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Traffic Impact Assessment Report

2 Carter Street East, Katunga

Project Number 230648
Final Report 6/05/2024

Client Van Lier Pty Ltd

Document control record

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Executive summary

Van Lier Pty Ltd engaged Trafficworks to undertake a traffic impact assessment (TIA) for the proposed development of residential subdivision at **2 Carter Street East, Katunga.**

The table below summarises the site and the proposed development, and our conclusions and recommendations.

Address	2 Carter Street East, Katunga
Zoning	Township Zone (TZ)
Proposed development	Residential subdivision
Road network	Carter Street East (Katunga-Picola Road) Katunga North Road
Traffic generation	— 99 daily trips — 9 peak hour trips
Conclusion	We conclude there are no traffic engineering reasons that would prevent the development from proceeding, subject to implementation of our recommendations. — the SISD criterion of 97 m for a design speed of 50 km/h is satisfied at the proposed site access along Katunga North Road. — the road reservation width of the development's internal road and court bowl satisfy the IDM requirements for residential use. — traffic calming devices are not required along the internal road because the length does not exceed 250 m. — the Katunga North Road / site access intersection meets the turn warrants for a BAR turn lane. — post development, Katunga North Road at the proposed site access will be widened to 10 m and will provide sufficient width to facilitate the equivalent of a BAR turn lane.
Recommendations	It is recommended that: — **Recommendation 1:** during detailed design the development driveways should be checked to confirm they meet the ESD requirements of 40 m, as stipulated in AS/NZS 2890.1. — **Recommendation 2:** update plans to show a residential court bowl at the frontages of lots 6, 7, 8 and 9 per the design specifications stipulated in the IDM.

- **Recommendation 3:** ensure individual driveways along the internal road are designed per the IDM requirements specified in the SD 240 - New Residential Single Vehicle Crossing Detail standard drawing.
- **Recommendation 4:** the frontage of the site to Katunga North Road at the proposed site access should be widened to 10 m with kerb and channel constructed on its western side.

Referenced documents

References used in the preparation of this report include the following:

- Moira Shire Council's Planning Scheme
- AS/NZS 2890.1:2004 Parking Facilities Part 1: Off-street car parking
- Austroads Guide to Road Design
- Austroads Guide to Traffic Management.

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Table of Contents

1 Introduction

Van Lier Pty Ltd engaged Trafficworks to undertake a traffic impact assessment (TIA) for the proposed development at **2 Carter Street East, Katunga.**

For the detail about:

- existing site conditions – see section 2
- description of the proposed development – see section 3.1
- traffic impact of the proposed development – see section 3
- assessment of the access to the proposed development – see section 4
- our conclusions and recommendations – see section 5.

2 Existing conditions

2.1 Subject site

The site is:

- located at 2 Carter Street East, Katunga within Lot A of PS300731
- currently occupied by a residential dwelling at its southwest corner
- within a Township Zone (TZ) as per the Moira Shire Council's (Council) planning scheme.

Vehicular access to the site is available from Carter Street East (to the existing dwelling) and Katunga North Road.

The street frontage lengths are as follows:

- Carter Street East: 120 m
- Katunga North Road: 25 m.

Figure 1 shows the location of the site and is surrounded predominantly by residential dwellings and farmland. To the east of the site is the agricultural development 'Katunga Fresh', used for the production of hydroponic tomatoes.

Figure 1: Location plan (reproduced with permission from Nearmap)

Figure 2 shows the zoning for the site and surrounding area.

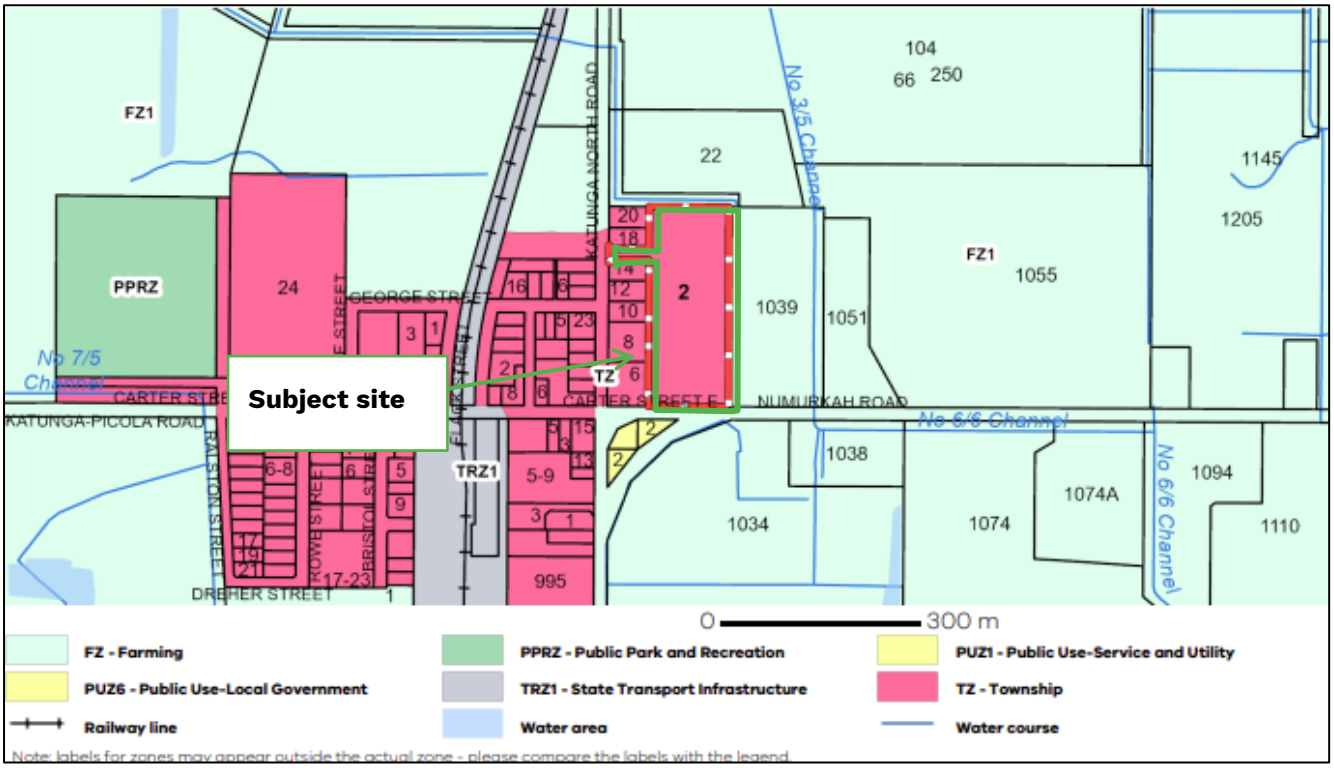


Figure 2: Zoning plan (reproduced from the Vicplan website)

2.2 Road network

The road network includes:

- Carter Street East (Katunga-Picola Road)
- Katunga North Road

2.2.1 Carter Street East (Katunga-Picola Road)

Table 1 describes the features of this road.

Table 1: Carter Street East's features

Feature	Description
Road type	Link Road as per the Council's road register
Access	Provides access between Numurkah Road to the east and the township of Picola to the west
Road reservation	20 m wide
Carriageway	10 m wide
Road cross section	— two-lane, two-way undivided road with 3 m traffic lanes in each direction bound by unsealed shoulders — no footpaths and kerb and channel on both sides
Speed limit	Posted speed limit of 50 km/h transitioning to 80 km/h approximately 30 m east of the subject site's western property boundary

Figure 3 and Figure 4 provide further information about the road.

Figure 3: Carter Street East facing west

Figure 4: Carter Street East facing east

2.2.2 Katunga North Road

Table 2 describes the features of this road.

Table 2: Katunga North Road features

Feature	Description
Road type	Residential Access Street as per Council's road register
Access	Provides access between the Murray Valley Highway / Goulburn Valley Highway (B400) to the north and Numurkah Road to the south
Road reservation	20 m wide
Carriageway	7-10 m wide seal
Road cross section	— two-way undivided road consisting of: — 7 m seal along the site's access with kerb and channel only on the eastern side — 10 m seal immediately south of the access with kerb and channel on both sides — no footpaths on both sides
Speed limit	Posted speed limit of 50 km/h

Figure 5 and Figure 6 provide further information of the road

Figure 5: Katunga North Road facing north

Figure 6: Katunga North Road facing south

2.3 Traffic volumes

No traffic volumes were able to be sourced from Council for Katunga North Road and Carter Street East. However, Council was able to provide traffic volumes for other roads within the vicinity of the site as summarised in Table 3.

Table 3: Existing traffic volumes for roads within the vicinity of the site

Road Name	Location	Year	Daily two-way volume (vpd)	Heavy Vehicle %	Existing Daily two-way volume (vpd) in 2024*
Numurkah Road	Between Carter Street East and Sandmount Road	2015	1,685	5.7%	1,843
Dockery Street	Between Katunga-Picola Road and Lease Street	2016	43	0%	47
Flack Street	Between Carter Street and George Street	2016	33	1%	36

*All roads have been projected to 2024 using a 1 % per annum growth rate (typical for a local road).

2.4 Crash history

DTP's data portal, which details all injury crashes on roads throughout Victoria, reports that no casualty crashes have occurred on the roads in the vicinity of the subject site in the last five years.

2.5 Public transport

The subject site has limited access to public transport. There are only two V-Line regional bus services that stop in Katunga.

- Albury – Mildura via Shepparton & Kerang
- Melbourne – Griffith via Shepparton.

The nearest bus interchange is situated on Katunga North Road just south of Carter Street, approximately 130 m (2-minute walk) from the proposed development.

Public transport is not considered further in this report.

3 Traffic assessment of the proposed development

3.1 The proposal

The proposal includes the development of a residential subdivision that will consist of the following:

- 12 residential lots (lot sizes vary from 2,140 - 3,134 m^2) consisting of:
  - 11 proposed lots and an existing dwelling (Lot 8) which will be retained post-development (with vehicular access retained to Carter Street East).
- wet land / drainage reserve (3418 m^2)
- internal road network with vehicular access to Katunga North Road.
- pedestrian walkway to Carter Street East.

A concept layout of the development has been provided in Appendix 1 – Development plan with an extract provided in Figure 7.

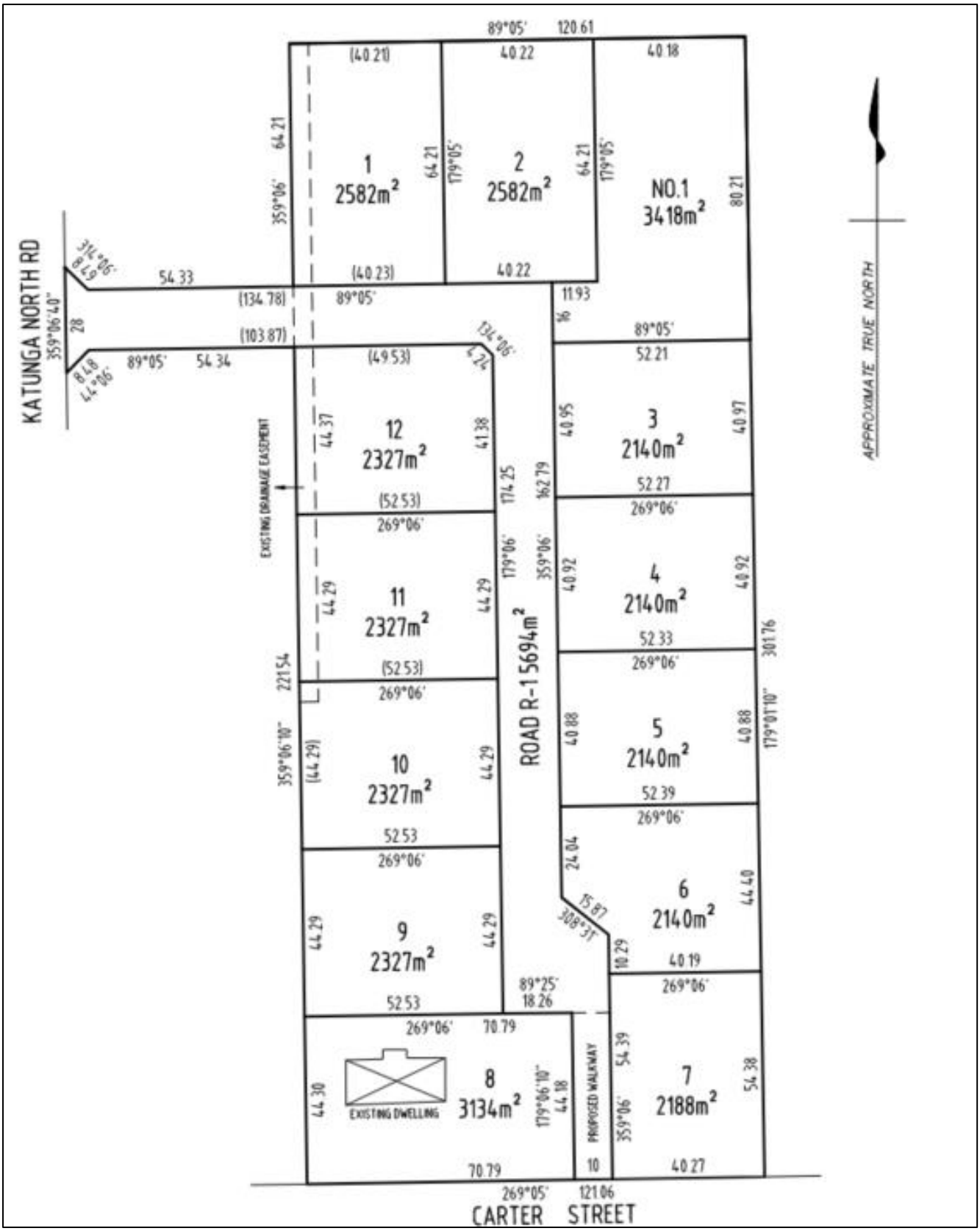


Figure 7: Extract of the development plan

3.2 Traffic generation

Traffic generation for new developments is typically estimated using the traffic generation rates provided in the RTA Guide to Traffic Generating Developments (2002) or the rates provided in the Infrastructure Design Manual (IDM).

The RTA Guide states the following traffic generation rates are applicable for conventional density residential dwellings:

- for residential houses (conventional lots)
    - a daily trip rate of 9 trips per dwelling
    - a weekday peak hour rate of 0.85 trips per dwelling.

The traffic generated by the proposed development is summarised in Table 4.

Table 4: Daily and peak traffic flow for the proposed development

Development Component & Scale	Trip Generation Rate		Trip Generation (No. of vehicles)	
	Peak Hour	Daily	Peak Hour	Daily
11* residential lots	0.85	9	9	99

*As Lot 8 is an existing dwelling the traffic it generates is factored into the existing traffic volumes, and has therefore been omitted from the assessment

Based on the above, the proposed development is anticipated to generate approximately:

- 99 vehicles per day (vpd) to and from the development
- morning and afternoon peaks of 9 vehicles per hour (vph).

3.3 Traffic distribution assumptions

Our traffic distribution assumptions are that:

- AM peak – 80% departures / 20% arrivals
- PM peak – 30% departures / 70% arrivals

Based on the development's location from neighbouring townships, it is anticipated that:

- 10% of the development traffic will travel to/from the north for work in neighbouring townships such as Cobram
- 90% will travel to/from the south for work in Katunga and neighbouring townships such as Numurkah, Shepparton, Mooroopna and Echuca.

3.4 Estimated existing traffic volumes

3.4.1 Carter Street East

East of the subject site as depicted in Figure 1, Numurkah Road intersects with Carter Street East forming a Y-intersection with priority along Numurkah Road (east – south direction).

As mentioned in Section 2.3, Numurkah Road is expected to have an existing two-way daily traffic volume of 1,843 vpd between Carter Street East and Sandmount Road. It has been assumed that Carter Street East carries approximately half this volume i.e. 920 vpd.

The peak hour is typically 10% of the daily traffic volume equating to approximately 92 vehicle per hour (vph). Assuming an even split in each direction, Carter Street East is estimated to carry a peak hour traffic volume of 46 vph in each direction.

3.4.2 Katunga North Road

Traffic volumes for Katunga North Road were unable to be sourced from Council. It is however expected to carry less traffic than Carter Street East due to it being a lower order road. It has therefore been assumed to carry approximately 50% of the two-way daily traffic volume expected to travel along Carter Street East. This equates to approximately 460 vpd.

The peak hour volume is estimated to be 46 vph. Assuming an even split northbound and southbound, Katunga North Road is estimated to carry a peak hour traffic volume of 23 vph in each direction.

3.5 Anticipated traffic volumes

It is assumed that the development will be fully constructed by the end of 2024. Therefore, the existing traffic volumes within the vicinity of the site were used to represent the anticipated conditions.

Figure 8 shows the anticipated overall peak hour traffic volumes including development traffic.

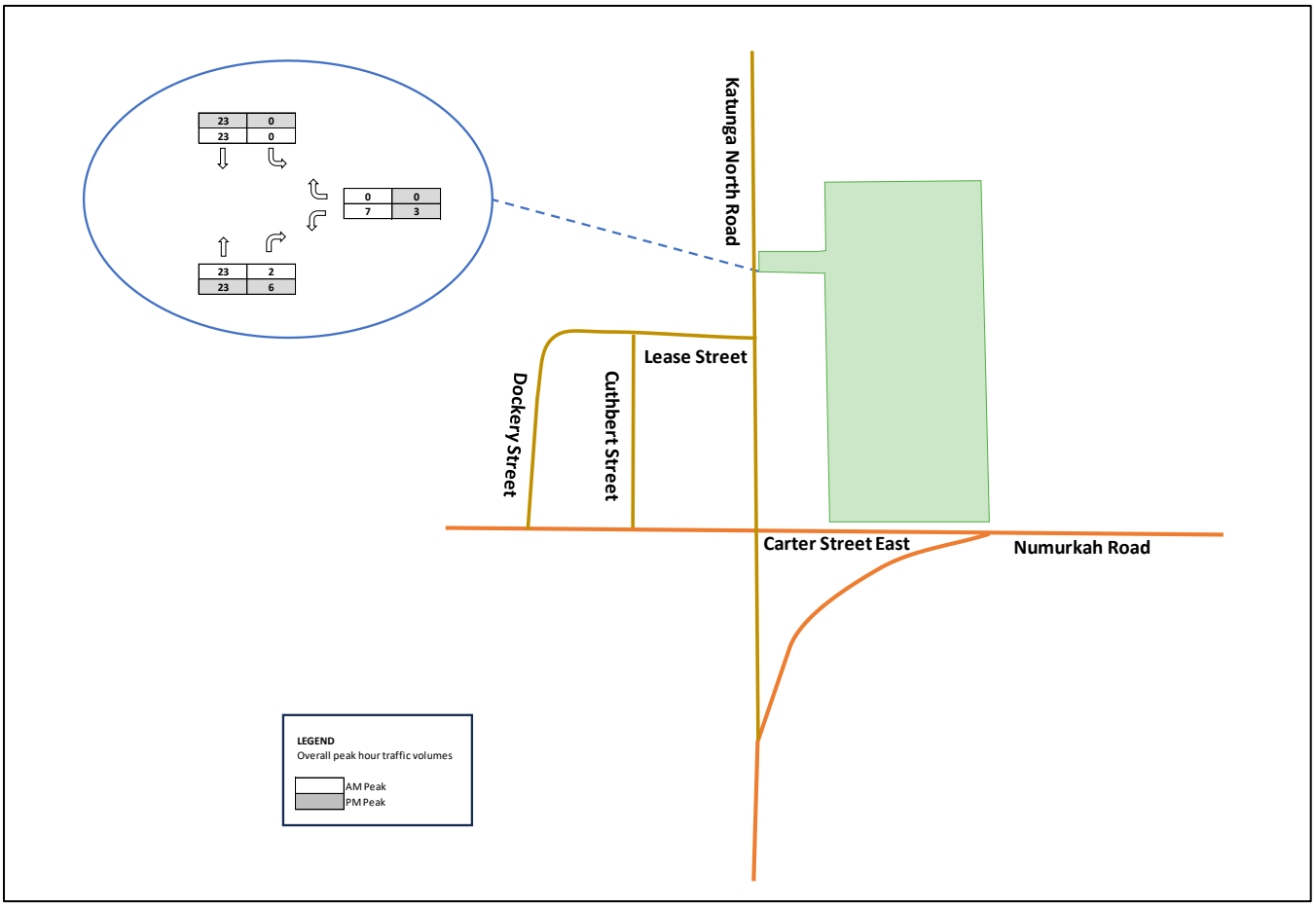


Figure 8: Anticipated overall peak hour traffic volumes

4 Access to the site

4.1 Site access – intersection SISD requirement

The visibility criterion normally applied to intersections is Safe Intersection Sight Distance (SISD) Figure 9 shows the SISD, which:

- is nominated in the Austroads Guide to Road Design, Part 4A (AGRD4) as the minimum distance that should be provided on a major road at any intersection (refer Section 3.2.2 in AGRD4A)
- provides sufficient distance for a driver of a vehicle on the major road:
    - to observe a vehicle from the minor access approach moving into a collision situation, e.g., in the worst case, stalling across the traffic lanes
    - to decelerate to a stop before reaching the collision point.

The minimum SISD criterion, specified in Table 3.2 of AGRD4A, requires clear visibility for a desirable minimum distance of 97 m, relating to the general reaction time RT of 2 seconds and a design speed of 50 km/h.

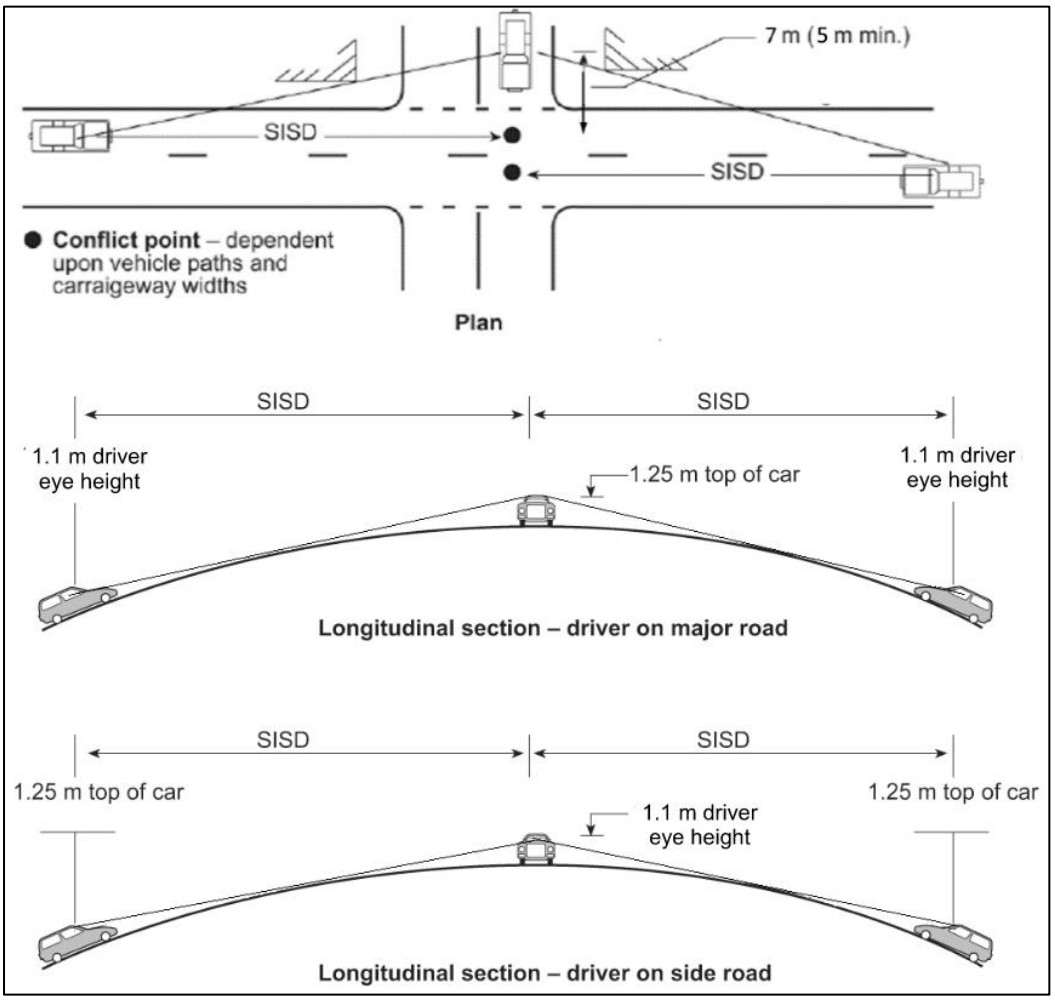


Figure 9: Safe Intersection Sight Distance (SISD) (Source: Figure 3.2 from AGRD4)

4.1.1 Impacts for this proposed development

The proposed site access to Katunga North Road is subject to a design speed of 50 km/h, corresponding to an SISD of 97 m. This is achieved to the north and south of the proposed location of the site access.

Figure 10 and Figure 11 demonstrate the available site distance along Katunga North Road.

Figure 10: Available sight distance to the north of the proposed site access along Katunga North Road

Figure 11: Available sight distance to the south of the proposed site access along Katunga North Road

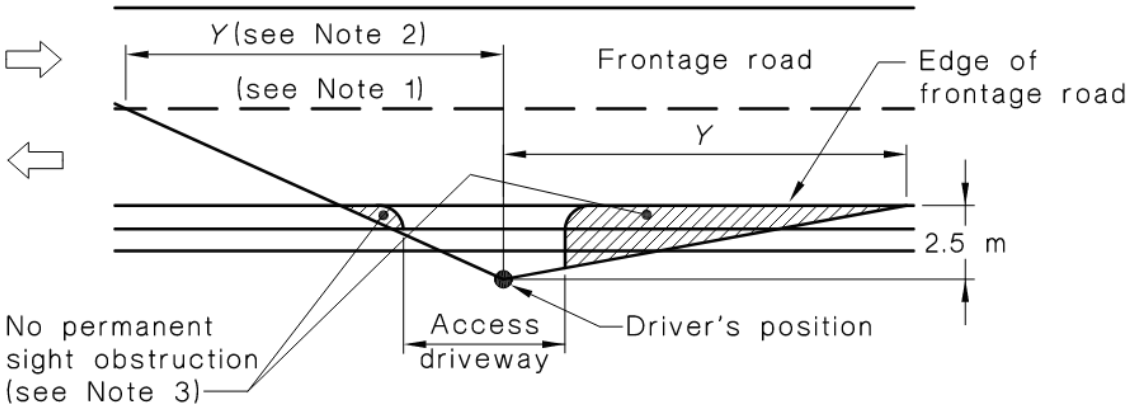
Conclusion 1: The SISD criterion of 97 m for a design speed of 50 km/h is satisfied at the proposed site access along Katunga North Road.

4.2 Site access – access driveway sight distance requirement

Section 3.2.4 in AS/NZS 2980.1 Parking Facilities – Part 1: Off-street car parking, sets out:

- entering sight distance (ESD) criteria for a driver exiting an access driveway to traffic on the frontage road
- sight distance to pedestrians.

Un-signalised access driveways shall be located so the intersection sight distance available to drivers leaving the driveway along the frontage road is at least that shown in Figure 3.2 of AS/NZS 2890.1 (reproduced in Figure 12).



Frontage road speed (Note 4) km/h	Distance (*Y*) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40
60	83	65	55
70	97	85	70
80	111	105	95
90	125	130	Use values from 2nd and 3rd columns
100	139	160	
110	153	190	

Figure 12: Sight distance requirements at driveways (Source: Figure 3.2 from AS/NZS 2890.1)

4.2.1 Impacts for this proposed development

The internal road network will be subject to the default urban speed limit of 50 km/h. As a result, an ESD of 40 m (refer to Figure 12) for domestic properties is required at each lot driveway.

It is recommended that during detailed design, the individual driveways are checked to ensure they meet the ESD requirements stipulated in AS/NZS 2890.1

Recommendation 1: During detailed design the development driveways should be checked to confirm they meet the ESD requirements of 40 m, as stipulated in AS/NZS 2890.1.

4.3 Development internal road network

The proposed internal road network and access on the abutting road network (shown in Appendix 1) should be consistent with the IDM's urban road characteristics and requirements.

4.3.1 Internal development roads

The design of the internal road network has been based on the criteria set out in Table 2 of the IDM for residential streets. The internal road network within the development satisfies the minimum road reserve width of 16 m for urban access streets.

The plan does not show a court bowl for the terminated road, however there is sufficient road reserve width to facilitate its inclusion (the IDM requires a 28 m road reserve for the court bowl). It is recommended that the plans are updated to show a residential court bowl at the frontage of lots 6, 7, 8 and 9.

Conclusion 2: The road reservation width of the development's internal road and court bowl satisfy the IDM requirements for residential use.

Recommendation 2: Update plans to show a residential court bowl at the frontages of lots 6, 7, 8 and 9 per the design specifications stipulated in the IDM.

4.3.2 Speed zoning and traffic calming

The proposed development is expected to operate under the default urban 50 km/h speed limit. The Austroads Guide to Traffic Management Part 8 (AGTM8) indicates that straight section road lengths (i.e. between slow or near-stop conditions) should be kept below 200 m – 250 m for target speeds of around 50 km/h.

An assessment of the proposed internal road layout reveals that the development's internal road is less than 250 m long. Consequently, traffic calming devices are not needed.

Conclusion 3: Traffic calming devices are not required along the internal road because the length does not exceed 250 m.

4.3.3 Residential driveways

The development plan does not include the design specifications for the subdivision driveways. It is likely all proposed residential lots accessing the internal road will have individual driveways. The only exception is Lot 8 (existing dwelling) which will retain its existing access along Carter Street East post development.

They are recommended to be designed per the IDM requirements specified in standard drawing SD 240 - New Residential Single Vehicle Crossing Detail. Refer to A2.3 – IDM urban access requirements for design specifications.

Recommendation 3: Ensure individual driveways along the internal road are designed per the IDM requirements specified in the SD 240 - New Residential Single Vehicle Crossing Detail standard drawing.

4.4 Katunga North Road

Currently the seal along the frontage of the proposed site access on Katunga North Road is 7 m wide, with kerb and channel provided along the eastern side only. It is likely that Council will require the cross-section along the frontage of the site access to match that provided immediately south of the proposed access (10 m wide seal with kerb and channel on both sides).

Recommendation 4: The frontage of the site to Katunga North Road at the proposed site access should be widened to 10 m with kerb and channel constructed on its western side.

4.5 Turn provisions impact

The traffic turning from major roads into minor roads should not delay through traffic.

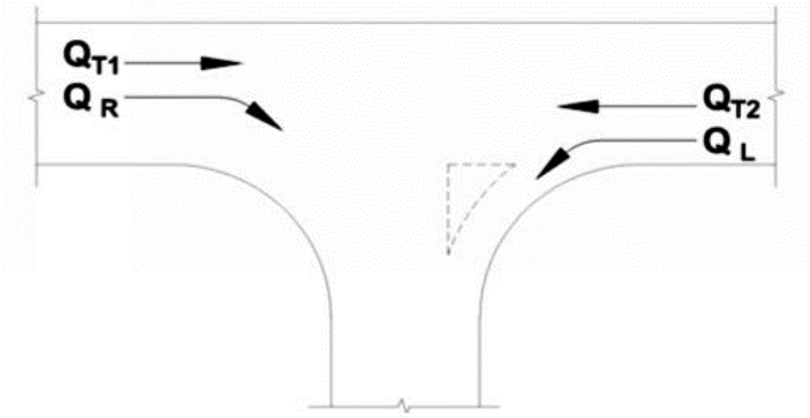
Generally, turn treatments from major roads into minor roads at sign-controlled intersections are provided for safe and efficient operation of the intersection.

Figure 8 shows the anticipated traffic generated from the proposed development.

Figure 13 shows the formulas used to determine the major road volume (QM).

To determine the turning treatments for the intersections, the results were then applied to Figure 3.26, Austroads Guide to Traffic Management Part 6 (AGTM6).

Figure 3.26: Calculation of the major road traffic volume Q_M



Road type	Turn type	Splitter island	Q_M (veh/h)
Two-lane two-way	Right	No	= Q_{T1} + Q_{T2} + Q_L
		Yes	= Q_{T1} + Q_{T2}
	Left	Yes or no	= Q_{T2}

Figure 13: Formulas used to determine major road traffic (Source: Figure 3.26 from AGTM6)

4.5.1 Turn lane treatments

Traffic volumes are used to help determine appropriate turn lane treatments at access intersections to development sites.

Table 6 and Table 7 in Appendix 2 – Turn treatments summarises the various types of left and right turn treatments, as defined in the AGRD4.

4.5.2 Anticipated conditions for Katunga North Road / site access intersection

To determine the turn warrants at the intersection for the anticipated conditions, traffic volumes from Figure 8 were applied in Table 5 and Figure 14.

Table 5: Traffic volumes on Katunga North Road at the subject site access intersection – anticipated conditions

Road	Peak Period	Left Turn Q_L (vph)	Right Turn Q_R (vph)	Through Q_T (vph)		Q_M Left Turn	Q_M Right Turn
Katunga North Road	AM	0	2	Q_{T1}	23	0	46
				Q_{T2}	23		
	PM	0	6	Q_{T1}	23	0	46
				Q_{T2}	23		

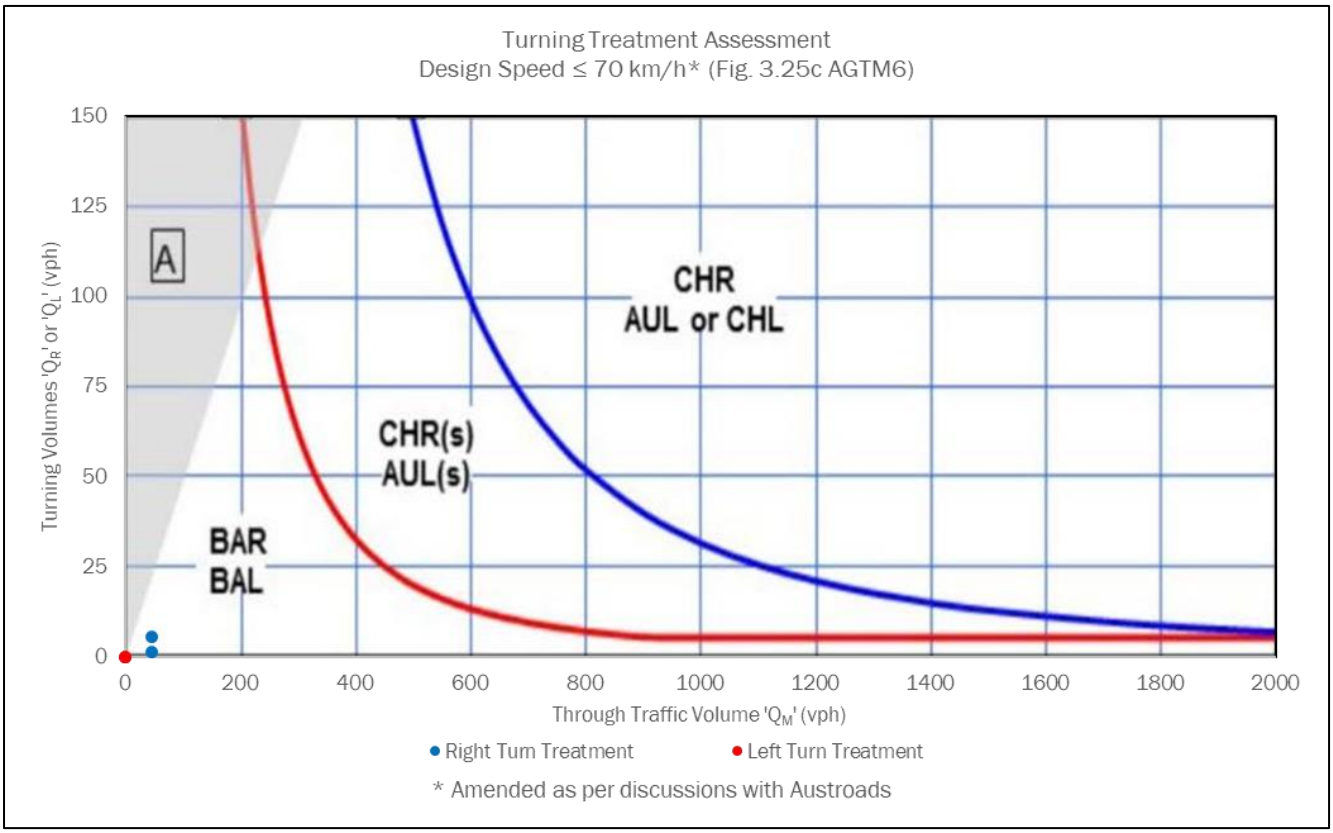


Figure 14: Graph used to determine the turn treatment warrants for Katunga North Road at the subject site access intersection – anticipated conditions.

Based on the data presented in Figure 13, the right turn from Katunga North Road into the subject site access is likely to meet the warrants for a BAR treatment in the morning and afternoon peak periods.

As mentioned in Section 4.4, Katunga North Road at the proposed site access should be widened to 10 m and is expected to provide sufficient width to facilitate the equivalent of a BAR turn lane.

Conclusion 4: The Katunga North Road / site access intersection meets the turn warrants for a BAR turn lane.

Conclusion 5: Post development, Katunga North Road at the proposed site access will be widened to 10 m and will provide sufficient width to facilitate the equivalent of a BAR turn lane.

5 Conclusions and recommendations

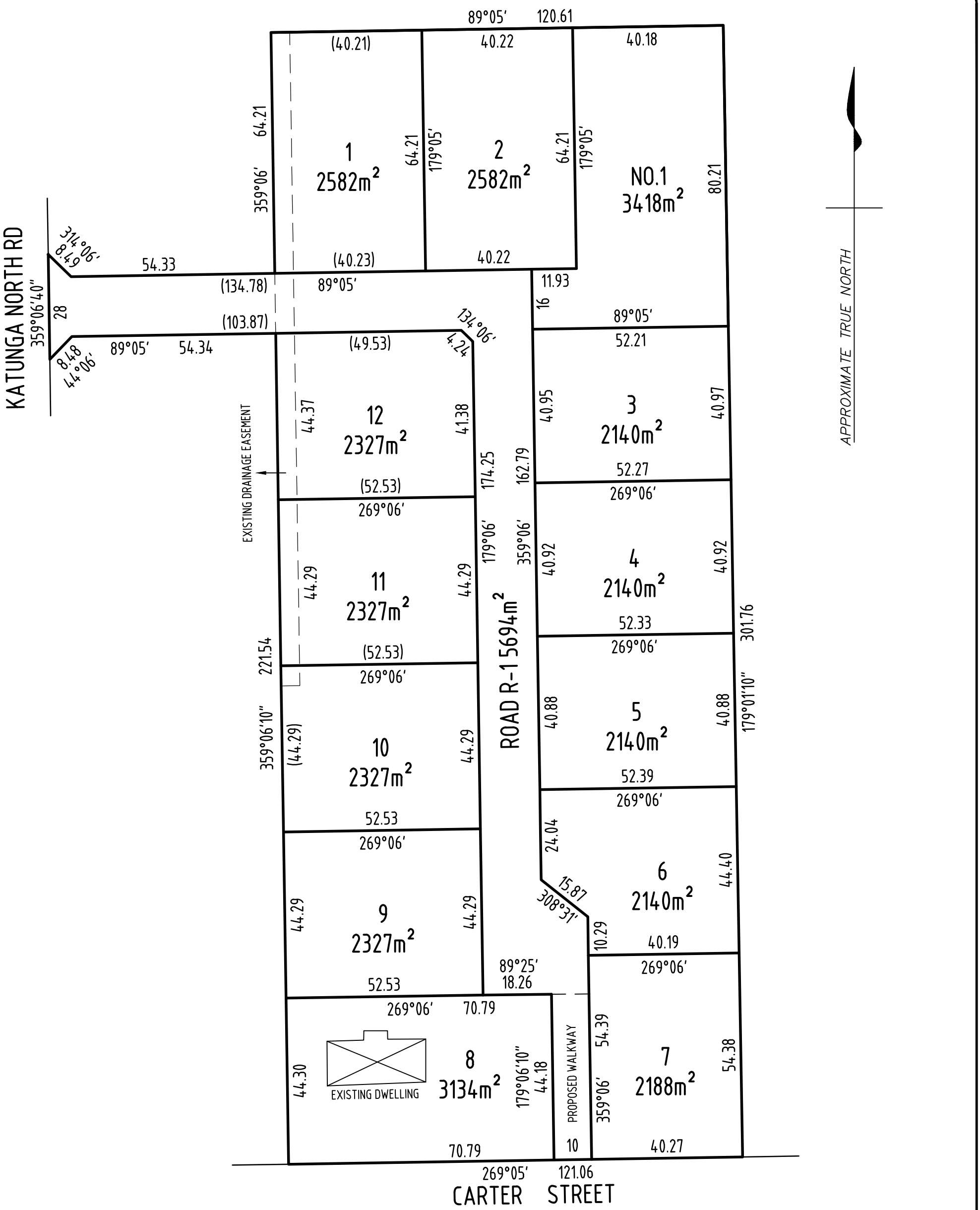
We conclude there are no traffic engineering reasons that would prevent the development from proceeding, as outlined below:

- the SISD criterion of 97 m for a design speed of 50 km/h is satisfied at the proposed site access along Katunga North Road.
- the road reservation width of the development's internal road and court bowl satisfy the IDM requirements for residential use.
- traffic calming devices are not required along the internal road because the length does not exceed 250 m.
- the Katunga North Road / site access intersection meets the turn warrants for a BAR turn lane.
- post development, Katunga North Road at the proposed site access will be widened to 10 m and will provide sufficient width to facilitate the equivalent of a BAR turn lane.

However, this TIA has identified a number of recommendations that need to be addressed:

- **Recommendation 1:** During detailed design the development driveways should be checked to confirm they meet the ESD requirements of 40 m, as stipulated in AS/NZS 2890.1.
- **Recommendation 2:** Update plans to show a residential court bowl at the frontages of lots 6, 7, 8 and 9 per the design specifications stipulated in the IDM.
- **Recommendation 3:** Ensure individual driveways along the internal road are designed per the IDM requirements specified in the SD 240 - New Residential Single Vehicle Crossing Detail standard drawing.
- **Recommendation 4:** The frontage of the site to Katunga North Road at the proposed site access should be widened to 10 m with kerb and channel constructed on its western side.

Appendix 1 – Development plan



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SCALE
1:1000
10 0 10 20 30 40
LENGTHS ARE IN METRES

PROPOSED PLAN OF SUBDIVISION

COUNTY OF MOIRA
PARISH OF STRATHMERTON
CROWN ALLOTMENT: 212B
SECTION: S
TITLE: C/T V.10116 F.247
TITLE:

SURVEYORS REF:	Sheet 1 of 1 Sheets	
6077	SCALE	SHEET SIZE
VERSION: 02	1 : 1000	A3

CLIENT: P. VANDENGOOR
2 CARTER STREET
KATUNGA 3640

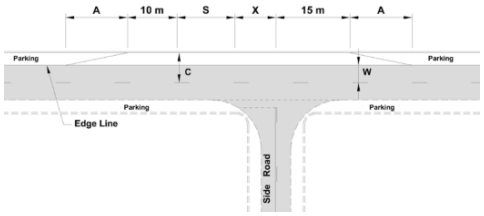
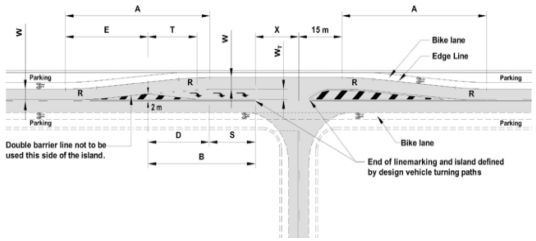
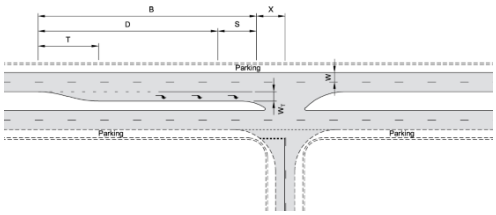
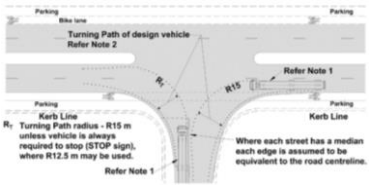
MEASUREMENTS AND AREAS ARE APPROXIMATE ONLY AND ARE SUBJECT TO SURVEY.
LENGTHS ARE IN METRES.

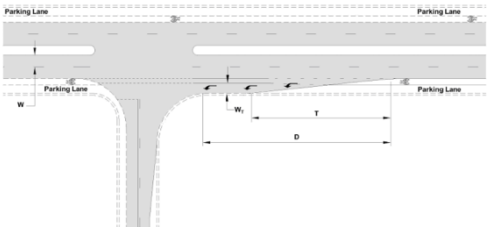
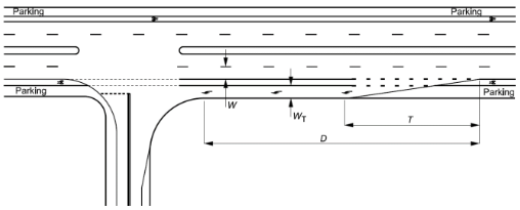
.PTS DRAFTED BY: JG 6077propv02.dwg

Appendix 2 – Turn treatments

A2.1 – Urban turn treatments

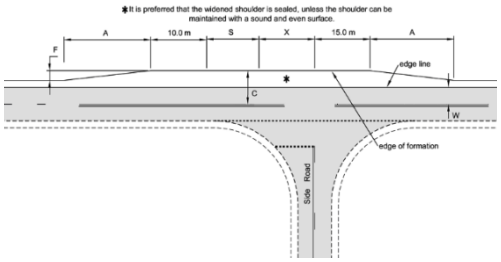
Table 6: Turn Treatment Descriptions **(Urban)** (Source: Section 7.7, 7.8 and 8.3 of Austroads Guide to Road Design Part 4A)

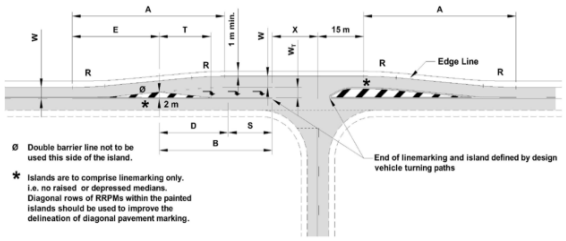
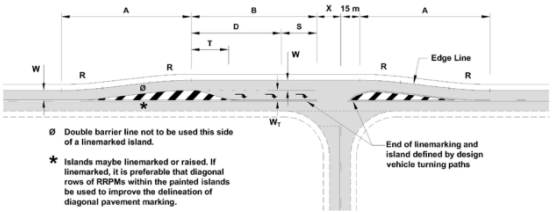
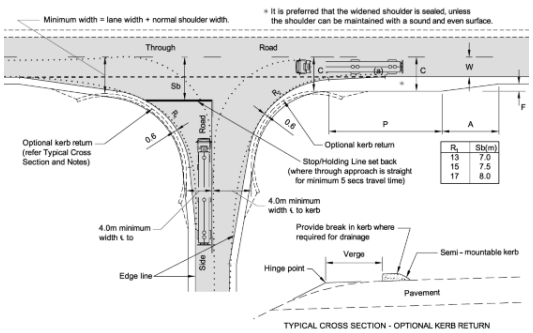
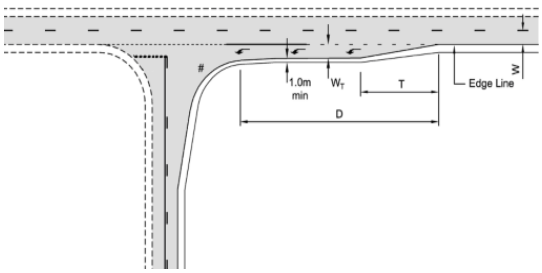
Turn treatment	Description	
BAR	BAsic Right turn treatment on the major road, features a widened area (usually in place of parking) on the major road that allows through vehicles to pass to the left of turning vehicles *(Figure 7.6 of Austroads Guide to Road Design Part 4A).*	
CHR(S)	CHannelised Right (Short) turn is a shorter version of the Channelised Right turn treatment which is reduced by removing space provided for storage in the right lane. This treatment type can only be used with line marking *(Figure 7.7 of Austroads Guide to Road Design Part 4A).*	
CHR	CHannelised Right turn treatment has two vehicle travel paths (through and right turns) separated by physical or painted medians or islands *(Figure 7.8 of Austroads Guide to Road Design Part 4A).*	
BAL	BAsic Left turn treatment on the major road has a radius large enough to accommodate a design vehicle turning left into the minor road without crossing the centre line of the minor road (*Figure A15 of Austroads Guide to Road Design Part 4).*	

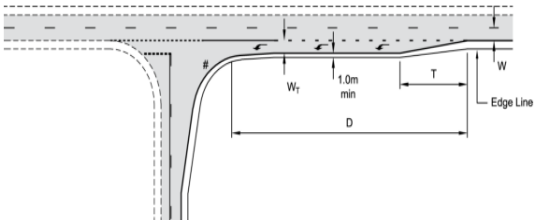
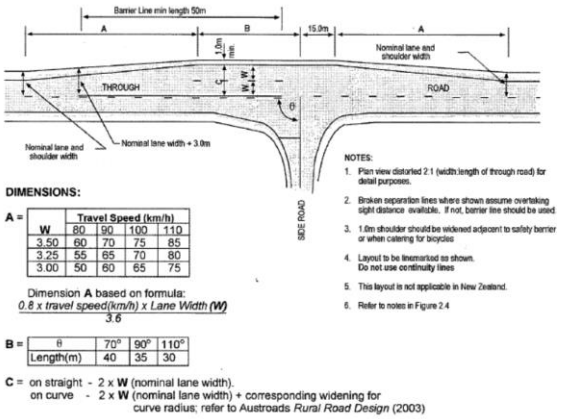
Turn treatment	Description	
AUL(S)	AUxiliary Left (**S**hort) turn treatment is a shorter version of the Auxiliary Left turn treatment which is reduced by allowing some deceleration to occur in the through lane on the major road. This turn treatment also allows through vehicles to pass to the right of turning vehicles *(Figure A17 of Austroads Guide to Road Design Part 4).*	
AUL	AUxiliary Left turn treatment is a left turn lane on the major road that allows through vehicles to pass to the right of turning vehicles *(Figure 8.6 of Austroads Guide to Road Design Part 4A).*	

A2.2 – Rural turn treatments

Table 7: Turn Lane Treatment Descriptions **(Rural)** (Source: *Section 7.5 and 8.2 of Austroads Guide to Road Design Part 4A*)

Turn treatment	Description	
BAR	BAsic Right turn treatment on the major road, features a widened area (usually in place of parking) on the major road that allows through vehicles to pass to the left of turning vehicles *(Figure A6 of Austroads Guide to Road Design Part 4).*	

Turn treatment	Description	
CHR(S)	CHannelised Right (**S**hort) turn is a shorter version of the Channelised Right turn treatment which is reduced by removing space provided for storage in the right lane. This treatment type can only be used with line marking *(Figure A7 of Austroads Guide to Road Design Part 4)*.	
CHR	CHannelised Right turn treatment has two vehicle travel paths (through and right turns) separated by physical or painted medians or islands *(Figure A8 of Austroads Guide to Road Design Part 4)*.	
BAL	BAsic Left turn treatment on the major road has a radius large enough to accommodate a design vehicle turning left into the minor road without crossing the centre line of the minor road (*Figure 8.2 of Austroads Guide to Road Design Part 4A)*.	
AUL(S)	AUxiliary Left (**S**hort) turn treatment is a shorter version of the Auxiliary Left turn treatment which is reduced by allowing some deceleration to occur in the through lane on the major road. This turn treatment also allows through vehicles to pass to the right of turning vehicles *(Figure 8.3 of Austroads Guide to Road Design Part 4A)*.	

Turn treatment	Description	
AUL	AUxiliary Left turn treatment is a left turn lane on the major road that allows through vehicles to pass to the right of turning vehicles *(Figure 8.4 of Austroads Guide to Road Design Part 4A).*	
AUR	In addition to the above, DoT will allow the use of the rural **Au**xiliary lane **R**ight turn treatment (from GTEP Part 5) in lieu of the CHR(s) treatment, (*refer Sections 7.5.2 and 7.7.2 of VicRoads Supplement to AGRD4A*)	

A2.3 – IDM urban access requirements

Standard Drawing SD 240, which accompanies the Infrastructure Design Manual (IDM) used by most regional councils in Victoria, should be applied to local road accesses to individual lots within residential developments. This layout is shown in Figure 15 below.

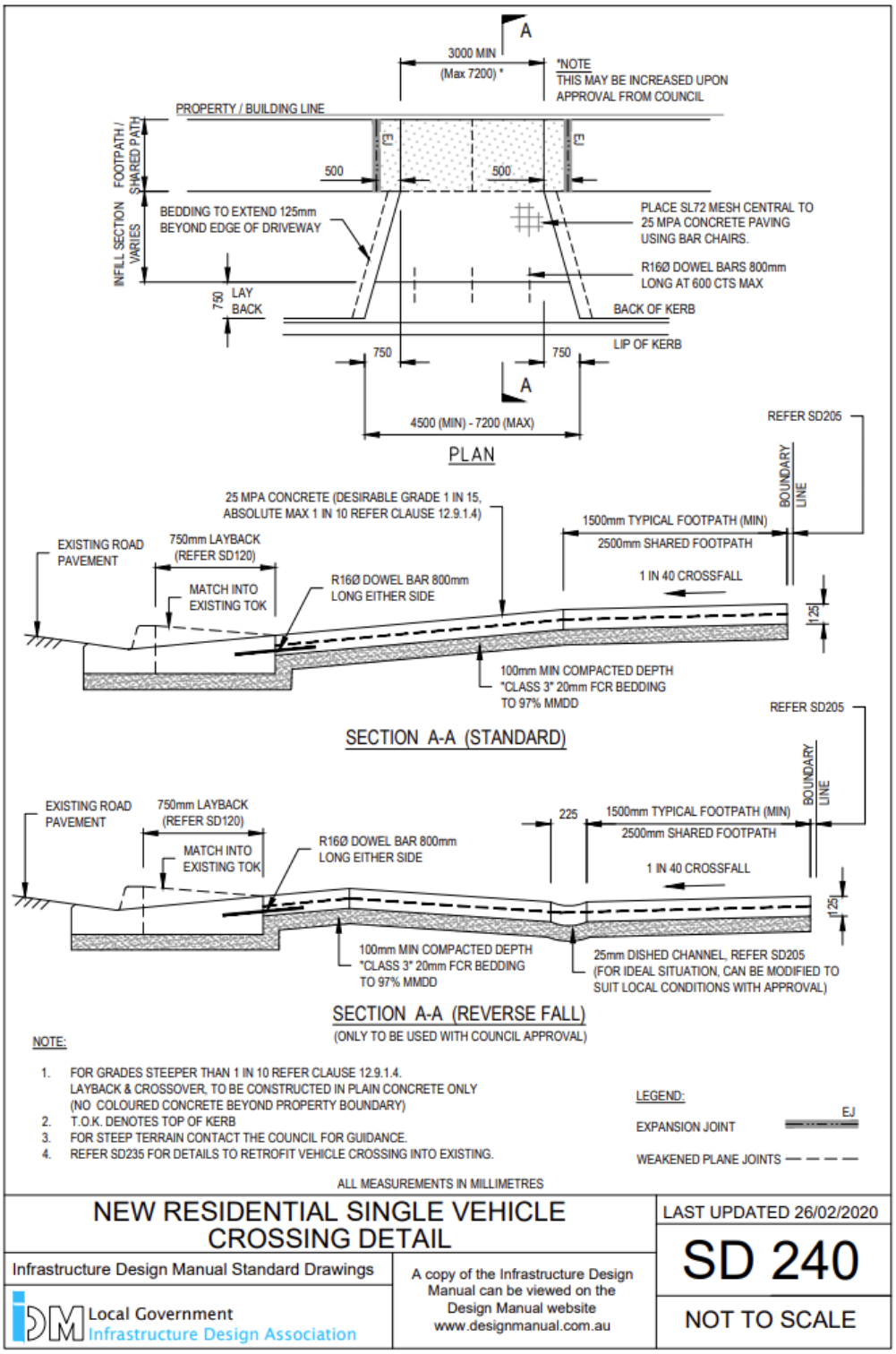


Figure 15: SD 240 from the IDM

Appendix 3 – Acronyms and terms

Acronyms / terms	Definition
AGRD4	Austroads Guide to Road Design Part 4 – Intersections and crossings
AGRD4A	Austroads Guide to Road Design Part 4A – Unsignalised and signalised intersections
AGTM6	Austroads Guide to Traffic Management Part 6 – Intersections, interchanges and crossings management
AGTM8	Austroads Guide to Traffic Management Part 8 – Local street management
AS/NZS2890.1	Australian Standard / New Zealand Standard 2890.1 Parking facilities Part 1: Off-street car parking
DTP	Department of Transport and Planning (formerly VicRoads)
ESD	Entering site distance
PSP	Precinct structure plan
SIDRA	SIDRA intersection – micro analytical traffic engineering software to model the performance of intersections
SISD	safe intersection sight distance
TIA	traffic impact assessment
vpd	vehicles per day
vph	vehicles per hour
VPA	Victorian Planning Authority