TRAFFIX
TRAFFIC AND TRANSPORT PLANNERS

TRAFFIC IMPACT ASSESSMENT

Proposed Childcare Development
39 Carnation Avenue, Bankstown

Reference: 23.203r01v04
Date: 28 August 2023

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DOCUMENT VERIFICATION

Job Number	23.203			
Project	39 Carnation Avenue, Bankstown			
Client	Mariam Abdelkarim			
Revision	Date	Prepared By	Checked By	Signed
v04	28/08/2023	Stephan Hoang	Neil Caga	

TRAFFIX

CONTENTS

1. INTRODUCTION

TRAFFIX has been commissioned by Mariam Abdelkarim to undertake a traffic impact assessment (TIA) in support of a development application (DA) relating to a proposed childcare centre at 39 Carnation Avenue, Bankstown. The development is located within the Canterbury Bankstown Local Government Area (LGA) 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 development is considered minor and as such, does not require referral to Transport for New South Wales (TfNSW) under the provisions of State Environmental Planning Policies (Transport and Infrastructure) 2021.

The report is structured as follows:

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

2. LOCATION AND SITE

The subject site at 39 Carnation Avenue, Bankstown is located approximately 690 metres east of Bankstown Railway Station and is legally identified as Lot 72 in DP7672. Mores specifically, it is situated on the north side of Carnation Avenue, approximately 300 metres west of South Terrace.

The site is rectangular in configuration and has a total site area of 696.8m^2. It has a southern frontage to Carnation Avenue of 15.2 metres, while the remaining northern boundary of 15.2 metres and eastern / western boundaries of 45.7 metres are shared with neighbouring residential properties.

The site currently accommodates a single residential dwelling that provides vehicular access onto Carnation Avenue via an existing driveway crossover situated on the southeast corner of the site.

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

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:

- Stacey Street: forms part of a TfNSW Main Road (MR 190) that traverses north-south between Rookwood Road in the north and Fairford Road in the south. It is subject to 60-70km/h speed zoning and generally accommodates three (3) lanes of traffic in each direction. Stacey Street does not permit on-street parking on either side of the road.
- South Terrace: a local road that traverses east-west between Punchbowl Road in the east and the Bankstown City Plaza in the west. It is subject to a 60km/h speed zoning and accommodates a single lane of traffic in each direction. South Terrace permits unrestricted on-street parking along both sides of the road.
- Carnation Avenue: a local road that traverses east-west between South Terrace in the east and a cul de sac in the west. It is subject to a 50km/h speed zoning and accommodates a single lane of traffic in each direction. Carnation Avenue permits unrestricted on-street parking along both sides of the road.

It can be seen from **Figure 3** that the site is conveniently located with respect to various collector roads and the main arterial road serving the region, being Stacey Street. As such, traffic is able to be distributed onto the wider road network, minimising traffic impacts.

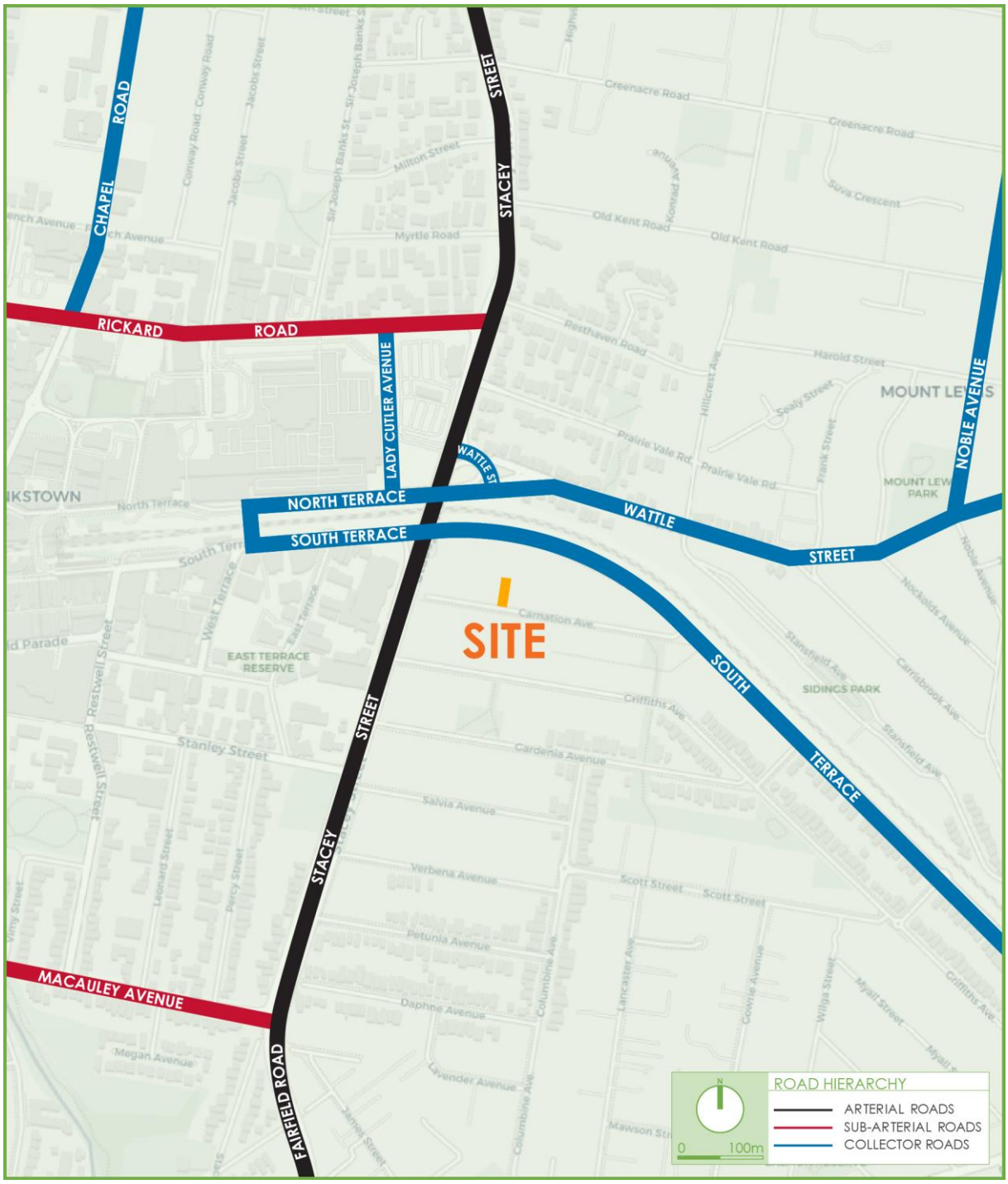


Figure 3: Road Hierarchy

3.2 Key Intersection

The key intersection within the vicinity of the site, being the South Terrace and Carnation Avenue intersection is presented in **Figure 4** below.

Figure 4: Intersection of South Terrace and Carnation Avenue

It can be seen from **Figure 4** that the South Terrace and Carnation Avenue intersection is a three-legged priority-controlled intersection, with South Terrace being the major road. The main attributes of each approach are outlined as follows:

- South Terrace (east-west)
  - The eastern approach provides a single through lane from which left turns can be made onto Carnation Avenue; and
  - The western approach provides a single through lane from which right turns can be made onto Carnation Avenue.

- Carnation Avenue (south)
  - The southern approach provides a single lane from which all turns can be made onto South Terrace.

3.3 Public Transport

The public transport services operating in the locality are presented in **Figure 4** and summarised as follows.

3.3.1 Bus Services

The subject site is located within optimal walking distance (400 metres) of various bus stops located along Wattle Street in the north and Stanley Street in the south, with these bus stops providing services along the following routes:

- 939 – Greenacre to Bankstown;
- 940 – Bankstown to Hurstville via Riverwood; and
- 944 – Bankstown to Mortdale via Peakhurst Heights.

In addition to the above, these bus services provide regular connections to Bankstown Central bus terminal, which provides bus services along the following routes:

- 487 – Bankstown Central to Canterbury;
- 905 – Bankstown to Fairfield;
- 922 – East Hills to Bankstown via Milperra;
- 923 – Panania to Bankstown via Picnic Pt;
- 924 – East Hills to Bankstown via Panania;
- 926 – Revesby Heights to Bankstown;
- 944 – Bankstown to Mortdale via Peakhurst Heights; and
- 945 – Hurstville to Bankstown via Mortdale.

3.3.2 Train Services

The subject site is located approximately 690 metres east of Bankstown Railway Station, which provides train services along the T2 Inner West & Leppington Line and T3 Bankstown Line. Furthermore, this railway station is proposed to accommodate future metro services, thereby connecting commuters onto the wider public transport network.

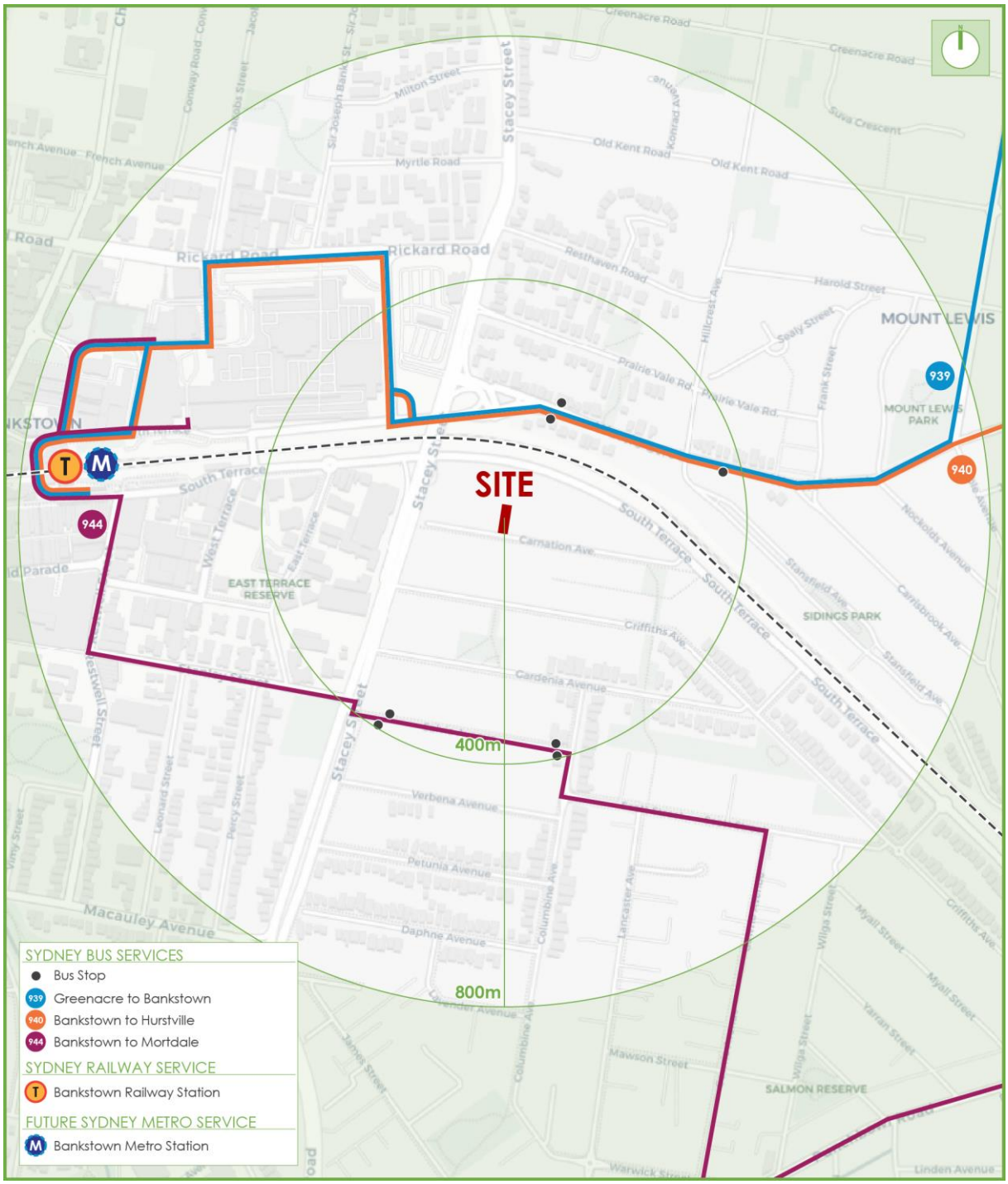


Figure 5: Public Transport

4. 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 comprises the following components:

- Demolition of the existing residential dwelling house;
- Construction of a childcare centre with a total capacity for 40 children;
- Total provision for 10 car parking spaces within a basement carpark, including:
  - 6 x visitor parking spaces (including a single accessible space); and
  - 4 x staff parking spaces.
- Provision of a new vehicular access, situated on the southwest corner of the site.

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

5. PARKING REQUIREMENTS

5.1 Car Parking

The Canterbury-Bankstown Development Control Plan (DCP) 2023 provides car parking rates for childcare centre developments as outlined in **Table 1** below.

Table 1: DCP Car Parking Rates and Provisions

Type	No. of Children	DCP Car Parking Rate	Parking Required [1]	Parking Provided
Centre-Based Childcare Facilities				
Childcare Centre	40	1 space per 4 children; and 2 additional car spaces for the exclusive use of any associated dwelling	10	10
		TOTAL	**10**	**10**

[1] – Rounded to the nearest whole number, as per the DCP.

It can be seen from **Table 1** that the development is nominally required to provide a total of 10 car parking spaces for the childcare centre, noting that the proposal does not involve any associated dwelling. In response, the development proposes 10 car parking spaces, comprising six (6) visitor spaces and four (4) staff spaces, in compliance with the DCP. This car parking provision is therefore considered acceptable and will ensure all standard car parking demands are contained within the development.

5.2 Accessible Parking

The Canterbury-Bankstown DCP 2023 does not specify accessible parking rates for childcare centre developments. Nevertheless, the development proposes a single accessible parking spaces, which is considered appropriate given the nature and scale of the development.

5.3 Motorcycle Parking

The Canterbury-Bankstown DCP 2023 does not specify motorcycle parking rates for childcare centre developments and as such, no additional motorcycle parking spaces are required or proposed.

5.4 Bicycle Parking

The Canterbury-Bankstown DCP 2023 provides bicycle parking rates for childcare centre developments at a rate of one (1) bicycle parking space per four (4) staff. Application of this rate to the proposed five (5) staff, results in the requirement for a single bicycle parking space.

In response, the development does not propose any bicycle parking spaces, noting that the development provides sufficient area to accommodate a single bicycle parking space, should there be a demonstrated demand.

5.5 Refuse Collection

The development proposes to utilise the existing on-street waste collection service on Carnation Avenue. A bin room is proposed within the basement from which, bins would be transferred onto Carnation Avenue for collection. It is emphasised that refuse collection will occur on an infrequent basis and typically outside of on-street peak periods. Accordingly, utilisation of the existing on-street collection service is considered appropriate, given the nature and scale of the development.

6. TRAFFIC AND TRANSPORT IMPACTS

6.1 Trip Generation

6.1.1 Existing Traffic Generation

The subject site currently accommodates a single residential dwelling. The TfNSW Technical Direction TDT 2013/04a (TfNSW TDT) provides traffic generation rates for low density residential dwellings at a rate of 0.95 and 0.99 vehicle trips per dwelling during the morning and evening peak periods, respectively. Application of these rates to the single residential dwelling, results in the following existing traffic generation:

- 1 vehicle trips per hour during the morning peak period (0 in, 1 out), and
- 1 vehicle trips per hour during the evening peak period (1 in, 0 out).

6.1.2 Development Traffic Generation

The TfNSW Guide to Generating Traffic Developments 2002 (TfNSW Guide) provides traffic generation rates for childcare centre (long-day care) developments at a rate of 0.8 and 0.7 vehicle trips per child during the morning and evening peak periods, respectively. Application of these rates to the proposed 40 children, results in the following anticipated traffic generation:

- 32 vehicle trips per hour during the morning peak period (16 in, 16 out); and
- 28 vehicle trips per hour during the evening peak period (14 in, 14 out).

6.1.3 Net Traffic Generation

The above traffic generation is not however a net increase over existing conditions. When accounting for the existing use of the site, the net traffic generation as a result of the proposed development equates to the following:

- +31 vehicle trips per hour during the morning peak period (+16 in, +15 out); and
- +27 vehicle trips per hour during the evening peak period (+13 in, +14 out).

6.2 Intersection Performance

6.2.1 Traffic Surveys

For the purposes of assessing the traffic impacts of the development, traffic count surveys were undertaken at the South Terrace and Carnation Avenue intersection. These surveys were conducted on Tuesday, 23 May 2023 during the network peak periods between 7:00am-9:00am and 4:00pm-6:00pm.

6.2.2 Network Distribution

The net traffic generation of the proposed development in **Section 6.1.3** have been distributed onto the South Terrace and Carnation Avenue intersection having regard for the traffic count survey data splits and available routes to/from nearby collector roads, noting the following:

Morning Peak Period

- +31 total vehicle trips per hour (+16 in, +15 out)
  - +3 arrivals (20%) turn left from South Terrace (east approach);
  - +13 arrivals (80%) turn right from South Terrace (west approach);
  - +9 departures (60%) turn left from Carnation Avenue (westbound); and
  - +6 departures (40%) turn right from Carnation Avenue (eastbound).

Evening Peak Period

- +27 total vehicle trips per hour (+13 in, +14 out)
  - +8 arrivals (60%) turn left from South Terrace (east approach);
  - +5 arrivals (40%) turn right from South Terrace (west approach);
  - +11 departures (80%) turn left from Carnation Avenue (westbound); and
  - +3 departures (20%) turn right from Carnation Avenue (eastbound).

6.2.3 Scenarios

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

- Base Case; and
- Base Case + Development.

6.2.4 SIDRA Intersection Analysis

The surveys were analysed using the SIDRA Intersection 9 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 2**.

Table 2: 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 3** for the 2021 scenarios. Reference should also be made to the SIDRA outputs provided in **Appendix B**, which provide detailed results for each movement.

Table 3: Intersection Performance

Intersection	Scenario	Period	Degree of Saturation	Intersection Delay	Level of Service
South Terrace and Carnation Avenue (Stop - Priority)	Base	AM	0.092	17.1	LOS B
		PM	0.041	57.6	LOS E
	Base + Development	AM	0.127	17.8	LOS B
		PM	0.075	40.2	LOS C

It can be seen from **Table 3** that the South Terrace and Carnation Avenue priority intersection experiences no reduction in level of service (LoS B) and a minor increase of 0.7 seconds in average intersection delay during the morning peak period.

The evening peak period resulted in a LoS E for the existing scenario due to the right turn movement from Carnation Avenue to South Terrance (eastbound). It is noted that there are only two (2) vehicles conducting this movement (right turn) with all other movements being a LoS A. Therefore, the existing intersection is still considered acceptable with spare capacity. The future (base + development) scenario shows an improved level of service (LoS E to LoS C) and a reduction of 17.4 seconds in average intersection delay. It should be noted that this increased performance during the evening peak period is likely attributed to the increased number of vehicles turning right from Carnation Avenue as a result of the development, thereby resulting in a reduced average intersection delay and in turn improved level of service.

Nevertheless, the above results demonstrate that the South Terrace and Carnation Avenue key intersection operates satisfactorily as a result of the proposed development, hence supportable on traffic planning grounds, with no external improvements required to facilitate the proposed development.

7. ACCESS AND INTERNAL DESIGN ASPECTS

7.1 Site Access

7.1.1 Frontage Road

The proposed vehicular access is situated on Carnation Avenue, a local road that traverses east-west between South Terrace in the east and a cul de sac in the west. It accommodates two-way traffic and permits kerbside parking along both sides of the road within an undivided carriageway that measures approximately 8 metres wide. The proposed vehicular access on Carnation Avenue is considered supportable, given the following:

i. The development proposes off-street parking in compliance with the DCP. As such, on-street parking impacts are anticipated to be minor (if any), with all standard parking demands accommodated within the development;

ii. The proposal involves a total capacity for 40 children, which is considered minor and is anticipated to have minimal impacts to the surrounding road network;

iii. The SIDRA intersection modelling results in **Table 3**, identified no reduction in level of service at the South Terrace and Carnation Avenue intersection;

iv. Carnation Avenue is a local road that ends in a cul de sac. Accordingly, this road is envisaged to primarily cater for local traffic, inclusively; and

v. Carnation Avenue provides vehicular driveways that are able to accommodate appropriate passing opportunities for vehicles, with side-by-side driveways provided for residential dwellings at 33/35 Carnation Avenue, 40/42 Carnation Avenue and 42A/44 Carnation Avenue.

7.1.2 Vehicular Access

The development proposes a total of 10 car parking spaces, comprising six (6) User Class 3 spaces and four (4) User Class 1A spaces, with access to Carnation Avenue, a local road. It will therefore require a Category 1 driveway under AS2890.1 (2004), being a combined entry and exit width of 3.0 to 5.5 metres. In response, the development proposes a 5.8 metre wide (measured at the property boundary) combined entry and exit vehicular access, which is superior to the requirements of AS2890.1 (2004), hence considered acceptable.

7.2 Internal Design

The basement carpark complies with the requirements of AS2890.1 (2004) and AS2890.6 (2022), with the following characteristics noteworthy:

7.2.1 Parking Modules

- 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. Staff parking spaces have been designed in the form of tandem spaces, which is considered appropriate, given the nature and scale of these spaces.
- All visitor car parking spaces have been designed in accordance with AS2890.1 (2004) User Class 3, being a minimum width of 2.6 metres and length of 5.4 metres.
- The single accessible car parking space has been designed in accordance with AS2890.6 (2022), being a minimum width of 2.4 metres, length of 5.4 metres and provide an adjacent shared zone with the same dimensions.
- All spaces located adjacent to obstructions of greater than 150mm in height are provided an additional width of 300mm.
- Dead-end aisles are provided with the required 1.0m aisle extension in accordance with Figure 2.3 of AS2890.1 (2004).

7.2.2 Ramps

- The vehicular access ramp has a maximum gradient of 1 in 20 (5%) for the initial 6.0 metres within the property boundary.
- The internal ramp has a maximum gradient of 1
- in 4.6 (21.7%), which is considered appropriate, given the nature and scale of the basement carpark.
- The internal ramp has been provided gradient transitions at the sag/summit with a maximum gradient rate of change of 1 in 8 (12.5%) to prevent underside scraping.

7.2.3 Clear Head Heights

- A minimum head height clearance of 2.2 metres is to be provided for all trafficable areas within the basement carpark, as required under AS2890.1 (2004).
- A minimum head height clearance of 2.5 metres is to be provided for all accessible parking spaces and associated shared zones, as required under AS2890.6 (2022).

7.2.4 Other Considerations

- All columns are located outside of the parking space design envelope shown in Figure 5.2 of AS2890.1 (2004).
- Pedestrian visual sight splays have been provided at the vehicular access, as per Figure 3.3 of AS2890.1 (2004).
- A swept path analysis has been undertaken and included in **Appendix C**, demonstrating satisfactory vehicle movements for the critical parking spaces.

7.3 Summary

In summary, the internal configuration of the basement carpark has been designed in accordance with AS2890.1 (2004) and AS2890.6 (2022). 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.

8. CONCLUSIONS

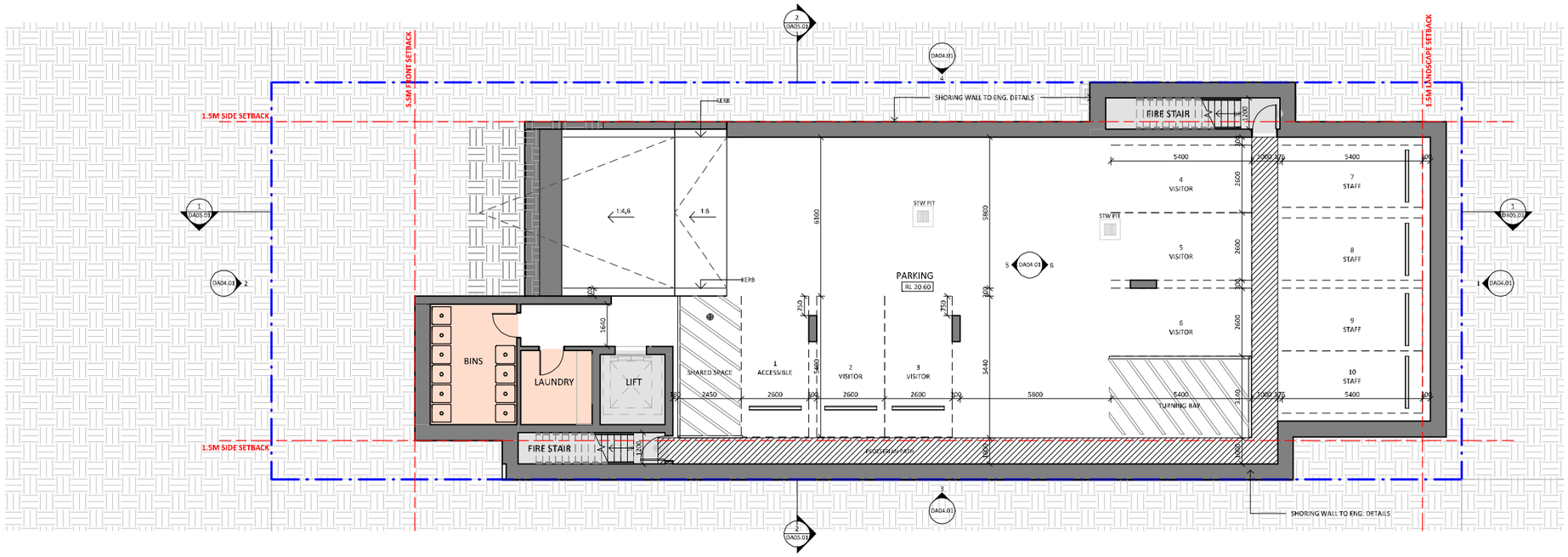
In summary:

- The proposal seeks approval to construct a childcare centre development at 39 Carnation Avenue, Bankstown with a capacity for 40 children and 10 car parking spaces within a basement carpark.
- The development proposes a total of 10 car parking spaces, comprising six (6) visitor spaces and four (4) staff spaces in compliance with the Canterbury-Bankstown DCP 2023. As such, all standard parking demands will be readily accommodated within the development.
- The traffic generation arising from the development has been assessed as a net change over existing conditions, with SIDRA intersection modelling identifying no reduction in level of service at the South Terrace and Carnation Avenue key intersection as a result of the development. Accordingly, the traffic impacts of the development are considered acceptable, with no external improvements required to facilitate the proposal.
- The basement carpark has been designed to comply with the requirements of AS2890.1 (2004) and AS2890.6 (2009), notwithstanding the acceptable non-compliance as discussed in **Section 7.2**, thereby ensuring safe and efficient operation.

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

APPENDIX A

Reduced Plans



1 BASEMENT PLAN
1 : 100

GENERAL NOTES

- ALL EXISTING BUILDING ELEMENTS TO BE CHECKED ON SITE U.N.O
- DEMOLITION TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND TO BE CARRIED OUT BY A LICENCED CONTRACTOR U. N.O
- REFER TO SW DRAWINGS FOR DRAINAGE DESIGN.
- REFER TO LANDSCAPE DRAWINGS FOR LANDSCAPE DESIGN.
- KITCHEN AREA TO BE ACCORDANCE WITH NSW AS4674, FOOD ACT 2003, FOOD REGULATION 2015 AND FOOD STANDARD CODES 3.2.2 AND 3.2.3.

LANDSCAPE LEGEND

- EXISTING TREE / TREE TO BE RETAINED
- TREE TO BE REMOVED
- NEW TREE
- LANDSCAPING / BUFFER
- LINE OF STRUCTURAL ROOT ZONE (SRZ)
- LINE OF TREE EXCLUSION ZONE (TEZ)
- LINE OF TREE PROTECTION ZONE (TPZ)

NOTE: REFER TO ARBORIST REPORT FOR FURTHER DETAILS

ABBREVIATIONS

ENG.	- ENGINEER
ESL	- EXISTING SLAB LEVEL
EXT	- EXTERIOR
FFL	- FINISH FLOOR LEVEL
F.	- FIXED
FSL	- FINISH SURFACE LEVEL
GL	- GROUND LINE
GLZ	- GLAZING
EX.GL	- EXISTING GROUND LINE
REQ.	- REQUIREMENTS
XX.XX	- PROPOSED LEVEL
XX.XX	- EXISTING LEVEL
XX.XX	- SPOT LEVEL (PLAN)
XX.XX	- SPOT LEVEL (ELEVATION)

ISSUE	DATE	DESCRIPTION
A	28.07.23	ISSUE FOR DA

ASSOCIATED CONSULTANTS

PLANNER	AVENUE TOWN PLANNING
ACCESS	ERGON CONSULTING
ACOUSTICS	DAY DESIGN
QS	PBA
STORMWATER, ESM, FLOOD	GREENVIEW
GEOTECH, PSI, DSI, RAP	JK ENVIRONMENTS
LANDSCAPE	EARTH MATTERS
TRAFFIC	TRAFFIX
WASTE	DICKEN SOLUTIONS

NOTES

- Any Discrepancies MUST be reported to the Architect.
- All work to Conform to relevant Australian Standards & Codes as applicable.
- This drawing is copyrighted© and must NOT be copied or reused without authority from ArtMade Architects
- Contractors to check all dimensions on site prior to commencing Construction.
- Do not scale from this drawing, use given written dimensions
- Drawing not for construction purposes

CLIENT

M. ABDEL KARIM

ARCHITECT

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PROJECT

CHILDCARE CENTRE

PROJECT ADDRESS

39 CARNATION AVENUE
BANKSTOWN

SHEET NAME

BASEMENT FLOOR PLAN

OUTDOOR PLAY AREA SCHEDULE				
AREA	AGE	NO. CHLDRN	UNENCUMBERED REQ AREA	UNENCUMBERED AREA
OUTDOOR PLAY AREA 1	AGES 3-5	28	196 m²	196.60 m²
OUTDOOR PLAY AREA 2	AGES 2-3	12	84 m²	85.55 m²
TOTAL		40	280 m²	282.15 m²

INDOOR PLAYROOM SCHEDULE					
ROOM	AGE	NO. CHLDRN	NO. STAFF	UNENCUMBERED REQ AREA	UNENCUMBERED AREA
PLAYROOM 1	AGES 0-2	8	2	76 m²	30.05 m²
PLAYROOM 2	AGES 3-5	20	2	65 m²	66.05 m²
PLAYROOM 3	AGES 2-3	12	2	39 m²	39.00 m²
TOTAL		40	6	130 m²	135.10 m²

INTERNAL STORAGE SCHEDULE			
NAME	NO. CHLDRN	REQ VOL	VOL
INT ST 1	8	1.60 m³	2.90 m³
INT ST 2	20	4.00 m³	4.15 m³
INT ST 3	12	2.40 m³	Not Placed
TOTAL	40	8.00 m³	7.05 m³

EXTERNAL STORAGE SCHEDULE			
NAME	NO. CHLDRN	REQ VOL	VOL
EX ST 1	28	8.40 m³	8.85 m³
EX ST 2	10	3.00 m³	3.40 m³
TOTAL	38	11.40 m³	12.20 m³

PARKING SCHEDULE	
PARKING	NO. SPACES
ACCESSIBLE	1
STAFF	4
VISITOR	5
TOTAL	10

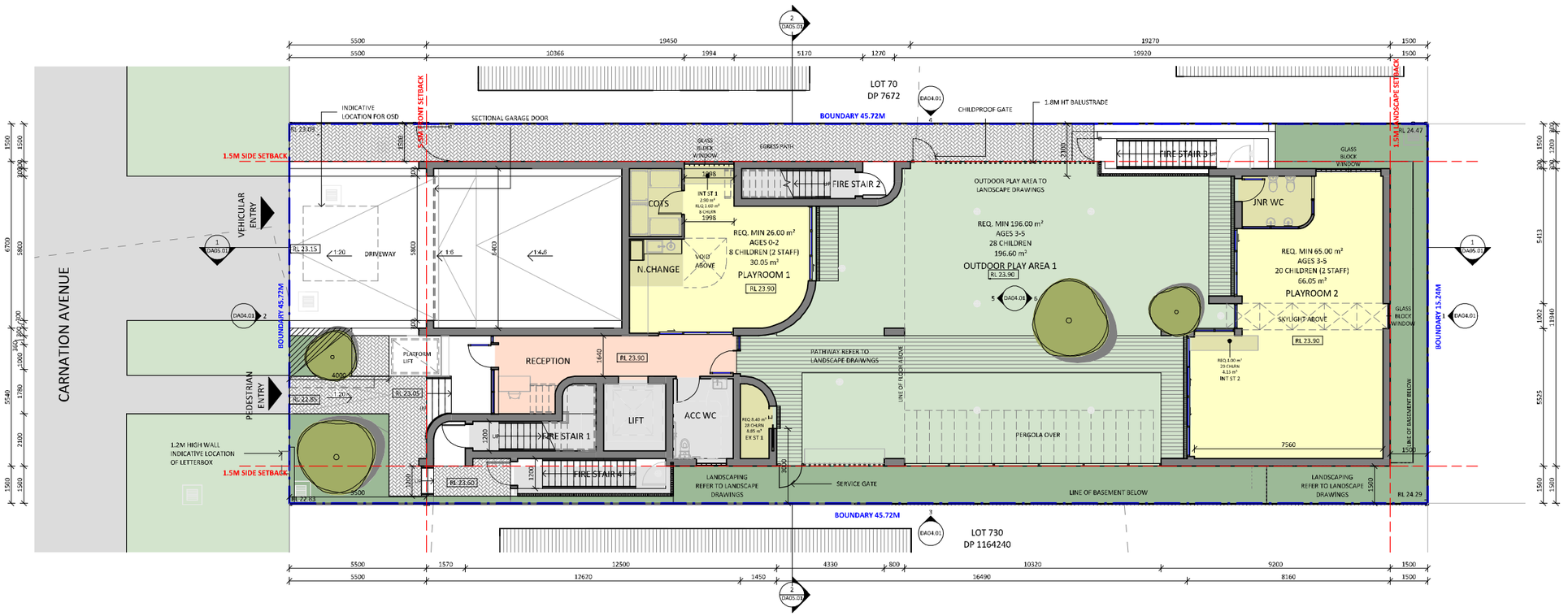
NOT FOR CONSTRUCTION

ISSUED FOR DEVELOPMENT APPLICATION

Project number	Sheet No.	Issue	Phase
23710	DA03.01	A	DA

Sheet Size	Scale	L.G.A.
A1	As indicated	CANTERBURY BANKSTOWN COUNCIL

Drawn By	Checked By	Date
TA	BR	28.07.23

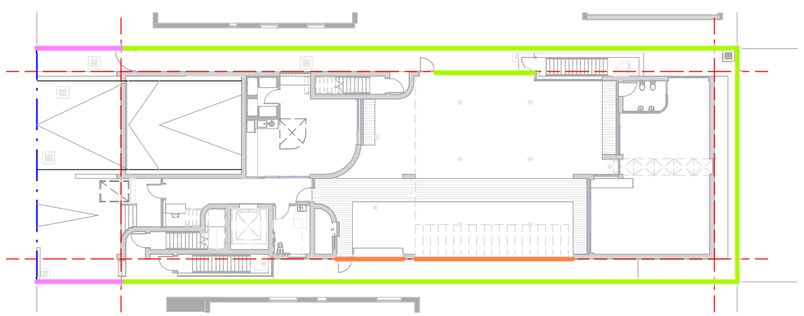


1 GROUND FLOOR PLAN
1 : 100

DA - FENCE LEGEND

- 2.1M HIGH BARRIER/FENCE
- 1.8M HIGH BARRIER/FENCE
- MIN. 1.5M HIGH BARRIER/FENCE
- 1.2M HIGH BARRIER/FENCE

NOTE:
- ALL ACOUSTIC BARRIERS IN ACCORDANCE WITH ACOUSTIC REPORT.
- REFER TO SHEET DA05.01 FOR FENCE DETAILS.



2 GROUND FLOOR PLAN FENCE/BARRIER DIAGRAM
1 : 200

OUTDOOR PLAY AREA SCHEDULE				
AREA	AGE	NO. CHLDRN	UNENCUMBERED REQ AREA	UNENCUMBERED AREA
OUTDOOR PLAY AREA 1	AGES 3-5	28	196 m²	196.60 m²
OUTDOOR PLAY AREA 2	AGES 2-3	12	84 m²	85.55 m²
TOTAL		40	280 m²	282.15 m²

INDOOR PLAYROOM SCHEDULE					
ROOM	AGE	NO. CHLDRN	NO. STAFF	UNENCUMBERED REQ AREA	UNENCUMBERED AREA
PLAYROOM 1	AGES 0-2	8	2	26 m²	30.05 m²
PLAYROOM 2	AGES 3-5	20	2	65 m²	66.05 m²
PLAYROOM 3	AGES 2-3	12	2	39 m²	39.00 m²
TOTAL		40	6	130 m²	135.10 m²

INTERNAL STORAGE SCHEDULE			
NAME	NO. CHLDRN	REQ VOL	VOL
INT ST 1	8	1.60 m³	2.90 m³
INT ST 2	20	4.00 m³	4.15 m³
INT ST 3	12	2.40 m³	Not Placed
TOTAL	40	8.00 m³	7.05 m³

EXTERNAL STORAGE SCHEDULE			
NAME	NO. CHLDRN	REQ VOL	VOL
EX ST 1	28	8.40 m³	8.85 m³
EX ST 2	10	3.00 m³	3.40 m³
TOTAL	38	11.40 m³	12.29 m³

PARKING SCHEDULE	
PARKING	NO. SPACES
ACCESSIBLE	1
STAFF	4
VISITOR	5
TOTAL	10

NOT FOR CONSTRUCTION

1 : 100

GENERAL NOTES

- ALL EXISTING BUILDING ELEMENTS TO BE CHECKED ON SITE U.N.O
- DEMOLITION TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND TO BE CARRIED OUT BY A LICENCED CONTRACTOR U. N.O
- REFER TO SW DRAWINGS FOR DRAINAGE DESIGN.
- REFER TO LANDSCAPE DRAWINGS FOR LANDSCAPE DESIGN.
- KITCHEN AREA TO BE ACCORDANCE WITH NSW AS4674, FOOD ACT 2003, FOOD REGULATION 2015 AND FOOD STANDARD CODES 3.2.2 AND 3.2.3.

LANDSCAPE LEGEND

- EXISTING TREE / TREE TO BE RETAINED
- TREE TO BE REMOVED
- NEW TREE
- LANDSCAPING / BUFFER
- LINE OF STRUCTURAL ROOT ZONE (SRZ)
- LINE OF TREE EXCLUSION ZONE (TEZ)
- LINE OF TREE PROTECTION ZONE (TPZ)

NOTE: REFER TO ARBORIST REPORT FOR FURTHER DETAILS

ABBREVIATIONS

ENG.	- ENGINEER
ESL	- EXISTING SLAB LEVEL
EXT	- EXTERIOR
FFL	- FINISH FLOOR LEVEL
F.	- FIXED
FSL	- FINISH SURFACE LEVEL
GL	- GROUND LINE
GLZ	- GLAZING
EX.GL	- EXISTING GROUND LINE
REQ.	- REQUIREMENTS
XX.XX	- PROPOSED LEVEL
XX.XX	- EXISTING LEVEL
XX.XX	- SPOT LEVEL (PLAN)
XX.XX	- SPOT LEVEL (ELEVATION)

ISSUE	DATE	DESCRIPTION
A	28.07.23	ISSUE FOR DA

ASSOCIATED CONSULTANTS

PLANNER	AVENUE TOWN PLANNING
ACCESS	ERGON CONSULTING
ACOUSTICS	DAY DESIGN
QS	PBA
STORMWATER, ESM, FLOOD	GREENVIEW
GEOTECH, PSI, DSI, RAP	JK ENVIRONMENTS
LANDSCAPE	EARTH MATTERS
TRAFFIC	TRAFFIX
WASTE	DICKEN SOLUTIONS

NOTES
- Any Discrepancies MUST be reported to the Architect.
- All work to Conform to relevant Australian Standards & Codes as applicable.
- This drawing is copyright© and must NOT be copied or reused without authority from ArtMade Architects
- Contractors to check all dimensions on site prior to commencing Construction.
- Do not scale from this drawing, use given written dimensions.
- Drawing not for construction purposes

CLIENT

M. ABDEL KARIM

ARCHITECT

ArtMade Architects
|507/50 Holt St, Surry Hills NSW 2010
|P: 02 8760 9300 |hello@artmade.com.au | www.artmade.com.au

PROJECT

CHILDCARE CENTRE

PROJECT ADDRESS

39 CARNATION AVENUE
BANKSTOWN

SHEET NAME

GROUND FLOOR FLOOR PLAN

ISSUED FOR DEVELOPMENT APPLICATION

Project number	Sheet No.	Issue	Phase
23710	DA03.02	A	DA

Sheet Size	Scale	L.G.A.
A1	As indicated	CANTERBURY BANKSTOWN COUNCIL

Drawn By	Checked By	Date
TA	BR	28.07.23

APPENDIX B

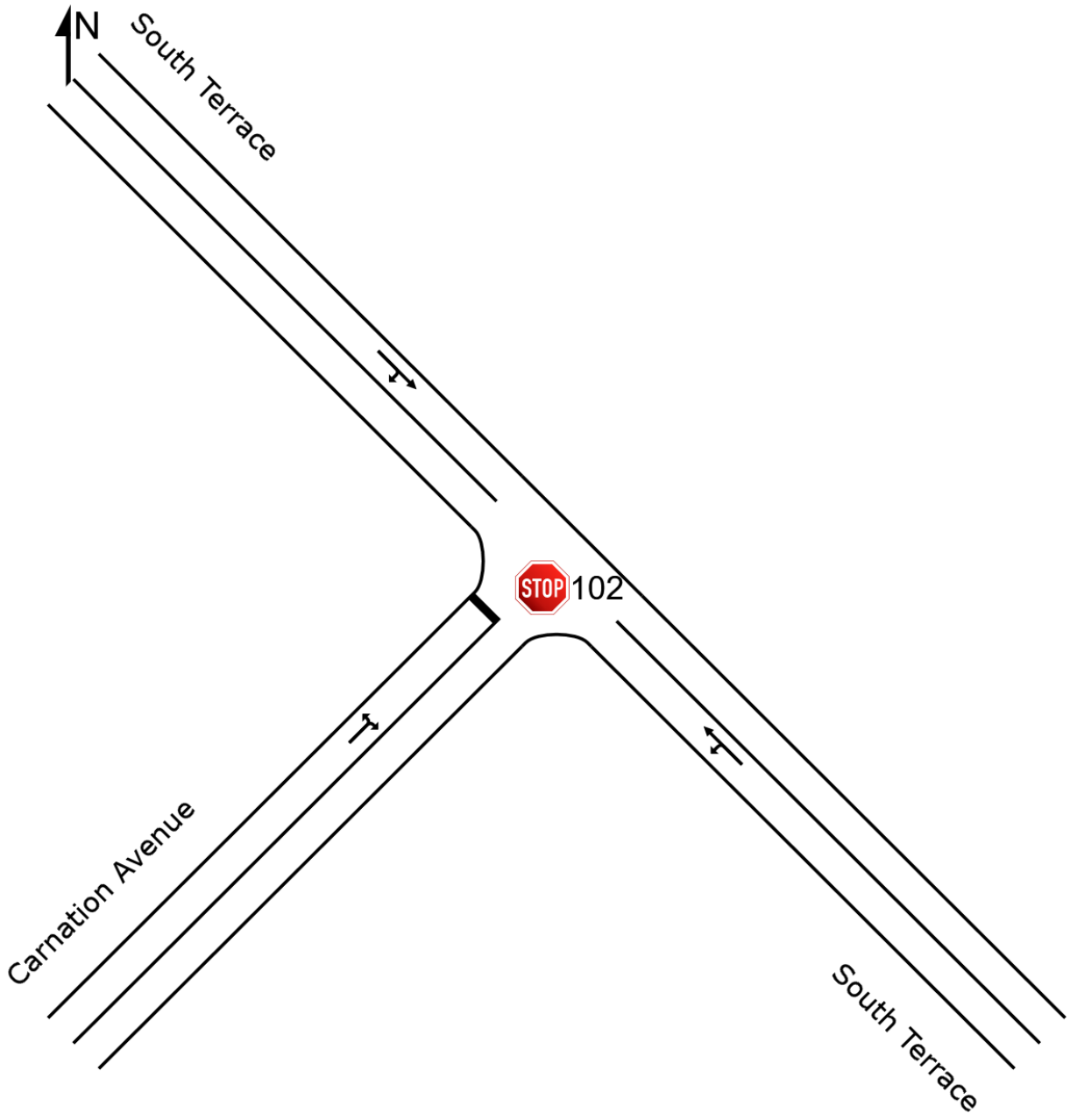
SIDRA Outputs

SITE LAYOUT

Site: 102 [03 - Carnation Ave x South Tce - FU_AM (Site Folder: Future)]

Intersection: Carnation Avenue x South Terrace
Period: AM Peak
Scenario: Future
Site Category: Existing Design
Stop (Two-Way)

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



MOVEMENT SUMMARY

Site: 101 [01 - Carnation Ave x South Tce - EX_AM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Intersection: Carnation Avenue x South Terrace
Period: AM Peak
Scenario: Existing
Site Category: Existing Design
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: South Terrace															
21	L2	All MCs	1	0.0	1	0.0	0.295	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.4
22	T1	All MCs	568	1.7	568	1.7	0.295	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			569	1.7	569	1.7	0.295	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
NorthWest: South Terrace															
28	T1	All MCs	477	1.5	477	1.5	0.258	0.0	LOS A	0.1	0.9	0.04	0.04	0.04	59.8
29	R2	All MCs	11	0.0	11	0.0	0.258	13.4	LOS A	0.1	0.9	0.04	0.04	0.04	53.6
Approach			487	1.5	487	1.5	0.258	0.3	NA	0.1	0.9	0.04	0.04	0.04	59.6
SouthWest: Carnation Avenue															
30	L2	All MCs	29	0.0	29	0.0	0.092	10.6	LOS A	0.3	2.1	0.61	0.99	0.61	45.9
32	R2	All MCs	16	0.0	16	0.0	0.092	17.1	LOS B	0.3	2.1	0.61	0.99	0.61	45.3
Approach			45	0.0	45	0.0	0.092	12.9	LOS A	0.3	2.1	0.61	0.99	0.61	45.7
All Vehicles			1102	1.5	1102	1.5	0.295	0.7	NA	0.3	2.1	0.04	0.06	0.04	59.1

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: 201 [02 - Carnation Ave x South Tce - EX_PM (Site Folder: Existing)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Intersection: Carnation Avenue x South Terrace
Period: PM Peak
Scenario: Existing
Site Category: Existing Design
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: South Terrace															
21	L2	All MCs	15	7.1	15	7.1	0.291	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	56.9
22	T1	All MCs	548	0.8	548	0.8	0.291	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach			563	0.9	563	0.9	0.291	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
NorthWest: South Terrace															
28	T1	All MCs	748	1.3	748	1.3	0.410	0.0	LOS A	0.4	2.5	0.05	0.06	0.06	59.6
29	R2	All MCs	22	0.0	22	0.0	0.410	14.2	LOS A	0.4	2.5	0.05	0.06	0.06	53.4
Approach			771	1.2	771	1.2	0.410	0.4	NA	0.4	2.5	0.05	0.06	0.06	59.5
SouthWest: Carnation Avenue															
30	L2	All MCs	7	0.0	7	0.0	0.041	10.2	LOS A	0.1	0.8	0.70	0.93	0.70	42.2
32	R2	All MCs	2	50.0	2	50.0	0.041	57.6	LOS E	0.1	0.8	0.70	0.93	0.70	40.3
Approach			9	11.1	9	11.1	0.041	20.8	LOS B	0.1	0.8	0.70	0.93	0.70	41.8
All Vehicles			1343	1.2	1343	1.2	0.410	0.5	NA	0.4	2.5	0.03	0.05	0.04	59.4

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: 102 [03 - Carnation Ave x South Tce - FU_AM (Site Folder: Future)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Intersection: Carnation Avenue x South Terrace
Period: AM Peak
Scenario: Future
Site Category: Existing Design
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: South Terrace															
21	L2	All MCs	4	0.0	4	0.0	0.297	5.6	LOS A	0.0	0.0	0.00	0.00	0.00	57.3
22	T1	All MCs	568	1.7	568	1.7	0.297	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			573	1.7	573	1.7	0.297	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
NorthWest: South Terrace															
28	T1	All MCs	477	1.5	477	1.5	0.272	0.0	LOS A	0.3	2.1	0.08	0.10	0.08	59.5
29	R2	All MCs	24	0.0	24	0.0	0.272	13.4	LOS A	0.3	2.1	0.08	0.10	0.08	55.4
Approach			501	1.5	501	1.5	0.272	0.6	NA	0.3	2.1	0.08	0.10	0.08	59.3
SouthWest: Carnation Avenue															
30	L2	All MCs	39	0.0	39	0.0	0.127	10.9	LOS A	0.4	3.0	0.63	1.00	0.63	46.5
32	R2	All MCs	22	0.0	22	0.0	0.127	17.8	LOS B	0.4	3.0	0.63	1.00	0.63	45.9
Approach			61	0.0	61	0.0	0.127	13.4	LOS A	0.4	3.0	0.63	1.00	0.63	46.3
All Vehicles			1135	1.5	1135	1.5	0.297	1.1	NA	0.4	3.0	0.07	0.10	0.07	58.8

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 202 [04 - Carnation Ave x South Tce - FU_PM (Site Folder: Future)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

Intersection: Carnation Avenue x South Terrace
Period: PM Peak
Scenario: Future
Site Category: Existing Design
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
SouthEast: South Terrace															
21	L2	All MCs	23	4.5	23	4.5	0.296	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	57.0
22	T1	All MCs	548	0.8	548	0.8	0.296	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach			572	0.9	572	0.9	0.296	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.6
NorthWest: South Terrace															
28	T1	All MCs	748	1.3	748	1.3	0.415	0.1	LOS A	0.5	3.2	0.06	0.08	0.07	59.5
29	R2	All MCs	27	0.0	27	0.0	0.415	14.4	LOS A	0.5	3.2	0.06	0.08	0.07	54.1
Approach			776	1.2	776	1.2	0.415	0.6	NA	0.5	3.2	0.06	0.08	0.07	59.4
SouthWest: Carnation Avenue															
30	L2	All MCs	19	0.0	19	0.0	0.075	10.7	LOS A	0.2	1.5	0.66	0.96	0.66	45.6
32	R2	All MCs	5	20.0	5	20.0	0.075	40.2	LOS C	0.2	1.5	0.66	0.96	0.66	44.4
Approach			24	4.3	24	4.3	0.075	17.1	LOS B	0.2	1.5	0.66	0.96	0.66	45.4
All Vehicles			1372	1.2	1372	1.2	0.415	0.8	NA	0.5	3.2	0.05	0.07	0.05	59.2

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.

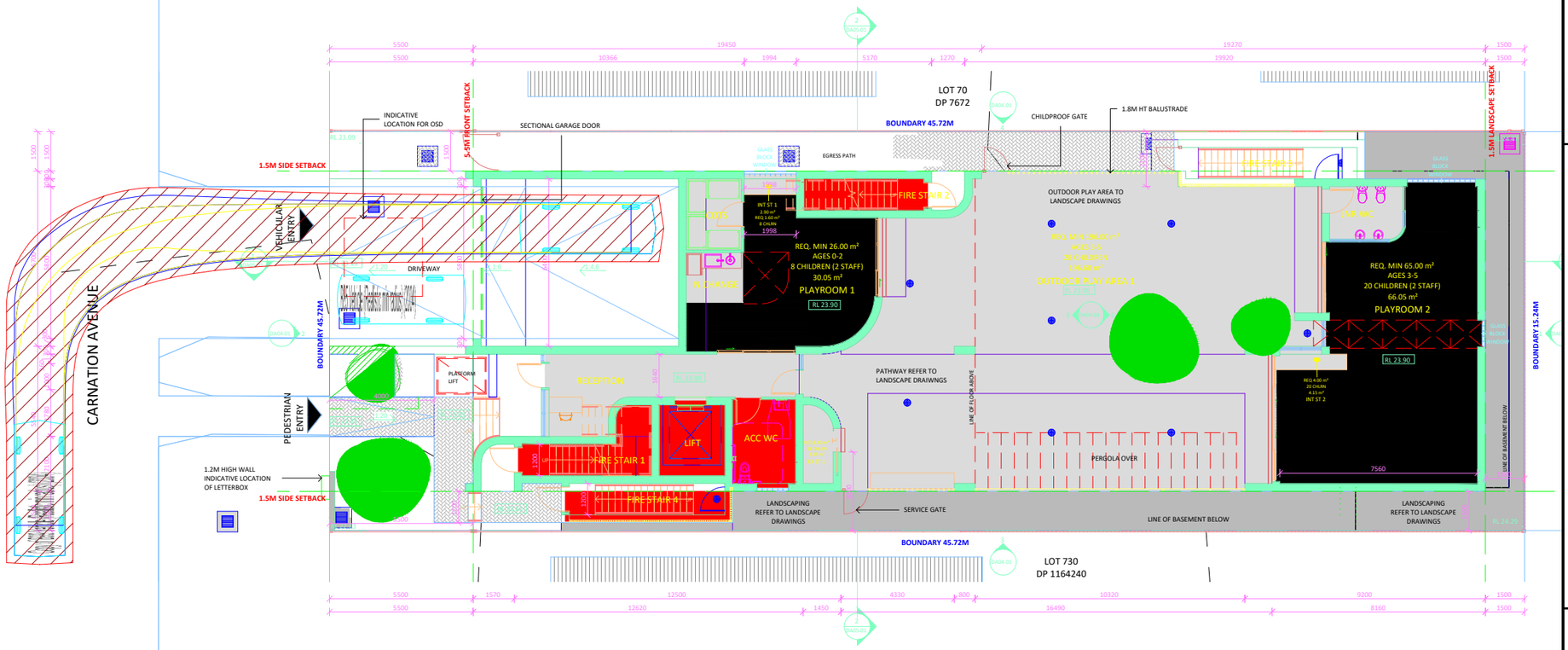
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

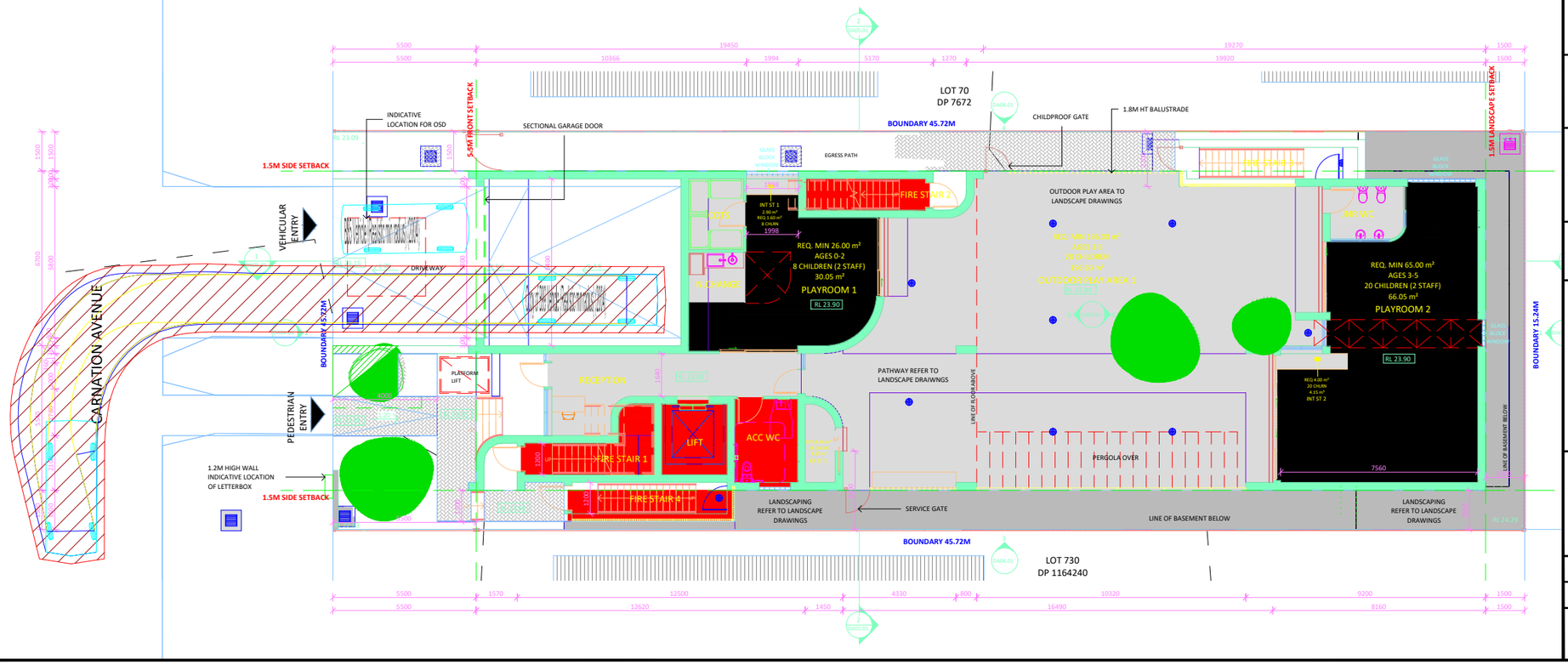
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

APPENDIX C

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	NC	18-07-2023
B	Swept Path Analysis	NC	04-08-2023

Swept Path Legend

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

Architect
ArtMade Architects

Client
Mariam Abdelkarim

Scale / Plan Orientation

0 2 4 6 8m

1:200 @ A3

Project Description
39 Carnation Avenue
BANKSTOWN NSW 2200

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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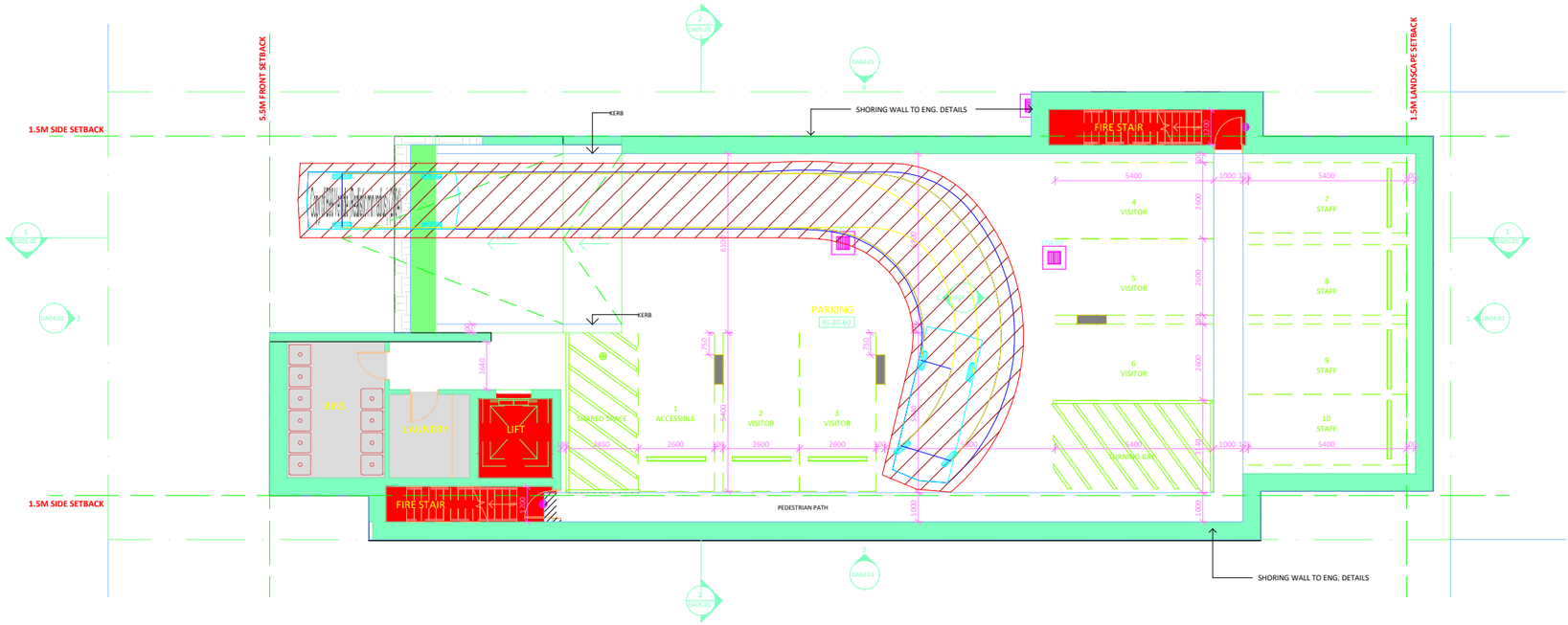
w: www.traffix.com.au

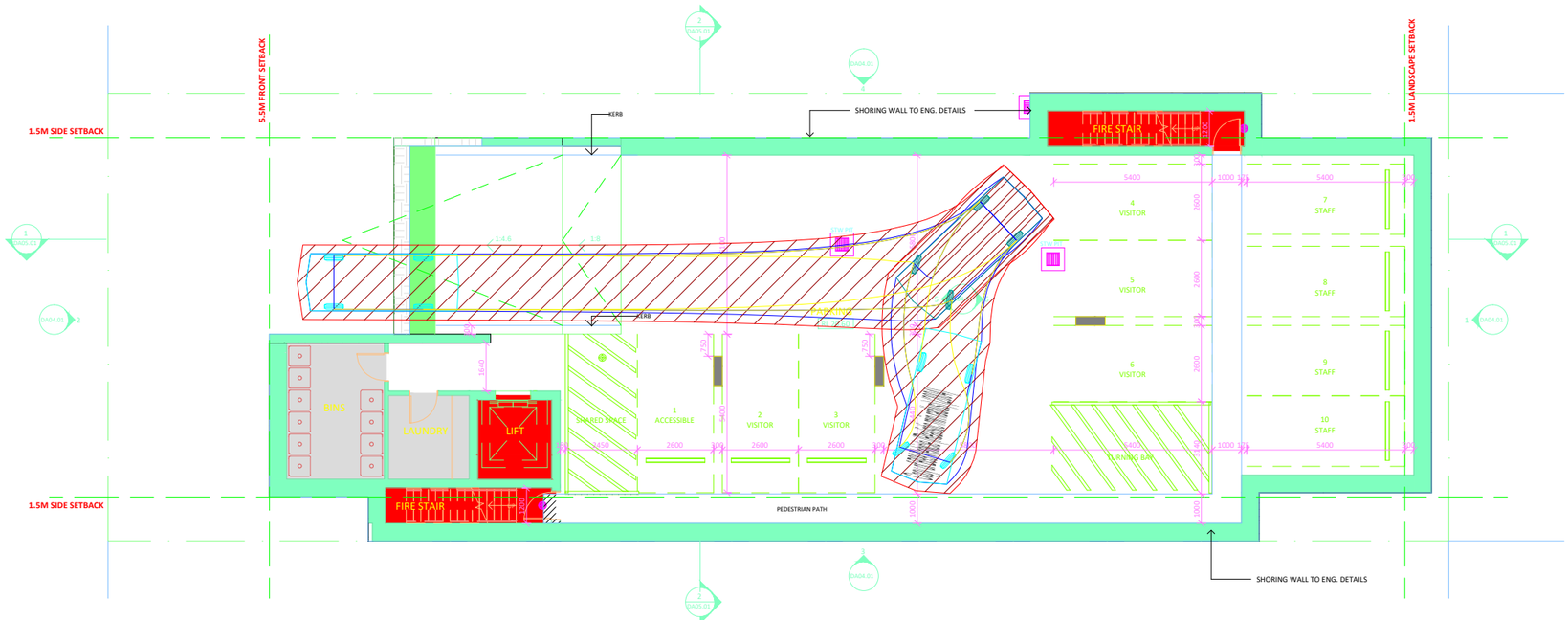
Drawing Title
Swept Path Analysis
Ground Floor Plan
B99 and B85 Design Vehicles
TOP: Entry Movement
BOTTOM: Exit Movement

Drawn:	Checked:	Date:
NC	NC	18-07-2023

23.203d03v01 TRAFFIX [2023-08-01] - DA Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.203	DA	TX.01	B





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Rev.	Revision Note	By.	Date
A	Swept Path Analysis	NC	18-07-2023
B	Swept Path Analysis	NC	04-08-2023

Swept Path Legend

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

Architect
ArtMade Architects

Client
Mariam Abdelkarim

Scale / Plan Orientation

0 2 4 6 8m
1:200 @ A3

Project Description
39 Carnation Avenue
BANKSTOWN NSW 2200

Drawing Prepared By

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TRAFFIC AND TRANSPORT PLANNERS
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PO Box 1124
Strawberry Hills, NSW 2012
t: +61 2 8324 8700
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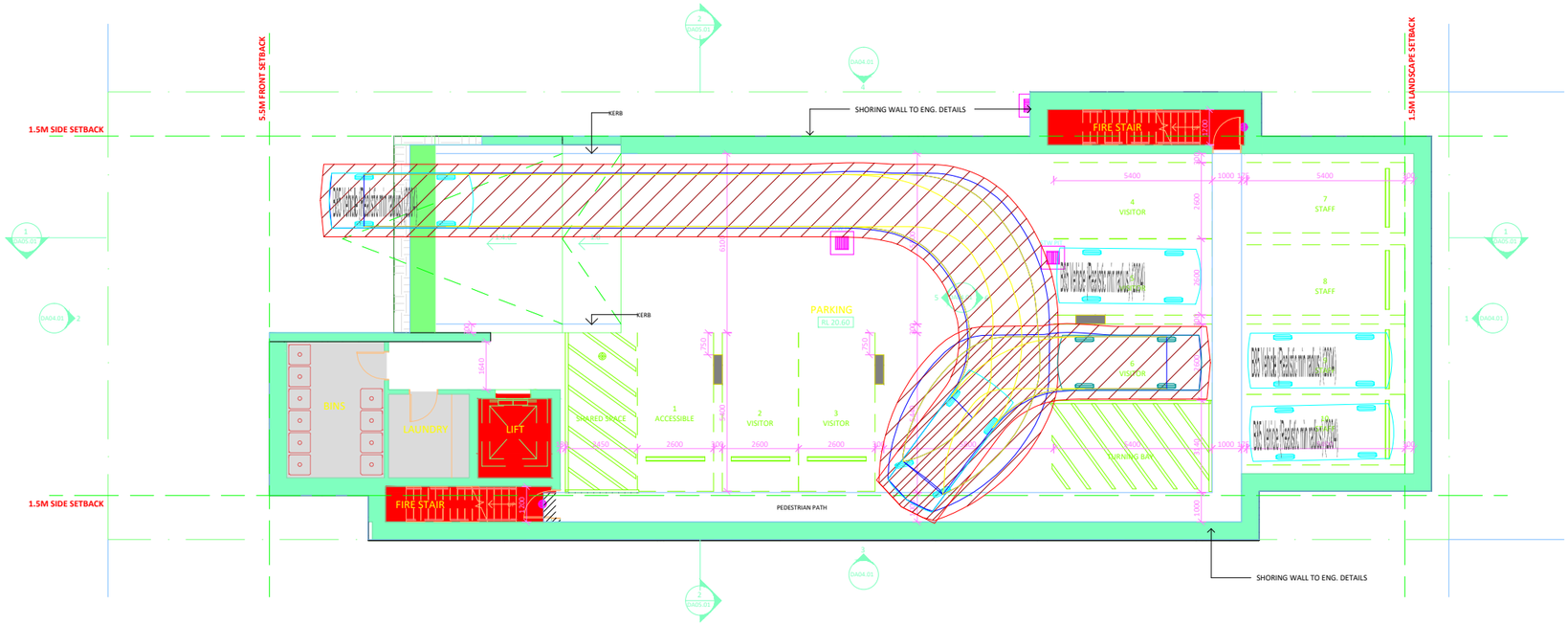
w: www.traffix.com.au

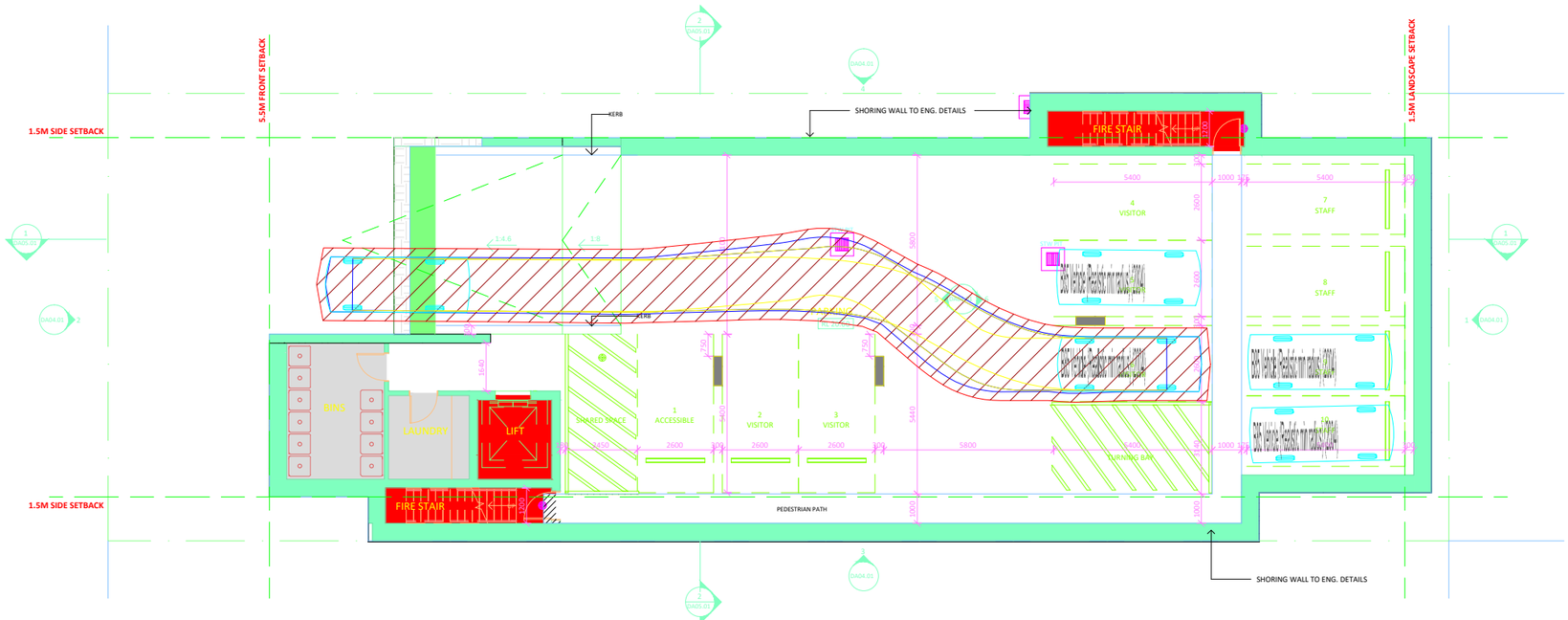
Drawing Title
Swept Path Analysis
Basement Plan - 3-Point Turn
B99 Design Vehicle
TOP: Entry Movement
BOTTOM: Exit Movement

Drawn:	Checked:	Date:
NC	NC	18-07-2023

23.203d03v01 TRAFFIX [2023-08-01] - DA Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.203	DA	TX.02	B





Notes:

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A	Swept Path Analysis	NC	18-07-2023
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Swept Path Legend

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

Architect
ArtMade Architects

Client
Mariam Abdelkarim

Scale / Plan Orientation
0 2 4 6 8m
1:200 @ A3

Project Description
39 Carnation Avenue
BANKSTOWN NSW 2200

Drawing Prepared By

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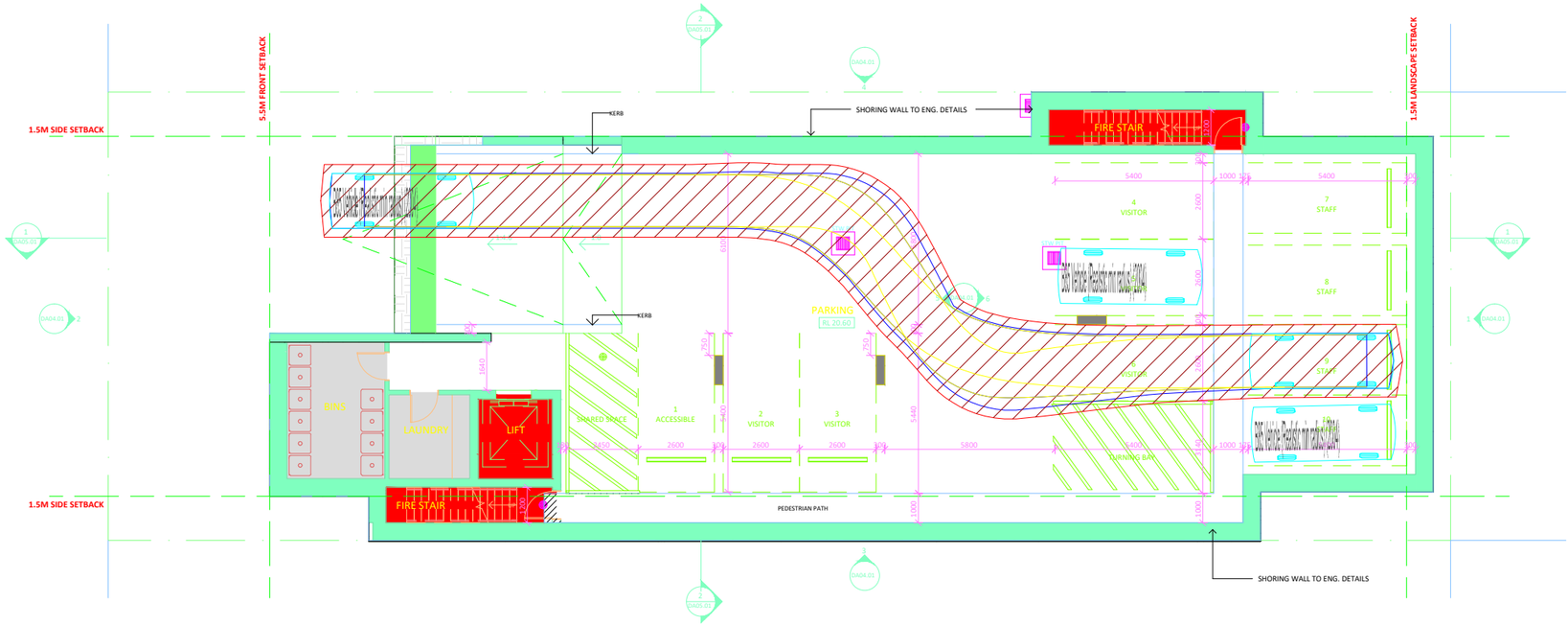
TRAFFIC AND TRANSPORT PLANNERS
Suite 2.08, 50 Holt Street
Surry Hills, NSW 2010
PO Box 1124
Strawberry Hills, NSW 2012
t: +61 2 8324 8700
f: +61 2 9830 4481
w: www.traffix.com.au

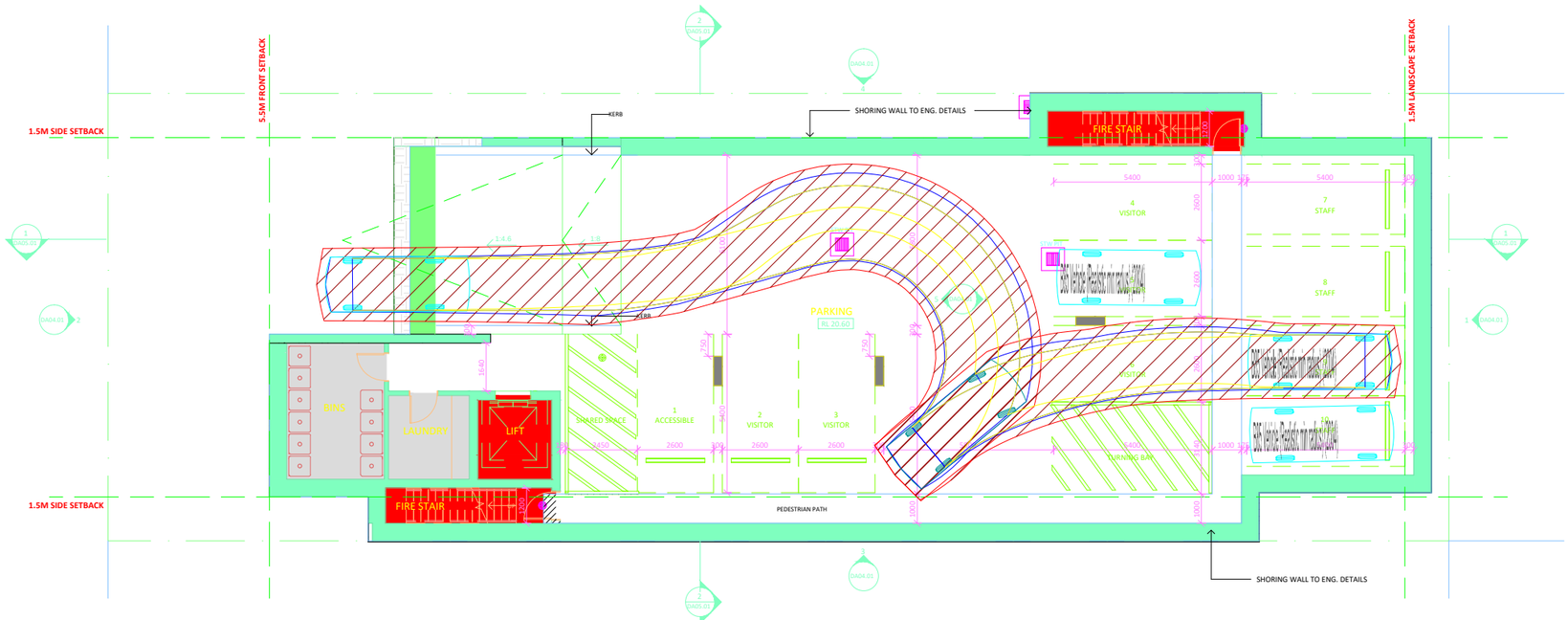
Drawing Title
Swept Path Analysis
Basement Plan - Visitor (Parking Space 6)
B85 Design Vehicles
TOP: Entry Movement
BOTTOM: Exit Movement

Drawn:	Checked:	Date:
NC	NC	18-07-2023

23.203d03v01 TRAFFIX [2023-08-01] - DA Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.203	DA	TX.03	B





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Swept Path Legend

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

Architect
ArtMade Architects

Client
Mariam Abdelkarim

Scale / Plan Orientation

0 2 4 6 8m
1:200 @ A3

Project Description
39 Carnation Avenue
BANKSTOWN NSW 2200

Drawing Prepared By

TRAFFIX
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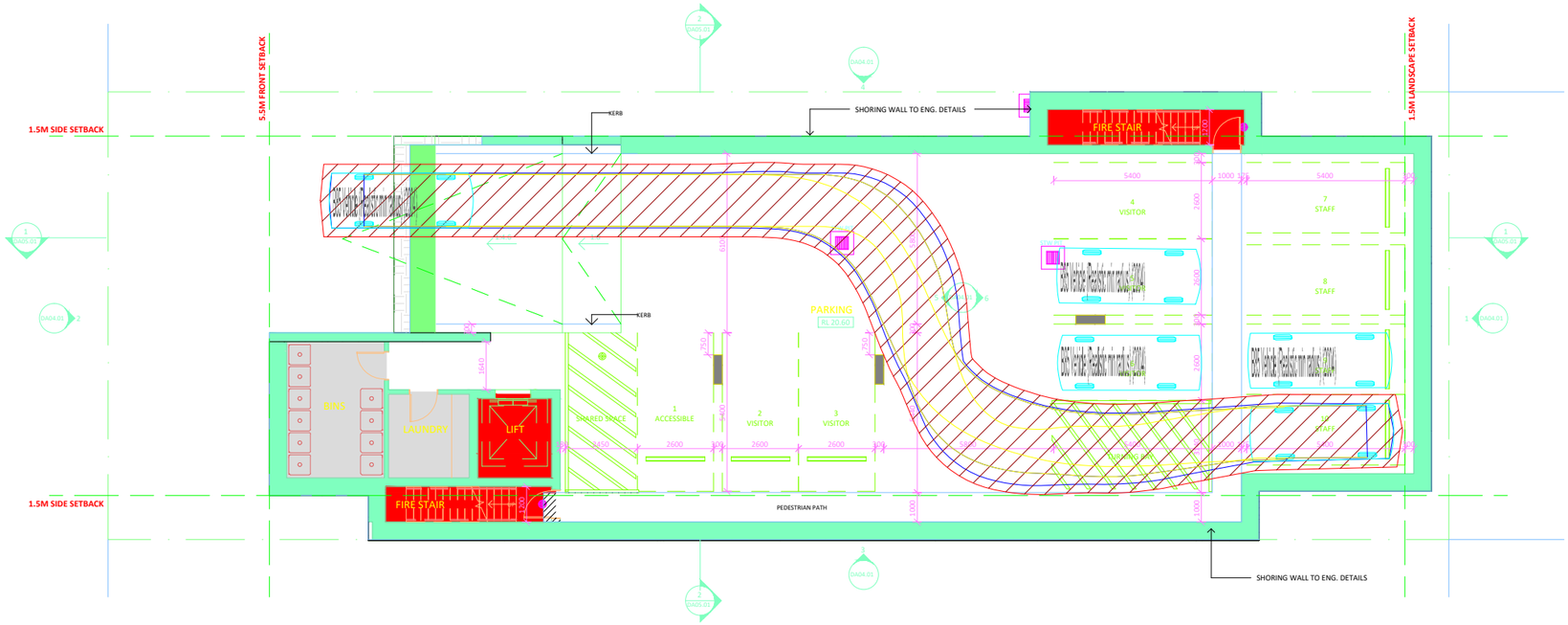
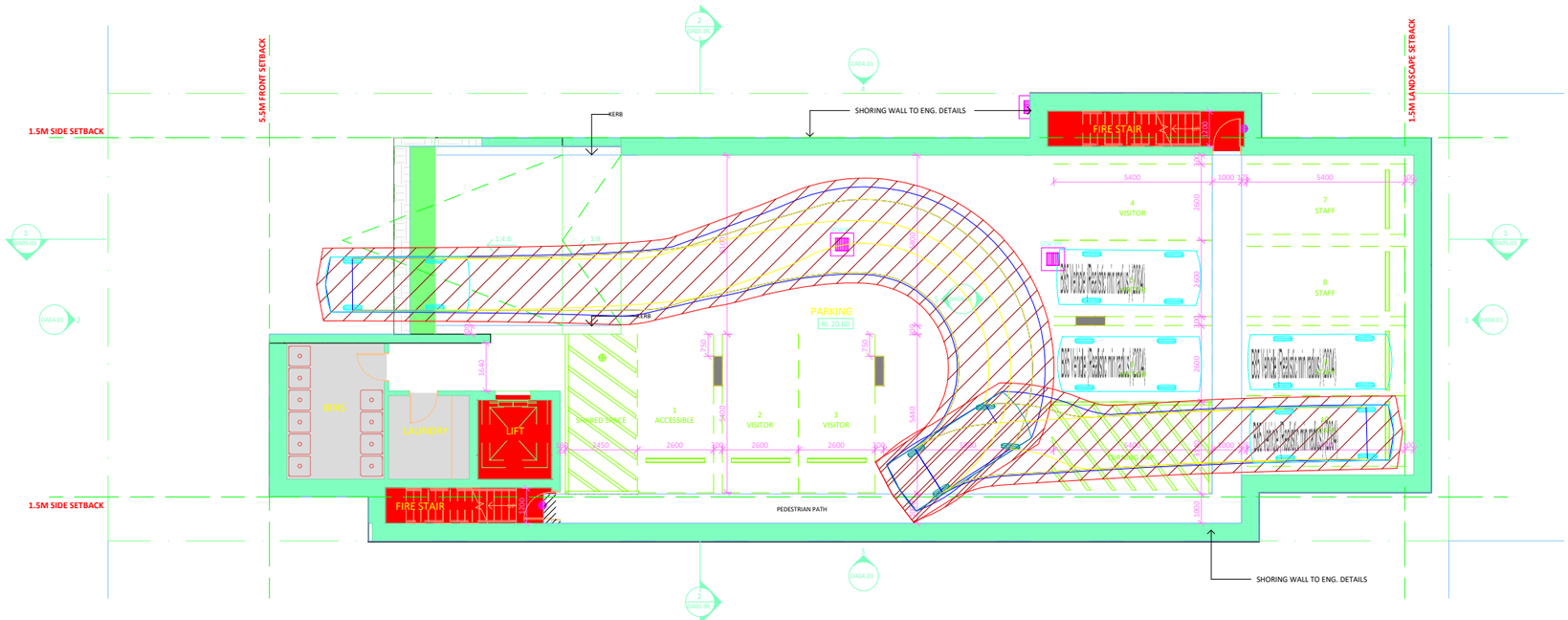
Drawing Title
Swept Path Analysis
Basement Plan - Staff (Parking Space 9)
B85 Design Vehicles
TOP: Entry Movement
BOTTOM: Exit Movement

Drawn:	Checked:	Date:
NC	NC	18-07-2023

23.203d03v01 TRAFFIX [2023-08-01] - DA Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
23.203	DA	TX.04	B





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	NC	18-07-2023
B	Swept Path Analysis	NC	04-08-2023

Swept Path Legend

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

Architect
ArtMade Architects

Client
Mariam Abdelkarim

Scale / Plan Orientation
0 2 4 6 8m
1:200 @ A3

Project Description
39 Carnation Avenue
BANKSTOWN NSW 2200

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Drawing Title
Swept Path Analysis
Basement Plan - Staff (Parking Space 10)
B85 Design Vehicles
TOP: Entry Movement
BOTTOM: Exit Movement

Drawn:	Checked:	Date:
NC	NC	18-07-2023

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