

# Operational Traffic Management Plan

Joseph Banks Secondary College  
Redevelopment

CW1152200

Prepared for  
With\_ Architecture Studio

18 March 2021



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## Document Information

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# 1 Introduction

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Cardno have been commissioned by With\_ Architecture Studio on behalf of the Government of Western Australia, Department of Finance to prepare an Operational Traffic Management Plan as part of the expansion of the Joseph Banks Secondary College ("the Site"). The Site is located at 40 Joseph Banks Boulevard, Banksia Grove, within the City of Wanneroo.

It should be noted that this Operational Traffic Management Plan has been prepared under a separate cover and should be read in conjunction with the Transport Impact Assessment report.

This plan is prepared to address issues of concern raised by the City of Wanneroo traffic engineers related to the drop-off and pick-up area adjacent to Splendens Avenue, particularly during PM school peak periods where vehicular queues were observed.

## 2 Site Context

### 2.1 Site Location

The Site is located in the suburb of Banksia Grove, City of Wanneroo and bounded by Joseph Banks Boulevard to the east, Splendens Avenue to the south, and Pinjar Road to the west. The proposed expansion is located on the south west corner of the Site as shown in **Figure 2-1**.

Figure 2-1 Aerial View of Site Location



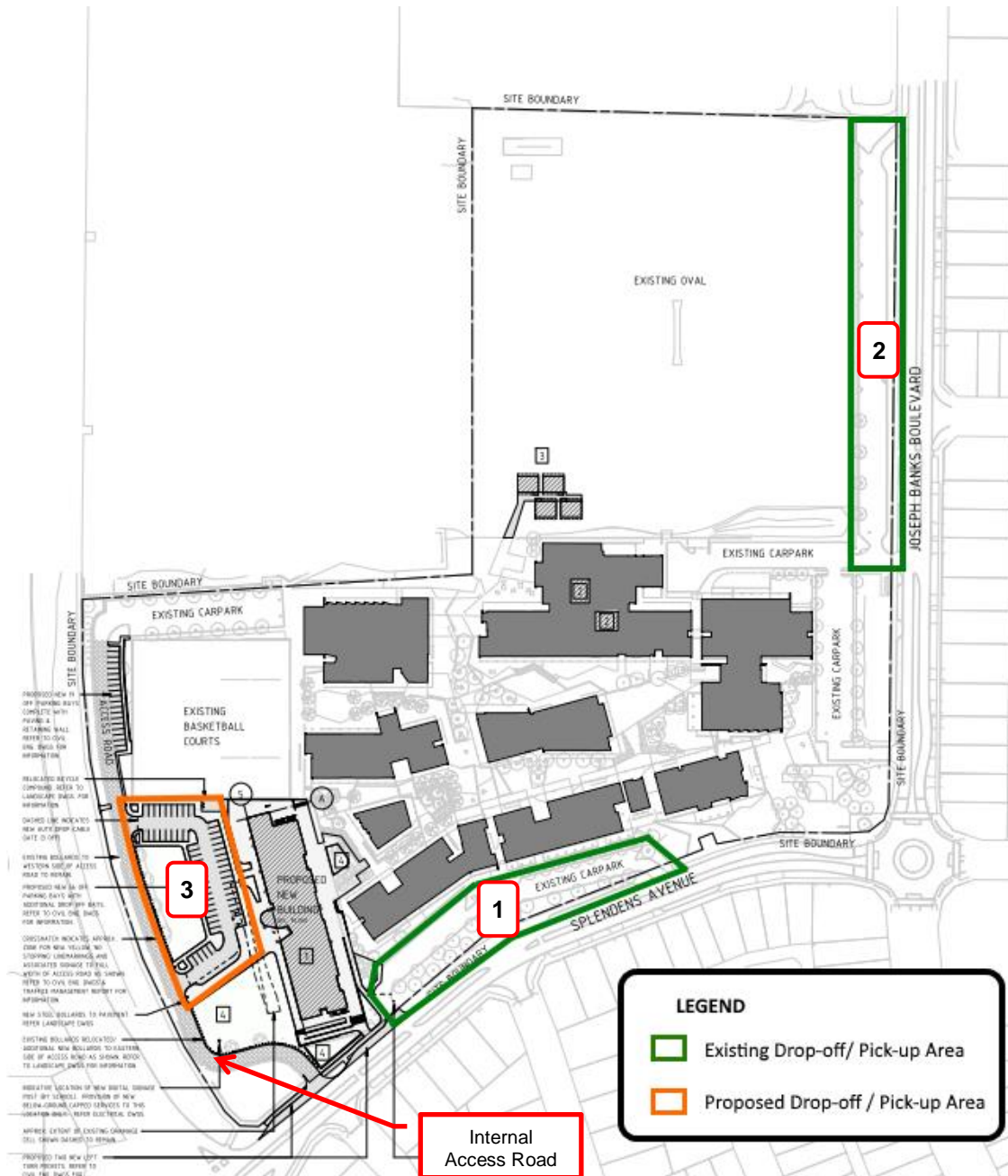
Source: Nearmap (2021)

## 2.2 Existing and Proposed Drop-off / Pick-up Location

The existing and proposed drop-off / pick-up area locations are shown in **Figure 2-2** and listed below:

- > Area 1 – an existing facility accessed via Splendens Avenue;
- > Area 2 – an existing facility accessed via Joseph Banks Boulevard; and
- > Area 3 – a proposed facility accessed via an existing internal access road connected to Splendens Avenue.

Figure 2-2 Existing and Proposed Drop-off / Pick-up Facility Location



(Source: With\_Architecture Studio)

### 2.3 Existing Operational Issues

From site observations undertaken on Tuesday 16 February 2021, the following observations were recorded during the site visit which was not observed during the initial site visit conducted on Wednesday 2 December 2020:

- > Vehicular queues from Area 1 drop-off / pick-up would extend onto Splendens Avenue and all the way to the Pinjar Road intersection as shown in **Figure 2-3**.
- > The queue from Area 1 drop-off / pick-up also impacted traffic operations on Pinjar Road, particularly the right turn from Pinjar Road southern approach as shown in **Figure 2-4**. The traffic engineers of the City of Wanneroo have raised concerns that the existing vehicular queues would negatively impact the accessibility to the future drop-off / pick-up in Area 3 from Splendens Avenue.
- > It should be noted that the observed congestion only lasted for approximately 10-15 minutes and traffic operations returned to normal thereafter.

Figure 2-3 Queue from Drop-off / Pick-up Area 1 Spilling into Splendens Avenue



Figure 2-4 Queue on Splendens Avenue Affecting Pinjar Road



It should be noted that site observations revealed that the drop-off and pick-up activity in Area 2 adjacent to Joseph Banks Boulevard was far less congested and no significant queuing was observed.



### 3 Proposed Access Arrangement and Traffic Management

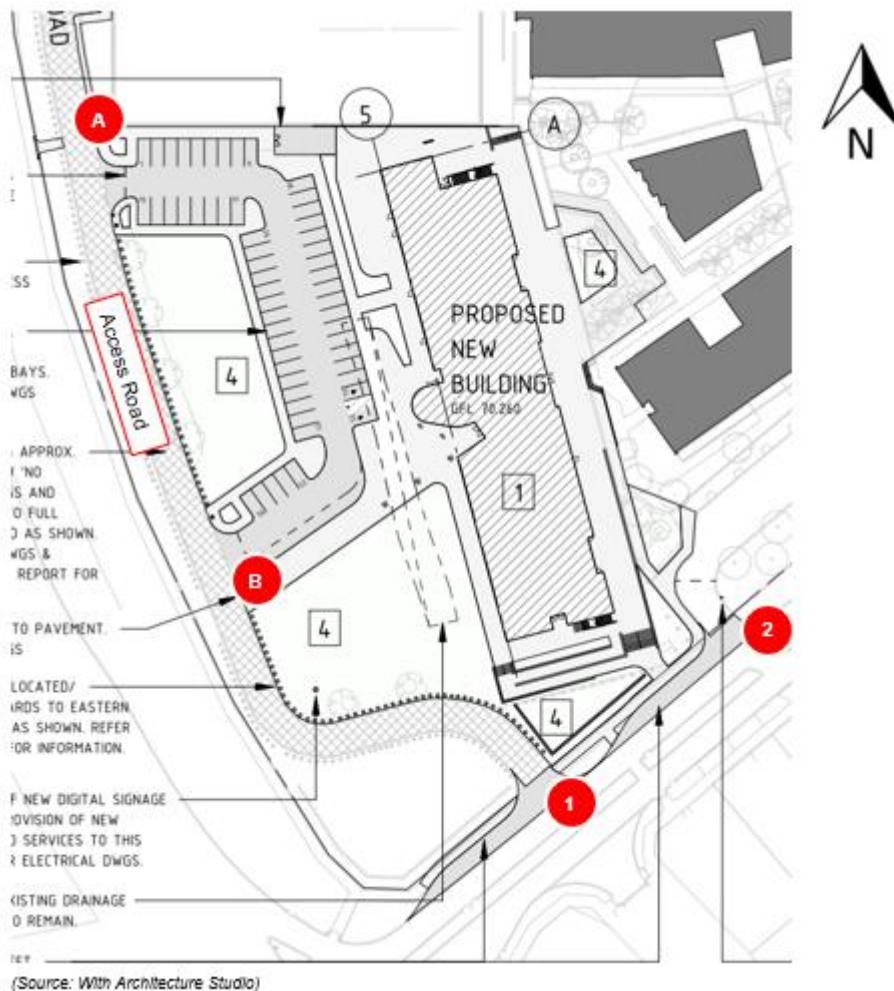
#### 3.1 Proposed Access Arrangement

Access to the new facilities will be via the internal access road (Access 1) from Splendens Avenue. **Figure 3-1** shows the location of the new facilities and the proposed car park with entry and exit points:

- > Access A is entry only (left-in, right in)
- > Access B is exit only (left-out, right-out)

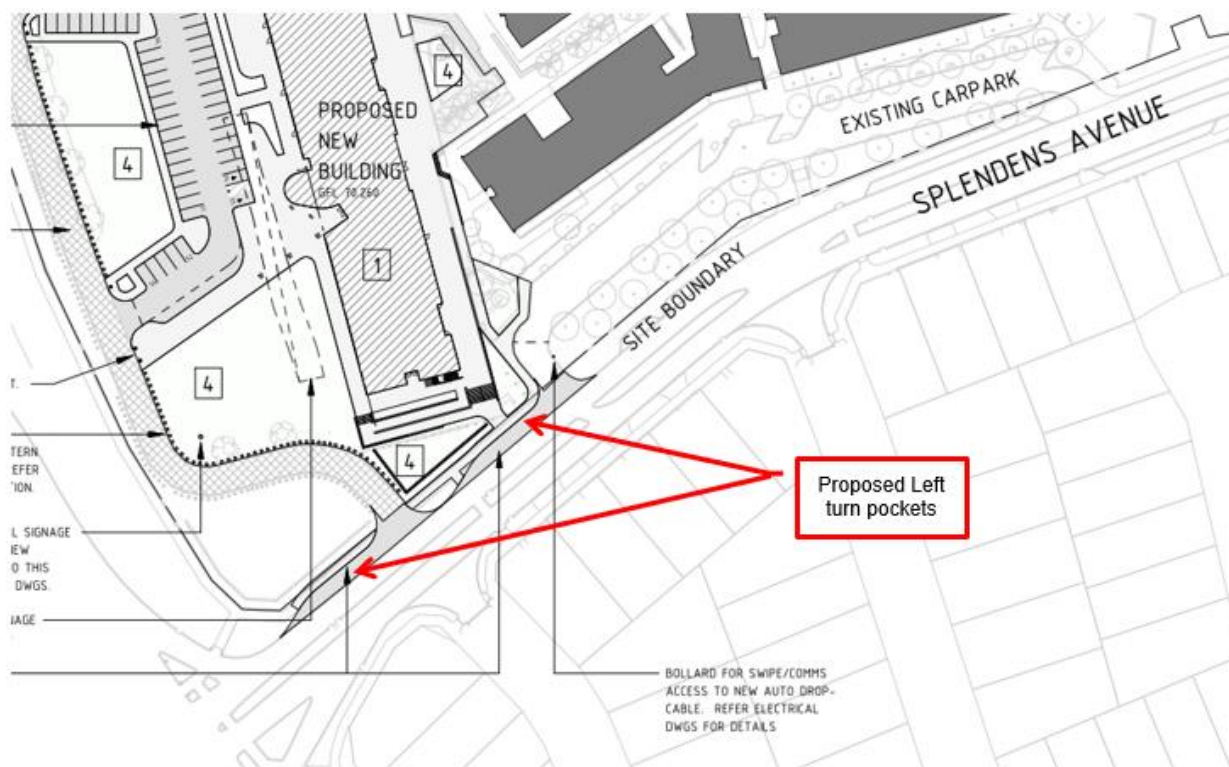
The car park will have a one-way clockwise traffic flow circulation which is aimed to provide efficient movement through the site and ensuring that delays are minimised. The distance from Access A and Access 1 is approximately 160m which would provide additional queuing space if required and as such no queue overspill is expected onto Splendens Avenue.

Figure 3-1 Access Arrangements



In addition, left turn pockets at the existing Access 1 and 2 as shown in **Figure 3-2** will be provided to assist with traffic operations during school peak hours. This will provide additional storage space on-street to mitigate against vehicular queues extending onto Splendens Ave and allow for through vehicles to bypass these queues.

Figure 3-2 Proposed Left turn pockets



### 3.2 Proposed Traffic Management Measures

#### 3.2.1 Allocating Students to Specific Drop-off / Pick-up Area

Based on the site observations, during the PM school pickup periods Area 1 was well utilised resulting in some congestion being experienced whilst Area 2 was underutilised. Hence, there is potential for drop-off and pick-up activities to be distributed more evenly between the existing and future drop-off / pick-up areas to alleviate the congestion currently experienced on Splendens Avenue during the PM school pick up period.

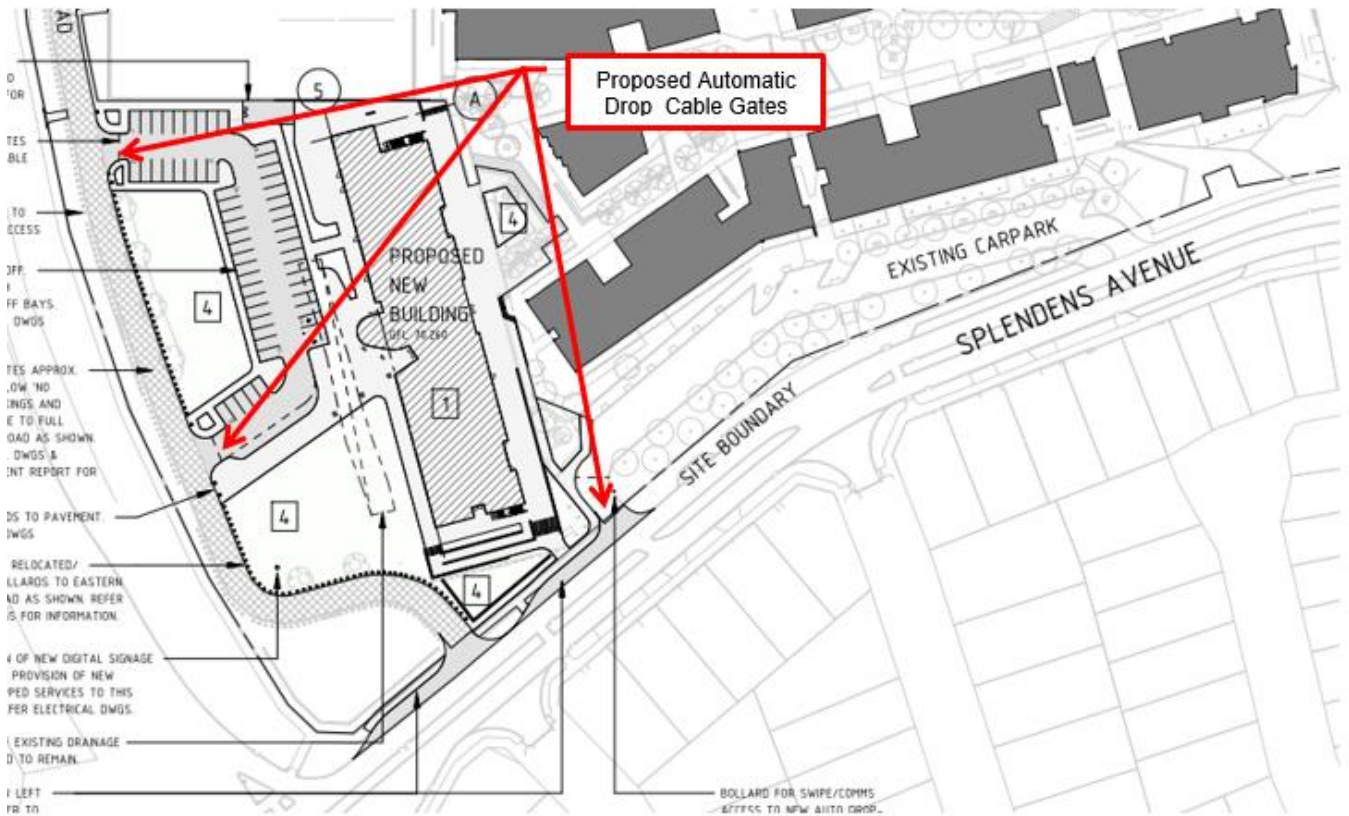
The following is proposed:

- > To minimise the existing queues associated with the existing school pick up/drop off area on Splendens Avenue, it is recommended that consideration be given to the school pick up/drop off activities being distributed proportionately between the existing and new pick up/ drop off areas. The school could potentially consider allocating the use of each of the pickup/drop off areas as shown in **Figure 2-2** by the year of students or by class. Where more than one sibling is attending the same school consideration should be given to arranging for either the younger siblings to be collected at the same pickup/drop off area as the older sibling or vice versa.
- > This traffic management measure must be managed, monitored and modified (where appropriate) by the school in order to minimise the queuing on Splendens Avenue.
- > Consideration should be given to communicating to parents, students and staff via the school's website and newsletters of the traffic management measures to be implemented.

#### 3.2.2 Staff Parking Management

To ensure that parking in drop-off and pick-up areas are available for use by parents during peak times, it is proposed that staff park in the existing staff car park adjacent to the administration building and the gymnasium. It is proposed that automatic drop cable gates be installed at the entry access point of Area 1 as well as the access points to the proposed new car park (Area 3) to manage the staff parking as shown in **Figure 3-3**. It is envisaged that the automatic drop cable gates would be in operation between 8:00AM and 8:30 AM to prevent staff from parking in Area 1 and Area 3 and encourage them to park in the existing car park adjacent to the administration building and the gymnasium. Parents would be able to use Area 1 and 3 after 8:30 AM and those parents dropping their children before 8:30 would still be able to use Area 2.

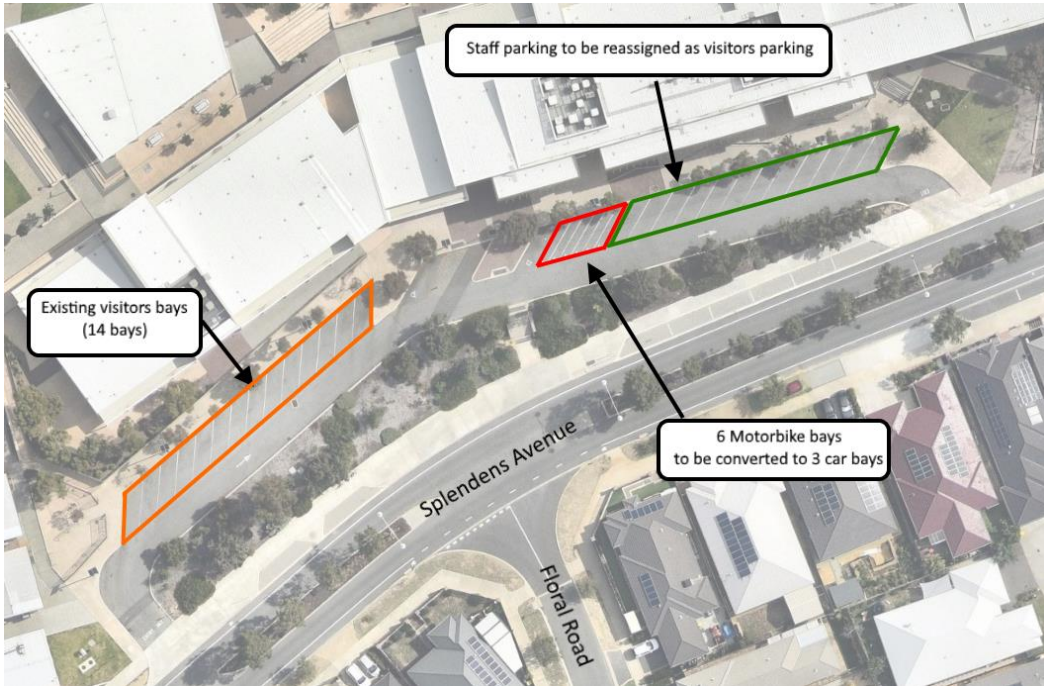
Figure 3-3 Proposed Automatic Drop Cable Gate Locations



### 3.2.3 Increase Visitor Parking Capacity at Area 1

Area 1 currently comprises 12 staff bays and 14 visitor bays, 2 ACROD Bays, 1 sick bay, and 6 motorcycle bays. It is proposed that the staff parking bays on the eastern side of Area 1 be reallocated to visitor parking and that the 6 motorcycle bays (which are not well used) be converted to 3 car parking bays as shown in **Figure 3-4**. Consideration could be given to relocating these motor cycle bays elsewhere on the site. Total visitor parking bays would be increased to 29 bays with the proposed changes. The ACROD bays and the sick bay are to remain and are not proposed to be reassigned.

Figure 3-4 Proposed Area 1 Parking Bays Reallocation



Based on the site visit observations, it is estimated that approximately 80 vehicles entered Area 1 during the PM school peak period (the busiest period). This estimate includes cars arriving prior to pick up at 3PM and parked in Area 1 as well as vehicles arriving after 3PM. Assuming a 5 minutes dwell time for each bay, within a 15-minute period (i.e. the duration which the pick-up activity occurred), each bay would have a turnover rate of 3. Hence it is estimated that the proposed 29 visitor bays in Area 1 would be able to accommodate about 87 cars in the busiest 15-minute period during the PM school peak.

It is anticipated that the increase in visitor parking supply in Area 1 would be able to cater for the existing parking demand although it is recommended that allocating students to be picked up and dropped off at allocated areas should still be considered. It should be noted that the new trips and pick up and drop off operations associated with the proposed school expansion would be accommodated in the new car park in Area 3.

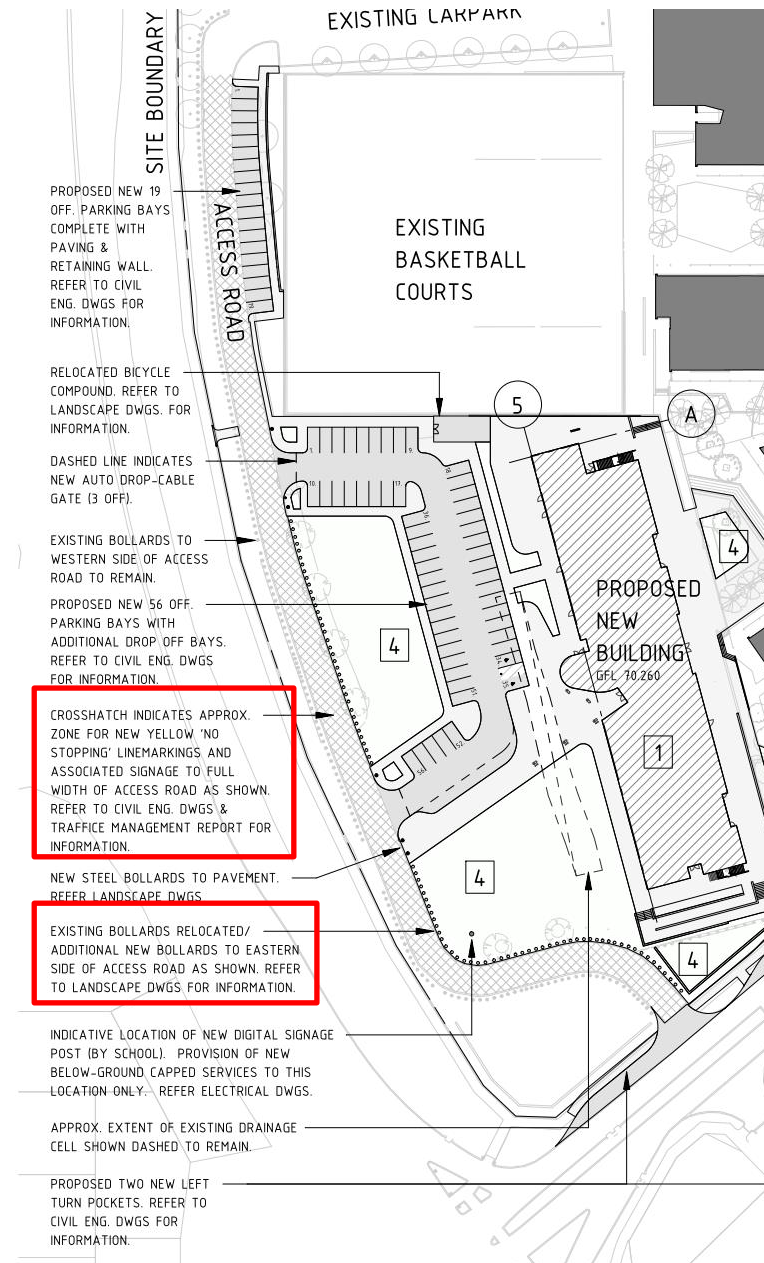
Consideration should also be given to communicating to parents, students and staff via the school’s website and newsletters of the traffic management measures to be implemented in Area 1.

### 3.2.4 Internal Access Road Traffic Management

To ensure new efficient traffic movement to and from the new car park (Area 3), the following traffic management measures are proposed as illustrated in the site plan shown in **Figure 3-5**.

- > Bollards on the eastern side of the Access Road are recommended to be relocated closer to the edge of the existing Access Road to discourage parking on the verge which potentially could impact traffic operations.
- > Yellow 'No stopping' edge line marking and corresponding signage along the length of the Access Road

Figure 3-5 Internal Access Road Traffic Management



(Source: With\_Architect Studio)

## 4 Conclusions and Summary

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This Operational Traffic Management Plan proposes measures to be implemented to mitigate against the existing traffic issues related to the drop-off and pick-up area adjacent to Splendens Avenue, particularly during PM school peak periods. This matter was raised by the City of Wanneroo, as a concern which could impact the proposed expansion of Joseph Banks Secondary College (“the Site”) located in Banksia Grove, City of Wanneroo.

The traffic management solutions identified comprises the following:

- > Allocating students to specific pick up and drop off areas within the school Site;
- > Managing the staff parking and proposing that staff park in the existing staff car park adjacent to the administration building and the gymnasium;
- > Increasing visitor parking in the existing pick up and drop off area adjacent to Splendens Avenue (Area 1) by reallocating the staff parking bays on the eastern side to visitor parking and converting the 6 motorcycle bays to 3 car parking bays; and
- > Implementing line marking and signage as well as moving existing bollards closer to the edge of the existing Access Road to discourage parking on the verge which potentially could impact traffic operations.

The above Traffic Management measures are considered to be appropriate and anticipated to be suitably adequate to address the concerns of the City of Wanneroo and improve the traffic operations at the Joseph Banks Secondary College.

## About Cardno

Cardno is a professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

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