Traffix Group

Traffic Engineering Assessment

Proposed Mixed-Use Development

1041 Centre Road, Oakleigh (Links Shopping Centre)

Prepared for
1041 Centre Road Pty Ltd

April, 2022

G29458R-01C

Level 28, 459 Collins St
Melbourne Victoria 3000

T: 03 9822 2888
admin@traffixgroup.com.au

Traffix Group Pty Ltd
ABN: 32 100 481 570

traffixgroup.com.au

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1. Introduction

Traffix Group has been engaged by 1041 Centre Road Pty Ltd to prepare a traffic engineering assessment for a proposed mixed-use development at 1041 Centre Road, Oakleigh (Links Shopping Centre).

This report provides our traffic engineering assessment of the parking and traffic issues associated with the proposed development.

2. Existing Conditions

2.1. Site Locality

The development site is located on the north side of Centre Road, approximately 200m east of Warrigal Road in Oakleigh, and is part of the larger subject site known as the Links Shopping Centre, as presented in the locality plan at Figure 1 below.

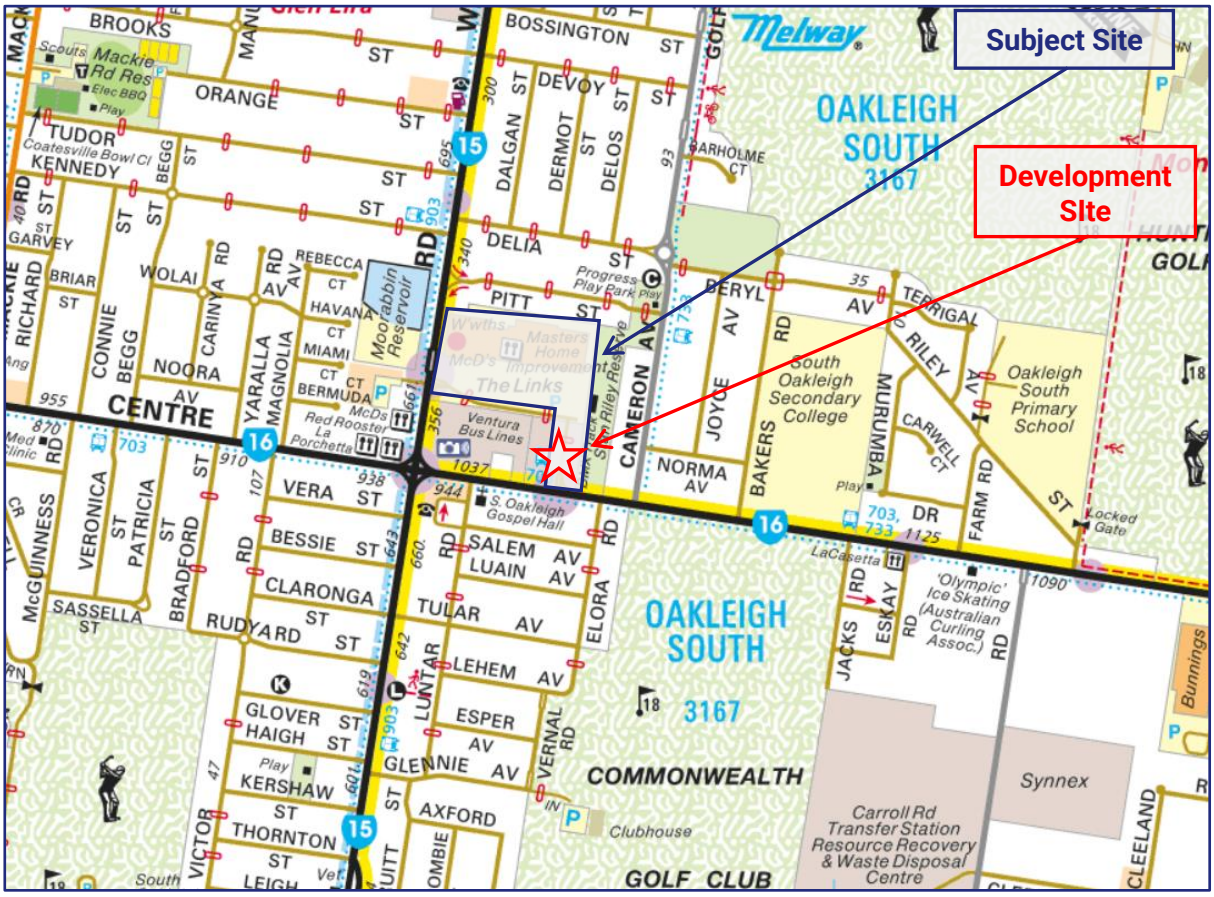

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Figure 1: Locality Map

The development site is occupied by a warehouse building comprising approximately 3,300m^2 of floor area and is used by Harvey Norman as a product pickup/storage location.

It has an area of approximately 5,000m^2 and frontages to Centre Road and Links Avenue (two frontages) of approximately 47.5m, 109m(north-south) and 50m (east-west) respectively. Vehicle access is taken from the north-south section of Links Avenue at the northern boundary to the site. The subject site is provided access via two signalised access points (one via Centre Road and one via Warrigal Road).

An aerial view of the site is shown in Figure 2 below.

Figure 2: Aerial Photograph (April 2021)

2.2. Land Use

The site is zoned Commercial Zone – Schedule 1 (C1Z) as shown in Figure 3 below.

It is affected by a Design and Development Overlay – Schedule 1 (DDO1).

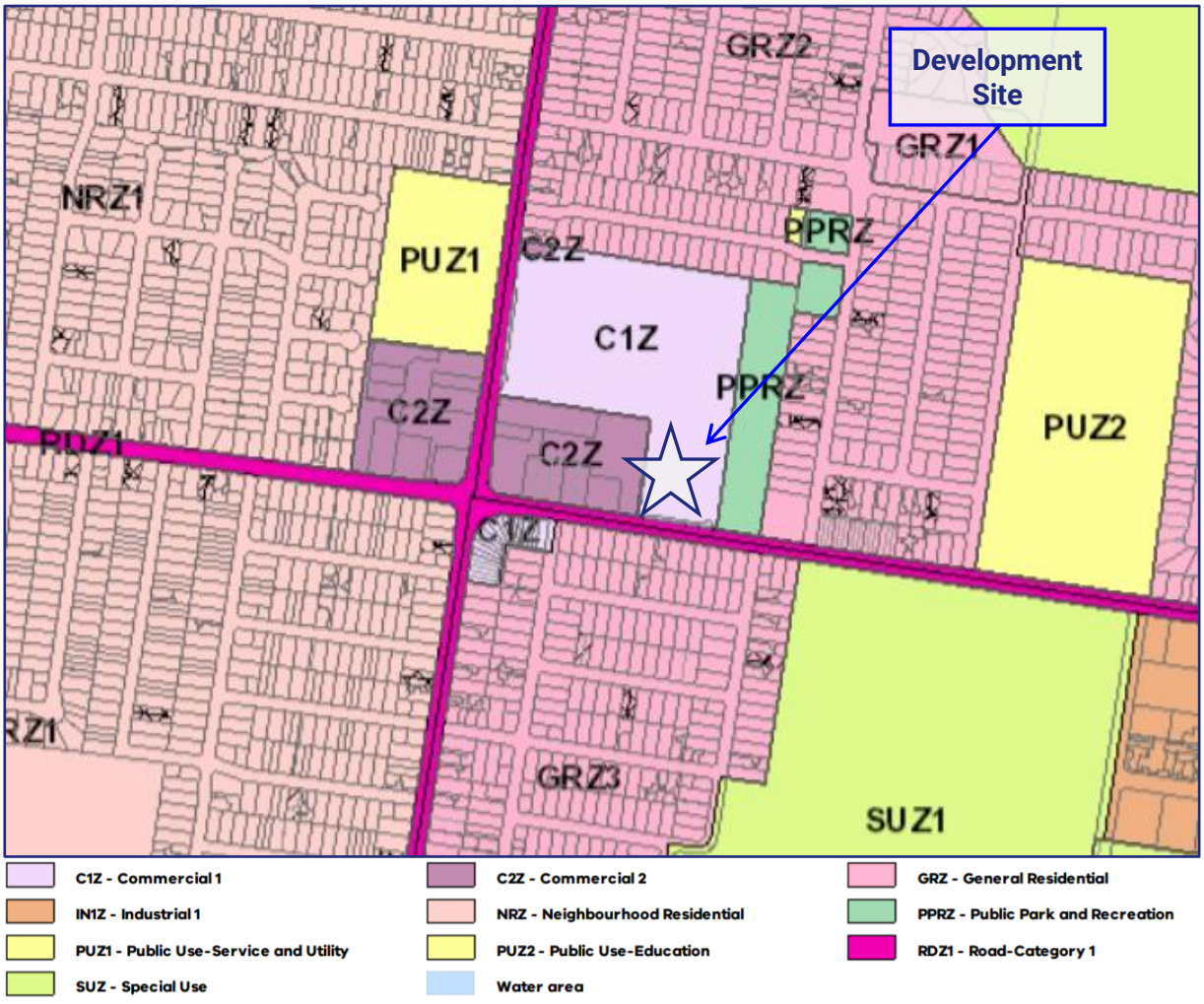

Figure 3: Land Use Zoning Map

The development site is located within the Links Shopping Centre which provides a range of commercial uses including Woolworths Supermarket and Bunnings Warehouse. Land beyond the commercial uses fronting Centre Road and Warrigal Road is generally zoned as residential.

2.3. Road Network

Centre Road is an arterial road under the control of the Department of Transport (DoT) and is within a Road Zone Category 1 (RDZ1).

It extends approximately 13.2km in an east-west direction between Springvale Road to the east (where it continues as Police Road) and Hampton Street to the west.

In the vicinity of the development site, Centre Road is constructed with a 12.5m wide carriageway comprising two through traffic lanes in each direction.

Kerbside parking is not permitted on either side of the road.

A posted speed limit of 60km/h applies.

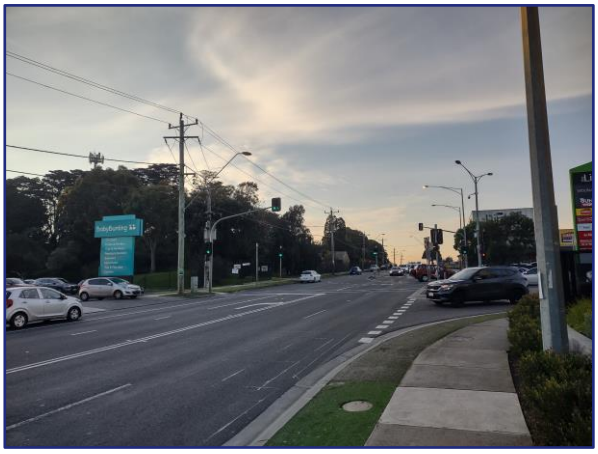

Figure 4: Centre Road view West

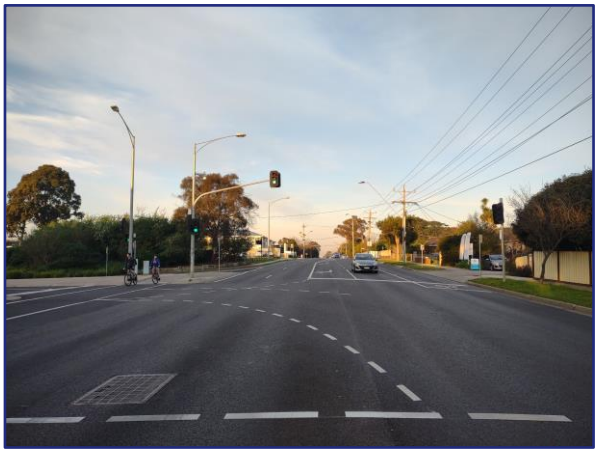

Figure 5: Centre Road view East

Warrigal Road is state arterial road located within a Road Zone Category 1 (RDZ1) and under the control of the Department of Transport (DoT). It extends approximately 19km in a north-south direction between Canterbury Road to the north and Beach Road to the south.

In the vicinity of the development site, Warrigal Road is constructed as an undivided carriageway with two lanes in each direction with flaring and merging at the major intersection with Centre Road.

Parking is prohibited along Warrigal Road.

A posted speed limit of 60km/h applies.

Links Avenue is private road within the Links Shopping Centre precinct. It extends east from Warrigal Road for approximately 240m and then turns south to Centre Road (approximately 125m).

Both of its intersections with the arterial roads are controlled by signals.

Links Avenue is generally constructed with a 7.3m wide carriageway which flares at the signalised intersections. A footpath is provided along the south and west sides.

Kerbside parking is not permitted along Links Avenue.

A posted speed limit of 20km/h applies.

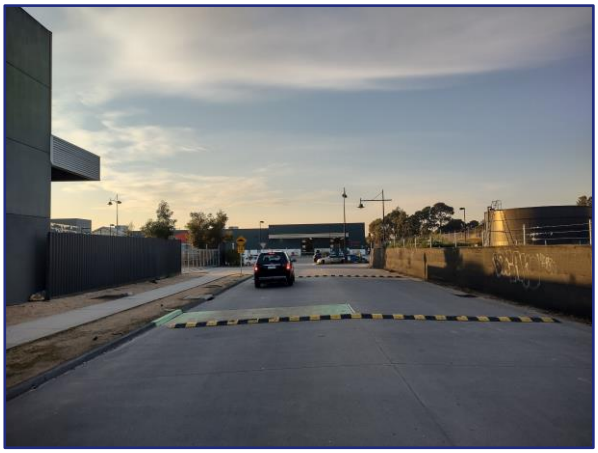

Figure 6: Links Avenue view North

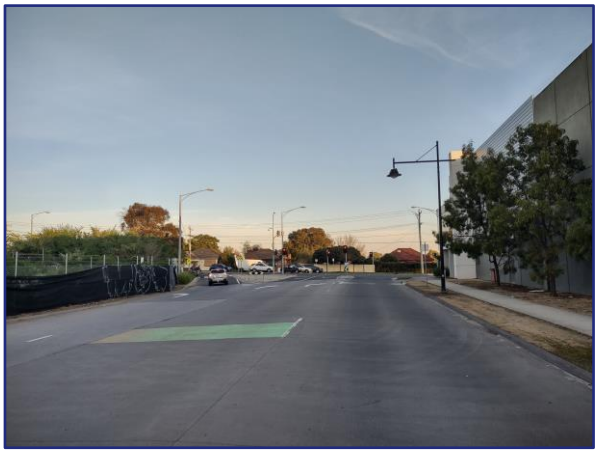

Figure 7: Links Avenue view South

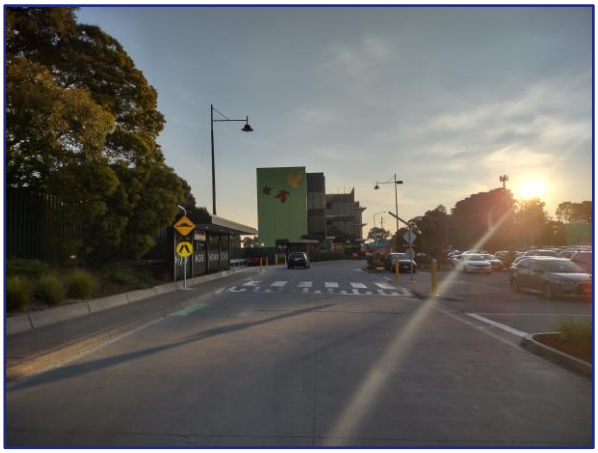

Figure 8: Links Avenue view West

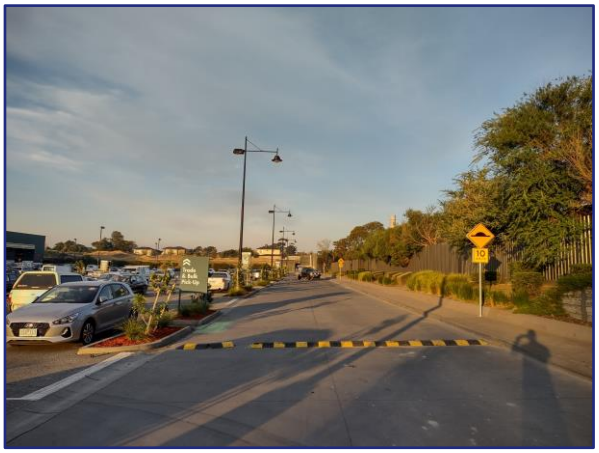

Figure 9: Links Avenue view East

2.4. Principal Public Transport Network

The subject site is located within the Principal Public Transport Network area as shown in Figure 10 below.

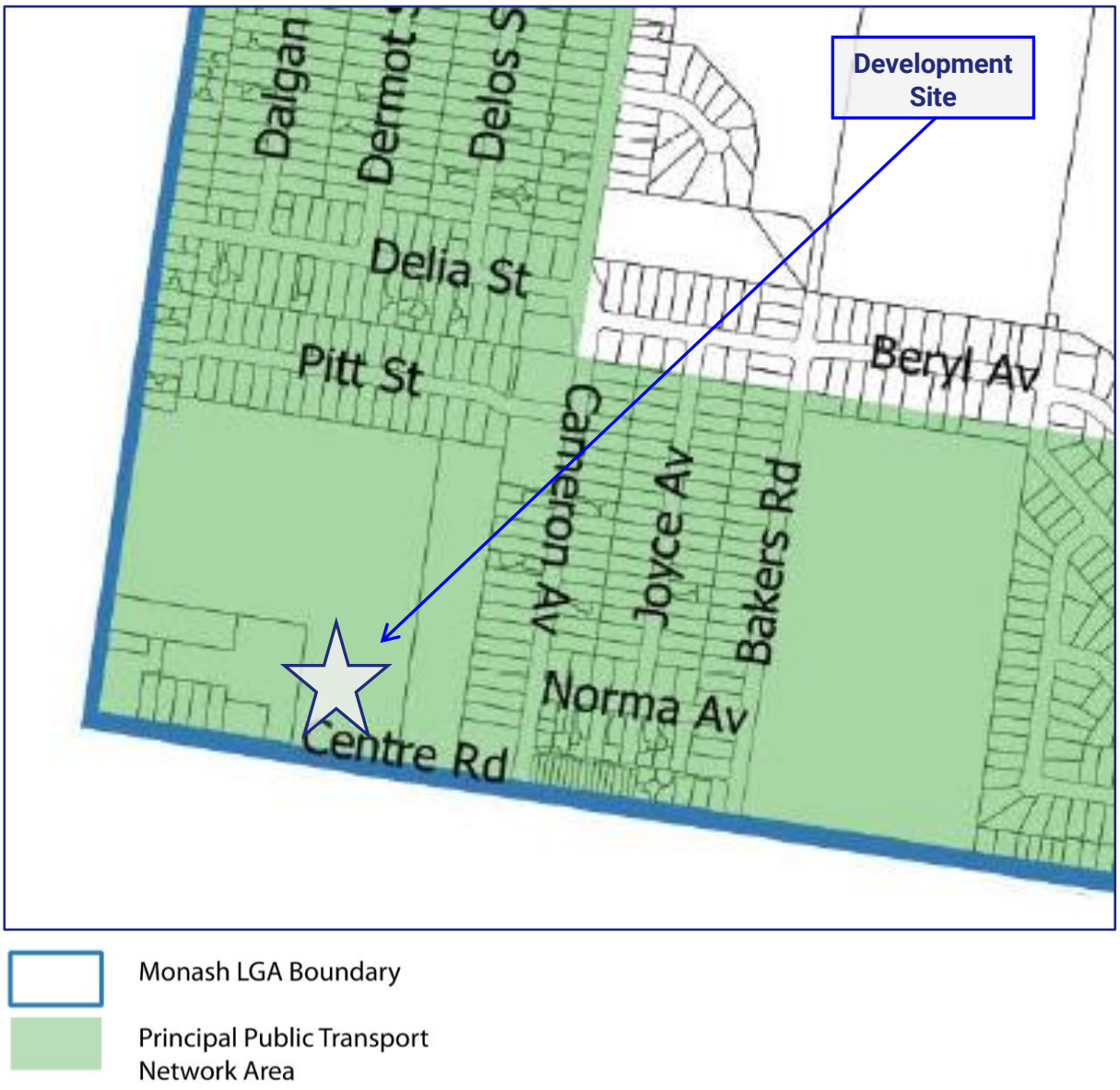

Figure 10: Excerpt of Principal Public Transport Network Area (Monash Council)

2.5. Public Transport

The development site is well located with regard to public transport. The following public transport services operate within 500m of the subject site.

- Bus route 703 operates along Centre Road directly past the subject site. It provides a connection between Middle Brighton and Blackburn via Bentleigh, Clayton and Monash University.
- Bus route 733 operates along Centre Road and Cameron Avenue with the nearest stop approximately 400m east of the site on Centre Road. It provides a connection between Oakleigh and Box Hill via Clayton, Monash University and Mt Waverley.
- Bus route 903 is a SMARTBUS route which operates along Warrigal Road directly past the subject site. It provides a connection between Altona and Mordialloc via Sunshine, Heidelberg, Burwood, and Mentone.

The above services also provide connection to other public transport routes and services providing greater connectivity to the greater metropolitan area.

Figure 11 shows the nearby public transport services.

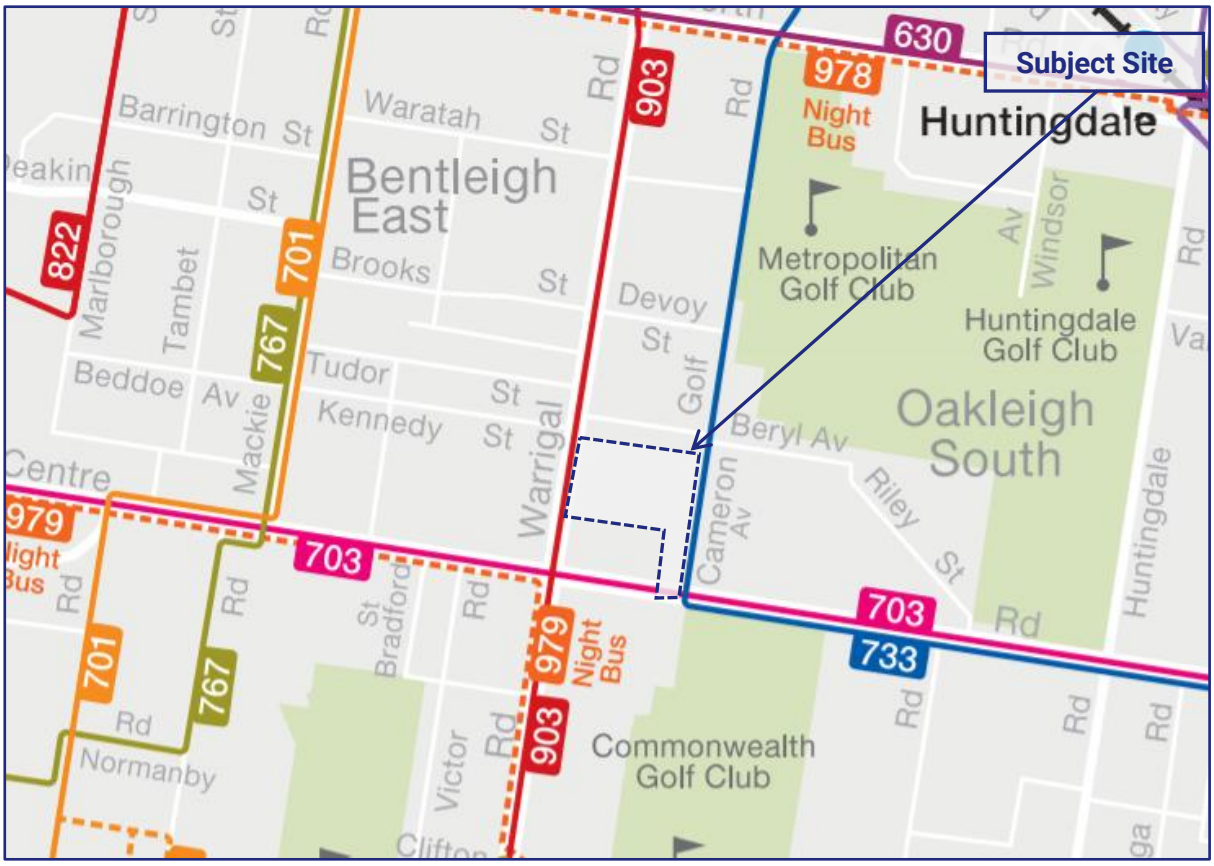

Figure 11: Excerpt of Monash Public Transport Map

2.6. Existing Traffic Conditions

Traffix Group has sourced SCATS data for the intersection of Centre Road/Warrigal Road from DoT's open data portal. The data is from Thursday 6th February 2020, prior to any traffic impacts as a result of COVID 19.

A summary of the turning movement data is presented at Figure 12 below.

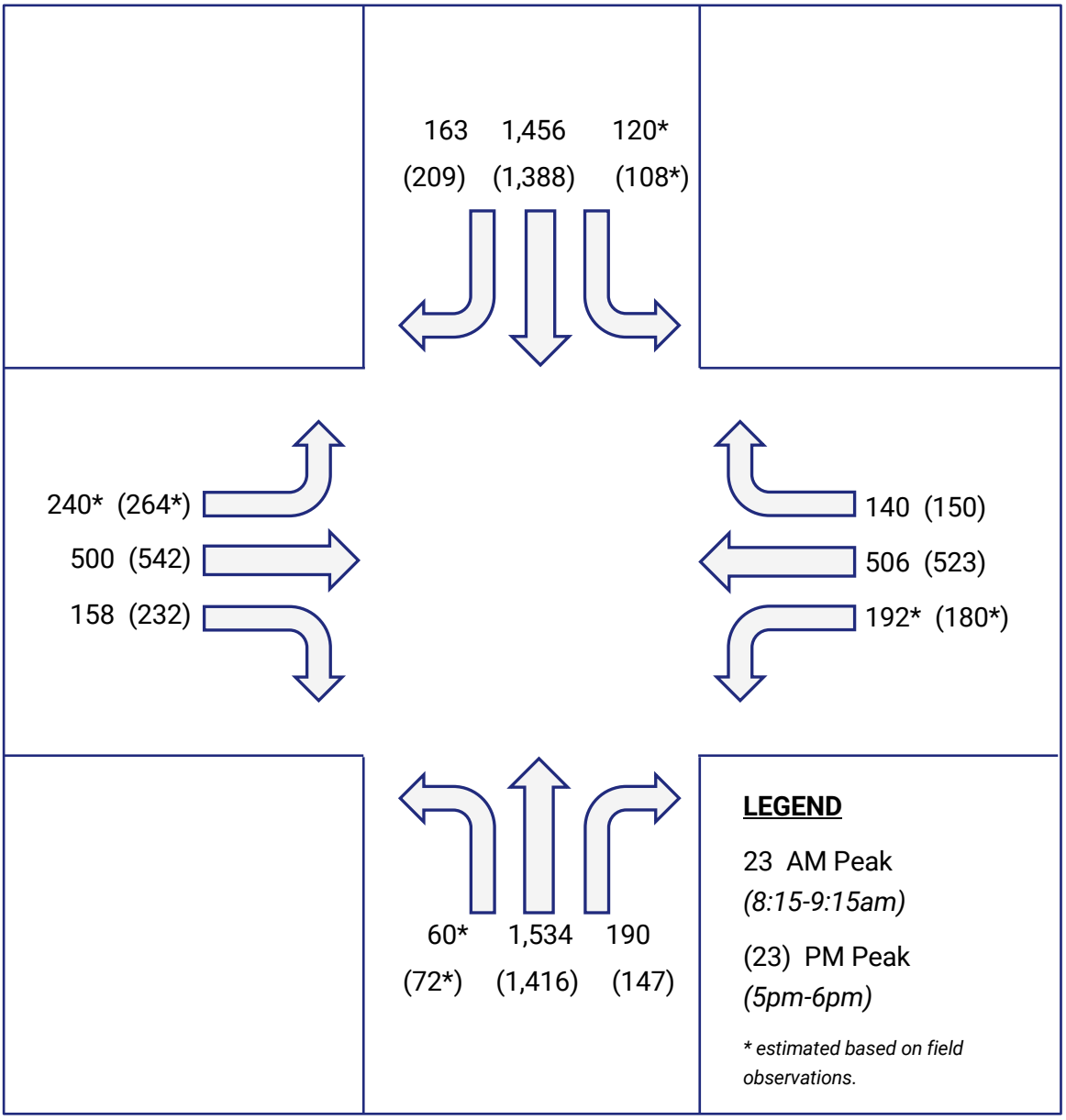

Figure 12: Existing Turning Movement Counts – AM (PM)

3. Proposal

The proposal is for multi-storey mixed-use buildings comprising the uses specified in Table 1 below.

Table 1: Schedule of Uses

Use		No./Measure
Dwellings	*Studio*	*7 units*
	One-Bedroom	*112 units*
	Two-bedroom	*54 units*
	TOTAL	173 units
Supermarket		1,913m^2
Retail		875m^2
Car Parking		238 spaces (178 basement and 60 at-grade on the east side of Links Avenue)
Bicycle Parking		212 spaces

Car parking for the residential use will be provided within a basement accessed via a new crossover in the northwest corner of the site via Links Avenue. The at-grade parking will be provided on the west side of Links Avenue. A pedestrian crossing will be provided to facilitate safe movements between the at-grade parking and the proposed uses.

A designated loading area is provided along the west side of the development with access to the loading area provided via a single width industrial crossover suitable for vehicles up to 19m semi-trailers.

The proposal includes minor amendments to the existing Links Shopping Centre carpark to facilitate suitable access to the loading area.

A copy of the proposed development plans prepared by i2C Architects (dated February 2022) is attached at Appendix A.

4. Car Parking Assessment

4.1. Statutory Car Parking Requirement

Clause 52.06 of the Planning Scheme sets out the statutory requirements for car parking. The purposes of Clause 52.06 are:

- *To ensure that car parking is provided in accordance with the Municipal Planning Strategy and the Planning Policy Framework.*
- *To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.*
- *To support sustainable transport alternatives to the motor car.*
- *To promote the efficient use of car parking spaces through the consolidation of car parking facilities.*
- *To ensure that car parking does not adversely affect the amenity of the locality.*
- *To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.*

The statutory car parking requirement is set out in Table 2 below.

Table 2: Statutory Car Parking Requirement

Use	Measure	Rate	Requirement(1)
Dwelling	173 one- or two-bedroom units	1 space to each one or two bedroom unit	173 spaces
Supermarket	1,913m^2	5 spaces to each 100m^2 of leasable floor area	95 spaces
Shop	875m^2	3.5 spaces to each 100m^2 of leasable floor area	30 spaces
TOTAL			**298 spaces**

(1) Rounded down in accordance with the Planning Scheme.

The proposed development has a statutory requirement for 298 car parking spaces.

The proposal includes provision of 178 spaces within the basement to satisfy the residential component. A further 60 at-grade parking spaces are provided on the east side of Links Avenue for the commercial uses. The provision of commercial spaces falls short of the

statutory car parking requirement and accordingly, a permit to reduce the car parking requirement is being sought as part of this application.

4.2. Reducing the Car Parking Requirement

Practice Note 22 (June 2012) specifies that the provisions draw a distinction between the assessment of likely demand for parking spaces, and whether it is appropriate to allow the supply of fewer spaces. These are two separate considerations, one technical while the other is more strategic. Different factors are taken into account in each consideration.

Accordingly, the applicant must satisfy the responsible authority that the provision of car parking is appropriate on the basis of a two-step process, which has regard to:

- The car parking demand likely to be generated by the use.
- Whether it is appropriate to allow fewer spaces to be provided.

An assessment of the appropriateness of reducing the car parking provision below the statutory requirement is set out below.

4.3. Car Parking Demand

Residential

For this development, the statutory car parking requirement for the residential component is expected to be reflective of the expected car parking demand.

Supermarket

In shopping centres, where there is a major full-line supermarket, the inclusion of a smaller secondary supermarket serves to supplement shoppers with further choices and does not generate car parking at the full statutory rate.

In our experience, supermarkets of a similar size typically generate parking at a rate of 3.5 spaces per 100m^2 of leasable floor area. Accordingly, the 2,000m^2 supermarket is expected to generate a parking demand for 67 spaces.

Shop

We have adopted the statutory rate as reflective of the retail/shop car parking demands for this development, i.e. 30 spaces.

Summary

The expected car parking demand for the proposed development is summarised in Table 3 below.

Table 3: Expected Car Parking Demand

Use	Parking Demand
Dwelling	173 spaces
Supermarket	67 spaces
Shop	30 spaces
TOTAL	**270 spaces**

4.4. Providing Fewer Car Parking Spaces

The second step in determining whether it is appropriate to reduce the statutory car parking requirement is to consider whether it is appropriate to allow fewer spaces to be provided than the number likely to be generated by the site. Traffix Group has undertaken assessments based on the relevant decision guidelines specified at Clause 52.06-7 of the Planning Scheme below.

Car Parking Demand Assessment

The proposed development is expected to generate a maximum car parking demand for 270 spaces including 97 commercial spaces. The residential component of the parking demand is met on-site however, the provision of 60 at-grade commercial spaces results is a shortfall of 37 spaces.

Availability of Alternative Car Parking

The existing Links Shopping Centre has a surplus of approximately 52 car parking spaces which are not leased as part of the existing buildings. The surplus of 52 spaces is more than sufficient to meet the proposed car parking shortfall associated with the commercial component of the development.

Future Growth and Development of Activity Centre

The proposed development represents the growth and development of the Links Shopping Centre activity centre. The former approvals included surplus car parking which would be made available to facilitate the growth of the centre. Accordingly, there will be no adverse impacts to the viability of the overall shopping precinct as a result of the proposed car parking shortfall.

Conclusion

Having regard to the decision guidelines above, we believe that there is sufficient justification to warrant a reduction in the statutory car parking requirement for this development.

4.5. Car Park Layout and Access

The proposed car parking layout and access arrangements have been assessed under the relevant sections of the Planning Scheme and the relevant Australian Standards.

Key elements of the design include:

- All vehicles can enter and exit the site in a forwards direction.
- All accessways are designed to accommodate simultaneous two-way traffic.
- A minimum headroom clearance of 2.1m is provided throughout the basement.
- All 90-degree parking spaces are provided in accordance with the minimum dimensions set out at Clause 52.06-9 Design Standard 2.
- Columns are located in accordance with the Clearance Diagram at Clause 52.06-9 Design Standard 2.
- A turnaround bay is provided at the end of the blind-aisle for the commercial carparking area.
- A DDA space is provided within the new at-grade car park for the retail uses in accordance with AS/NZS 2890.6:2009.
- A maximum ramp grade of 1:10 is provided for the first 5 metres from the property boundary.
- A maximum ramp grade of 1:4.1 is provided on the site (residential parking).
- Appropriate ramp transitions are provided to prevent scrapping and bottoming out of vehicles.

We are satisfied that the proposed car parking layout meets the relevant requirements of the Planning Scheme and Australian Standard and importantly, will work well.

5. Traffic Assessment

5.1. Traffic Generation

Residential

The RTA Guide to Traffic Generating Developments (2002) (RTA Guide) sets out traffic generation rates based on survey data collected in New South Wales for a range of land uses. This guide is referred to in the Austroads Guide which is used by VicRoads, and is generally regarded as the standard for metropolitan development characteristics.

The RTA Guide sets out the following relevant traffic generation rates for medium density residential development:

Smaller Units (one and two bedrooms):

- *Daily vehicle trips = 4 – 5 per dwelling per day*
- *Weekday peak hour vehicle trips = 0.4 – 0.5 per dwelling per day*

Having regard to the locality of the site, the congested nature of the surrounding arterial roads, the availability of alternative transport modes and the limited supply of car parking at nearby railways stations, we believe that an appropriate peak hour traffic generation rate is 0.3 per dwelling. Accordingly, the proposed development (173 dwellings) will generate in the order of 52 vehicle trip ends during each peak hour. This corresponds to one vehicle movement every 70 seconds on average.

Commercial

The commercial component of the new development will not generate traffic at the same rate as a single standalone full line supermarket and will result in a longer duration of stay on average as customers look to take advantage of the second supermarket and additional retail space.

The relationship between duration of stay, car parking and traffic generation are all interlinked with traffic generation inversely proportional to duration of stay.

Based on the above, we expect that the traffic generated by the new commercial component will be approximately 50% of the RTA rate for supermarkets/shopping centres.

Accordingly, the commercial component will generate a PM peak of 171 movements.

In our experience, significantly less traffic is generated to a shopping centre during the AM peak period, i.e. in the order of 35% of the PM peak. There will be 60 vehicle movements during the AM peak.

5.2. Traffic Distribution

Residential

The expected traffic distribution for the residential component of the development is as follows:

AM Peak

- 10% IN and 90% OUT,
- 50% to/from the north,
- 23% to/from the south,
- 7% to/from the west, and
- 20% to/from the east.

PM Peak

- 75% IN and 25% OUT,
- 50% to/from the north,
- 23% to/from the south,
- 7% to/from the west, and
- 20% to/from the east.

Commercial

The commercial component of the traffic generation is expected to follow the same distribution pattern as the existing use and is set out below.

AM Peak

- 50% IN and 50% OUT,
- 34% to/from the north,
- 23% to/from the south,
- 11% to/from the west, and
- 32% to/from the east.

PM Peak

- 50% IN and 50% OUT,
- 33% to/from the north,
- 20% to/from the south,
- 13% to/from the west, and
- 34% to/from the east.

A turning movement diagram is presented at Figure 13 which shows the expected site generated traffic movements.

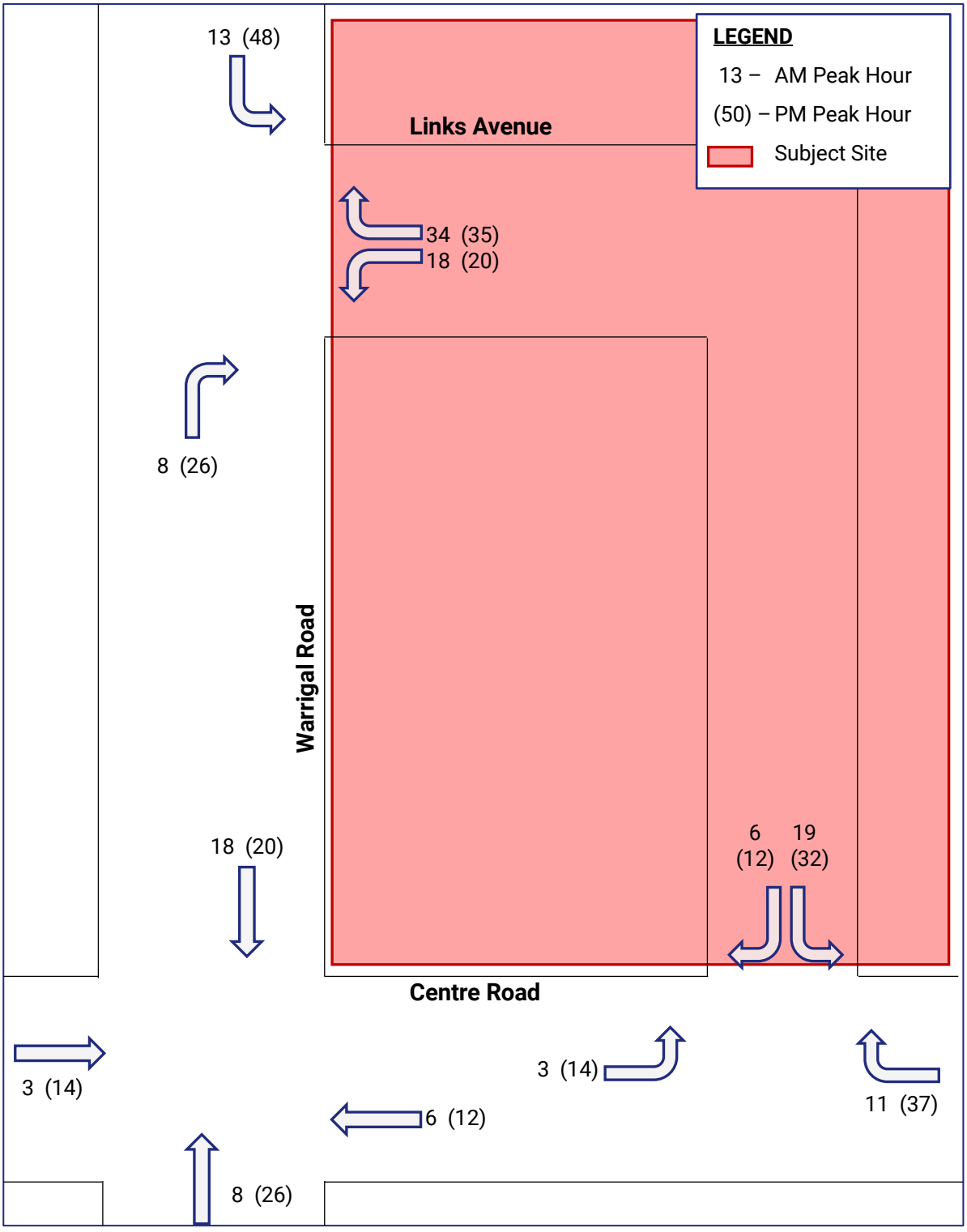

Figure 13: Site Generated Traffic Distribution Diagram

5.3. Traffic Impact

Traffix Group has prepared a SIDRA intersection analysis for the signalised intersections providing access to the Links Shopping Centre and the intersection of Centre Road/Warrigal Road in both the AM and PM peak periods. These models have been linked in the network function due to their close proximity to one another and to accurately reflect the operating conditions of the road network.

It is significant to note that the existing traffic data was collected in February 2020, prior to any traffic impacts from COVID19. Due to the significant reduction in traffic as a result of COVID 19 and the change in travel to work behaviour, it was not possible to calibrate the model based on our recent observations to the pre-COVID conditions.

Accordingly, we have made the following assumptions in order to show an existing traffic analysis with a degree of saturation of approximately 1.0:

- reduction in the inter-green time (yellow time reduced to 3 seconds),
- area type factor increased to 1.1,
- signal coordination between the intersections,
- favourable arrival type for external approaches to the network,
- due to the highly congested nature of the road network, traffic from the north into the Warrigal Road access will be passer-by trips only,
- all other traffic is assumed to be new traffic on the road network, and
- through lane capacity increased for Warrigal Road and Centre Road to 2,200 vehicles per hour.

In inner urban areas, where traffic is highly congested, it is not unusual for a degree of saturation to be around 1.0 which indicates that the intersection is at capacity.

For the purposes of a robust assessment, all site generated traffic is considered to be new traffic on the road network for this analysis.

A summary of the key outputs from the SIDRA model are presented as follows:

- Table 4 – existing and post development site access via Warrigal Road,
- Table 5 – existing and post development site access via Centre Road, and
- Table 6 – existing and post development Centre Road/Warrigal Road intersection.

Table 4: Summary of SIDRA Outputs (Site Access via Warrigal Road)

Approach	Degree of Saturation		Average Delay (sec)		95th Percentile queue (m)	
	Existing	Post Development	Existing	Post Development	Existing	Post Development
AM Peak Hour						
South Warrigal Road	0.474	0.474	0.7 sec	0.8 sec	20.3m	20.2m
East Links Avenue	0.433	0.641	41.1 sec	45.7 sec	18.8m	28.5m
North Warrigal Road	0.892	0.901	11.8 sec	13.7 sec	115.0m	128.2m
PM Peak Hour						
South Warrigal Road	0.480	0.483	0.9 sec	1.1 sec	24.2m	27.0m
East Links Avenue	0.973	0.932	61.6 sec	55.7 sec	51.1m	61.4m
North Warrigal Road	0.881	0.890	9.8 sec	11.6 sec	284.5m	281.8m

The site access via Warrigal Road operates at a high degree of saturation as a result of the significant through volumes on Warrigal Road and the queues that extend from the intersection of Centre Road/Warrigal Road.

The analysis shows that there is no material change to any of the key operational outputs during the commuter peak periods as a result of the proposed development.

Table 5: Summary of SIDRA Outputs (Site Access via Centre Road)

Approach	Degree of Saturation		Average Delay (sec)		95th Percentile queue (m)	
	Existing	Post Development	Existing	Post Development	Existing	Post Development
AM Peak Hour						
East Centre Road	0.906	0.911	10.4 sec	11.7 sec	50.8m	58.6m
North Links Avenue	0.143	0.174	12.5 sec	13.6 sec	10.1m	13.5m
West Centre Road	0.310	0.312	15.6 sec	16.9 sec	146.8m	151.4m
PM Peak Hour						
East Centre Road	0.358	0.895	10.9 sec	19.7 sec	57.1m	103.5m
North Links Avenue	0.216	0.275	16.1 sec	16.5 sec	22.8m	31.9m
West Centre Road	0.362	0.359	30.0 sec	27.3 sec	150.0m	152.5m

The site access via Centre Road operates at a high degree of saturation as a result of the significant through volumes on Warrigal Road and the queues that extend from the intersection of Centre Road/Warrigal Road.

The amendments to the phasing at Centre Road/Warrigal Road intersection result in a higher degree of saturation at this intersection as well as longer queues.

Significantly, the average delay in the post development scenario is not significant and indicates that the intersection will continue to operate effectively.

Table 6: Summary of SIDRA Outputs (Centre Road/Warrigal Road Intersection)

Approach	Degree of Saturation		Average Delay (sec)		95th Percentile queue (m)	
	Existing	Post Development	Existing	Post Development	Existing	Post Development
AM Peak Hour						
South Warrigal Road	0.941	0.941	47.5 sec	48.5 sec	390.1m	397.7m
East Centre Road	0.867	0.881	59.7 sec	62.2 sec	174.0m	186.2m
North Warrigal Road	0.900	0.906	45.6 sec	46.7 sec	236.6m	236.6m
West Centre Road	0.950	0.954	62.6 sec	64.0 sec	146.5m	150.6m
PM Peak Hour						
South Warrigal Road	1.012	1.026	84.6 sec	92.0 sec	491.7m	520.4m
East Centre Road	0.861	0.851	60.2 sec	59.2 sec	175.3m	177.7m
North Warrigal Road	1.038	1.051	110.8 sec	112.5 sec	236.6sm	236.6m
West Centre Road	1.041	1.053 (+.012)	97.4 sec	99.3 sec (+1.9)	206.6m	206.5m

The above analysis shows that the intersection of Centre Road/Warrigal Road currently operates at capacity under existing conditions.

The additional traffic that is expected to be generated by the proposed development will have no material impact to the operation of the intersection. Significantly, the output change from the existing to post development scenario is so minor that it would be within the typical daily fluctuation of traffic volumes.

There is no available road space surrounding the subject site to provide additional capacity on either Warrigal Road or Centre Road. Accordingly, at times where there are significant queues, it would be expected that new traffic will generally displace existing traffic on that section of road, or there will be a shift in travel behaviour relating to the timing of traffic to spread the traffic flow over a greater period of time.

6. Bicycle Assessment

Statutory bicycle parking requirements are set out at Clause 52.34 of the Planning Scheme.

Table 7 below sets out the statutory bicycle parking requirements for the proposed on-site uses.

Table 7: Statutory Bicycle Parking Requirement

Use	Measure/No.	Rate	Requirement
Employee/Resident			
Dwelling	173 units	1 space to every 5 dwellings	35 spaces
Shop	2,788m^2	1 space to each 600m^2 of leasable floor area if the leasable floor area exceeds 1,000m^2	5 spaces
Visitor/Customer			
Dwelling	173 units	1 space to every 10 dwellings	17 spaces
Shop	2,788m^2	1 space to each 500m^2 of leasable floor area if the leasable floor area exceeds 1,000m^2	6 spaces
TOTAL			**63 spaces**

The proposed development has a statutory requirement for 63 bicycle spaces comprising 35 resident spaces, five employee spaces and 23 visitor spaces.

A total of 212 bicycle parking spaces are provided on-site comprising 174 secure spaces within the basement and 38 visitor spaces spread throughout the site at horizontal rails.

Accordingly, the bicycle parking requirements set out at Clause 52.34 of the Planning Scheme is satisfied.

7. Loading

A loading area is provided on the west side of the development site which is accessed via the east-west section of Links Avenue.

The loading area includes provision of a supermarket loading dock for a 19m semi-trailer and a secondary loading area to facilitate loading activities and waste collection for the smaller commercial uses.

Waste collection for the residential use is to be collected within the basement by a 6.4m waste wise mini (or similar sized collection vehicle).

Traffix Group has prepared swept path diagrams (attached at Appendix C) to demonstrate access to the loading bays and waste collection arrangements.

We note that minor works may be required to a small number of existing car parking spaces in order to facilitate semi-trailer movements.

The proposed loading and waste collection arrangements are appropriate and will not adversely impact traffic flow or road safety and importantly, will work well.

8. Conclusion

Having undertaken a traffic engineering assessment of the proposed mixed-use development at 1041 Centre Road (Links Shopping Centre), Oakleigh, we are of the opinion that:

a) the proposed development has a statutory car parking requirement for 298 spaces,

b) the provision of 238 spaces comprising 178 residential spaces and 60 commercial spaces falls short of the commercial car parking requirement and accordingly, a permit to reduce the car parking requirement is being sought as part of this application,

c) there is sufficient justification to warrant a reduction in the statutory car parking requirement having regard to:

   i. the residential component of the car parking requirement is met on-site through the provision of basement car parking,

   ii. the supermarket use will be a secondary supermarket on the site and based on our experience will generate car parking at a rate of 3.5 spaces per 100m^2,

   iii. there are approximately 52 parking spaces available on nearby land (existing centre carpark), and

   iv. the provision of 60 new spaces in addition to the existing surplus spaces will meet the commercial car parking demand,

d) the carpark layout is provided in accordance with the requirement of the Planning Scheme and Australian Standard (where necessary) and importantly, will work well,

e) additional traffic created by the proposed development in the AM and PM peak periods will be able to be accommodated on the already highly congested road network without any material change the operation or efficiency of the road network,

f) the provision of bicycle parking is sufficient to meet the statutory requirement set out in Clause 52.34 of the Planning Scheme,

g) loading and waste collection services can be suitably provided on-site without adversely impacting traffic flow or road safety, and

h) there are no traffic engineering reasons why a planning permit for the proposed mixed-use development at 1041 Centre Road (Links Shopping Centre), Oakleigh should not be granted.

Appendix A

Proposed Development Plan

GROUND SITE PLAN 1 : 500

no.	date	ISSUE / revision	by
TP3	24/02/2022	Town Planning RFI issued for application	YHU
TP2	17/01/2022	Town Planning RFI response; Issued for application	CLY
TP1	04/11/2021	Town Planning RFI dated 29/9/21 response; issued for update	MGR
TP0	13/08/2021	Town Planning Issue; Issued for submission	YHU

Pellicano LIVING

FIELDWORKS HOUSE

1041 CENTRE RD, OAKLEIGH SOUTH, VIC, 3167

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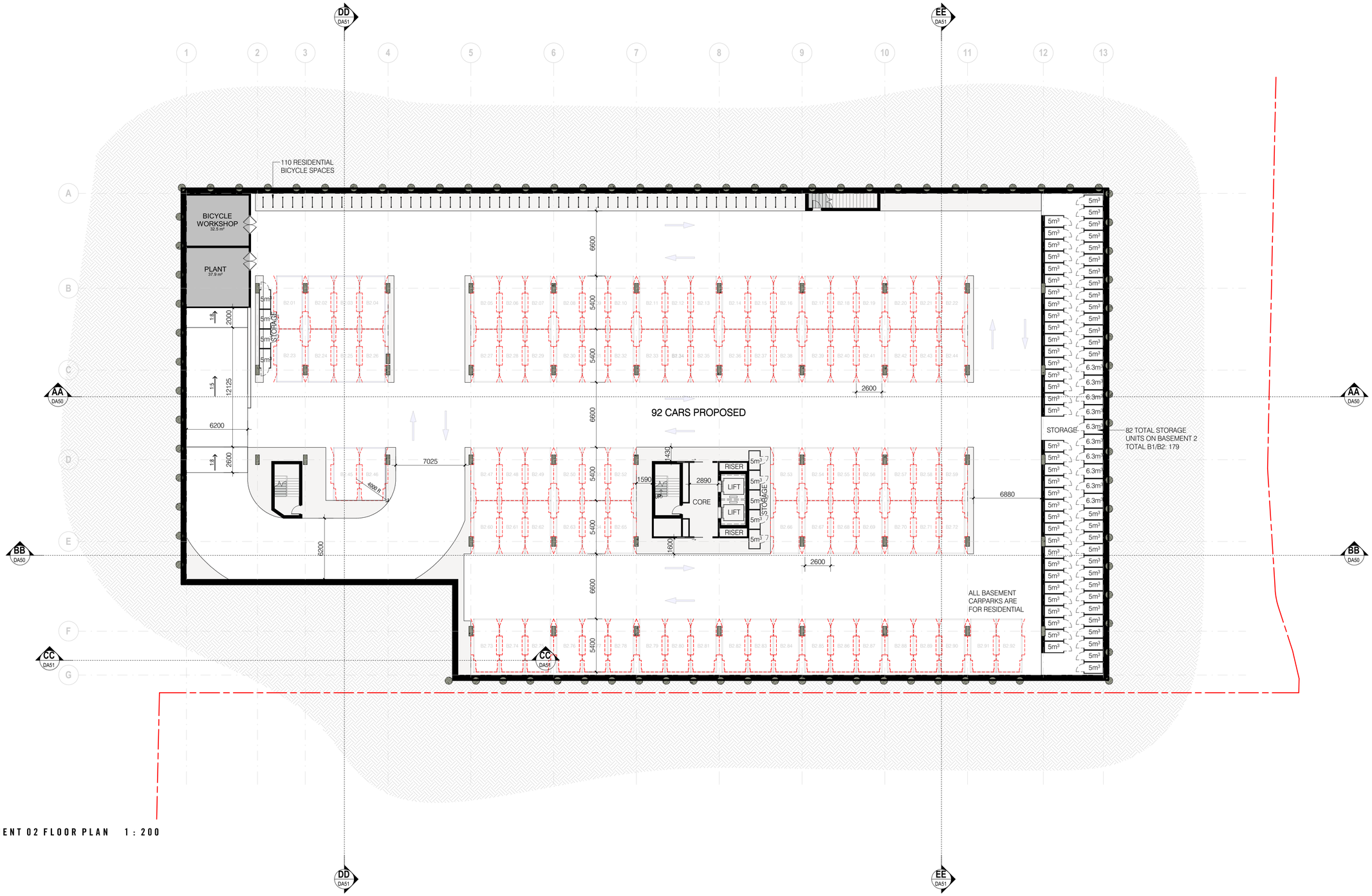
PROPOSED SITE PLAN

DEVELOPMENT APPLICATION

project	drawing no.	issue
2020-506	DA12	TP3
scale @ A1	designed	checked
1 : 500	YHU	BJE



BASEMENT 02 FLOOR PLAN 1 : 200

no.	date	ISSUE / revision	by
TP3	24/02/2022	Town Planning RFI issued for application	YHU
TP2	14/02/2022	Issued for Coordination	YHU
TP1	17/01/2022	Town Planning RFI response; Issued for application	CLY
TP0	13/08/2021	Town Planning Issue; Issued for submission	YHU

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FIELDWORKS HOUSE

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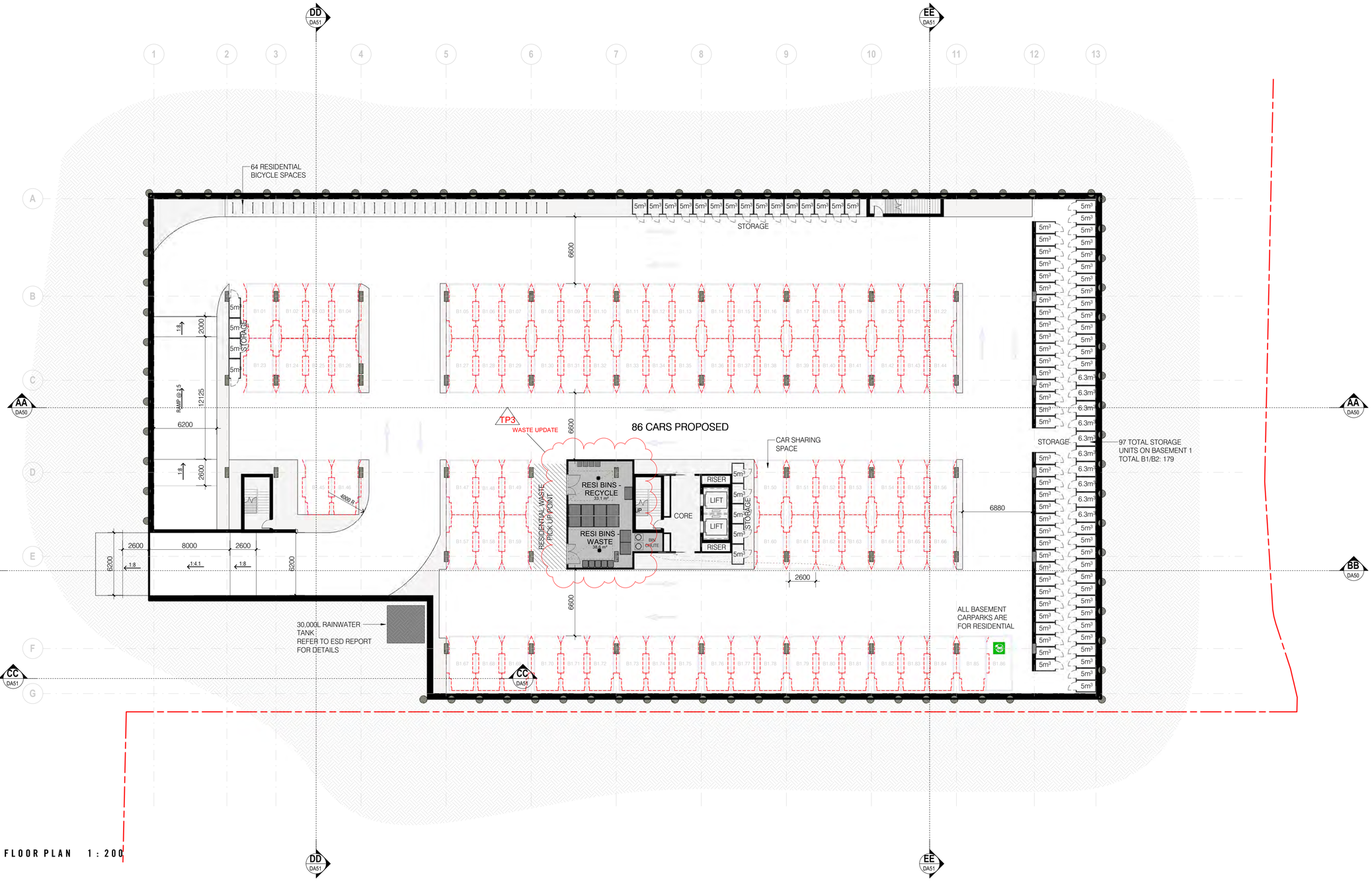
BASEMENT 2

DEVELOPMENT APPLICATION

project	drawing no.	issue
2020-506	DA30	TP3
scale @ A1	designed	checked
1 : 200	YHU/MG	BJE



BASEMENT 01 FLOOR PLAN 1 : 200

no.	date	ISSUE / revision	by
TP3	24/02/2022	Town Planning RFI issued for application	YHU
TP2	14/02/2022	Issued for Coordination	YHU
TP1	17/01/2022	Town Planning RFI response; Issued for application	CLY
TP0	13/08/2021	Town Planning Issue; Issued for submission	YHU

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FIELDWORKS HOUSE

1041 CENTRE RD, OAKLEIGH SOUTH, VIC, 3167

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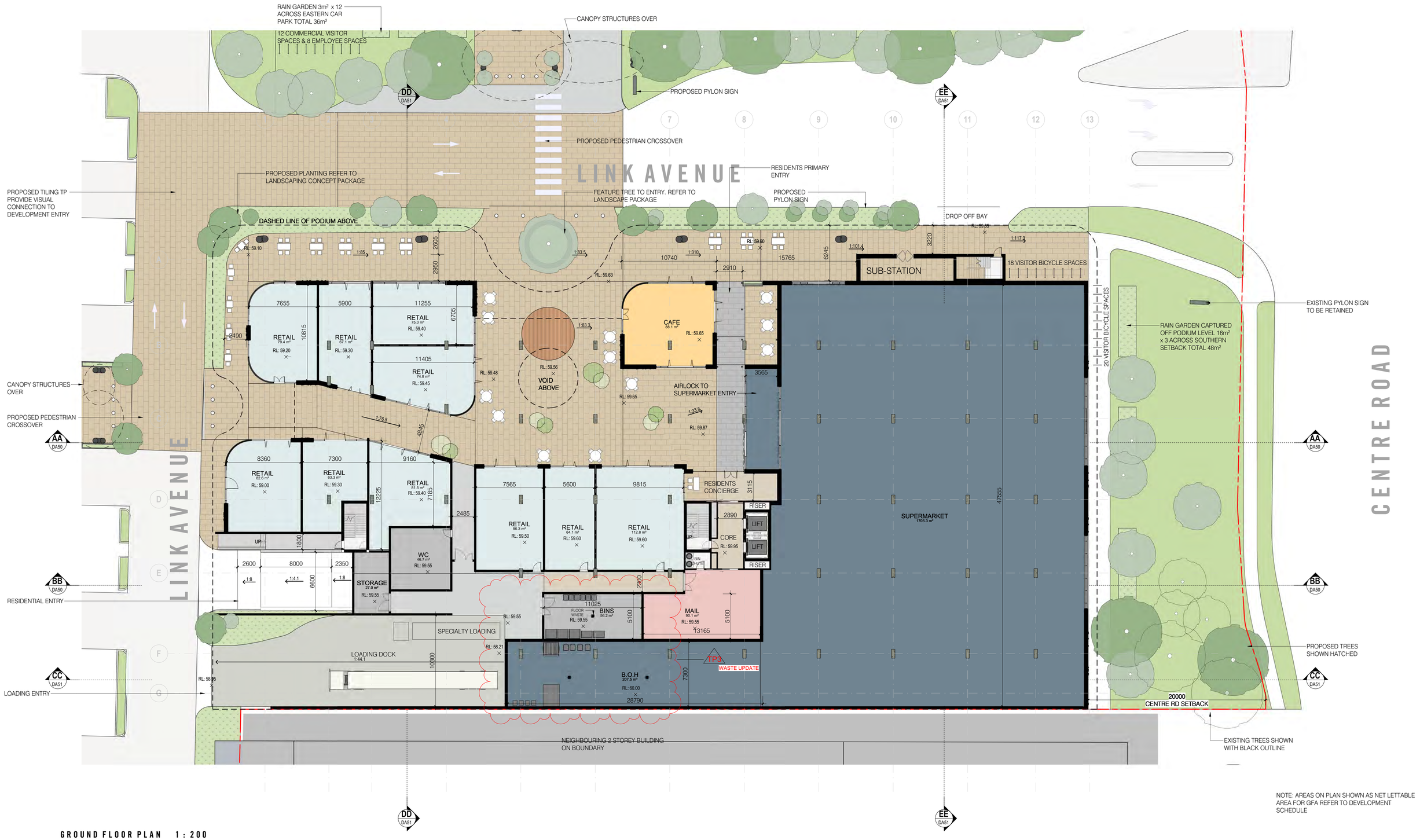
BASEMENT 1

DEVELOPMENT APPLICATION

project	drawing no.	issue
2020-506	DA31	TP3
scale @ A1	designed	checked
1 : 200	YHU/MG	BJE



NOTE: AREAS ON PLAN SHOWN AS NET LETTABLE AREA FOR GFA REFER TO DEVELOPMENT SCHEDULE

GROUND FLOOR PLAN 1 : 200

no.	date	ISSUE / revision	by
TP3	24/02/2022	Town Planning RFI issued for application	YHU
TP2	14/02/2022	Issued for Coordination	YHU
TP1	17/01/2022	Town Planning RFI response; Issued for application	CLY
TP0	13/08/2021	Town Planning Issue; Issued for submission	YHU

Pellicano LIVING

FIELDWORKS HOUSE

1041 CENTRE RD, OAKLEIGH SOUTH, VIC, 3167

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GROUND FLOOR PLAN

DEVELOPMENT APPLICATION

ISO 9001-2015

project	drawing no.	issue
2020-506	DA32	TP3
scale @ A1	designed	checked
1 : 200	YHU/MG	BJE

FIELDWORKS HOUSE

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Development Schedule

Town Planning Revision

Proposed Mixed Use Development
Town Planning Submission
Revision Date 08/04/2022

		Car Parking		Retail					
Levels	GFA	Area	Car Spaces	Supermarket	Retail	Retail BoH	Amenity	Outdoor Dining	Circulation
	sqm	sqm							
Basement 2 **(Residential Parking)**	4280	3800	92	0	0	0	0	0	0
Basement 1 **(Residential Parking)**	4280	3810	86	0	0	0	0	0	0
Ground Floor **(Retail, Supermarket, Parking)**	6250	1540	60	1913	875	592	50	150	724
First Floor **(Residential and Terrace)**	3615	0	0	0	0	0	0	0	0
SecondFloor **(Residential Inc. Balcony)**	2138	0	0	0	0	0	0	0	0
Third Floor **(Residential Inc. Balcony)**	2165	0	0	0	0	0	0	0	0
Fourth Floor **(Residential Inc. Balcony)**	2165	0	0	0	0	0	0	0	0
Fifth Floor **(Residential Inc. Balcony)**	2165	0	0	0	0	0	0	0	0
Sixth Floor **(Residential Inc. Balcony)**	2165	0	0	0	0	0	0	0	0
Seventh Floor **(Residential Inc. Balcony)**	2165	0	0	0	0	0	0	0	0
Eighth Floor **(Rooftop Terrace)**	882	0	0	0	0	0	0	0	0
Totals	**32270**	**9150**	**238**	**1913**	**875**	**592**	**50**	**150**	**724**

Residential Apartments

Total Apt	Total RPA	Studio App		1 Bed 1 Bath App		2 Bed 1 BathApp		2 Bed 2 BathApp		2 Bed 2 BathApp CR		Balcony	Indoor Res Amenity	Outdoor Res Amenity
Number	sqm	Number	sqm	Number	sqm	Number	sqm	Number	sqm	Number	sqm	sqm		
												0		
0	0											0		
0	0											0	127	
24	2534.5	1	46	16	856	2	140	3	232.5	2	180	1080	122	1840
24	1661.5	1	46	16	856	2	140	3	232.5	2	180	207	59	
25	1748	1	46	16	856	2	140	4	310	2	180	216		
25	1748	1	46	16	856	2	140	4	310	2	180	216		
25	1748	1	46	16	856	2	140	4	310	2	180	216		
25	1748	1	46	16	856	2	140	4	310	2	180	216		
25	1748	1	46	16	856	2	140	4	310	2	180	216		
0	0		0		0		0		0		0	0	316	255
173	**12,936**	**7**	**322**	**112**	**5,992**	**14**	**980**	**26**	**2,015**	**14**	**1,260**	**2367**		

	Studio	1 Bed	2 Bed	2 Bed	2 Bed Custom
Apartment Number	7	112	14	26	14
Apartment Average Size	46.0	53.5	70.0	77.5	90.0
Apartment Mix (by number)	4.0%	64.7%	8.1%	15.0%	8.1%
Apartment Mix (by area)	2.5%	46.3%	7.6%	15.6%	9.7%
Apartment Parking	7	112	14	26	14

Visitor	Total Parking
35	208

Development Breakdown	
Site Area	
GFA	**32,270**
Total Residential Apartments	**173**
Total Residential GFA	**16,578**
Typical RPA	**1,748**
Residential Efficency	**74%**
Total Car Parking Spaces	**238**

Notes and Disclaimer

These areas and room numbers are approximate. They relate to areas of the building at the current stage of design and are reliant upon the information available.
All areas in sqm. All areas subject to survey.

Parking Totals

Car Parking		**238**
Bike Parking		**212**

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Appendix B

SIDRA Outputs

MOVEMENT SUMMARY

Site: 101 [Warrigal Access - Existing (Site Folder: General)]

Network: N101 [AM Existing (Network Folder: General)]

Warrigal Access - Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Warrigal Road														
2	T1	1728	5.0	1728	5.0	0.474	0.4	LOS A	2.8	20.3	0.05	0.05	0.05	59.4
3	R2	82	1.0	82	1.0	* 0.363	7.9	LOS A	0.6	4.3	0.13	0.63	0.13	23.7
Approach		1811	4.8	1811	4.8	0.474	0.7	LOS A	2.8	20.3	0.05	0.07	0.05	56.9
East: Site Access														
4	L2	59	1.0	59	1.0	0.289	2.4	LOS A	1.0	7.4	0.26	0.22	0.26	19.1
6	R2	81	1.0	81	1.0	* 0.433	69.2	LOS E	2.7	18.8	1.00	0.73	1.00	18.5
Approach		140	1.0	140	1.0	0.433	41.1	LOS D	2.7	18.8	0.69	0.52	0.69	18.6
North: Warrigal Road														
7	L2	128	1.0	128	1.0	0.072	5.8	LOS A	0.2	1.2	0.02	0.58	0.02	33.7
8	T1	1657	5.0	1657	5.0	* 0.892	12.2	LOS B	15.7	115.0	0.17	0.23	0.26	43.0
Approach		1785	4.7	1785	4.7	0.892	11.8	LOS B	15.7	115.0	0.16	0.26	0.24	41.8
All Vehicles		3736	4.6	3736	4.6	0.892	7.5	LOS A	15.7	115.0	0.13	0.18	0.17	46.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Warrigal Road											
P1	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
East: Site Access											
P2	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	83.7	31.9	0.38
All Pedestrians		11	59.2	LOS E	0.0	0.0	0.95	0.95	86.2	35.2	0.41

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 103 [Centre Road Access - Existing (Site Folder: General)]

Network: N101 [AM Existing (Network Folder: General)]

Centre Road Access - Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Centre Road														
5	T1	735	5.0	735	5.0	0.209	0.3	LOS A	0.6	4.1	0.03	0.02	0.03	59.4
6	R2	99	1.0	99	1.0	* 0.906	85.2	LOS F	7.2	50.8	1.00	0.97	1.50	16.6
Approach		834	4.5	834	4.5	0.906	10.4	LOS B	7.2	50.8	0.14	0.14	0.20	43.6
North: Site Access														
7	L2	99	1.0	99	1.0	0.143	3.2	LOS A	1.4	10.1	0.28	0.23	0.28	38.6
9	R2	19	1.0	19	1.0	0.061	61.1	LOS E	0.6	4.0	0.95	0.64	0.95	5.6
Approach		118	1.0	118	1.0	0.143	12.5	LOS B	1.4	10.1	0.39	0.30	0.39	31.5
West: Centre Road														
10	L2	48	1.0	48	1.0	* 0.310	60.5	LOS E	2.7	19.2	0.89	0.73	0.89	14.0
11	T1	911	5.0	911	5.0	* 0.305	13.2	LOS B	20.1	146.8	0.77	0.69	0.77	46.6
Approach		959	4.8	959	4.8	0.310	15.6	LOS B	20.1	146.8	0.78	0.69	0.78	43.9
All Vehicles		1911	4.4	1911	4.4	0.906	13.1	LOS B	20.1	146.8	0.48	0.42	0.50	42.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Site Access											
P3	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	86.2	35.2	0.41
West: Centre Road											
P4	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
All Pedestrians		11	59.2	LOS E	0.0	0.0	0.95	0.95	87.5	36.9	0.42

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Centre Road/ Warrigal Road Intersection (Site Folder: General)]

Network: N101 [AM Existing (Network Folder: General)]

Centre Road/ Warrigal Road Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Warrigal Road														
1	L2	63	5.0	63	5.0	0.051	6.6	LOS A	0.2	1.3	0.05	0.56	0.05	53.4
2	T1	1615	5.0	1615	5.0	* 0.929	44.0	LOS D	53.4	390.1	0.88	0.91	1.02	25.0
3	R2	200	5.0	200	5.0	* 0.941	88.5	LOS F	15.3	111.9	1.00	1.03	1.49	15.6
Approach		1878	5.0	1878	5.0	0.941	47.5	LOS D	53.4	390.1	0.86	0.91	1.04	24.3
East: Centre Road														
4	L2	202	5.0	202	5.0	0.867	60.0	LOS E	23.8	174.0	1.00	1.10	1.15	26.6
5	T1	533	5.0	533	5.0	0.867	58.1	LOS E	23.8	174.0	1.00	1.02	1.16	26.3
6	R2	147	5.0	147	5.0	0.607	65.3	LOS E	9.0	65.9	0.99	0.80	0.99	11.8
Approach		882	5.0	882	5.0	0.867	59.7	LOS E	23.8	174.0	1.00	1.00	1.13	24.4
North: Warrigal Road														
7	L2	126	5.0	126	5.0	0.093	11.2	LOS B	2.4	17.4	0.34	0.64	0.34	28.4
8	T1	1533	5.0	1533	5.0	0.900	45.0	LOS D	32.4	236.6	0.91	0.92	1.04	28.3
9	R2	172	5.0	172	5.0	0.808	76.9	LOS E	11.5	83.7	1.00	0.86	1.10	20.3
Approach		1831	5.0	1831	5.0	0.900	45.6	LOS D	32.4	236.6	0.88	0.90	1.00	27.2
West: Centre Road														
10	L2	253	5.0	253	5.0	0.325	21.7	LOS C	8.7	63.8	0.61	0.73	0.61	35.5
11	T1	526	5.0	526	5.0	* 0.946	74.7	LOS E	20.1	146.5	0.95	1.03	1.34	17.8
12	R2	166	5.0	166	5.0	* 0.950	86.4	LOS F	12.2	89.0	0.99	1.02	1.47	24.7
Approach		945	5.0	945	5.0	0.950	62.6	LOS E	20.1	146.5	0.87	0.95	1.17	22.1
All Vehicles		5536	5.0	5536	5.0	0.950	51.4	LOS D	53.4	390.1	0.89	0.93	1.06	24.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Warrigal Road											
P1	Full	11	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
East: Centre Road											
P2	Full	11	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
North: Warrigal Road											
P3	Full	11	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
West: Centre Road											

MOVEMENT SUMMARY

Site: 101 [Warrigal Access - Post (Site Folder: General)]

Network: N101 [AM Post Development (Network Folder: General)]

Warrigal Access - Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Warrigal Road														
2	T1	1728	5.0	1728	5.0	0.474	0.4	LOS A	2.8	20.2	0.05	0.05	0.05	59.4
3	R2	92	1.0	92	1.0	* 0.384	8.7	LOS A	0.9	6.5	0.17	0.64	0.17	23.4
Approach		1820	4.8	1820	4.8	0.474	0.8	LOS A	2.8	20.2	0.05	0.08	0.05	56.6
East: Site Access														
4	L2	71	1.0	71	1.0	0.338	2.8	LOS A	1.3	9.3	0.29	0.25	0.29	18.9
6	R2	120	1.0	120	1.0	* 0.641	70.8	LOS E	4.0	28.5	1.00	0.84	1.10	18.3
Approach		191	1.0	191	1.0	0.641	45.7	LOS D	4.0	28.5	0.74	0.62	0.80	18.4
North: Warrigal Road														
7	L2	144	1.0	144	1.0	0.082	5.8	LOS A	0.2	1.4	0.02	0.58	0.02	33.7
8	T1	1657	5.0	1657	5.0	* 0.901	14.4	LOS B	17.6	128.2	0.19	0.25	0.28	41.0
Approach		1801	4.7	1801	4.7	0.901	13.7	LOS B	17.6	128.2	0.17	0.28	0.26	40.0
All Vehicles		3812	4.6	3812	4.6	0.901	9.1	LOS A	17.6	128.2	0.15	0.20	0.19	44.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Warrigal Road											
P1	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
East: Site Access											
P2	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	83.7	31.9	0.38
All Pedestrians		11	59.2	LOS E	0.0	0.0	0.95	0.95	86.2	35.2	0.41

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 103 [Centre Road Access - Post (Site Folder: General)]

Network: N101 [AM Post Development (Network Folder: General)]

Centre Road Access - Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Centre Road														
5	T1	735	5.0	735	5.0	0.211	0.3	LOS A	0.6	4.2	0.03	0.02	0.03	59.4
6	R2	114	1.0	114	1.0	* 0.911	85.2	LOS F	8.3	58.6	1.00	0.98	1.49	16.6
Approach		848	4.5	848	4.5	0.911	11.7	LOS B	8.3	58.6	0.16	0.15	0.22	42.2
North: Site Access														
7	L2	122	1.0	122	1.0	0.174	3.6	LOS A	1.9	13.5	0.30	0.25	0.30	38.4
9	R2	26	1.0	26	1.0	0.077	60.1	LOS E	0.8	5.5	0.95	0.66	0.95	5.7
Approach		148	1.0	148	1.0	0.174	13.6	LOS B	1.9	13.5	0.42	0.32	0.42	30.8
West: Centre Road														
10	L2	53	1.0	53	1.0	* 0.307	58.6	LOS E	2.9	20.4	0.87	0.73	0.87	14.3
11	T1	911	5.0	911	5.0	* 0.312	14.5	LOS B	20.7	151.4	0.79	0.70	0.79	45.6
Approach		963	4.8	963	4.8	0.312	16.9	LOS B	20.7	151.4	0.79	0.70	0.79	43.0
All Vehicles		1960	4.4	1960	4.4	0.911	14.4	LOS B	20.7	151.4	0.49	0.44	0.52	41.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Site Access											
P3	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	86.2	35.2	0.41
West: Centre Road											
P4	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
All Pedestrians		11	59.2	LOS E	0.0	0.0	0.95	0.95	87.5	36.9	0.42

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Centre Road/ Warrigal Road Intersection - Post (Site Folder: General)]

Network: N101 [AM Post Development (Network Folder: General)]

Centre Road/ Warrigal Road Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Warrigal Road														
1	L2	63	5.0	63	5.0	0.051	6.6	LOS A	0.2	1.3	0.05	0.56	0.05	53.4
2	T1	1623	5.0	1623	5.0	* 0.933	45.2	LOS D	54.5	397.7	0.88	0.92	1.04	24.6
3	R2	200	5.0	200	5.0	* 0.941	88.5	LOS F	15.3	111.9	1.00	1.03	1.49	15.6
Approach		1886	5.0	1886	5.0	0.941	48.5	LOS D	54.5	397.7	0.87	0.92	1.05	24.0
East: Centre Road														
4	L2	202	5.0	202	5.0	0.881	64.1	LOS E	25.5	186.2	1.00	1.13	1.20	25.6
5	T1	541	5.0	541	5.0	0.881	60.7	LOS E	25.5	186.2	1.00	1.04	1.20	25.6
6	R2	147	5.0	147	5.0	0.607	65.3	LOS E	9.0	65.9	0.99	0.80	0.99	11.8
Approach		891	5.0	891	5.0	0.881	62.2	LOS E	25.5	186.2	1.00	1.02	1.16	23.8
North: Warrigal Road														
7	L2	126	5.0	126	5.0	0.094	11.2	LOS B	2.4	17.5	0.34	0.64	0.34	28.4
8	T1	1544	5.0	1544	5.0	0.906	46.3	LOS D	32.4	236.6	0.92	0.94	1.05	27.8
9	R2	172	5.0	172	5.0	0.808	76.9	LOS E	11.5	83.7	1.00	0.86	1.10	20.3
Approach		1842	5.0	1842	5.0	0.906	46.7	LOS D	32.4	236.6	0.88	0.91	1.01	26.9
West: Centre Road														
10	L2	253	5.0	253	5.0	0.326	21.7	LOS C	8.8	64.0	0.61	0.73	0.61	35.5
11	T1	531	5.0	531	5.0	* 0.954	77.1	LOS E	20.6	150.6	0.95	1.05	1.37	17.4
12	R2	166	5.0	166	5.0	* 0.952	86.8	LOS F	12.2	89.2	0.99	1.02	1.47	24.6
Approach		949	5.0	949	5.0	0.954	64.0	LOS E	20.6	150.6	0.87	0.96	1.18	21.8
All Vehicles		5568	5.0	5568	5.0	0.954	52.8	LOS D	54.5	397.7	0.89	0.94	1.08	24.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Warrigal Road											
P1	Full	11	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
East: Centre Road											
P2	Full	11	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
North: Warrigal Road											
P3	Full	11	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43

MOVEMENT SUMMARY

Site: 101 [Warrigal Access - PM Existing (Site Folder: General)]

Network: N101 [PM Existing (Network Folder: General)]

Warrigal Access - PM Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Warrigal Road														
2	T1	1765	5.0	1749	5.0	0.480	0.4	LOS A	3.3	24.2	0.05	0.05	0.05	59.3
3	R2	117	1.0	116	1.0	* 0.444	8.0	LOS A	1.0	6.8	0.14	0.63	0.14	23.7
Approach		1882	4.8	1865 N1	4.8	0.480	0.9	LOS A	3.3	24.2	0.06	0.09	0.06	56.0
East: Site Access														
4	L2	98	1.0	98	1.0	0.442	2.7	LOS A	4.8	33.6	0.31	0.27	0.31	18.9
6	R2	182	1.0	182	1.0	* 0.973	93.2	LOS F	7.2	51.1	1.00	1.46	1.73	16.0
Approach		280	1.0	280	1.0	0.973	61.6	LOS E	7.2	51.1	0.76	1.04	1.23	16.4
North: Warrigal Road														
7	L2	172	1.0	172	1.0	0.098	5.8	LOS A	0.2	1.6	0.02	0.59	0.02	33.7
8	T1	1604	5.0	1604	5.0	* 0.881	10.2	LOS B	39.0	284.5	0.16	0.21	0.23	45.1
Approach		1776	4.6	1776	4.6	0.881	9.8	LOS A	39.0	284.5	0.15	0.24	0.21	43.1
All Vehicles		3938	4.4	3921 N1	4.4	0.973	9.3	LOS A	39.0	284.5	0.15	0.23	0.21	43.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Warrigal Road											
P1	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
East: Site Access											
P2	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	83.7	31.9	0.38
All Pedestrians		11	59.2	LOS E	0.0	0.0	0.95	0.95	86.2	35.2	0.41

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 103 [Centre Road Access - PM Existing (Site Folder: General)]

Network: N101 [PM Existing (Network Folder: General)]

Centre Road Access - PM Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Centre Road														
5	T1	632	5.0	632	5.0	0.186	0.3	LOS A	0.5	3.5	0.03	0.02	0.03	59.4
6	R2	162	1.0	162	1.0	* 0.358	51.8	LOS D	8.1	57.1	0.83	0.78	0.83	22.0
Approach		794	4.2	794	4.2	0.358	10.9	LOS B	8.1	57.1	0.19	0.18	0.19	42.3
North: Site Access														
7	L2	196	1.0	196	1.0	0.216	3.6	LOS A	3.2	22.8	0.32	0.26	0.32	38.4
9	R2	59	1.0	59	1.0	0.135	57.4	LOS E	1.7	12.1	0.94	0.68	0.94	5.9
Approach		255	1.0	255	1.0	0.216	16.1	LOS B	3.2	22.8	0.46	0.36	0.46	28.9
West: Centre Road														
10	L2	78	1.0	76	1.0	* 0.348	69.6	LOS E	4.8	34.0	1.00	0.77	1.00	12.8
11	T1	803	5.0	783	5.0	* 0.362	26.2	LOS C	20.5	150.0	0.86	0.75	0.86	38.2
Approach		881	4.6	859 N1	4.6	0.362	30.0	LOS C	20.5	150.0	0.87	0.75	0.87	35.0
All Vehicles		1929	4.0	1907 N1	4.0	0.362	20.2	LOS C	20.5	150.0	0.53	0.46	0.53	36.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Site Access											
P3	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	86.2	35.2	0.41
West: Centre Road											
P4	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
All Pedestrians		11	59.2	LOS E	0.0	0.0	0.95	0.95	87.5	36.9	0.42

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Centre Road/ Warrigal Road Intersection - PM Existing (Site Folder: General)]

Network: N101 [PM Existing (Network Folder: General)]

Centre Road/ Warrigal Road Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Warrigal Road														
1	L2	76	5.0	76	5.0	0.059	7.6	LOS A	0.4	3.0	0.10	0.57	0.10	52.6
2	T1	1491	5.0	1491	5.0	1.012	90.1	LOS F	67.4	491.7	1.00	1.25	1.44	15.4
3	R2	155	5.0	155	5.0	0.728	69.3	LOS E	9.9	71.9	1.00	0.84	1.07	18.6
Approach		1721	5.0	1721	5.0	1.012	84.6	LOS F	67.4	491.7	0.96	1.18	1.35	16.7
East: Centre Road														
4	L2	189	5.0	189	5.0	0.861	63.5	LOS E	24.0	175.3	1.00	1.13	1.12	25.7
5	T1	551	5.0	551	5.0	0.861	60.0	LOS E	24.0	175.3	1.00	1.05	1.17	25.8
6	R2	158	5.0	158	5.0	0.434	56.7	LOS E	8.9	64.7	0.92	0.79	0.92	13.2
Approach		898	5.0	898	5.0	0.861	60.2	LOS E	24.0	175.3	0.99	1.02	1.12	24.2
North: Warrigal Road														
7	L2	114	5.0	114	5.0	0.087	12.9	LOS B	2.4	17.4	0.37	0.64	0.37	26.4
8	T1	1461	5.0	1461	5.0	* 1.038	116.3	LOS F	32.4	236.6	1.00	1.39	1.63	15.2
9	R2	220	5.0	220	5.0	* 1.036	124.9	LOS F	19.8	144.3	1.00	1.10	1.62	14.2
Approach		1795	5.0	1795	5.0	1.038	110.8	LOS F	32.4	236.6	0.96	1.31	1.55	15.2
West: Centre Road														
10	L2	278	5.0	278	5.0	0.391	26.4	LOS C	11.3	82.2	0.69	0.76	0.69	32.6
11	T1	571	5.0	571	5.0	* 1.041	123.9	LOS F	28.3	206.6	1.00	1.29	1.74	12.0
12	R2	244	5.0	244	5.0	* 1.016	116.0	LOS F	21.9	159.8	1.00	1.13	1.66	20.5
Approach		1093	5.0	1093	5.0	1.041	97.4	LOS F	28.3	206.6	0.92	1.12	1.45	16.7
All Vehicles		5506	5.0	5506	5.0	1.041	91.7	LOS F	67.4	491.7	0.96	1.18	1.40	17.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Warrigal Road											
P1	Full	11	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
East: Centre Road											
P2	Full	11	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
North: Warrigal Road											
P3	Full	11	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
West: Centre Road											

MOVEMENT SUMMARY

Site: 101 [Warrigal Access - PM Post (Site Folder: General)]

Network: N101 [PM Post Development (Network Folder: General)]

Warrigal Access - PM Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Warrigal Road														
2	T1	1765	5.0	1730	5.0	0.483	0.5	LOS A	3.7	27.0	0.06	0.05	0.06	59.2
3	R2	140	1.0	137	1.0	* 0.474	8.8	LOS A	1.5	10.8	0.18	0.65	0.18	23.4
Approach		1905	4.7	1867 N1	4.7	0.483	1.1	LOS A	3.7	27.0	0.07	0.10	0.07	55.2
East: Site Access														
4	L2	119	1.0	119	1.0	0.482	3.0	LOS A	5.9	41.5	0.34	0.30	0.34	18.9
6	R2	233	1.0	233	1.0	* 0.932	82.6	LOS F	8.7	61.4	1.00	1.33	1.55	17.0
Approach		352	1.0	352	1.0	0.932	55.7	LOS E	8.7	61.4	0.78	0.98	1.14	17.3
North: Warrigal Road														
7	L2	224	1.0	224	1.0	0.131	5.9	LOS A	0.3	2.2	0.02	0.59	0.02	33.7
8	T1	1556	5.0	1556	5.0	* 0.890	12.4	LOS B	38.6	281.8	0.17	0.23	0.26	42.8
Approach		1780	4.5	1780	4.5	0.890	11.6	LOS B	38.6	281.8	0.15	0.28	0.23	40.9
All Vehicles		4037	4.3	3999 N1	4.3	0.932	10.6	LOS B	38.6	281.8	0.17	0.25	0.23	41.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Warrigal Road											
P1	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
East: Site Access											
P2	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	83.7	31.9	0.38
All Pedestrians		11	59.2	LOS E	0.0	0.0	0.95	0.95	86.2	35.2	0.41

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 103 [Centre Road Access - PM Post (Site Folder: General)]

Network: N101 [PM Post Development (Network Folder: General)]

Centre Road Access - PM Existing
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Centre Road														
5	T1	632	5.0	632	5.0	0.213	0.4	LOS A	0.5	3.6	0.03	0.02	0.03	59.2
6	R2	203	1.0	203	1.0	* 0.895	79.7	LOS E	14.7	103.5	1.00	0.97	1.35	17.3
Approach		835	4.0	835	4.0	0.895	19.7	LOS B	14.7	103.5	0.26	0.25	0.35	35.3
North: Site Access														
7	L2	231	1.0	231	1.0	0.275	4.8	LOS A	4.5	31.9	0.37	0.32	0.37	37.6
9	R2	73	1.0	73	1.0	0.142	53.6	LOS D	2.0	14.5	0.91	0.68	0.91	6.2
Approach		303	1.0	303	1.0	0.275	16.5	LOS B	4.5	31.9	0.50	0.40	0.50	28.6
West: Centre Road														
10	L2	92	1.0	90	1.0	* 0.352	61.2	LOS E	5.0	35.2	0.90	0.76	0.90	13.9
11	T1	803	5.0	788	5.0	* 0.359	23.4	LOS C	20.9	152.5	0.85	0.75	0.85	39.7
Approach		895	4.6	877 N1	4.6	0.359	27.3	LOS C	20.9	152.5	0.86	0.75	0.86	36.2
All Vehicles		2033	3.8	2015 N1	3.9	0.895	22.5	LOS C	20.9	152.5	0.56	0.49	0.59	34.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)
N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
North: Site Access											
P3	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	86.2	35.2	0.41
West: Centre Road											
P4	Full	5	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
All Pedestrians		11	59.2	LOS E	0.0	0.0	0.95	0.95	87.5	36.9	0.42

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 102 [Centre Road/ Warrigal Road Intersection - PM Post (Site Folder: General)]

Network: N101 [PM Post Development (Network Folder: General)]

Centre Road/ Warrigal Road Intersection
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Warrigal Road														
1	L2	76	5.0	76	5.0	0.059	7.9	LOS A	0.5	3.4	0.11	0.57	0.11	52.4
2	T1	1514	5.0	1514	5.0	1.026	98.5	LOS F	71.3	520.4	1.00	1.30	1.50	14.4
3	R2	155	5.0	155	5.0	0.728	69.6	LOS E	10.0	73.2	1.00	0.85	1.10	18.5
Approach		1744	5.0	1744	5.0	1.026	92.0	LOS F	71.3	520.4	0.96	1.23	1.41	15.6
East: Centre Road														
4	L2	189	5.0	189	5.0	0.851	63.7	LOS E	24.3	177.7	1.00	1.14	1.14	25.7
5	T1	564	5.0	564	5.0	0.851	58.0	LOS E	24.3	177.7	0.99	1.02	1.13	26.3
6	R2	158	5.0	158	5.0	0.452	57.7	LOS E	8.9	65.3	0.93	0.80	0.93	13.0
Approach		912	5.0	912	5.0	0.851	59.2	LOS E	24.3	177.7	0.98	1.01	1.10	24.5
North: Warrigal Road														
7	L2	114	5.0	114	5.0	0.088	13.5	LOS B	2.3	16.7	0.36	0.63	0.36	25.7
8	T1	1482	5.0	1482	5.0	* 1.051	118.3	LOS F	32.4	236.6	1.00	1.39	1.62	15.0
9	R2	220	5.0	220	5.0	* 1.036	124.9	LOS F	19.8	144.3	1.00	1.10	1.62	14.2
Approach		1816	5.0	1816	5.0	1.051	112.5	LOS F	32.4	236.6	0.96	1.31	1.54	15.0
West: Centre Road														
10	L2	278	5.0	278	5.0	0.387	26.3	LOS C	11.2	81.8	0.69	0.76	0.69	32.6
11	T1	584	5.0	584	5.0	* 1.031	117.5	LOS F	28.3	206.5	1.00	1.27	1.69	12.5
12	R2	244	5.0	244	5.0	* 1.053	138.7	LOS F	24.2	176.7	1.00	1.19	1.81	18.0
Approach		1106	5.0	1106	5.0	1.053	99.3	LOS F	28.3	206.5	0.92	1.12	1.47	16.4
All Vehicles		5578	5.0	5578	5.0	1.053	94.8	LOS F	71.3	520.4	0.96	1.20	1.41	16.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Warrigal Road											
P1	Full	11	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
East: Centre Road											
P2	Full	11	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43
North: Warrigal Road											
P3	Full	11	59.2	LOS E	0.0	0.0	0.95	0.95	88.8	38.5	0.43

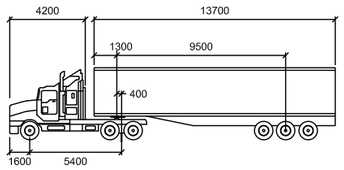
Appendix C

Swept Path Diagrams

SUPERMARKET LOADING - ENTRY

VEHICLE USED IN SIMULATION

(VEHICLE SPEED - 5KM/H)

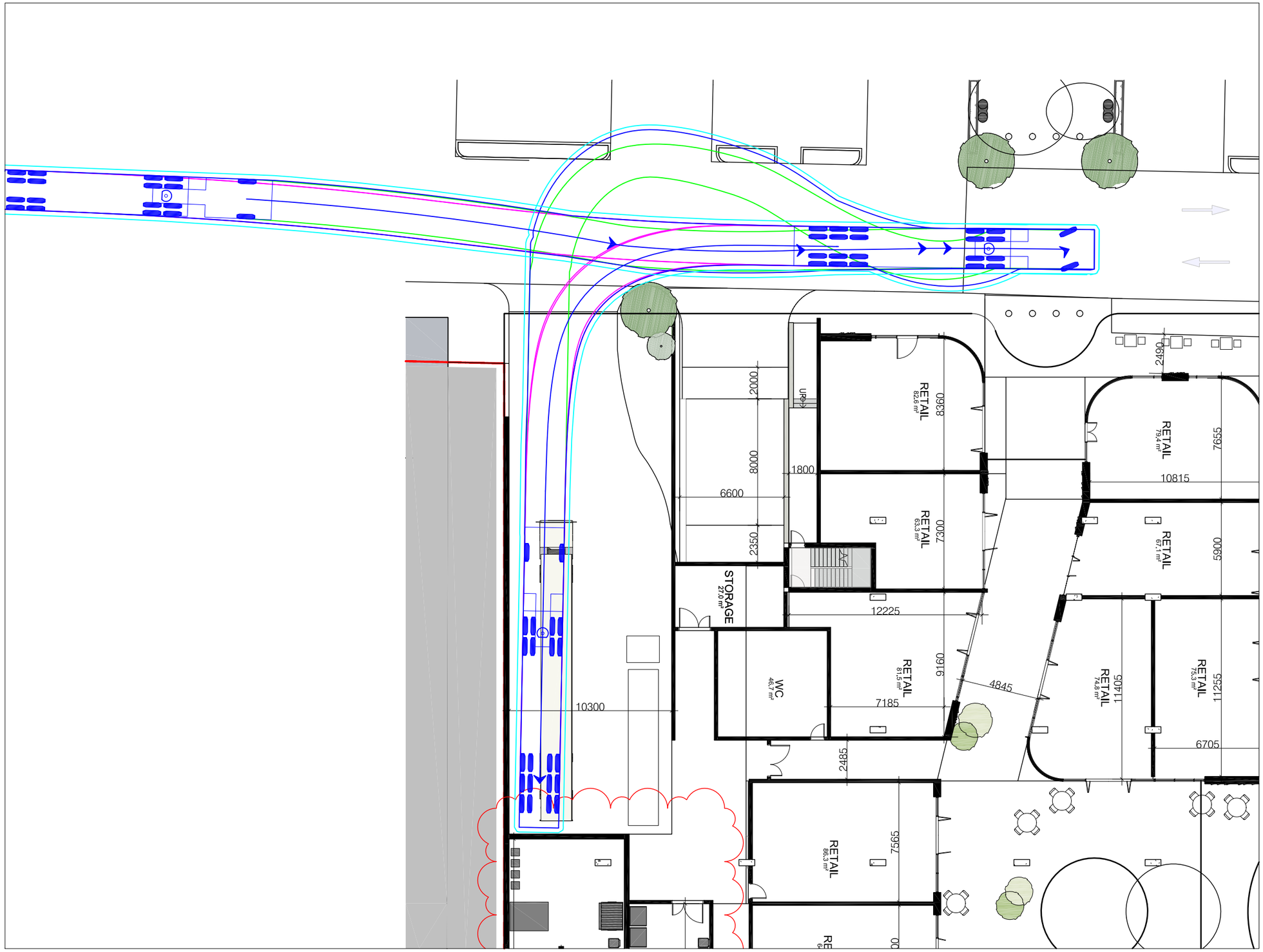


AV (AS 2890.2)

	mm		mm
Tractor Width :	2500	Lock to Lock Time :	6.0
Trailer Width :	2500	Steering Angle :	28.3
Tractor Track :	2500	Articulating Angle :	70.0
Trailer Track :	2500		

LEGEND

- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE



N

PRELIMINARY ONLY
NOT FOR CONSTRUCTION

REV.	REVISION NOTES	REVISION DATE

GENERAL NOTES:

DESIGNED BY: D. MILDER 18 MAR 2022

CHECKED BY: J. PLACE 18 MAR 2022

FILE NAME: 29458-01.dwg

ISSUE: A

Traffix Group

Level 28, 459 Collins Street
MELBOURNE VICTORIA 3000
TEL : (03) 9822-2888

LINKS SHOPPING CENTRE

19m SEMI-TRAILER SWEPT PATHS

PROPOSED SUPERMARKET LOADING

SCALE: 1:250 (A3) 0 2.5 5

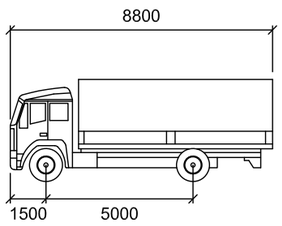
SHEET NO.: 01/02

JOB NO.: 29458

VEHICLE PROFILE

VEHICLE USED IN SIMULATION

(VEHICLE SPEED - 5KM/H)



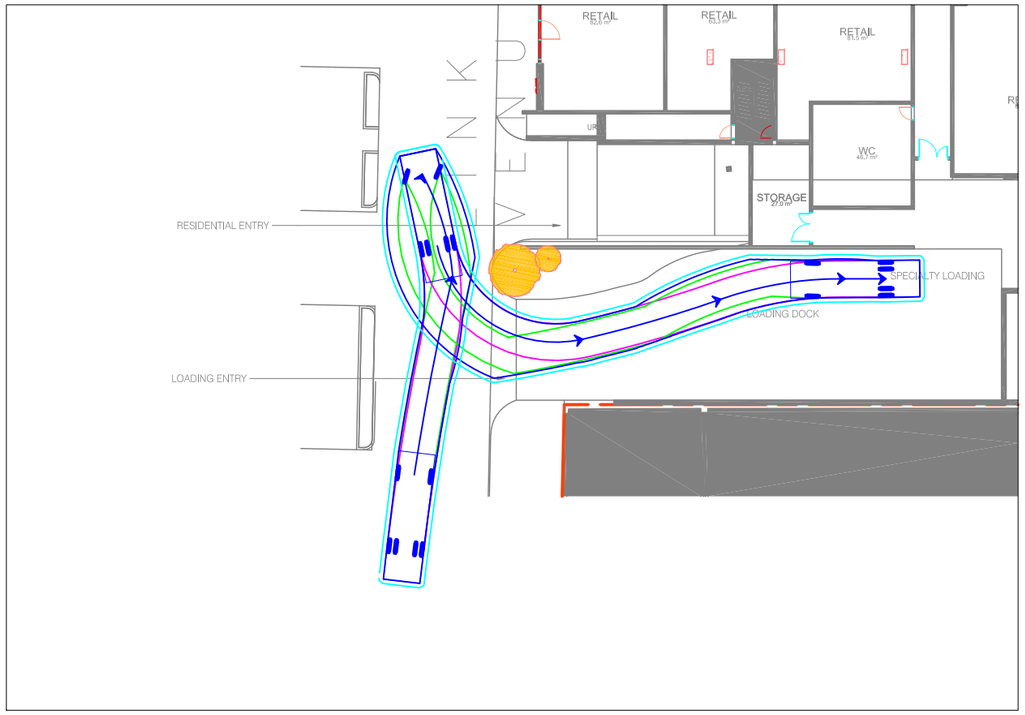
MRV (AS 2890.2)		mm
Width	:	2500
Track	:	2500
Lock to Lock Time	:	6.0
Steering Angle	:	34.0

LEGEND

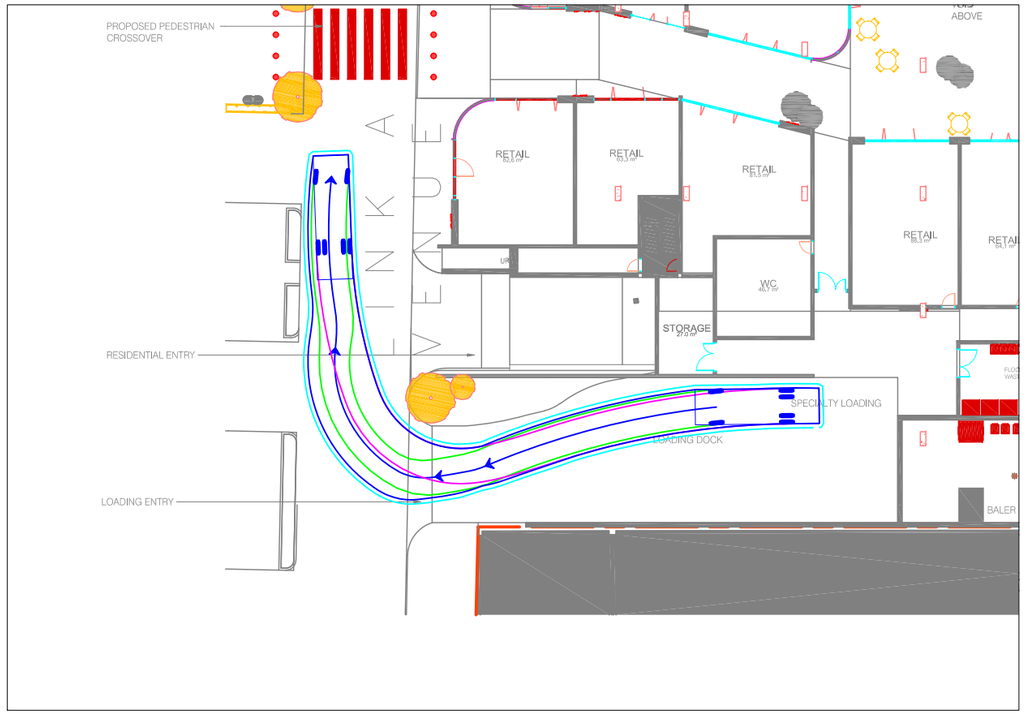
REAR WHEELS — VEHICLE BODY

FRONT WHEELS — BODY CLEARANCE

LOADING - INGRESS



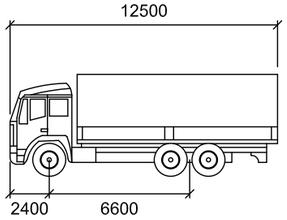
LOADING - EGRESS



VEHICLE PROFILE

VEHICLE USED IN SIMULATION

(VEHICLE SPEED - 5KM/H)



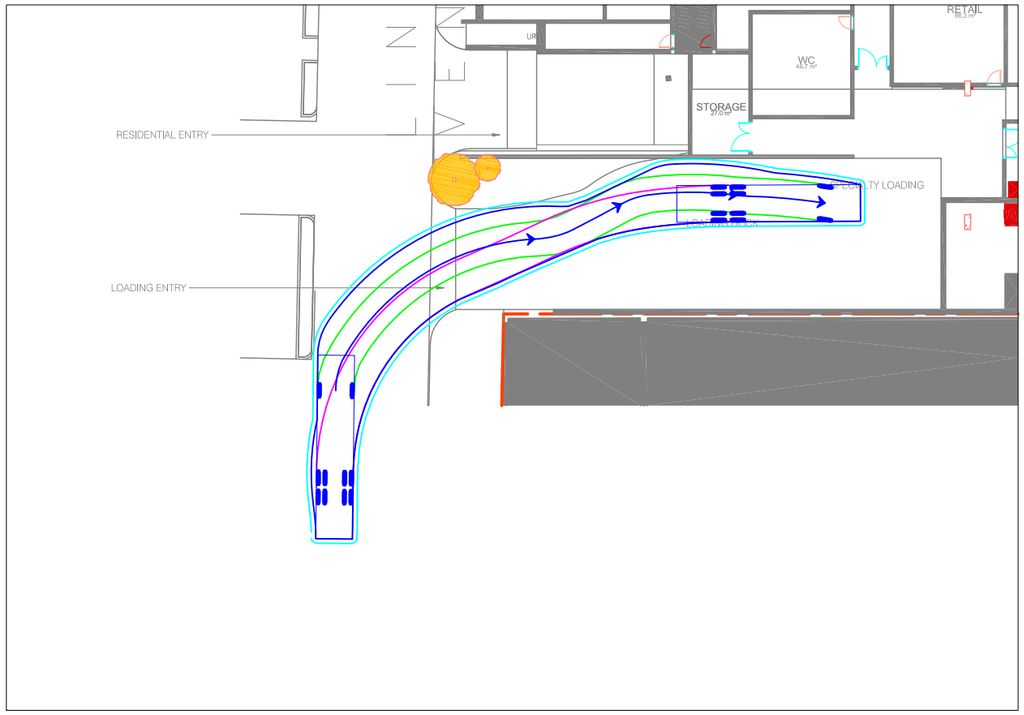
HRV (AS 2890.2)		mm
Width	:	2500
Track	:	2500
Lock to Lock Time	:	6.0
Steering Angle	:	35.2

LEGEND

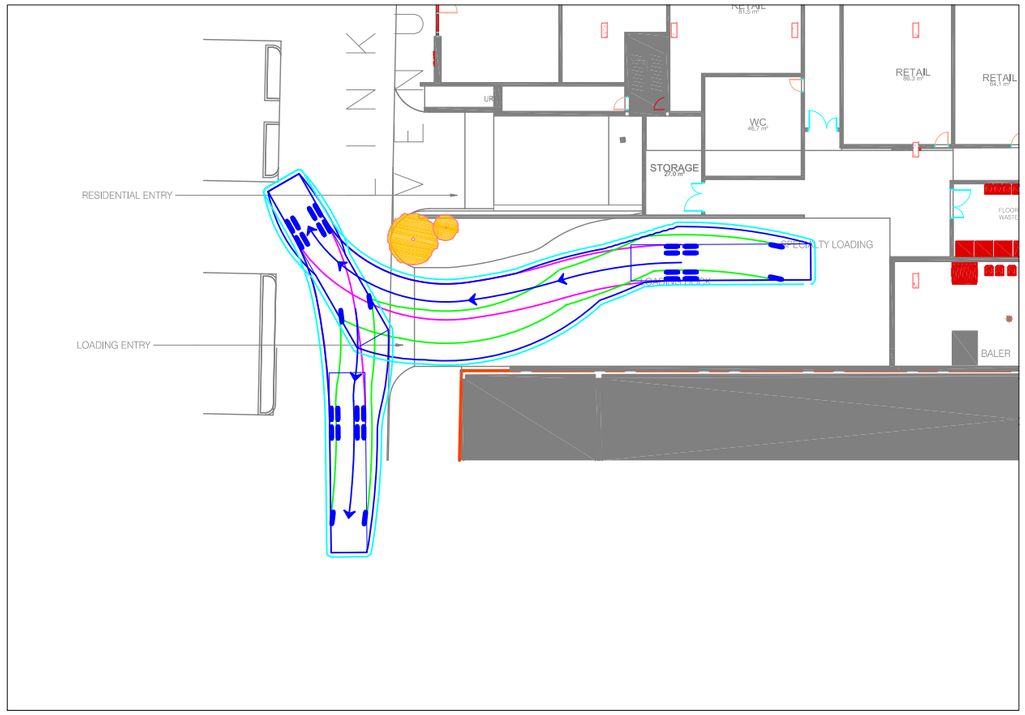
REAR WHEELS — VEHICLE BODY

FRONT WHEELS — BODY CLEARANCE

LOADING - INGRESS



LOADING - EGRESS



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	29/07/2021		D. MILDER	J. PLACE
B	18/03/2022		D. MILDER	J. PLACE

LINKS SHOPPING CENTRE, OAKLEIGH SOUTH

PROPOSED MIXED USE DEVELOPMENT

GENERAL NOTES:

FILE NAME: 29458-02

SHEET NO.: 01

SCALE: 1:200 (A3)

0 2 4

Traffix Group

Level 28, 459 Collins St, MELBOURNE VIC 3000

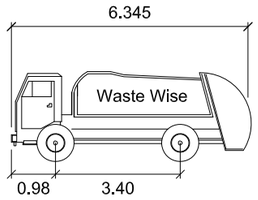
T: (03) 9822 2888

www.traffixgroup.com.au

VEHICLE PROFILE

VEHICLE USED IN SIMULATION

(VEHICLE SPEED - 5KM/H)



Waste Wise Mini (Hino 300)

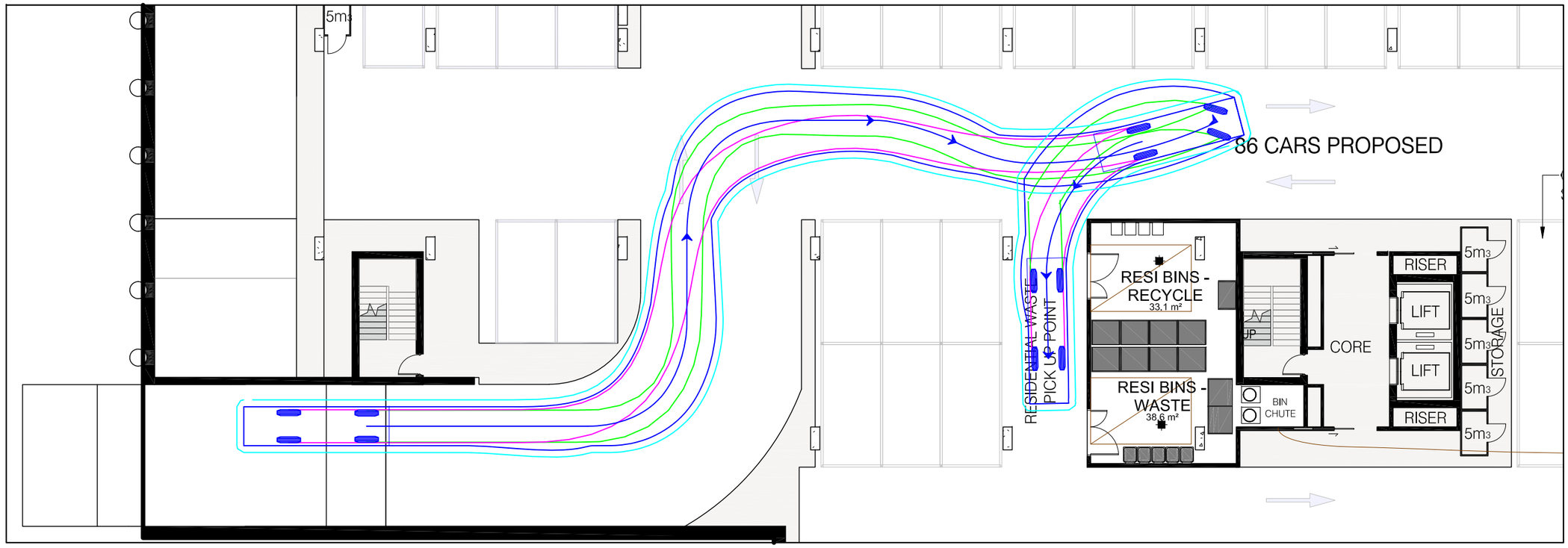
Width	: 1.7m
Front Track	: 1.4m
Rear Track	: 1.44m
Kerb to Kerb Radius	: 12.4m

LEGEND

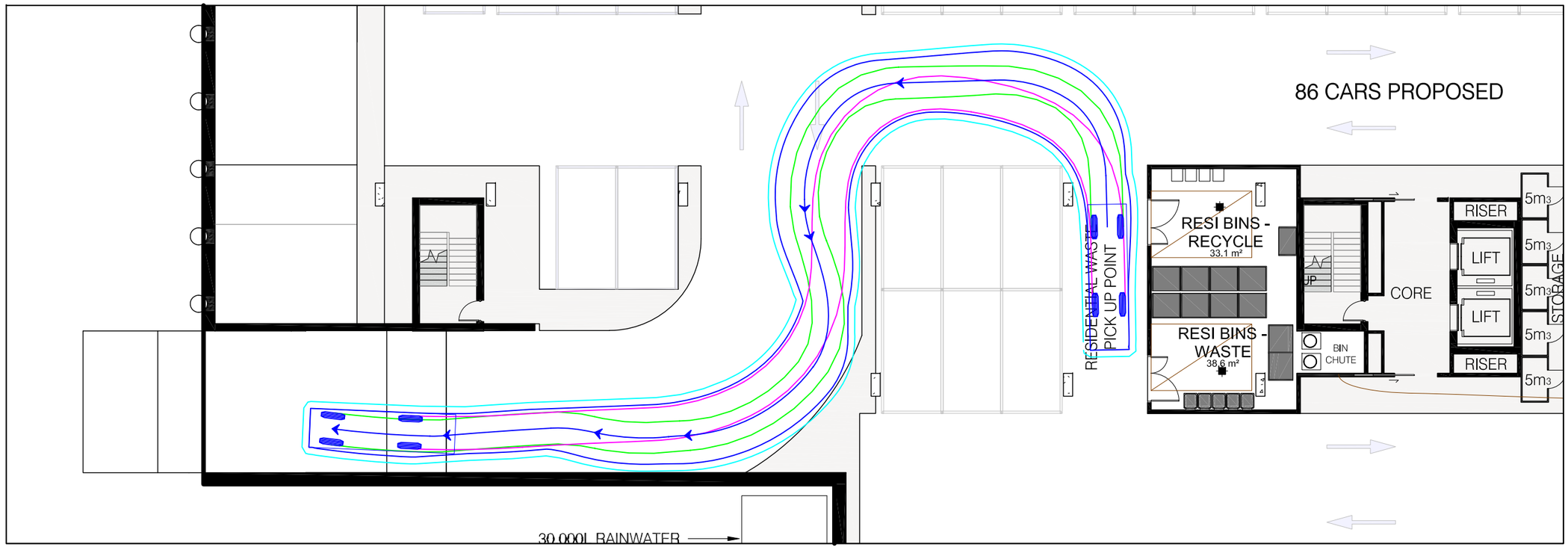
REAR WHEELS — VEHICLE BODY

FRONT WHEELS — BODY CLEARANCE

WASTE COLLECTION - INGRESS



WASTE COLLECTION - INGRESS



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	26/07/2021		D. MILDER	J. PLACE
B	18/03/2022		D. MILDER	J. PLACE

LINKS SHOPPING CENTRE, OAKLEIGH SOUTH

PROPOSED MIXED USE DEVELOPMENT

GENERAL NOTES:

FILE NAME: 29458-02

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SCALE: 1:200 (A3)

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