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Traffic Engineering Assessment

Proposed Residential Development 101-105 Clayton Road, Oakleigh East

November 2022

G31390R-01B

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Document Control

Our Reference: G31390R-01B

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1. Introduction

Traffix Group has been engaged by Pellicano Superannuation Pty Ltd to undertake a Traffic Engineering Assessment for the Proposed Residential Development at 101-105 Clayton Road, Oakleigh East.

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

In the course of undertaking this assessment, we inspected the subject site, reviewed development plans and background material, and assessed the car parking and traffic impacts of the proposal.

Our assessment is as follows.



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2.1. Subject Site

The subject land is located at the northwest corner of the intersection between Clayton Road and Boyd Avenue in Oakleigh East.

The subject site has frontages to Clayton Road (to the east) and Boyd Avenue (to the south) of approximately 48.2 metres and 47.5 metres, respectively.

Vehicle access to the site is currently provided via four (4) crossovers as follows:

- One (1) single width driveway, providing vehicle access to the site via Boyd Avenue for two (2) car spaces in tandem, located at the southwest corner of the site,
- One (1) double width driveway, providing vehicle access to the site via Boyd Avenue for two (2) car port spaces, located centrally along the Boyd Avenue frontage, and
- Two (2) closely spaced single width crossovers with Clayton Road accommodating separate entry and exit movements for main car park area.

We understand that the site is currently occupied by nine (9) two-bedroom dwellings, accommodating 18 car spaces as follows:

- Three (3) single garages at the northern portion of the site,
- 11 car spaces within the central open air car park, and
- Four (4) car spaces accessed directly via Boyd Avenue.

A locality plan and aerial photograph are provided at Figure 1 to Figure 2, respectively.



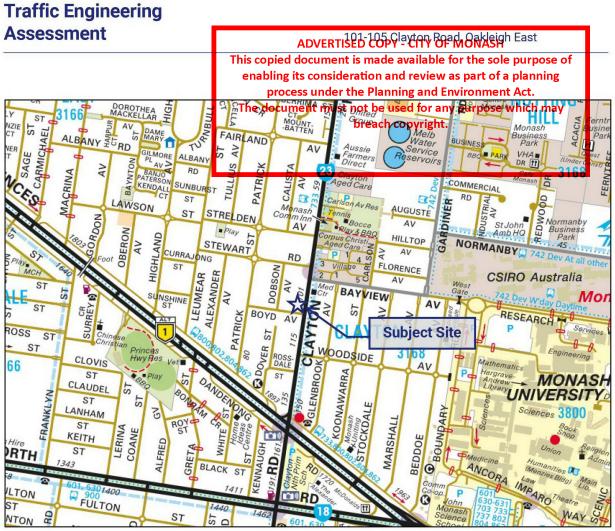


Figure 1: Locality Map

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Figure 2: Aerial Photograph

Source: Nearmap

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The subject site is zoned as 'General Residential Zone – Schedule 3 (GRZ3)' under the Monash Planning Scheme. A planning zone map is provided at Figure 3.

Land uses in the immediate vicinity of the site are 'General Residential Zone – Schedule 3 (GRZ3)', except for Clayton Road immediately east of the site which is zoned 'Transport Road Zone – Principal Road Network (TRZ2)'.

Notable nearby uses include:

- Monash University, located approximately 750 metres walking distance east of the site,
- Clayton North Primary School, located approximately 500 metres walking distance south of the site, and
- Carlson Avenue Reserve, located approximately 450 metres walking distance northwest of the site.

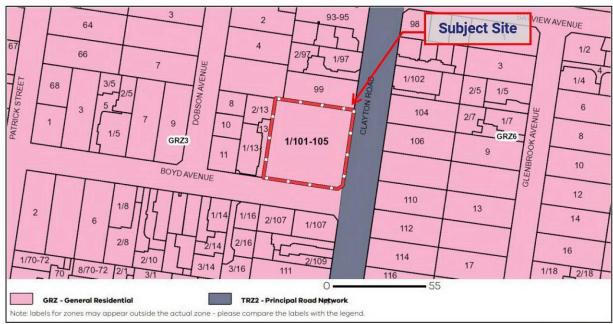


Figure 3: Planning Zone Map - Monash



2.3. Road Network

Clayton Road is classified as a 'Transport Road Zone – Principal Road Network (TRZ2)' under the Planning Scheme and is aligned in a general north-south direction. In the vicinity of the site, Clayton Road has a carriageway width of approximately 12 metres, providing for two (2) traffic lanes in both directions, with on-street parking accommodated within the kerbside lane on both sides of the road.

Kerbside parking near the site on both sides of Clayton Road is subject to Clearway restrictions between '7am-9:30am and 3pm-6:30pm, Monday-Friday'. The site's Clayton Road frontage accommodates up to four (4) on street car spaces.

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A signed speed limit of 60km/h applies to Clayeton Reads be used for any purpose which may

Boyd Avenue is classified as a Council 'Access' road and is aligned in a general east-west direction. In the vicinity of the sire, Boyd Avenue has a carriageway width of approximately 7.3 metres. This accommodates a shared lane of two-way traffic, with kerbside parking on both sides of the road. Alternatively, simultaneous two-way traffic is accommodated when vehicles are parked along one side of the road only.

Kerbside parking near the site is subject to '1P, 8am-6pm, Monday-Friday' restrictions, accommodating approximately four (4) on street spaces along the site frontage on the north side of Boyd Avenue. The south side of Boyd Avenue is unrestricted.

The default speed of 50km/h applies to Boyd Avenue.

Figure 4 to Figure 7 provide views of the surrounding road network.



Figure 4: Clayton Road - View North



Figure 6: Boyd Avenue - View East



Figure 5: Clayton Road - View South



Figure 7: Boyd Avenue - View West



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2.4. Sustainable Modes of Transportent must not be used for any purpose which may breach copyright.

The site has access to public transport with Bus Route 733 operating along Clayton Road, including bus stops located within 50 metres to the south of the site.

Table 1 summarises the available services, whilst Figure 8 illustrates the nearby routes.

Table 1: Nearby Public Transport Services

Service	Route	Route	Distance to Node
Bus	Route 733	Oakleigh - Box Hill via Clayton & Monash University & Mt Waverley	Within 50m south of the site
	Route 742	Ringwood - Chadstone SC via Vermont South & Glen Waverley & Oakleigh	~700m northeast of the site
	Route 800	Dandenong - Chadstone via Princes Highway & Oakleigh	~600m south of the site
	Route 802	Dandenong - Chadstone via Mulgrave & Oakleigh	~600m south of the site
	Route 804	Dandenong - Chadstone via Wheelers Hill & Oakleigh	~600m south of the site
	Route 862	Dandenong - Chadstone via North Dandenong & Oakleigh	~600m south of the site

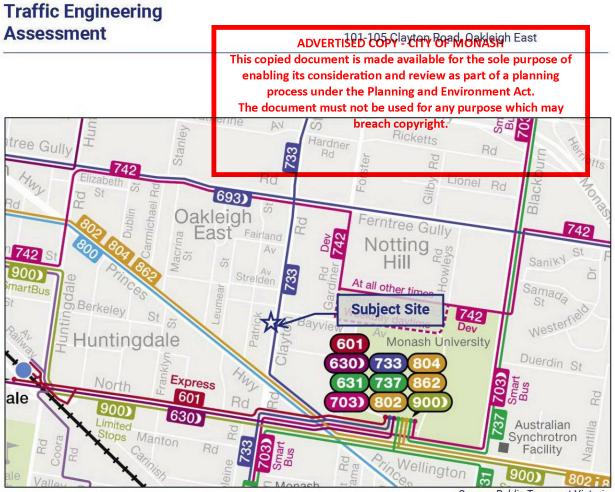


Figure 8: PTV Public Transport Map - Monash

Source: Public Transport Victoria

3. Proposal

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The application proposes to develop the site for the purposes of 10 residential townhouses. The proposed development schedule is provided in Table 2.

Table 2: Proposed Development Schedule

Use		Number
Residential	3 bed dwelling	3 dwellings
	4 bed dwelling	7 dwellings
	Total	10 dwellings

The application proposes a total of 22 on-site car spaces as follows:

- Nine (9) double garages (18 car spaces) accessed from the central common accessway, with vehicle access to the central common accessway via Clayton Road,
- One (1) open air visitor space, with vehicle access to the central common accessway via Clayton Road,
- One (1) double garage, with direct vehicle access via Boyd Avenue, accommodating two (2) car spaces, and
- One (1) open air visitor space located the southwest corner of the site, with direct vehicle access via Boyd Avenue.

A permit is required under Clause 52.29 to alter access to Clayton Road, which is classified as a Transport Road Zone 2 (TRZ2).

The application proposes the provision of one (1) horizontal bicycle rail for visitors, accommodating two (2) bicycles, located near the Clayton Road accessway.

Waste collection is proposed to be undertaken via Council waste collection services, along the Clayton Road and Boyd Avenue frontages as consistent with current arrangements.



Assessment ADVERTISED COPY and Dakleigh East ADVERTISED COPY and Dakleigh East This copied document is made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act. The document must not be used for any purpose which may 4. Car Parking Consideration Consideration and review as part of a planning brocess under the Planning and Environment Act. The document must not be used for any purpose which may

4.1. Statutory Requirements - Clause 52.06

The car parking requirements for the proposed development are outlined under Clause 52.06 of the Monash Planning Scheme. The purpose of Clause 52.06 is:

- 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.

A statutory assessment of the proposal under Clause 52.06 is provided at Table 3.

Table 3: Statutory Car Parking Requirements (Clause 52.06)

Use	No	Statutory Requirement (Column A)	No of Spaces Required
Dwelling	g 10	2 car spaces to each 3 or more bedroom dwelling for residents	20 spaces
		1 car spaces to each 5 dwellings for residential visitors	2 spaces
Total			22 spaces

Based on the table above, the development is statutorily required to provide 20 car spaces for residents and two (2) spaces for residential visitors, totalling 22 car spaces.

The provision of 22 on-site car spaces meets the requirements of Clause 52.06 and is satisfactory. Accordingly, no permit is sought under Clause 52.06 for a car parking reduction.

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4.2. Car Parking Layout & Actes's Arrangements used for any purpose which may breach copyright.

The car park layout and access arrangements have been developed with design advice provided to the project architect (RPC Architects) and is considered to meet the relevant requirements of the Monash Planning Scheme and where applicable, the Australian Standard for Off-Street Parking (AS2890.1:2004).

A review of the car park layout reveals:

General Car Parking Layout

- Two (2) car spaces within a double width garage is to be provided for each dwelling. The double garages have been provided with the internal minimum dimensions of 5.5 metres width and 6 metres length, as per the requirements of Clause 52.06-9 (Design Standard 2). Unit 1-9 garages are to be accessible via and access aisle of at least 5.93 metres wide and the Unit 10 garage has direct access via Boyd Avenue. Note the existing crossover with Boyd Avenue providing access to the Unit 10 garage is proposed to be extended to the west by approximately 820mm.
- Visitor car spaces are to be provided with minimum dimensions of at least 3 metres width and 4.9 metres length, accessible from accessway width of at least 6.4 metres, exceeding the requirements under Clause 52.06-9 (Design Standard 2).
- Sufficient headroom clearance is to be provided for garages and visitor car spaces. In particular, a minimum headroom clearance of at least 2.1 metres will be provided, meeting the statutory requirement under Clause 52.06-9 of the Planning Scheme (Design Standard 2).

Access & Ramps

- The proposed accessway is to be at least 6.1 metres wide for at least 7 metres long at the entrance to the site which provides for a passing area, in accordance with the requirements of Clause 52.06-9 (Design Standard 1) given that the accessway connects to a Transport Zone 2.
- Vehicles can enter and exit the site in a forward direction in accordance with Clause 52.06-9 (Design Standard 1).
- Access to critical garages have been checked for the 85th percentile design vehicle and have been found to be satisfactory. Swept path diagrams demonstrating access to critical spaces are attached at Appendix A. Some of the spaces may require a corrective manoeuvre to access, however, this is expressly permitted by AS2890.1-2004 for longterm (i.e. resident) parking and is consistent with current practice.
- Access to the critical visitor car space, with vehicle access via the common accessway
 has been checked for the 85th percentile design vehicle and has been found to be
 satisfactory. The vehicle will enter the space in a forwards direction and exit the space by
 reversing into the 'Vehicle Reversing Space' (to the south) and then exiting the site in a
 forwards directions. Swept path diagrams demonstrating satisfactory access are
 attached at Appendix A.
- Pedestrian sight splays measuring 2 metres by 2.5 metres have been identified at the exit lane to the Clayton Road site accessway (north side) and the eastern side of the visitor space located at the southwest corner of the site to provide visibility for vehicles exiting

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the site. The sight triangles are to be less than 900 percention of the site o

 In regard to not providing a pedestrian sight splay at the driveway servicing only Unit 10, Clause 52.06-9 of the Planning Scheme states that 'Design Standard 1,3,6 and 7 do not apply to an application to construct one dwelling on a lot'. Although the development is for several dwellings, this driveway will only service one dwelling and therefore we are comfortable that sight triangles are not required.

Based on the foregoing, the car park layout and access arrangements are considered satisfactory and accord with the requirements of Clause 52.06-9 of the Planning Scheme and AS2890.1-2004 (where relevant).

5. Traffic Considerations

The RTA Guide to Traffic Generating Developments (Version 2.2, October, 2002) recommends the following for medium-density dwellings:

- a rate of 4 to 5 vehicle movements per dwelling per day, with a peak hour volume of 0.4 to 0.5 vehicle movements per dwelling, for smaller units and flats (up to 2 bedrooms).
- a rate of 5 to 6.5 vehicle movements per dwelling per day, with a peak hour volume of 0.5 to 0.65 vehicle movements per dwelling, for larger units and townhouses (3 or more bedrooms).

For the purposes of our assessment, we will conservatively adopt the upper limit peak hour rates of 0.65 vehicle movements per dwelling.

Applying the above rates equates to seven (7) vehicle movements in each of the AM and PM peak hours.

Assuming a typical AM peak traffic split of 20% arrivals and 80% departures and PM peak traffic split of 60% arrivals and 40% departures it is projected the development will generate:

AM PEAK:	1 arrival and 6 departures	
PM PEAK:	4 arrivals and 3 departures	

The level of traffic projected to be generated by the proposed development is relatively low, equivalent to an average of approximately 1 vehicle movement every 8-9 minutes during the peak hours

It is important to note that a total of nine (9) existing two-bedroom dwellings located on the overall site would generate a level of traffic. Accordingly, the net increase in traffic generated by the proposed development on the external road network will actually be less than the seven (7) vehicle movements during the peak periods as noted above.

Based on the above, we are satisfied that traffic generated by the proposed development will be satisfactorily accommodated without any unacceptable impacts on Clayton Road, Boyd Avenue or the surrounding road network or intersections.



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6. Bicycle Considerations be used for any purpose which may breach copyright.

Clause 52.34 of the Monash Planning Scheme specifies the bicycle parking requirement for new developments. In relation to dwellings, the requirement to provide bicycle parking is only triggered if the development is four or more storeys. Accordingly, there is no requirement to provide bicycle parking as the development is only three storeys.

Nevertheless, the plans illustrate a single horizontal rail (2 bicycle spaces) for visitors located near the Clayton Road accessway.

Residential bikes can be stored within the curtilage of dwellings including within garages.

Bicycle parking has been provided in accordance with the design requirements under Clause 52.34 of the Planning Scheme and AS2890.3-2015 with horizontal rails as follows:

• Horizontal rails are provided with dimensions of 1.8 metre length and spaced at 1.0 metre centres, accessible from a 1.5 metre wide aisle.

Accordingly, an appropriate provision and design of bicycle parking is to be provided for the proposed development.

7. Loading Considerations

Clause 65.01 of the Planning Scheme states that the responsible authority must consider a number of matters as appropriate including:

• The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.

The proposed use is for residential dwellings only and therefore loading activities are unlikely to occur on a regular basis. Loading activities associated with furniture movers/removalists when residents move in/out are anticipated, however will only occur on the odd occasion. Accordingly, we are of the view that nearby on-street parking provisions will adequately accommodate any loading activities generated by the proposed development.

Waste

The plans identify individual bins within the Units 2-9 garages and individual bins within Unit 1's secluded private open space (SPOS) area, with bins to be wheeled out to the Clayton Road frontage for Council waste collection.

In regard to Unit 10, the plans identify individual bins within the adjacent service yard, with respective bins to be wheeled out to the Boyd Avenue frontage for Council waste collection.

Accordingly, we are satisfied that appropriate waste collection arrangements can be accommodated.

Further details on waste collection arrangements are outlined in the Waste Management Plan prepared by Traffix Group.



8. Conclusions

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Having undertaken a detailed traffic engineering assessment of the proposed residential development at 101-105 Clayton Road, Oakleigh East, we are of the opinion that:

- a. the proposed development has a statutory car parking requirement of 22 car spaces under Clause 52.06-5 of the Planning Scheme and the provision of 22 car spaces meets the requirement and is appropriate,
- b. the proposed parking layout and access arrangements accord with the requirements of the Planning Scheme, AS2890.1:2004 (where relevant) and current practice,
- c. the level of traffic generated as a result of this proposal is low and will not have a material impact on the surrounding road network,
- d. a suitable level of bicycle parking is to be provided,
- e. suitable on-site waste collection arrangements can be accommodated, and
- f. there are no traffic engineering reasons why a planning permit for the proposed residential development at 101-105 Clayton Road, Oakleigh East, should be refused.

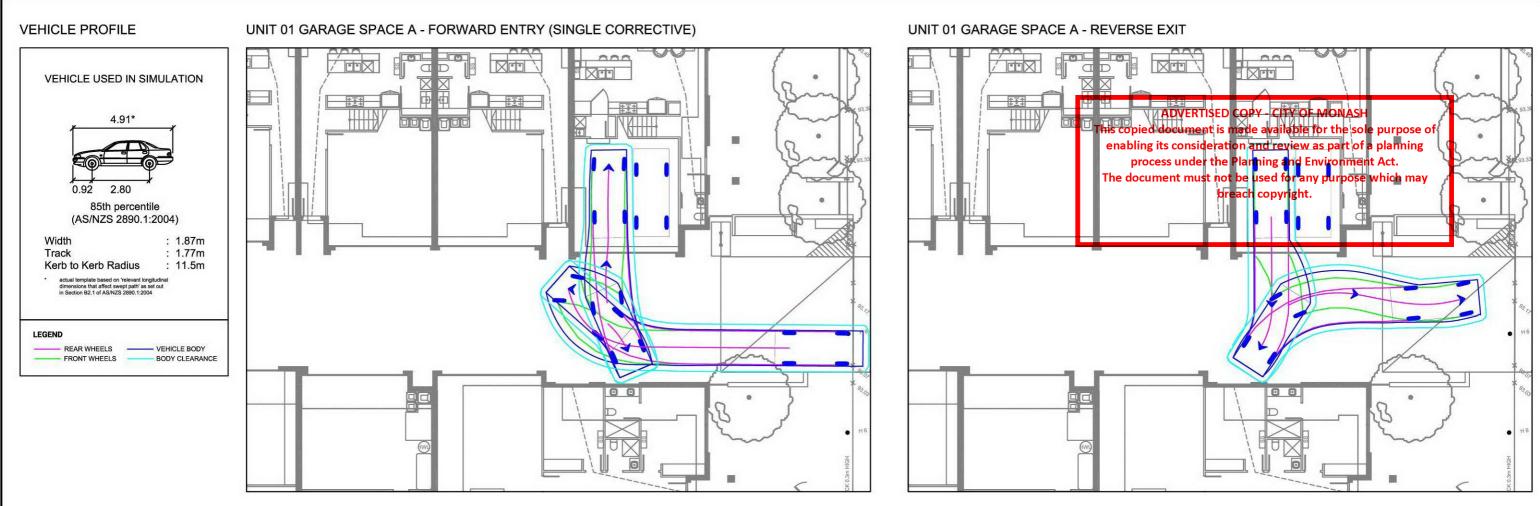




Appendix A Swept Paths

Traffix Group

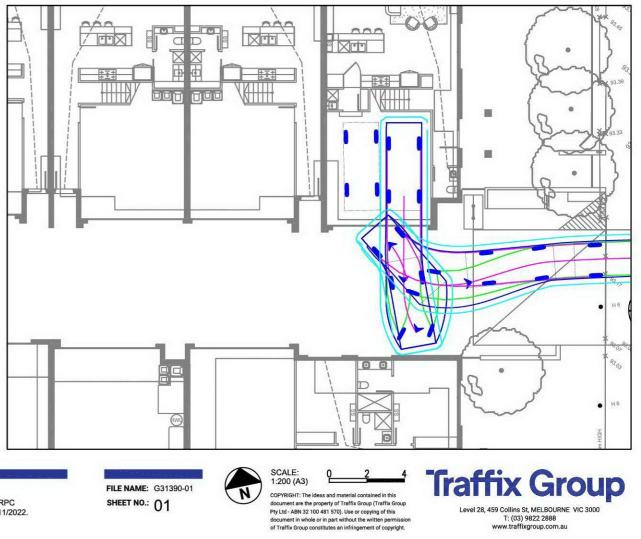
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UNIT 01 GARAGE SPACE B - REVERSE ENTRY



UNIT 01 GARAGE SPACE B - FORWARD EXIT (SINGLE CORRECTIVE)

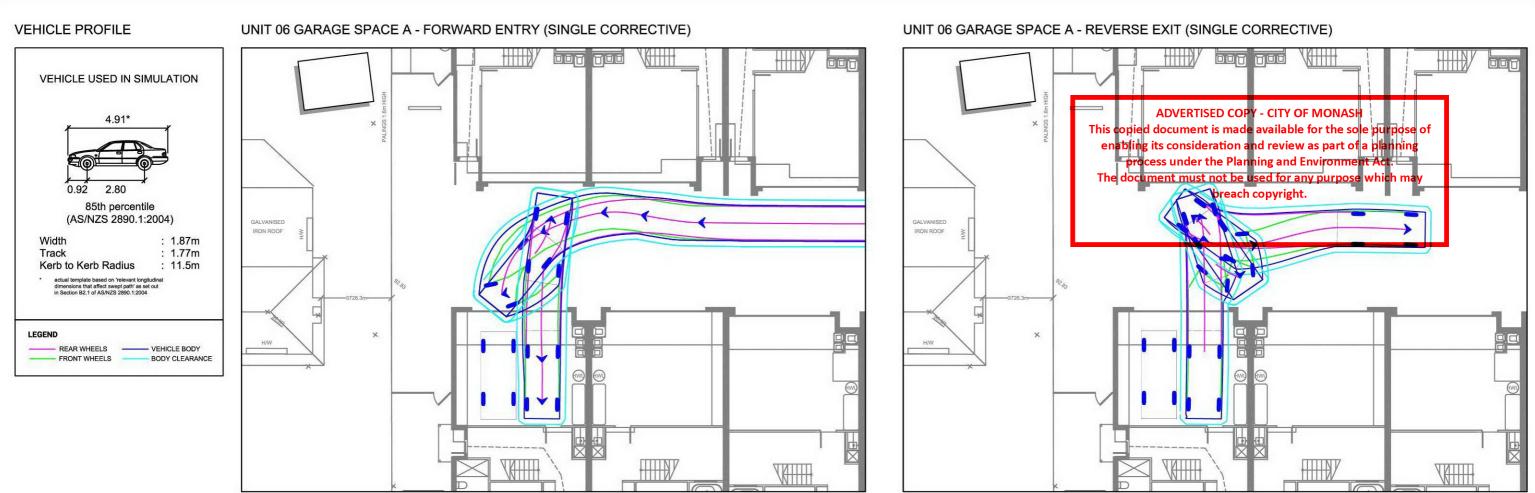


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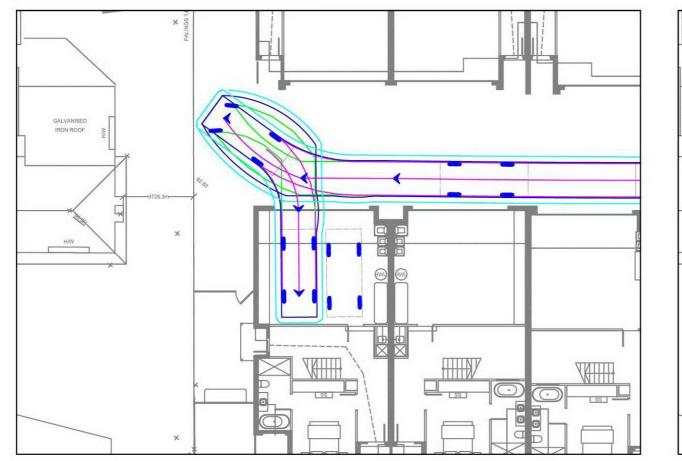
101-105 CLAYTON ROAD, OAKLEIGH EAST PROPOSED RESIDENTIAL USE DEVELOPMENT

GENERAL NOTES: BASE PLANS PREPARED BY RPC ARCHITECTS, RECEIVED 28/11/2022.





UNIT 06 GARAGE SPACE B - REVERSE ENTRY



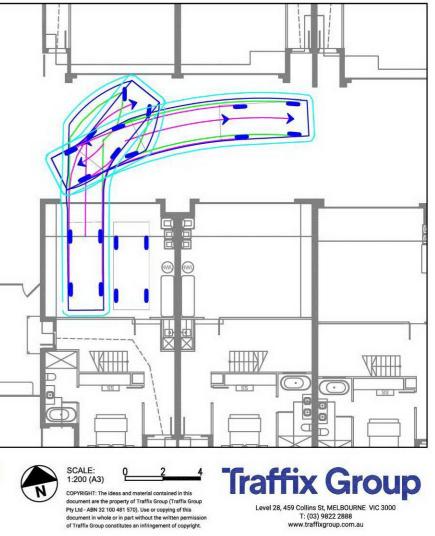
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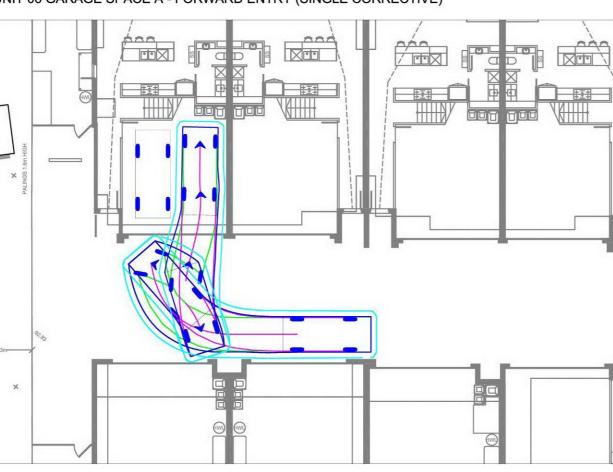
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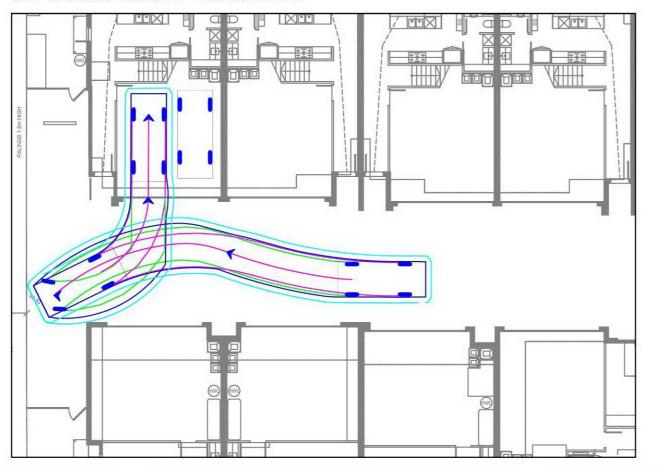
UNIT 01 GARAGE SPACE B - FORWARD EXIT (SINGLE CORRECTIVE)

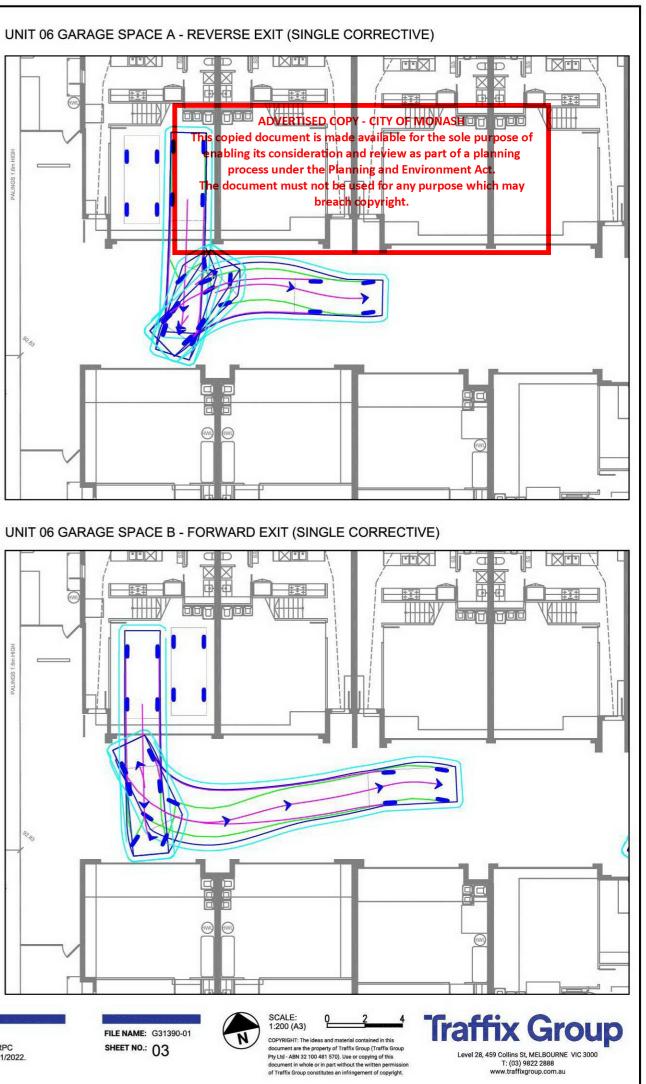
UNIT 06 GARAGE SPACE A - FORWARD ENTRY (SINGLE CORRECTIVE)

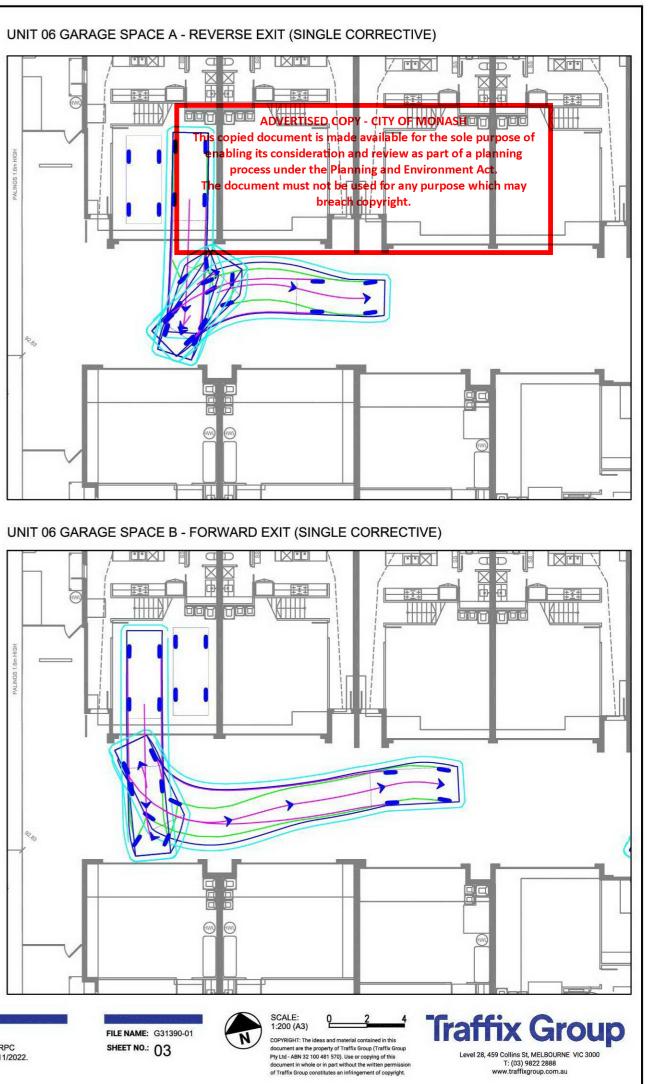
VEHICLE PROFILE VEHICLE USED IN SIMULATION 4.91* 0.92 2.80 85th percentile (AS/NZS 2890.1:2004) Width : 1.87m : 1.77m Track Kerb to Kerb Radius : 11.5m actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004 LEGEND REAR WHEELS - VEHICLE BODY - FRONT WHEELS BODY CLEARANCE

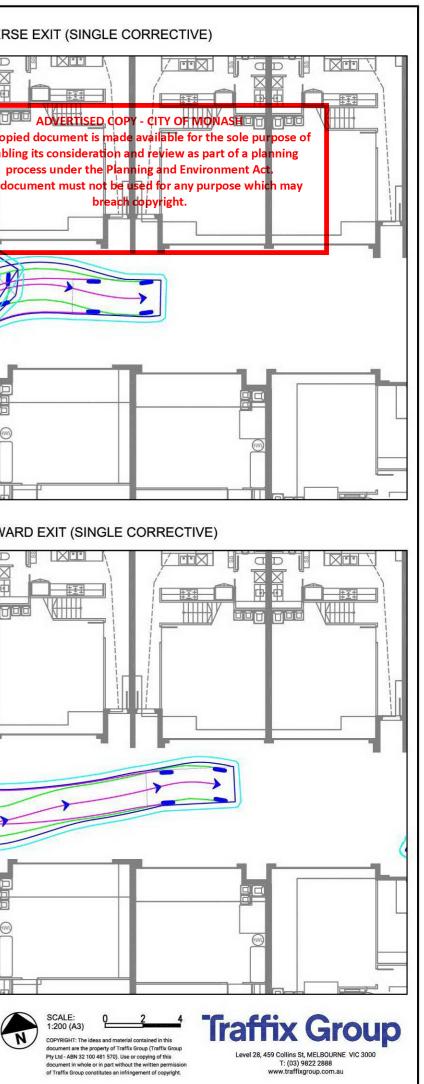


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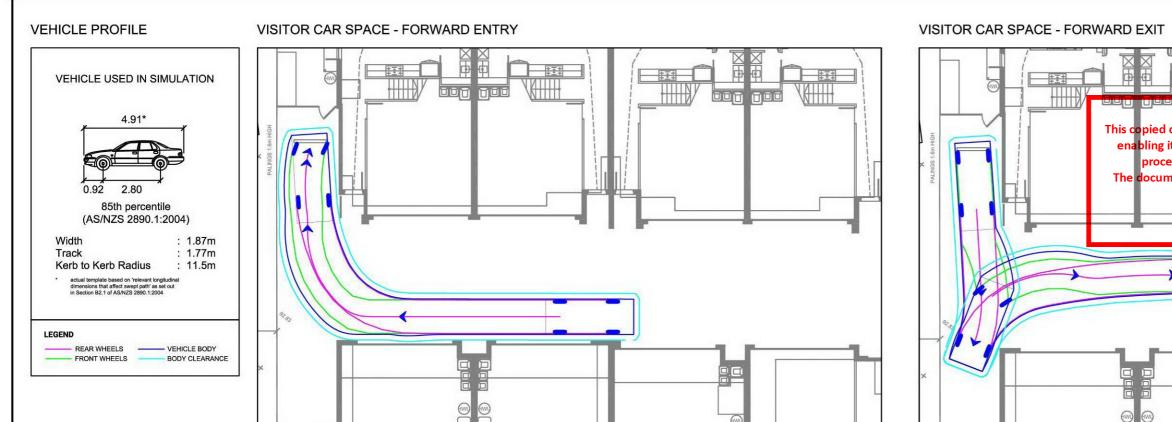




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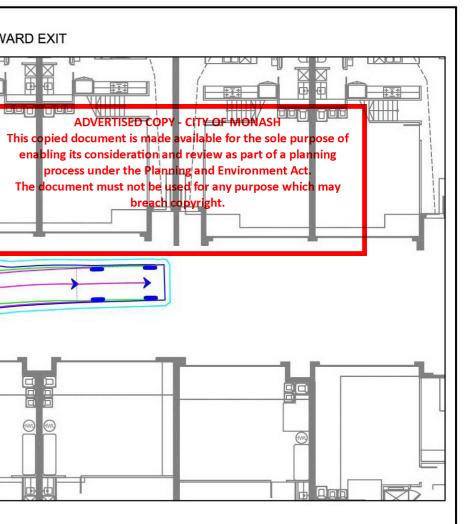
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