Our Ref: 18188

21 June 2018

Today Pty Ltd
c/- Baron + Associates
Level 7, 66 Hunter Street
Sydney NSW 2000

Attention: Mr Gil Baron

Dear Gil,

RE: CRANBROOK SCHOOL REDEVELOPMENT SSD
REVIEW OF ENVIRONMENTAL IMPACT ASSESSMENT
TRAFFIC AND PARKING ASPECTS

The Transport Planning Partnership (TTPP) has been engaged by Today Pty Ltd to undertake an independent review of the traffic and parking aspects of the proposed State Significant Development (SSD) for the redevelopment of the Cranbrook School at Bellevue Hill.

This report presents the findings of the review undertaken by TTPP.

Summary of TTPP's Review

The TTPP review of the traffic and parking related aspects of the Cranbrook School redevelopment have concluded that:

- The traffic and parking assessment requirements as required by the SEARs have not been adequately assessed;
- There are significant flaws in the traffic generation and distribution assumptions used in the traffic assessment;
- There are serious concerns regarding the capacity, operation and safety of the proposed on site drop off / pick up facility;
- No assessment of the operating / capacity conditions for the new car park or drop off / pick up access driveways has been undertaken; and

- The Traffic Report lacks details pertaining to the future use of the Aquatic Centre and Car park to demonstrate and confirm that existing the existing School population (students, staff AND VISITORS) will not increase as a result of the proposed redevelopment.

This review has presented potential alternative traffic and parking arrangements to address concerns raised herein recommend these for further consideration.

Introduction

In preparing this report, TTPP have reviewed the following SSD documents:

- Secretary's Environmental Assessment Requirements (SEARs) Application No. SSD 8812 dated 10 November 2017;
- Environmental Impact Statement prepared by Urbis for Cranbrook School (May 2018);
- Operational Traffic and Parking Assessment prepared by PTC for Cranbrook School (May 2018) herein referred to as the Traffic Report; and
- Architectural Plans prepared by Architectus for Cranbrook School dated April 2018.

In addition to the SSD documents, the review has considered:

- Statement of Environmental Effects and Development Consent for Sub division of Lot 2 DP 9005 No 23 Victoria Road Bellevue Hill (dated December 2017) and subsequent DA documents lodged with Woollahra Council;
- Australian Standards (AS2890);
- RMS Guide to Traffic Generating Developments (2002); and
- Other documents as referenced herein.

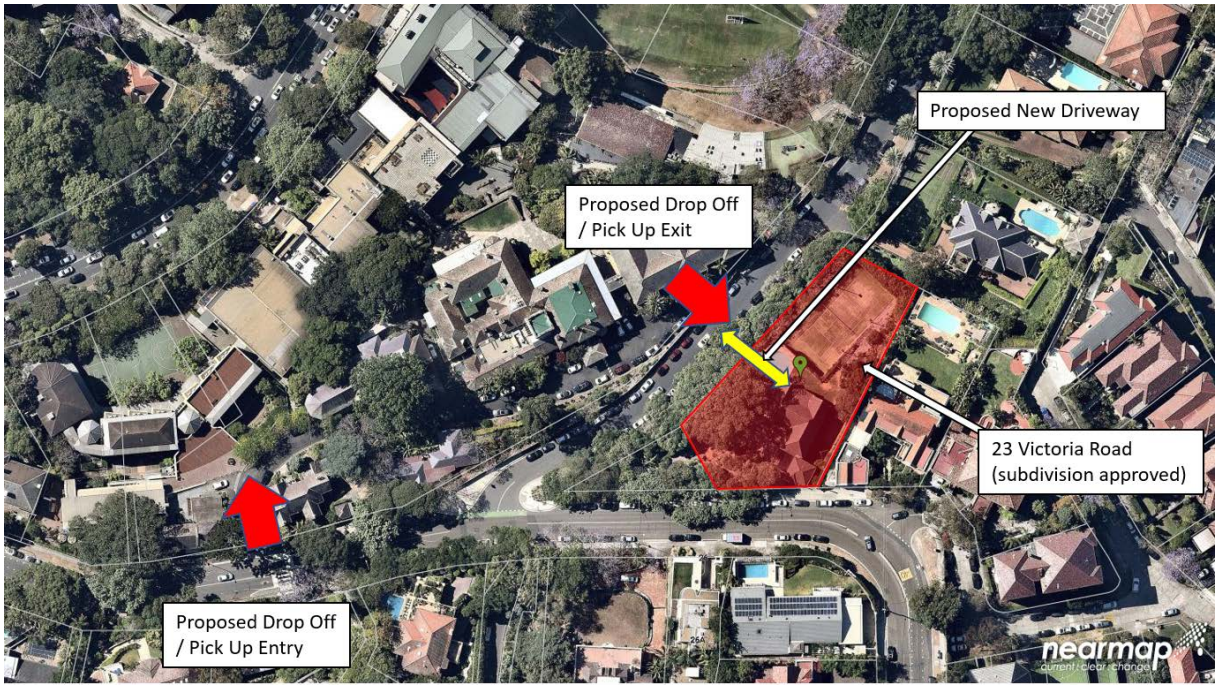
Background

In May 2017, a development application was lodged with Woollahra Council for the subdivision of 23 Victoria Road Bellevue Hill. This application was made on behalf of the Today Pty Ltd who have engaged TTPP to prepare this review.

The site of 23 Victoria Road is owned by Cranbrook School and is in the process of being sold to Today Pty Ltd.

As shown in Figure 1, the site of 23 Victoria Road has road frontage to Rose Bay Avenue and Victoria Road and is sited opposite Cranbrook School. Specifically, 23 Victoria Avenue and its proposed New Driveway is located directly opposite the proposed new Cranbrook drop off / pick up access on Rose Bay Avenue as represented in the SSD application for the School redevelopment.

Figure 1 – Proximity of 23 Victoria Road to Proposed School Drop Off / Pick Up Exit



The immediate proximity of the proposed drop off / pick up vehicle access to the approved subdivision at 23 Victoria Road has obvious implications to the operation and safety of the existing and future vehicle access driveways to properties along Victoria Road.

These implications are further explored in this report below.

Overview of Proposed SSD Development

Based on TTPP's review of the SSD application the key proposed traffic and parking aspects of the redevelopment are understood to be as follows:

- **On Site School Population**
    - Student / Staff population to be retained at existing levels, namely 1,115 students and 168 FTE staff.
    - Existing "Learn to Swim" classes with a capacity for 3,500 places over 7 days. It is unclear if this represents an increase in numbers or reflects existing conditions. As no assessment of additional traffic flows associated with the new aquatic facility has been provided it is concluded that existing "Learn to Swim" enrolments will NOT be increased.

- **Construction of a New On Site Car Parking Facility**
    - A new 126 car parking facility (only 124 spaces shown in the plans) will be constructed under the existing oval with a new access provided at Rose Bay Avenue towards New South Head Road.
    - Removal of 29 existing car parking spaces to accommodate the new on site drop off / pick up facility.
    - Thus net provision of + 95 on site car parking spaces.
- **Creation of a New On Site Drop Off / Pick Up Area**
    - Open the existing through site internal road between Victoria Road (entry) to Rose Bay Avenue (exit)
    - Capacity to accommodate 18 cars parked simultaneously (only 18 spaces shown in the plans where as Traffic Report references 19 spaces)
    - Removal of existing on street drop off / pick up zone in Rose Bay Avenue and replacement with unrestricted parking.

Review of Traffic and Parking Related Matters

Unsatisfactory Addressing of SEARS

With regard to traffic and parking, it is TTPP's opinion that the EIS and associated Traffic Report **does not** satisfactorily address all of the SEARs. These include the following issues.

The SEARs state that:

> *Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include:*
>
> - *adequate baseline data;*
> - *consideration of potential cumulative impacts due to other development in the vicinity (completed, underway or proposed); and*
> - *measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.*

Neither the EIS nor Traffic Report assessment have considered the cumulative impacts associated with other developments.

As noted above in the background, a subdivision application has been made and approved which will create new property driveways on Rose Bay Avenue opposite the new drop off /

pick up zone exit driveway (see Figure 1 and Figure 2). The proposed mitigation measures for the drop off / pick up driveway, namely signage does not take into account the new driveways on the adjacent side of the road.

Furthermore, the traffic assessment is premised on the basis that there will be no change to the existing traffic generation conditions of the School post redevelopment and hence there is no need to consider future traffic scenarios as required by the SEARs.

If, as stated by the EIS and Traffic Report, that the total level traffic generation will not change as a result of the redevelopment as School populations are retained at existing levels, the traffic distribution will certainly be changed with the creation of effectively three new intersections between the external road network and the internal road access driveways and the concentration of traffic movements to the new car park access.

Only the entry to the drop off / pick up at Victoria Road has been assessed and only for the drop off / pick up period. No assessment has been provided of the operational aspects of the drop off / pick up exit nor of the new cark park access on Rose Bay Avenue.

Additionally, baseline data **has NOT** been adequately provided in the assessment for the weekend periods or nor peak periods of the existing "Learn to Swim" operation or church services which are noted to be open to the public. Specifically, what are the current number of places offered by the Learn to Swim facility and how this compares to the expected 3,500 place new facility.

It is understood that the existing "Learn to Swim" is a small scale operation predominately for school students. The proposed new Aquatic Centre with a gym, café and 3,500 swimming places would suggest a commercial operation and one very much larger than the existing conditions. Yet the lack of information in the EIS / Traffic Report about the "baseline" conditions as required by the SEARs does not allow an assessment of future operation to be made.

As noted in the EIS and Traffic Report, the School operates 7 days a week albeit with varying levels of intensity and different uses. However, the lack of adequate baseline data restricts the ability for the potential implications to be identified and assessed for the non drop off / pick up times.

The SEARs refer to a requirement to consult with Transport for NSW (TfNSW) and NSW Roads and Maritime (RMS). Based on the EIS and Traffic Report it is evident that no comments have been received from RMS nor TfNSW regarding the **operational** aspects of the proposed redevelopment.

Other matters related to the traffic assessment are discussed below.

Operation and Capacity of the Drop Off / Pick Up Facility

The provision of satisfactory on site drop off / pick up facilities in preference to on street facilities is a preferred traffic, parking and pedestrian outcome for a School and the intent of the SSD proposal to internalise the drop off / pick up facility is generally supported by TTPP.

However, the provision of an internal drop off / pick up facility needs to be designed carefully such that:

- Vehicle / pedestrian conflicts are minimised and / or eliminated;
- Adequate student pedestrian storage can be provided adjacent to and with efficient access to the pick up / drop off point;
- The facility has adequate capacity to accommodate demand without queuing to the surrounding road network; and
- The intersections of the access driveway and the road network can be provided efficiently and safely.

Based on the Traffic Report it is noted that the School relies upon on street pick up and drop off facilities in Victoria Road **AND** Rose Bay Avenue.

TTPP's observations indicate that the Rose Bay Avenue drop off / pick up is utilised legally but drop offs and pick ups are currently occurring with the bus zones (illegal) on Victoria Road.

It is unclear from the Traffic Report what area the Victoria Road survey location for drop off / pick up was surveying. This should be clarified and the existing capacity of the drop off / pick up facility stated along with an assessment of the baseline capacity of existing facilities including queuing. It is assumed the survey refers to vehicles stopping illegally in the bus zones.

Notwithstanding the above, the existing on street drop off / pick up zone on Rose Bay Avenue provides a capacity for 16-18 cars. The "Victoria Gate" has similar surveyed movements to Rose Bay Avenue.

The proposed drop off / pick up facility within the School would only provide 18 car spaces which would effectively replace the existing on street drop off / pick up facility on Rose Bay Avenue. Thus the existing Victoria Road drop off / pick up activity is unlikely to be accommodated by the new facility.

TTPP's observations of the peak pick up period would suggest that the existing demands for are in excess of 19 car simultaneous utilised parking spaces.

The Traffic Report has assumed that existing dwell time for the pick up can be reduced from 5½ minutes to 2 minutes with the implementation of a "head of queue" operation. Based on TTPP's experience with surveys of the Trinity Grammar School on site drop off / pick up facility

it is suggested that with high levels of management a dwell time of between 60- 90 seconds can be achieved.

Notwithstanding the above, with a head of queue system and a single line of parking as proposed, the pick up facility has the capacity to accommodate between 15 – 30 vehicles in the peak ½ hour period.

With the surveyed demand for the drop off / pick up the proposed provision of 19 spaces would appear to be inadequate to accommodate all vehicles queued within the site.

TTPP has undertaken surveys of the on site drop off / pick up facility at Trinity Grammar School in Summer Hill. Trinity has a similar senior school population to Cranbrook with approximately 1,200 students. TTPP's surveys indicated that vehicle queues for peak pick up periods would typically extend 200 – 240 metres. These queues can be accommodated on the Trinity site.

However, if applied to Cranbrook's drop off / pick up facility with a storage length of 110 metres then vehicle queues could be expected to extend well out onto Victoria Road.

Given the very real potential for extensive vehicle queuing it is considered that further details regarding the operation and capacity of the drop off / pick up facility need to be provided before an adequate assessment of the implications can be made.

No Assessment of Drop Off / Pick Up Access Operation

The proposed redevelopment and the new drop off / pick up facility will generate a significant increase in the volume of traffic exiting the School site at the Rose Bay Avenue driveway.

The operation and capacity of the drop off / pick up facility is determined by a number of factors including the dwell time as discussed above AND the downstream capacity or the ability of vehicles to clear the passenger set down / pick up zone.

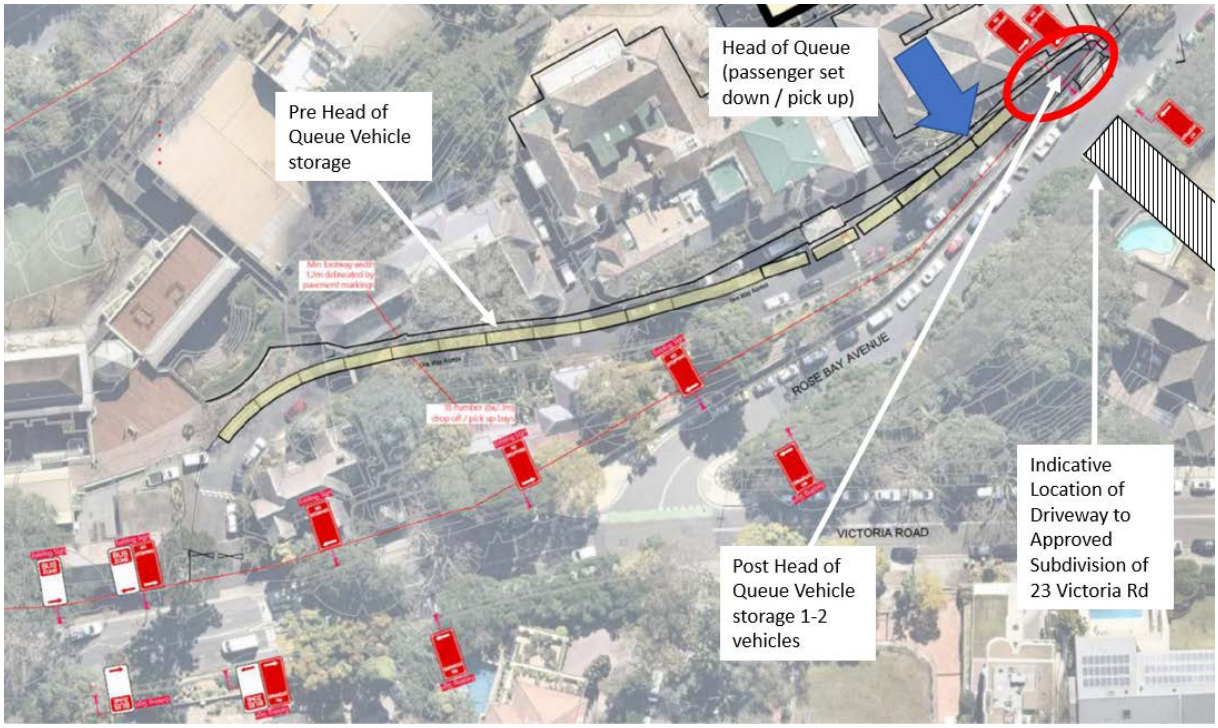
As shown in Figure 2, the storage area between the Rose Bay Avenue roadway and the head of queue for vehicles having dropped off or picked up a passenger is only 1-2 vehicles.

As such any vehicle queuing at the exit driveway will adversely impact the ability of vehicles to move through the drop off / pick up facility, thus exacerbating queues onto Victoria Road.

It is noted that **no assessment or analysis** of the potential vehicle queuing at the drop off / pick up exit to Rose Bay Avenue has been provided in the Traffic Report.

An analysis has been provided for the drop off – pick up entry access at Victoria Road but the analysis has assumed that any vehicle turning into the facility will be able to free flow along and clear the access driveway intersection. As noted above, it is TTPP's opinion that this assumption is unlikely to occur during peak periods and the analysis should be reconsidered.

Figure 2 – Proposed On Site Drop Off – Pick Up Facility – Lack of Vehicle Storage



The potential for queuing at the proposed drop off / pick exit at Rose Bay avenue will be significantly worsened if both left and right turn movements out of the driveway are permitted.

Furthermore the alignment of the internal road as it approaches the Rose Bay Avenue gate creates a very acute angle such that vehicles will not be near perpendicular with the footpath crossing and road as prescribed by AS2890.1 thus making drivers look around and over their shoulder to see approaching pedestrians and vehicles in an undesirable manner.

Sight lines to pedestrians at this driveway need to be considered very carefully with improvements to pedestrian sight lines and / or manually controlled with traffic controllers.

Thus for operational and safety reasons, if the proposed drop off /pick up is approved then it recommended that vehicle movements out of the exit be restricted to **LEFT TURN OUT ONLY**.

Pedestrian Safety at Drop Off / Pick Up Facility Entrance

It is acknowledged that drop off and pick up activities are currently occurring within the vicinity of the Victoria Road gate, many of these illegally in the bus zone, across the driveway or at the pedestrian crossing.

The proposed on site drop off – pick up facility would improve this situation (if adequate capacity is provided).

However, the proposed drop off / pick up facility will generate significant vehicle turning movements at a highly pedestrian area, noting that there are two bus stops used by School students and a designated pedestrian crossing.

An assessment of the potential risks and mitigations measures for a high traffic volume driveway has not been presented in the Traffic Report. It is noted that traffic flows will be highest simultaneously with high pedestrian flows.

The lack of adequate consideration of the potential pedestrian safety aspects is considered a flaw in the assessment reporting.

No Assessment of New Car Park Access at Rose Bay Avenue

The construction of a new 126 space car park with a single access will result is a changed traffic environment at Rose Bay Avenue.

Even if there no change to the total traffic generation of the School, the level of traffic now focused at a single driveway on Rose Bay Avenue will significantly increase the volume of traffic on what is a local street.

However, like the drop off / pick up exit driveway, no analysis of the capacity of the new car parking facility under the oval has been undertaken in the Traffic Report assessment.

It is noted that at the proposed car park access, Rose Bay Avenue would provide two travel lanes (one in each direction) and hence any vehicle stopped in Rose Bay Avenue to turn right into the car park will impede traffic flows up Rose Bay Avenue.

On street car parking surrounding the School experiences heavy demands and limited space capacity. As noted in the Traffic Report, the School population has a high use of public transport for travel to and from the School. One factor for the high use of public transport is the lack of available parking.

It is highly likely that the provision of additional on site parking may encourage those who previously used public transport to change modes and drive to the School. Thus while the School population may not change, additional traffic is likely to occur through mode of travel changes. The EIS and Traffic Report have not provided details as to what measures would be implemented to ensure mode changes do not occur and traffic levels are maintained as per the traffic assumptions in the Traffic Report.

Given the additional increase in traffic access Rose Bay Avenue and the new car park, it is recommended that all vehicle exits from the new car park be restricted to **LEFT OUT ONLY**. This will force drivers to the main road network (New South Head Road) rather than allowing direct access to the local streets.

Alternate Drop Off – Pick Up Facility Location

Having reviewed the proposed drop off / pick up area operation as presented in the Traffic Report and identified a number of significant constraints, TTPP has identified an alternate solution for the facility.

Principally it is considered that the proposed drop off / pick up facility lacks capacity and operational space to accommodate the demands without leading to on street queues.

If operational capacity at the access / Rose Bay Avenue intersection can be satisfactorily addressed, it is suggested that the proposed new car park under the oval be utilised during drop off and pick up periods for the purpose of picking up and setting down passengers by utilising the internal vehicle circulation aisle for vehicle storage and on site queuing.

The alternative arrangement could potentially be provided as shown in Figure 3.

The alternate arrangement would potentially increase the on site storage area from 110 metres (as proposed in the SSD) to approximately 200 metres.

As shown in Figure 3, it is suggested that the extension of the car park to the east be considered to assist with the combined operation of the drop off / pick up facility and the aquatic centre uses.

A similar facility is utilised effectively at Trinity Grammar School with the use of the car park an efficient way to used on site space in a manner which minimises the off site implications associated with school related vehicle queuing and car parking.

On Street Parking Controls

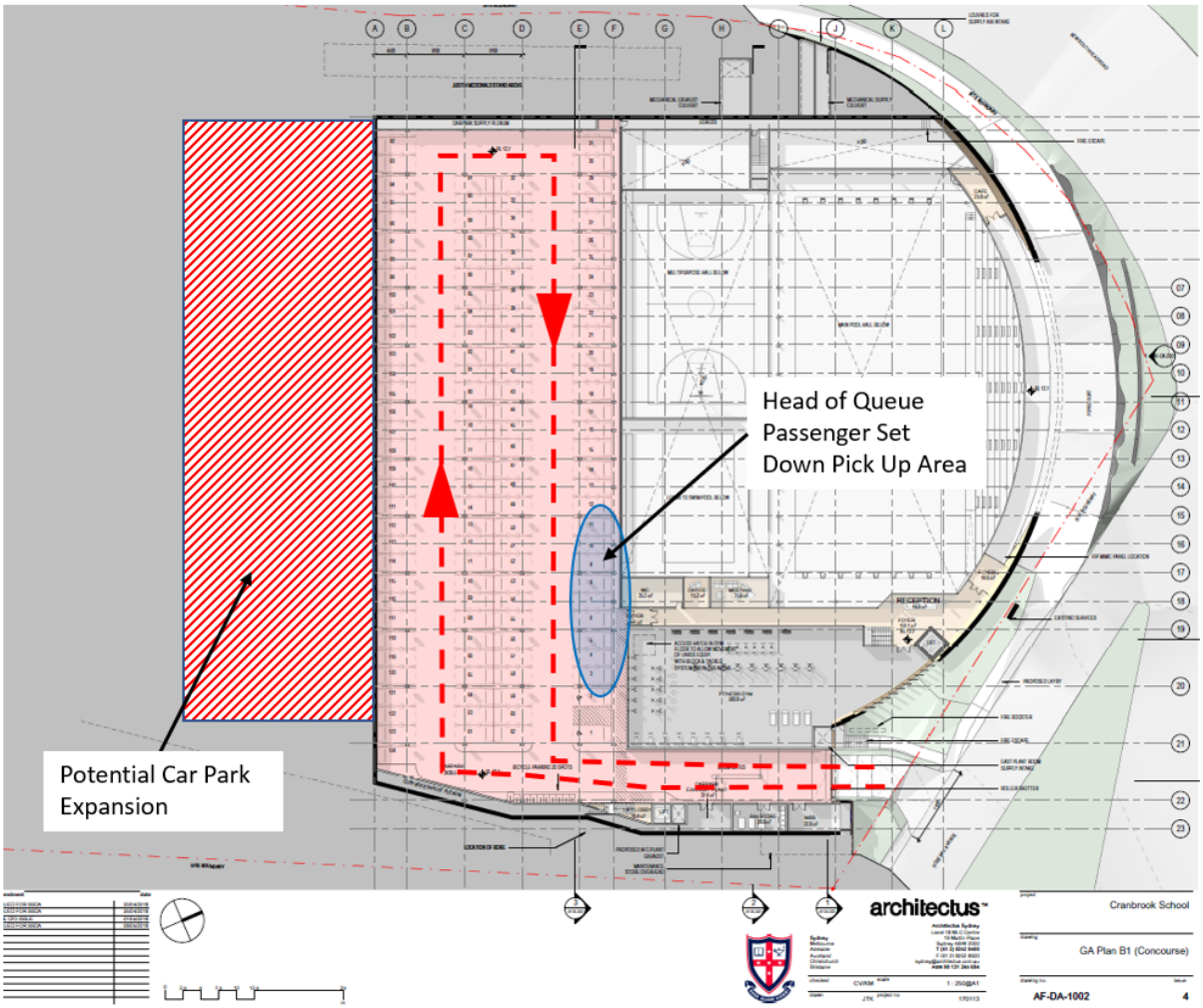
The provision of on site car parking facilities in the form of a new facility under the oval is considered to provide a significant benefit to the surrounding residential community and visitors to the school as parking is a key issue both during the weekday and the weekend.

The provision of some +95 car parking spaces will lessen the demand for on street parking provided that school populations and associated uses remain static at exiting levels.

It is noted that some 12 existing on street car parking spaces in Rose Bay Avenue will be removed to accommodate the proposed school bus zones, loading zones and no stopping zones for the School.

To provide residents with respite from existing conditions and to encourage School uses to use School provided on site parking it is recommended that the implementation of time restricted resident exempt parking be installed along the eastern side of Rose Bay Avenue.

Figure 3 – Alternate Solution for On Site Drop Off – Pick Up Facility



On Street Loading Zones

Two on street loading zones are proposed in Rose Bay Avenue, one near the maintenance facility adjacent to the proposed drop off – pick up facility exit and the other near the car park access and proposed school bus zone.

The provision of on street loading zones for the School is not generally supported. The Traffic Report has not demonstrated why on site loading zones cannot be provided.

For the northern of the two on street loading zones, goods would need to be off loaded / loaded onto the adjacent footpath and transported into the School. The verge width at this location is minimum (1.2m) and any transfer of goods will impede the footpath. This is not considered to be a satisfactory outcome.

Summary and Conclusion

On the basis of TTPP's review of the proposed SSD for redevelopment at the Cranbrook School it is concluded that:

- The intent of providing additional facilities to internalise the car parking and drop off / pick up facilities associated with existing School related uses is supported and if delivered appropriately will provide benefits to the operation of the surrounding road network;
- The traffic and parking assessment of the SSD lacks details regarding the operation of the drop off / pick up facility and car park as required by the SEARs to enable a proper consideration of the traffic and parking implications of the redevelopment;
- The capacity and operational conditions of the proposed drop off / pick up facility are considered to be inadequate for the demands of the facility without adverse impacts to the surrounding road network;
- An alternate solution for the on site drop off / pickup facility has been identified and it put forward for consideration by the School as part of the further assessments and analysis identified as required by this review.

Should you have any queries regarding the above or require further information, please do not hesitate to contact the undersigned on 8437 7800.

Yours sincerely,

Jason Rudd
Director