA	I/25m ²	11.2							
Hungry Jacks	90m ² seating area	I/6m ² seating area	15							
El Jannah	81 m ² seating area	I/6m ² seating area	13.5							
Taco Bell	91m ² seating area	I/6m ² seating area	15.2							
Swim School	666m ² GFA	7/100m ²	46.7							
Child Care	100 places + 22 staff	I/10 places + I/employee	32							
Sub-total			133.6							
Shared use		less 5%	6.6							
Spaces Required			127							

- 3.7 Examination of Table 3.1 reveals a requirement for 127 spaces (taking into account the 5% reduction as a result of shared use between the various components of the proposed development). The proposed provision of 128 spaces (including six accessible spaces) satisfies this requirement. The 10 spaces located adjacent to the child care centre would be allocated for child care centre set down/pick up between 7.00am and 6.00pm Monday to Friday (opening hours of the child centre).
- 3.8 It should be noted that parking provision for the child care centre would be busiest in the morning and late afternoon, when people are dropping off and picking up children. During the day, the child care parking would be employee parking. On weekends, the child care centre would be closed.

- 3.9 With regards to bicycle and motorcycle parking, DCP 2014 has the following requirements:
 - visitor bicycle parking 5-10% of employees or 3-5% seating capacity; and
 - employee bicycle parking 3-5% of employees.
- 3.10 As the number of employees and seating numbers are unknown, a rate of 5% and 10% of parking provision has been applied to determine the required visitor and employee bicycle parking. Applying these rates, the proposed development would require 20 bicycle spaces (13 visitor and 7 employee). 20 bicycle spaces will be provided in bicycle racks at various locations.
- 3.11 The three take away food and drink premises/fast food outlets all provide dual lane drive through facilities with queuing provided for a minimum of 12 cars from the collection point (including queuing for a minimum four cars from the order points). Wait bays are provided for Hungry Jacks and El Jannah. These provisions satisfy TfNSW Guidelines of queuing for 10 to 12 cars, with queuing for four cars from the order point.

Access, Servicing and Internal Layout

3.12 Vehicular access will be via two driveways to Renshaw Street. Both driveways will provide for two way traffic with all movements permitted. There are good sight lines to the north and south along Renshaw Street. The driveway will provide for turning movements of cars, trucks and service vehicles (including petrol delivery tankers), in accordance with the Australian Standard for Parking Facilities (Part 1: Off-street car parking and Part 2: Off-street commercial vehicle facilities), AS 2890.1:2004 and AS 2890.2 – 2018.

- 3.13 Car parking spaces will be typically 2.6 metres wide by 5.4 metres long. Disabled parking spaces will be 2.4 metres wide, with a 2.4 metre wide adjacent area for wheelchairs. The two-way circulation aisles will be a minimum of 6.6 metres wide, and wider where aisles are used by service vehicles. 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 2890.6:2009.
- 3.14 The three food and drink premises/fast food outlets and the convenience store will be serviced by vehicles up to 8.8 metre long (medium rigid truck). Separate loading bays are provided at each building. Petrol deliveries will made by a 16.9 metre long petrol delivery tanker. The internal layout will provide service vehicles to enter the site, circulate and make deliveries, before exiting in a forward direction. Vehicle swept paths are shown in Attachment B.
- 3.15 Following DA approval, 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 weekday morning and afternoon peak periods.
- 3.17 For child care centres, TfNSW Guidelines suggest generation rates of 0.8 and 0.7 trips per child two-way (sum of arrivals and departures) during the weekday morning and afternoon peak hours respectively. Applying these rates the

proposed child care centre would generate some 80 vehicles two-way during the morning peak hour and some 70 vehicles two-way during the afternoon peak hour.

- 3.18 For Hungry Jacks, surveys undertaken by TfNSW found a traffic generation of 61 vehicles per hour two-way (sum of arrivals and departures) during the weekday afternoon peak hour. For other fast food outlets (excluding McDonald's), surveys undertaken by TfNSW found traffic generations of 35 to 73 vehicles per hour two-way (sum of arrivals and departures) during the weekday afternoon peak hour. A generation rate of 54 vehicles per hour two-way (sum of arrivals and departures) during the weekday afternoon peak hour has been adopted for the Taco Bell and El Janna. The same generation has been assumed for the weekday morning peak hour.
- 3.19 For the swim school, the TfNSW rate for gyms (nine vehicles per 100m² GFA) has been adopted. For the petrol station the TfNSW rate of 0.66 vehicles per hour times the size of the convenience store has been adopted. The car wash would generate minimal additional traffic (10 vehicles per hour, two way) as most customers would be linked trips with the petrol station and other uses on the site.
- 3.20 Based on these rates, the traffic generation would therefore be some 500 vehicles per hour two-way during the peak periods. However, some customers to the development would visit more than one component. Based on some 25% using more than one component, traffic generation would be some 375 vehicles per hour two-way peak periods.

- 3.21 The majority of fuel customers (some 70%) would be passing trade (people driving past the site regardless of their visit to the site). TfNSW guidelines suggest that the proportion of passing trade for the fast food outlets is some 50%.
- 3.22 The additional traffic has been assigned road network as shown in Figures 2 and 3 and summarised below in Table 3.2, taking into account passing trade (for the petrol station and fast food outlets) and linked trips between the various uses on the site.

Table 3.2: Existing + Development Weekday Morning and Afternoon Hourly												
Two Way (sum of both directions) Traffic Flows												
Location	Weeko	lay AM	Weekday PM									
	Existing	+ Dev	Existing	+ Dev								
Andrews Road												
- east of Renshaw Street	1065	+115	1425	+115								
- west of Renshaw Street	1125	+115	1480	+115								
Renshaw Street												
- east of Laycock Street	190	+100	280	+100								
- north of Andrews Road	130	+280	205	+280								
Laycock Street												
- north of Renshaw Street 605 +100 670 +100												
- south of Renshaw Street 565 +0 610 +0												

3.23 Examination of Table 3.2 reveals that:

- traffic flows on Andrews Road would increase by some 125 vehicles per hour (two way) during the peak periods;
- traffic flows on Renshaw Street (between the site access and Laycock Street) would increase by some 100 vehicles per hour (two way) during the peak periods. In the short section between Andrews Road and the site access,

traffic flows would increase by some 280 vehicles per hour (two way) during the peak periods; and

- traffic flows on Laycock Street (north of Renshaw Street) would increase by some 100 vehicles per hour (two way) during the peak periods.
- 3.24 SIDRA analysis has been undertaken for existing traffic plus additional development traffic shown in Figures 2 and 3. The analysis found that:
 - the intersection of Andrews Road with Renshaw Street operates with average delays (for the movement with the highest delay, right turn out of Renshaw Street) of less than 30 seconds per vehicle during the weekday morning peak period. This represents level of service C; a satisfactory level of service. In the weekday afternoon peak period, the intersection operates with average delays (for the movement with the highest delay, right turn out of Renshaw Street) of less than 50 seconds per vehicle. This represents level of service D; approaching capacity. All other movements at the intersection would operate at level of service A/B;
 - the intersection of Laycock Street with Renshaw Street would operate with average delays (for the movement with the highest delay, right turn out of Renshaw Street) of less than 15 seconds per vehicle during the weekday peak periods. This represents level of service A/B. a good level of service; and
 - the intersections of the site accesses with Renshaw Street would operate with average delays (for the movement with the highest delay, right turn out of the site) of less than 15 seconds per vehicle during the weekday peak periods. This represents level of service A/B. a good level of service.

3.25 Therefore, the road network would be able to cater for the additional traffic from the proposed development, noting that the right turn out of Renshaw Street onto Andrews Road would be approaching capacity in the afternoon peak hour.

<u>Summary</u>

- 3.26 In summary, the main points relating to the traffic and parking implications of the proposed development are as follows:
 - i) access will be provided from Renshaw Street via two driveways;
 - ii) the proposed parking provision is appropriate;
 - iii) access, servicing arrangements and internal layout will be provided in accordance with AS 2890.1:2004, AS 2890.2 2018 and AS 2890.6: 2009;
 - iv) Following DA approval, access arrangements, parking layouts, servicing and vehicle swept paths should be reviewed and confirmed for compliance certification; and
 - v) the road network would be able to cater for the additional traffic generated by the proposed development, noting that the right turn out of Renshaw Street onto Andrews Road would be approaching capacity in the weekday afternoon peak hour.

11889 - Cranebrook



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

Location Plan



Existing weekday morning peak hour traffic flows plus development traffic Figure 2

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Existing weekday afternoon peak hour traffic flows plus development traffic Figure 3

Colston Budd Rogers & Kafes Pty Ltd Document Set JD: 0805959 Drawn BD: 0806797 Utd hs Ref: 11889 02.11.2021 Version: 1, Version Date: 12/11/2021

ATTACHMENT A

ATTACHMENT A

SIDRA MOVEMENT SUMMARIES

USER REPORT FOR SITE

All Movement Classes

Project: 11889 Cranebrook

V Site: 101 [AM EX - Andrews Road - Renshaw Street (Site Folder: AM Existing)]

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

Vehi	Vehicle Movement Performance													
Mov ID	Turn	INP VOLL	UT IMES	DEM/ FLO	AND WS	Deg. Satn	Aver. Delay	Level of Service	95% BA QUI	ACK OF	Prop. Que	Effective Stop	Aver. No.	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m		Rate	Cycles	km/h
East:	Andre	ws Road												
5	T1	645	5.0	679	5.0	0.361	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	20	1.0	21	1.0	0.024	7.7	LOS A	0.1	0.6	0.47	0.65	0.47	48.3
Appr	oach	665	4.9	700	4.9	0.361	0.4	NA	0.1	0.6	0.01	0.02	0.01	59.3
North: Renshaw Street														
7	L2	24	1.0	25	1.0	0.030	6.6	LOS A	0.1	0.7	0.43	0.62	0.43	48.5
9	R2	45	1.0	47	1.0	0.167	16.7	LOS B	0.5	3.9	0.81	0.91	0.81	42.6
Appr	oach	69	1.0	73	1.0	0.167	13.2	LOS A	0.5	3.9	0.68	0.81	0.68	44.5
West	: Andr	ews Road	b											
10	L2	40	1.0	42	1.0	0.023	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
11	T1	395	5.0	416	5.0	0.220	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Appr	oach	435	4.6	458	4.6	0.220	0.6	NA	0.0	0.0	0.00	0.05	0.00	59.2
All Vehic	cles	1169	4.6	1231	4.6	0.361	1.2	NA	0.5	3.9	0.05	0.08	0.05	58.2

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.

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).

V Site: 101 [AM EX - Laycock Street - Renshaw Street (Site Folder: AM Existing)]

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

Vehi	Vehicle Movement Performance													
Mov ID	Turn	INP VOLU [Total veh/h	PUT IMES HV] %	DEM/ FLO [Total veh/h	AND NS HV] %	Deg. Satn	Aver. Delay	Level of Service	95% BA QUI [Veh. veh	ACK OF EUE Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/b
South	n: Layo	cock Stre	et	VOH/H	70	110	000		Von					KI1/11
1	L2	35	1.0	37	1.0	0.020	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
2	T1	190	2.0	200	2.0	0.104	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Appro	oach	225	1.8	237	1.8	0.104	0.7	NA	0.0	0.0	0.00	0.08	0.00	49.4
North	North: Laycock Street													
8	T1	300	2.0	316	2.0	0.235	0.4	LOS A	0.8	5.4	0.18	0.12	0.18	48.9
9	R2	75	1.0	79	1.0	0.235	5.8	LOS A	0.8	5.4	0.18	0.12	0.18	47.9
Appro	oach	375	1.8	395	1.8	0.235	1.5	NA	0.8	5.4	0.18	0.12	0.18	48.7
West	: Rens	haw Stre	et											
10	L2	40	1.0	42	1.0	0.108	5.2	LOS A	0.4	2.9	0.41	0.63	0.41	45.0
12	R2	40	1.0	42	1.0	0.108	9.6	LOS A	0.4	2.9	0.41	0.63	0.41	44.8
Appro	oach	80	1.0	84	1.0	0.108	7.4	LOS A	0.4	2.9	0.41	0.63	0.41	44.9
All Vehic	les	680	1.7	716	1.7	0.235	1.9	NA	0.8	5.4	0.15	0.17	0.15	48.4

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.

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).

V Site: 101 [PM EX - Andrews Road - Renshaw Street (Site Folder: PM Existing)]

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

Vehi	Vehicle Movement Performance													
Mov ID	Turn	INF VOLU [Total	PUT IMES HV]	لDEM FLO Total]	AND WS HV]	Deg. Satn	Aver. Delay	Level of Service	95% BA QUI [Veh.	ACK OF EUE Dist]	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East:	Andre	ws Road												
5	T1	535	5.0	563	5.0	0.300	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	30	1.0	32	1.0	0.074	13.0	LOS A	0.2	1.8	0.72	0.88	0.72	45.1
Appro	oach	565	4.8	595	4.8	0.300	0.8	NA	0.2	1.8	0.04	0.05	0.04	58.8
North	North: Renshaw Street													
7	L2	45	1.0	47	1.0	0.109	11.5	LOS A	0.4	2.6	0.70	0.86	0.70	45.5
9	R2	35	1.0	37	1.0	0.214	26.8	LOS B	0.7	4.9	0.89	0.97	0.95	38.1
Appro	oach	80	1.0	84	1.0	0.214	18.2	LOS B	0.7	4.9	0.78	0.90	0.81	41.9
West	: Andr	ews Road	d											
10	L2	95	1.0	100	1.0	0.054	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
11	T1	815	5.0	858	5.0	0.454	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Appro	oach	910	4.6	958	4.6	0.454	0.7	NA	0.0	0.0	0.00	0.06	0.00	59.0
All Vehic	cles	1555	4.5	1637	4.5	0.454	1.7	NA	0.7	4.9	0.05	0.10	0.06	57.7

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.

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).

V Site: 101 [PM EX - Laycock Street - Renshaw Street (Site Folder: PM Existing)]

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

Vehi	Vehicle Movement Performance													
Mov ID	Turn	INP VOLU [Total veh/h	PUT IMES HV] %	DEMA FLO [Total veh/h	AND NS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BA QUE [Veh. veh	ACK OF EUE Dist] m	Prop. I Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South	n: Layo	ock Stre	et											
1	L2	45	1.0	47	1.0	0.026	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
2	T1	310	2.0	326	2.0	0.170	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Appro	oach	355	1.9	374	1.9	0.170	0.6	NA	0.0	0.0	0.00	0.07	0.00	49.5
North	North: Laycock Street													
8	T1	190	2.0	200	2.0	0.165	0.8	LOS A	0.6	4.3	0.25	0.14	0.25	48.6
9	R2	55	1.0	58	1.0	0.165	6.6	LOS A	0.6	4.3	0.25	0.14	0.25	47.7
Appro	oach	245	1.8	258	1.8	0.165	2.1	NA	0.6	4.3	0.25	0.14	0.25	48.4
West	: Rens	haw Stre	et											
10	L2	115	1.0	121	1.0	0.223	5.9	LOS A	0.9	6.5	0.50	0.69	0.50	45.0
12	R2	65	1.0	68	1.0	0.223	9.9	LOS A	0.9	6.5	0.50	0.69	0.50	44.8
Appro	oach	180	1.0	189	1.0	0.223	7.3	LOS A	0.9	6.5	0.50	0.69	0.50	45.0
All Vehic	les	780	1.6	821	1.6	0.223	2.6	NA	0.9	6.5	0.19	0.23	0.19	48.0

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.

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).

V Site: 101 [AM EX + Dev - Andrews Road - Renshaw Street (Site Folder: AM Existing + Development)]

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

Vehi	Vehicle Movement Performance													
Mov	Turn			DEM		Deg.	Aver.	Level of	95% BA		Prop.	Effective	Aver.	Aver.
U		I Total	HV1	FLO [Total	vvS HV1	Sain	Delay	Service	[Veh.	Dist 1	Que	Rate	Cvcles	Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m			- 5	km/h
East	Andre	ws Road												
5	T1	630	5.0	663	5.0	0.353	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	90	1.0	95	1.0	0.113	8.2	LOS A	0.4	3.1	0.49	0.71	0.49	48.0
Appr	oach	720	4.5	758	4.5	0.353	1.1	NA	0.4	3.1	0.06	0.09	0.06	58.0
North	n: Rens	shaw Stre	eet											
7	L2	95	1.0	100	1.0	0.114	6.6	LOS A	0.4	3.0	0.45	0.65	0.45	48.4
9	R2	115	1.0	121	1.0	0.412	20.2	LOS B	1.7	12.0	0.85	1.02	1.13	40.9
Appr	oach	210	1.0	221	1.0	0.412	14.0	LOS A	1.7	12.0	0.67	0.85	0.82	44.0
West	: Andre	ews Road	ł											
10	L2	110	1.0	116	1.0	0.063	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
11	T1	385	5.0	405	5.0	0.215	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Appr	oach	495	4.1	521	4.1	0.215	1.3	NA	0.0	0.0	0.00	0.13	0.00	58.4
All Vehic	cles	1425	3.8	1500	3.8	0.412	3.1	NA	1.7	12.0	0.13	0.22	0.15	55.5

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.

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).

V Site: 101 [AM EX + Dev - Laycock Street - Renshaw Street (Site Folder: AM Existing + Development)]

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

Vehi	Vehicle Movement Performance													
Mov ID	Turn	INP VOLL	UT IMES	DEM. FLO	AND WS	Deg. Satn	Aver. Delay	Level of Service	95% BA QUE	ACK OF EUE	Prop. Que	Effective Stop	Aver. No.	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m		Rate	Cycles	km/h
Sout	h: Layo	cock Stre	et											
1	L2	35	1.0	37	1.0	0.020	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
2	T1	190	2.0	200	2.0	0.104	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
Appr	oach	225	1.8	237	1.8	0.104	0.7	NA	0.0	0.0	0.00	0.08	0.00	49.4
North	n: Layo	ock Stree	et											
8	T1	290	2.0	305	2.0	0.277	0.7	LOS A	1.2	8.6	0.27	0.18	0.27	48.4
9	R2	125	1.0	132	1.0	0.277	5.9	LOS A	1.2	8.6	0.27	0.18	0.27	47.4
Appr	oach	415	1.7	437	1.7	0.277	2.2	NA	1.2	8.6	0.27	0.18	0.27	48.1
West	t: Rens	shaw Stre	et											
10	L2	90	1.0	95	1.0	0.152	5.3	LOS A	0.6	4.3	0.37	0.60	0.37	45.3
12	R2	40	1.0	42	1.0	0.152	10.5	LOS A	0.6	4.3	0.37	0.60	0.37	45.1
Appr	oach	130	1.0	137	1.0	0.152	6.9	LOS A	0.6	4.3	0.37	0.60	0.37	45.2
All Vehic	cles	770	1.6	811	1.6	0.277	2.6	NA	1.2	8.6	0.21	0.22	0.21	48.0

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.

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).

V Site: 101 [AM EX + Dev - Renshaw Street - Northern Site Access (Site Folder: AM Existing + Development)]

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

Vehi	Vehicle Movement Performance													
Mov	Turn	INF		DEM		Deg.	Aver.	Level of	95% BA		Prop.	Effective	Aver.	Aver.
שו		[Total	HV1	Total	HV 1	Saur	Delay	Service	[Veh	Dist 1	Que	Rate	Cvcles	Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		i tato	e yeiee	km/h
Sout	h: Ren	shaw Str	eet											
1	L2	70	1.0	74	1.0	0.073	4.6	LOS A	0.0	0.0	0.00	0.29	0.00	47.9
2	T1	60	1.0	63	1.0	0.073	0.0	LOS A	0.0	0.0	0.00	0.29	0.00	48.3
Appr	oach	130	1.0	137	1.0	0.073	2.5	NA	0.0	0.0	0.00	0.29	0.00	48.1
North	n: Ren	shaw Stre	eet											
8	T1	70	1.0	74	1.0	0.055	0.2	LOS A	0.2	1.1	0.14	0.15	0.14	48.8
9	R2	25	1.0	26	1.0	0.055	5.0	LOS A	0.2	1.1	0.14	0.15	0.14	28.7
Appr	oach	95	1.0	100	1.0	0.055	1.4	NA	0.2	1.1	0.14	0.15	0.14	41.2
West	: North	nern Site	Access											
10	L2	50	1.0	53	1.0	0.171	0.2	LOS A	0.6	4.5	0.21	0.21	0.21	28.0
12	R2	140	1.0	147	1.0	0.171	1.4	LOS A	0.6	4.5	0.21	0.21	0.21	27.8
Appr	oach	190	1.0	200	1.0	0.171	1.1	LOS A	0.6	4.5	0.21	0.21	0.21	27.9
All Vehio	cles	415	1.0	437	1.0	0.171	1.6	NA	0.6	4.5	0.13	0.22	0.13	35.1

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.

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).

V Site: 101 [AM EX + Dev - Renshaw Street - Southern Site Entry (Site Folder: AM Existing + Development)]

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

Vehi	Vehicle Movement Performance														
Mov ID	Turn	Turn INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BA	ACK OF	Prop. E Que	ffective Stop	Aver. No.	Aver. Speed	
		[Iotal veh/h	HV J %	[Iotal veh/h	HV J %	v/c	sec		[Veh. veh	Dist J m		Rate	Cycles	km/h	
South	n: Ren	shaw Stre	eet												
1	L2	70	1.0	74	1.0	0.111	4.6	LOS A	0.0	0.0	0.00	0.19	0.00	48.4	
2	T1	130	1.0	137	1.0	0.111	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	48.9	
Appro	bach	200	1.0	211	1.0	0.111	1.6	NA	0.0	0.0	0.00	0.19	0.00	48.7	
North	: Rens	shaw Stre	eet												
8	T1	140	1.0	147	1.0	0.094	0.2	LOS A	0.2	1.3	0.11	0.09	0.11	49.2	
9	R2	25	1.0	26	1.0	0.094	5.6	LOS A	0.2	1.3	0.11	0.09	0.11	28.8	
Appro	bach	165	1.0	174	1.0	0.094	1.0	NA	0.2	1.3	0.11	0.09	0.11	44.4	
All Vehic	les	365	1.0	384	1.0	0.111	1.3	NA	0.2	1.3	0.05	0.15	0.05	46.7	

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.

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).

V Site: 101 [PM EX + Dev - Andrews Road - Renshaw Street (Site Folder: PM Existing + Development)]

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

Vehi	Vehicle Movement Performance													
Mov	Turn	n INPUT		DEMAND		Deg.	Aver.	Level of	95% BA	ACK OF	Prop.	Effective	Aver.	Aver.
ID		VOLU	IMES	FLO Total	ws цул	Satn	Delay	Service	QUI [\/eh	=UE Diet 1	Que	Stop Rate	NO.	Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m		Itale	Cycles	km/h
East	: Andre	ws Road												
5	T1	525	5.0	553	5.0	0.295	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
6	R2	100	1.0	105	1.0	0.264	15.2	LOS B	1.0	7.0	0.78	0.94	0.88	43.9
Appr	oach	625	4.4	658	4.4	0.295	2.5	NA	1.0	7.0	0.12	0.15	0.14	56.5
North: Renshaw Street														
7	L2	115	1.0	121	1.0	0.269	12.4	LOS A	1.0	7.3	0.73	0.91	0.83	45.0
9	R2	105	1.0	111	1.0	0.683	45.6	LOS D	3.0	20.9	0.96	1.16	1.61	31.8
Appr	oach	220	1.0	232	1.0	0.683	28.3	LOS B	3.0	20.9	0.84	1.03	1.20	37.6
West	t: Andre	ews Road	ł											
10	L2	165	1.0	174	1.0	0.094	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
11	T1	800	5.0	842	5.0	0.446	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Appr	oach	965	4.3	1016	4.3	0.446	1.1	NA	0.0	0.0	0.00	0.10	0.00	58.5
All Vehio	cles	1810	3.9	1905	3.9	0.683	4.9	NA	3.0	20.9	0.14	0.23	0.19	54.2

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.

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).

V Site: 101 [PM EX + Dev - Laycock Street - Renshaw Street (Site Folder: PM Existing + Development)]

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

Vehi	Vehicle Movement Performance													
Mov ID	Turn	N INPUT		DEMAND FLOWS		Deg. Satn	Aver. Dela <u>v</u>	Level of Servic <u>e</u>	95% BA Q <u>UI</u>	ACK OF	Prop. Qu <u>e</u>	Effective Sto <u>p</u>	Aver. No.	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m		Rate	Cycles	' km/h
Sout	h: Layo	cock Stre	et											
1	L2	45	1.0	47	1.0	0.026	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
2	T1	310	2.0	326	2.0	0.170	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
Appr	oach	355	1.9	374	1.9	0.170	0.6	NA	0.0	0.0	0.00	0.07	0.00	49.5
North: Laycock Street														
8	T1	180	2.0	189	2.0	0.214	1.3	LOS A	1.0	7.4	0.38	0.25	0.38	47.8
9	R2	105	1.0	111	1.0	0.214	6.7	LOS A	1.0	7.4	0.38	0.25	0.38	46.9
Appr	oach	285	1.6	300	1.6	0.214	3.3	NA	1.0	7.4	0.38	0.25	0.38	47.5
West	t: Rens	shaw Stre	et											
10	L2	165	1.0	174	1.0	0.274	5.9	LOS A	1.2	8.3	0.50	0.69	0.50	45.1
12	R2	65	1.0	68	1.0	0.274	10.8	LOS A	1.2	8.3	0.50	0.69	0.50	44.9
Appr	oach	230	1.0	242	1.0	0.274	7.3	LOS A	1.2	8.3	0.50	0.69	0.50	45.0
All Vehio	cles	870	1.6	916	1.6	0.274	3.3	NA	1.2	8.3	0.26	0.29	0.26	47.6

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.

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).

V Site: 101 [PM EX + Dev - Renshaw Street - Northern Site Access (Site Folder: PM Existing + Development)]

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

Vehi	Vehicle Movement Performance													
Mov ID	v Turn INPUT		UT IMFS	DEMAND FLOWS		Deg. Satn	Aver. Delav	Level of Service	95% BA QUE	ACK OF	Prop. E Que	Effective Stop	Aver. No	Aver. Speed
		[Total veh/h	HV]	[Total veh/h	HV]	v/c	sec		[Veh. veh	Dist] m		Rate	Cycles	km/h
South	h: Ren	shaw Stre	eet											
1	L2	70	1.0	74	1.0	0.073	4.6	LOS A	0.0	0.0	0.00	0.29	0.00	47.9
2	T1	60	1.0	63	1.0	0.073	0.0	LOS A	0.0	0.0	0.00	0.29	0.00	48.3
Appro	oach	130	1.0	137	1.0	0.073	2.5	NA	0.0	0.0	0.00	0.29	0.00	48.1
North: Renshaw Street														
8	T1	70	1.0	74	1.0	0.055	0.2	LOS A	0.2	1.1	0.14	0.15	0.14	48.8
9	R2	25	1.0	26	1.0	0.055	5.0	LOS A	0.2	1.1	0.14	0.15	0.14	28.7
Appro	oach	95	1.0	100	1.0	0.055	1.4	NA	0.2	1.1	0.14	0.15	0.14	41.2
West	: North	nern Site	Access											
10	L2	50	1.0	53	1.0	0.171	0.2	LOS A	0.6	4.5	0.21	0.21	0.21	28.0
12	R2	140	1.0	147	1.0	0.171	1.4	LOS A	0.6	4.5	0.21	0.21	0.21	27.8
Appro	oach	190	1.0	200	1.0	0.171	1.1	LOS A	0.6	4.5	0.21	0.21	0.21	27.9
All Vehic	cles	415	1.0	437	1.0	0.171	1.6	NA	0.6	4.5	0.13	0.22	0.13	35.1

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.

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).

abla Site: 101 [PM EX + Dev - Renshaw Street - Southern Site Entry (Site Folder: PM Existing + **Development)**]

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

Vehi	Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BA QUI [Veh	ACK OF EUE Dist 1	Prop. E Que	ffective Stop Rate	Aver. No. Cvcles	Aver. Speed	
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h	
South: Renshaw Street															
1	L2	70	1.0	74	1.0	0.111	4.6	LOS A	0.0	0.0	0.00	0.19	0.00	48.4	
2	T1	130	1.0	137	1.0	0.111	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	48.9	
Appro	bach	200	1.0	211	1.0	0.111	1.6	NA	0.0	0.0	0.00	0.19	0.00	48.7	
North	: Rens	shaw Stre	eet												
8	T1	140	1.0	147	1.0	0.094	0.2	LOS A	0.2	1.3	0.11	0.09	0.11	49.2	
9	R2	25	1.0	26	1.0	0.094	5.6	LOS A	0.2	1.3	0.11	0.09	0.11	28.8	
Appro	oach	165	1.0	174	1.0	0.094	1.0	NA	0.2	1.3	0.11	0.09	0.11	44.4	
All Vehic	les	365	1.0	384	1.0	0.111	1.3	NA	0.2	1.3	0.05	0.15	0.05	46.7	

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.

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 (Akcelik M3D).

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

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Project: G:\Traffic\SIDRA 9.0\11889 Cranebrook\11889 Cranebrook.sip9

ATTACHMENT B

ATTACHMENT B

VEHICLE TURN PATHS



UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES DOPROR OS ED 910 59 FAS PLAN ARE CONCEPT ONLY AND VerAiRE SUBSIECPATE OF 11/242 DESIGN BY CIVIL ENGINEERS.

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





NOTE:

SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES DOP ROP OSED SM SPEAS PLAN ARE CONCEPT ONLY AND VERICE SUBSIDE PARTY OF AN ARE DESIGN BY CIVIL ENGINEERS.





UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES DOPROR OS ED 910 59 FAS PLAN ARE CONCEPT ONLY AND VerAiRE SUBSIECPANTO #11/AP2 DESIGN BY CIVIL ENGINEERS.

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



Colston Budd Rogers & Kafes Pty Ltd



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

8.8m MEDIUM RIGID VEHICLE SWEPT PATHS

DRAWN BY CBRK Pty Ltd_mc Ref: 11889



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NOTE:

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



11889 - Cranebrook

Colston Budd Rogers & Kafes Pty Ltd



SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES DOPROR OS ED 910 59 FAS PLAN ARE CONCEPT ONLY AND VerAiRE SUBSIECPANTO #11/AP2 DESIGN BY CIVIL ENGINEERS.

Swept Path of Vehicle Body Swept Path of Clearance to Vehicle Body SWEPT PATHS





NOTE:

SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES

16.9m ARTICULATED **VEHICLE SWEPT PATHS**

DRAWN BY CBRK Pty Ltd_mc Ref: 11889

9 NOVEMBER 2021

