

LAING O'ROURKE

REPORT ON THE TRANSPORT
IMPLICATIONS OF PROPOSED
MODIFICATIONS TO APPROVED
COMMERCIAL DEVELOPMENT,
100 MOUNT STREET,
NORTH SYDNEY

AUGUST 2011

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TABLE OF CONTENTS

| | |
|--|---|
| 1. INTRODUCTION..... | 1 |
| 2. TRANSPORT IMPLICATIONS OF PROPOSED MODIFICATIONS..... | 2 |

APPENDIX A - PREVIOUS REPORT

APPENDIX B - CORRESPONDENCE WITH RTA

1. INTRODUCTION

- 1.1 Colston Budd Hunt and Kafes Pty Ltd has been retained by Laing O'Rourke to prepare a report on the transport implications of proposed modifications to an approved commercial development at 100 Mount Street, North Sydney. The site is located on the western side of Walker Street, north of Mount Street (on the north-western corner of the intersection), as shown in Figure 1.
- 1.2 The site is occupied by two existing commercial buildings with access to basement parking provided from Spring Street. The site has development consent for a new commercial building of some 39,540m². Vehicular access to basement car parking for 97 cars has been approved from Spring Street. We prepared a report¹ in support of the approved development. A copy of the report is appended to this report.
- 1.3 The proposed modifications result in an amended area for the development of 45,029m². Vehicular access to the development is proposed to be provided from Walker Street. The proposed parking provision is 113 spaces. Loading dock arrangements are proposed to be modified.

¹ Report on the Traffic Implications of a Proposed Commercial Development, 100 Mount Street, North Sydney, May 2009.

- 1.4 The transport implications of the proposed modifications are assessed in the following chapter.

2. TRANSPORT IMPLICATIONS OF PROPOSED MODIFICATIONS

2.1 Our assessment of the transport implications of the proposed modifications are set down through the following sections:

- site location and road network;
- approved development;
- proposed modifications;
- parking provision;
- access, servicing and internal layout;
- traffic generation and effects;
- consultation; and
- summary.

Site Location and Road Network

2.2 The site is within the North Sydney CBD, on the north western corner of the intersection of Walker Street and Mount Street, as shown on Figure 1. It occupies a major part of the block bounded by Mount Street, Walker Street, Spring Street and Denison Street. Land use surrounding the site is primarily commercial development in the North Sydney CBD.

2.3 Walker Street is east of the site and provides a north-south route through the North Sydney CBD. It connects the Pacific Highway with Berry Street and generally provides two traffic lanes in each direction, with kerbside parking permitted outside of the morning and afternoon peak periods. North of Berry Street, Walker Street connects to Ridge Street with generally one traffic lane and one parking lane in each direction, clear of intersections.

- 2.4 Mount Street is south of the site and intersects with Walker Street at a traffic signal controlled intersection. Mount Street, between Walker Street and Denison Street, provides a one-way eastbound traffic lane with kerbside parking available, clear of intersections. West of Denison Street, Mount Street has been closed to vehicular traffic and converted to a pedestrian plaza. Between Walker Street and Arthur Street, Mount Street provides a one-way westbound carriageway.
- 2.5 Berry Street is north of the site and provides the main eastbound traffic route through the northern part of the North Sydney CBD. It links the Pacific Highway to the west with the Warringah Freeway to the east of the site. It provides a one-way eastbound carriageway with four traffic lanes and kerbside parking permitted outside of the morning and afternoon peak periods.
- 2.6 Spring Street runs west from Walker Street along the northern side of the site. It provides access to the site with a one-way westbound traffic lane linking Walker Street with Denison Street.
- 2.7 The North Sydney CBD has a 40 kilometre speed limit on its roads, which are designated high pedestrian activity areas.

Approved Development

- 2.8 The site has development consent for a new commercial building of some 39,540m². Vehicular access to basement car parking for 97 cars has been approved from Spring Street.
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Proposed Modifications

- 2.9 The proposed modifications result in an amended area for the development of 45,029m². Vehicular access to the development is proposed to be provided from Walker Street. The proposed parking provision is 113 spaces. Loading dock arrangements are proposed to be modified.

Parking Provision

- 2.10 North Sydney Development Control Plan 2002 specifies a maximum car parking requirement of one space per 400m² for commercial developments within North Sydney CBD.
- 2.11 Application of this rate to the proposed 45,029m² of commercial area results in a maximum parking provision of 113 spaces. This is the proposed car parking provision.
- 2.12 19 spaces for motor cycles are also proposed which satisfies the minimum requirement from DCP 2002 of one motor cycle space per 10 car spaces.
- 2.13 In addition to the proposed car parking, 302 parking for bicycles are proposed. Bicycle parking is proposed in a mix of lockers and rails. The proposed provision of 302 bicycle spaces represents a rate of one space per 150m² which satisfies the DCP 2002 rate of one space per 600m² for tenants and one space per 2,500m² for visitors.
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Access, Servicing and Internal Layout

- 2.14 Vehicular access to the proposed development will be provided via a combined entry and exit driveway from Walker Street. The proposed driveway will provide for the simultaneous entry and exit by cars and service vehicles. All vehicles will be able to enter and exit the site in a forward direction.
- 2.15 The relocation of the approved driveway from Spring Street to Walker Street is proposed to improve servicing arrangements, better provide for access to and from the basement and achieve better public domain outcomes by providing a pedestrian link between Spring Street and Mount Street.
- 2.16 In the upper basement level, a loading dock is proposed which will provide for two 8.8 metre long rigid trucks. Six bays are also proposed in the basement for courier vehicles.
- 2.17 4½ basement parking levels are proposed below the loading dock level, with internal ramps connecting the levels. Ramp grades will be a maximum of 1:5, with appropriate transitions. Circulation aisles will be two-way. Spaces will be a minimum of 2.4 metres wide by 5.4 metres long, with 5.8 metre wide circulation aisles. Spaces with adjacent obstructions will be 0.3 metres wider to appropriately provide for doors to open. Disabled spaces will 2.4 metres wide with an adjacent 2.4 metre wide adjacent area for wheelchairs. Columns will be set back 750 mm from the front of spaces. Height clearance will be a minimum of 2.5 metres above disabled spaces and 2.2 metres elsewhere. These dimensions are considered appropriate, being in accordance with the Australian Standard for Parking Facilities (Part 1: Off-street car parking), AS 2890.1:2004.
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Traffic Generation and Effects

- 2.18 Traffic generated by the proposed development will have its greatest effects during morning and afternoon peak periods when it combines with commuter traffic. Based on surveys of the traffic generation of similar commercial buildings, commercial parking spaces generate some 0.25 to 0.4 vehicles per hour per space (two-way) during peak periods.
- 2.19 With an increase in parking provision of some 16 spaces, compared to the approved development, the increase in traffic generation due to the proposed modifications would be some four to six vehicles per hour two-way during peak hours. This is a very low increase, equivalent to one vehicle every 10 to 15 minutes during peak hours, compared to the approved development.
- 2.20 The traffic effects of the proposed amended development would therefore be similar to the approved development.
- 2.21 Our previous report found that the road network will be able to cater for the additional traffic from the proposed development.

Consultation

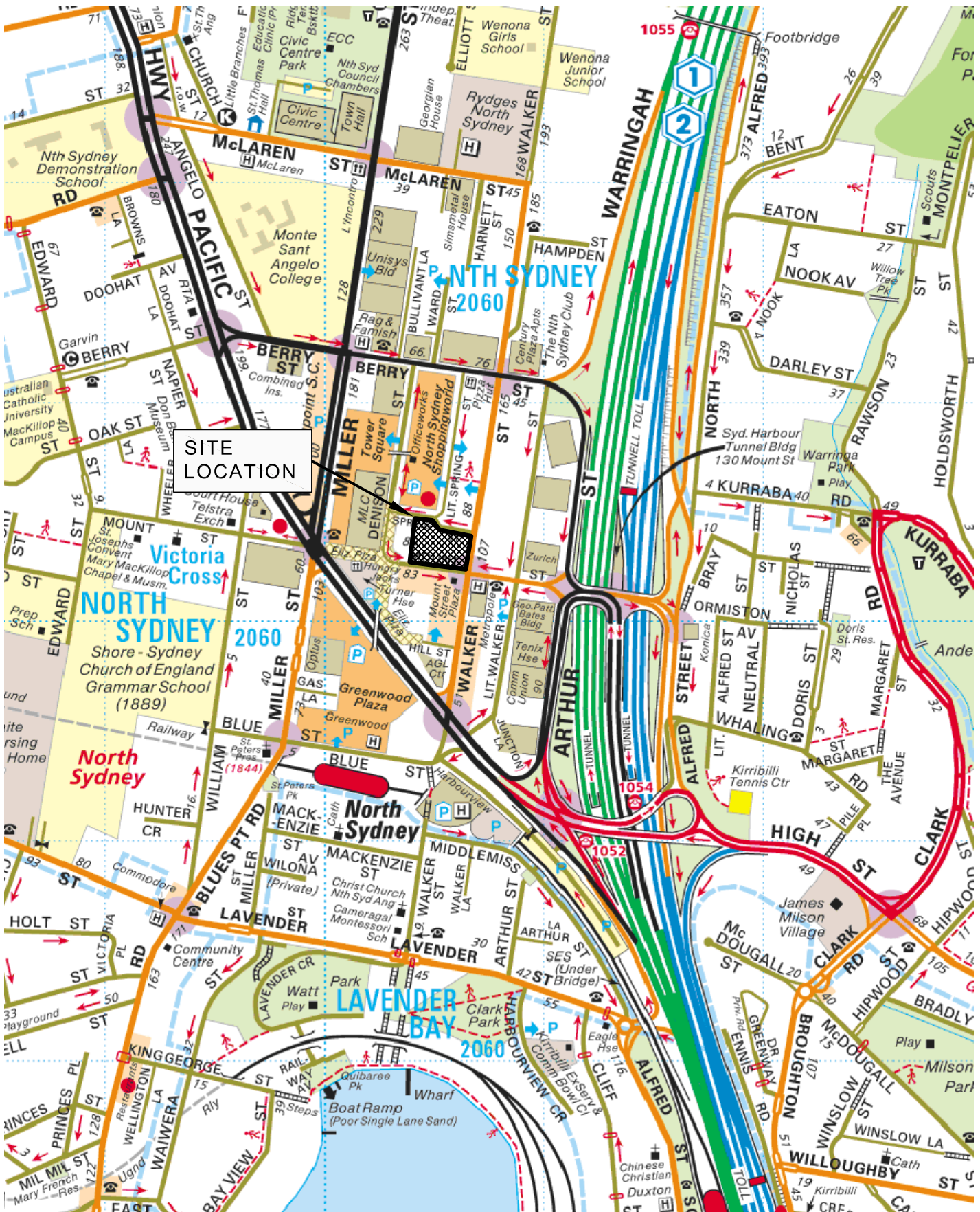
- 2.22 Based on discussions with North Sydney Council officers, we understand that Council's traffic engineer is satisfied that the proposed access arrangements are satisfactory, subject to vehicles being able to enter and exit the site in a forward direction. The proposed design provides for cars and service vehicles to enter and exit in a forward direction.
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- 2.23 We have had preliminary discussions and correspondence with the RTA in relation to the proposed development. At the time of writing the report, a response had not been received. A copy of the correspondence is attached as Appendix B.

Summary

- 2.24 In summary, the main points relating to the transport implications of the proposed modifications are as follows:

- i) parking provision satisfies Council's requirements;
- ii) access, servicing and internal layout will be provided in accordance with AS 2890.1:2004;
- iii) the proposed development would have a similar traffic generation to the approved development; and
- iv) the road network will be able to cater for the low additional traffic generation of the proposed modified development.



Location Plan

APPENDIX A

PREVIOUS REPORT

LAING O'ROURKE

REPORT ON THE TRAFFIC
IMPLICATIONS OF A PROPOSED
COMMERCIAL DEVELOPMENT, 100
MOUNT STREET, NORTH SYDNEY

MAY 2009

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TABLE OF CONTENTS

| | |
|---|----|
| 1. INTRODUCTION | 1 |
| 2. EXISTING CONDITIONS | 2 |
| 3. IMPLICATIONS OF PROPOSED DEVELOPMENT | 13 |

I. INTRODUCTION

- I.1 Colston Budd Hunt & Kafes Pty Ltd has been commissioned by Laing O'Rourke to prepare a report on the traffic implications of a proposed commercial development at 100 Mount Street, North Sydney. The site is located on the western side of Walker Street, between Mount Street and Spring Street, as shown on Figure 1.
- I.2 The site is currently occupied by two existing commercial buildings with access to basement parking provided from Spring Street. Both buildings on the site are currently occupied. In association with the proposed redevelopment of the site, it is proposed to demolish the existing buildings and construct a new commercial development. The proposed commercial development will comprise a total gross floor area of some 39,540m², including some 1,435m² of ground floor retail area. Car parking will be provided within a new basement car park with vehicular access maintained from Spring Street.
- I.3 In association with the proposed development it is proposed to reconfigure the existing on-street car parking arrangements and improve pedestrian facilities in Mount Street, adjacent to the site.
- I.4 This report assesses the implications of the proposed development through the following chapters:
- Chapter 2 - describing the existing conditions; and
 - Chapter 3 - assessing the traffic implications of the proposed development.
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2. EXISTING CONDITIONS

Site Location and Road Network

- 2.1. The site of the proposed development is located within the North Sydney CBD, on the north western corner of the intersection of Walker Street and Mount Street, as shown on Figure 1. The site occupies a major part of the commercial office block bounded by Mount Street, Walker Street, Spring Street and Denison Street.
- 2.2. The site is currently occupied by two existing commercial buildings with access to basement parking provided from Spring Street. Both buildings on the site are currently occupied. In association with the proposed redevelopment of the site, it is proposed to demolish the existing buildings and construct a new commercial development.
- 2.3. Surrounding land use within the North Sydney CBD is predominantly commercial developments, incorporating some ground floor retail area. North Sydney railway station is located a short walk to the south of the site.
- 2.4. The road network in the vicinity of the site includes the Pacific Highway, Miller Street, Mount Street, Walker Street, Berry Street, Spring Street, Little Spring Street and Denison Street. The Pacific Highway is located to the south and west of the site and provides a major link in Sydney's arterial road network, connecting Sydney's harbour crossings with the north shore. It generally provides a four to six lane divided carriageway with two to three traffic lanes in each direction. Clearways operate during peak periods. In the vicinity of the site, the Pacific Highway provides access through North Sydney to suburbs to the north including Crows Nest, St. Leonards and Lane Cove.
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- 2.5. Miller Street is located to the west of the site and forms part of an arterial route linking Willoughby and Cammeray in the north, with North Sydney. In the vicinity of the site, between the Pacific Highway and Berry Street, Miller Street provides a four lane divided road with one traffic lane and one parking lane in each direction, clear of intersections. Clearways operate in peak periods in the direction of peak traffic flow. The intersections of Miller Street with the Pacific Highway and Berry Street are controlled by traffic signals.
- 2.6. Mount Street is located adjacent to the southern boundary of the site and intersects with Walker Street at a traffic signal controlled intersection, on the south-east corner of the site. Mount Street, between Walker Street and Denison Street, provides a one-way eastbound traffic lane with kerbside parking available, clear of intersections. West of Denison Street, Mount Street has been closed to vehicular traffic and converted to a pedestrian plaza.
- 2.7. Mount Street, between Walker Street and Arthur Street, provides a one-way westbound carriageway. The intersection of Mount Street and Arthur Street is controlled by traffic signals.
- 2.8. Walker Street is located on the eastern boundary of the site and provides a north-south route through the North Sydney CBD. It connects the Pacific Highway with Berry Street and generally provides two traffic lanes in each direction, with kerbside parking permitted outside of the morning and afternoon peak periods. North of Berry Street, Walker Street connects to Ridge Street with generally one traffic lane and one parking lane in each direction, clear of intersections.
- 2.9. Berry Street is located north of the site and provides the main eastbound traffic route through the northern part of the North Sydney CBD. It links the Pacific Highway to the west with the Warringah Freeway to the east of the site. It
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-

provides a one-way eastbound carriageway with four traffic lanes and kerbside parking permitted outside of the morning and afternoon peak periods.

- 2.10. Spring Street runs west from Walker Street along the northern boundary of the site. It provides access to the site with a one-way westbound traffic lane linking Walker Street with Denison Street.
- 2.11. Little Spring Street is located to the north of the site and provides a one-way southbound road linking Berry Street to Spring Street. Little Spring Street provides access to adjacent commercial developments and to public car parks. It generally provides one traffic lane with kerbside parking permitted clear of intersections.
- 2.12. Denison Street, located west of the site, connects Spring Street with Mount Street to the south and Berry Street to the north. Between Spring Street and Mount Street, Denison Street is a shared zone providing a single traffic lane through this area. North of Spring Street, Denison Street provides a one-way northbound road with one traffic lane and kerbside parking permitted, clear of intersections. Denison Street provides access to commercial development and public car parks north and west of the site.

Traffic Flows

- 2.13. In order to gauge traffic conditions in the vicinity of the site, traffic counts were undertaken during the weekday morning, and afternoon peak periods at the following intersections:-
- ❑ Pacific Highway/Walker Street;
 - ❑ Walker Street/Mount Street;
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- ❑ Walker Street/Spring Street;
- ❑ Walker Street/Berry Street;
- ❑ Spring Street/Little Spring Street;
- ❑ Spring Street/Denison Street; and
- ❑ Denison Street/Berry Street.

2.14. The results of the traffic counts are shown on Figures 2 and 3. The morning and afternoon two-way (sum of both directions) hourly flows are summarised in Table 2.1.

| Table 2.1: Existing Two-Way (Sum of Both Directions) Peak Hour Traffic Flows | | |
|---|--|--|
| Road/Location | Weekday Morning (Vehicles/Hour) | Weekday Afternoon (Vehicles/Hour) |
| Pacific Highway | | |
| - east of Walker Street | 3,225 | 2,215 |
| - west of Walker Street | 2,075 | 1,455 |
| Mount Street | | |
| - west of Walker Street | 70 ⁽¹⁾ | 150 ⁽¹⁾ |
| - east of Walker Street | 600 ⁽¹⁾ | 620 ⁽¹⁾ |
| Walker Street | | |
| - north of Pacific Highway | 1,415 | 1,130 |
| - south of Mount Street | 1,315 | 1,120 |
| - north of Mount Street | 1,515 | 1,400 |
| - south of Berry Street | 1,195 | 1,335 |
| Spring Street | | |
| - west of Walker Street | 370 ⁽¹⁾ | 140 ⁽¹⁾ |
| - west of Little Spring Street | 480 ⁽¹⁾ | 300 ⁽¹⁾ |
| Little Spring Street | | |
| - north of Spring Street | 170 ⁽¹⁾ | 140 ⁽¹⁾ |
| Denison Street | | |
| - north of Spring Street | 365 ⁽¹⁾ | 170 ⁽¹⁾ |
| - south of Berry Street | 165 ⁽¹⁾ | 300 ⁽¹⁾ |
| - south of Spring Street | 115 ⁽¹⁾ | 130 ⁽¹⁾ |
| Berry Street | | |
| - west of Denison Street | 1,435 ⁽¹⁾ | 1,375 ⁽¹⁾ |
| - west of Walker Street | 1,300 ⁽¹⁾ | 1,675 ⁽¹⁾ |
| - east of Walker Street | 2,150 ⁽¹⁾ | 2,540 ⁽¹⁾ |

(1) one-way traffic flow

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- 2.15. The results in Table 2.1 show that traffic flows on the Pacific Highway and Berry Street east of Walker Street were some 1,500 to 3,250 vehicles per hour during the morning and afternoon peak periods. West of Walker Street, traffic flows on Berry Street were some 1,300 to 1,700 vehicles per hour during peak periods.
- 2.16. Traffic flows on Walker Street were some 1,100 to 1,500 vehicles per hour two-way during the morning and afternoon peak periods.
- 2.17. Mount Street, east of Walker Street, carried peak period traffic flows in the range of some 600 to 650 vehicles per hour one-way eastbound during the morning and afternoon peak periods. West of Walker Street, adjacent to the site, traffic flows were lower at some 70 to 150 vehicles per hour one-way during the peak periods.
- 2.18. Spring Street and Denison Street between Spring Street and Berry Street, carried traffic flows of some 150 to 500 vehicles per hour one-way during peak periods. Traffic flows on Denison Street, south of Spring Street, were lower at some 100 to 150 vehicles per hour one-way, through the existing shared zone.
- 2.19. Traffic flows on Little Spring Street were some 150 to 200 vehicle per hour one-way during the morning and afternoon peak periods.
- 2.20. In addition to the intersection traffic counts, surveys were also undertaken of the existing site traffic generation. The surveys found that the existing buildings on the site generate some 15 to 20 vehicles per hour two-way during the morning and afternoon peak periods.
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Intersection Operations

2.21. The capacity of the road network is generally determined by the ability of its intersections to cater for peak period traffic flows. The intersections in Figures 2 and 3 have been analysed using the SIDRA program. The SIDRA program simulates the operation of the intersections to provide a number of performance measures. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle. 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 |

- 2.22. 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.
- 2.23. The SIDRA analysis found that the signalised intersections of Pacific Highway/Walker Street and Mount Street/Walker Street are operating with average delays of less than 30 seconds per vehicle during the weekday morning and afternoon peak periods. This represents a level of service B/C, which is a satisfactory level of intersection operation.
- 2.24. The signalised intersection of Walker Street and Berry Street is operating with average delays of some 25 seconds per vehicle during the morning and less than 30 seconds per vehicle during the afternoon peak periods. This represents a level of service B and B/C for the morning and afternoon peak periods respectively. These are good to satisfactory levels of intersection operation.
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- 2.25. The unsignalised intersection of Walker Street and Spring Street is operating with average delays, for the movement with the highest average delay, of less than 20 seconds per vehicle during the peak periods. This represents a level of service B, which is a good level of intersection operation.
- 2.26. The analysis found that the unsignalised intersection of Berry Street and Denison Street is operating with average delays, for all movements through the intersection, of less than 25 seconds per vehicle during the peak periods. This represents a level of service B, which is a good level of intersection operation.

Pedestrians

- 2.27. The site of the proposed development is well located to connect into the pedestrian network within the North Sydney CBD. The existing network comprises traditional footpaths, shared zones/pedestrian plazas and through site pedestrian links in the vicinity of the site.
- 2.28. The existing footpath network comprises footpaths along both sides of streets in the vicinity of the site. The footpaths in the North Sydney CBD are generally 3.5 to 4 metres in width. Pedestrians using footpaths must cross streets at-grade, generally using pedestrian phases in the traffic signals.
- 2.29. Pedestrians have a variable degree of weather protection from awnings and colonnades. There is generally protection available in Mount Street and Walker Street as well as along through site links to North Sydney railway station.
- 2.30. The section of Mount Street between the Pacific Highway and Denison Street has been closed to vehicular traffic and converted into a pedestrian plaza. This provides a convenient and accessible facility for pedestrians accessing bus services
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- from the Pacific Highway and Miller Street, and rail services from North Sydney station.
- 2.31. The section of Denison Street between Mount Street and Spring Street is a shared zone, providing for convenient pedestrian access and maintaining a one-way vehicular access from Denison Street into Mount Street adjacent to the southern boundary of the site.
- 2.32. The use of North Sydney's pedestrian network exhibits three distinct peak periods, the morning and afternoon peaks as people move to and from their places of employment, and at lunchtime as people move around the area to shops, cafes, etc. A series of counts were undertaken to establish existing pedestrian flows in the vicinity of the site. The results of these surveys are summarised in Table 2.2.
- 2.33. It can be seen from Table 2.2 that the heaviest pedestrian flows occur at lunchtime in the vicinity of the site. Flows on Denison Street west of the site were some 1,030 pedestrians per hour two-way at this time. Flows during the morning and afternoon peak periods were some 100 to 450 pedestrians per hour two-way.
- 2.34. Pedestrian flows on the footpaths in Mount and Walker Streets along the site frontage were generally in the range of some 500 to 1,100 pedestrians per hour two-way during the morning and lunchtime peak periods. Flows during the afternoon peak period were some 200 to 660 pedestrians per hour two-way.
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Table 2.2: Existing Peak Hour Two-Way (Sum of Both Directions) Pedestrian Flows

| Location | Weekday Morning | Weekday Midday | Weekday Afternoon |
|--|-----------------|----------------|-------------------|
| Mount Street (site frontage) | | | |
| - west of Walker Street | 800 | 870 | 355 |
| - east of Denison Street | 540 | 500 | 225 |
| Walker Street (site frontage) | | | |
| - north of Market Street | 1,065 | 840 | 660 |
| Spring Street | | | |
| - west of Walker Street | 115 | 135 | 70 |
| - west of Little Spring Street | 175 | 600 | 160 |
| - crossing Spring Street (at Denison Street) | 365 | 990 | 225 |
| Denison Street | | | |
| - south of Spring Street (site frontage) | 420 | 1,030 | 230 |
| - crossing Denison Street | 150 | 430 | 100 |
| Site Access | | | |
| - Mount Street access | 135 | 790 | 155 |
| - Spring Street access | 135 | 200 | 80 |

2.35. Flows on the footpaths in Spring Street are some 600 to 900 pedestrians per hour two-way west of Little Spring Street and at Denison Street at lunchtime. Pedestrian flows at other times are generally lower at some 100 to 400 pedestrians per hour two-way.

2.36. In association with the proposed development and in consultation with North Sydney Council, it is proposed to improve pedestrian amenity in the vicinity of the site. Substantial urban design improvements will be undertaken along Mount Street and Walker Street, including at the signalised intersection of these two roads.

Public Transport

2.37. The site is some 5 minutes walk from North Sydney Railway Station. North Sydney is on the North Shore Line (Berowra-Parramatta via The City) and the Northern Line (Berowra-North Sydney via Strathfield and the City).

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- 2.38. Services on the North Shore Line through North Sydney operate on a five to ten minute headway in each direction. Services on the Northern Line operate on a 30 minute headway in each direction. During the weekday peak periods, services are more frequent.
- 2.39. Local bus services are provided by State Transit. These services link North Sydney with surrounding areas. There are bus stops on the Pacific Highway to the south and west of the site. There are also bus stops on Miller Street (west of the site) and at North Sydney Station. Bus services provide links to all surrounding areas, including the City, North Shore and the Northern Beaches.
- 2.40. Overall, the site has good access to convenient and regular public transport services.
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3. IMPLICATIONS OF PROPOSED DEVELOPMENT

3.1. It is proposed to demolish the existing buildings on the site and construct a new commercial office development. The proposed commercial development will comprise a total gross floor area of some 39,540m², including some 1,435m² of ground floor retail area. On-site car parking will be provided within a basement car park with access via a combined entry/exit driveway off Spring Street.

3.2. The implications of the proposed development are assessed through the following sections:-

- ❑ public transport;
- ❑ parking provision;
- ❑ access, internal circulation and servicing;
- ❑ traffic effects;
- ❑ director general's requirements; and
- ❑ summary.

Public Transport

3.3. As previously discussed, the site is within 5 minutes walk from North Sydney Railway Station. Services through North Sydney operate on two lines on 10 to 30 minute headways respectively. Local bus services also provide a link between North Sydney and surrounding areas. The site therefore has good access to convenient and regular rail and bus services.

3.4. The proposed development will increase employment densities close to existing public transport services. The proposal would therefore strengthen the existing

demand for bus and rail services. This is consistent with government policy and planning principles of:-

- a) improving accessibility to employment and services by walking, cycling and public transport;
- b) improving the choice of transport;
- 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

- 3.5. North Sydney Development Control Plan 2002 specifies a maximum car parking requirement of one space per 400m² for commercial developments within North Sydney CBD.
 - 3.6. Application of this rate to the proposed 39,540m² of commercial/retail area results in a maximum parking provision of 99 spaces. The proposed development will provide parking for some 130 vehicles.
 - 3.7. It is understood that the proposed parking provision is required to secure a major anchor tenant pre-commitment to allow construction of the development to proceed. It is further understood that major tenants (ie. 8,000m² to 10,000m²) would require a higher parking provision than Council's code and that additional parking is required for marketing purposes to encourage these tenants into North Sydney CBD. As will be discussed in the following sections, the additional parking
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spaces will not have a significant traffic generation and the surrounding road network will be able to cater for the small number of additional vehicles.

3.8. In addition to car parking, North Sydney DCP 2002 requires the following:-

- 1 to 2% of spaces provided to be designated for use by people with mobility impairment;
- provide parking for motor cycles at the minimum rate of 1 space per 10 cars or part thereof; and
- provide bicycle parking at the minimum rate of 1 bicycle locker per 600m².

3.9. In regards to disabled parking, 2% of the overall parking provision will be designated for use by people with mobility impairment.

3.10. Motor cycle parking and bicycle lockers will also be provided in accordance with Council's DCP 2002 requirements.

Access, Internal Circulation and Servicing

3.11. Access arrangements to the basement car park will be provided via a combined entry/exit driveway onto Spring Street. The two-way driveway will be located at the north-eastern corner of the site and will incorporate a grade of 1 in 20 into the site. The driveway then ramps down via a two-way ramp to the upper basement level. The proposed access and driveway arrangements are considered appropriate for the size and type of car park proposed and to provide appropriate sight lines to pedestrians and vehicular activity in Spring Street

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- 3.12. Car parking within the basement levels will be designed to comply with the Australian Standard AS2890.1-2004 with respect to parking bay dimensions, ramp widths, ramp grades, aisle widths, height clearances and column locations. Parking spaces will have minimum dimensions of 2.4 metres wide by 5.4 metres long, clear of columns. Spaces located adjacent to structure will be wider to provide for door opening. Circulation aisles will be 5.8 to 6.1 metres wide and columns will be located appropriately to provide convenient access to parking spaces. Dead end aisles will have a one metre extension for appropriate access to and from end spaces.
- 3.13. Disabled car parking will be provided with dimensions of 3.2 metres wide by 5.4 metres long. Height clearances will be a minimum of 2.2 metres generally, with 2.3 metres to disable spaces and 2.5 metres above disabled spaces. These dimensions are considered appropriate, being in accordance with AS2890.1-2004.
- 3.14. Access between basement level 1 and basement level 2 will be provided via a single lane two-way ramp at the western end of the site. Access to the lower basement levels will be provided via two-way ramps at the eastern end of the site. The single lane ramp between basement level 1 and basement level 2 will be signalised in order to provide for two-way traffic movement. Appropriate waiting bays will be provided at the top and bottom of the ramp.
- 3.15. Motor cycle parking and bicycle storage facilities will be provided within the basement car parking area, in accordance with Council's requirements. Motor cycle parking bays will be provided with dimensions of 1.2 metres wide by 3 metres long.
- 3.16. A loading dock will be provided on the northern side of the building, with access available to/from Spring Street. The loading dock will cater for two medium rigid
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trucks and will replace existing loading facilities on Spring Street servicing the existing buildings on the site. The loading dock will be designed in accordance with the Australian Standard for Parking Facilities (Part 2 – Off-Street Commercial Vehicle Facilities) AS2890.2-2002 and Council's DCP 2002.

- 3.17. Service vehicles will continue to reverse into the loading dock from Spring Street, in a similar manner to the existing loading docks. This arrangement is considered appropriate, being in accordance with the Australian Standard AS2890.2-2002. The proposed manoeuvring of service vehicles to and from the loading docks will be assisted by a loading dock manager, who will manage and control the operation of the dock.
- 3.18. In accordance with Council's DCP 2002, additional courier and light commercial vehicle parking spaces will be provided within the upper basement parking level, near the vehicle entry point and lifts.

Traffic Generation and Effects

- 3.19. Traffic generated by the proposed development will have its largest effects during morning and afternoon peak periods when it combines with commuter traffic. A survey of a commercial building in the North Sydney CBD found that commercial parking spaces generate some 0.4 to 0.6 vehicles per hour per space two-way in peak periods.
- 3.20. As previously discussed, based on Council's DCP 2002 the proposed development has an allowable parking provision of 99 spaces. This would result in a traffic generation of some Application of this rate would result in a traffic generation of some 40 to 60 vehicles per hour two-way during morning and afternoon peak periods. For the purpose of securing a major anchor tenant pre-commitment for
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- the development and for marketing purposes to encourage these tenants into North Sydney CBD the proposed parking provision is some 130 spaces. This results in a peak hour traffic generation of some 55 to 80 vehicles per hour two-way. This is an additional 15 to 20 vehicles per hour two-way. This is equivalent to an increase in traffic generation of one vehicle every three to four minutes two-way during peak periods. Such a small increase in traffic generation will not have a material traffic effect on the operation of the surrounding road network.
- 3.21. As noted in Chapter 2, the site has an existing traffic generation of some 15 to 20 vehicles per hour two-way during peak periods. The resultant net increase in traffic generation of the proposed development is therefore expected to be some 40 to 60 vehicles per hour two-way at peak times.
- 3.22. In order to assess the traffic effects of the proposed development, the additional traffic has been assigned to the road network. To be conservative, the higher figure of 60 additional vehicles per hour two-way has been used during the morning and afternoon peak periods. This is equivalent to one additional vehicle every minute two-way during peak periods. Existing peak hour traffic flows plus development traffic are shown on Figures 2 and 3, and summarised in Table 3.1.
- 3.23. Table 3.1 shows that the largest traffic increases would occur on Spring Street from where access is proposed. Traffic flows would increase by up to some 45 additional vehicles per hour during peak periods.
- 3.24. Peak period traffic flows on Walker Street, Mount Street, Denison Street and Berry Street would increase by some 10 to 30 vehicles per hour during the morning and afternoon peak periods.
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Table 3.1: Existing Two-Way (Sum of Both Directions) Peak Hour Traffic Flows Plus Development Traffic

| Road/Location | Weekday Morning (Vehicles/Hour) | | Weekday Afternoon (Vehicles/Hour) | |
|--------------------------------|------------------------------------|---------------------|--------------------------------------|---------------------|
| | Existing | Plus Development | Existing | Plus Development |
| Pacific Highway | | | | |
| - east of Walker Street | 3,225 | +20 | 2,215 | +15 |
| - west of Walker Street | 2,075 | - | 1,455 | +5 |
| Mount Street | | | | |
| - west of Walker Street | 70 ⁽¹⁾ | +5 | 150 ⁽¹⁾ | +15 |
| - east of Walker Street | 600 ⁽¹⁾ | +15 | 620 ⁽¹⁾ | +5 |
| Walker Street | | | | |
| - north of Pacific Highway | 1,415 | +20 | 1,130 | +20 |
| - south of Mount Street | 1,315 | +20 | 1,120 | +20 |
| - north of Mount Street | 1,515 | +30 | 1,400 | +10 |
| - south of Berry Street | 1,195 | +15 | 1,335 | +5 |
| Spring Street | | | | |
| - west of Walker Street | 370 ⁽¹⁾ | +45 | 140 ⁽¹⁾ | +15 |
| - west of Little Spring Street | 480 ⁽¹⁾ | +15 | 300 ⁽¹⁾ | +45 |
| Little Spring Street | | | | |
| - north of Spring Street | 170 ⁽¹⁾ | - | 140 ⁽¹⁾ | - |
| Denison Street | | | | |
| - north of Spring Street | 365 ⁽¹⁾ | +10 | 170 ⁽¹⁾ | +30 |
| - south of Berry Street | 165 ⁽¹⁾ | +10 | 300 ⁽¹⁾ | +30 |
| - south of Spring Street | 115 ⁽¹⁾ | +5 | 130 ⁽¹⁾ | +15 |
| Berry Street | | | | |
| - west of Denison Street | 1,435 ⁽¹⁾ | +15 | 1,375 ⁽¹⁾ | +5 |
| - west of Walker Street | 1,300 ⁽¹⁾ | +25 | 1,675 ⁽¹⁾ | +35 |
| - east of Walker Street | 2,150 ⁽¹⁾ | +25 | 2,540 ⁽¹⁾ | +35 |

(1) one-way traffic flow

- 3.25. The intersections previously analysed in Chapter 2 were re-analysed using the SIDRA computer program with the additional traffic generated by the proposed development added to existing flows. The SIDRA analysis found that all intersections previously analysed would continue to operate at their existing good to satisfactory levels of service, with similar average delays per vehicle during the morning and afternoon peak periods.

Director General's Requirements

3.26. The Director General requires the transport assessment for the proposed development to address a number of matters. These matters are addressed below:-

“The EA shall address the following matters:

- Provide a Transport and Accessibility Impact Study prepared in accordance with the RTA's Guide to Traffic Generating Developments, considering traffic generation, any required road/intersection upgrades, access, loading dock(s), car parking arrangements, measures to promote public transport usage and pedestrian and bicycle linkages. In particular the key intersections the study should consider are:*
- Mount Street/Walker Street;*
- Berry Street/Walker Street; and*
- Pacific Highway/Walker Street.”*

3.27. The parking provision, access, loading docks and car parking arrangements for the proposed development are addressed in paragraphs 3.5 to 3.18.

3.28. The traffic generation and traffic effects of the proposed development, and in particular the effects on the operation of the identified key intersections, are addressed in paragraphs 3.19 to 3.25.

- Provide an assessment of the proposal with regards to the Governments 'Integrating Land Use and Transport Policy'.*

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- 3.29. The proposed development is located within the North Sydney CBD within some 5 minutes walk from North Sydney Railway Station. Local bus services along the Pacific Highway also provide high frequency public transport links between North Sydney and the surrounding area. The site is therefore well located for access to convenient and regular public transport rail and bus services.
- 3.30. The proposed development will increase employment densities close to existing public transport services. The proposal would therefore strengthen the existing demand for bus and rail services. This is consistent with government policy and planning principles of:-
- a) improving accessibility to employment and services by walking, cycling and public transport;
 - b) improving the choice of transport;
 - 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.
- *Provide an assessment of the implications of the proposed development for non-car travel modes (including public transport, walking and cycling).*
- 3.31. The public transport, pedestrian, cycle and non-car travel aspects of the proposed development are assessed in the Public Domain Design Report prepared by Oculus for this project (under separate cover).
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- 3.32. The site of the proposed development is well located to connect into the pedestrian network within the North Sydney CBD. The existing network comprises traditional footpaths, shared zones/pedestrian plazas and through site pedestrian links in the vicinity of the site. The proposed development will enhance and maintain these facilities.
- 3.33. In association with the proposed development and in consultation with North Sydney Council, it is proposed to improve pedestrian amenity in the vicinity of the site. Substantial urban design improvements will be undertaken along Mount Street and Walker Street, including at the signalised intersection of these two roads. These works will expand the existing public domain improvements within North Sydney, in particular the Denison Street shared zone and the Mount Street pedestrian plaza. The works will also improve accessibility for pedestrians accessing bus services from the Pacific Highway and rail service from North Sydney station.
- 3.34. In regards to cyclists, the proposed development will provide appropriate facilities for cyclists and will integrate with Council's own bicycle plan for the North Sydney CBD.
- *Identify measures to mitigate potential impacts for pedestrians and cyclists during the construction stage of the project.*
- 3.35. These matters in regards to pedestrian and cyclists will be dealt with in the construction traffic management plan, which will be prepared prior to the commencement of construction. However, measures to mitigate potential impacts for pedestrians and cyclists will include the provision of construction hoardings along Mount Street, Walker Street, Spring Street and Denison Street.
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Details of these facilities will be documented in the construction traffic management plan.

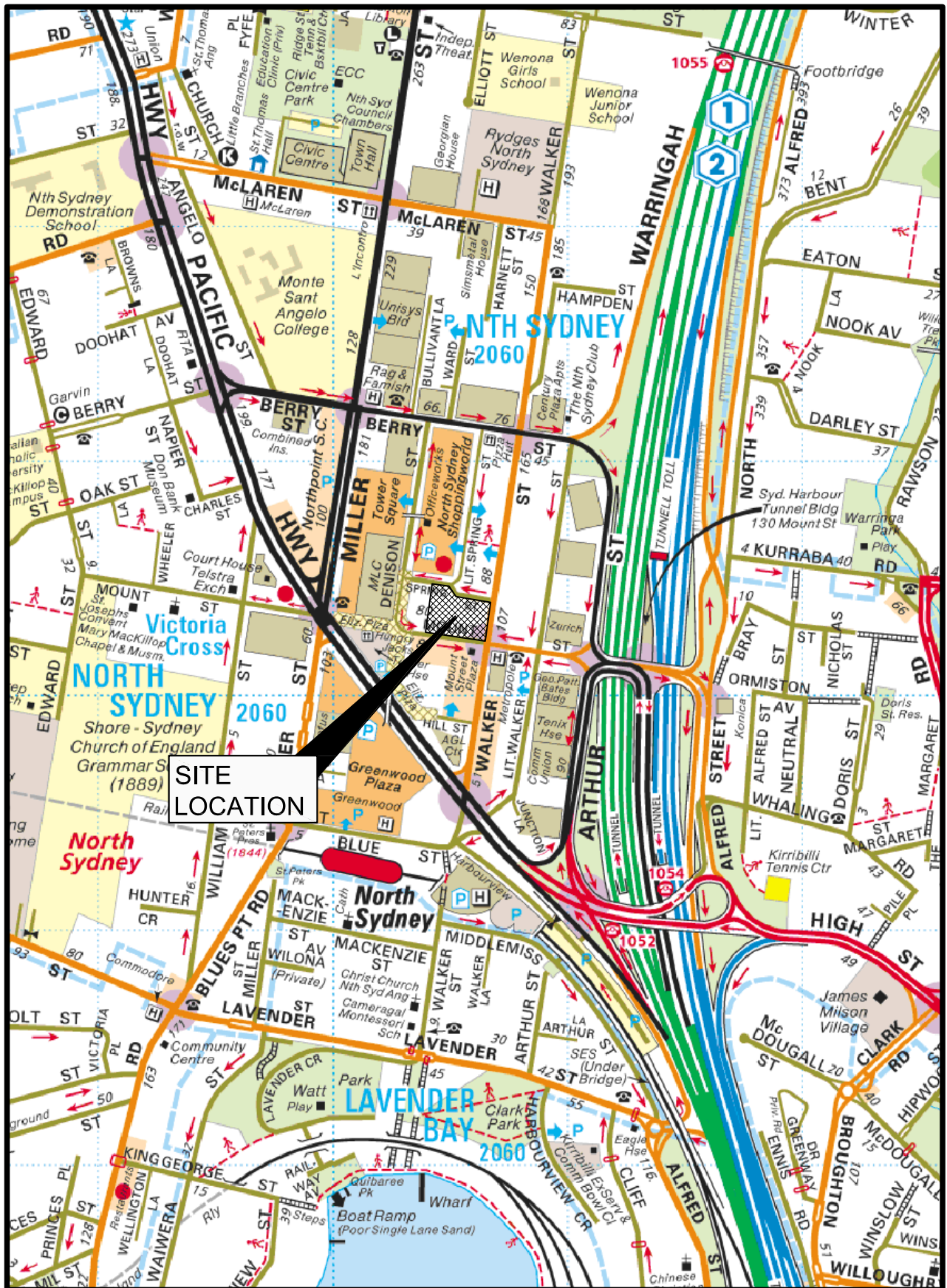
3.36. The construction traffic management plan will cover the following aspects:-

- ❑ overall principles for traffic management;
- ❑ construction access arrangements;
- ❑ duration of construction activity;
- ❑ construction traffic;
- ❑ truck marshalling and control;
- ❑ truck routes;
- ❑ pedestrian movements;
- ❑ public transport operations, both buses and taxis;
- ❑ delivery vehicles in the vicinity of the site;
- ❑ construction zones;
- ❑ on-street parking;
- ❑ detail of heavy machinery transport;
- ❑ preparation of traffic management plan.

Summary

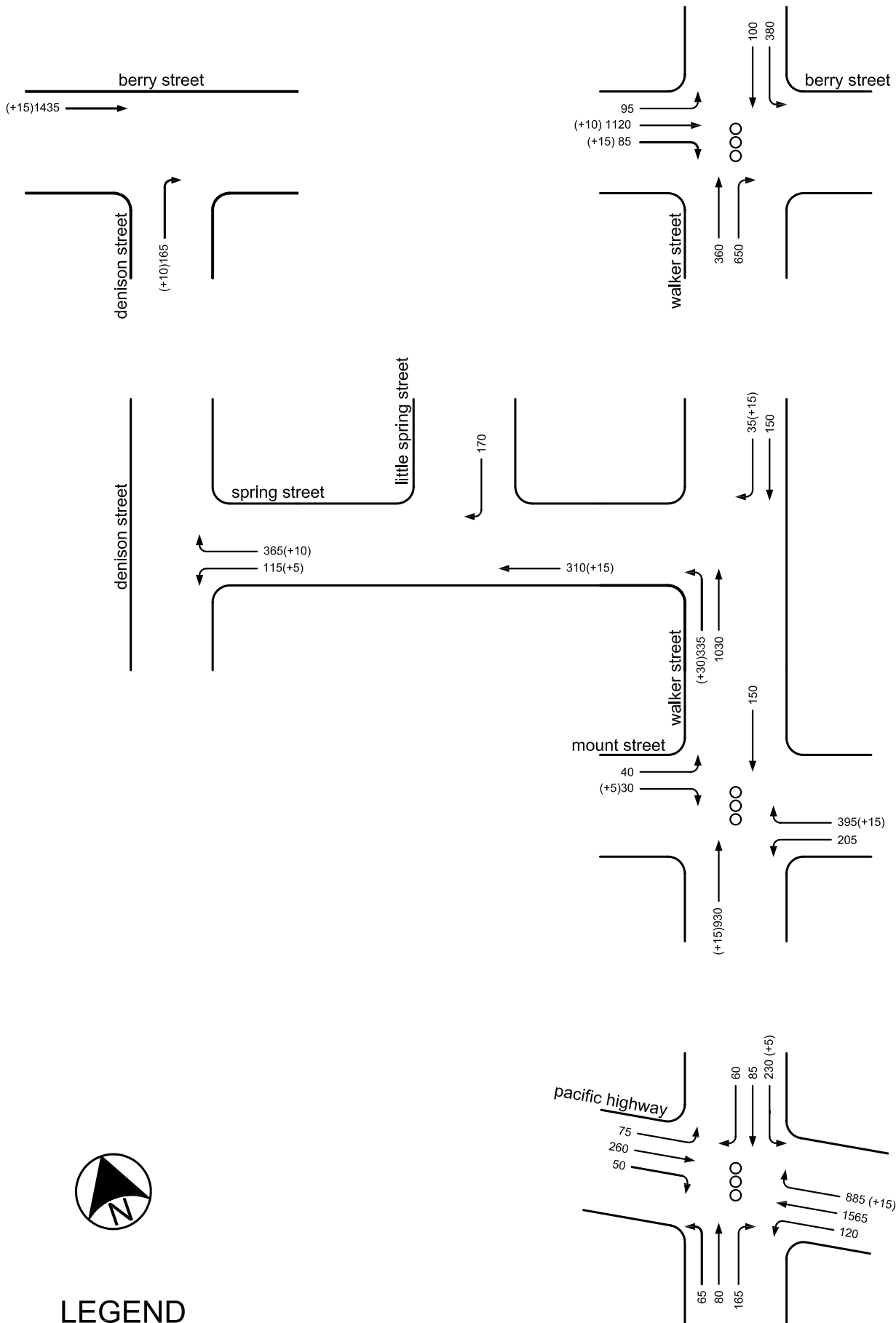
3.37. In summary, the main points relating to the traffic implications of the proposed development are as follows:-

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- i) the proposed commercial development will comprise a total gross floor area of some 39,540m², including some 1,435m² of ground floor retail area;
 - ii) the proposed development would increase employment densities close to good public transport services;
 - iii) the proposed development will provide parking for some 130 vehicles within basement parking;
 - iv) access, internal circulation and servicing arrangements are considered appropriate;
 - v) the proposed development would result in a net increase in traffic generation of some 40 to 60 additional vehicles per hour two-way during peak periods; and
 - vi) the surrounding road network and its intersections will be able to accommodate the additional traffic generated by the development.
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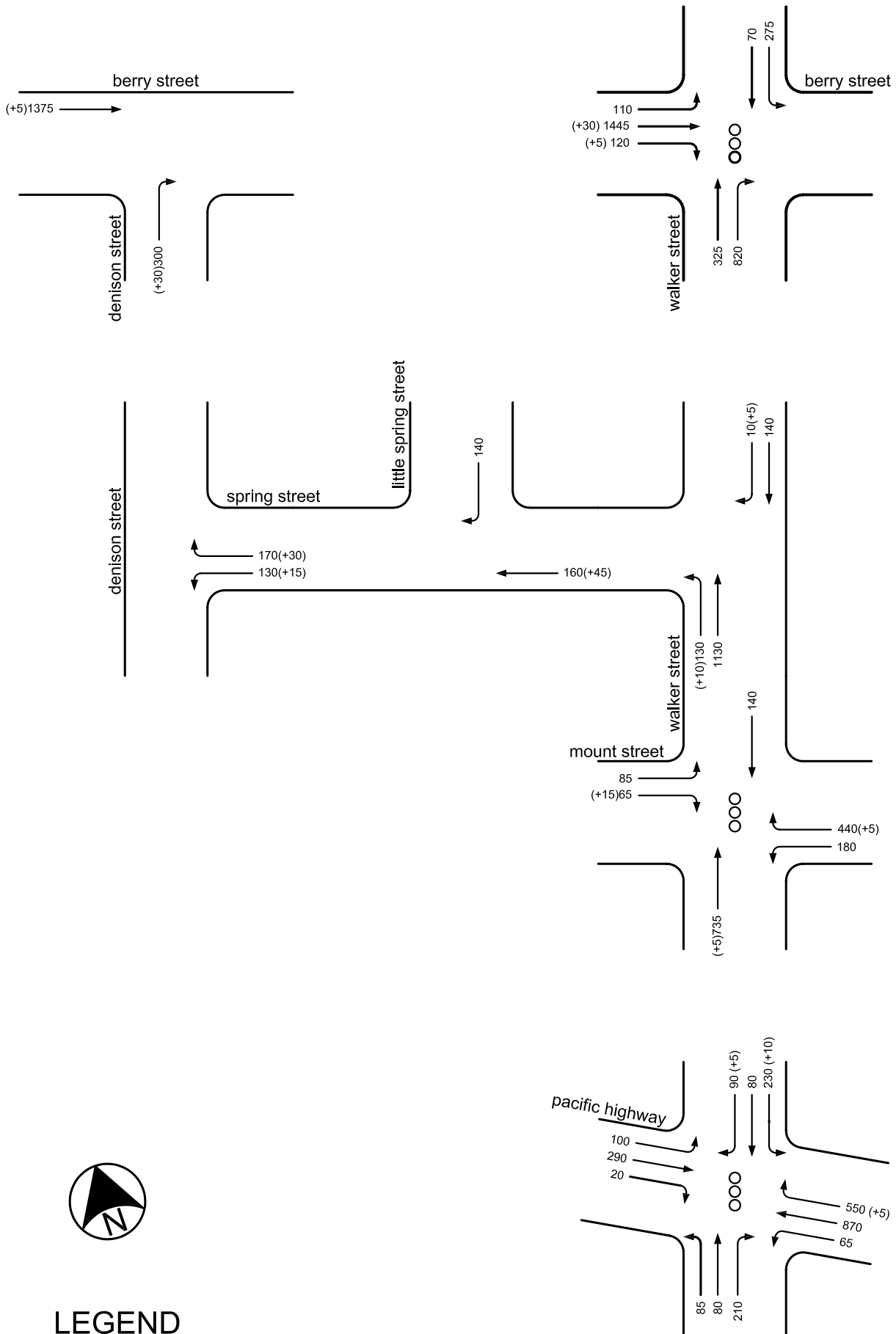


LOCATION PLAN

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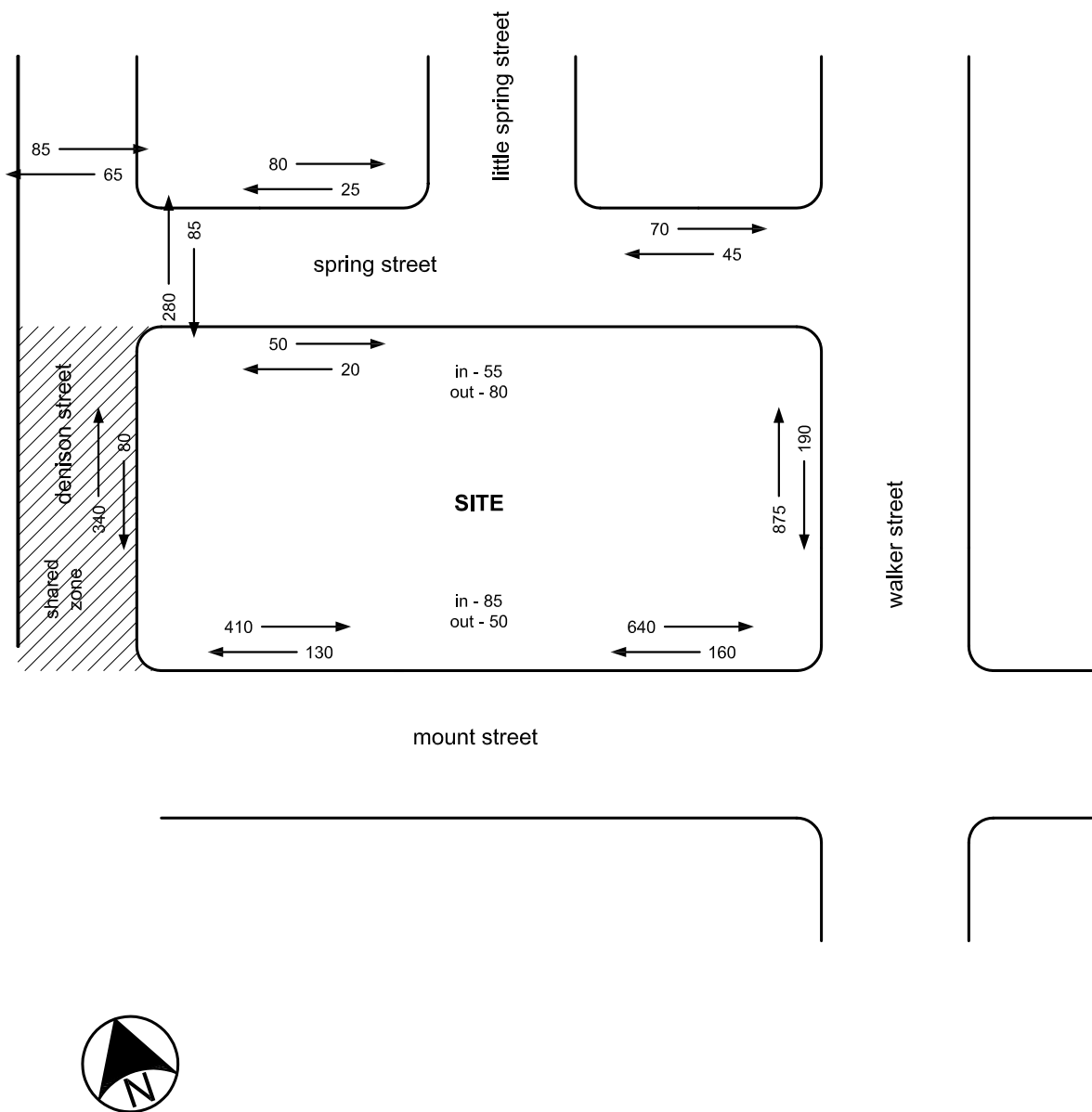
EXISTING MORNING PEAK HOUR TRAFFIC FLOWS PLUS DEVELOPMENT TRAFFIC



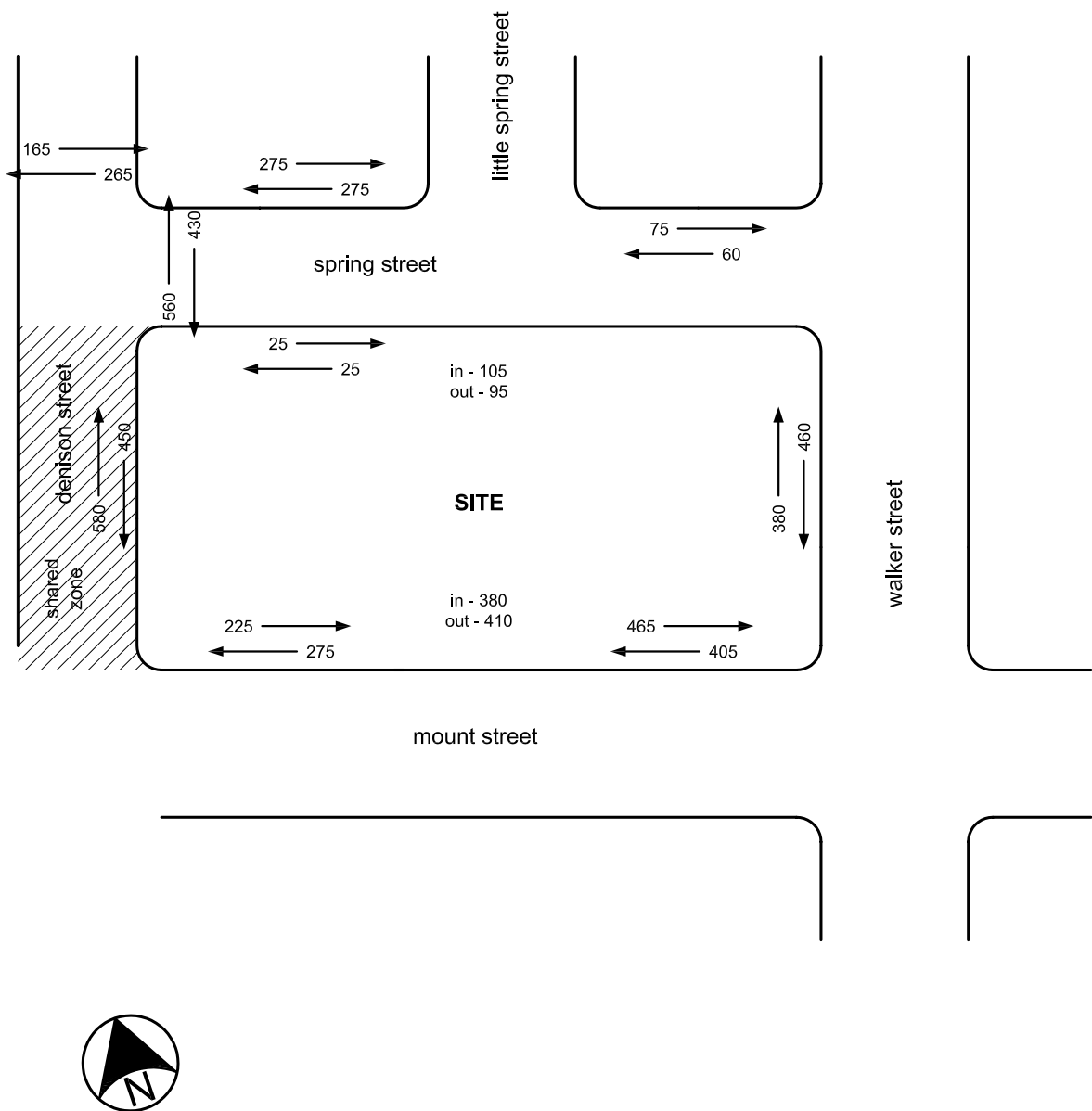
LEGEND

- 100 - Existing Peak Hour Flows
- (+10) - Additional Development Traffic
- ⦿ - Traffic Signals

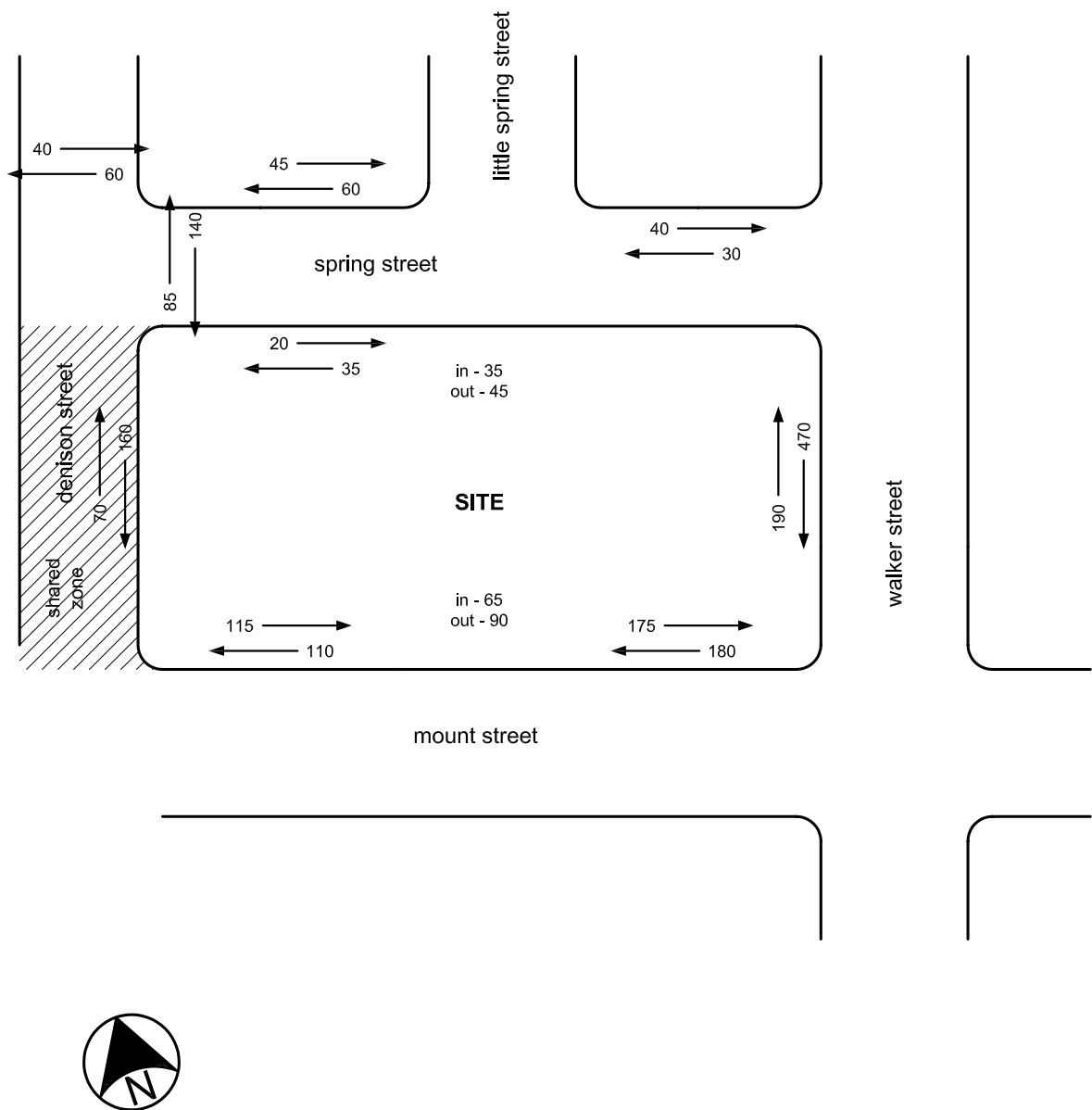
EXISTING AFTERNOON PEAK HOUR TRAFFIC FLOWS PLUS DEVELOPMENT TRAFFIC



EXISTING MORNING PEAK HOUR PEDESTRIAN FLOWS



EXISTING MIDDAY PEAK HOUR PEDESTRIAN FLOWS



EXISTING AFTERNOON PEAK HOUR PEDESTRIAN FLOWS

APPENDIX B

CORRESPONDENCE WITH RTA

Joshua Hollis

From: Joshua Hollis
Sent: Wednesday, 6 July 2011 1:13 PM
To: 'Owen_Hodgson@rta.nsw.gov.au'
Cc: JRomeo@laingorourke.com.au
Subject: 100 Mount Street North Sydney
Attachments: ASK-116-SITEPLAN-WALKERSTREETENTRY.pdf; ASK-204-SECTIONS-BASEMENTS.pdf; WB1-WALKERB1.pdf; WB2-WALKERB2.pdf; WB3-WALKERB3.pdf; WB4-WALKERB4.pdf; WB5-WALKERB5.pdf

Owen,

As discussed, a Section 75(W) application is being prepared for an approved Part 3(A) development at the above site.

The approved development comprises some 39,500m² commercial, with vehicular access from Spring Street, with vehicles reversing into the loading docks.

The proposed modifications include changes to the areas and vehicular access is now proposed from Walker Street. All vehicles would enter and exit in a forward direction.

Attached are plans for the development.

Our client would like to meet with to discuss the development, prior to lodging.

Could you advise a suitable time, possibly this week or next week (at the regional development committee)?

Thanks for your help.

Regards,

Joshua Hollis
Director
Colston Budd Hunt & Kafes Pty Ltd
Suite 1801 - Tower A, Zenith Centre
821 Pacific Highway
Chatswood NSW 2067
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West Chatswood NSW 1515
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