SITE 3 DEVELOPMENT COMPANY PTY LTD

# TRAFFIC AND TRANSPORT ASSESSMENT FOR PROPOSED RESIDENTIAL MIXED USE DEVELOPMENT, SITE 3, SYDNEY OLYMPIC PARK

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COLSTON BUDD HUNT & KAFES PTY LTD
ACN 002 334 296
Level 18 Tower A
Zenith Centre
821 Pacific Highway
CHATSWOOD NSW 2067

Telephone: (02) 9411 2411
Facsimile: (02) 9411 2422
Email: cbhk@cbhk.com.au

REF: 8086/2

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# 1. INTRODUCTION

1.1 Colston Budd Hunt and Kafes Pty Ltd has been commissioned by Site 3 Development Company Pty Ltd to prepare the traffic and transport assessment for the Part 3A project application for a proposed residential mixed use development on development Site 3 at Sydney Olympic Park. The site is located on the eastern side of Australia Avenue, between Parkview Drive and Bennelong Parkway, as shown in Figure 1.

1.2 The site is part of a larger site which has staged masterplan consent for a mixed use residential development in a number of buildings. The masterplan consent includes 673 residential apartments, retail and commercial space and ancillary uses. The first part of the development, on the corner of Australia Avenue and Parkview Drive, is currently under construction.

1.3 The proposed development is for 588 apartments in two buildings on the remainder of the site, with ground level retail and ancillary uses, and vehicular access from Australia Avenue.

1.4 The director-general's requirements for the project, dated 22 March 2010, include the following:

***5. Transport and Accessibility Impacts (Construction and Operational)***

- *Demonstrate the provision of adequate on-site car parking and secure bicycle parking for the proposal having regard to local planning controls and RTA guidelines whilst also demonstrating the minimalist approach to car parking based on the accessibility of the site to public transport.*

- *A Traffic and Transport Assessment is to be prepared in accordance with the RTA's Guide to Traffic Generating Developments, considering: trip generation, including traffic generation; and required road / intersection upgrades; new roads; pedestrian alignments; access; loading dock(s); measures to promote public transport usage; and pedestrian and bicycle linkages.*

1.5 This traffic and transport assessment assesses the transport and accessibility impacts of the proposed development through the following chapters:

- Chapter 2 - describing the existing conditions; and
- Chapter 3 - assessing the transport and accessibility impacts of the proposed development.

# 2. EXISTING CONDITIONS

## Site Location

2.1 The site is located on the eastern side of Australia Avenue, between Parkview Drive and Bennelong Parkway, as shown in Figure 1. It is currently undeveloped.

2.2 The site is part of a larger site known as Site 3 within Sydney Olympic Park. Site 3 has staged masterplan consent for a mixed use residential development in a number of buildings. The first building in the development, on the corner of Australia Avenue and Parkview Drive, is currently under construction. Vehicular access to Site 3 is provided from Australia Avenue via two driveways. The northern driveway will provide access to the building currently under construction.

2.3 The railway line is east of the site and there is commercial development further east and west of the site. Olympic Park station is north-west of the site.

## Previous Work

2.4 A masterplan[1] has been prepared for Sydney Olympic Park. The development of site 3 is identified in the masterplan. As part of the masterplan, a series of transport objectives, as well as transport, road and intersection works, have been identified to accommodate future development in Sydney Olympic Park, including development of site 3.

[1] "Sydney Olympic Park Masterplan 2030", March 2010.

2.5 The masterplan identifies the following objectives for transport, access, parking, public transport and pedestrians and cyclists to accommodate future development in Sydney Olympic Park:

- *Transport*

  - *targeting a journey to work non-car mode share split of 40 per cent in line with other specialized activity centres in the metropolitan area;*
  - *monitoring and, if necessary, adjusting the quantity of high traffic generating land uses to match road and public transport capacities;*
  - *strategically locating commercial and retail land uses around Olympic Park Station and close to local bus service corridors;*
  - *limiting the provision of parking spaces for new developments to encourage public transport use;*
  - *continuing the operation of high quality major event public transport services to sustain existing high public transport mode shares;*
  - *maintaining regular public transport services, road access and parking supply sufficiently during major events;*
  - *designing a street network that supports bicycles, vehicles and pedestrian use;*
  - *building more efficient metropolitan and intercity rail and bus connections;*
  - *integrating transport service planning with adjacent suburbs especially to reduce the reliance on private vehicle use for trips under 5 km;*

- *spreading the commuter peak hours and promoting public and shared private commuter transport as alternatives to private motor cars;*
- *meeting accessibility needs across the entire local transport and street network;*
- *providing for new streets within development sites to facilitate vehicle access.*

o *Access*

- *expanding the existing street network;*
- *improving connections to:*
  - *major arterial roads such as Parramatta Road and Silverwater Road;*
  - *local roads in the Carter Street Precinct and North Lidcombe;*
  - *arterial roads, the M4 Motorway and Homebush Bay Drive, including east facing ramps on the M4 Motorway*
- *upgrading the traffic capacity of local intersections by installing traffic signals and lane reconfiguration;*
- *maintaining access at all times to all land uses by providing convenient alternative access routes when event road closures are in place.*

o *Parking*

- *locating car parks underground generally to maximize active uses at ground floor;*

- *ensuring dedicated major event car and coach parking areas are utilized during non-event periods;*

- *managing parking provision to promote alternative forms of transport;*

- *managing car parks for complementary uses, for example, office parking during the day and event parking at night;*

- *creating new structured and on street public parking spaces to accommodate the new population and uses while maintaining the 10,000 public parking spaces required for events;*

- *creating more convenient and accessible parking for daily use, particularly to serve the Showground and Central Precincts;*

- *managing and redistributing existing public car parking supply to more effectively meet new land use requirements;*

- *effectively using variable message signs to manage access routes to car parking during events;*

- *using enhancements in technology to improve methods of payment, enforcement and turnover of parking;*

- *designing and locating car park entries off main streets to minimise visual impact and improve street capacity.*

o *Public Transport*

- *more frequent bus, rail and ferry services;*

- *establishing Strategic Bus Corridor 13 between Parramatta and Burwood that travels via Sydney Olympic Park and the adjacent suburbs of Carter Street and Newington;*

- *establishing bus service corridors on the key axes of Dawn Fraser Avenue and Australia Avenue;*

- *providing bus priority on routes into Sydney Olympic Park*

- *improving regional and metropolitan bus connections through cross-regional bus services;*

- *developing a local bus network that connects the adjacent areas of Newington, Carter Street Precinct and Bay West to Sydney Olympic Park;*

- *establishing a shuttle bus service to improve access between the town centre and the major activity centres and car parks;*

- *continuing to operate high quality event rail and regional bus services that maintain existing public transport mode shares;*

- *continuing to provide integrated event ticketing and the requirement of pre-booked parking for large events to support public transport use;*

- *continuing the event parking restriction scheme in adjacent suburbs during large events;*

- *improving transport information and marketing programs;*

- *establishing the Sydney Metro link Western Sydney and Sydney CBD.*

- *Pedestrian and Bicycle*

  - *targeting a specific bicycle/pedestrian mode share split of 10 per cent;*
  - *adopting best practice cycling guidelines;*
  - *designing pleasant, safe and connected local streets to encourage walking and cycling, including intersections that facilitate pedestrian use;*
  - *providing an enhanced bicycle network, including new routes; improved connections to existing routes; and better end of trip facilities for cyclists, including commuter bicycle parking;*
  - *requiring new commercial and residential developments to offer secure bicycle storage and change/shower facilities;*
  - *providing well signposted and safe through-site connections to the regional cycleway network;*
  - *continuing to prioritise pedestrians in public spaces during large events;*
  - *providing a safe and connected shared pathway network in the parklands for health and fitness, and recreational needs.*

2.6 The overall transport implications of development in Sydney Olympic Park, including the subject site, have therefore previously been considered, with measures identified to accommodate this development. As part of the approved masterplan for Site 3, a developer agreement is in place to provide infrastructure within Sydney Olympic Park in association with the development.

Road Network

2.7 The road network in the vicinity of the site includes Australia Avenue, Herb Elliott Avenue, Parkview Drive, Figtree Drive, Sarah Durack Avenue and Bennelong Parkway. Australia Avenue is one of the main roads serving Sydney Olympic Park. It links Homebush Bay Drive in the south with Kevin Coombs Avenue in the north. It provides a four lane divided carriageway with two traffic lanes in each direction and a central concrete median. A bicycle lane is provided each way. Australia Avenue provides access to adjacent commercial development. There are bus stops on both sides of the road, adjacent to the site.

2.8 Herb Elliott Avenue connects to Australia Avenue north of the site. It provides for one traffic lane and one parking lane in each direction, clear of intersections, with a 40 kilometre per hour speed limit. It provides access to commercial development and hotels. The intersection of Herb Elliott Avenue with Australia Avenue is controlled by traffic signals. Parkview Drive forms a fourth (eastern) approach to the intersection. Parkview Drive provides access to parking areas and commercial development north and east of the site and is a dead end east of the site. It provides for one traffic lane in each direction with parking permitted clear of intersections.

2.9 Near the southern end of the site, Figtree Drive intersects Australia Avenue at an unsignalised t-intersection controlled by stop signs. All turns are permitted between Australia Avenue and Figtree Drive. The southern of the two existing site driveways on Australia Avenue is opposite Figtree Drive. Right turns from Australia Avenue into the site are not permitted and there are “all traffic left” signs for vehicles exiting the development onto Australia Avenue. Figtree Drive provides for one traffic lane in each direction with a 40 kilometre per hour speed

limit and parking within indented parking bays. It provides access to commercial development. The masterplan for Olympic Park identifies the future signalisation of the Australia Avenue/Figtree Drive intersection, including the access point to the site.

2.10 Sarah Durack Avenue and Bennelong Parkway are south of the site. They intersect Australia Avenue at a signalised intersection. Sarah Durack Avenue provides two traffic lanes and one bicycle lane in each direction with a central concrete median. Bennelong Parkway provides one traffic lane in each direction clear of intersections.

Traffic Flows

2.11 Traffic generated by the proposed development will have its greatest effects during morning and afternoon peak periods when it combines with commuter traffic on the surrounding road network. In order to gauge traffic conditions, counts were undertaken during weekday morning and afternoon peak periods at the following intersections:

- Australia Avenue/Herb Elliott Avenue/Parkview Drive;
- Australia Avenue/Figtree Drive; and
- Australia Avenue/Sarah Durack Avenue/Bennelong Parkway.

2.12 The results of the surveys are shown in Figures 2 and 3, and summarised in Table 2.1. South of Sarah Durack Avenue, Australia Avenue carried some 2,800 to 3,100 vehicles per hour two-way during the surveyed morning and afternoon peak periods. North of Sarah Durack Avenue, flows on Australia Avenue were lower at some 700 to 1,600 vehicles per hour two-way.

| Table 2.1: Existing two-way (sum of both directions) peak hour traffic flows | | | |
|---|---|---|---|
| **Road** | **Location** | **AM peak hour** | **PM peak hour** |
| Australia Avenue | North of Herb Elliott Avenue | 695 | 1,080 |
| | South of Herb Elliott Avenue | 1,245 | 1,485 |
| | South of Figtree Drive | 1,475 | 1,595 |
| | South of Sarah Durack Avenue | 2,815 | 3,075 |
| Herb Elliott Avenue | West of Australia Avenue | 530 | 475 |
| Figtree Drive | West of Australia Avenue | 350 | 210 |
| Parkview Drive | East of Australia Avenue | 510 | 290 |
| Sarah Durack Avenue | West of Australia Avenue | 875 | 1,035 |
| Bennelong Parkway | East of Australia Avenue | 755 | 735 |

2.13 Sarah Durack Avenue and Bennelong Parkway carried some 750 to 1,050 vehicles per hour two-way during the surveyed peak hours. Flows on Herb Elliott Avenue, Figtree Drive and Parkview Drive were some 200 to 550 vehicles per hour two-way.

Intersection Operations

2.14 The capacity of the road network is largely determined by the capacity of its intersections to cater for peak period traffic flows. The surveyed intersections shown in Figures 2 and 3 have been analysed using the SIDRA program.

2.15 SIDRA simulates the operations of intersections to provide a number of performance measures. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle.

2.16 Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):

- For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:

| | | | |
|---|---|---|---|
| 0 to 14 | = | "A" | Good |
| 15 to 28 | = | "B" | Good with minimal delays and spare capacity |
| 29 to 42 | = | "C" | Satisfactory with spare capacity |
| 43 to 56 | = | "D" | Satisfactory but operating near capacity |
| 57 to 70 | = | "E" | At capacity and incidents will cause excessive delays. Roundabouts require other control mode. |
| >70 | = | "F" | Unsatisfactory and requires additional capacity |

- For give way and stop signs, the average delay per vehicle in seconds is selected from the movement with the highest average delay per vehicle, equivalent to following LOS:

| | | | |
|---|---|---|---|
| 0 to 14 | = | "A" | Good |
| 15 to 28 | = | "B" | Acceptable delays and spare capacity |
| 29 to 42 | = | "C" | Satisfactory but accident study required |
| 43 to 56 | = | "D" | Near capacity and accident study required |
| 57 to 70 | = | "E" | At capacity and requires other control mode |
| >70 | = | "F" | Unsatisfactory and requires other control mode |

2.17 It should be noted that for roundabouts, give way and stop signs, in some circumstances, simply examining the highest individual average delay can be misleading. The size of the movement with the highest average delay per vehicle should also be taken into account. Thus, for example, an intersection where all

movements are operating at a level of service A, except one which is at level of service E, may not necessarily define the intersection level of service as E if that movement is very small. That is, longer delays to a small number of vehicles may not justify upgrading an intersection unless a safety issue was also involved.

2.18 The analysis found that the signalised intersection of Australia Avenue with Sarah Durack Avenue and Bennelong Parkway is operating with average delays of less than 30 seconds per vehicle during weekday morning and afternoon peak periods. This represents level of service B/C, a satisfactory level of service.

2.19 The signalised intersection of Australia Avenue with Herb Elliott Avenue and Parkview Drive is operating with average delays of some 30 seconds per vehicle or less during peak periods. This represents level of service B/C, a good level of service.

2.20 The analysis found that with the exception of the right turn from Figtree Drive during afternoon peak periods, the intersection of Australia Avenue with Figtree Drive is operating with average delays of less than 25 seconds per vehicle during peak periods. This represents level of service B, a reasonable level of service.

2.21 Observations made during peak periods indicate that vehicles turn right from Figtree Drive to Australia Avenue when gaps are created by the upstream traffic signals at Sarah Durack Avenue and Herb Elliott Avenue. Alternatives routes are available for this traffic, via Sarah Durack Avenue.

Public Transport

2.22 The site is close to Olympic Park Railway Station. Olympic Park is on a loop from the Western Lines (Emu Plains/Richmond to North Sydney via the City). Services through Olympic Park are every 10 to 20 minutes. During special events, services are more frequent.

2.23 Local bus services are provided by Sydney Buses and Punchbowl Bus Company. As previously discussed, there are bus stops on Australia Avenue adjacent to the site, as well as in Dawn Fraser Avenue, adjacent to the station.

2.24 Route 401 operates along Dawn Fraser Avenue and links Sydney Olympic Park Wharf, Newington, Olympic Park station and Lidcombe station. Services are every 30 minutes in each direction on weekdays and every 60 minutes in each direction on weekends.

2.25 Route 450 operates along Australia Avenue and connects Hurstville, Beverly Hills, Roselands, Lakemba, Belfield, Strathfield and Sydney Olympic Park. Services to and from Sydney Olympic Park operate during morning and afternoon peak periods on weekdays.

2.26 Route 533 operates along Australia Avenue between Chatswood, North Ryde, Ryde, Rhodes and Sydney Olympic Park. It provides a weekday peak period service, with services to Chatswood in the morning and to Sydney Olympic park in the afternoon.

2.27 Routes 525 and 526 link Parramatta, University of Western Sydney, Rydalmere, Ermington, Silverwater, Newington, Sydney Olympic Park, Strathfield and Burwood. Route 525 provides a link to Olympic Park Station and route 526 connects to the ferry wharf. Both services operate on a 30 minute headway in each direction, Monday to Friday. On weekends, services are every 30 to 60 minutes in each direction.

2.28 Ferry services from Homebush Bay Wharf provide links to and from the city and Parramatta. Good pedestrian and cycle links are also provided throughout Sydney Olympic Park. The site is therefore close to public transport services.

# 3. TRAFFIC AND TRANSPORT ASSESSMENT

3.1 The proposed development is for 588 apartments in two buildings. Ancillary uses including a gymnasium and retail/commercial uses of some 1,809m$^2$ are also proposed. Vehicular access is proposed from Australia Avenue, using the existing driveways to the site.

3.2 This chapter assesses the traffic and transport implications of the proposed development through the following sections:

- public transport;
- parking provision;
- access, servicing and internal layout;
- traffic generation and effects;
- principles of construction traffic management;
- major events;
- director-general's requirements; and
- summary.

Public Transport

3.3 As previously discussed, there are bus stops on Australia Avenue adjacent to the site. Bus services provide links to surrounding local and regional areas. The site is also close to Olympic Park railway station. There are good pedestrian and bicycle links throughout Sydney Olympic Park. Public transport services therefore offer viable alternatives to travel by modes other than car.

3.4 The proposed development would increase residential densities close to existing public transport services. The proposal would therefore strengthen demand for these services. Appropriate bicycle parking will be provided for cyclists.

3.5 Co-locating complementary land uses in town centre locations reduces the need to travel and promotes the use of walking, cycling and public transport. The proposed development is therefore consistent with government objectives, Sydney Olympic Park Masterplan goals and the planning principles of:

(a) improving accessibility to housing, employment and services by walking, cycling, and public transport;

(b) improving the choice of transport and reducing dependence solely on cars for travel purposes;

(c) moderating growth in the demand for travel and the distances travelled, especially by car; and

(d) supporting the efficient and viable operation of public transport services.

Parking Provision

3.6 The Sydney Olympic Park Masterplan 2030 indicates that on-site car parking for development should be provided at the following maximum rates:

- one space per 80m$^2$ for commercial;
- one space per 50m$^2$ for retail/restaurants;
- one space per one bedroom apartment;

- 1.2 spaces per two bedroom apartment;
- 1.5 spaces per three bedroom apartment;
- two spaces per four bedroom apartment; and
- one space per four apartments for visitors.

3.7 The proposed development is for:

- 215 one bedroom apartments;
- 296 two bedroom apartments;
- 58 three bedroom apartments;
- 19 four bedroom apartments;
- 770m$^2$ gymnasium;
- 605m$^2$ commercial; and
- 434m$^2$ retail.

3.8 On this basis, and treating the gym as commercial, the proposed development would be permitted up to 868 parking spaces. 800 parking spaces are proposed in accordance with these requirements. The proposed parking provision is therefore considered to be appropriate.

3.9 The proposed parking provision includes two spaces for each of the adaptable apartments, which are able to be converted to a single disabled parking space, if required.

3.10 The Sydney Olympic Park Masterplan 2030 indicates that on-site bicycle parking should be provided at the same rates as for cars. However, in discussions with SOPA, it has been agreed that these rates are inappropriately high.

3.11 It is therefore proposed to provide one bicycle parking space per three apartments for residents, plus one space per 12 apartments for visitors. These rates are the same as or similar to locations such as Rhodes, Macquarie Park, Chatswood and the City of Sydney.

Access, Servicing and Internal Layout

3.12 Vehicular access to the proposed development is proposed to be provided from the existing site driveways on Australia Avenue. The northern driveway will provide access to the proposed development, as well as the building north of the site, which is currently under construction. Turns at this access point will be left in/left out due to the median in Australia Avenue.

3.13 The southern access will be opposite Figtree Drive, in the location of the existing driveway to the site. As previously discussed, this intersection will be signalised at a future time in accordance with the Sydney Olympic Park masterplan. However, SOPA has advised that it is not proposed to signalise the intersection at this time.

3.14 The existing turn restrictions at the southern access driveway will mean that until the intersection is signalised, turns to and from the site will be left in/left out.

3.15 Inside the site, a loading bay will be provided for each building, accessed at the ground level. The loading bays will cater for vehicles up to 12.5 metre large rigid trucks. The bays will therefore be suitable for garbage trucks, furniture vans and other delivery and maintenance vehicles. Service vehicles will be able to enter and exit the site in a forward direction, using the two proposed driveways to the site.

3.16 The basement car park will be connected underneath the buildings. Vehicles will be able to access parking spaces from either of the site access points. Cars and service vehicles will be able to enter and exit the site in a forward direction.

3.17 Parking is proposed to be provided in five levels. Centrally located, internal two-way ramps will connect the parking levels.

3.18 Within parking areas, ramp grades and transitions will be provided in accordance with the Australian Standard for Parking Facilities (Part 1: Off-street car parking), AS 2890.1:2004. Residential parking spaces will be a minimum of 2.4 metres wide by 5.4 metres long. Aisles will be a minimum of 5.8 metres wide, and wider where there is structure on one side. Visitor spaces will be a minimum of 2.5 metres wide. Spaces with adjacent obstructions will be 0.3 metres wider. Columns will be set back 750 mm from the front of spaces. Disabled spaces will be 2.4 metres wide, with and additional 2.4 metre wide adjacent area for wheelchairs. Height clearance above disabled spaces will be a minimum of 2.5 metres, with 2.2 metres elsewhere. Dead end aisles will have one metre extensions for appropriate accessibility to end spaces. These dimensions are considered appropriate, being in accordance with AS 2890.1:2004.

Traffic Generation and Effects

3.19 Traffic generated by the proposed development will have its greatest effects during morning and afternoon peak periods when it combines with commuter traffic. The RTA's "Guide to Traffic generating Developments" indicates that high density residential flat buildings with good access to public transport generate some 0.29 vehicles per hour per apartment (two-way) during peak periods. This compares to medium density residential development which generates some 0.4

to 0.5 vehicles per hour per small apartment two-way at peak times. Bearing in mind the accessibility of the site by public transport, traffic generation is likely to be 0.3 to 0.4 vehicles per hour per apartment, two-way.

3.20 The gymnasium, community facilities and relatively small commercial/retail component are intended largely for residents or people already in Sydney Olympic Park and would not generate significant external traffic.

3.21 The proposed development would therefore generate some 180 to 230 vehicles per hour two-way during peak hours. During the morning peak period, some 70 per cent of vehicles would be outbound from the development. The reverse would apply in the afternoon.

3.22 The additional traffic has been assigned to the road network. Existing peak hour traffic flows plus the additional traffic from the proposed development is shown in Figures 2 and 3. A summary is provided in Table 3.1.

**Table 3.1: Existing two-way peak hour traffic flows plus development traffic**

| Road | Location | AM peak hour | | PM peak hour | |
|---|---|---|---|---|---|
| | | Existing | Plus development | Existing | Plus development |
| Australia Avenue | North of Herb Elliott Avenue | 695 | +25 | 1,080 | +55 |
| | South of Herb Elliott Avenue | 1,245 | +60 | 1,485 | +160 |
| | South of Figtree Drive | 1,475 | +160 | 1,595 | +70 |
| | South of Sarah Durack Avenue | 2,815 | +95 | 3,075 | +45 |
| Herb Elliott Avenue | West of Australia Avenue | 530 | +45 | 475 | +105 |
| Figtree Drive | West of Australia Avenue | 350 | - | 210 | - |
| Parkview Drive | East of Australia Avenue | 510 | - | 290 | - |
| Sarah Durack Avenue | West of Australia Avenue | 875 | +35 | 1,035 | +15 |
| Bennelong Parkway | East of Australia Avenue | 755 | +10 | 735 | +10 |

3.23 Table 3.1 shows that traffic increases on Australia Avenue, from where access is proposed, would be up to some 160 vehicles per hour two-way during peak hours. Increases on Herb Elliott Avenue, Sarah Durack Avenue and Bennelong Parkway would be lower at some 10 to 105 vehicles per hour two-way.

3.24 The intersections previously analysed in Chapter 2 have been re-analysed with SIDRA for the additional development traffic flows shown in Figures 2 and 3. The analysis included an allowance for traffic from the development on the northern part of Site 3 which is currently under construction.

3.25 The analysis found that the intersection of Australia Avenue with Sarah Durack Avenue and Bennelong Parkway would continue to operate with average delays of less than 30 seconds per vehicle during weekday morning and afternoon peak periods. This represents level of service B/C, a satisfactory level of service.

3.26 The intersection of Australia Avenue with Herb Elliott Avenue and Parkview Drive would continue to operate with average delays of some 30 seconds per vehicle or less during peak periods. This represents level of service B/C, a good level of service.

3.27 The analysis found that with the exception of the right turn from Figtree Drive during afternoon peak periods, the intersection of Australia Avenue with Figtree Drive would operate with average delays of less than 28 seconds per vehicle during peak periods. This represents level of service B, a reasonable level of service. Vehicles will continue to be able to turn right from Figtree Drive to Australia Avenue when gaps are created by the upstream traffic signals. As discussed in Chapter 2, alternatives routes are available for this traffic, via Sarah Durack Avenue. This intersection will also be signalised in the future by SOPA.

3.28 Therefore, the road network will be able to cater for the additional traffic from the proposed development.

Principles of Construction Traffic Management

3.29 At this stage the overall construction methodology, process and staging has not been defined. The builder will be responsible for the preparation of a traffic management plan, which will be prepared prior to the commencement of work, taking into account relevant consent conditions.

3.30 Construction of the development will commence with site preparation works. Construction access will be provided to/from Australia Avenue. It is anticipated that works zones may be required along the site frontage on Australia Avenue.

3.31 Pedestrian footpaths adjacent to the site will be maintained during the construction period. Class A construction fencing will be erected around the perimeter of the building, with overhead protection where required.

3.32 Openings in the construction fencing and at the construction access driveways will be managed and controlled by traffic controllers. The movement of trucks entering and exiting the site will be managed and controlled by traffic controllers.

3.33 The overall principles for traffic management during construction are:

- provide a convenient and appropriate environment for pedestrians;
- minimise effects on pedestrian movements and amenity;

- provide appropriate safety fencing/hoardings around the perimeter of the construction site;
- manage and control vehicular movements to and from the site;
- provide works zone on Australia Avenue, next to the site;
- maintain other existing on-street parking in the vicinity of the site;
- restrict construction vehicle activity to designated truck routes through the area (to be identified by the appointed builder);
- construction vehicles to enter and exit the site in a forward direction;
- construction activity to be carried out in accordance with the approved hours of construction;
- maintain safety for workers; and
- the preparation of the construction traffic management plan, signage detail, control of pedestrians and control and management of construction vehicles in the vicinity of the site will be the responsibility of the appointed builder.

Major Events

3.34 Major events in Sydney Olympic Park are managed by SOPA according to the following principles:

- maintaining a major events precinct and venues north of Dawn Fraser Avenue to consolidate special access requirements and the events overlay;

- creating an alternative eastern entrance and exit for Olympic Station at Jacaranda Square to simultaneously accommodate everyday travel and visitors to and from special events;

- protecting residential precincts from event noise and traffic impacts by locating residential precincts away from event areas and using barrier buildings;

- maintaining exclusive road corridors for major event bus movements during all major events;

- ensuring that 10,000 public car parking spaces are available within Sydney Olympic Park during major events;

- ensuring car parks have access points that lie outside the areas affected by road closures;

- ensuring all residential and commercial premises can be accessed by alternative routes when roads are closed for events where required; and

- upgrading the Sydney Olympic Park Major Event Impact Assessment Guidelines as required.

3.35 Road closures during major events include Holker Street Busway, Olympic Boulevard and Kevin Coombs Avenue. There is restricted access along Dawn

Fraser Avenue, and Birnie Avenue only allows exiting traffic following an event. Additionally, Australia Avenue, north of Murray Rose Avenue, is closed during the Royal Easter Show.

3.36 Access to the development, both during construction and operation, is proposed from the part of Australia Avenue which remains open during major events. Access to the site will therefore be available at these times. Construction of the development will be co-ordinated with SOPA to ensure construction activities are appropriate during major events.

3.37 As part of its management of events in Sydney Olympic Park, SOPA provides community alerts on its website and to registered parties in relation to upcoming road closures for events. The owners' corporation for the proposed development will be a registered party which will receive the community alerts. Residents and tenants of the building will also be able to receive these alerts.

Director-General's Requirements

- *Demonstrate the provision of adequate on-site car parking and secure bicycle parking for the proposal having regard to local planning controls and RTA guidelines whilst also demonstrating the minimalist approach to car parking based on the accessibility of the site to public transport.*

3.38 Car parking provision is discussed in paragraphs 3.6 to 3.9. A provision less than the maximum permitted under the SOPA Masterplan 2030 is proposed. Bicyde parking is discussed in paragraphs 3.10 and 3.11.

- *A Traffic and Transport Assessment is to be prepared in accordance with the RTA's Guide to Traffic Generating Developments, considering: trip generation, including traffic*

*generation; and required road / intersection upgrades; new roads; pedestrian alignments; access; loading dock(s); measures to promote public transport usage; and pedestrian and bicycle linkages.*

3.39 Traffic generation and its effects on the road network are discussed in paragraphs 3.19 to 3.28. No new roads are proposed in association with the proposed development. Pedestrian linkages are discussed in paragraph 2.28. Vehicle access is discussed in paragraphs 3.12 to 3.14. Arrangements for service vehicles are discussed in paragraph 3.15. Measures to promote public transport usage, including reduced parking provision, are discussed in paragraphs 2.5, 3.3 to 3.5 and 3.6 to 3.8. Pedestrian and bicycles linkages are discussed in paragraphs 2.7, 2.10, 2.28 and 3.3.

Summary

3.40 In summary, the main points relating to the traffic and transport assessment for the proposed development are:

i) the site has staged masterplan consent for a mixed use residential development in a number of buildings;

ii) the proposed development is identified in the Sydney Olympic Park Masterplan 2030;

iii) a series of transport, road and intersection works have been identified to accommodate future development in Sydney Olympic Park, including development of the subject site;

iv) the proposed development would strengthen the demand for existing public transport services and is consistent with government planning objectives;

v) the proposed parking provision is considered appropriate;

vi) access, servicing and internal layout will be provided in accordance with AS 2890.1:2004 and AS 2890.2 – 2002;

vii) the road network will be able to cater for the additional traffic from the proposed development; and

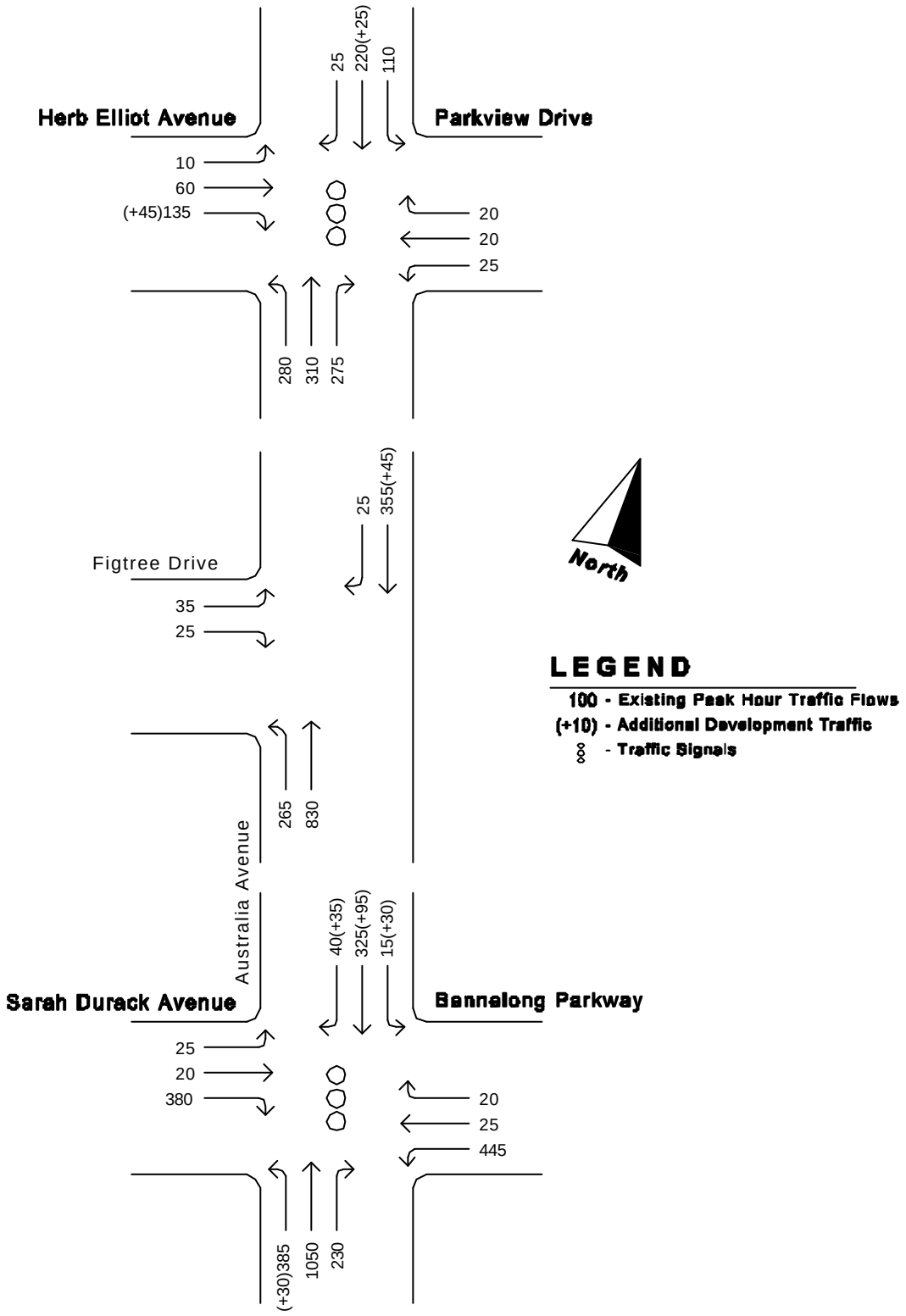
viii) the director-general's requirements are addressed in paragraphs 3.38 to 3.39.


# Location Plan

*Colston Budd Hunt & Kafes Pty Ltd*

DRAWN BY CBHK Pty Ltd_hs Ref: 8086 23 March 2011

**Figure 1**




**Existing weekday morning peak hour traffic flows plus development traffic**

*Colston Budd Hunt & Kafes Pty Ltd*

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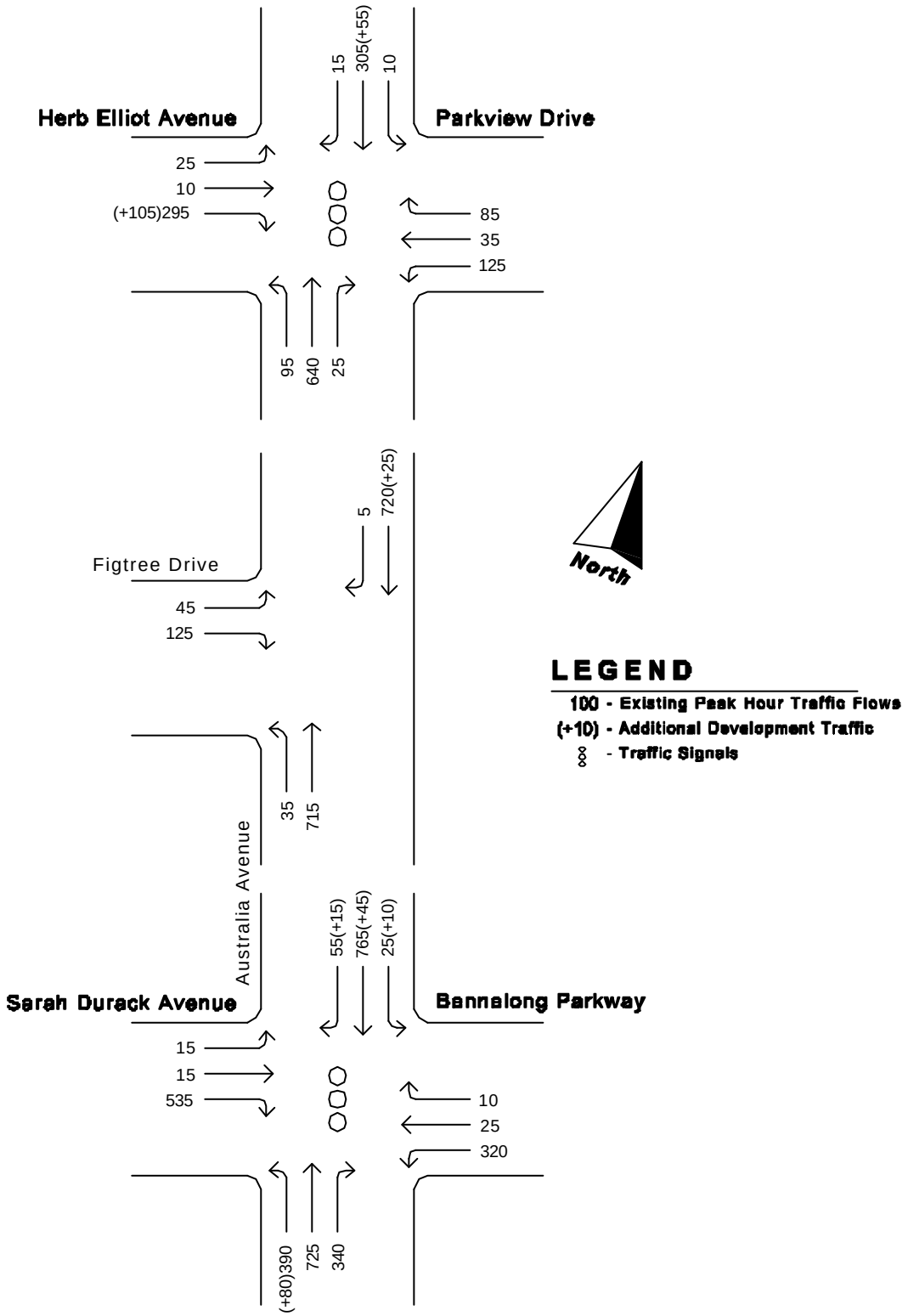
**Figure 2**




**Existing weekday afternoon peak hour traffic flows plus development traffic**

*Colston Budd Hunt & Kafes Pty Ltd*

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**Figure 3**