TRAFFIC & TRANSPORT ENGINEERING

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PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL
Approval no: DEV2020/1083
Date: 24 June 2020
Queensland Government

Minister for Economic Development Queensland
c/- Fulton Trotter
18 Portman Lane
Springhill QLD 4000

Attention: Belinda Douglas

Dear Belinda,

RE: ROMA HOSPITAL STUDENT ACCOMMODATION
TRAFFIC ENGINEERING ASSESSMENT

INTRODUCTION

This report has been prepared by Pekol Traffic and Transport (PTT), as requested by Fulton Trotter, to assess the traffic engineering aspects of the proposed Roma Hospital student accommodation development, located at Acacia Road, Roma, within the Bowen Street Roma Priority Development Area (PDA).

The aim of this assessment is to review the proposed development in terms of the access arrangements, parking provision and design, servicing arrangements and pedestrian / cyclist facilities, with respect to the PDA Development Scheme. Where the PDA Development Scheme provides no relevant guidance, the development has been assessed against Maranoa Regional Council's Planning Scheme and relevant Australian Standards.

EXISTING CONDITIONS

Subject Site

The subject site is formally described as Lot 142 on SP257157, is zoned for residential use according to the PDA Development Scheme and is currently vacant. The site is bounded to the north by Acacia Road and community space, to the east by vacant land and to the south and west by residential properties, as shown in Figure 1. No formalised accesses to the site currently exist.

Roma Hospital is located approximately 100m north of the site. The surrounding land uses in all other directions are primarily residential in nature.

Road Network

Acacia Road is an undivided minor road with one lane of traffic in each direction and a sealed pavement width of 7.5m within a 16m wide road reserve. The road currently provides access the subject site, four residential lots to the north (of which three are vacant) and six public car parking spaces. Accordingly, traffic volumes on Acacia Road are expected to be very low.

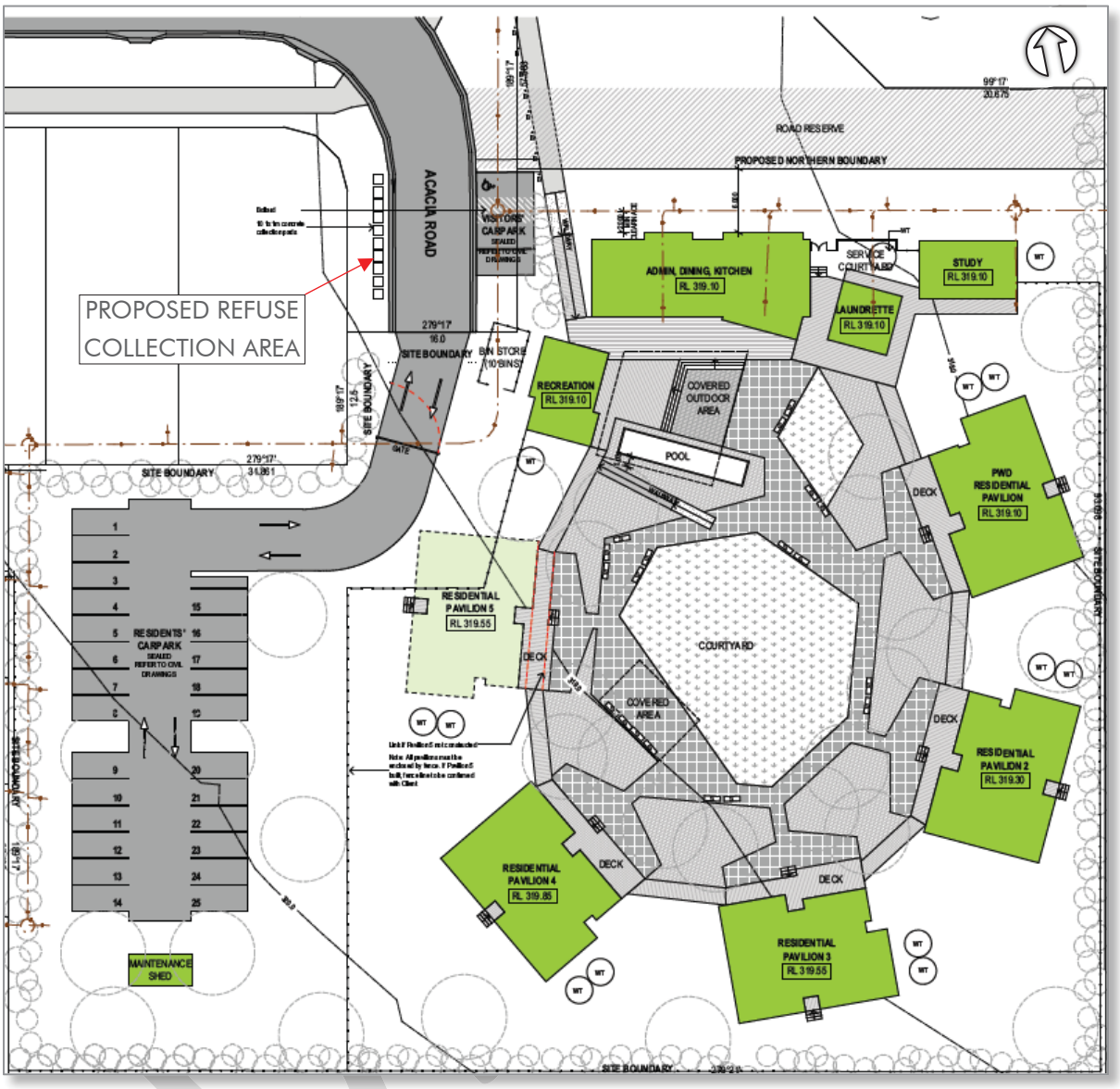
Access to Acacia Road is via a priority-controlled intersection with Lomandra Avenue to the west. Both roads have a posted speed limit of 50km/h. Pedestrian footpaths are provided along the southern side of Lomandra Avenue and along the eastern side of the northern end of Acacia Road. No formal cycle facilities are provided in the vicinity of the subject site.

Figure 1: SITE LOCALITY

PROPOSED DEVELOPMENT

The proposal involves a student accommodation development with capacity for 25 students. The development will cater for students enrolled in up to eight-week long internships at Roma Hospital. The proposed site layout is shown in Figure 2 and attached.

Figure 2: PROPOSED SITE LAYOUT



ACCESS

Design

Vehicular access to the site is proposed via a crossover on the southern end of Acacia Road. Council's Planning Scheme requires crossovers to be designed according to Capricorn Municipal Development Guidelines (CMDG) Standard Drawing R-042A. For a parking area with capacity for 25 or fewer cars (ie the proposed parking provision), R-042A requires a 6m wide Type A crossover to be provided. The proposed crossover is designed generally consistent with this requirement, with modified tapers to conform to the width of Acacia Road.

Location

AS2890.1 requires access driveways to be located a minimum 6m clear of adjacent intersections. The proposed access is located approximately 21m from the Acacia Road / Lomandra Avenue priority-controlled intersection and complies with AS2890.1 requirements for location.

Sight Distance

On a 50km/h road (ie Acacia Road), Australian Standards AS2890.1 for Off-Street Car Parking requires a minimum sight distance of 45m. This report was conducted based on a desktop assessment of the development site and surrounding road network and an on-site assessment of sight distance was not undertaken. However, based on aerial imagery, it is anticipated that approximately 35m sight distance would be achieved at the proposed access location. This does not comply with AS2890.1 requirements for a speed limit of 50km/h. However, it does comply with requirements for a reduced speed of 40km/h.

As the proposed access is located at the end of Acacia Road, there is no potential for through traffic at the access location. Additionally, it is expected that vehicles would be travelling significantly slower than 50km/h when travelling through the Acacia Road / Lomandra Avenue priority-controlled intersection. Therefore, sight distance at the proposed access location is considered adequate.

PARKING

Requirement

The car parking rate for the proposed development has been determined based on the requirements of Schedule 7 of Council's Planning Scheme for student accommodation uses. A car parking provision of 18 spaces is required to support the development, as shown in Table 1.

Table 1: PARKING REQUIREMENT

LAND USE	SCALE	PARKING RATE	SOURCE	REQUIRED
Student Accommodation	25 students	0.7 spaces per student	Council	18 spaces

Provision

The proposed layout provides 25 long-term student parking spaces on-site and exceeds Council's Planning Scheme requirements for parking provision. In addition, three angled on-street parking spaces are proposed on the eastern side of Acacia Road along the site frontage, including one Persons with Disability (PWD) space.

PWD Parking

The Building Code of Australia (BCA) requires PWD parking at Class 3 buildings (ie the proposed development) to be provided at a rate of one space per 100 ordinary parking spaces, constructed in accordance with Australian Standards AS2890.6 for Off-Street Parking for People with Disabilities. The proposed layout provides one PWD parking space and complies with BCA requirements for PWD parking provision.

Design

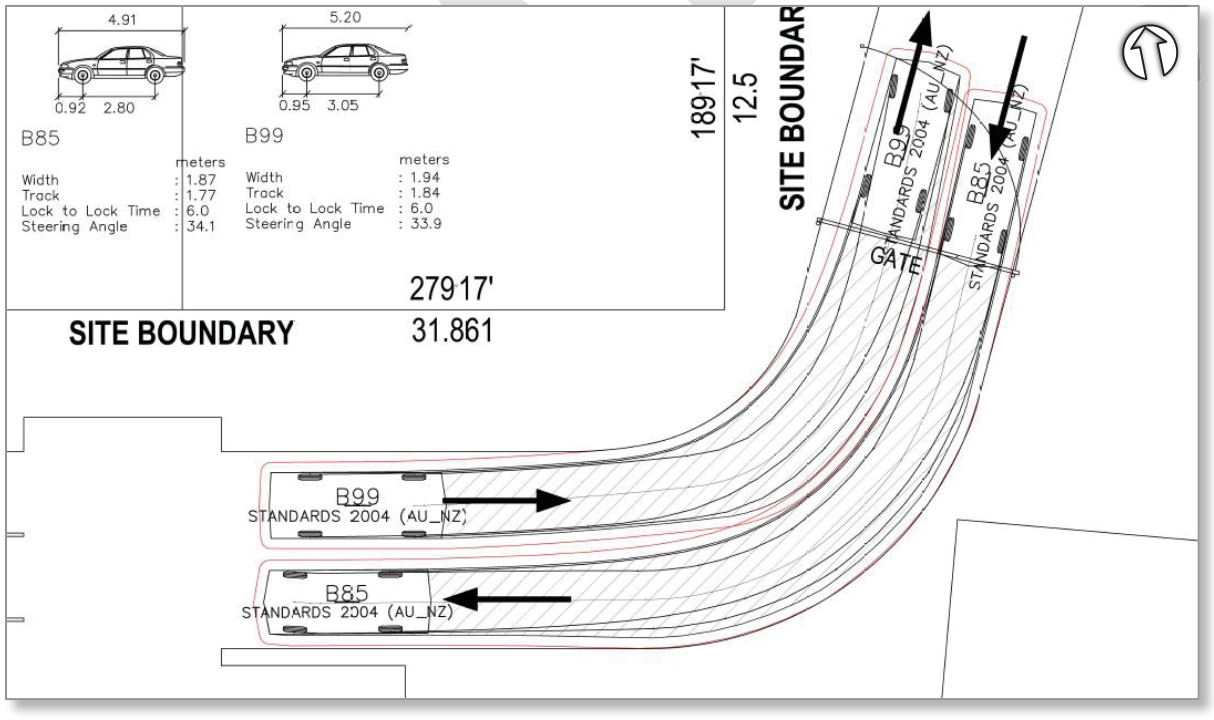
On-site Parking

Schedule 7 of Council's Planning Scheme requires parking areas to be designed according to the requirements of AS2890. The proposed on-site parking facilities generally comply with AS2890.1 requirements and are typified as follows:

- student (ie Class 1A) spaces dimensioned 2.5m wide by 5.4m long, with 5.8m wide aisles
- blind aisle treatments comprising a 1m aisle extension beyond the last parking space
- all parking and manoeuvring areas are proposed to be sealed

For curved two-way roadways, AS2890.1 requires a minimum outside radius of 15m and roadway width of 6.7m. The proposed internal roadway accessing the long-term parking area does not comply with this requirement. However, as shown in Figure 3 and attached, the proposed roadway is sufficient to allow a medium car (B85) and large car (B99) to pass with a minimum 0.3m clearance on both sides. Considering the expected low turnover of the long-term parking area, this arrangement is considered sufficient for the proposed use.

Figure 3: PROPOSED INTERNAL ROADWAY



On-street Parking

The proposed on-street visitor parking spaces have been assessed in accordance with Australian Standards AS2890.5 for On-Street Parking. AS2890.5 requires 90-degree medium turnover (ie residential visitor) spaces to be dimensioned 2.5m wide by 5.4m long and PWD spaces to be dimensioned 2.4m wide by 5.4m long, with an adjacent 2.4m wide shared area. The proposed visitor spaces are

dimensioned 2.4m wide and do not comply with this requirement. It is recommended that the visitor parking spaces be widened to a minimum of 2.5m.

Queuing

AS2890.1 recommends queuing be provided in order to allow a free influx of traffic which will not adversely affect traffic or pedestrian flows on the frontage road. The 95th percentile queue at the site access is considered to be an adequate measure of an acceptable queue. The predicted 95th percentile queue has been calculated based on 11 cars (ie half the long-term parking provision) arriving in the peak hour, using the queuing theory outlined in the PTT Queuing Practice Note (attached).

The results of the analysis indicate a 95th percentile queue of 0.05 vehicles (ie 0.3m) at the site access. The proposed layout provides in excess of 35m of queuing space between the site boundary and first conflict point on-site (ie the first long-term parking space) and is consistent with the requirements of AS2890.1 for queuing.

COMMERCIAL VEHICLE SERVICING

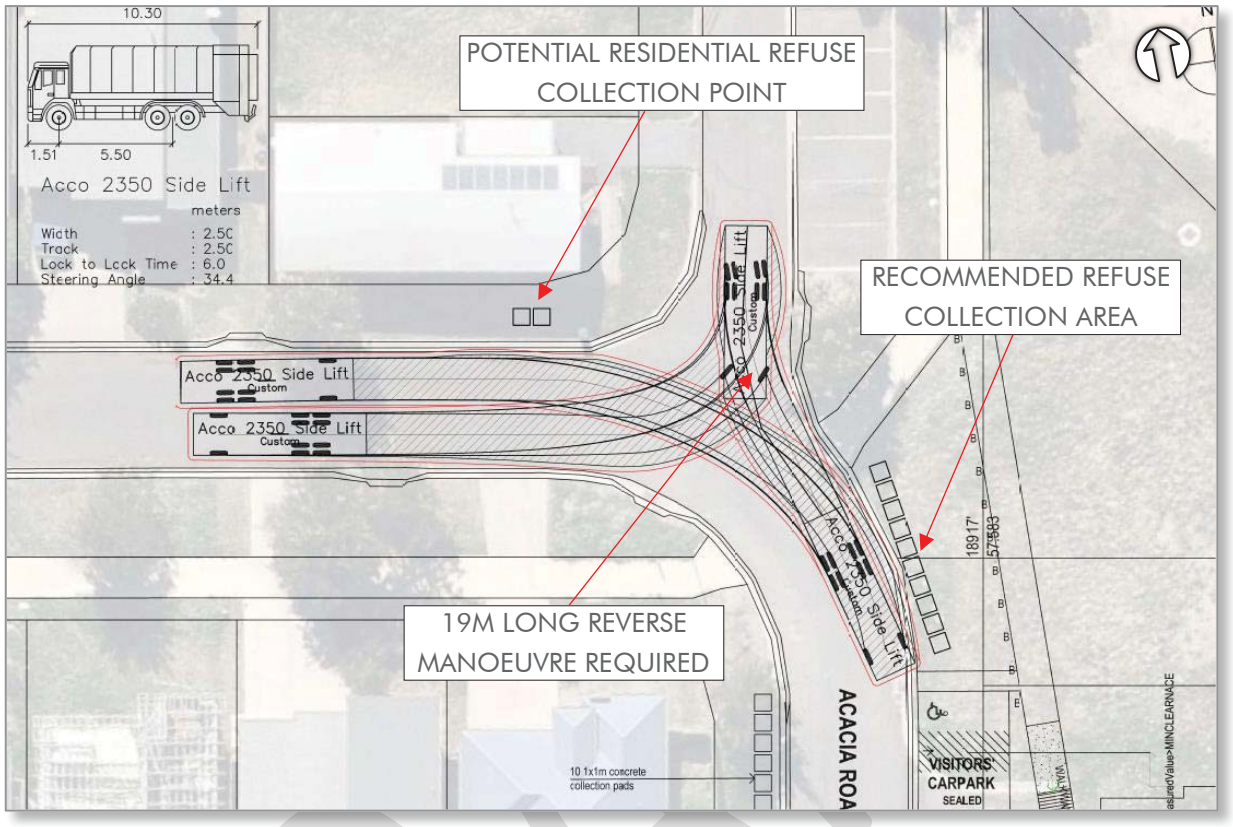
Council's Planning Scheme does not require student accommodation developments to provide access for service vehicles. It is understood that the development will be fully furnished and, considering the proposed development will only accommodate students for short periods of time, the demand for service vehicles (ie furniture removal trucks) is expected to be minimal. Accordingly, no service bays are proposed on-site. In the event that service vehicle access to the site is required, there is sufficient room available for service vehicles to park on the internal circulation road with adequate space for a large car (ie B99) to pass.

Refuse collection is proposed to be undertaken on-street using 240L wheelie bins. A refuse collection area is proposed on the western side of Acacia Road in front of the site, as shown in Figure 2. It is understood a Refuse Collection Vehicle (RCV) currently uses the Acacia Road / Lomandra Avenue intersection to turnaround when servicing the residential lot on the northern end of Acacia Road. This involves a reverse manoeuvre along the southern end of Acacia Road. RCV access to the proposed refuse collection area would be by extending this existing reverse manoeuvre.

It is standard practice to restrict the maximum length of service vehicle reverse manoeuvres to twice the length of the service vehicle. For a 10.3m long RCV, this equates to a preferred maximum reversing length of 21m. Based on a swept path analysis of RCV manoeuvring, the proposed refuse collection point would require a 32m long reversing manoeuvre and would exceed this preferred maximum. It is recommended that an alternative refuse collection point be considered, to reduce the length of the reverse manoeuvre required.

An alternative refuse collection location has been identified on the eastern side of Acacia Road along the site frontage, as shown in Figure 4. This alternative location would require RCVs to right from Lomandra Avenue onto the southern end of Acacia Road, and then turnaround by reversing along the northern end of Acacia Road. A swept path analysis of this manoeuvre has been undertaken, as shown in Figure 4 and attached. As shown, an approximately 19m long reverse manoeuvre is required, which complies with the preferred maximum reversing length of 21m.

Figure 4: RCV MANOEUVRING



Under the above arrangement, refuse collection of the residential lot on the northern end of Acacia Road could be achieved from the residential lot's southern site boundary on Lomandra Drive, as shown in Figure 4. This would avoid the need for RCVs to reverse south along the southern end of Acacia Road.

It is recommended that the refuse collection point for the proposed development be located on the eastern side of Acacia Road, as shown in Figure 4.

ACTIVE TRANSPORT

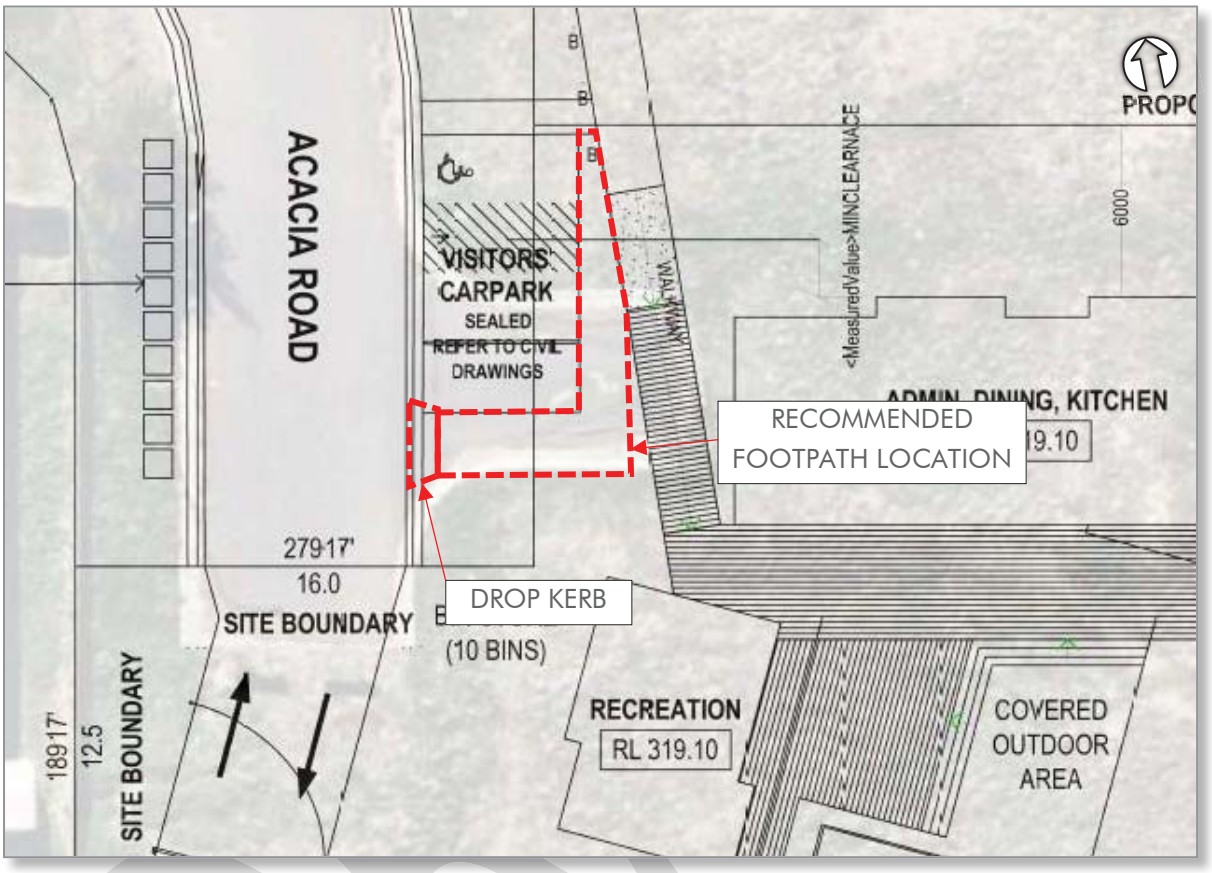
Pedestrians

Pedestrian pathways are proposed between each accommodation building and the communal areas. Pedestrian access to Roma Hospital is proposed via a pedestrian access ramp and footpath connection to McDowell Street to the north. CMDG's Cycleway and Pathway Design Guideline requires pedestrian footpaths to be dimensioned a minimum 1.2m wide. The proposed footpaths comply with this requirement.

The proposed development would benefit from provision of a footpath connection to the long-term parking area. The proposed layout requires pedestrians travelling to and from this parking area to walk along the internal circulation road. Traffic volumes on the circulation road are expected to be very low. Therefore, provided the circulation road is well lit, this arrangement is not expected to generate significant vehicle / pedestrian conflict. However, it is recommended that a pedestrian footpath and drop kerb be

provided between the circulation road and the pedestrian access ramp, adjacent to the visitor parking area, as shown in Figure 5.

Figure 4: RECOMMENDED PEDESTRIAN FACILITIES



Cyclists

Schedule 7 of Council's Planning Scheme requires bicycle parking to be provided at student accommodation facilities, with a minimum capacity for four bicycles. It is recommended that a minimum four bicycle parks be provided in accordance with Council's Planning Scheme requirements and to accommodate a small number of students who may cycle.

Public Transport

No local public transport services operate in Roma. The proposed development is not expected to generate significant demand for public transport.

CONCLUSIONS AND RECOMMENDATIONS

The proposed development has been evaluated in terms of its access arrangements, parking provision and design, servicing arrangements and pedestrian / cyclist facilities. The main points to note are:

- the proposed development involves a student accommodation development for 25 students
- access to the site is proposed via a crossover from the southern end of Acacia Road
- sight distance and queuing provision at the access is considered sufficient for the proposed use
- the proposed parking provision complies with Council's Planning Scheme requirements

Based on the above, it is recommended that:

- the on-street visitor parking spaces be dimensioned a minimum 2.5m wide
- on-street refuse collection be undertaken from the eastern side of Acacia Road, as indicated in Figure 4
- a pedestrian footpath and drop kerb be provided between the internal circulation road and pedestrian access ramp
- a bicycle storage area with capacity for a minimum four bicycles be provided

If you have any questions regarding the issues discussed above, please do not hesitate to contact us.

Yours sincerely,

Adam Pekol
Director (RPEQ 5286)