TRANSPORT AND ACCESSIBILITY IMPACT ASSESSMENT (TAIA)

Proposed Al Sadiq School
83 Jocelyn Street, Chester Hill

Reference: 23.350r02v06
Date: July 2025

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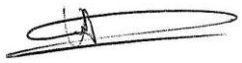
v06	11/07/2025	Andrew Baraket	Vince Doan	

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1. INTRODUCTION

TRAFFIX has been commissioned by the Al Sadiq School to undertake a Transport and Accessibility Impact Assessment in support of an educational establishment development relating to the proposed Al Sadiq School campus at 83 Jocelyn Street, Chester Hill. The development is located within the Canterbury-Bankstown Council local government area and has been assessed under that Council's controls.

This report documents the findings of our investigations and should be read in the context of the Statement of Environmental Effects (SEE), prepared separately.

The report is structured as follows:

- Section 2: Describes the site and its location
- Section 3: Documents existing traffic conditions
- Section 4: Documents existing school characteristics
- Section 5: Describes the proposed development
- Section 6: Assesses the parking requirements
- Section 7: Assesses traffic impacts
- Section 8: Discusses access and internal design aspects
- Section 9: Presents the overall study conclusions

2. LOCATION AND SITE

The subject site is located at 83 Jocelyn Street, Chester Hill, approximately 19.5 kilometres west of the from the Sydney Central Business District (CBD). More specifically, it is located on the southern side of Jocelyn Street, approximately 640 metres south of Chester Hill Railway Station.

The site is irregular shaped in configuration with a total area of approximately 7,400m^2. It has a northern frontage to Jocelyn measuring approximately 27 metres and the remainder of the site generally borders residential developments.

The aged care facility is currently served by two (2) vehicular accesses, comprising two (2) driveway crossings to Jocelyn St and one (1) driveway crossing to Ridge Street.

It is noted that the school has acquired 54 Chester Hill Road to serve as vehicular access point for the proposed staff/visitor carpark and queuing area for drop-off/pick up.

A Location Plan is presented in **Figure 1** with a Site Plan included in **Figure 2** which provide an appreciation of the general character of roads and other key attributes in proximity to the site and also depicts the proposed addition to the school.

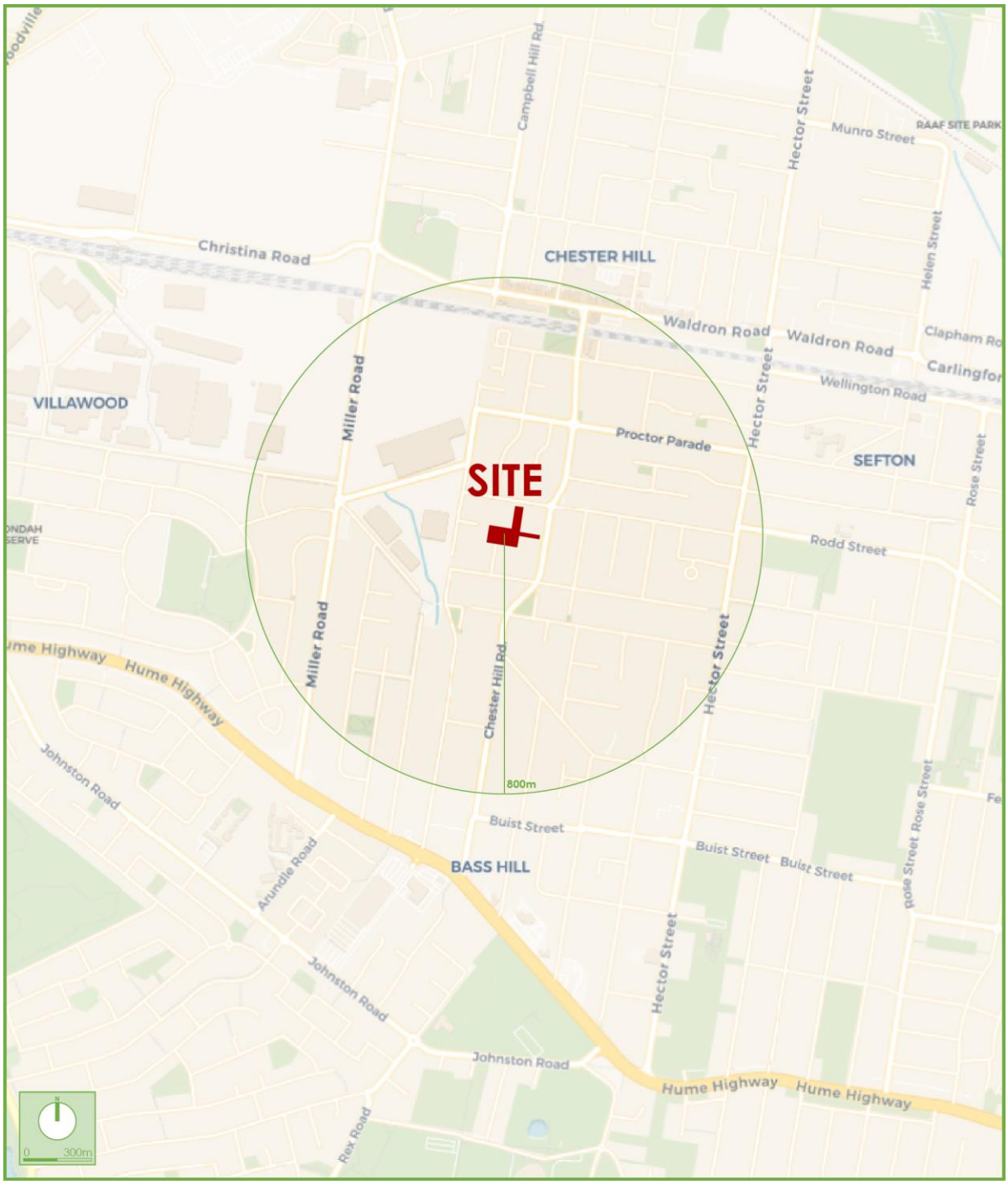

Figure 1: Location Plan

Figure 2: Site Plan

3. EXISTING TRAFFIC CONDITIONS

3.1 Road Network

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

- Hector Street: a TfNSW Unclassified Regional Road (RR 7101) that traverses in a north-south direction between Boundary Road in the north and the Hume Highway in the south. It is generally subject to 60km/hr speed zoning and accommodates a single lane of traffic in each direction with unrestricted kerbside parallel parking generally permitted along both sides of the road.
- Chester Hill Road: a local road that traverses in a north-south direction between a Waldron Road in the north and Hume Highway in the south. Within the vicinity of the site, it is subject to 60km/hr speed zoning. Also, it accommodates a single lane of traffic in each direction with unrestricted kerbside parallel parking generally permitted along both sides of the road.
- Jocelyn Street: a local road that traverses in an east-west direction between a Hector Street in the east and Orchard Road in the west. Within the vicinity of the site, it is subject to 50km/hr speed zoning and accommodates a single lane of traffic in each direction with unrestricted kerbside parallel parking generally permitted along both sides of the road.

It can be seen from **Figure 3** that the site is centrally located with respect to the surrounding road network with access to Hume Highway in the south and other local roads accessing the wider road network, thereby minimising traffic impacts.

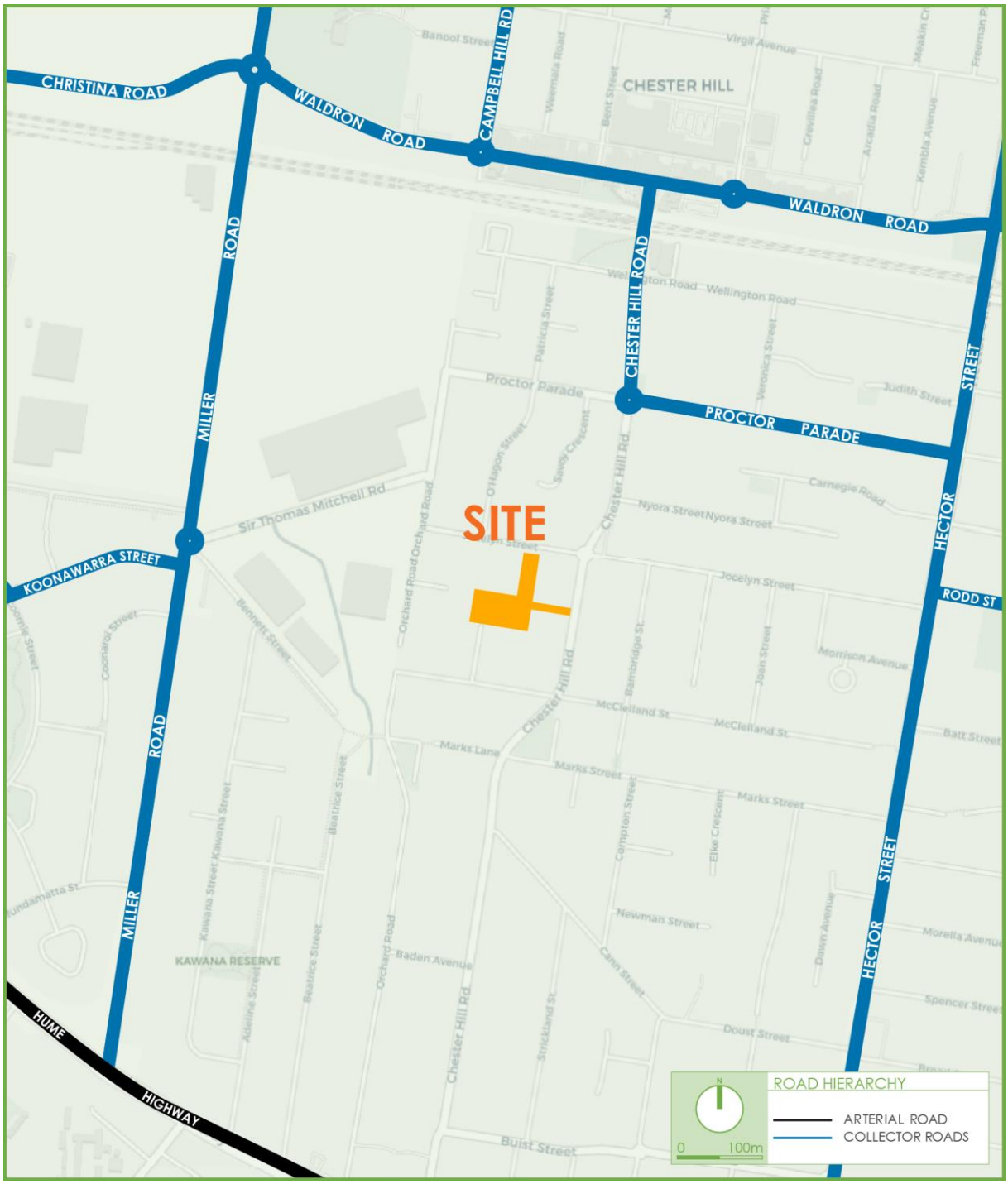

Figure 3: Road Hierarchy

3.2 Key Intersections

3.2.1 Chester Hill Road / Proctor Parade Intersection

It can be seen from **Figure 4** that the intersection of Chester Hill Road with Proctor Parade is a four-legged roundabout intersection.

Figure 1: Intersection of Chester Hill Road / Proctor Parade

The main attributes of each approach outlined as follows:

- Chester Hill Road (north-south)
  - The northern approach provides one (1) lane with all movements permitted.
  - The southern approach provides one (1) lane with all movements permitted.
- Proctor Parade (east-west)
  - The eastern approach provides one (1) lane with all movements permitted.
  - The western approach provides one (1) lane with all movements permitted.

3.2.2 Chester Hill Road / Jocelyn Street Intersection

It can be seen from **Figure 5** that the intersection of Chester Hill Road with Jocelyn Street is a four-legged roundabout intersection.

Figure 5: Intersection of Chester Hill Road / Jocelyn Street

The main attributes of each approach are outlined as follows:

- Chester Hill Road (north-south)
  - The northern approach provides one (1) lane with all movements permitted. A left turn slip lane.
  - The southern approach provides one (1) lane with all movements permitted.
- Jocelyn Street (east-west)
  - The eastern approach provides one (1) lane with all movements permitted.
  - The western approach provides one (1) lane with all movements permitted.

3.2.3 Chester Hill Road / McClelland Street Intersection

It can be seen from **Figure 6** that the intersection of Chester Hill Road with McClelland Street is a four-legged priority-controlled intersection.

Figure 6: Intersection of Chester Hill Road / McClelland Street

The main attributes of each approach are outlined as follows:

- Chester Hill Road (north-south) is the main road
  - The northern approach provides one (1) lane with all movements permitted. Pedestrian refuge is provided along the northern approach.
  - The southern approach provides one (1) lane with all movements permitted.
- McClelland Street (east-west) is sign posted as 'Stop' (minor road)
  - The eastern approach provides one (1) lane with all movements permitted. Pedestrian refuge is provided along the eastern approach.
  - The western approach provides one (1) lane with all movements permitted.

3.2.4 Jocelyn Street / Orchard Road Intersection

It can be seen from **Figure 7** that the intersection of Jocelyn Street with Orchard Road is a priority-controlled T-intersection.

Figure 7: Intersection of Chester Hill Road / Jocelyn Street

The main attributes of each approach are outlined as follows:

- Jocelyn Street (east)
  - The eastern approach provides one (1) lane with all movements permitted. It is noted that this approach provides a narrow roadway of 2.2m wide to deter heavy vehicles from accessing.
- Orchard Road (north-south)
  - The northern approach provides one (1) lane with all movements permitted.
  - The southern approach provides one (1) lane with all movements permitted.

3.3 Sustainable Transport

3.3.1 Bus Services

The subject site is within optimal walking distance (400 metres) of multiple bus stops. These bus services are presented in **Figure 8** and are summarised as follows:

- S4 – Chester Hill to Fairfield
- 911 – Auburn to Bankstown

More information concerning all bus and train service information can be found on the Transport for NSW Info website: https://www.transportnsw.info.

3.3.2 Rail Services

The subject site is approximately 640 metres of Chester Hill Railway Station which provides access to the T3 Bankstown Line which connects to the Sydney CBD, Lidcombe and the southwest suburbs, Liverpool, and Bankstown. This railway station is presented in **Figure 8** .

3.3.3 Private School Buses

In addition, private bus services will be made available for students as per the arrangements of Al Sadiq School Yagoona.

3.4 On-Street Parking

Parking along local roads around the proposed development is generally unrestricted with parking available on both sides of most surrounding roads for visitors.

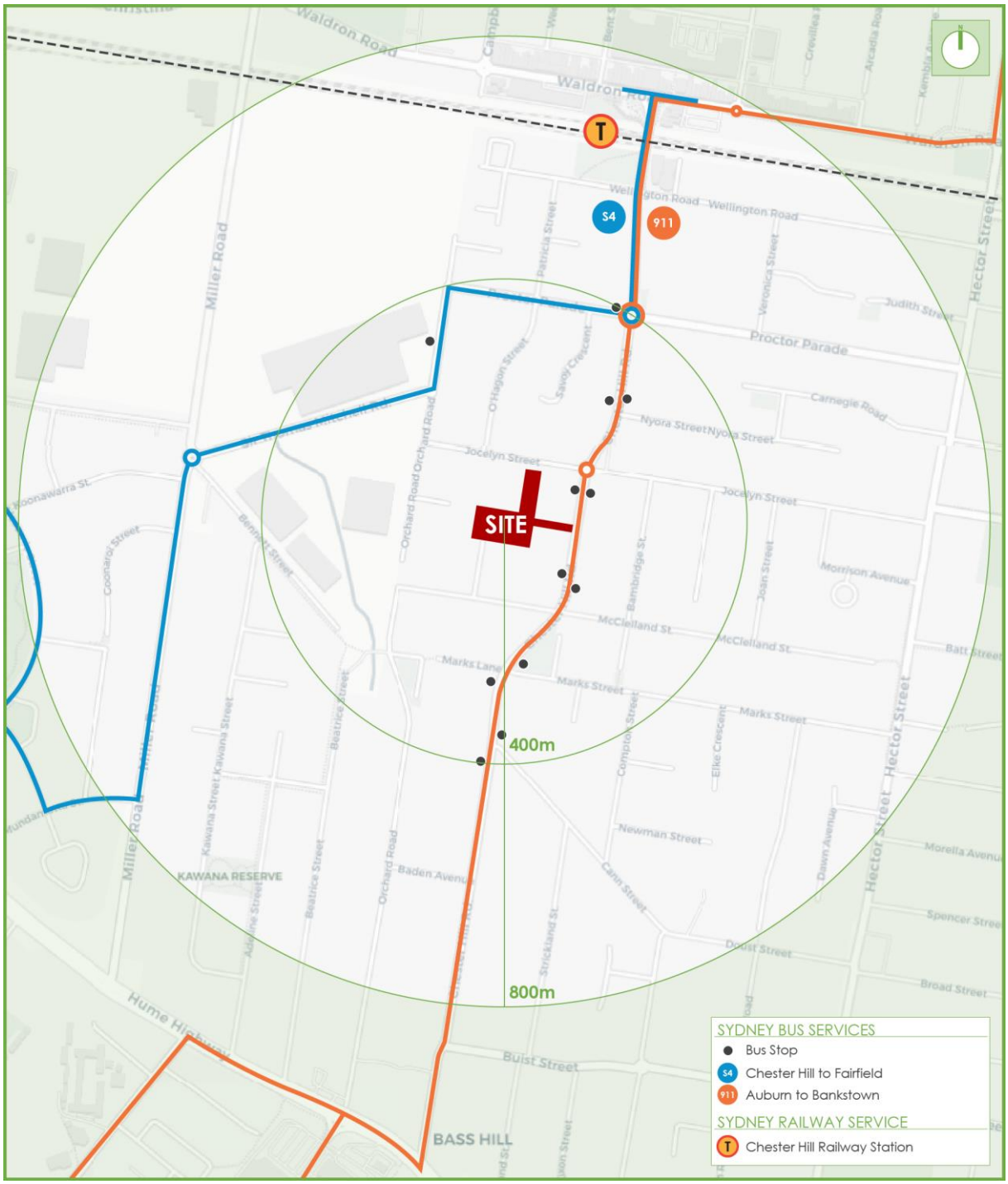

Figure 8: Public Transport

4. EXISITNG SCHOOL CHARACTERISTICS

4.1 Existing School Characteristics

The existing campus for Al-Sadiq College is located at 178 Cooper Road, Yagoona. The school currently has a total population of 228 students and 20 staff. It must be noted that many of the students have family members attending the school which can be summarised;

Table 1: Student and Staff Numbers

Category	Number
Students	228
Staff	20

4.2 School Travel Mode Breakdown

Al Sadiq School Yagoona have provided a travel mode breakdown during drop-off / pick-up for the primary school students summarised in **Table 2** below.

Table 2: Student Travel Mode Breakdown

Period	Private School Bus Service (Students)	Drop off / Pick Up (Students)
Morning	48	180
Afternoon	190	38

5. DESCRIPTION OF PROPOSED DEVELOPMENT

A detailed description of the proposed development is provided in the Statement of Environmental Effects prepared separately. In summary, the development for which approval is now sought is a change of use of existing buildings to educational uses for primary school campus comprising of the following components:

- Conversion of existing buildings into an educational establishment
- Demolition of existing buildings at 54 Chester Hill Road, Chester Hill.
- Maximum capacity of current Al-Sadiq Yagoona Campus students to be relocated to the subject site.
- Up to 20 staff to be present on site at any one time.
- A shuttle bus between the existing school and the proposed campus to minimise parents dropping off and picking up students.
- Construction of new internal road including;
  - 22 x car parking spaces;
  - 5 x drop-off / pick-up bays;
  - 3 x bus drop off spaces; and
  - Circulation area.

The parking and traffic impacts arising from the development are discussed in **Section 6** and **Section 7**. Reference should be made to the plans submitted separately to Council which are presented at reduced scale in **Appendix A**.

6. PARKING REQUIREMENTS

6.1 Car Parking Requirement

The Canterbury-Bankstown Council Development Control Plan (DCP) 2023, Section 2 – off-street parking rates requires parking for educational establishment developments to be determined by rates shown in **Table 3**:

Table 3: Council Parking Rates and Provision

Type	No. of Staff	Parking Rate	Parking Spaces Required	Parking Spaces Provided
Educational Establishment (Non-Tertiary)				
Staff	20	1 space per employee or classroom (whichever is greater)	20	**22**
		Totals	**20**	**22**

It is evident from **Table 3** that the proposed development requires a minimum of 20 spaces under Council's DCP. In response, the development provides a total provision of 22 spaces. Noting that 20 spaces for staff with the remaining two (2) utilised by visitors. Therefore, the development provides a compliant staff parking requirement in accordance with Council's DCP.

6.2 Proposed Student Drop-off and Pick-up

The proposed arrangement would provide five (5) designated on-site student drop-off / pick-up spaces that are independent. These are accessed via Chester Hill Road and will be utilised by all parents/carers driving to the school. This area will have a capacity for 14 vehicles to queue with a roadway with passing opportunity adjacent the drop-off / pick-up spaces.

The operational details for the proposed student drop-off and pick-up can be found in Preliminary Operational Traffic Management Plan (POTMP) (reference: 23.350r01v05). The key operational details from the POTMP are summarised below.

6.2.1 Drop Off

- Parents/carers are to approach the available space as advised by a teacher and are advised to not exit their vehicle.

- Teachers will assist students in leaving the vehicles.
- Parents to leave the site immediately after dropping off.

6.2.2 Pick-up

- A minimum five (5) teachers will be stationed at the following areas as highlighted in Figure 9.
- Staff member at driveway will contact the staff members at the pick-up zone in the school to prepare the student for pick up. They will be identified by parents/carers placing the students name on their dashboards.
- Staff member in school will help locate the child and ensure they enter the waiting bay once parents / caregivers enter the queue.
- Staff member in waiting bay will ensure child is prepared to get picked up prior to their parents/carers entering the drop-off / pick-up spaces.
- Staff members at pick-up / drop-off zone will assist in helping the children get into their parents / carers car. Therefore parents / carers do not have to leave their cars, streamlining the entire process.

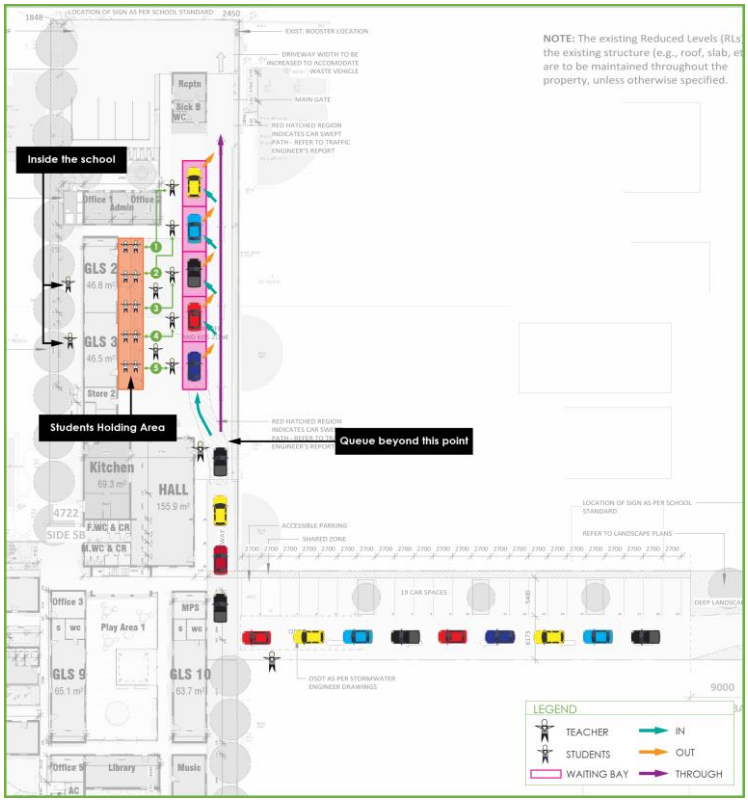

Figure 9: Pick-up Arrangement

6.3 Private Bus Parking

The school proposes three (3) on-site bus parking spaces accessed via Jocelyn Street, with the school shuttle proposed to access the site via Jocelyn Street.

6.4 Accessible Parking

Council's DCP specifies an accessible parking rate for schools (Class 9b) of one (1) space for every 100 car parking spaces or part thereof. Therefore, a single accessible parking space is required. In response, a single accessible parking space has been proposed, complying with Council's requirements.

6.5 Bicycle Parking

The Council's DCP specifies a bicycle parking rate for educational establishments as follows:

- 1 space per 10 staff members; and
- "Adequate provision of bicycle parking for students."

Given the proposed development is a primary school and no students currently travel to school on a bicycle as outlined in **Section 4.2**, the students bicycle parking rate should be disregarded unless there is a future demand. The application of the staff bicycle parking rate to the proposed 20 staff members results in two (2) bicycle parking space requirement. In response this development proposes 26 bicycle parking spaces in compliance with Council's DCP rate.

6.6 Refuse Collection and Servicing

Waste collection will be conducted by a 10.6m long waste truck via the western vehicular access via Jocelyn Street. It is noted that waste collection will be conducted outside of school times and therefore does not conflict with any school movements. As such no vehicles will be on-site during refuse collection ensuring the waste vehicle is provided adequate space to enter/exit the site in a forward direction.

In addition, any servicing will be arranged with the school to ensure deliveries are outside of the school peak times (drop off and pick up periods).

Reference should be made to **Appendix B** which shows satisfactory movements of a 10.6m long truck accessing and egressing the site via Jocelyn Street.

7. TRAFFIC AND TRANSPORT IMPACTS

7.1 Existing Site Generation

The existing buildings at 83 Jocelyn Street, Chester Hill currently accommodates Bankstown City Aged Care a senior living development. This site currently accommodates 50 beds and other ancillary uses. The TDT 2013/04a recommends a senior's housing developments have a peak hour vehicle trip of 0.4 per dwelling during either peak period, noting that the morning (AM) peak does not coincide with the network peak hour and as a result accommodates approximately 30% of the evening peak period. However, the application of this rate to the 50 existing beds, and adopting an 80/20 split resulting in the following;

- 6 vehicle trips per hour during the morning peak period (1 in, 5 out); and
- 20 vehicle trips per hour during the evening peak period (16 in, 4 out).

The existing trip generation will not be considered during the future model to allow for a conservative assessment.

7.2 Development Trip Generation

The impacts of the proposed development on the external road network have been assessed having regard for the yield scenarios as summarised in **Section 5** above. As the TfNSW Guideline to Traffic Generating Developments (2002) does not specify traffic generation rates for schools and the unique characteristics of the school a first principles assessment of the traffic generation has been conducted for the proposed development. The result of this assessment is summarised below.

7.2.1 Staff

Staff trip generation will not coincide with network peak periods as they will arrive to school well before students and leave well after. Therefore, staff trip generation will not be considered in proposal's impact on the morning and afternoon peak periods.

7.2.2 Students

The TfNSW Guideline to Traffic Generating Developments (2002) does not provide a traffic generation rate for educational developments. As such a first principles method has been utilised to assess the traffic generation of the proposed expansion.

TRAFFIX has previously worked on a variety of public and private primary school developments. Travel mode surveys were conducted at each of these schools to establish travel mode splits and car occupancy rates of students. The findings of these surveys are summarised in **Table 4** below:

Table 4: Average Car Occupancy and Car Passenger Travel Mode for Primary School Students

School	Student Car Occupancy:	AM Car Passenger Travel Mode	PM Car Passenger Travel Mode
Homebush West Public School	2.2	44%	47%
Randwick Public School	1.9	49%	42%
Rainbow Public School	1.8	60%	61%
Bardia Public School	1.8	86%	78%
Riverbank Public School	1.5	72%	67%
North Curl Public School	1.6	72%	66%
SCEGGS	1.4	90%	**72%**
St Catherine's	1.3	54%	**44%**
Emanuel College	1.5	79%	**67%**
Average	**1.7**	**67%**	**60%**

As the school has already established travel modes, the above travel modes of the other schools are not as relevant as the existing school. The existing school however, does not establish a car occupancy rate therefore, the average car occupancy rate for students of 1.7 is adopted. This average car occupancy can be applied to number of students arriving and leaving school via private vehicle as outlined in **Section 4.2**. Therefore, the traffic generation by students can be summarised as follows;

- 212 vehicle trips per hour during the morning peak period (106 in, 106 out); and
- 46 vehicle trips per hour during the afternoon peak period (23 in, 23 out).

7.3 Drop off and Pick Up Queuing Analysis

7.3.1 Drop-off

As stated in **Section 6.2** the proposed drop-off/ pick-up configuration provides an internal queue capacity of 14 vehicles, and five (5) pick-up/ drop-off spaces. Refer to **Appendix C** for drop-off queuing analysis. The following assumptions are made for the queuing analysis;

- 106 vehicle arrivals required for drop-off as per Yagoona Campus data.
- drop off will occur over a 30 minute period (1800 seconds).
- Approximately 65 second drop-off duration assumed.

Using the above assumptions, 14 vehicles within the system at any one time is considered the 98th percentile of the morning peak period. As the site can accommodate up to19 vehicles (5 at pick-up bay, 14 queued) on-site, all demand can be wholly contained on-site resulting in no on-street queuing.

This accompanied by the traffic management measures as outlined in the POTMP will ensure no adverse effects to surrounding road network.

7.3.2 Pick-up

As stated in **Section 6.2** the proposed drop-off / pick-up configuration provides an internal queue capacity of 14 vehicles, and five (5) pick-up/ drop-off spaces. Refer to **Appendix C** for pick-up queuing analysis. The following assumptions are made for the queuing analysis;

- 24 vehicle arrivals required for pick-up as per Yagoona Campus data.
- Pick-up will occur over a 30 minute period (1800 seconds).
- Conservative estimate of five (5) minute pick-up duration assumed.

Using the above assumptions, 17 vehicles within the system at any one time is considered the 98th percentile of the afternoon peak period. As the site can accommodate up to19 vehicles (5 at pick-up bay, 14 queued) on-site, all demand can be wholly contained on-site resulting in no on-street queuing.

This accompanied by the traffic management measures as outlined in the POTMP will ensure no adverse effects to surrounding road network.

7.4 Intersection Performance

7.4.1 Traffic Surveys

For the purposes of assessing the traffic impacts of this development, surveys were undertaken of the most critical intersections within proximity of the site. These surveys were performed during the network peak periods between 7:00am to 9:00am and 3:00pm to 6:00pm on Tuesday, 18 June 2024 at the following key intersections:

- Chester Hill Road / Proctor Parade; and
- Chester Hill Road / Jocelyn Street; and
- Chester Hill Road / McClelland Street; and
- Jocelyn Street / Orchard Road.

7.4.2 Trip Distributions

The following trip distributions was applied to both morning and afternoon network peaks for the key intersections identified above based on the location of the existing campus and traffic surveys:

- 65% of vehicles arrive to the site from the south along Chester Hill Road
- 25% of vehicles arrive to the site from the north along Chester Hill Road.
- 10% of vehicles arrive to the site via Orchard Road heading east to Chester Hill Road.
- All vehicles will depart in the same direction as they arrived.

Trip distribution diagrams for each key intersection during the morning and afternoon network peaks in relation to the additional traffic generated by the proposed development are provided in the distribution diagrams in **Figure 10** and **Figure 11** below.

Figure 10: AM Trip Distributions

Figure 11: PM Trip Distributions

7.4.3 Scenarios

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

- 2024 Base Case
- 2024 Base Case + Development

7.4.4 SIDRA Intersection Analysis

The surveys were analysed using the SIDRA Intersection 9.1 computer program to determine their performance characteristics under existing traffic conditions. The SIDRA model produces a range of outputs, the most useful of which are the Degree of Saturation (DoS) and Average Vehicle Delay per vehicle (AVD). The AVD is in turn related to a level of service (LoS) criteria. These performance measures can be interpreted using the following explanations:

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

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

LoS this is a comparative measure which provides an indication of the operating performance of an intersection as shown in **Table 5**.

Table 5: Intersection Performance Indicators (TfNSW)

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

A summary of the modelled results is provided in **Table 6** for the above mentioned scenarios. Reference should also be made to the SIDRA outputs provided in **Appendix D** which provide detailed results for each movement.

Table 6: Intersection Performance for 2024 Scenario

Intersection	Control Type	Scenario	Period	Degree of Saturation	Average Delay (sec)	Level of Service
Chester Hill Road / Proctor Parade	Roundabout	Base	AM	0.396	10.1	A
			PM	0.451	10.2	A
		Base + Development	AM	0.426	10.4	A
			PM	0.454	10.2	A
Chester Hill Road / Jocelyn Street	Roundabout	Base	AM	0.331	10.6	A
			PM	0.361	11.1	A
		Base + Development	AM	0.332	11.0	A
			PM	0.374	11.3	A
Chester Hill Road / McClelland Street	Priority	Base	AM	0.203	11.0	A
			PM	0.219	11.8	A
		Base + Development	AM	0.240	13.7	A
			PM	0.228	12.5	A
Jocelyn Street / Orchard Road	Priority	Base	AM	0.095	4.9	A
			PM	0.111	5.7	A
		Base + Development	AM	0.105	5.0	A
			PM	0.113	5.7	A

7.4.5 Base Case + Development Performance

It can be seen from **Table 6** that the intersection of Chester Hill Road / Proctor Parade experiences minor changes in average delay during both peak periods. The intersection continues to operate at LoS 'A' and is considered acceptable.

The intersection of Chester Hill Road/ Jocelyn Street experiences minor increases in average delay equating to an additional 0.4 seconds in the morning peak and 0.2 seconds in the afternoon peak. The intersection will continue to operate at a LoS 'A' in the morning and afternoon peak hour periods.

The intersection of Chester Hill Road / McClelland experiences minor increases in average delay equating to an additional 2.7 seconds in the morning peak and 0.7 seconds in the

afternoon peak. The intersection will continue to operate at a LoS 'A' in the morning and afternoon peak hour periods.

Due to the minor number of vehicles generated utilising the Jocelyn Street / Orchard Road, the intersection experiences nearly no increase in average delay. The intersection will continue to operate at a LoS 'A' in the morning and afternoon peak hour periods.

The above impacts are considered acceptable, with all intersections operating in accordance with existing performances at LoS 'A', hence no external improvements are required to support the proposed development.

8. ACCESS AND INTERNAL DESIGN ASPECTS

8.1 Site Vehicular Access

8.1.1 Vehicular Accesses

The development proposes a total of 19 car parking spaces (majority User Class 1A) with access to Chester Hill Road or Ridge Street, local roads. Therefore, they will require a Category 1 driveway under AS2890.1 (2004), being a combined entry and egress driveway access with a minimum width of 3.0 metres. In response, the development proposes the construction of a 3.5 metre wide entry via Chester Road, 3.9 metre wide egress via Jocelyn Street eastern vehicular access.

Three (3) car parking spaces for staff are proposed via Ridge Street utilizing the existing vehicular access.

In addition, Jocelyn Street western access is proposed to accommodate heavy vehicles up to a 10.6-metre-long waste truck. It must be noted that all entry/exit movements via this access will be managed ensuring one-way flow at all times.

Refer to **Attachment 2** for 10.6-metre-long waste truck entry and exit manoeuvres. As such, this XXm is considered acceptable as it wholly accommodates the 10.6-metre-long waste truck swept paths in accordance with AS2890.2 (2018).

8.1.2 Summary

Accordingly, all vehicular access arrangements are sufficient to comply with the requirements of AS2890.1 (2004) and AS2890.2 (2018) and is therefore considered acceptable. All vehicles are able to enter and exit the development in a forward direction.

8.2 Internal Design

The car park and service/bus area complies with the requirements of AS2890.1 (2004) and AS 2890.2 (2018), with the following characteristics noteworthy:

- All staff car parking spaces have been designed in accordance with AS2890.1 (2004) User Class 1A, being a minimum width of 2.4 metres and length of 5.4 metres.

- All spaces located adjacent to obstructions of greater than 150mm in height are provided with an additional width of 300mm.
- The bus parking area accommodates 22 seater buses (Toyota Coaster) during the school drop off and pick up periods.

8.3 Summary

In summary, the internal configuration of the car park and bus area have been designed in accordance with AS 2890.1 (2004) and AS 2890.2 (2018). It is however envisaged that a condition of consent would be imposed requiring compliance with these standards and as such any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

9. CONCLUSIONS

The following points are noteworthy:

- The proposal seeks approval for the conversion of an existing seniors living development into an educational establishment for a campus for Al Sadiq School. It is proposed that this campus will accommodate all students from existing Al Sadiq primary school located at 178 Cowper Street, Yagoona. The proposed development will also accommodate the existing 20 staff.
- As part of the proposal, the development will acquire 54 Chester Hill Road, Chester Hill to construct an internal roadway including 22 car parking spaces, and five (5) pick-up/ drop-off spaces.
- Private bus services will be made available for students as per the arrangements of Al Sadiq School, Yagoona.
- The traffic generation arising from the development equates to an additional 212 vehicle trips per hour during the morning and 46 vehicle trips per hour during the afternoon peak periods due to the proposed development. SIDRA modelling demonstrates that all intersections maintain a LOS 'A' during both the morning and afternoon peak periods with minimal increase in average delay. Therefore, all intersections are expected to operate satisfactorily with no upgrades or road improvements required to accommodate the proposed development.
- Waste collection and servicing for the site is proposed to be undertaken within the proposed internal road accessed via Jocelyn Street.

This transport and accessibility impact assessment therefore demonstrates that the subject application is supportable on traffic planning grounds. TRAFFIX anticipates an ongoing involvement during the development approval process.

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APPENDIX A

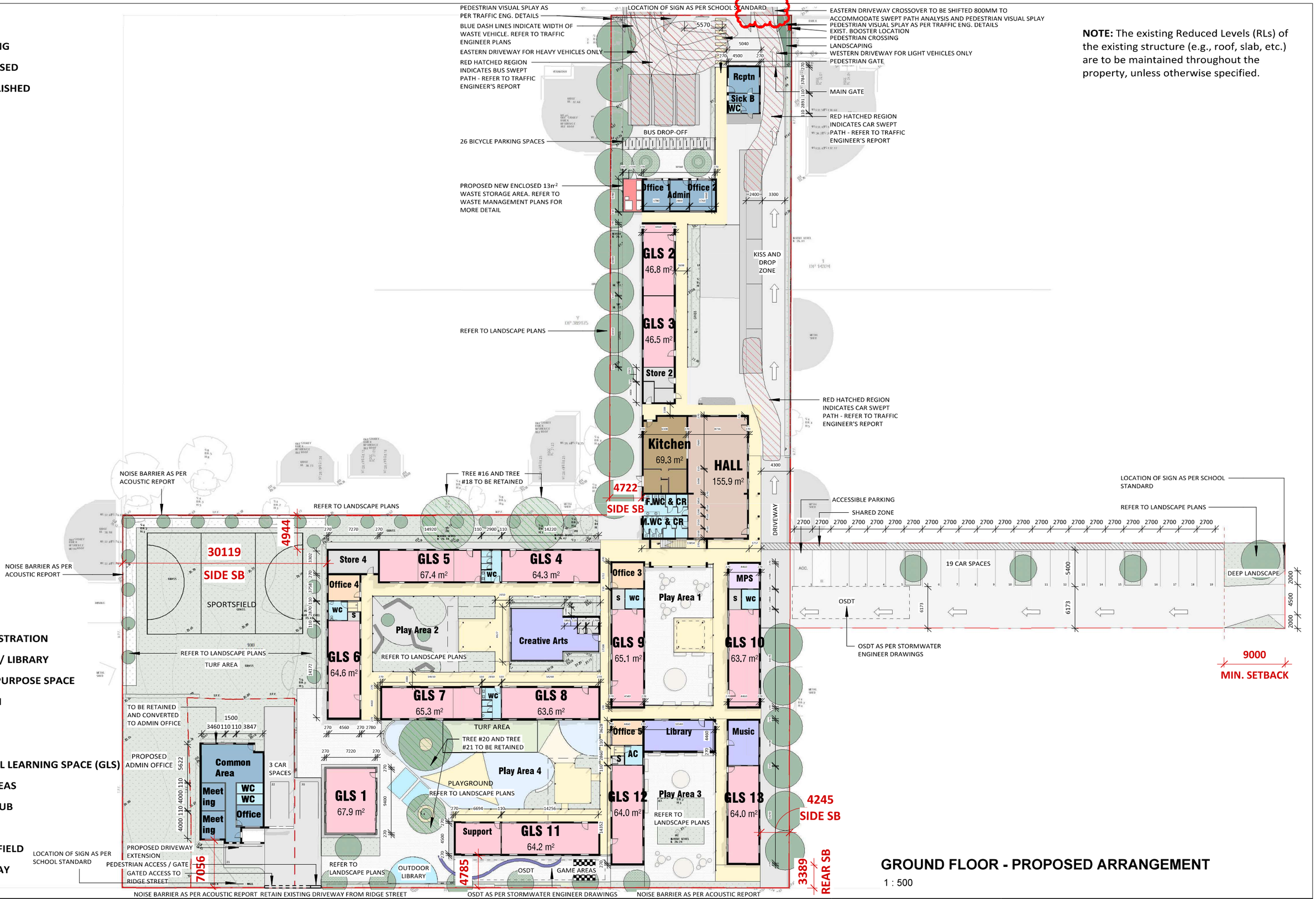
Reduced Plans

EXISTING

PROPOSED

DEMOLISHED

NOTE: The existing Reduced Levels (RLs) of the existing structure (e.g., roof, slab, etc.) are to be maintained throughout the property, unless otherwise specified.



ADMINISTRATION

STUDIO / LIBRARY

MULTI-PURPOSE SPACE

KITCHEN

HALL

OFFICE

GENERAL LEARNING SPACE (GLS)

WET AREAS

STAFF HUB

STORE

SPORTSFIELD

PATHWAY

GROUND FLOOR - PROPOSED ARRANGEMENT

1 : 500

FURFARO ARCHITECTS

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NOMINATED ARCHITECT
Rocco Furfaro
Reg No. 11564

Member Australian Institute of Architects

REV	DATE	NOTES
A	23.08.24	ISSUED FOR DA SUBMISSION
B	20.01.25	AMENDED AS PER RFI
C	04.03.25	AMENDED AS PER RFI
D	09.05.25	AMENDED AS PER RFI
E	10.07.25	AMENDED AS PER RFI

STATUS
DA SUBMISSION

CLIENT
AL SADIQ COLLEGE

PROJECT
EDUCATIONAL ESTABLISHMENT

ADDRESS
83 JOCELYN STREET, CHESTER HILL NSW

DRAWING NO.
A200

DRAWING TITLE
GROUND FLOOR PLAN

DRAWN BY
EM

0 5m 10m 15m 20m 25m 30m

SCALE
As indicated @ A3

JOCELYN STREET

PEDESTRIAN VISUAL SPLAY CLEAR OF ALL OBSTRUCTIONS / LOW GRASS ONLY AS PER TRAFFIC ENG. DETAILS

EASTERN DRIVEWAY CROSSOVER TO BE SHIFTED 800MM TO ACCOMMODATE SWEPT PATH ANALYSIS AND PEDESTRIAN VISUAL SPLAY

PEDESTRIAN ACCESS

SCHOOL SIGNAGE

PEDESTRIAN VISUAL SPLAY CLEAR OF ALL OBSTRUCTIONS/LOW GRASS ONLY AS PER TRAFFIC ENG. DETAILS

PEDESTRIAN CROSSING

EASTERN DRIVEWAY FOR LIGHT VEHICLES ONLY

WESTERN DRIVEWAY FOR LIGHT VEHICLES ONLY

LANDSCAPING

MAIN GATE

PEDESTRIAN GATE

VERANDAH

RED HATCHED REGION INDICATES BUS SWEPT PATH - REFER TO TRAFFIC ENGINEER'S REPORT

RETAIN OPENING OF SLIDING DOOR AND REPLACE WITH A SWING DOOR AND A FIXED WINDOW PANEL (REFER TO WINDOW SCHEDULE ON SHEET A900).

LANDSCAPING AS PER LANDSCAPE ARCHITECT DRAWINGS

BUS DROP-OFF

RED HATCHED REGION INDICATES CAR SWEPT PATH - REFER TO TRAFFIC ENGINEER'S REPORT

26 BICYCLE PARKING SPACES

TREE CANOPY PER LANDSCAPE ARCHITECT DRAWINGS

PROPOSED NEW ENCLOSED 13m² WASTE STORAGE AREA. REFER TO WASTE MANAGEMENT PLANS FOR MORE DETAIL

COVERED WALKWAY

DRIVEWAY

BALCONY

NO.85 ONE STOREY BRICK RESIDENCE TILE ROOF

NO.81 TWO STOREY BRICK RESIDENCE TILE ROOF

Rcptn 17.0 m²

Sick B 10.2 m²

WC 2.4 m²

WASTE 14.0 m²

Office 1 17.2 m² RL 27.720

Admin 12.5 m²

Office 2 16.8 m²

RL 27.610

5040 = 270 + 4500 + 270

11100 = 270 + 10560 + 270

3780 + 110 + 2800 + 110 + 3760 + 270

1000 + 2400 + 3300

EXISTING

PROPOSED

DEMOLISHED

GROUND FLOOR - ADMINISTRATION

1 : 150

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D	09.05.25	AMENDED AS PER RFI
E	10.07.25	AMENDED AS PER RFI

STATUS
DA SUBMISSION

CLIENT
AL SADIQ COLLEGE

PROJECT
EDUCATIONAL ESTABLISHMENT

ADDRESS
83 JOCELYN STREET, CHESTER HILL **NSW**

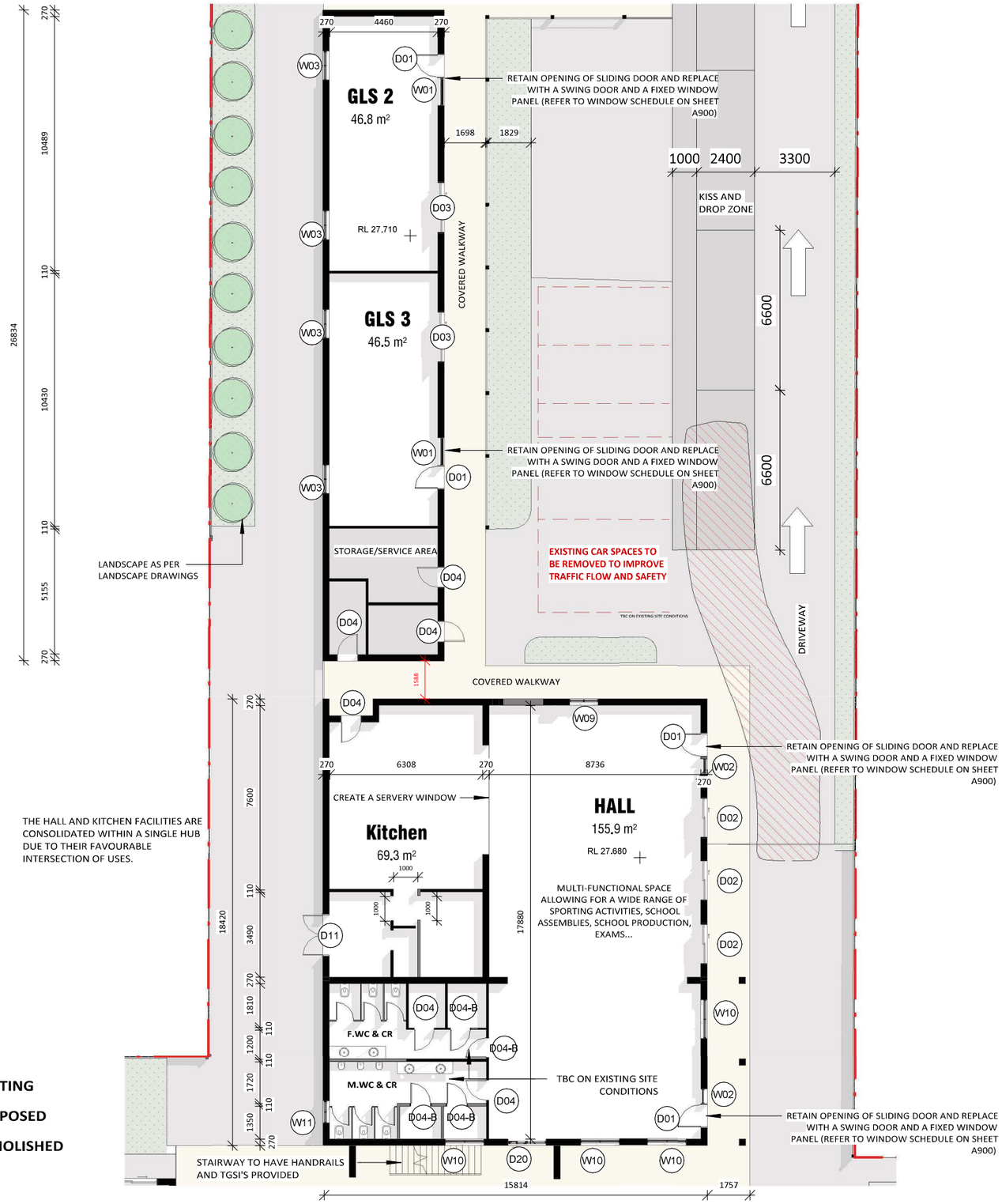
DRAWING NO.
A201

DRAWING TITLE
GROUND FLOOR - ADMINISTRATION

DRAWN BY
EM

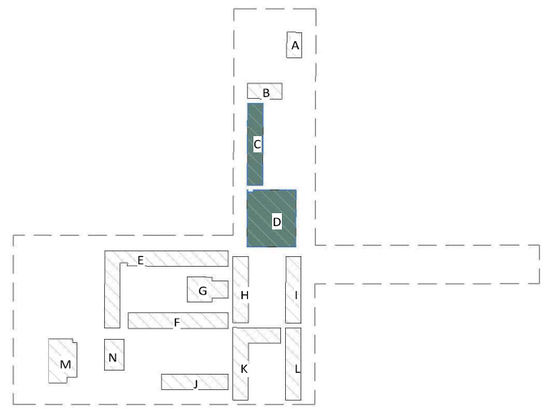
0 1m 2m 3m 4m 5m 6m

SCALE
As indicated @ A3



GROUND FLOOR - GLS 2, 3 & KITCHEN + HALL

1 : 200



FURFARO ARCHITECTS

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NOMINATED ARCHITECT
Rocco Furfaro
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REV	DATE	NOTES
A	23.08.24	ISSUED FOR DA SUBMISSION
B	20.01.25	AMENDED AS PER RFI
C	09.05.25	AMENDED AS PER RFI

STATUS
DA SUBMISSION

CLIENT
AL SADIQ COLLEGE

PROJECT
EDUCATIONAL ESTABLISHMENT

ADDRESS
83 JOCELYN STREET, CHESTER HILL **NSW**

DRAWING NO.
A202

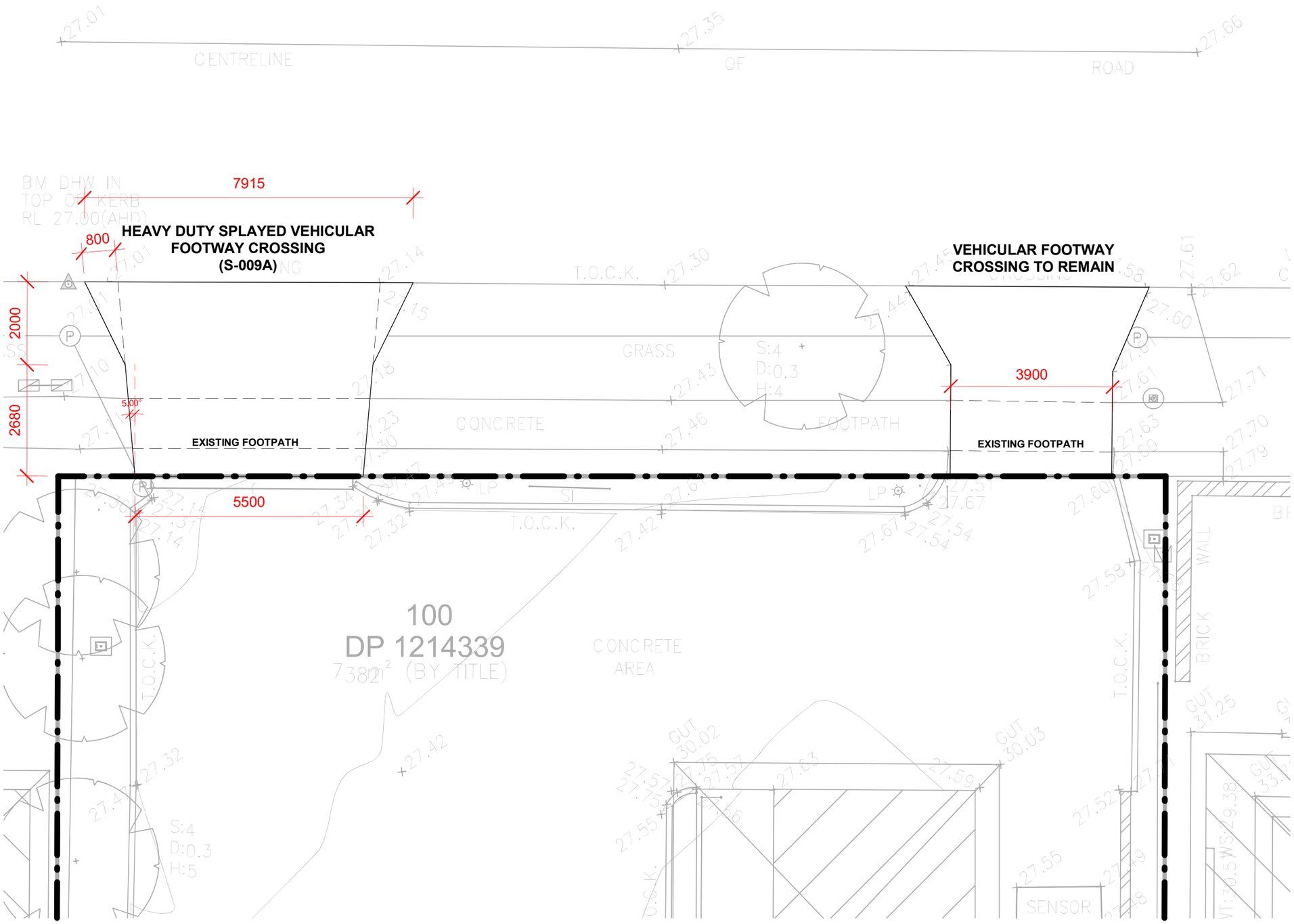
DRAWING TITLE
GROUND FLOOR - KITCHEN & HALL

DRAWN BY
EM

0 2m 4m 6m 8m 10m 12m

SCALE
As indicated @ A3

JOCELYN STREET



1 VFC - JOCELYN STREET

1 : 100

OBLIQ DESIGN
9 PENGUIN PARADE
HINCHINBROOK NSW 2168
M: 0457 451 758
M: 0419 183 175
E: ilhan@obliqdesign.com.au
E: h_alijagic@bigpond.com
ABN: 77 802 983 648

COMPLETE CONSTRUCTION ENGINEERING PTY LTD
ABN: 31 143 485 367

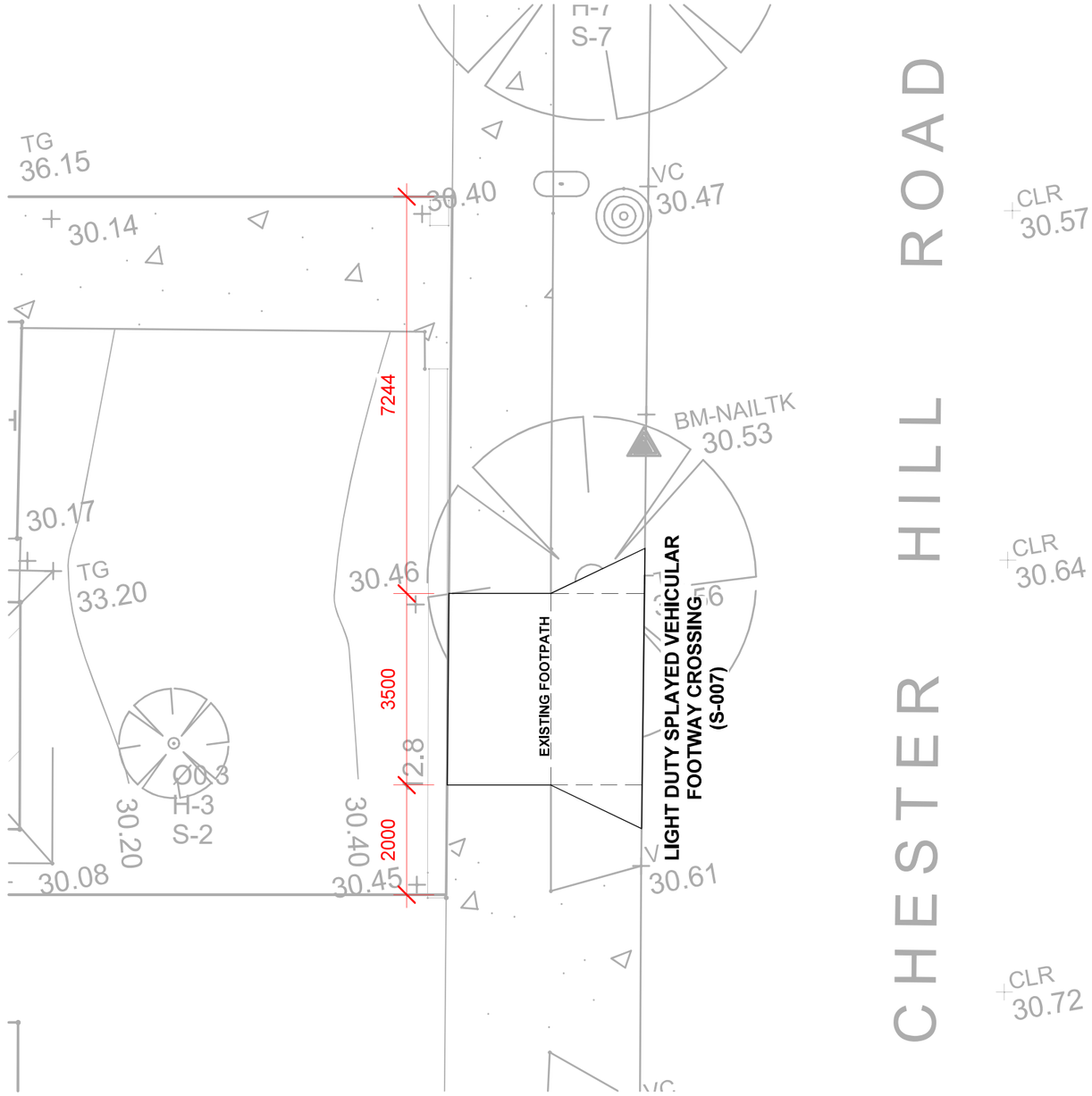
No.	Description	Date
5	AMENDED DA - VFC	08/05/2025

AL SADIQ COLLEGE

PRIMARY SCHOOL
83 JOCELYN STREET, CHESTER HILL NSW

VFC DETAILS - JOCELYN STREET

Project number			D-01
Date	08/05/2025		
Drawn by	Ilhan Alijagic		
Checked by	Hasan Alijagic	Scale	1 : 100



1 VFC - CHESTER HILL ROAD

1 : 100

OBLIQ DESIGN
9 PENGUIN PARADE
HINCHINBROOK NSW 2168
M: 0457 451 758
M: 0419 183 175
E: ilhan@obliqdesign.com.au
E: h_alijagic@bigpond.com
ABN: 77 802 983 648

COMPLETE CONSTRUCTION ENGINEERING PTY LTD
ABN: 31 143 485 367

No.	Description	Date
5	AMENDED DA - VFC	08/05/2025

AL SADIQ COLLEGE

PRIMARY SCHOOL
83 JOCELYN STREET, CHESTER HILL NSW

VFC DETAILS - CHESTER HILL ROAD

Project number			D-02
Date	08/05/2025		
Drawn by	Ilhan Alijagic		
Checked by	Hasan Alijagic	Scale	1 : 100

APPENDIX B

Swept Path Analysis

Notes:

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

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

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

Rev.	Revision Note	By.	Date
A	Swept Path Analysis	AB	09-05-25
B	Swept Path Analysis	AB	11-07-25

Swept Path Legend

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

Architect

Client
Al Sadiq School

Scale / Plan Orientation
0 2 4 6 8m
1:400 @ A3

Project Description
83 Jocelyn Street, Chester Hill

Drawing Prepared By

TRAFFIX
TRAFFIC AND TRANSPORT PLANNERS
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Strawberry Hills, NSW 2012
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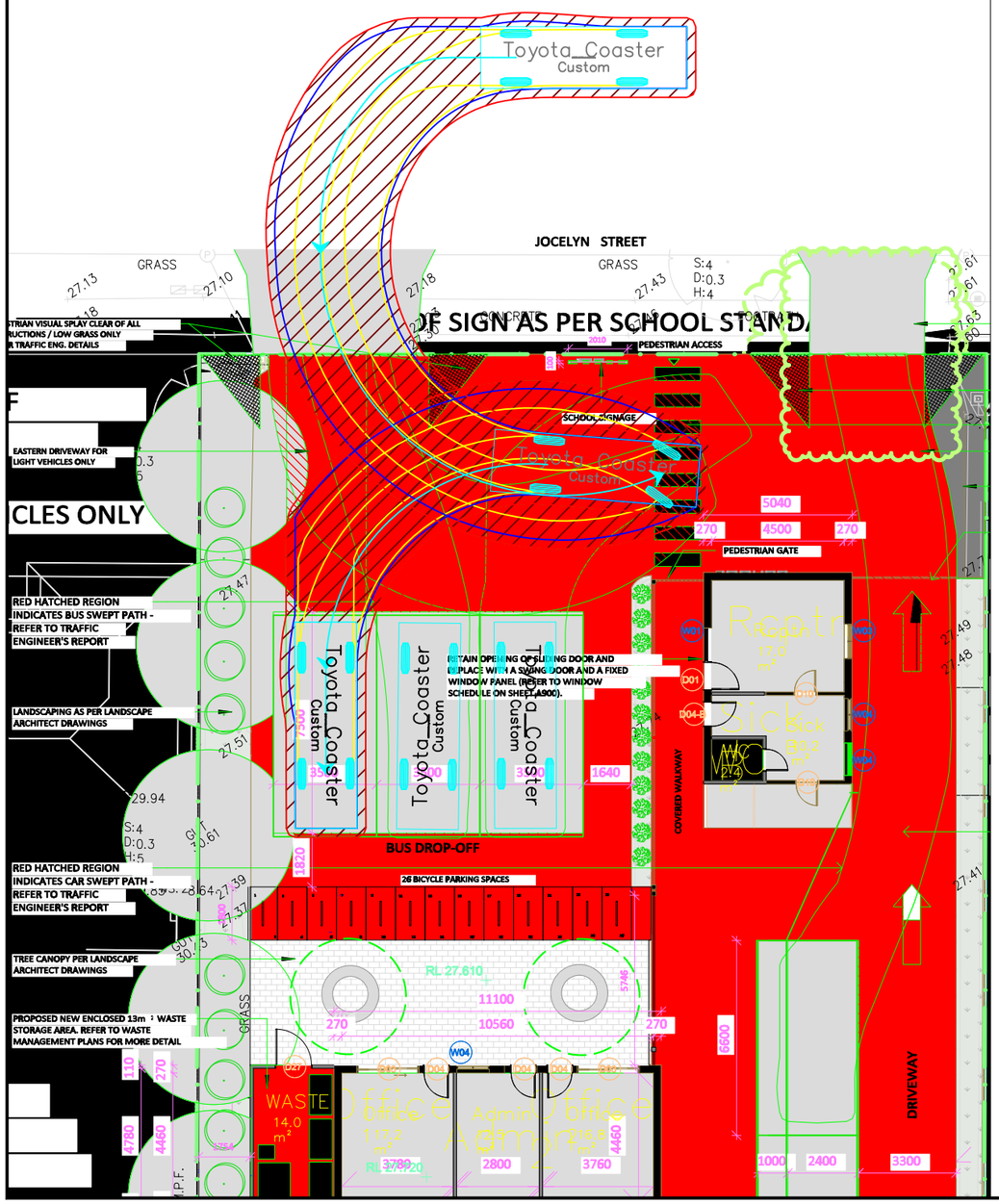
f: +61 2 9830 4481
w: www.traffix.com.au

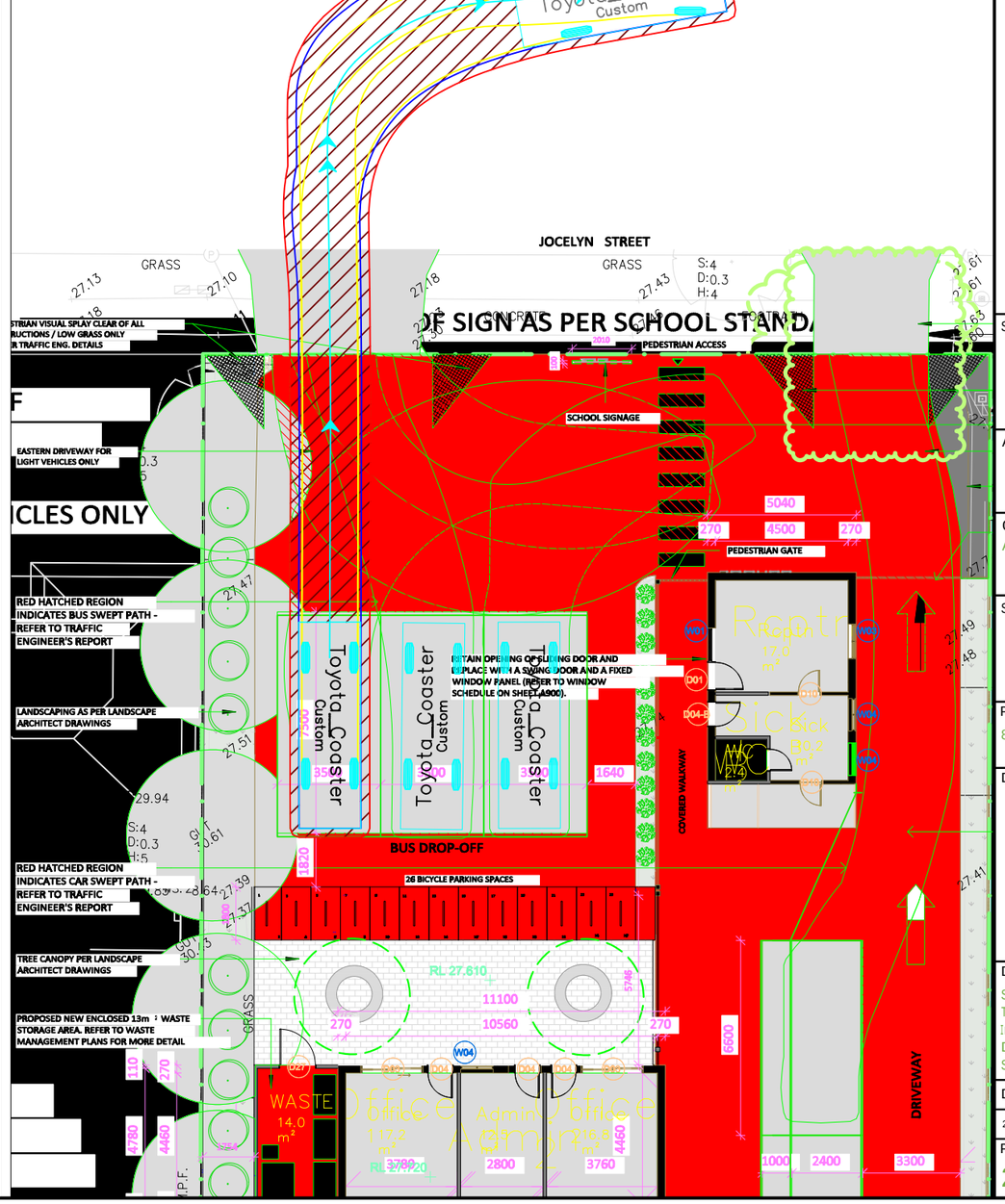
Drawing Title
Swept Path Analysis
B99 Design Vehicle
Internal Circulation
Drop-off & Pick-up Arrangement

Drawn:	Checked:	Date:
AB	VD	-

23.350d06v01 TRAFFIX [250710 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.350	RFI	TX.11	B





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Rev.	Revision Note	By.	Date
A	Swept Path Analysis	AB	09-05-25
B	Swept Path Analysis	AB	11-07-25

Swept Path Legend

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

Architect

Client

Al Sadiq School

Scale / Plan Orientation

Project Description

83 Jocelyn Street, Chester Hill

Drawing Prepared By

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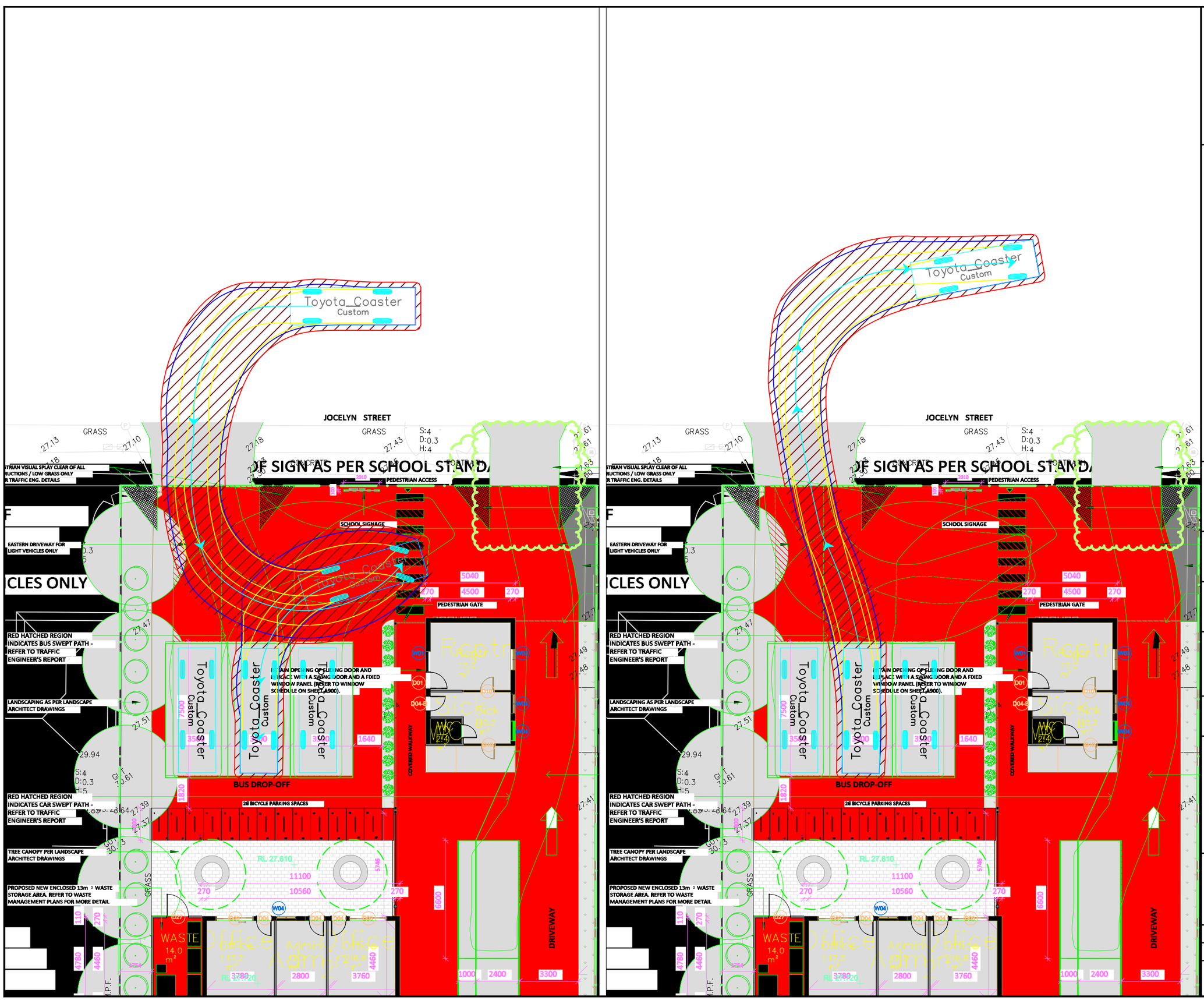
Drawing Title

Swept Path Analysis
Toyota Coaster - 22 Seater Bus
Internal Circulation
Drop-off & Pick-up Arrangement
Space 1

Drawn:	Checked:	Date:
AB	VD	-

23.350d06v01 TRAFFIX [250710 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.350	RFI	TX.12	B



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Rev.	Revision Note	By.	Date
A	Swept Path Analysis	AB	09-05-25
B	Swept Path Analysis	AB	11-07-25

Swept Path Legend

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

Architect

Client

Al Sadiq School

Scale / Plan Orientation

0 2 4 6 8m

1:400 @ A3

Project Description

83 Jocelyn Street, Chester Hill

Drawing Prepared By

TRAFFIX
TRAFFIC AND TRANSPORT PLANNERS

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

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w: www.traffix.com.au

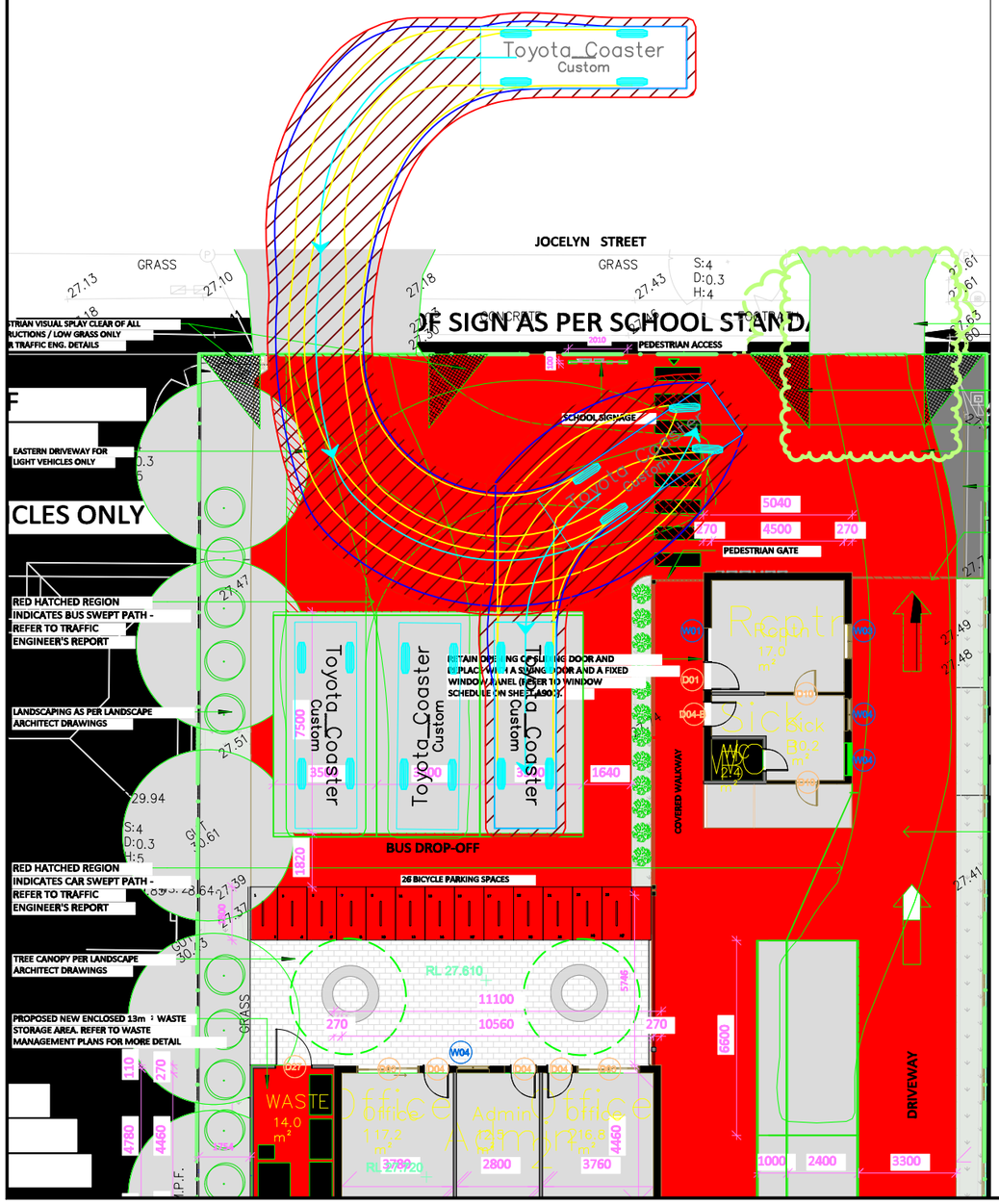
Drawing Title

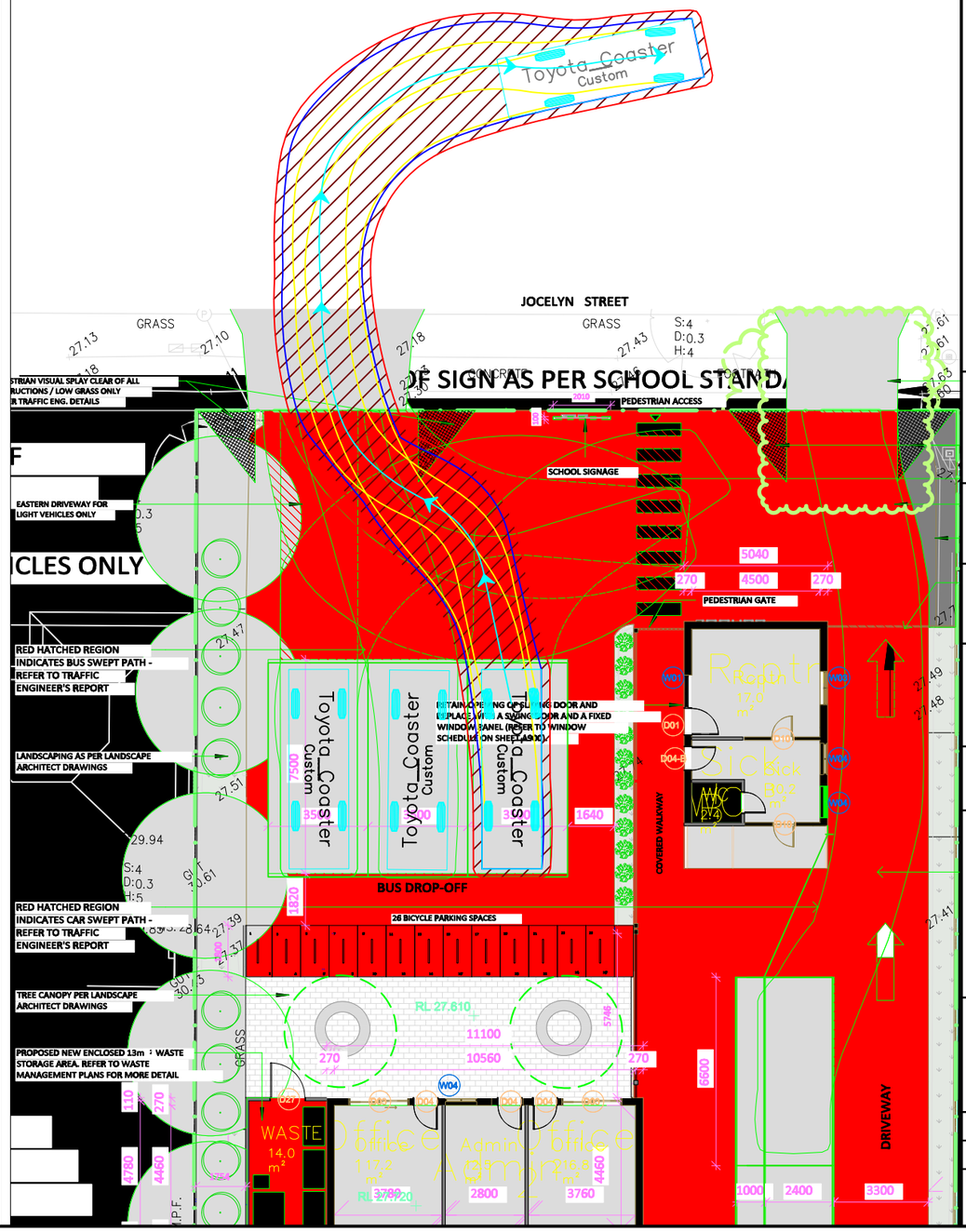
Swept Path Analysis
Toyota Coaster - 22 Seater Bus
Internal Circulation
Drop-off & Pick-up Arrangement
Space 2

Drawn:	Checked:	Date:
AB	VD	-

23.350d06v01 TRAFFIX [250710 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.350	RFI	TX.13	B





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Rev.	Revision Note	By.	Date
A	Swept Path Analysis	AB	09-05-25
B	Swept Path Analysis	AB	11-07-25

Swept Path Legend

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

Architect

Client

Al Sadiq School

Scale / Plan Orientation

0 2 4 6 8m

1:400 @ A3

Project Description

83 Jocelyn Street, Chester Hill

Drawing Prepared By

TRAFFIX
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Strawberry Hills, NSW 2012

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f: +61 2 9830 4481
w: www.traffix.com.au

Drawing Title

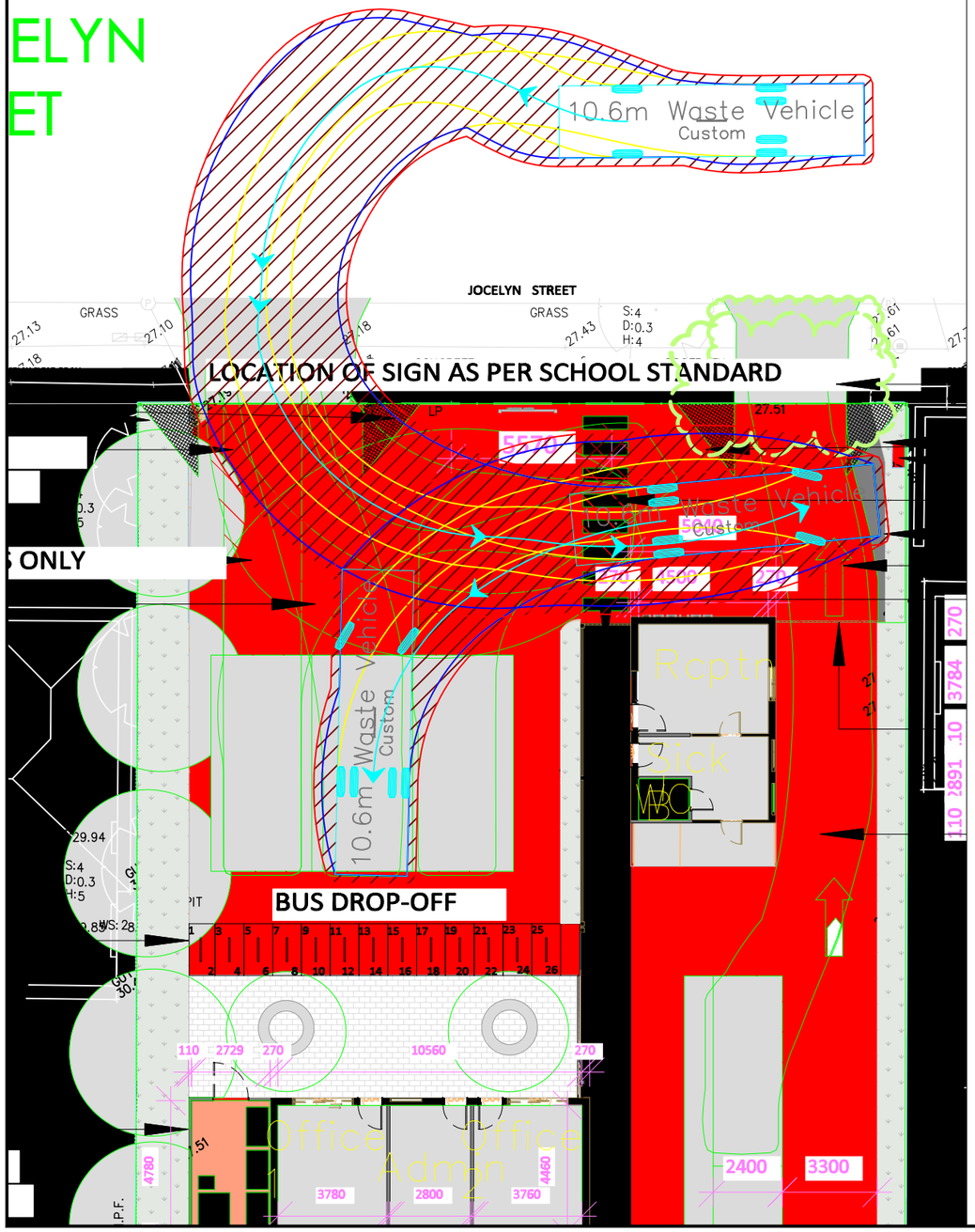
Swept Path Analysis
Toyota Coaster - 22 Seater Bus
Internal Circulation
Drop-off & Pick-up Arrangement
Space 3

Drawn:	Checked:	Date:
AB	VD	-

23.350d06v01 TRAFFIX [250710 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.350	RFI	TX.14	A

ELYN
ET



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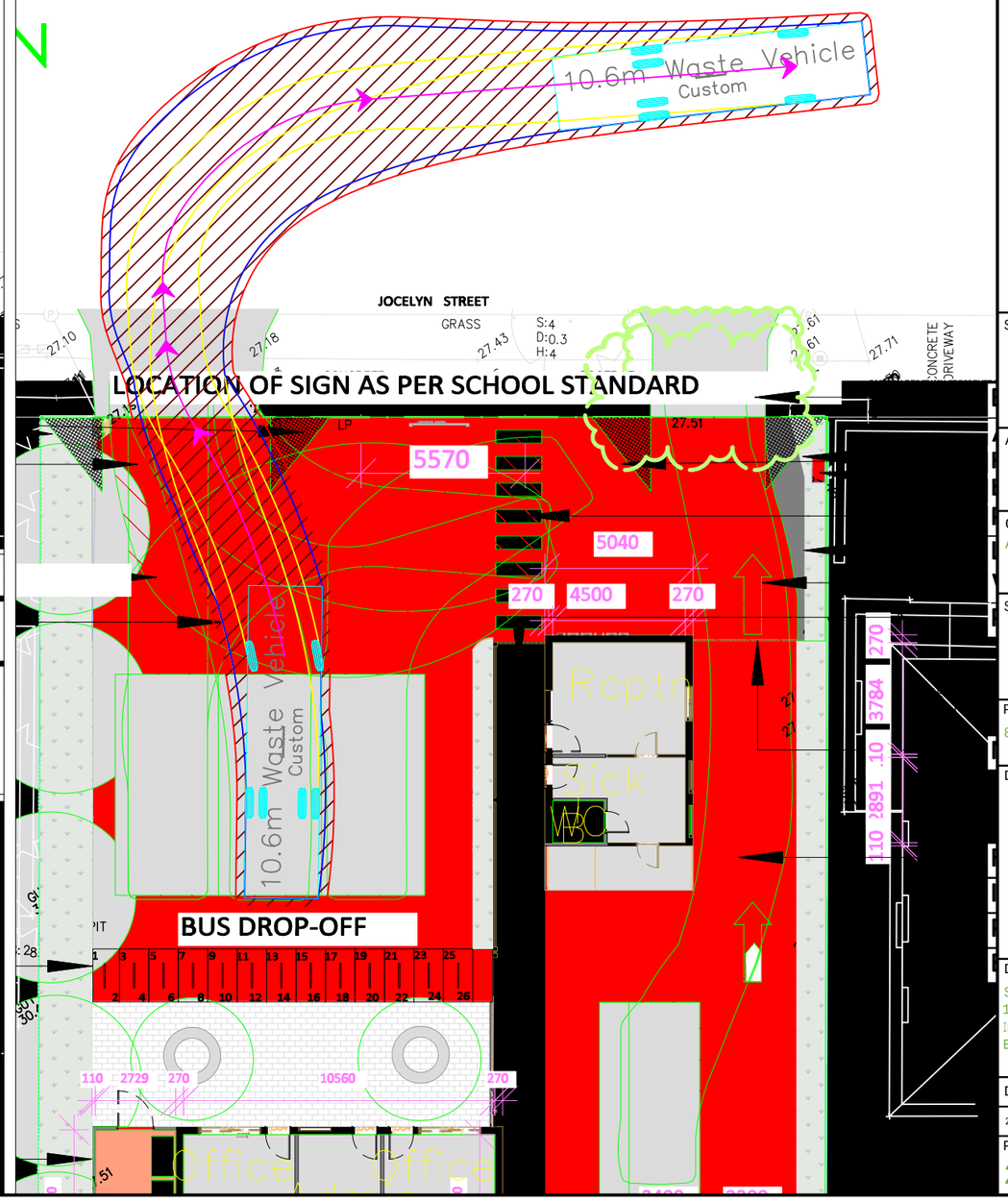

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Rev.	Revision Note	By.	Date
A	Swept Path Analysis	AB	11-07-25

Swept Path Legend

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

Architect

Client
Al Sadiq School

Scale / Plan Orientation
0 2 4 6 8m
1:400 @ A3

Project Description
83 Jocelyn Street, Chester Hill

Drawing Prepared By

TRAFFIX
TRAFFIC AND TRANSPORT PLANNERS
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Surry Hills, NSW 2010
PO Box 1124
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w: www.traffix.com.au

Drawing Title
Swept Path Analysis
10.6m Waste Vehicle
Internal Circulation
Entry/Egress

Drawn:	Checked:	Date:
AB	VD	-

23.350d06v01 TRAFFIX [250710 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.350	RFI	TX.15	A

APPENDIX C

Queuing Analysis

Al-Sadiq College - Queuing Calculations
Morning Drop-off

Vehicle Group Arrivals (veh/hr)	106
Pick up duration (sec)	65
Number of spaces	5
Total Average Time (sec)	13

Queuing Theory Factors		
average arrival rate (r)	106.00000	*r=(veh/hr)
average service rate (s)	138.46154	*s=1800/(Total Average Time)
utilisation factor (p)	0.76556	*p=r/s
mean queue (E(m))	2.49985	*E(m)=(p/(1-p))-p

Probability of Vehicles in System (P(n))		*P(n)=(1-p)p^n
No. Vehicle Groups in System (n)	Probability (%)	
0	23.4%	23.4%
1	17.9%	41.4%
2	13.7%	55.1%
3	10.5%	65.7%
4	8.1%	73.7%
5	6.2%	79.9%
6	4.7%	84.6%
7	3.6%	88.2%
8	2.8%	91.0%
9	2.1%	93.1%
10	1.6%	94.7%
11	1.2%	95.9%
12	1.0%	96.9%
13	0.7%	97.6%
14	0.6%	98.2%
15	0.4%	98.6%
16	0.3%	98.9%
17	0.2%	99.2%
18	0.2%	99.4%
19	0.1%	99.5%
20	0.1%	99.6%
21	0.1%	99.7%
22	0.1%	99.8%
23	0.1%	99.8%
24	0.0%	99.9%
25	0.0%	99.9%
26	0.0%	99.9%
27	0.0%	99.9%
28	0.0%	100.0%
29	0.0%	100.0%
30	0.0%	100.0%

Al-Sadiq College - Queuing Calculations
Afternoon Pick-up

Vehicle Group Arrivals (veh/hr)	24
Pick up duration (sec)	300
Number of spaces	5
Total Average Time (sec)	60

Queuing Theory Factors		
average arrival rate (r)	24.00000	*r=(veh/hr)
average service rate (s)	30.00000	*s=1800/(Total Average Time)
utilisation factor (p)	0.80000	*p=r/s
mean queue (E(m))	3.20000	*E(m)=(p/(1-p))-p

Probability of Vehicles in System (P(n))		*P(n)=(1-p)p^n
No. Vehicle Groups in System (n)	Probability (%)	
0	20.0%	20.0%
1	16.0%	36.0%
2	12.8%	48.8%
3	10.2%	59.0%
4	8.2%	67.2%
5	6.6%	73.8%
6	5.2%	79.0%
7	4.2%	83.2%
8	3.4%	86.6%
9	2.7%	89.3%
10	2.1%	91.4%
11	1.7%	93.1%
12	1.4%	94.5%
13	1.1%	95.6%
14	0.9%	96.5%
15	0.7%	97.2%
16	0.6%	97.7%
17	0.5%	98.2%
18	0.4%	98.6%
19	0.3%	98.8%
20	0.2%	99.1%
21	0.2%	99.3%
22	0.1%	99.4%
23	0.1%	99.5%
24	0.1%	99.6%
25	0.1%	99.7%
26	0.1%	99.8%
27	0.0%	99.8%
28	0.0%	99.8%
29	0.0%	99.9%
30	0.0%	99.9%

APPENDIX D

SIDRA Movement Summaries

MOVEMENT SUMMARY

Site: 101 [101 AM EX Chester Hill Rd x Procter Pde (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Chester Hill Road and Proctor Parade
Peak Period: AM
Scenario: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Chester Hill Rd															
1	L2	All MCs	14	7.7	14	7.7	0.396	5.0	LOS A	2.7	18.8	0.62	0.56	0.62	35.4
2	T1	All MCs	292	1.1	292	1.1	0.396	4.6	LOS A	2.7	18.8	0.62	0.56	0.62	36.0
3	R2	All MCs	75	0.0	75	0.0	0.396	7.8	LOS A	2.7	18.8	0.62	0.56	0.62	36.4
3u	U	All MCs	1	0.0	1	0.0	0.396	9.2	LOS A	2.7	18.8	0.62	0.56	0.62	37.6
Approach			381	1.1	381	1.1	0.396	5.2	LOS A	2.7	18.8	0.62	0.56	0.62	36.0
East: Proctor Pde															
4	L2	All MCs	61	0.0	61	0.0	0.325	4.2	LOS A	2.1	14.9	0.54	0.55	0.54	38.5
5	T1	All MCs	132	2.4	132	2.4	0.325	4.0	LOS A	2.1	14.9	0.54	0.55	0.54	36.8
6	R2	All MCs	117	6.3	117	6.3	0.325	7.4	LOS A	2.1	14.9	0.54	0.55	0.54	36.6
6u	U	All MCs	17	0.0	17	0.0	0.325	8.5	LOS A	2.1	14.9	0.54	0.55	0.54	37.2
Approach			326	3.2	326	3.2	0.325	5.5	LOS A	2.1	14.9	0.54	0.55	0.54	37.1
North: Chester Hill Rd															
7	L2	All MCs	86	8.5	86	8.5	0.322	4.4	LOS A	2.0	14.8	0.54	0.52	0.54	37.1
8	T1	All MCs	174	3.6	174	3.6	0.322	4.0	LOS A	2.0	14.8	0.54	0.52	0.54	38.8
9	R2	All MCs	56	1.9	56	1.9	0.322	7.3	LOS A	2.0	14.8	0.54	0.52	0.54	36.0
9u	U	All MCs	4	0.0	4	0.0	0.322	8.6	LOS A	2.0	14.8	0.54	0.52	0.54	36.3
Approach			320	4.6	320	4.6	0.322	4.7	LOS A	2.0	14.8	0.54	0.52	0.54	37.7
West: Proctor Pde															
10	L2	All MCs	52	0.0	52	0.0	0.276	5.7	LOS A	1.7	12.3	0.68	0.62	0.68	35.8
11	T1	All MCs	145	4.3	145	4.3	0.276	5.6	LOS A	1.7	12.3	0.68	0.62	0.68	36.7
12	R2	All MCs	24	13.0	24	13.0	0.276	9.3	LOS A	1.7	12.3	0.68	0.62	0.68	37.3
12u	U	All MCs	1	0.0	1	0.0	0.276	10.1	LOS A	1.7	12.3	0.68	0.62	0.68	35.3
Approach			222	4.3	222	4.3	0.276	6.1	LOS A	1.7	12.3	0.68	0.62	0.68	36.6
All Vehicles			1249	3.1	1249	3.1	0.396	5.3	LOS A	2.7	18.8	0.59	0.56	0.59	36.8

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

MOVEMENT SUMMARY

Site: 101 [101 PM EX Chester Hill Rd x Procter Pde (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Chester Hill Road and Proctor Parade
Peak Period: PM
Scenario: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Chester Hill Rd															
1	L2	All MCs	16	0.0	16	0.0	0.385	5.6	LOS A	2.6	18.5	0.71	0.61	0.71	35.3
2	T1	All MCs	287	2.9	287	2.9	0.385	5.5	LOS A	2.6	18.5	0.71	0.61	0.71	35.9
3	R2	All MCs	19	11.1	19	11.1	0.385	9.1	LOS A	2.6	18.5	0.71	0.61	0.71	36.2
3u	U	All MCs	1	0.0	1	0.0	0.385	10.0	LOS A	2.6	18.5	0.71	0.61	0.71	37.5
Approach			323	3.3	323	3.3	0.385	5.7	LOS A	2.6	18.5	0.71	0.61	0.71	35.9
East: Proctor Pde															
4	L2	All MCs	48	0.0	48	0.0	0.451	5.1	LOS A	3.2	23.0	0.68	0.62	0.68	38.1
5	T1	All MCs	188	3.9	188	3.9	0.451	5.0	LOS A	3.2	23.0	0.68	0.62	0.68	36.4
6	R2	All MCs	171	6.2	171	6.2	0.451	8.4	LOS A	3.2	23.0	0.68	0.62	0.68	36.3
6u	U	All MCs	3	0.0	3	0.0	0.451	9.5	LOS A	3.2	23.0	0.68	0.62	0.68	36.8
Approach			411	4.4	411	4.4	0.451	6.5	LOS A	3.2	23.0	0.68	0.62	0.68	36.5
North: Chester Hill Rd															
7	L2	All MCs	84	10.0	84	10.0	0.393	4.2	LOS A	2.8	20.0	0.55	0.51	0.55	37.0
8	T1	All MCs	247	1.3	247	1.3	0.393	3.7	LOS A	2.8	20.0	0.55	0.51	0.55	38.8
9	R2	All MCs	77	2.7	77	2.7	0.393	7.1	LOS A	2.8	20.0	0.55	0.51	0.55	36.0
9u	U	All MCs	7	0.0	7	0.0	0.393	8.4	LOS A	2.8	20.0	0.55	0.51	0.55	36.2
Approach			416	3.3	416	3.3	0.393	4.5	LOS A	2.8	20.0	0.55	0.51	0.55	37.8
West: Proctor Pde															
10	L2	All MCs	76	0.0	76	0.0	0.333	5.8	LOS A	2.1	15.1	0.69	0.62	0.69	35.8
11	T1	All MCs	171	2.5	171	2.5	0.333	5.6	LOS A	2.1	15.1	0.69	0.62	0.69	36.7
12	R2	All MCs	27	7.7	27	7.7	0.333	9.2	LOS A	2.1	15.1	0.69	0.62	0.69	37.4
12u	U	All MCs	1	0.0	1	0.0	0.333	10.2	LOS A	2.1	15.1	0.69	0.62	0.69	35.2
Approach			275	2.3	275	2.3	0.333	6.1	LOS A	2.1	15.1	0.69	0.62	0.69	36.5
All Vehicles			1424	3.4	1424	3.4	0.451	5.7	LOS A	3.2	23.0	0.65	0.59	0.65	36.7

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

MOVEMENT SUMMARY

Site: 102 [102 AM EX Chester Hill Rd x Jocelyn St (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Chester Hill Road and Jocelyn Street
Peak Period: AM
Scenario: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Chester Hill Rd															
1	L2	All MCs	48	0.0	48	0.0	0.331	5.3	LOS A	2.2	15.7	0.37	0.50	0.37	48.2
2	T1	All MCs	317	1.7	317	1.7	0.331	5.5	LOS A	2.2	15.7	0.37	0.50	0.37	50.4
3	R2	All MCs	40	5.3	40	5.3	0.331	8.9	LOS A	2.2	15.7	0.37	0.50	0.37	48.2
3u	U	All MCs	2	0.0	2	0.0	0.331	10.4	LOS A	2.2	15.7	0.37	0.50	0.37	51.9
Approach			407	1.8	407	1.8	0.331	5.8	LOS A	2.2	15.7	0.37	0.50	0.37	49.8
East: Jocelyn St															
4	L2	All MCs	9	0.0	9	0.0	0.116	5.0	LOS A	0.6	4.3	0.43	0.56	0.43	48.0
5	T1	All MCs	66	0.0	66	0.0	0.116	5.0	LOS A	0.6	4.3	0.43	0.56	0.43	43.9
6	R2	All MCs	43	0.0	43	0.0	0.116	8.2	LOS A	0.6	4.3	0.43	0.56	0.43	44.8
6u	U	All MCs	1	0.0	1	0.0	0.116	9.8	LOS A	0.6	4.3	0.43	0.56	0.43	44.7
Approach			120	0.0	120	0.0	0.116	6.2	LOS A	0.6	4.3	0.43	0.56	0.43	44.6
North: Chester Hill Rd															
7	L2	All MCs	33	0.0	33	0.0	0.218	5.3	LOS A	1.3	9.2	0.33	0.49	0.33	46.0
8	T1	All MCs	217	3.9	217	3.9	0.218	5.5	LOS A	1.3	9.2	0.33	0.49	0.33	50.7
9	R2	All MCs	4	0.0	4	0.0	0.218	8.7	LOS A	1.3	9.2	0.33	0.49	0.33	44.0
9u	U	All MCs	4	0.0	4	0.0	0.218	10.4	LOS A	1.3	9.2	0.33	0.49	0.33	46.2
Approach			258	3.3	258	3.3	0.218	5.6	LOS A	1.3	9.2	0.33	0.49	0.33	49.9
West: Jocelyn St															
10	L2	All MCs	4	0.0	4	0.0	0.092	5.9	LOS A	0.5	3.4	0.54	0.60	0.54	42.7
11	T1	All MCs	56	0.0	56	0.0	0.092	5.8	LOS A	0.5	3.4	0.54	0.60	0.54	43.6
12	R2	All MCs	23	0.0	23	0.0	0.092	9.1	LOS A	0.5	3.4	0.54	0.60	0.54	46.7
12u	U	All MCs	1	0.0	1	0.0	0.092	10.6	LOS A	0.5	3.4	0.54	0.60	0.54	40.5
Approach			84	0.0	84	0.0	0.092	6.8	LOS A	0.5	3.4	0.54	0.60	0.54	44.4
All Vehicles			869	1.8	869	1.8	0.331	5.9	LOS A	2.2	15.7	0.38	0.52	0.38	48.5

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

MOVEMENT SUMMARY

Site: 102 [102 PM EX Chester Hill Rd x Jocelyn St (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Chester Hill Road and Jocelyn Street
Peak Period: PM
Scenario: Existing
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Chester Hill Rd															
1	L2	All MCs	60	0.0	60	0.0	0.300	5.3	LOS A	2.0	14.0	0.36	0.50	0.36	48.2
2	T1	All MCs	272	1.9	272	1.9	0.300	5.5	LOS A	2.0	14.0	0.36	0.50	0.36	50.4
3	R2	All MCs	31	0.0	31	0.0	0.300	8.7	LOS A	2.0	14.0	0.36	0.50	0.36	48.4
3u	U	All MCs	4	0.0	4	0.0	0.300	10.4	LOS A	2.0	14.0	0.36	0.50	0.36	51.9
Approach			366	1.4	366	1.4	0.300	5.8	LOS A	2.0	14.0	0.36	0.50	0.36	49.8
East: Jocelyn St															
4	L2	All MCs	17	0.0	17	0.0	0.135	5.9	LOS A	0.7	5.2	0.56	0.61	0.56	47.7
5	T1	All MCs	73	0.0	73	0.0	0.135	5.9	LOS A	0.7	5.2	0.56	0.61	0.56	43.6
6	R2	All MCs	29	0.0	29	0.0	0.135	9.2	LOS A	0.7	5.2	0.56	0.61	0.56	44.4
6u	U	All MCs	3	0.0	3	0.0	0.135	10.7	LOS A	0.7	5.2	0.56	0.61	0.56	44.4
Approach			122	0.0	122	0.0	0.135	6.8	LOS A	0.7	5.2	0.56	0.61	0.56	44.5
North: Chester Hill Rd															
7	L2	All MCs	61	1.7	61	1.7	0.361	6.1	LOS A	2.4	17.1	0.51	0.55	0.51	45.4
8	T1	All MCs	316	2.0	316	2.0	0.361	6.3	LOS A	2.4	17.1	0.51	0.55	0.51	50.0
9	R2	All MCs	11	0.0	11	0.0	0.361	9.5	LOS A	2.4	17.1	0.51	0.55	0.51	43.2
9u	U	All MCs	1	0.0	1	0.0	0.361	11.1	LOS A	2.4	17.1	0.51	0.55	0.51	45.3
Approach			388	1.9	388	1.9	0.361	6.3	LOS A	2.4	17.1	0.51	0.55	0.51	49.1
West: Jocelyn St															
10	L2	All MCs	7	0.0	7	0.0	0.195	5.6	LOS A	1.1	7.7	0.53	0.60	0.53	42.6
11	T1	All MCs	104	0.0	104	0.0	0.195	5.6	LOS A	1.1	7.7	0.53	0.60	0.53	43.5
12	R2	All MCs	75	0.0	75	0.0	0.195	8.9	LOS A	1.1	7.7	0.53	0.60	0.53	46.6
12u	U	All MCs	1	0.0	1	0.0	0.195	10.4	LOS A	1.1	7.7	0.53	0.60	0.53	40.4
Approach			187	0.0	187	0.0	0.195	7.0	LOS A	1.1	7.7	0.53	0.60	0.53	44.6
All Vehicles			1064	1.2	1064	1.2	0.361	6.3	LOS A	2.4	17.1	0.47	0.55	0.47	47.9

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

MOVEMENT SUMMARY

Site: 103 [103 AM EX Chester Hill Rd x McClelland St (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Chester Hill Road and McClelland Street
Peak Period: AM
Scenario: Existing
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Chester Hill Rd															
1	L2	All MCs	5	0.0	5	0.0	0.203	5.5	LOS A	0.1	0.7	0.03	0.03	0.03	53.9
2	T1	All MCs	371	1.7	371	1.7	0.203	0.0	LOS A	0.1	0.7	0.03	0.03	0.03	59.6
3	R2	All MCs	9	11.1	9	11.1	0.203	7.8	LOS A	0.1	0.7	0.03	0.03	0.03	52.4
Approach			385	1.9	385	1.9	0.203	0.3	NA	0.1	0.7	0.03	0.03	0.03	59.2
East: McClelland St															
4	L2	All MCs	16	0.0	16	0.0	0.034	5.3	LOS A	0.1	0.8	0.42	0.58	0.42	47.7
5	T1	All MCs	1	0.0	1	0.0	0.034	6.5	LOS A	0.1	0.8	0.42	0.58	0.42	43.5
6	R2	All MCs	9	11.1	9	11.1	0.034	9.9	LOS A	0.1	0.8	0.42	0.58	0.42	43.1
Approach			26	4.0	26	4.0	0.034	7.0	LOS A	0.1	0.8	0.42	0.58	0.42	46.0
North: Chester Hill Rd															
7	L2	All MCs	5	0.0	5	0.0	0.130	5.5	LOS A	0.1	0.6	0.05	0.07	0.05	50.6
8	T1	All MCs	228	3.7	228	3.7	0.130	0.0	LOS A	0.1	0.6	0.05	0.07	0.05	59.3
9	R2	All MCs	8	0.0	8	0.0	0.130	9.8	LOS A	0.1	0.6	0.05	0.07	0.05	50.4
Approach			242	3.5	242	3.5	0.130	0.5	NA	0.1	0.6	0.05	0.07	0.05	58.8
West: McClelland St															
10	L2	All MCs	28	0.0	28	0.0	0.036	5.8	LOS A	0.1	0.9	0.44	0.60	0.44	42.7
11	T1	All MCs	1	0.0	1	0.0	0.036	6.5	LOS A	0.1	0.9	0.44	0.60	0.44	43.8
12	R2	All MCs	4	25.0	4	25.0	0.036	11.0	LOS A	0.1	0.9	0.44	0.60	0.44	45.9
Approach			34	3.1	34	3.1	0.036	6.5	LOS A	0.1	0.9	0.44	0.60	0.44	43.3
All Vehicles			687	2.6	687	2.6	0.203	0.9	NA	0.1	0.9	0.07	0.09	0.07	57.6

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

MOVEMENT SUMMARY

Site: 103 [103 PM EX Chester Hill Rd x McClelland St (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Chester Hill Road and McClelland Street
Peak Period: PM
Scenario: Existing
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Chester Hill Rd															
1	L2	All MCs	8	0.0	8	0.0	0.186	5.5	LOS A	0.1	0.8	0.04	0.06	0.04	53.7
2	T1	All MCs	335	0.9	335	0.9	0.186	0.0	LOS A	0.1	0.8	0.04	0.06	0.04	59.4
3	R2	All MCs	9	11.1	9	11.1	0.186	11.3	LOS A	0.1	0.8	0.04	0.06	0.04	52.3
Approach			353	1.2	353	1.2	0.186	0.4	NA	0.1	0.8	0.04	0.06	0.04	59.0
East: McClelland St															
4	L2	All MCs	12	0.0	12	0.0	0.025	5.8	LOS A	0.1	0.6	0.50	0.63	0.50	47.3
5	T1	All MCs	2	50.0	2	50.0	0.025	11.8	LOS A	0.1	0.6	0.50	0.63	0.50	42.4
6	R2	All MCs	4	0.0	4	0.0	0.025	10.2	LOS A	0.1	0.6	0.50	0.63	0.50	43.8
Approach			18	5.9	18	5.9	0.025	7.5	LOS A	0.1	0.6	0.50	0.63	0.50	46.1
North: Chester Hill Rd															
7	L2	All MCs	9	0.0	9	0.0	0.219	5.5	LOS A	0.3	2.2	0.09	0.12	0.09	50.2
8	T1	All MCs	366	1.7	366	1.7	0.219	0.0	LOS A	0.3	2.2	0.09	0.12	0.09	58.7
9	R2	All MCs	31	0.0	31	0.0	0.219	9.3	LOS A	0.3	2.2	0.09	0.12	0.09	49.8
Approach			406	1.6	406	1.6	0.219	0.8	NA	0.3	2.2	0.09	0.12	0.09	58.0
West: McClelland St															
10	L2	All MCs	26	0.0	26	0.0	0.036	5.7	LOS A	0.1	0.9	0.44	0.60	0.44	42.7
11	T1	All MCs	3	0.0	3	0.0	0.036	7.5	LOS A	0.1	0.9	0.44	0.60	0.44	43.8
12	R2	All MCs	4	0.0	4	0.0	0.036	10.1	LOS A	0.1	0.9	0.44	0.60	0.44	47.1
Approach			34	0.0	34	0.0	0.036	6.4	LOS A	0.1	0.9	0.44	0.60	0.44	43.6
All Vehicles			811	1.4	811	1.4	0.219	1.0	NA	0.3	2.2	0.09	0.12	0.09	57.4

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

MOVEMENT SUMMARY

Site: 104 [104 AM EX Jocelyn St x Orchard Rd (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Jocelyn Street x Orchard St
Peak Period: AM
Scenario: Existing
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Orchard Rd															
2	T1	All MCs	14	15.4	14	15.4	0.008	0.0	LOS A	0.0	0.0	0.03	0.05	0.03	49.3
3	R2	All MCs	1	0.0	1	0.0	0.008	4.9	LOS A	0.0	0.0	0.03	0.05	0.03	35.4
Approach			15	14.3	15	14.3	0.008	0.3	NA	0.0	0.0	0.03	0.05	0.03	48.2
East: Jocelyn St															
4	L2	All MCs	2	0.0	2	0.0	0.095	2.0	LOS A	0.3	2.3	0.14	0.39	0.14	32.6
6	R2	All MCs	114	0.9	114	0.9	0.095	2.5	LOS A	0.3	2.3	0.14	0.39	0.14	35.3
Approach			116	0.9	116	0.9	0.095	2.5	LOS A	0.3	2.3	0.14	0.39	0.14	35.3
North: Orchard Rd															
7	L2	All MCs	75	1.4	75	1.4	0.049	4.6	LOS A	0.0	0.0	0.00	0.44	0.00	44.1
8	T1	All MCs	15	14.3	15	14.3	0.049	0.0	LOS A	0.0	0.0	0.00	0.44	0.00	45.4
Approach			89	3.5	89	3.5	0.049	3.8	NA	0.0	0.0	0.00	0.44	0.00	44.3
All Vehicles			220	2.9	220	2.9	0.095	2.9	NA	0.3	2.3	0.08	0.39	0.08	39.2

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

MOVEMENT SUMMARY

Site: 104 [104 AM EX Jocelyn St x Orchard Rd (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Jocelyn Street x Orchard St
Peak Period: PM
Scenario: Existing
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Orchard Rd															
2	T1	All MCs	23	4.5	23	4.5	0.017	0.0	LOS A	0.0	0.3	0.15	0.18	0.15	47.8
3	R2	All MCs	7	0.0	7	0.0	0.017	5.7	LOS A	0.0	0.3	0.15	0.18	0.15	34.5
Approach			31	3.4	31	3.4	0.017	1.4	NA	0.0	0.3	0.15	0.18	0.15	44.1
East: Jocelyn St															
4	L2	All MCs	7	0.0	7	0.0	0.111	2.0	LOS A	0.4	2.7	0.19	0.40	0.19	32.5
6	R2	All MCs	121	0.9	121	0.9	0.111	2.8	LOS A	0.4	2.7	0.19	0.40	0.19	35.2
Approach			128	0.8	128	0.8	0.111	2.7	LOS A	0.4	2.7	0.19	0.40	0.19	35.1
North: Orchard Rd															
7	L2	All MCs	165	0.0	165	0.0	0.100	4.6	LOS A	0.0	0.0	0.00	0.47	0.00	44.0
8	T1	All MCs	20	10.5	20	10.5	0.100	0.0	LOS A	0.0	0.0	0.00	0.47	0.00	45.1
Approach			185	1.1	185	1.1	0.100	4.1	NA	0.0	0.0	0.00	0.47	0.00	44.1
All Vehicles			344	1.2	344	1.2	0.111	3.3	NA	0.4	2.7	0.08	0.42	0.08	40.2

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

MOVEMENT SUMMARY

Site: 201 [201 AM EX+PR Chester Hill Rd x Procter Pde (Site Folder: Existing - Copy)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Chester Hill Road and Proctor Parade
Peak Period: AM
Scenario: Existing + Proposed
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Chester Hill Rd															
1	L2	All MCs	14	7.7	14	7.7	0.426	5.1	LOS A	2.9	20.8	0.64	0.56	0.64	35.4
2	T1	All MCs	320	1.0	320	1.0	0.426	4.6	LOS A	2.9	20.8	0.64	0.56	0.64	35.9
3	R2	All MCs	75	0.0	75	0.0	0.426	7.9	LOS A	2.9	20.8	0.64	0.56	0.64	36.3
3u	U	All MCs	1	0.0	1	0.0	0.426	9.2	LOS A	2.9	20.8	0.64	0.56	0.64	37.5
Approach			409	1.0	409	1.0	0.426	5.2	LOS A	2.9	20.8	0.64	0.56	0.64	36.0
East: Proctor Pde															
4	L2	All MCs	61	0.0	61	0.0	0.335	4.4	LOS A	2.2	15.5	0.57	0.57	0.57	38.4
5	T1	All MCs	132	2.4	132	2.4	0.335	4.2	LOS A	2.2	15.5	0.57	0.57	0.57	36.8
6	R2	All MCs	117	6.3	117	6.3	0.335	7.6	LOS A	2.2	15.5	0.57	0.57	0.57	36.6
6u	U	All MCs	17	0.0	17	0.0	0.335	8.8	LOS A	2.2	15.5	0.57	0.57	0.57	37.1
Approach			326	3.2	326	3.2	0.335	5.7	LOS A	2.2	15.5	0.57	0.57	0.57	37.0
North: Chester Hill Rd															
7	L2	All MCs	86	8.5	86	8.5	0.349	4.4	LOS A	2.3	16.4	0.55	0.52	0.55	37.1
8	T1	All MCs	202	3.1	202	3.1	0.349	4.0	LOS A	2.3	16.4	0.55	0.52	0.55	38.8
9	R2	All MCs	56	1.9	56	1.9	0.349	7.3	LOS A	2.3	16.4	0.55	0.52	0.55	36.0
9u	U	All MCs	4	0.0	4	0.0	0.349	8.6	LOS A	2.3	16.4	0.55	0.52	0.55	36.3
Approach			348	4.2	348	4.2	0.349	4.7	LOS A	2.3	16.4	0.55	0.52	0.55	37.8
West: Proctor Pde															
10	L2	All MCs	52	0.0	52	0.0	0.286	6.0	LOS A	1.8	12.8	0.70	0.63	0.70	35.7
11	T1	All MCs	145	4.3	145	4.3	0.286	5.9	LOS A	1.8	12.8	0.70	0.63	0.70	36.6
12	R2	All MCs	24	13.0	24	13.0	0.286	9.6	LOS A	1.8	12.8	0.70	0.63	0.70	37.1
12u	U	All MCs	1	0.0	1	0.0	0.286	10.4	LOS A	1.8	12.8	0.70	0.63	0.70	35.1
Approach			222	4.3	222	4.3	0.286	6.3	LOS A	1.8	12.8	0.70	0.63	0.70	36.5
All Vehicles			1306	3.0	1306	3.0	0.426	5.4	LOS A	2.9	20.8	0.61	0.57	0.61	36.8

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

MOVEMENT SUMMARY

Site: 201 [201 PM EX+PR Chester Hill Rd x Procter Pde (Site Folder: Existing - Copy)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Chester Hill Road and Proctor Parade
Peak Period: PM
Scenario: Existing + Proposed
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Chester Hill Rd															
1	L2	All MCs	16	0.0	16	0.0	0.393	5.7	LOS A	2.6	19.0	0.71	0.61	0.71	35.3
2	T1	All MCs	294	2.9	294	2.9	0.393	5.5	LOS A	2.6	19.0	0.71	0.61	0.71	35.9
3	R2	All MCs	19	11.1	19	11.1	0.393	9.2	LOS A	2.6	19.0	0.71	0.61	0.71	36.2
3u	U	All MCs	1	0.0	1	0.0	0.393	10.0	LOS A	2.6	19.0	0.71	0.61	0.71	37.4
Approach			329	3.2	329	3.2	0.393	5.7	LOS A	2.6	19.0	0.71	0.61	0.71	35.9
East: Proctor Pde															
4	L2	All MCs	48	0.0	48	0.0	0.454	5.2	LOS A	3.2	23.2	0.68	0.62	0.68	38.0
5	T1	All MCs	188	3.9	188	3.9	0.454	5.1	LOS A	3.2	23.2	0.68	0.62	0.68	36.4
6	R2	All MCs	171	6.2	171	6.2	0.454	8.5	LOS A	3.2	23.2	0.68	0.62	0.68	36.2
6u	U	All MCs	3	0.0	3	0.0	0.454	9.6	LOS A	3.2	23.2	0.68	0.62	0.68	36.8
Approach			411	4.4	411	4.4	0.454	6.5	LOS A	3.2	23.2	0.68	0.62	0.68	36.5
North: Chester Hill Rd															
7	L2	All MCs	84	10.0	84	10.0	0.398	4.2	LOS A	2.8	20.4	0.55	0.51	0.55	37.0
8	T1	All MCs	254	1.2	254	1.2	0.398	3.7	LOS A	2.8	20.4	0.55	0.51	0.55	38.8
9	R2	All MCs	77	2.7	77	2.7	0.398	7.1	LOS A	2.8	20.4	0.55	0.51	0.55	36.0
9u	U	All MCs	7	0.0	7	0.0	0.398	8.4	LOS A	2.8	20.4	0.55	0.51	0.55	36.2
Approach			422	3.2	422	3.2	0.398	4.5	LOS A	2.8	20.4	0.55	0.51	0.55	37.8
West: Proctor Pde															
10	L2	All MCs	76	0.0	76	0.0	0.335	5.9	LOS A	2.1	15.3	0.70	0.63	0.70	35.8
11	T1	All MCs	171	2.5	171	2.5	0.335	5.7	LOS A	2.1	15.3	0.70	0.63	0.70	36.7
12	R2	All MCs	27	7.7	27	7.7	0.335	9.2	LOS A	2.1	15.3	0.70	0.63	0.70	37.3
12u	U	All MCs	1	0.0	1	0.0	0.335	10.2	LOS A	2.1	15.3	0.70	0.63	0.70	35.2
Approach			275	2.3	275	2.3	0.335	6.1	LOS A	2.1	15.3	0.70	0.63	0.70	36.5
All Vehicles			1437	3.4	1437	3.4	0.454	5.7	LOS A	3.2	23.2	0.65	0.59	0.65	36.7

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

MOVEMENT SUMMARY

Site: 202 [202 AM EX+PR Chester Hill Rd x Jocelyn St (Site Folder: Existing - Copy)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Chester Hill Road and Jocelyn Street
Peak Period: AM
Scenario: Existing+Proposed
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Chester Hill Rd															
1	L2	All MCs	48	0.0	48	0.0	0.332	5.3	LOS A	2.3	16.0	0.37	0.50	0.37	48.2
2	T1	All MCs	317	1.7	317	1.7	0.332	5.5	LOS A	2.3	16.0	0.37	0.50	0.37	50.3
3	R2	All MCs	40	5.3	40	5.3	0.332	8.9	LOS A	2.3	16.0	0.37	0.50	0.37	48.2
3u	U	All MCs	2	0.0	2	0.0	0.332	10.4	LOS A	2.3	16.0	0.37	0.50	0.37	51.8
Approach			407	1.8	407	1.8	0.332	5.8	LOS A	2.3	16.0	0.37	0.50	0.37	49.8
East: Jocelyn St															
4	L2	All MCs	9	0.0	9	0.0	0.127	5.7	LOS A	0.7	4.8	0.52	0.60	0.52	47.7
5	T1	All MCs	66	0.0	66	0.0	0.127	5.6	LOS A	0.7	4.8	0.52	0.60	0.52	43.6
6	R2	All MCs	43	0.0	43	0.0	0.127	8.9	LOS A	0.7	4.8	0.52	0.60	0.52	44.4
6u	U	All MCs	1	0.0	1	0.0	0.127	10.4	LOS A	0.7	4.8	0.52	0.60	0.52	44.4
Approach			120	0.0	120	0.0	0.127	6.9	LOS A	0.7	4.8	0.52	0.60	0.52	44.2
North: Chester Hill Rd															
7	L2	All MCs	33	0.0	33	0.0	0.269	5.8	LOS A	1.7	11.8	0.46	0.54	0.46	45.5
8	T1	All MCs	245	3.4	245	3.4	0.269	6.1	LOS A	1.7	11.8	0.46	0.54	0.46	50.2
9	R2	All MCs	4	0.0	4	0.0	0.269	9.3	LOS A	1.7	11.8	0.46	0.54	0.46	43.3
9u	U	All MCs	4	0.0	4	0.0	0.269	11.0	LOS A	1.7	11.8	0.46	0.54	0.46	45.5
Approach			286	2.9	286	2.9	0.269	6.2	LOS A	1.7	11.8	0.46	0.54	0.46	49.4
West: Jocelyn St															
10	L2	All MCs	33	0.0	33	0.0	0.215	6.1	LOS A	1.2	8.6	0.58	0.65	0.58	41.9
11	T1	All MCs	56	0.0	56	0.0	0.215	6.1	LOS A	1.2	8.6	0.58	0.65	0.58	43.0
12	R2	All MCs	106	0.0	106	0.0	0.215	9.4	LOS A	1.2	8.6	0.58	0.65	0.58	46.0
12u	U	All MCs	1	0.0	1	0.0	0.215	10.9	LOS A	1.2	8.6	0.58	0.65	0.58	39.8
Approach			196	0.0	196	0.0	0.215	7.9	LOS A	1.2	8.6	0.58	0.65	0.58	44.5
All Vehicles			1009	1.6	1009	1.6	0.332	6.5	LOS A	2.3	16.0	0.46	0.55	0.46	47.9

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

MOVEMENT SUMMARY

Site: 202 [202 PM EX+PR Chester Hill Rd x Jocelyn St (Site Folder: Existing - Copy)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Chester Hill Road and Jocelyn Street
Peak Period: PM
Scenario: Existing+Proposed
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Chester Hill Rd															
1	L2	All MCs	60	0.0	60	0.0	0.300	5.3	LOS A	2.0	14.0	0.36	0.50	0.36	48.2
2	T1	All MCs	272	1.9	272	1.9	0.300	5.5	LOS A	2.0	14.0	0.36	0.50	0.36	50.4
3	R2	All MCs	31	0.0	31	0.0	0.300	8.7	LOS A	2.0	14.0	0.36	0.50	0.36	48.4
3u	U	All MCs	4	0.0	4	0.0	0.300	10.4	LOS A	2.0	14.0	0.36	0.50	0.36	51.9
Approach			366	1.4	366	1.4	0.300	5.8	LOS A	2.0	14.0	0.36	0.50	0.36	49.8
East: Jocelyn St															
4	L2	All MCs	17	0.0	17	0.0	0.138	6.1	LOS A	0.8	5.4	0.58	0.62	0.58	47.6
5	T1	All MCs	73	0.0	73	0.0	0.138	6.1	LOS A	0.8	5.4	0.58	0.62	0.58	43.5
6	R2	All MCs	29	0.0	29	0.0	0.138	9.3	LOS A	0.8	5.4	0.58	0.62	0.58	44.3
6u	U	All MCs	3	0.0	3	0.0	0.138	10.9	LOS A	0.8	5.4	0.58	0.62	0.58	44.4
Approach			122	0.0	122	0.0	0.138	7.0	LOS A	0.8	5.4	0.58	0.62	0.58	44.4
North: Chester Hill Rd															
7	L2	All MCs	61	1.7	61	1.7	0.374	6.2	LOS A	2.5	17.9	0.53	0.56	0.53	45.3
8	T1	All MCs	322	2.0	322	2.0	0.374	6.4	LOS A	2.5	17.9	0.53	0.56	0.53	49.9
9	R2	All MCs	11	0.0	11	0.0	0.374	9.6	LOS A	2.5	17.9	0.53	0.56	0.53	43.0
9u	U	All MCs	1	0.0	1	0.0	0.374	11.3	LOS A	2.5	17.9	0.53	0.56	0.53	45.2
Approach			395	1.9	395	1.9	0.374	6.5	LOS A	2.5	17.9	0.53	0.56	0.53	49.0
West: Jocelyn St															
10	L2	All MCs	14	0.0	14	0.0	0.220	5.7	LOS A	1.3	8.8	0.54	0.61	0.54	42.4
11	T1	All MCs	104	0.0	104	0.0	0.220	5.7	LOS A	1.3	8.8	0.54	0.61	0.54	43.4
12	R2	All MCs	93	0.0	93	0.0	0.220	8.9	LOS A	1.3	8.8	0.54	0.61	0.54	46.5
12u	U	All MCs	1	0.0	1	0.0	0.220	10.5	LOS A	1.3	8.8	0.54	0.61	0.54	40.2
Approach			212	0.0	212	0.0	0.220	7.1	LOS A	1.3	8.8	0.54	0.61	0.54	44.7
All Vehicles			1095	1.2	1095	1.2	0.374	6.4	LOS A	2.5	17.9	0.48	0.56	0.48	47.8

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

MOVEMENT SUMMARY

Site: 203 [203 AM+PR EX Chester Hill Rd x McClelland St (Site Folder: Existing - Copy)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Chester Hill Road and McClelland Street
Peak Period: AM
Scenario: Existing
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Chester Hill Rd															
1	L2	All MCs	5	0.0	5	0.0	0.240	5.5	LOS A	0.1	0.8	0.03	0.04	0.03	53.9
2	T1	All MCs	443	1.4	443	1.4	0.240	0.0	LOS A	0.1	0.8	0.03	0.04	0.03	59.6
3	R2	All MCs	9	11.1	9	11.1	0.240	9.2	LOS A	0.1	0.8	0.03	0.04	0.03	52.4
Approach			458	1.6	458	1.6	0.240	0.3	NA	0.1	0.8	0.03	0.04	0.03	59.3
East: McClelland St															
4	L2	All MCs	16	0.0	16	0.0	0.040	5.5	LOS A	0.1	1.0	0.50	0.63	0.50	47.0
5	T1	All MCs	1	0.0	1	0.0	0.040	7.8	LOS A	0.1	1.0	0.50	0.63	0.50	42.8
6	R2	All MCs	9	11.1	9	11.1	0.040	12.1	LOS A	0.1	1.0	0.50	0.63	0.50	42.4
Approach			26	4.0	26	4.0	0.040	8.0	LOS A	0.1	1.0	0.50	0.63	0.50	45.4
North: Chester Hill Rd															
7	L2	All MCs	5	0.0	5	0.0	0.167	5.5	LOS A	0.1	0.7	0.04	0.06	0.04	50.7
8	T1	All MCs	301	2.8	301	2.8	0.167	0.0	LOS A	0.1	0.7	0.04	0.06	0.04	59.4
9	R2	All MCs	8	0.0	8	0.0	0.167	11.3	LOS A	0.1	0.7	0.04	0.06	0.04	50.5
Approach			315	2.7	315	2.7	0.167	0.4	NA	0.1	0.7	0.04	0.06	0.04	59.1
West: McClelland St															
10	L2	All MCs	28	0.0	28	0.0	0.042	6.2	LOS A	0.1	1.0	0.49	0.64	0.49	42.0
11	T1	All MCs	1	0.0	1	0.0	0.042	7.8	LOS A	0.1	1.0	0.49	0.64	0.49	43.3
12	R2	All MCs	4	25.0	4	25.0	0.042	13.7	LOS A	0.1	1.0	0.49	0.64	0.49	45.4
Approach			34	3.1	34	3.1	0.042	7.2	LOS A	0.1	1.0	0.49	0.64	0.49	42.6
All Vehicles			833	2.1	833	2.1	0.240	0.8	NA	0.1	1.0	0.07	0.09	0.07	57.9

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

MOVEMENT SUMMARY

Site: 203 [203 PM EX+PR Chester Hill Rd x McClelland St (Site Folder: Existing - Copy)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Chester Hill Road and McClelland Street
Peak Period: PM
Scenario: Existing+Proposed
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Chester Hill Rd															
1	L2	All MCs	8	0.0	8	0.0	0.194	5.5	LOS A	0.1	0.9	0.04	0.06	0.04	53.8
2	T1	All MCs	351	0.9	351	0.9	0.194	0.0	LOS A	0.1	0.9	0.04	0.06	0.04	59.4
3	R2	All MCs	9	11.1	9	11.1	0.194	11.7	LOS A	0.1	0.9	0.04	0.06	0.04	52.3
Approach			368	1.1	368	1.1	0.194	0.4	NA	0.1	0.9	0.04	0.06	0.04	59.0
East: McClelland St															
4	L2	All MCs	12	0.0	12	0.0	0.026	5.9	LOS A	0.1	0.6	0.51	0.64	0.51	47.1
5	T1	All MCs	2	50.0	2	50.0	0.026	12.5	LOS A	0.1	0.6	0.51	0.64	0.51	42.3
6	R2	All MCs	4	0.0	4	0.0	0.026	10.6	LOS A	0.1	0.6	0.51	0.64	0.51	43.7
Approach			18	5.9	18	5.9	0.026	7.7	LOS A	0.1	0.6	0.51	0.64	0.51	45.9
North: Chester Hill Rd															
7	L2	All MCs	9	0.0	9	0.0	0.228	5.5	LOS A	0.3	2.2	0.09	0.12	0.09	50.2
8	T1	All MCs	382	1.7	382	1.7	0.228	0.0	LOS A	0.3	2.2	0.09	0.12	0.09	58.8
9	R2	All MCs	31	0.0	31	0.0	0.228	9.6	LOS A	0.3	2.2	0.09	0.12	0.09	49.8
Approach			422	1.5	422	1.5	0.228	0.8	NA	0.3	2.2	0.09	0.12	0.09	58.0
West: McClelland St															
10	L2	All MCs	26	0.0	26	0.0	0.037	5.7	LOS A	0.1	0.9	0.45	0.60	0.45	42.6
11	T1	All MCs	3	0.0	3	0.0	0.037	7.8	LOS A	0.1	0.9	0.45	0.60	0.45	43.7
12	R2	All MCs	4	0.0	4	0.0	0.037	10.5	LOS A	0.1	0.9	0.45	0.60	0.45	47.0
Approach			34	0.0	34	0.0	0.037	6.5	LOS A	0.1	0.9	0.45	0.60	0.45	43.4
All Vehicles			842	1.4	842	1.4	0.228	1.0	NA	0.3	2.2	0.09	0.12	0.09	57.5

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

MOVEMENT SUMMARY

Site: 204 [204 AM EX+PR Jocelyn St x Orchard Rd (Site Folder: Existing - Copy)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Jocelyn Street x Orchard St
Peak Period: AM
Scenario: Existing+Proposed
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Orchard Rd															
2	T1	All MCs	14	15.4	14	15.4	0.008	0.0	LOS A	0.0	0.0	0.03	0.05	0.03	49.3
3	R2	All MCs	1	0.0	1	0.0	0.008	5.0	LOS A	0.0	0.0	0.03	0.05	0.03	35.4
Approach			15	14.3	15	14.3	0.008	0.4	NA	0.0	0.0	0.03	0.05	0.03	48.2
East: Jocelyn St															
4	L2	All MCs	2	0.0	2	0.0	0.105	2.0	LOS A	0.4	2.5	0.15	0.39	0.15	32.6
6	R2	All MCs	124	0.8	124	0.8	0.105	2.6	LOS A	0.4	2.5	0.15	0.39	0.15	35.3
Approach			126	0.8	126	0.8	0.105	2.5	LOS A	0.4	2.5	0.15	0.39	0.15	35.3
North: Orchard Rd															
7	L2	All MCs	85	1.2	85	1.2	0.055	4.6	LOS A	0.0	0.0	0.00	0.45	0.00	44.1
8	T1	All MCs	15	14.3	15	14.3	0.055	0.0	LOS A	0.0	0.0	0.00	0.45	0.00	45.3
Approach			100	3.2	100	3.2	0.055	3.9	NA	0.0	0.0	0.00	0.45	0.00	44.2
All Vehicles			241	2.6	241	2.6	0.105	3.0	NA	0.4	2.5	0.08	0.40	0.08	39.1

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

MOVEMENT SUMMARY

Site: 204 [204 AM EX+PR Jocelyn St x Orchard Rd (Site Folder: Existing - Copy)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection: Jocelyn Street x Orchard St
Peak Period: PM
Scenario: Existing+Proposed
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Orchard Rd															
2	T1	All MCs	23	4.5	23	4.5	0.017	0.0	LOS A	0.0	0.3	0.15	0.18	0.15	47.8
3	R2	All MCs	7	0.0	7	0.0	0.017	5.7	LOS A	0.0	0.3	0.15	0.18	0.15	34.5
Approach			31	3.4	31	3.4	0.017	1.4	NA	0.0	0.3	0.15	0.18	0.15	44.1
East: Jocelyn St															
4	L2	All MCs	7	0.0	7	0.0	0.113	2.0	LOS A	0.4	2.7	0.19	0.40	0.19	32.5
6	R2	All MCs	123	0.9	123	0.9	0.113	2.8	LOS A	0.4	2.7	0.19	0.40	0.19	35.2
Approach			131	0.8	131	0.8	0.113	2.8	LOS A	0.4	2.7	0.19	0.40	0.19	35.1
North: Orchard Rd															
7	L2	All MCs	167	0.0	167	0.0	0.101	4.6	LOS A	0.0	0.0	0.00	0.47	0.00	43.9
8	T1	All MCs	20	10.5	20	10.5	0.101	0.0	LOS A	0.0	0.0	0.00	0.47	0.00	45.1
Approach			187	1.1	187	1.1	0.101	4.1	NA	0.0	0.0	0.00	0.47	0.00	44.1
All Vehicles			348	1.2	348	1.2	0.113	3.4	NA	0.4	2.7	0.09	0.42	0.09	40.2

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