

# Colston Budd Hunt & Kafes Pty Ltd

as Trustee for C & B Unit Trust  
ABN 27 623 918 759

Our Ref: TR/8226/jj

Transport Planning  
Town Planning  
Retail Studies

6 May, 2013

Crown Group  
Level 11, 68 Alfred Street  
MILSONS POINT NSW 2061

**Attention: Chris Pope**

**Email: ChrisPope@crowngroup.com.au**

Dear Sir,

**RE: PART 3A PROJECT APPLICATION FOR  
PROPOSED MIXED USE DEVELOPMENT, EASTLAKES**

1. As requested, we have reviewed the traffic matters raised by Council's traffic consultant, McLaren Traffic Engineering (MTE) in its letter dated 9 April 2013. These matters can be summarised as follows:

- a) truck routes to/from southern loading dock and safety of egress from southern loading dock;
- b) calibration of SIDRA analysis;
- c) queuing distances at boom gates;
- d) pedestrian access across Evans Avenue and Barber Avenue accesses to southern car park; and
- e) ramp grades and sight lines at Evans Avenue egress from southern car park (at roundabout with Racecourse Place).

2. Our response to each of these matters is set out below.

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### Truck Routes to/from Southern Dock

3. MTE has suggested that the existing truck arrival route (Gardeners Road, Racecourse Place, Evans Avenue, Longworth Avenue and Barber Avenue) be retained and that the departure route be via Barber Avenue, Longworth Avenue, Evans Avenue and Racecourse Place (the same as the arrival route). We agree with MTE that this exit route would have less impact on the residential amenity and pedestrian activity than the existing exit route of Barber Avenue, Evans Avenue and Racecourse Place. The arrival and departure routes suggested by MTE could be included as conditions of consent.

### Egress from Southern Dock

4. MTE has raised concerns with regard to the safety of egress from the southern dock onto Barber Avenue due to the restriction in sight lines from the enclosed dock. The dock has been enclosed to mitigate acoustic impacts from deliveries to the proposed development. We note that currently sight lines for a truck exiting the existing dock are limited to some 50 metres.
5. The exit driveway from the loading dock is located east of the bend in Barber Avenue. A truck exiting the site would nose out onto the footpath to check available sight lines along Barber Avenue to the northeast and west. Sight lines to the west are available to west of St Helena Parade (over 100 metres). To the northeast along Barber Avenue there is some 40 metres of sight lines to see a car travelling south along Barber Avenue from a truck exiting the dock.
6. The posted speed limit on Barber Avenue is 40 km/h (it is designated an area of high pedestrian activity). Vehicle speed on

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this section of Barber Avenue is likely to be lower than 40 km/h due to the bend in the road and the provision of traffic calming (speed hump) located just north of the bend. To verify this, speed measurements of southbound vehicles at the bend in Barber Avenue were undertaken on Tuesday afternoon 30 April (2.45pm to 4.30 pm). A total of 245 measurements were completed during this period with an 85<sup>th</sup> percentile speed of 28 km/h. Sight lines should be based on the 85<sup>th</sup> percentile speed.

7. AS2890.2–2002 suggests a sight distance of 55 metres (5 sec gap) for a 40 km/h speed environment. The standard does not provide a sight distance for speeds less than 40 km/h, however a review of Figure 3.3 shows that sight distance decreases by 14 metres for each reduction in speed of 10 km/h. Thus a 28 km/h speed environment would require a sight distance of 39 metres. The available sight distance of 40 metres for trucks exiting the dock is thus considered appropriate where the 85<sup>th</sup> percentile speed of approaching vehicles is 28 km/h.
8. MTE has suggested that the sight line criteria for a truck exiting the dock should be based on an 8 second gap. This is not appropriate as AS2890.2–2002, suggests that the 8 second gap may be required for a right turn exit into a six lane road. The right turn out of the loading dock is not comparable to a right turn into a six lane road and thus the 5 second gap is considered the appropriate criteria.
9. While the sight distance for egress from the loading dock is an important factor determining whether there is the potential for a collision with through traffic, the available sight distance for through traffic to see an obstruction on the road ahead (such as a truck exiting the loading dock) is also an important factor. For a 40 km/h speed, the approach sight distance (ASD) is 33 metres.

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The available ASD on Barber Avenue (southbound) is some 50 metres, well in excess of the minimum ASD.

10. Thus, in summary the sight distances for trucks exiting the loading dock are considered appropriate for the speed environment and there are no unusual safety issues that would otherwise occur in a built up urban environment. Nonetheless to improve safety we suggest that the following measures be considered:

- a warning sign be provided on the eastern side of the loading dock, facing southbound traffic on Barber Avenue. This sign would activate when a truck is departing the dock and advise drivers travelling south on Barber Avenue that a truck is departing the dock; and
- an advisory sign be provided on the eastern side of Barber Avenue advising southbound drivers of heavy vehicles exiting ahead.

### Calibration of SIDRA Results

11. We confirm that the SIDRA analysis has been calibrated against existing observed conditions (queue lengths and delays). 100 to 110 second cycle times have been used for the traffic signals on Gardeners Road (Racecourse Place and Maloney Street).

### Queuing Distances at Boom Gates

12. Table 1 below sets an analysis of the operation of the boom gates at the entry/exit points to the car park.

13. Examination of Table 1 shows that queuing area provided exceeds the 95<sup>th</sup> percentile queue at each entry point

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Table 1:	Summary of Boom Gate Operation				
Access	Number of Lanes	Capacity (vph)	Traffic Flow (vph)	95 <sup>th</sup> % queue (cars)	Queuing Provided (cars)
<b>Northern Site</b>	1	300	135	3	4
- Entry	1	300	135	3	
- Exit					
<b>Southern Site</b>					
<b>Evans Avenue</b>	2	600	320	4	10
- Entry	2	600	295	4	
- Exit					
<b>Barber Avenue</b>	1	300	110	2	5
- Entry	1	300	135	2	
- Exit					

### Pedestrian Access across Evans Avenue and Barber Avenue Driveways

14. MTE has raised concerns that the proposed driveways to car parking on the southern part of the site sever pedestrian access across Evans Avenue and Barber Avenue. Access to at both these driveways is from roundabouts. To address these concerns the following modifications have been made:

- at the northern (Evans Avenue) access to the southern car park, pedestrian access will be redirected around the driveway, through the proposed development. To accommodate this pedestrian path, the grade of the entry ramp to the car park has been changed from 1:10 to 1:8 (the exit driveway ramp will be 1:10) and a disabled access ramp provided on the eastern side

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of the driveway. A pedestrian fence is provided on each side of the driveway to deter pedestrians crossing the driveway and direct them to use the designated pedestrian path. The proposed modifications are shown on the plans prepared by Rice Daubney.

- At the southern (Barber Avenue) access to the southern access, pedestrian access will be provided across the driveway, with the throat of the driveway widened to provide a 2 metre wide pedestrian refuge between the entry and exit lanes and pram ramps provided each side of the driveway. Pedestrian and vehicular volumes are lower at this driveway compared to the Evans Avenue access.

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### Ramp Grades and Sight Lines at Evans Avenue Access from the Southern Carpark

15. MTE has requested clarification that the ramps grades and sight lines at the Evans Avenue Access from the southern car park are appropriate.
16. Plans prepared by Rice Daubney and VDM Consulting show the reconfigured design of the access to/from the southern car park to the roundabout at the intersection of Evans Avenue and Racecourse Place. The key points are:
  - the stop line for egress from the car park is set back from the movement of traffic through the roundabout (lines up with end of median island);
  - the elevated podium does not block sight lines for vehicles exiting the car park with sight lines available to the eastern and western approaches to the roundabout;
  - the pedestrian fence located either side of the access will be constructed so that sight lines will not be obstructed; and
  - grades are 1:20 for the area in which a car would stop before exiting the car park with 2 metre 1:8 transition before a 1:10 ramp to accommodate queuing of vehicles exiting the site.
17. The above design generally complies with the requirements of AS2890.1-2004 and is considered appropriate.
18. In summary the matters raised by MTE have been addressed either through modifications to the design (Evans Avenue and Barber Avenue accesses to the southern car park) or provision of additional information (truck routes, sight lines from southern dock, calibration of SIDRA modelling and operation of boom gates).

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19. We trust that this letter provides the information you require. If you should have any queries, please do not hesitate to contact us.

Yours faithfully,

COLSTON BUDD HUNT & KAFES PTY LTD

A handwritten signature in black ink, appearing to read 'T. Rogers'. The signature is stylized, with a large 'T' and a prominent 'R'.

T. Rogers

Director