



25-27 Easton Avenue, Sylvania Traffic Impact Assessment

Prepared for:
NSW Land and Housing Corporation

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The Transport Planning Partnership

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25-27 Easton Avenue, Sylvania

Traffic Impact Assessment

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1 Introduction

The Transport Planning Partnership (TPPP) has prepared this transport impact assessment (TIA) report to accompany a Development Application (DA) for an affordable multi-dwelling housing development at 25-27 Easton Avenue, Sylvania.

The development is an initiative of the NSW Land and Housing Corporation (LAHC) and involves the construction of six (6) townhouse units with enclosed single garage spaces.

2 Existing conditions

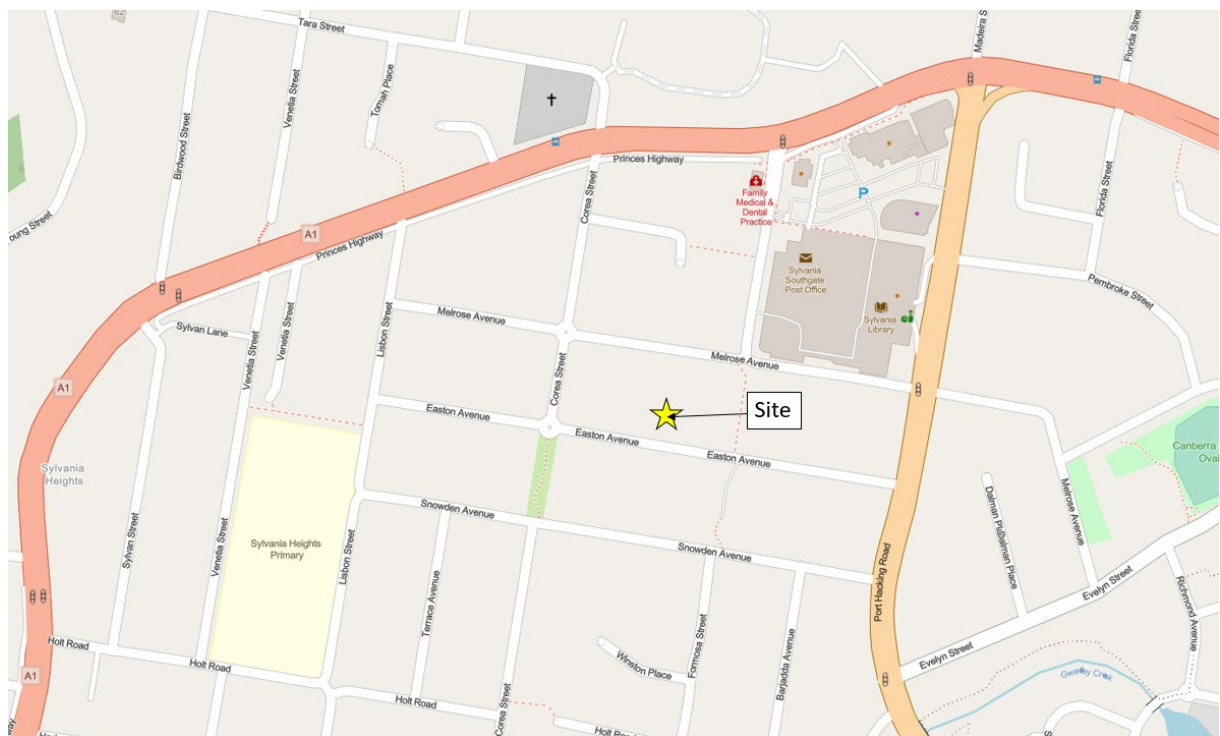
2.1 Site description

The subject site is located at 25-27 Easton Avenue, Sylvania and falls within the local government area of Sutherland Shire Council.

The site is currently occupied by two low-density residential dwellings and is within R2 Low Density Residential zone.

The location of the site and its surrounding environment are presented in Figure 2.1.

Figure 2.1: Locality Plan



Basemap: OpenStreetMap (accessed 22/03/21)

2.2 Abutting Road Network

Port Hacking Road is a two-way classified State Road that provides access to Easton Avenue. It generally has three travel lanes in the northbound direction and two travel lanes in the southbound direction. Clearways are in operation in both directions at 6am-10am and 3pm-7pm, Monday to Friday. Port Hacking Road has a sign-posted speed limit of 70km/h.

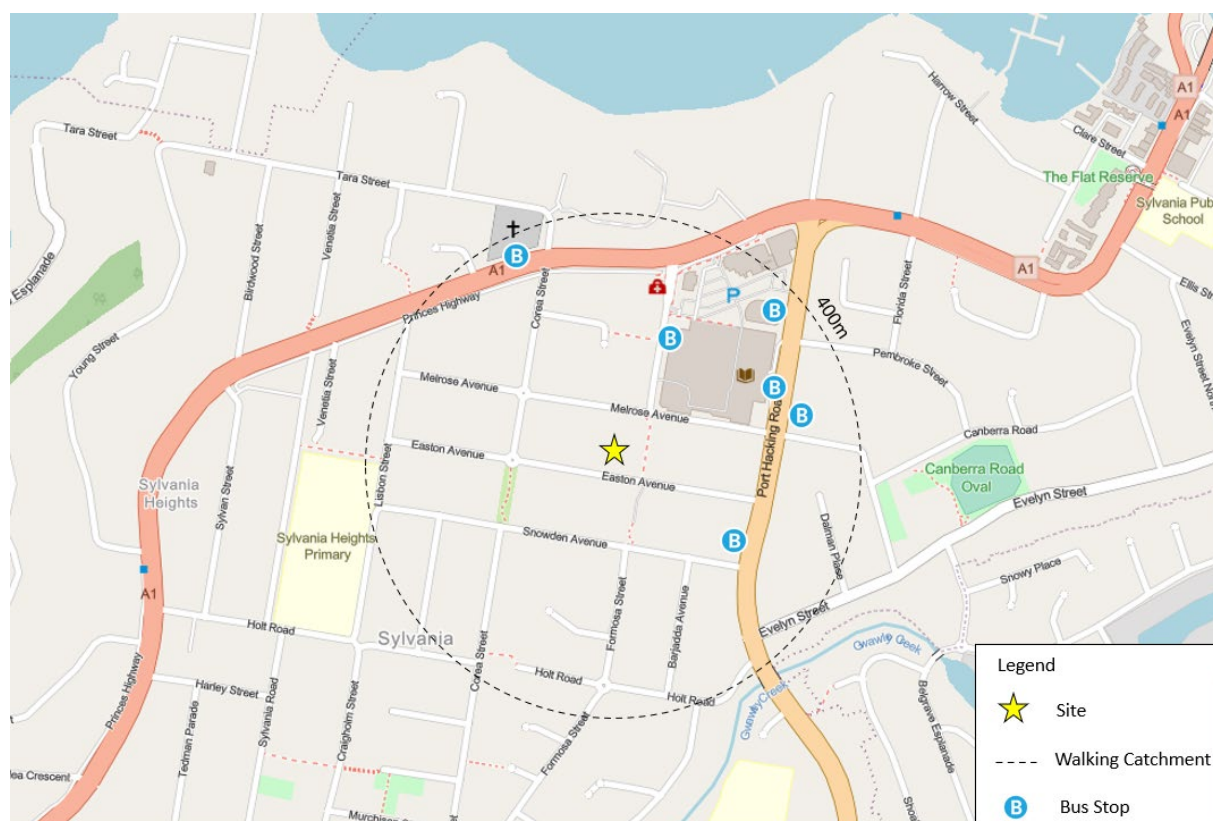
Easton Avenue is a two-way local road along the southern frontage of the site. It has two travel lanes and permits unrestricted kerbside parking on both sides of the road. Easton Avenue has a sign-posted speed limit of 50km/h.

Corea Street is a two-way local road that provides access to Easton Avenue. It has two travel lanes and permits unrestricted kerbside parking on both sides of the road. Corea Street has a sign-posted speed limit of 50km/h.

2.3 Public Transport Services

The bus stops located within a 400m radius of the site are illustrated in Figure 2.2.

Figure 2.2: Transport Services within Close Proximity of the Site



Base map: OpenStreetMap (accessed 22/03/21)

Table 2.1 indicates the bus routes and associated frequencies surrounding the site.

Table 2.1: Existing Bus Services

Closest Location (walking distance)	Route	Hours of Operation	Weekday Frequency	Weekend Frequency
Stop ID: 222493 Port Hacking Road after Snowden Avenue (300m)	958 (Kogarah to Hurstville via Carss park)	1 service at 3:06pm	1 service per day	No services
	971 (Cronulla to Hurstville)	Weekday: 5:30am – 11:10pm Weekend: 6:45am – 11:20pm	Peak – Every 15-20 minutes Off-Peak – Every 30 minutes	Every 30-60 minutes
	972 (Miranda to Sylvania via Sylvania Waters)	Weekday: 7:20am – 5:00pm Weekend: 9:55am – 4:00pm	Every 1 hour	Every 1 hour
Stop ID: 222414 Southgate Shopping Centre, Formosa Street (300m)	970 (Hurstville to Miranda)	Weekday: 5:40am – 11:10pm Weekend: 7:15am – 10:30pm	Peak: Every 5-15 minutes Off-Peak: Every 5-15 minutes	Every 10-30 minutes
	971 (Hurstville to Cronulla)	Weekday: 6:30am – 11:40pm Weekend: 6:45am – 11:00pm	Peak – Every 15-20 minutes Off-Peak – Every 30 minutes	Every 30-60 minutes
	972 (Sylvania to Miranda via Sylvania Waters)	Weekday: 7:25am – 5:10pm Weekend: 10:00am – 4:40pm	Every 1 hour	Every 1 hour
Stop ID: 222494 Southgate Shopping Centre, Port Hacking Road (450m)	970 (Miranda to Hurstville)	Weekday: 5:45am – 9:55pm Weekend: 6:15am – 9:40pm	Peak – Every 15 minutes Off-Peak – Every 30 minutes	Every 30 minutes
Stop ID 222450 Port Hacking Rd opp Southgate Shopping Centre (450m)	958 (Hurstville to Kogarah via Carss park)	1 service at 8:12am	1 service per day	No services

Based on Table 2.1, the site meets the 'accessible area' requirements of the *State Environmental Planning Policy (Housing) 2021 (Housing SEPP)*, which states that an accessible area means land within:

(c) 400 metres walking distance of a bus stop used by a regular bus service (within the meaning of the Passenger Transport Act 1990) that has at least one bus per hour servicing the bus stop between 06.00 and 21.00 each day from Monday to Friday (both days inclusive) and between 08.00 and 18.00 on each Saturday and Sunday.

On this basis, the nearest stops are within a 300m walk (Stop ID 222414 Southgate Shopping Centre, Formosa Street and Stop ID 222493 Port Hacking Road after Snowden Avenue). Bus route 971 and route 970 are the most frequent with services at 15-minute intervals at the peak

periods and 30-minute intervals at off-peak periods, during the hours stipulated by the Housing SEPP i.e. Monday to Friday 6am to 9pm and Weekends 8am to 6pm. Therefore, the site meets the 'accessible area' criteria of the Housing SEPP.

2.4 Pedestrian and Cycling infrastructure

There are sealed pedestrian footpaths along Port Hacking Road and a short footpath along the eastern and southern boundaries of 45 Easton Avenue, Sylvania.

The existing and proposed cycle routes surrounding the site are illustrated in Figure 2.3.

Figure 2.3: Cyclist Infrastructure



Source: Sutherland Shire Bicycle Network Map

Figure 2.3 indicates that cycleways are proposed by Council along Port Hacking Road, Princes Highway and Corea Street.

3 Proposed Development

The proposed development involves demolition of existing dwellings and construction of six affordable townhouse units, each with a single enclosed garage space at 25-27 Easton Avenue, Sylvania.

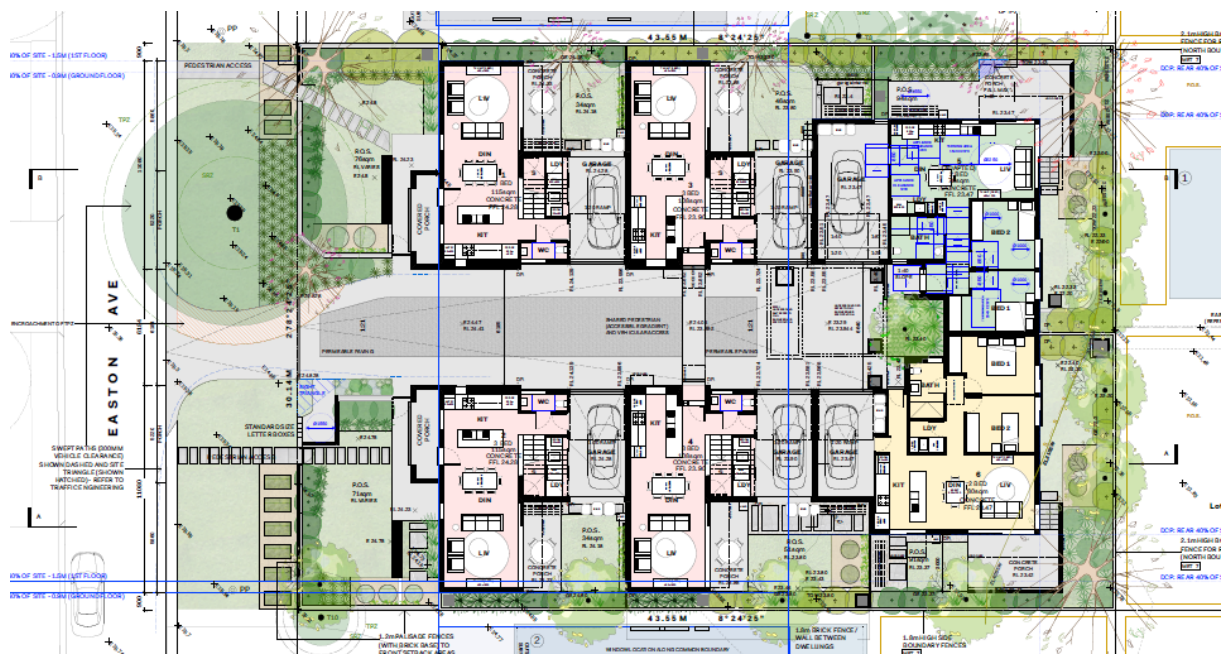
The proposed townhouse units will consist of:

- 1 two-bedroom unit
- 1 two-bedroom adaptable unit
- 4 three-bedroom units

Vehicle access to the site is proposed via a one-lane, two-way driveway off Easton Avenue. Swept path analysis of the driveway is provided in Appendix B.

The proposed ground floor layout is presented in Figure 3.1.

Figure 3.1: Proposed Ground Floor Layout



Source: Carter Williamson

4 Parking Assessment

4.1 Car Parking Requirements

It is noted that the assessment and approval of the proposed development will be undertaken by Land and Housing Corporation (LAHC). As such, requirements set out in Division 6 (Residential Development – Land and Housing Corporation) of *State Environmental Planning Policy (Housing) 2021 (Housing SEPP)* applies and prevail over any Council Development Control Plan.

Division 6 of Housing SEPP states that residential development with height of 8.5m or less and with 60 dwellings or less should provide the minimum parking spaces:

- for development on land in an accessible area – 0.4 parking spaces for each dwelling containing 1 bedroom, 0.5 parking spaces for each dwelling containing 2 bedrooms and 1 parking space for each dwelling containing 3 or more bedrooms, or
- for development that is not in an accessible area – 0.5 parking spaces for each dwelling containing 1 bedroom, 1 parking space for each dwelling containing 2 bedrooms and 1.5 parking spaces for each dwelling containing 3 or more bedrooms,

It is noted that the proposed development is located in an “accessible area” as defined in Housing SEPP. As such, the first parking requirement applies.

Based on the above, the proposed development comprising two 2-bedroom units and four 3-bedroom units must not be refused if at least five (5) car parking spaces were provided, however approval can be granted whether or not the development complies with the subclauses.

It is proposed to provide six (6) car parking spaces on site which satisfies the Housing SEPP requirements.

4.2 Bicycle Parking Requirement

As a minimum, SDCP requires developments to provide one (1) bicycle parking space per 10 car parking spaces for the first 200 car spaces, then one (1) space per 20 parking spaces thereafter.

Since the proposed parking supply is less than 10 spaces, bicycle parking is not required.

4.3 Car Park Design Compliance

Access to the proposed development will be off Easton Avenue with a 3.6m wide driveway, at the narrowest point plus splays to accommodate swept paths. The driveway widens to 5.6m, approx. 5m back from the site boundary to permit two-way movements and access to the garages. The driveway further widens to 6.64m towards the rear of the site. Swept path analysis of the proposed driveway has been undertaken and is provided in Appendix B.

The driveway serves access to six (6) single enclosed garage spaces and provides pedestrian access to units 1 to 4. The use of the driveway as a shared vehicle and pedestrian area is considered acceptable noting that the driveway would only service six garages, and therefore, is expected to generate up to three vehicles per hour (as further discussed in Section 5). Comparatively, formal Shared Zones generally contain up to 100 vehicles per hour.

It is noted that SDCP requires two-way driveway access of a multi housing development located in R2 Low Density Residential zone to have a minimum width of 5.5m.

However, the proposed access is classified as Category 1 driveway in accordance with AS2890.1:2004 Table 3.1 (i.e. access with frontage along local road that serves less than 25 parking spaces). AS2890.1 specifies driveway width of 3m to 5.5m for combined Category 1 driveway. On this note, the proposed driveway width satisfies AS2890.1 requirement.

The proposed enclosed garage spaces generally have 3m door width, 3m internal width and 5.4m internal length, with the exception of one garage space for the adaptable unit. This adaptable garage space has 3m door width, 3.8m internal width and 7.2m internal length.

According to AS2890.1:2004 Figure 5.4, a single garage should have a minimum internal width of 3m. In addition, a single garage door should have a door width of 3m for apron width of 5.6m, and 2.7m for apron width of 6.3m. Therefore, the proposed internal width and door width of 3m for the single garages are adequate.

In addition, the proposed garage for the adaptable unit complies with AS4299:1995 which indicates that garage for adaptable units should have a minimum dimension of 6m length and 3.8m width.

Minimum headroom clearance of 2.5m should be provided within the adaptable garage, and 2.2m for other garage spaces and parking aisles.

Overall, the proposed car park and vehicle access layout complies with the relevant Australian Standards.

5 Transport Assessment

Roads and Maritime Services provides traffic generation rates for different land uses in their Guide to Traffic Generating Developments (Guide) and in their technical direction TDT 2013/04a containing revised rates.

The Guide stipulates the following trip generation rates for medium density residential flat buildings:

- weekday peak hour vehicle trips (up to 2 bedrooms): 0.4-0.5 per dwelling
- weekday peak hour vehicle trips (3 or more bedrooms): 0.5-0.65 per dwelling

By using the trip rates presented above, the proposed development is anticipated to generate approximately 3 vehicles per hour during the weekday peak periods.

In addition, TDT 2013/04a indicates that low density residential dwellings generate 0.95-0.99 vehicle trips per dwelling during the weekday peak hours. Therefore, the existing two (2) dwellings on site is estimated to generate 2 vehicles per hour during the weekday peak hours.

On this basis, the proposed development is anticipated to generate a net additional peak traffic of 1 vehicle per hour.

The above traffic generation estimate is considered to be minimal and is not expected to have significant impact on the surrounding road network.

6 Conclusion

This report presents the traffic and parking implications of the proposed affordable multi dwelling housing development at 25-27 Easton Avenue, Sylvania. The key findings of the report are presented below:

- The development proposal related to demolition of existing dwellings and construction of 6 townhouse units and 6 car parking spaces.
- The proposed car parking supply meets the minimum Housing SEPP requirement of 5 car parking spaces.
- The proposed car park and vehicle access layout complies with the design requirements specified in AS2890.1:2004 and AS4299:1995.
- Traffic generation of the existing and proposed development has been estimated using the rates stipulated in *Roads and Maritime Services Guide to Traffic Generating Developments* (Guide) and in their technical direction TDT 2013/04a. Based on these rates, the proposed development is anticipated to generate 3 vehicle trips per hour or net additional 1 vehicle trip per hour during the weekday peak periods.
- The estimated trip generation is considered minimal and is not expected to have a noticeable impact on the surrounding road network.

Appendix A

Architectural Plans



KEY

- original dwellings
- recent dwellings
- Private Open Space
- DCP setback controls
- DCP potential envelope
- entrance
- height in storeys
- existing RL
- proposed new RL
- garden edge/top of wall
- permeable paving
- hardstand

EXISTING TREES

Where discrepancies exist between the Survey & Arborist Report, Arborist Report information shown in brackets. Height, Spread & Trunk Diameter from Survey, TPZ & SRZ from Arborist Report. Refer to Arborist Report for more details. All dimensions in metres. e.g. H16/ T0.4/ S10/ TPZ5/ SRZ4 = Height/ Trunk dia / Spread dia / Tree Protection Zone (radial) / Structural Root Zone (radial)

- existing trees
- proposed trees
- TPZ / SRZ
- trees to be removed

High Rating - Priority for Retention:

- T1 Narrow-leaved Ironbark H15(27)/ T0.8(0.58)/ S12(12-16)/ TPZ7/ SRZ3/

Medium Rating - to adjacent properties Retain & Protect:

- T10 Common Juniper H7(10)/ T0.3(0.2)/ S3(2)/ TPZ2.4/ SRZ2

Low Rating - to adjacent properties Retain & Protect:

- T7 Bangalow Palm - Group of 4 H10/ T0.2/ S4/ TPZ3/ SRZNA
- T8 Port Wine Magnolia H4(5)/ T0.3(0.1)/ S6(2-4)/ TPZ2/ SRZ1.7
- T9 Pittosporum Variegated H4(5)/ T0.3(0.1)/ S6(2)/ TPZ2/ SRZ1.5

Remove:

- T2 Bracelet Honey-Myrtle H4(8)/ T0.3(0.25)/ S6(4)/ TPZ3/ SRZ2.3
- T3 Bangalow Palm H6/ T0.26/ S4/ TPZ3/ SRZ N/A
- T4 Bangalow Palm H6/ T0.27/ S4/ TPZ3/ SRZ N/A
- T5 Bangalow Palm H6/ T0.2/ S4/ TPZ3/ SRZ N/A

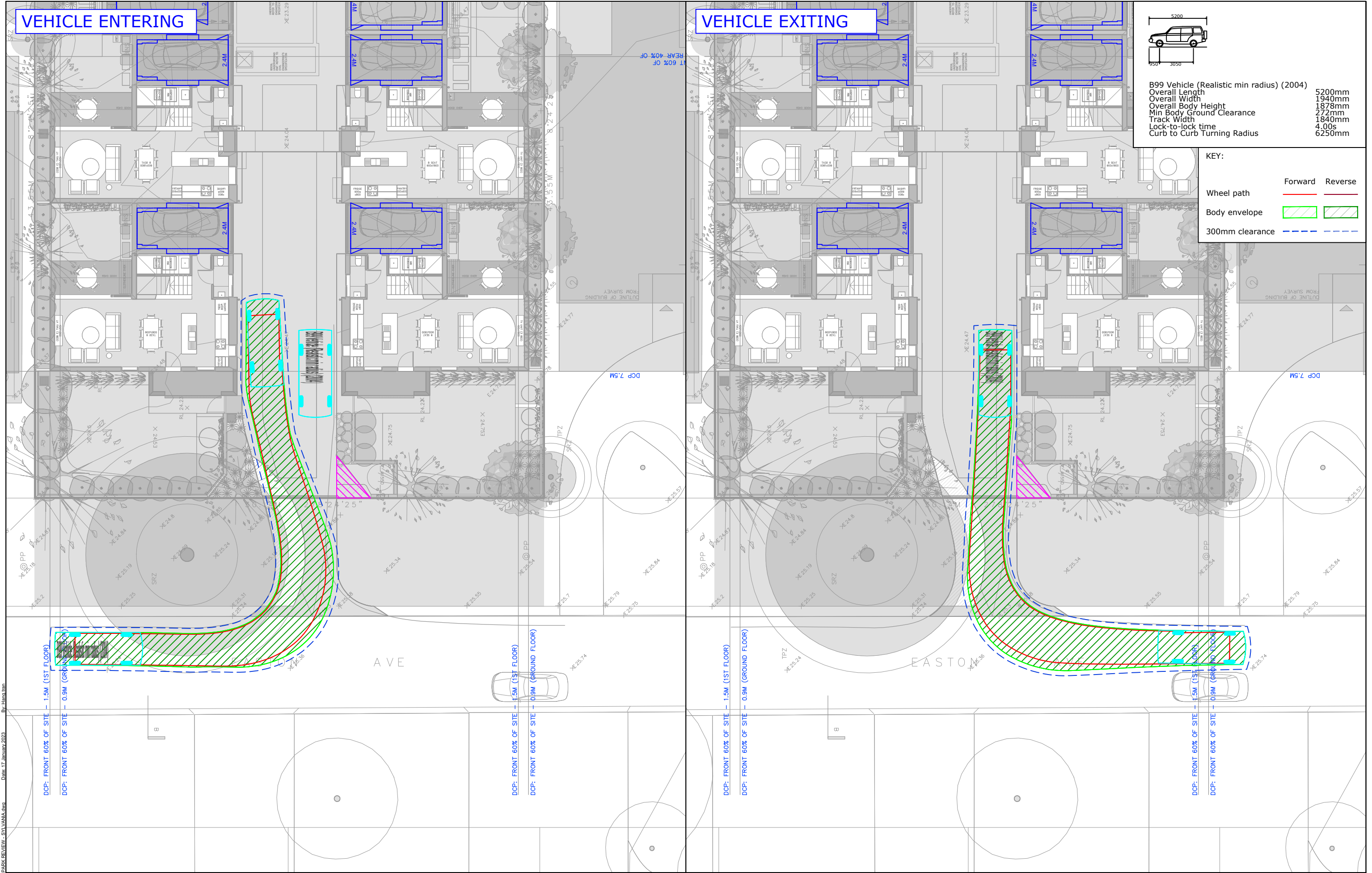
Walls:

- Party walls: 270 Brick Cavity
- External walls: 270 Brick Veneer

ROOM AREAS - LAHC SYLVANIA																									
DWELLINGS	ROOMS																								
	L/K/D		B1		B2		B3		Bathroom		WC		Laundry		Garage										
	W	L	m2	W	L	m2	W	L	m2	W	L	m2	W	L	m2	W	L	m2							
1 & 2	4,000	10,300	41.0	4,000	4,390	17.5	2,990	4,610	31.7	3,000	3,640	10.9	1,705	3,000	5.1	900	2,470	2.2	1,100	3,170	3.4	3,000	5,425	16.2	
3 & 4	3,990	10,295	41.0	4,000	3,600	14.4	2,990	3,820	11.4	3,000	3,640	10.9	2,840	1,710	4.8	900	2,310	2.0	1,100	3,170	3.4	3,000	5,425	16.2	
5	4,000	7,680	30.7	3,225	4,600	13.2	3,390	3,600	12.2	N/A	N/A	N/A	2,295	2,830	6.5	N/A	N/A	N/A	N/A	745	2,375	1.7	3,800	7,210	27.3
6	8,480	3,955	33.5	3,065	4,600	12.8	2,997	3,645	10.9	N/A	N/A	N/A	1,800	3,000	5.4	N/A	N/A	N/A	N/A	1,700	1,800	3.06	3,000	5,460	16.3

Appendix B

Swept Paths



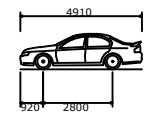
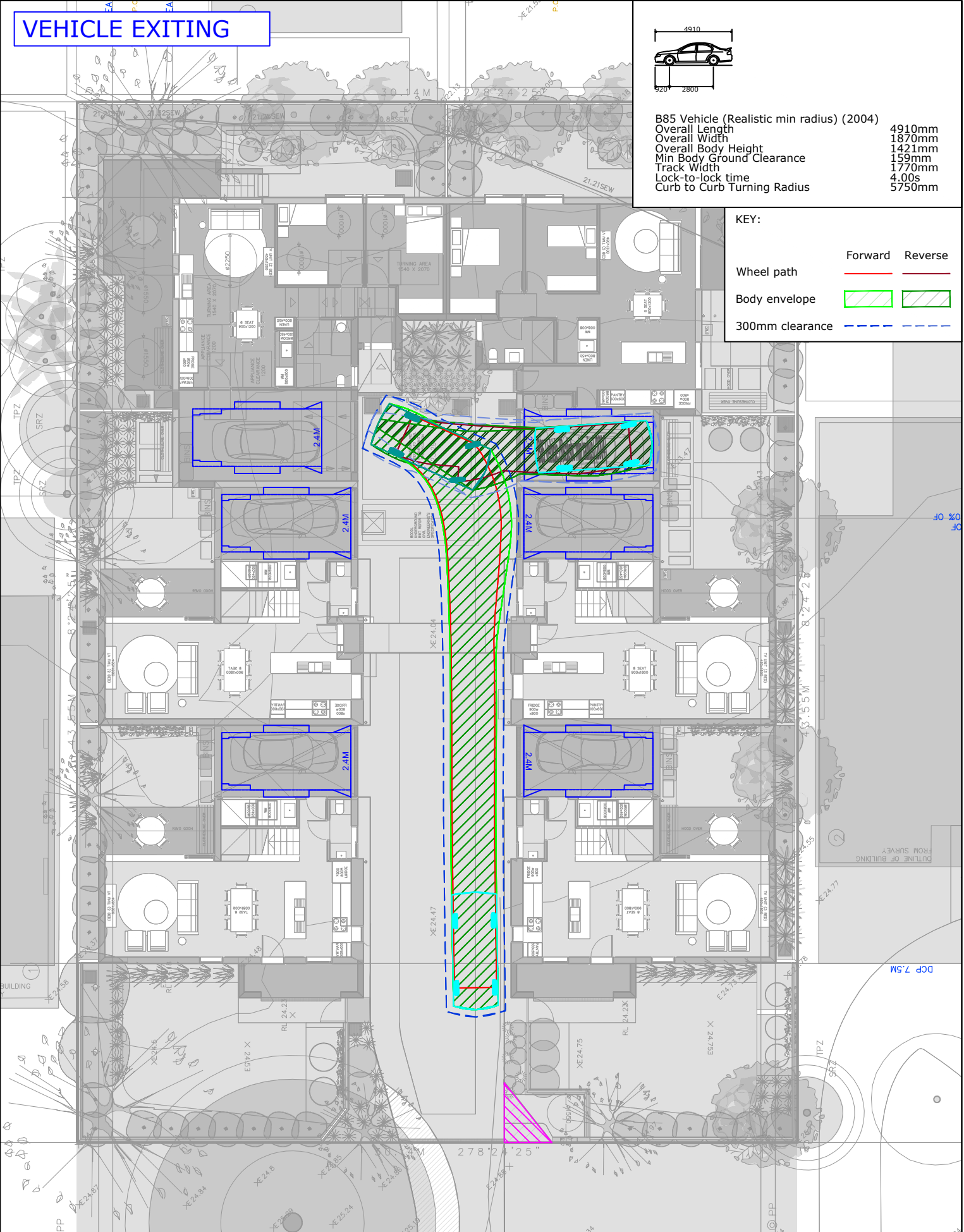
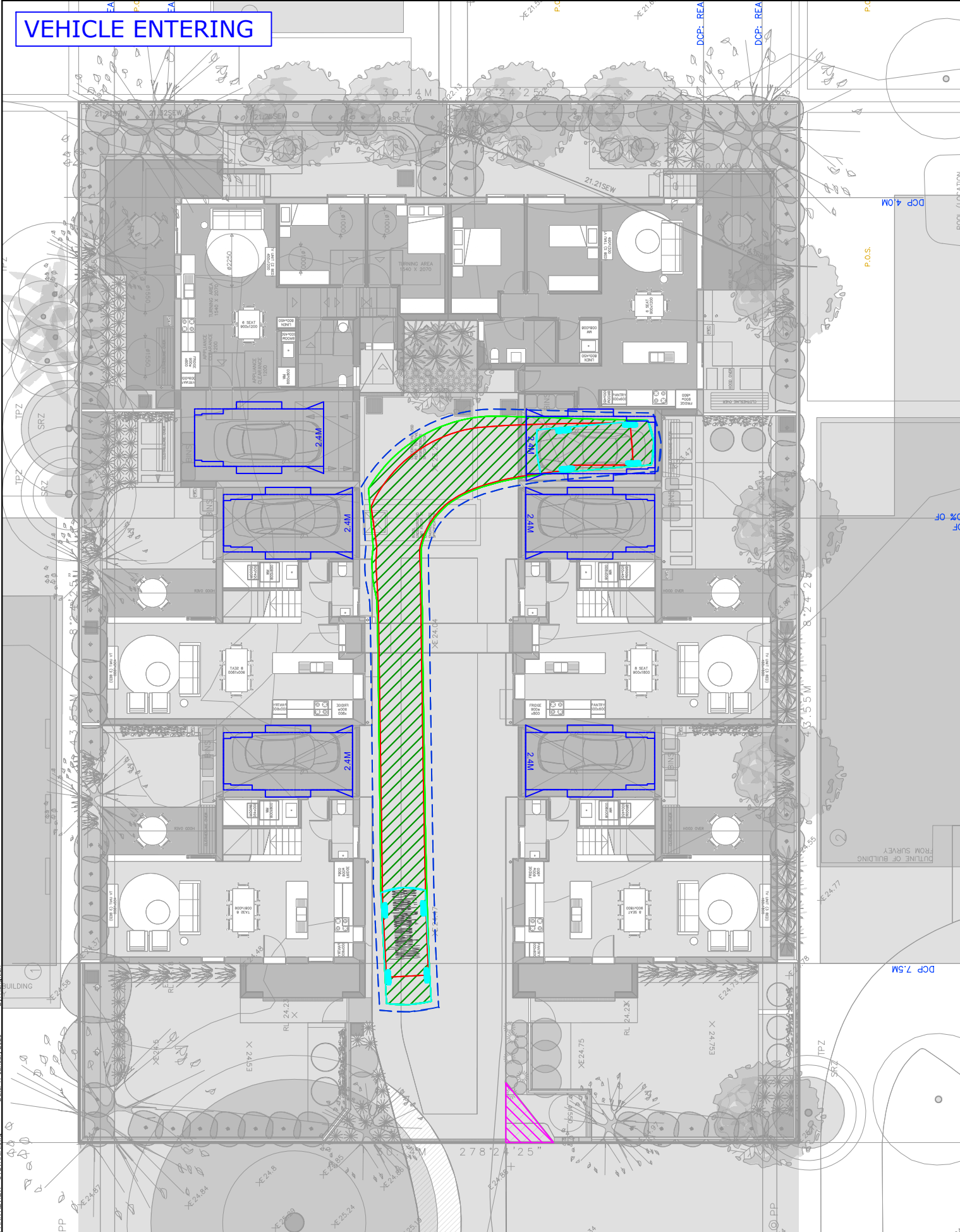
Filename: 20287CAD019-230117-CAR PARK REVIEW - SYLVANIA.dwg Date: 17 January 2023 By: Handi.tan

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	HT	OF	KH	17/01/23



PROJECT	25-27 EASTON AVENUE, SYLVANIA		
TITLE	SWEPT PATH ANALYSIS AS2890.1 5.2m B99 VEHICLE		

DWG No. 20287CAD019 FIGURE 1	
DATE STAMP 17 JANUARY 2023	
PROJECT No. 20287	SCALE 1:200 @A3
REV. A	



B85 Vehicle (Realistic min radius) (2004)
Overall Length 4910mm
Overall Width 1870mm
Overall Body Height 1421mm
Min Body Ground Clearance 159mm
Track Width 1770mm
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 5750mm

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		

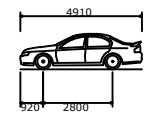
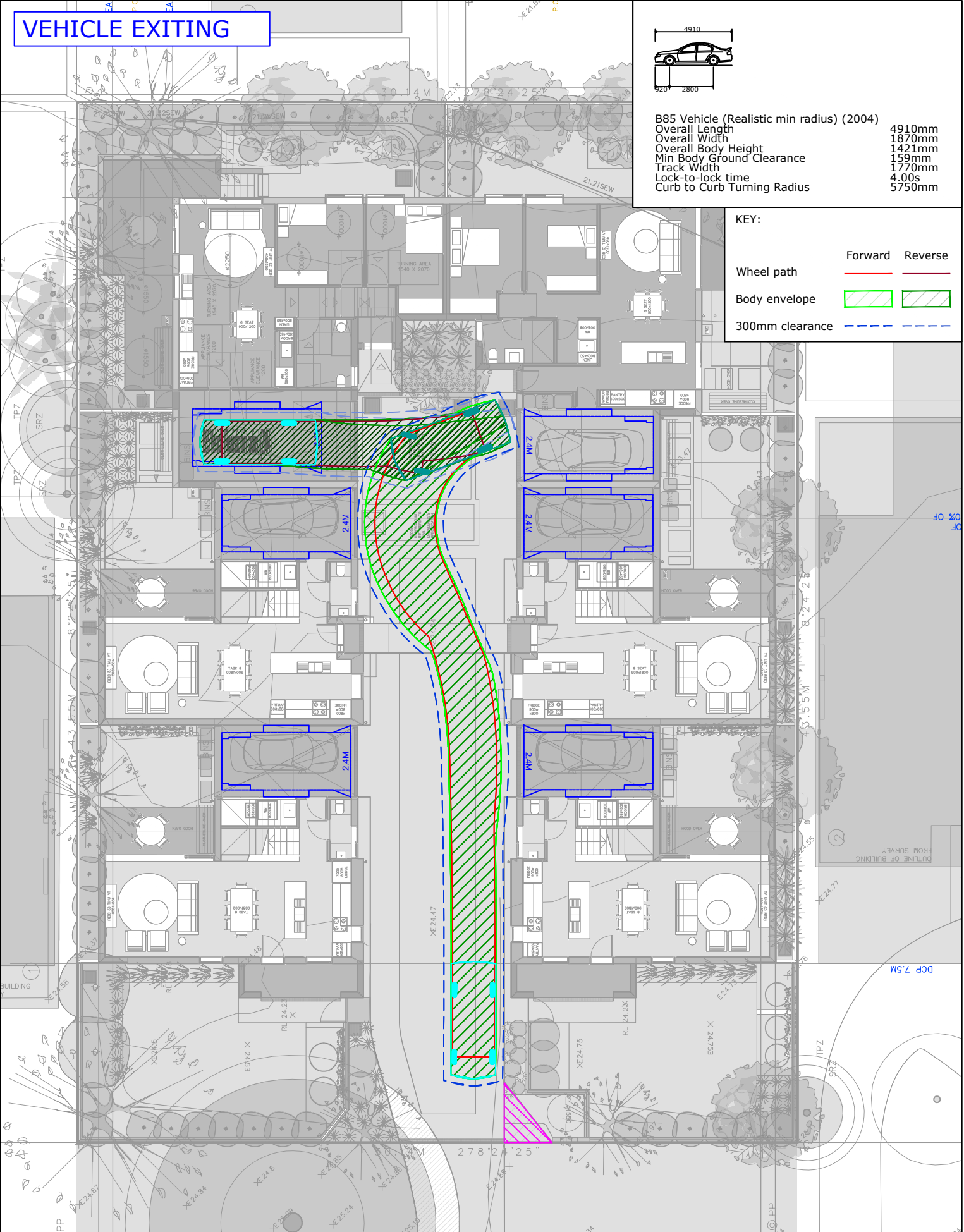
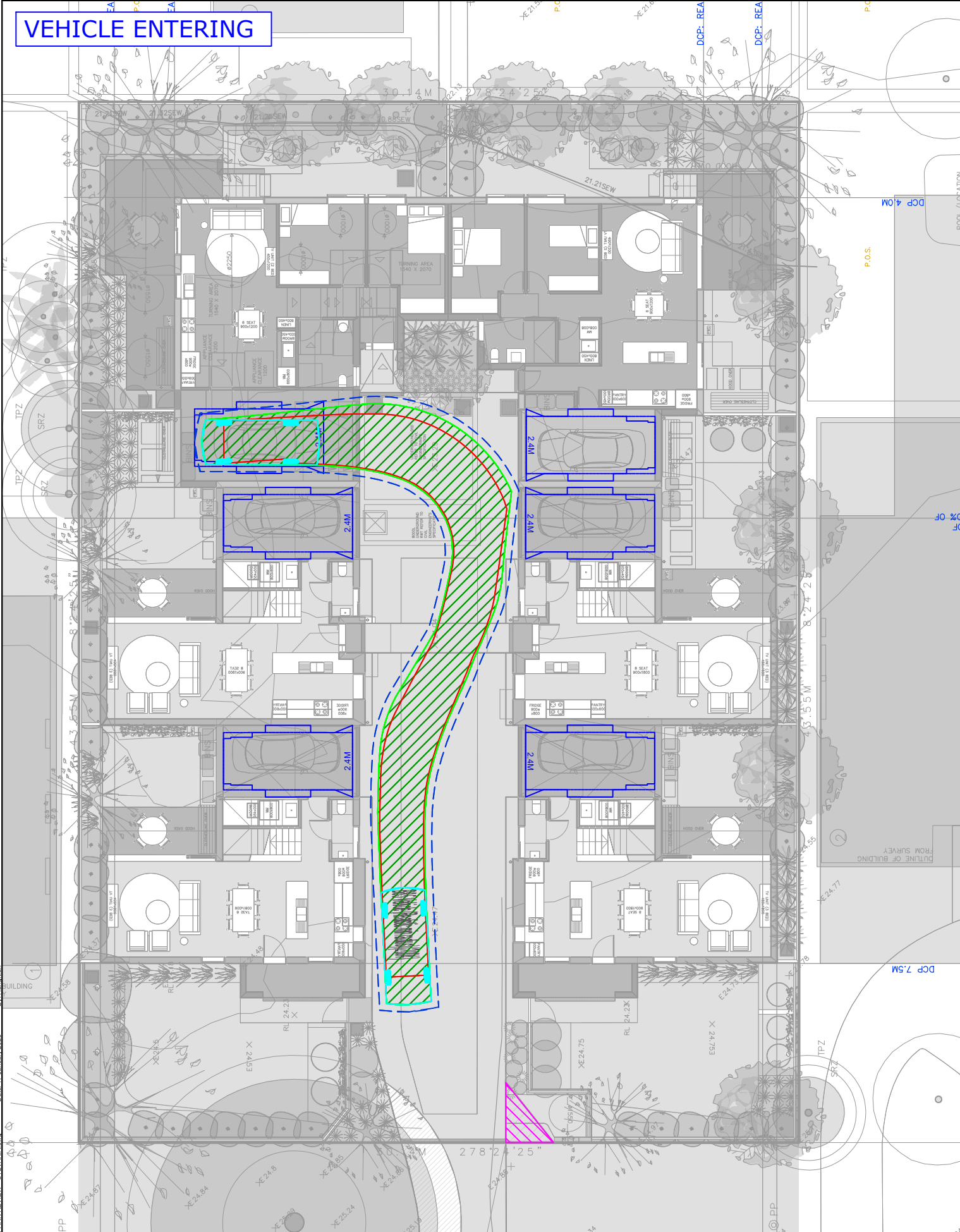
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A	ISSUE FOR DISCUSSION	HT	OF	KH	17/01/23



PROJECT	25-27 EASTON AVENUE, SYLVANIA
TITLE	SWEPT PATH ANALYSIS AS2890.1 4.91m B85 VEHICLE

DWG No.	20287CAD019
	FIGURE 2
DATE STAMP	17 JANUARY 2023
PROJECT No.	20287
SCALE	1:200 @A3
REV.	A



B85 Vehicle (Realistic min radius) (2004)
Overall Length 4910mm
Overall Width 1870mm
Overall Body Height 1421mm
Min Body Ground Clearance 159mm
Track Width 1770mm
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 5750mm

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		

By: Handman
Date: 17 January 2023
Filename: 20287CAD019-230117-CAR PARK REVIEW - SYLVANIA.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	HT	OF	KH	17/01/23



PROJECT	25-27 EASTON AVENUE, SYLVANIA
TITLE	SWEPT PATH ANALYSIS AS2890.1 4.91m B85 VEHICLE

DWG No.	20287CAD019
	FIGURE 3
DATE STAMP	17 JANUARY 2023
PROJECT No.	20287
SCALE	1:200 @A3
REV.	A

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