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- Traffic & Parking Impact Assessment - for the Proposed Childcare Centre at No. 28 & 30 Forrest Rd, East Hills.

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Document Control

Date	*Revision History*	*Prepared By:*	*Reviewed and Authorised by:*
14/11/2022	Initial Report	Thai Do	Moussa Zaioor
14/11/2022	Final Report	Thai Do	Moussa Zaioor
07/05/2024	Revision 1	Thai Do	Moussa Zaioor

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1. INTRODUCTION

ANA Civil Pty Ltd has been commissioned to prepare a Traffic & Parking Report to accompany the Development Application to City of Canterbury Bankstown for the proposed Childcare Centre at No. 28 & 30 Forrest Rd, East Hills. The site is located on the eastern side of Forrest Rd see Figures 1 - Site Location. The proposal consists of the Childcare centre with an on-ground parking facility (See Figure 3). Architectural plans are by Dawsonvu.

This study is in accordance with the requirements of Canterbury – Bankstown DCP 2023, Austroads Guide to Traffic Management Part 3: Traffic Studies and Analysis, and the RTA Guide to Traffic Generating Developments Version 2.2 (October 2002).

2. SCOPE

The purpose of this report is to investigate and examine the traffic and parking requirements and implications of the proposed Childcare Centre at No. 28 & 30 Forrest Rd, East Hills on the surrounding residences and traffic network and to recommend any necessary measures to reduce these impacts if required. The proposed development consists of the following:

- A childcare centre with several office & staff rooms
- Site accommodates approximately 17 staff members, and
- Thirty-two (32) parking spaces including a shared zone and disabled parking car space

3. SITE LOCATION AND ENVIRONMENT

The site is located on Forrest Rd. The local precinct is primarily of residential nature.

Forrest Rd is a north to south running street with vehicles travelling in both directions. It is a two (2) lane street with kerbside parking on each side along the street. The site has approximately 30m wide street frontage on Forrest Rd. The site occupies an area of approximately 2324m^2. The existing access driveway is located on Forrest Rd.

4. EXISTING CONDITIONS

4.1. Existing Vehicle Access & Egress to Proposed Parking Area

The existing access driveway is located on Forrest Rd. The proposed driveway accommodates two-way traffic flow. The proposed parking is to accommodate 32 parking spaces including a shared zone and disabled parking space.

4.2. Road Network & Nearby Intersections

The site is located on the eastern side of Forrest Rd. The site is on the block bound by Lehn Rd to the North, Harcourt Av to the West, and Forrest Rd to the South as shown in Figures 1.

Forrest Rd provides a two (2) lane carriageway with one traffic lane and parking spaces on each side. Lehn Rd provides a two (2) lane carriageway with one traffic lane and parking spaces on each side

4.3. Existing Traffic Volumes

Forrest Rd is a Local Road. Traffic volume is less than 20,000 Annual Average Daily Traffic (AADT) using the Map 15 of the Traffic Volume Maps for Noise Assessment for Building on Land Adjacent to Busy Roads by the RTA (Refer to Figure 8). The speed limit on Forrest Rd is 50km/hr area. Lehn Rd is also a Local Road. Traffic volume is less than 20,000 Annual Average Daily Traffic (AADT) using the Map 15 of the Traffic Volume Maps for Noise Assessment for Building on Land Adjacent to Busy Roads by the RTA. The speed limit on Lehn Rd is 50km/hr.

4.4. Existing Public Parking Conditions

Kerbside parking exists on Forrest Rd within walking distance of the site.
The existing kerbside parking restrictions which apply to the road network in the vicinity of the site comprise of the following:

- UNRESTRICTED kerbside parking along the northern and southern sides of Lehn Rd
- UNRESTRICTED kerbside parking along the eastern and western sides of Forrest Rd
- UNRESTRICTED kerbside parking along the northern and southern sides of Broe Av

Street parking in the vicinity of the proposed development consists of the following:

- Plenty of parking spaces (>50) along Forrest Rd, Lehn Rd and Broe Av.

4.5. Public Transport

The site has very good access to public transport including rail and bus services. The site is about 300m or a 10 minute walk from East Hills Station. This station serves the T8-Airport & South Line with frequent train services in the day and evening periods.

There are bus stops only a 2 minute walk (approximately 50m) from the site. The bus stops are located approximately 50m to the West of the site on Broe Av.

Buses travelling to these stops include the following:

Table 1 – Bus Routes from Stops 2213153 and 221366

Bus Number	Bus Travelling To/From
294	East Hills to Bankstown
295	East Hills to Lidcombe

As can be seen from the above, the site is serviced by public transport and we expect these serviced to be utilized by the employees and customers of the proposed development.

4.6. Pedestrian Amenity

Pedestrian footpaths are available on Forrest Rd and Lehn Rd.

5. PROPOSED CONDITIONS

5.1. Proposed Traffic Conditions

The proposed land use is to be used as a childcare centre. The site area is approximately 2324 m^2 with a gross floor area of approximately 928 m^2

From the RTA Guide to Traffic Generating Developments Version 2.2 (October 2002), we adopt trip generation for childcare development.

Trip generation for childcare development is 0.8 trip per child for peak hours and 0.3 trip per child for operation hours. Traffic generation potential of approximately 96 vehicle trips during peak hours and 36 vehicle trips during operation hours.

The existing residential dwellings has an identical gross floor area of approximately 450m^2. This results in approximately 18 daily vehicle trips and 1.7 trips during the morning peak hour.

Comparing the results above, it can be seen that the proposed childcare centre will have a minimal and negligent increase to the peak hour traffic volumes on both Forrest Rd and Lehn Rd. Both roadways perform well with a level of service category 'A' with <14s delay per vehicle.

Urban Peak Hour Flows per Direction

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

Level of Service Criteria for Intersections

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode

5.2. Proposed Parking Conditions

5.2.1. Off-Street Parking Provisions

5.2.1.1. Off-Street Car Parking

Off-street parking provisions for the proposed child care centre generated as per Canterbury Bankstown DCP 2023. And Canterbury Bankstown DCP Chapter 3.2 states the following parking rates are required:

Canterbury - Bankstown DCP 2023 Chapter 3.2 Page 7– parking requirement

Land Use	Off-street Parking Requirements
Childcare centre	

	1 cars space for every 4 children and 2 additional car spaces for the exclusive use of associated dwelling 1 disable parking space per 25 car spaces provided 1 bicycle space per 4 staff

According to the architectural plans by Dasonvu, the number of children in attendances to be 120 so the required car space is thirty (30) car spaces.

As can be seen on the architectural plans, the proposal includes **thirty-two (32) car parking spaces including a shared zone and disabled parking car space** for the proposed childcare centre. With this, the sites adequate access to public transport, amenities, with the abundant on-Street parking availability. As a result, we are satisfied that this proposal meets the requirements of the Canterbury Bankstown DCP 2023.

5.2.2. Proposed Off-Street Parking Area Layout

5.2.2.1. Geometric Layout of Parking Modules

The proposed geometric layout of the off-street parking modules have been checked and are in accordance with the requirements of AS2890.1 (Parking Facilities-Off Street Parking).

5.2.2.2. The safety and efficiency of movements

The safety and efficiency of movements are also proposed to be assisted by the consistent horizontal and vertical alignment of aisle/parking spaces and maximum 10km/h speed limit in the vicinity of the subject site results in a good level of sight distance.

5.2.2.3. Minimum Line of Sight

As per Figure 3.3 ‘Minimum Sight Lines for Pedestrian Safety’ of AS2890.1 (Parking Facilities-Off Street Parking), a triangular area with 2.5m (adjacent to the driveway) by 2.0m (adjacent to the street) will be kept clear of obstructions to visibility. Sight triangles have been accommodated on the primary entry driveway crossing along the Forrest Rd frontage.

5.2.2.4. Proposed Entry/Exit Driveway

The proposed entrance/exit driveway fronting Forrest Rd have been designed to accommodate for two-way traffic flow with access in both directions at any time. The driveway is to be with a width of 6m and to council specifications and approval. This is compliant with AS2890.1 (Parking Facilities-Off Street Parking).

5.2.2.5. Swept Path Analysis & Vehicle Size

A swept path analysis has been carried out. Swept paths have also been provided to show a B85 vehicle successfully parking in the Off Street Parking facility. The swept path analysis for these vehicles entering and exiting the parking area driveway has also been checked and is deemed to be compliant with AS2890.1 Off Street Parking Facilities. – Refer to figure 9

5.2.2.6. Vehicular Control Point

As per clause 3.3 AS 2890.1, vehicular control points—max. 1 in 20 (5%) for at least 6 m prior to the control point to minimize problems associated with crossing the footpath and entering the traffic in the frontage road.

Although the proposed development does not satisfy clause 3.3 AS2890.1, we have reviewed the plan and noted following:

- There is no obstruction to driver's vision at driveway crossing the boundary.
- Bottom clearance of the vehicle is maintained along the driveway (car does not scrape at the bottom) – refer to figure 11
- There is no pedestrian footpath in front of the property

Based on the above, car can enter/exit the property safely without causing any problem associated with crossing the footpath and entering the traffic in the frontage road.

5.2.2.7. Driveway gradient

The proposed driveway gradient has been checked and is deemed to be compliant with AS2890.1 Off Street Parking Facilities. – Refer to figures 10 and 11

It important to note that the proposed parking facility is not considered as public car park as it within private property and to used by staff & children pick up/drop off. Also, it not open widely for public parking.

6. CONCLUSION

This report has examined the existing traffic volume, traffic characteristics and parking requirements with the potential traffic and parking implications of the proposed childcare centre at No. 28 & 30 Forest Rd, East Hills. The proposal will provide thirty-two (32) on-site parking spaces including a shared zone and disabled parking car space. The site is also serviced by an abundance of On-Street parking facilities and within very close proximity East Hills Station.

We are satisfied that this development meets the intent of City of Canterbury – Bankstown planning controls and satisfies the Canterbury - Bankstown DCP 2023.

In conclusion, the proposed development will not have a negative impact to the existing traffic network nor will it have any unacceptable parking implications.

Should you require any help or further explanations, please do not hesitate to contact us.

Yours faithfully,

M. Zaioor
B.S Civil Eng'g (A.U.B).
M.S.Structural Eng'g (UNSW).
M.I.E.(Aust), CPEng.

APPENDIX

Figure 1 – Site Location (1)
Source: Imagery from Six Maps accessed on November, 2022

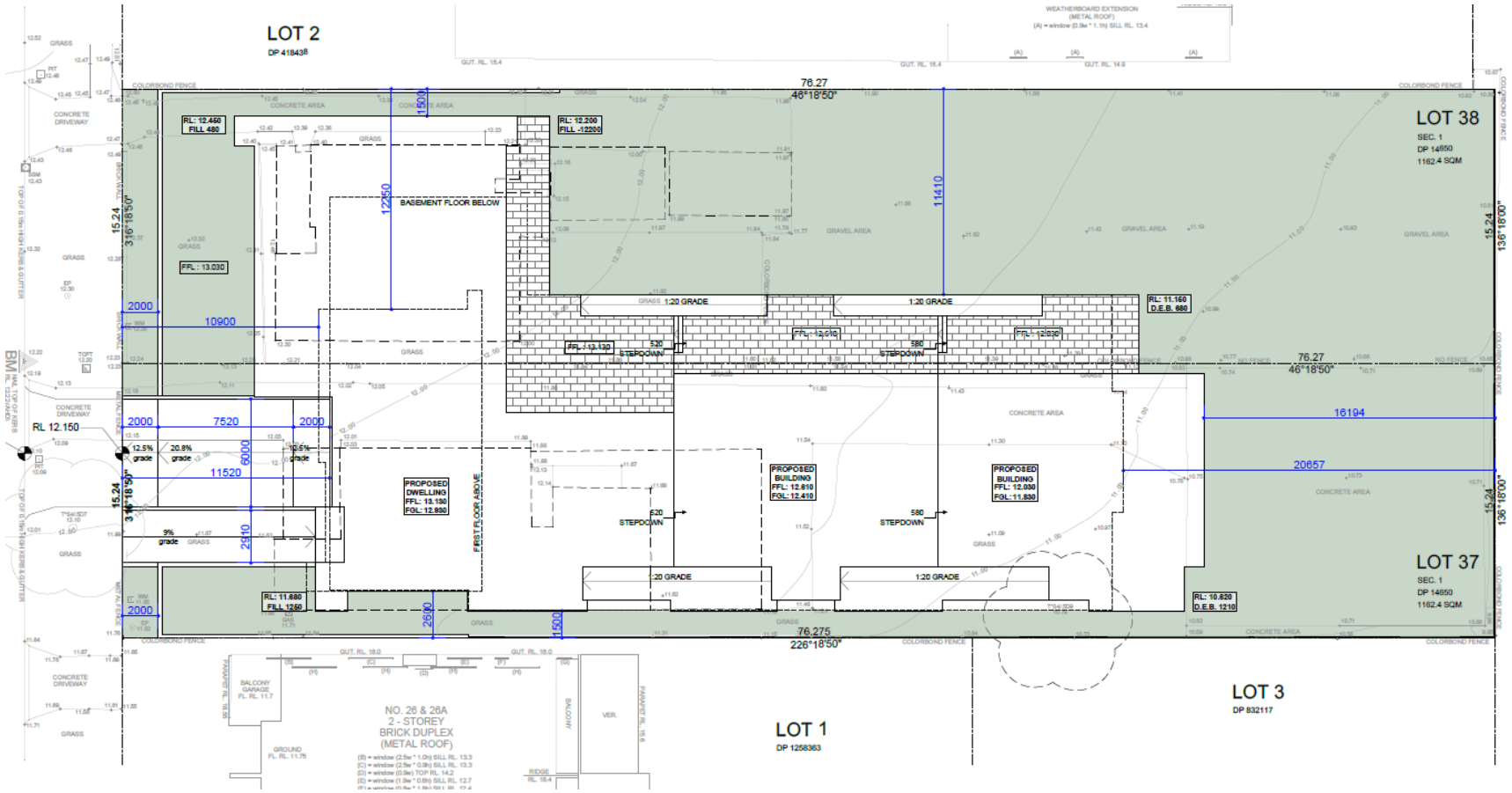

Figure 2 - Proposed Site Plan

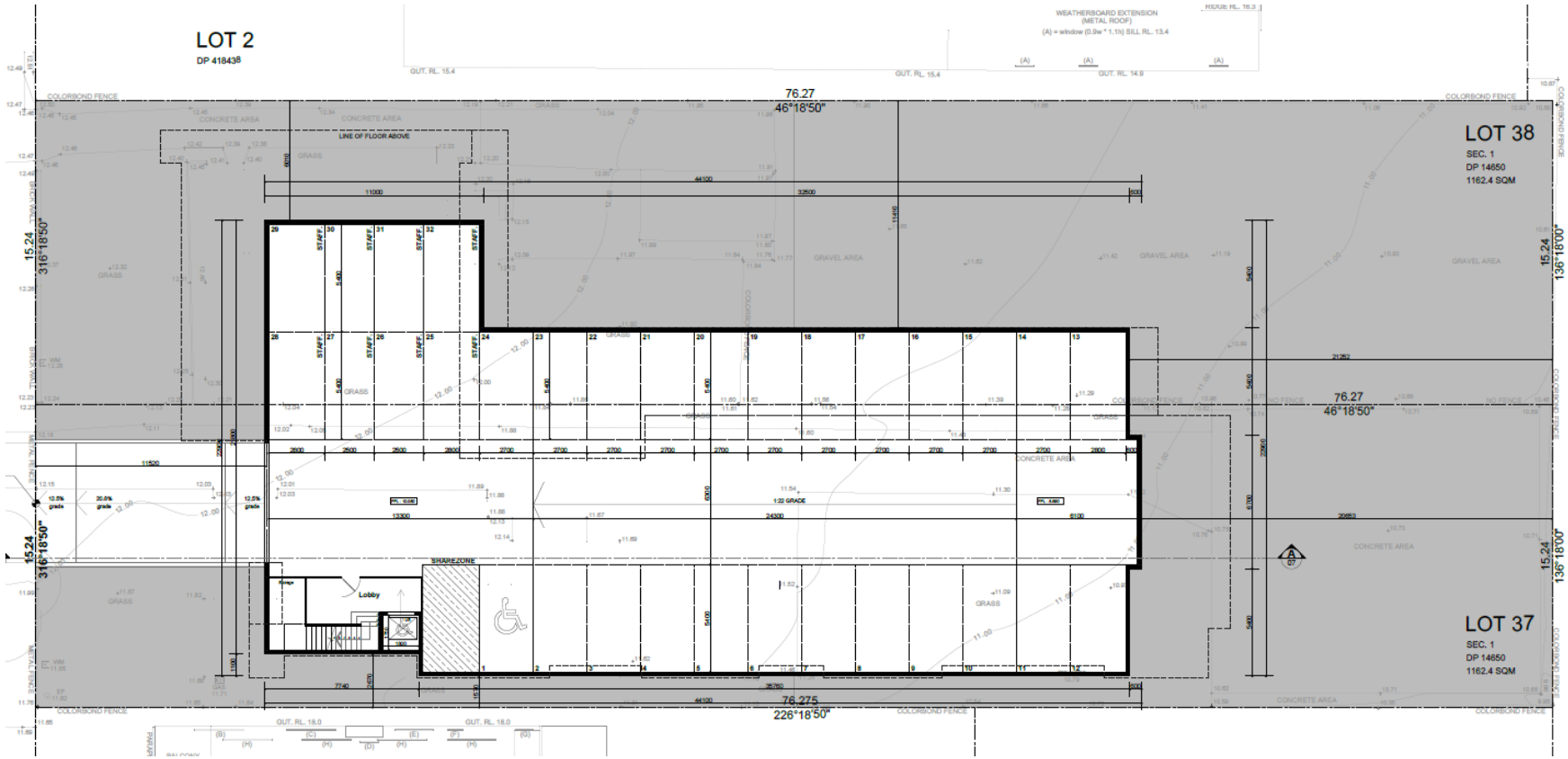

Figure 3 – Off-street Parking Layout

Figure 4 – Site Frontage – Forrest Rd

Figure 5 – Unrestricted Street Parking on Forrest Rd

Figure 6 – Unrestricted Street parking on Lehn Rd

Figure 7 - Unrestricted Street parking on Broe Av

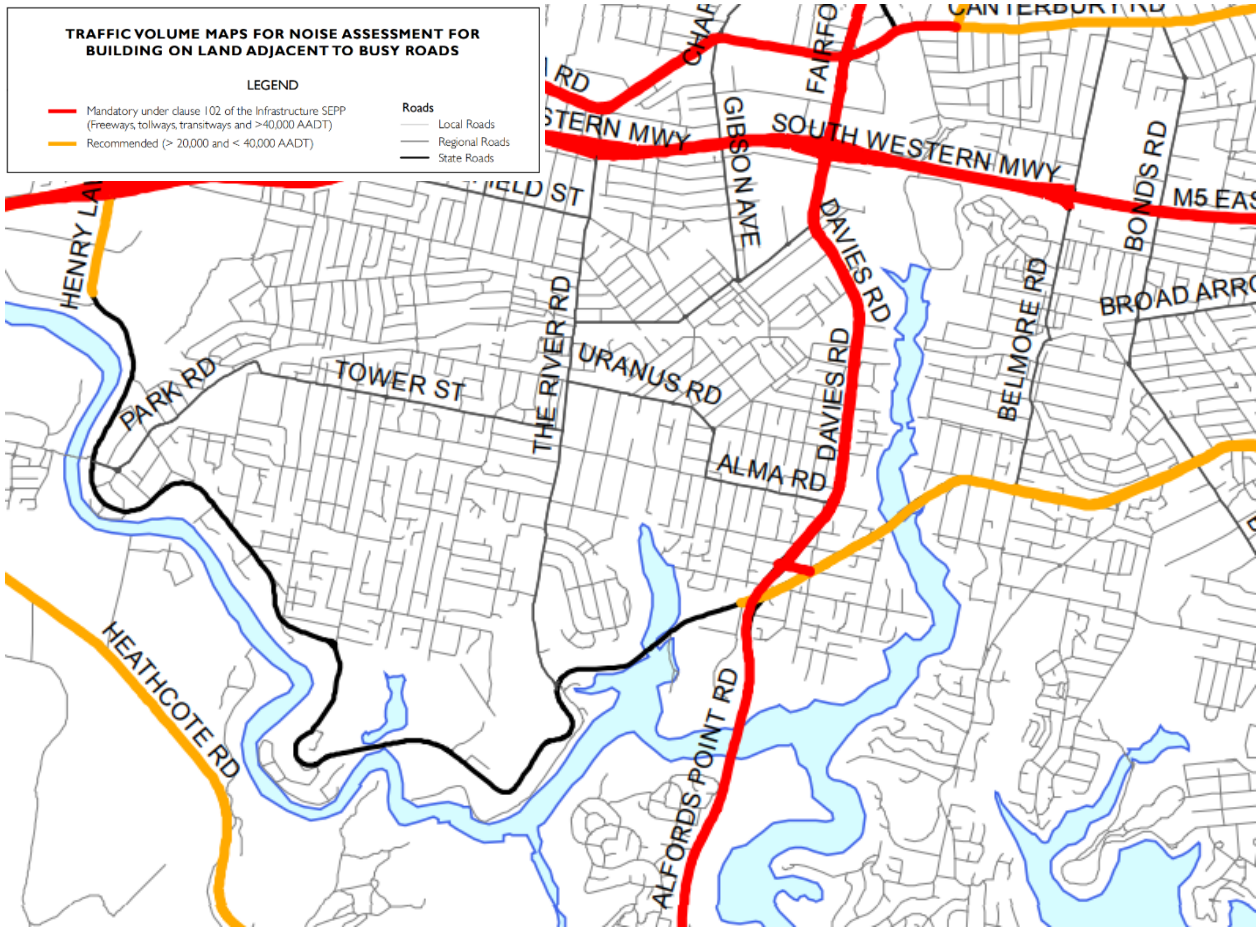

Figure 8 – RMS Traffic Volume Map 15

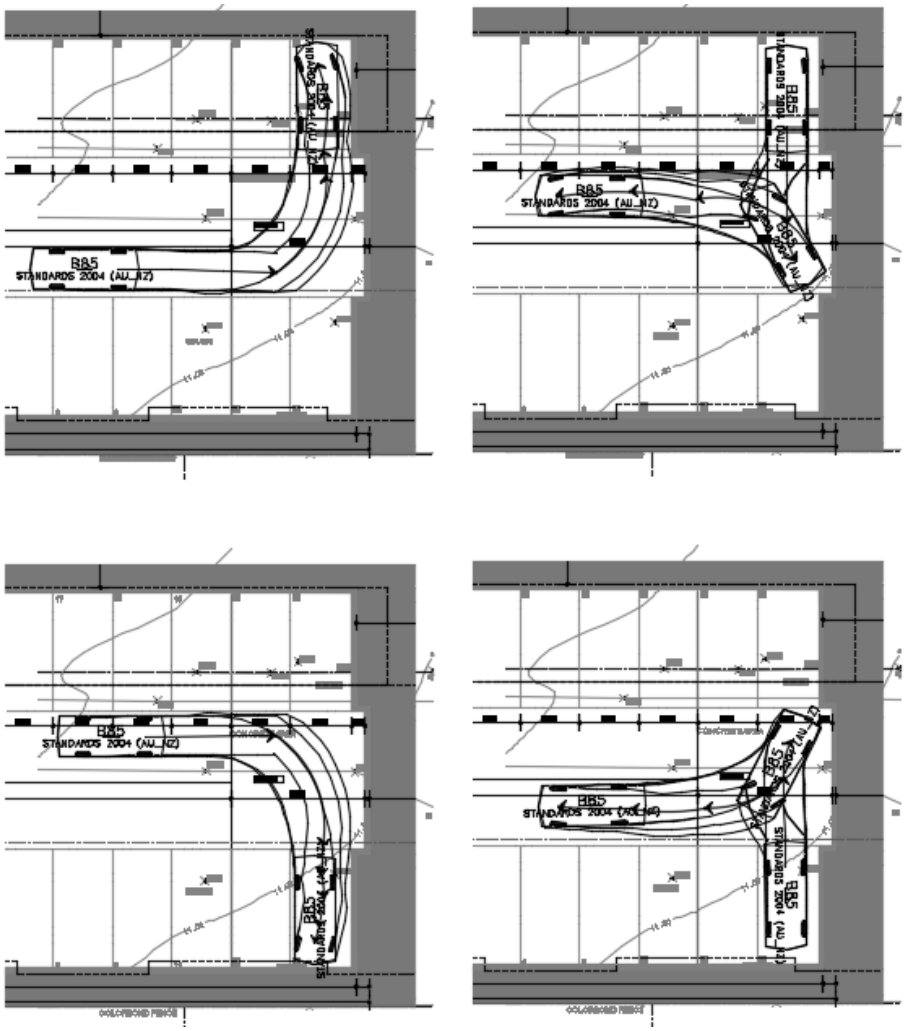

Figure 9 – Swept path analysis B85 entering/exiting in a forward direction

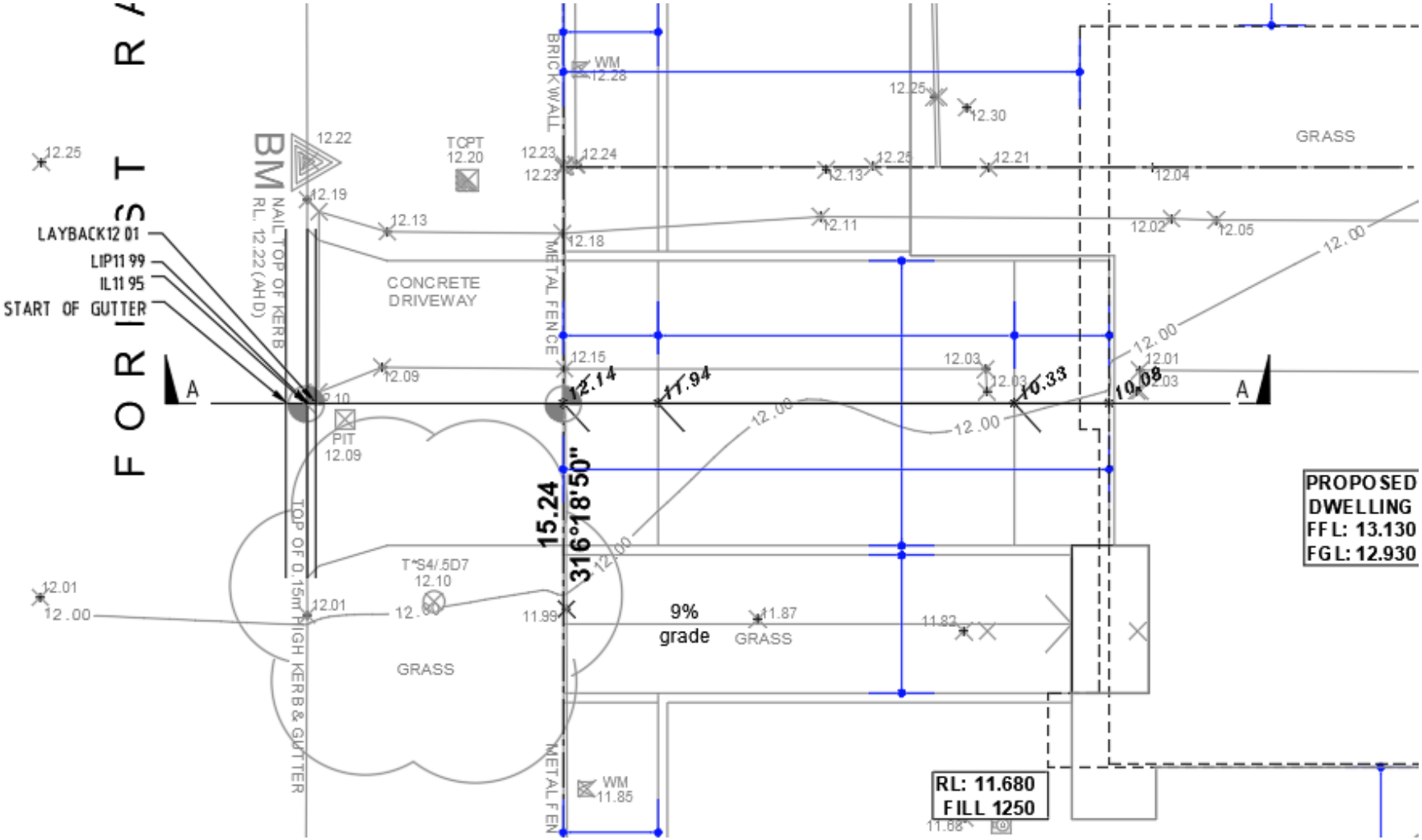

Figure 10 – Driveway plan

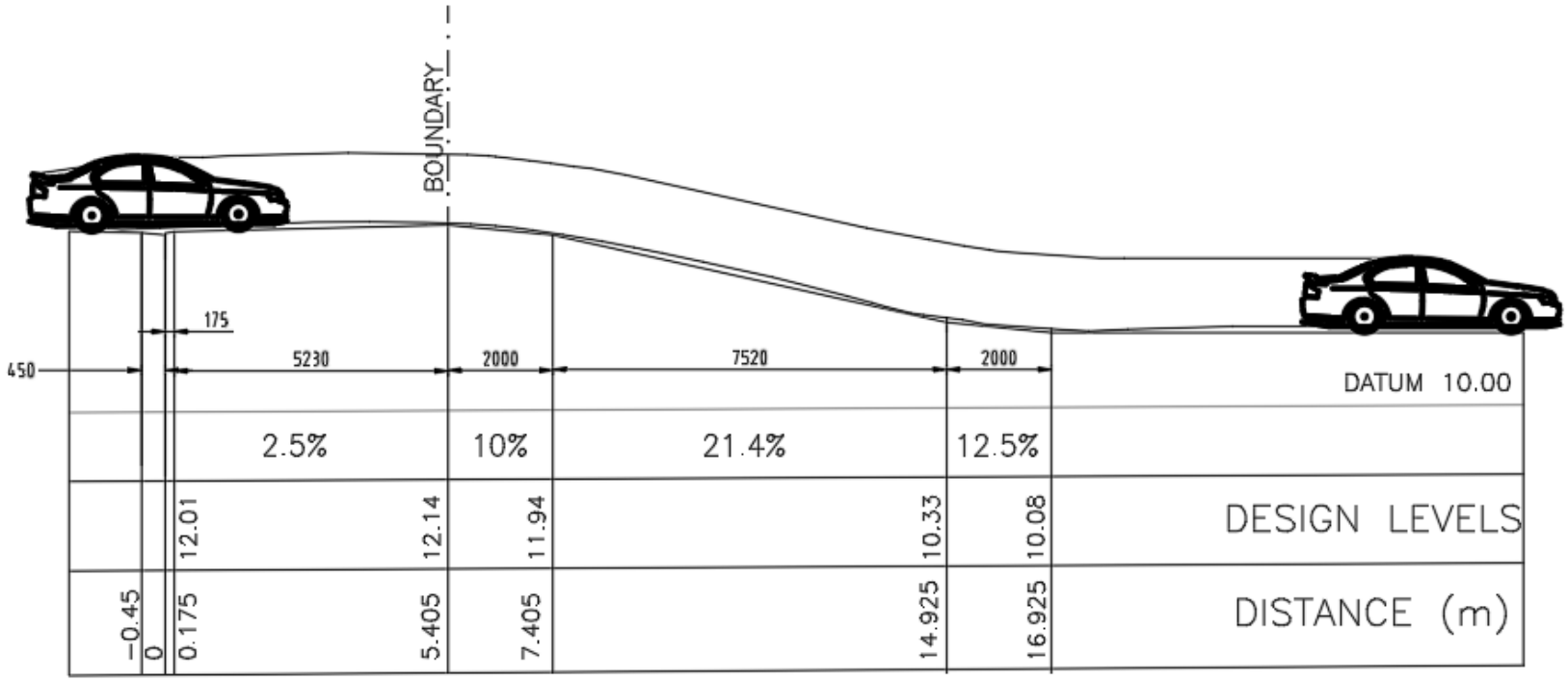

Figure 11 – Driveway section A-A