Traffic Solutions Pty Ltd

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27 July 2017
Reference No: 16.17.069

The General Manager
Blacktown City Council
PO Box 63
Blacktown NSW 2148

Dear Sir

Traffic and Parking Assessment – Lot 2, in Lot 30 South Street, Marsden Park

Traffic Solutions Pty Ltd has been engaged by Universal Property Group Pty Ltd to provide Council with an assessment of the traffic and parking implications of a development proposing 90 residential Units. (Comprising 9 x 1, 25 x 2 and 56 x 3 bedroom dwellings).

One hundred and forty eight (148) parking spaces are proposed in a single basement level with vehicle access via a 6.9m wide driveway direct to New Road No 1. The proposed driveway location is satisfactory and will provide good sight distance in both directions along New Road No 1. The available sight distance will easily exceed the desirable 69m distance suggested by AS/NZS 2890.1:2004 for 50 km/h.

This assessment has been undertaken with reference to plans prepared by Architex Job No 2291, Drawing Numbers 01-18 and dated 10 July 2017.

TRAFFIC

An estimation of the traffic generation of the proposed development can be calculated by reference to the Roads and Maritime Services Technical Direction '*Guide to Traffic Generating Developments, Updated surveys TDT 2013/14'* of May 2013. The guide specifies the following peak hour generation rates for High Density residential flat buildings in Sydney:

AM Peak Hour Vehicle Trips =	0.19
PM Peak Hour Vehicle Trips =	0.15

The Roads and Maritime Services defines a high density residential flat building as:

"… a building containing 20 or more dwellings. This does not include aged or disabled persons' housing. High density residential flat buildings are usually more than five levels, have basement level car parking and are located in close proximity to public transport services. The building may contain a component of commercial use."

Therefore, the estimated traffic generation of the development calculates as:

AM Peak
90 Dwellings @ 0.19 trips per unit = 17.1 peak hour trips

TOTAL = 17 AM peak hour trips

PM Peak
90 Dwellings @ 0.15 trips per unit = 13.5 peak hour trips

TOTAL = 14 PM peak hour trips

Accordingly, the proposed development has the potential to generate approximately 17 and 14 vehicle trips in the morning and evening peak hours respectively. This increase in traffic will not have a noticeable or detrimental effect on the current operation of the surrounding road network as it would have been included in the master planning of this area.

PARKING

Geometric design requirements for car park layouts are specified in the '*Australian/New Zealand Standard, Parking Facilities Part 1; Off Street Car Parking (AS/NZS 2890.1)* of 2004 and *Australian/New Zealand Standard, Parking Facilities Part 6: Off street Parking for People With Disabilities* of 2009. Part 1 of this standard classifies this development as a Class 1A off-street car parking facility requiring a category 2 driveway. The following table provides a comparison on the requirements of AS/NZS 2890.1 and AS/NZS 2890.6 applicable to the car parking proposal.

FEATURE	AS/NZS 2890.1 & AS/NZS 2890.6 REQUIREMENT	PROPOSED	CONFORMS TO STANDARD
Parking Space	5.4m x 2.4m car space Additional 300mm when adjacent a wall 5.4m x 2.4m plus 5.4m x 2.4m shared zone for disabled spaces	5.4m x 2.4m car space Additional 300mm when adjacent a wall 5.4m x 2.4m plus 5.4m x 2.4m shared zone for disabled spaces	**YES** **YES**
Aisle Width	5.8m min	5.8m min	**YES**
Blind Aisle	1.0m	1.2m min	**YES**
Driveway Width	Category 1 d/w = 3m – 5.5m Category 2 d/w = 6m – 9m Note: Driveways are normally combined, but if separate, both entry and exit widths should be 3.0m min.	Combined driveway 6.9m	**YES**
Ramp Grades	• 1 in 20 (5%) for 1st 6m • > 20m 1 in 5 (20%) max • < 20m 1 in 4 (25%) max. Transition required if grade change in excess of 1 in 8 (12.5%)	1 in 20 (5%) for 1st 6m Ramp to lower basement > 20m @ 1 in 6.5 (15.4%) max grade with 1 in 16 (6.25%) grade transitions	**YES** **YES**
Ramp Widths	For straight ramps • One way ramps = 3.0m min • Two way ramps = 5.5m min Additional 300mm when adjacent For curved ramps • One way ramps = 3.6m min • Two way ramps = 7.8m min Additional 300mm when adjacent	Straight two way ramp 6.9m plus 0.3m kerbs	**YES**

FEATURE	AS/NZS 2890.1 & AS/NZS 2890.6 REQUIREMENT	PROPOSED	CONFORMS TO STANDARD
Headroom	2.3m desirable 2.2m minimum 2.5m above disabled space	3.0m floor to floor	**YES**
Pedestrian sight line splay	2m (along frontage) x 2.5m (into site)	No obstruction	**YES**

Accordingly this development proposal adheres to the above Australian Standard Requirements.

Council's Development Control Plan (*BCC Growth Centre Precincts Development Control Plan*) specifies the following car parking requirements:

R3, R4 zones (residential flat buildings)
1 space per dwelling plus 0.5 spaces per 3 or more bedroom dwelling.
1 visitor car parking space per 5 dwellings
Bicycle parking spaces: 1 per 3 dwellings

Accordingly, the car parking required for this development proposal calculates as:

90 dwellings @ 1 spaces/dwelling	=	90 spaces.
56 dwellings @ 0.5 spaces/dwelling	=	28 spaces.
90 dwellings @ 1 space/ 5 dwellings for visitors	=	18 spaces.
TOTAL	=	136 spaces.

Consequently, the proposed residential development exceeds Council's parking requirements with the provision of 148 off-street parking spaces.

The Australian Standard AS 2890.2:2002 provides the design requirements for varying size heavy vehicles. In this regard, Traffic Solutions Pty Ltd has been advised by Architex that Council requires vehicle access for a Medium Rigid Vehicle (8.8m long) for garbage collection in the basement. The following table provides a comparison on the key requirements of AS 2890.2:2002 applicable to the proposal.

FEATURE	AS 2890.2 REQUIREMENT	PROPOSED	CONFORMS TO AS 2890.2
Loading dock dimensions	Medium Rigid Vehicle = 8.8m x 3.5m	11.1m x 4m	**YES**
Aisle widths	6.5m for two way 3.5m for one way	7.5m	**YES**
Driveway width	Medium Rigid vehicle = 9m for 6.5m wide road minor road.	7.5m wide driveway for 10.0m wide road	**NO (see note)**
Head Clearance	Medium and Heavy Rigid = 4.5m	4.5m	**YES**

Note: Application of the Australian Standards MRV swept path template reveals that the 6.1m wide driveway is sufficient in width to enable this size vehicle to access the property due to the wider road width.

Accordingly, this development proposal adheres to the above Australian Standard requirements for heavy vehicles with the exception of the driveway width, however, the proposed width is satisfactory.

HEAVY VEHICLE MANOEUVRING

To depict to Council how the 8.8m long Medium Rigid Vehicle can access the site and manoeuvre into the loading area within basement 1 of the development, turning paths have been generated using AUTOCAD Vehicle Tracking software. Attached for Council's consideration is an AUTOCAD vehicle tracking drawing depicting this size vehicle manoeuvring into the loading area and exiting in a forward direction. This attachment depicts that the design vehicle can satisfactorily manoeuvre within the development.

CONCLUSIONS

The preceding assessment has revealed the following:

- The access driveway proposed to serve the development is suitably located and will provide good sight distance in both directions along the new unnamed road.

- The proposed development satisfies the related geometric design specifications contained in the Australian Standards for off street parking and vehicular access, with the exception of the driveway width, however, the proposed width is satisfactory.

- The off street parking provided in the proposed development exceeds the requirements specified by the Council's Development Control Plan.

- The proposal has a potential net increase in estimated peak hour traffic flows in the order of 17 and 14 vehicle trips in the morning and evening peak hours respectively, which will not have any unacceptable impacts upon the new unnamed road or the surrounding road network.

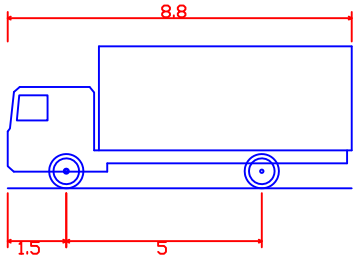
- The access driveway and loading area proposed can be adequately accessed by an 8.8m long Medium Rigid Vehicle.

Should you require any additional information or clarification of the contents of this letter please contact me on the numbers provided.

Yours sincerely

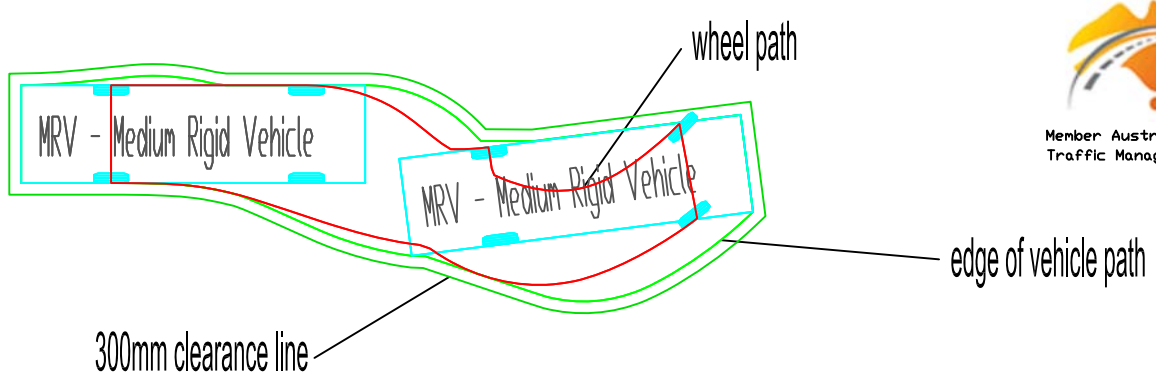
Craig Hazell
Director

RevNo	Revision note	Date	Signature



MRV - Medium Rigid Vehicle

Overall Length	8.800m
Overall Width	2.500m
Overall Body Height	3.633m
Min Body Ground Clearance	0.428m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10.000m



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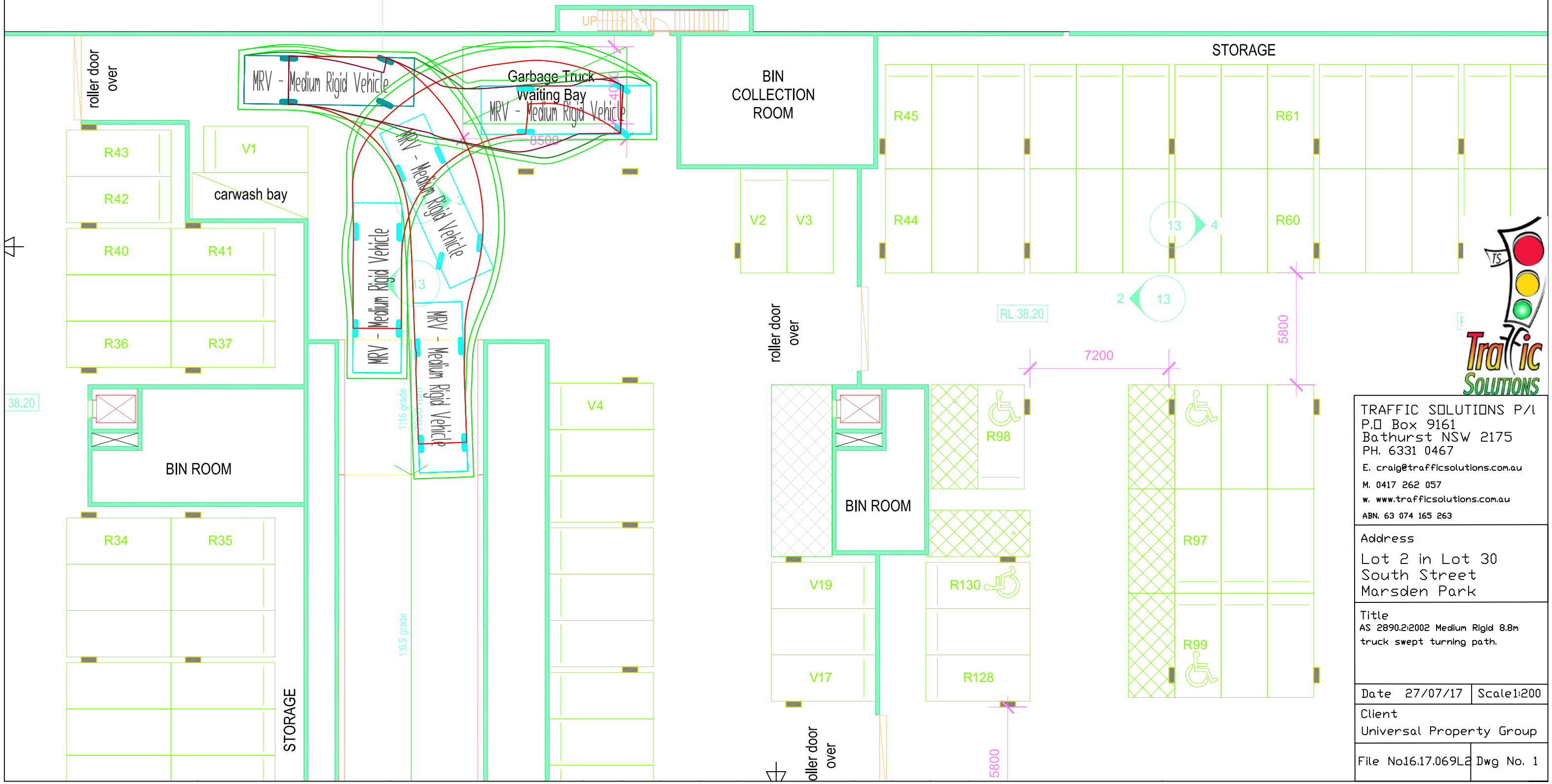

Traffic Solutions

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Address
Lot 2 in Lot 30
South Street
Marsden Park

Title
AS 2890.2:2002 Medium Rigid 8.8m truck swept turning path.

Date	Scale
27/07/17	1:200

Client
Universal Property Group

File No	Dwg No.
16.17.069L2	1