

**WOOLLAHRA MUNICIPAL COUNCIL
PLANNING PROPOSAL TO PERMIT
MIXED USE DEVELOPMENT
ROSE BAY CARPARK SITES
*Assessment of Traffic and
Parking Implications***

October 2016
(Rev D)

Reference 147/2016

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1. INTRODUCTION

This report has been prepared to accompany a Planning Proposal to Woollahra Municipal Council for an amendment to Woollahra Local Environment Plan 2014 (WLEP2014) to facilitate development on the Wilberforce Avenue and Ian Street car park sites at Rose Bay (Figure 1).

The Rose Bay Centre has experienced a decline in retail and business activity over the past decade and the lack of amenity and car parking are considered to be prime factors contributing to this circumstance. Council, being concerned to arrest this decline and to improve the vibrancy of the centre, commissioned an Urban Design Study which is focused on potential redevelopment of the two Council owned car park sites. The objectives of the envisaged redevelopment are to:

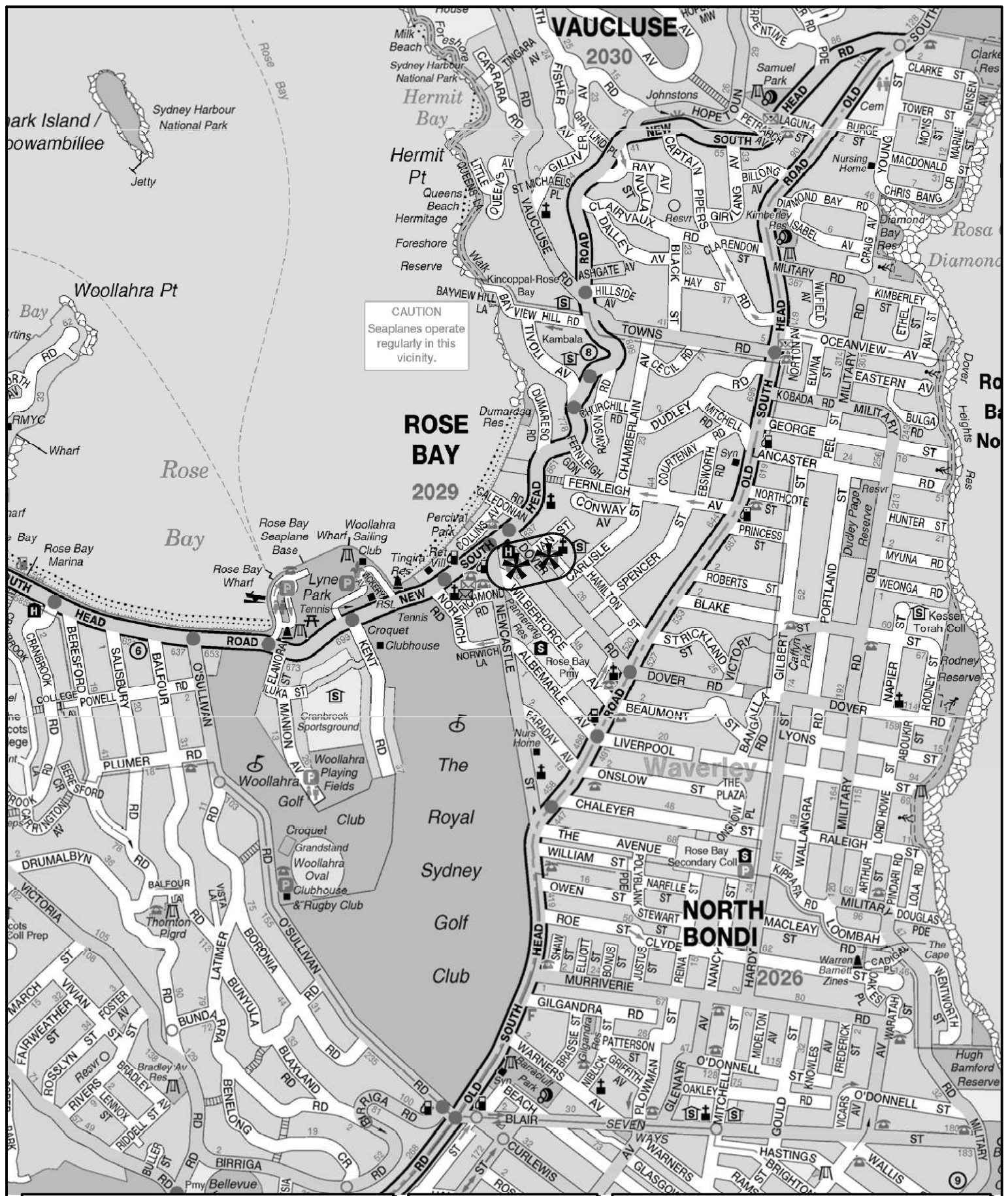
- Provide increased public parking
- Provide a new Community Centre and accessible public amenities
- Provide income generating opportunities for Council
- Provide improved connectivity and public domain/civic spaces

The Urban Design Study, supported by an earlier economic analysis by Hill PDA, identifies:

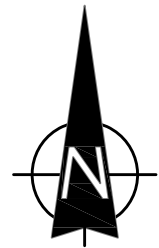
- * Redevelopment of the Wilberforce Avenue site to provide public parking, Community Centre, retail and commercial elements
- * Redevelopment of the Ian Street site to provide public parking, residential apartments and retail elements

The purpose of this report is to:

- * describe the sites, their context and the envisaged development outcomes
- * describe the existing road network, traffic and transport circumstances in the vicinity of the sites
- * assess the potential traffic implications of the envisaged development
- * assess the appropriateness of the envisaged parking provisions
- * assess the envisaged access, circulation and servicing arrangements



LEGEND



LOCATION

FIG 1

2. ENVISAGED DEVELOPMENT SCHEME

2.1 SITE, CONTEXT AND EXISTING CIRCUMSTANCES

The sites are shown in their context on Figure 2 and comprise:

*** Wilberforce Avenue Site**

This is a consolidation of 5 lots occupying an irregular shaped area of 2,555.7m² with frontages to Wilberforce Avenue and Dover Road. The existing open car park on the site comprises a total of 87 spaces with ingress/egress on Wilberforce Avenue and ingress on Dover Road.

*** Ian Street Site**

This is a consolidation of 2 lots occupying an area of 1,132m² with frontages to Ian Street, Ian Lane and Dover Road. The existing open car park on the site comprises 53 spaces with ingress and egress on the Dover Road frontage.

The sites form the southern edge of the Rose Bay commercial/retail strip with residential uses extending to the south and to the east and west. The car parks have signpost parking restrictions of 2 HOUR period parking 8.30am – 6.00pm Monday to Friday and 8.30am – 12.30pm Saturday.

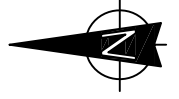
2.2 ENVISAGED DEVELOPMENT

The Urban Design Study recommendations require the LEP to be amended to provide for the following changes:

- | | |
|----------------|--|
| Zoning | - Change the existing SP2 Infrastructure zoning for the Ian Street site to B2 Local Centre |
| FSR | - apply an FSR of 2:1 for the Ian Street site (currently none applies) |
| Height Control | - Change the Ian Street site height control from 10.5m to 14.1m and the Wilberforce Avenue site height control from 14.1m to 17.2m |



LEGEND



SITE

FIG 2

The envisaged development outcomes under the Planning Proposal are as follows:

Wilberforce Avenue Site

Retail	359m ²
Commercial	782m ²
Community Centre	811m ² (557m ² + 254m ² possible extension)
Amenities	
Public Parking	268 spaces

Ian Street Site

Residential apartments	
1 Bed	11
2 Bed	7
3 Bed	7
Total:	25 apartments
Retail	223m ²
Residential Parking	32 spaces
Public Parking	37 spaces

Besides identifying appropriate design principles the Urban Design Study also identifies improved public domain and connectivity including:

- * a pedestrian through site link (Shared Zone) connecting between Dover Road and Wilberforce Avenue/Newcastle Street
- * a new Civic Square at the corner of Wilberforce Avenue and Newcastle Street with the upgrading of Pannerong Reserve

Details of the envisaged development scheme are shown on the plans prepared by Allen Jack + Cottier which accompany the Planning Proposal and are reproduced in part in Appendix A.

3. ROAD NETWORK AND TRAFFIC CONDITIONS

3.1 ROAD NETWORK

The road network serving the site (Figure 3) comprises:

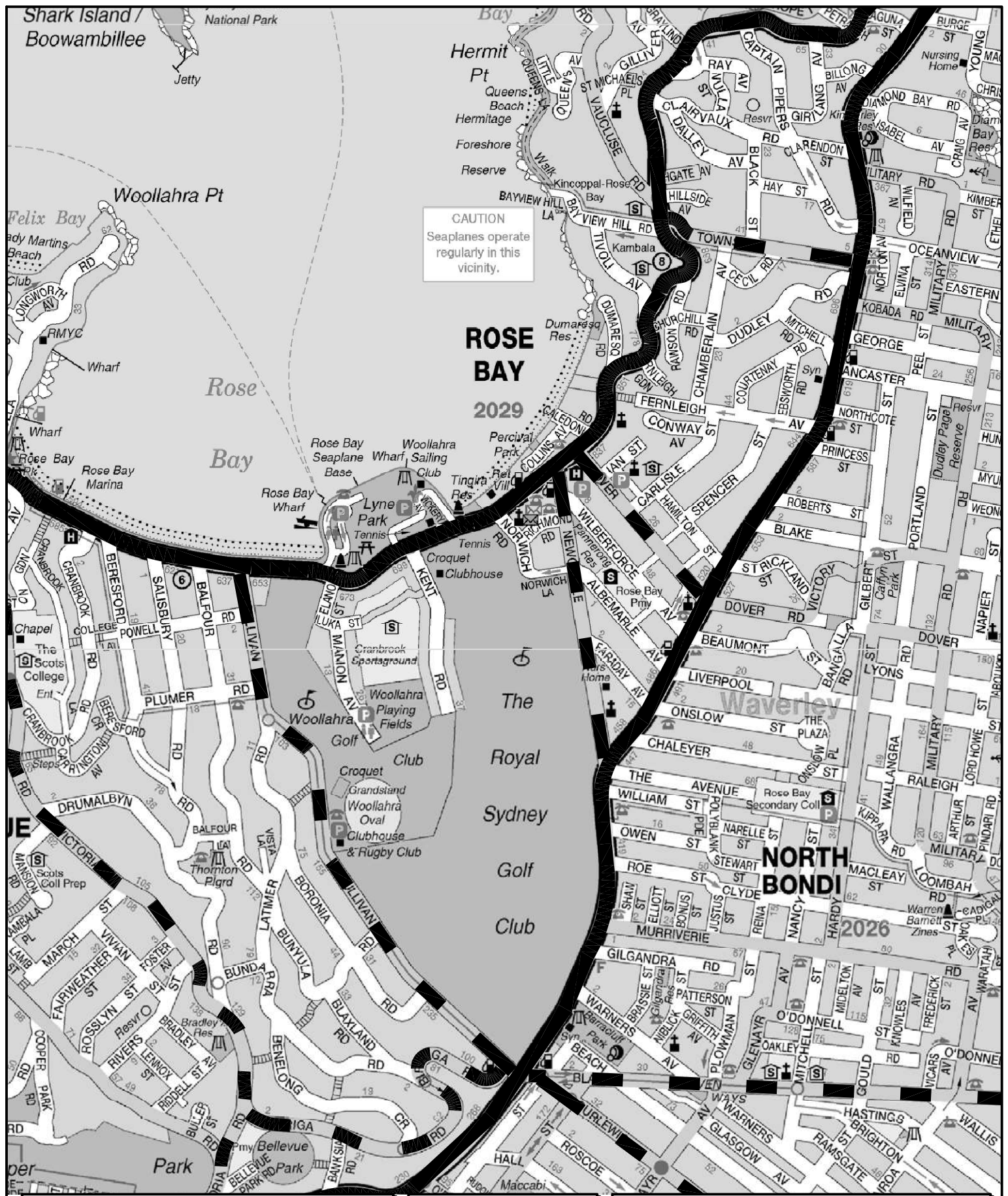
- * *New South Head Road* – a State Road and arterial route being part of the principal link between the Sydney CBD and Vaucluse
- * *Old South Head Road* – a State Road and arterial route connecting between Bondi Junction and South Head
- * *O'Sullivan Road* – Regional Road and collector road route connecting between New South Head Road and Old South Head Road
- * *Dover Road* – a collector road route connecting between New South Head Road and Old South Head Road
- * *Newcastle Street* – a collector road connecting between the New South Head Road and Old South Head Road
- * *Wilberforce Avenue, Ian Street and Ian Lane* – local access roads

Dover Road and Wilberforce Avenue in the vicinity of the site are some 12.8m wide with relatively straight and level alignments.

3.2 TRAFFIC CONTROLS

The traffic controls which have been applied to the road system in the vicinity of the site (Figure 4) comprise:

- * the roundabout at the Dover Road and Ian Street intersection with an ingress connection into the Wilberforce Avenue car park and a pedestrian crossing across Dover Road on the north-west side



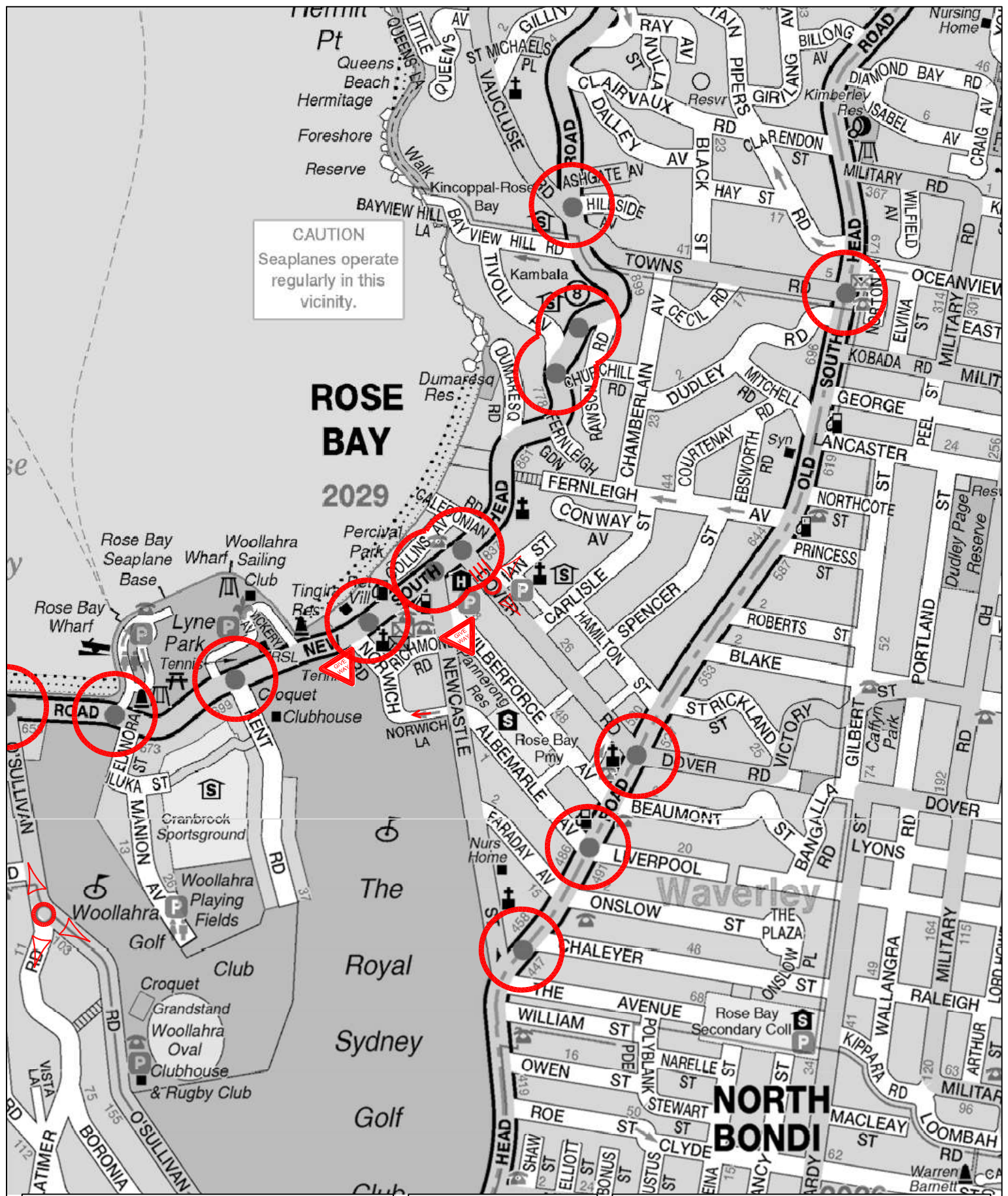
LEGEND

-  ARTERIAL
-  SUB-ARTERIAL
-  COLLECTOR



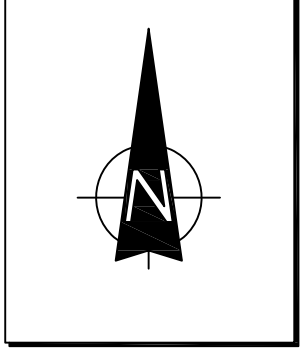
ROAD NETWORK

FIG 3



LEGEND

- TRAFFIC SIGNAL CONTROL
- △ ROUNDABOUT
- ↗ RESTRICTED TURNING MOVEMENT
- ▽ GIVE AWAY



TRAFFIC CONTROLS

FIG 4

- * the traffic signals at the New South Head Road and Dover Road intersection. Details are provided on the design plan reproduced in Appendix B and include:
 - 2 through lanes each way on New South Head Road
 - green arrow for the right turn into Dover Road
 - signal controlled pedestrian crossings
- * the traffic signals at the New South Head Road and Newcastle Street intersection. Details are provided on the design plan reproduced in Appendix B
- * the pedestrian (mid-block) traffic signals on New South Head Road just to the east of Norwich Road
- * the traffic control signals at the Old South Head Road and Dover Road intersection
- * the 60kmph speed restriction on New South Head Road and 50kmph on the local and collector road system with 40kmph School speed zones on part of Wilberforce Avenue
- * the sections of NO STOPPING restrictions along New South Head Road, Dover Road and Newcastle Street
- * the various period parking restrictions (30min and 1 hour) on the roads in the centre

3.3 WALKING AND CYCLING

Pedestrian movements in the Rose Bay Centre are facilitated by:

- * the pedestrian crossing facilities incorporated into the traffic signals at:
 - o New South Head Road and Dover Road intersection
 - o New South Head Road and Newcastle Street intersection
 - o Mid-block signals at New South Head Road east of Norwich Road
- * the pedestrian crossing across Dover Road on the north-west side of Ian Street with raised platform

Cycling in Waverley & Woollahra

Legend

- Schools, colleges and universities
- Retail, cafes and entertainment
- Government buildings
- Parks and privatised open space
- Commercial or industrial usage
- Bicycle shop, shop with bike hire
- Railway interchange, Ferry wharf
- Railway, station underground
- Walking path

Scale (Kilometres)



Key to bicycle routes

- Main bicycle routes on high-traffic streets
- Main bicycle routes on low-traffic streets
- Main bicycle routes off-road or shared paths
- Local bicycle routes on high-traffic streets
- Local bicycle routes on low-traffic streets
- Local bicycle routes off-road or shared paths
- Coastline Cycle Route - South Head to Botany Bay

Getting the most out of this map

The bicycle routes on this map offer comfortable and direct ways of getting around Sydney's East by bicycle using existing roads and paths. Some roads have bicycle lanes while others don't. Roads have to be shared with motor vehicles and paths with walkers. Busy roads are shown in a different colour. Road conditions vary according to time of day and day of week. Some roads may only be busy in peak hours and in one direction so pick your route to suit conditions.

Though the area is hilly, the routes can be easily managed on most modern bikes with gears. The most heavily trafficked roads usually follow ridgelines and the easiest grades, so short steep sections are often necessary to avoid the traffic.

Your bicycle is the ideal short distance vehicle. On the flat you can easily ride 2.5 kilometres in 10 minutes - add more time for up hills. Of course you will get there even quicker if your route is mostly downhill. Bondi Junction to the City is less than 5km. It's almost all downhill, so, depending on your route, you can usually ride there in under half an hour door-to-door.

Ride carefully

The routes on this map use some off-road paths shared with pedestrians, but mostly you will be riding on roads shared with other vehicles, so please always take care. The legend above shows you which roads are likely to be busy, particularly at peak times. Waverley and Woollahra Councils are committed to developing a comprehensive bicycle network to make it easier to get around Sydney's East.

This map contains incorrect information showing a route around the perimeter of the Royal Botanic Gardens as cycling is prohibited in this area. Cycling is permitted on Art Gallery Rd and Mrs Macquaries Rd.





Legend

LEP Zoning

- Residential
- Business
- School
- Park/ Open Space
- Community Facility
- Hospital
- Rail Station/ Interchange

Bike Route

- Existing Off-Road
- Existing On-Road
- Proposed Off-Road
- Proposed On-Road
- Connecting Bike Routes

P7	26-08-09	BDM	BDM	DVD
Issue	Date	By	Chkd	Appd

Client

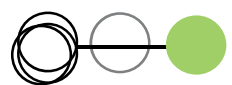
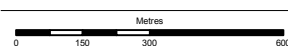
Woollahra Municipal Council

Job Title

Woollahra Bike Strategy

Drawing Title

Existing and Proposed
Bike Network



GTA consultants

www.gta.com.au

Scale at A3

1:12,000

Drawing Status

Final Draft

Job No

GS11920

Drawing No

Figure E1-2

Issue

P7

- * the paved footpaths and kerb ramps
- * the street lighting

Cyclist movements are provided for along New South Head Road, Newcastle Street and Wilberforce Avenue “on street”. There are no off-road or shared paths in the area as indicated on the Waverley and Woollahra Bicycle Map and Woollahra Bike Strategy extract reproduced overleaf.

3.4 TRAFFIC CONDITIONS

An indication of the prevailing traffic conditions on the road system serving the site is provided by the results of traffic surveys undertaken during the weekday morning and afternoon peak periods which are provided in Appendix C and summarised in the following:

		AM	PM
New South Head Road	Eastbound	740	776
	Right turn	174	326
	Westbound	886	560
	Left turn	35	89
Dover Road	Right turn	94	73
	Left turn	296	166
New South Head Road	Eastbound	739	633
	Right turn	90	176
	Westbound	1,142	708
	Left turn	42	75
Newcastle Street	Right turn	142	118
	Left turn	106	92

Dover Road	Northbound	319	246
	Right turn	5	6
	Left turn	54	37
	Southbound	193	419
	Right turn	37	39
	Left turn	11	13
Ian Street	Westbound	2	-
	Right turn	16	8
	Left turn	5	8
Wilberforce Avenue Carpark	IN	31	62
	OUT	94	123
	IN (Dover Road)	93	76
Ian Street Carpark	IN	74	72
	OUT	40	72

It is evident that:

- * there are some eastbound bypass movements through the Wilberforce Avenue car park (i.e. avoiding the New South Head Road/Dover Road intersection or circulating due to the extremely long “block”)
- * there are significant circulation movements by drivers entering the car parks looking for a parking space and departing because the car parks are fully occupied

The operational performance of the intersections in the area during the morning and afternoon peak periods is relatively satisfactory although traffic flows in are at times disrupted by the parking and turning manoeuvres on the arterial and collector roads.

3.5 TRANSPORT SERVICES

Bus Services

The Rose Bay Centre has good access for public transport services (buses) comprising:

- * Routes 324, 325 and L24 which run along New South Head Road to/from Sydney CBD
- * Routes 323 and 386 which run along New South Head Road and Dover Road to/from Edgecliff and Bondi Junction respectively

Details of these routes are provided overleaf while the start/finish and frequency details of these services are provided in Appendix D. These services provide connection to railway stations and the Metropolitan transport network.

Ferry Services

Sydney Ferries operate Route F7 between Watsons Bay and Circular Quay with a stop at Rose Bay Wharf with frequent services in the weekday morning and afternoon peak periods. Details of the ferry network are provided overleaf while time table details are provided in Appendix D.

Vauluse
New South Head Rd

South Head Cemetery

Dover Heights
Military Rd

Dover Heights

North Bondi

North Bondi

Vauluse

Rose Bay

Street Legend
1. Birriga Rd
2. Bundarra Rd
3. Blaxland Rd
4. Bunyula Rd

Bellevue Hill

Bondi Junction

Double Bay

Point Piper

Darling Point

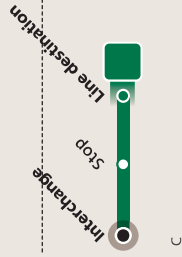
Woollahra



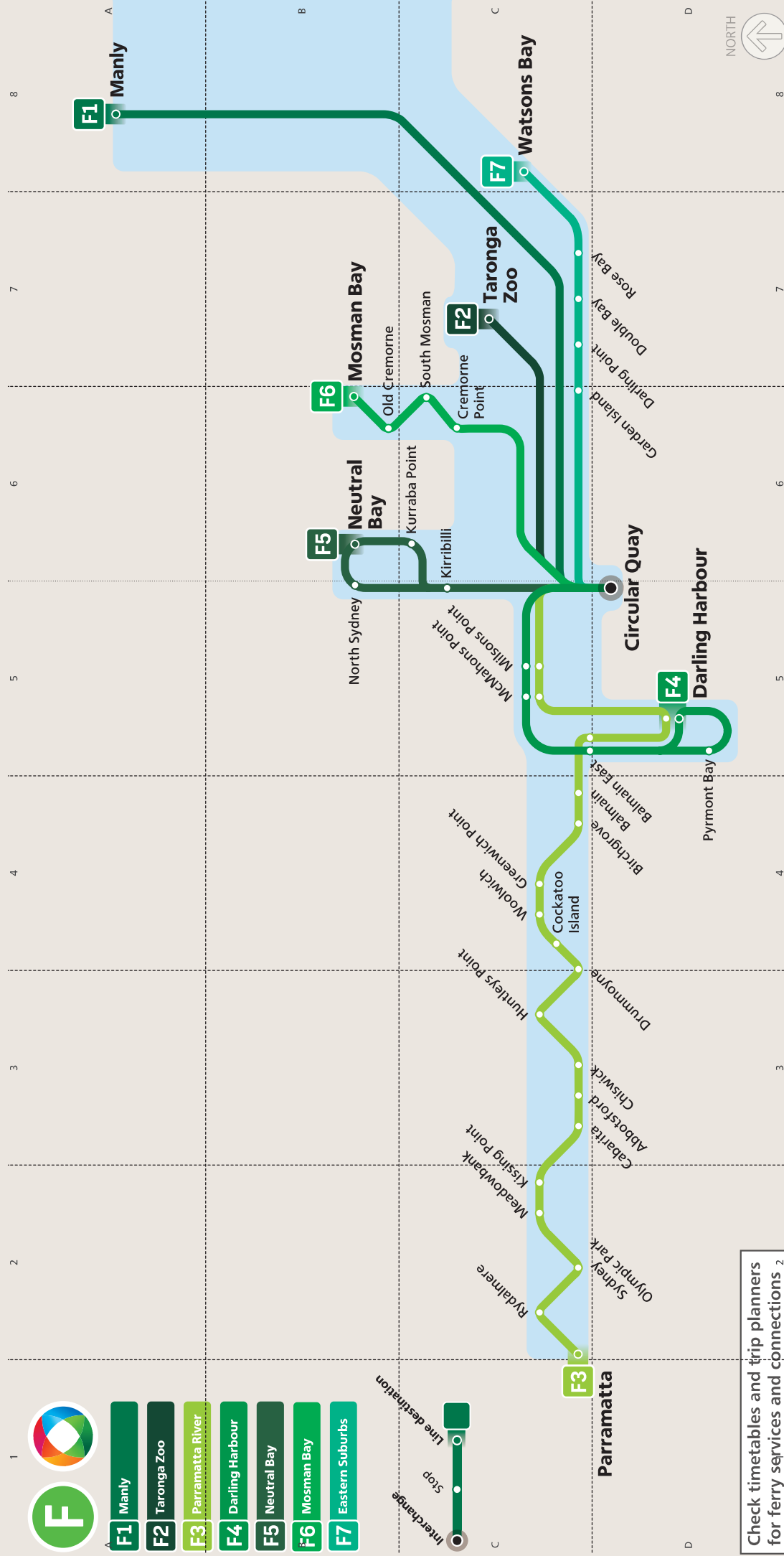
Sydney Ferries Network



- 1
- F**
- F1** Manly
- F2** Taronga Zoo
- F3** Parramatta River
- F4** Darling Harbour
- F5** Neutral Bay
- F6** Mosman Bay
- F7** Eastern Suburbs



Check timetables and trip planners for ferry services and connections ²



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4. ACCESS, INTERNAL CIRCULATION, ROAD GEOMETRY AND SERVICING

ACCESS

The envisaged vehicle access arrangements are as follows:

Ian Street Site

Combined ingress/egress driveway on the Dover Road frontage located at the southern side boundary.

Wilberforce Avenue Site

Combined ingress/egress driveways on the Dover Road and Wilberforce Avenue frontages for the Shared Zone corridor running along the southern side of the site.

The design of the envisaged driveways would comply with the requirements of AS2890 and adequate sight line splays and sight distances would be achieved.

INTERNAL CIRCULATION

The envisaged design of the car park areas employs simple flexible two-way circulation arrangements and the parking bay dimensions would accord with the “user requirements” of AS2890.1 & 6.

The design of the Shared Zone will need to comply with RMS Technical Direction TTD 2016/001 with continuous foot path treatment complying with TDT 2013/05. The Shared Zone arrangement shown in the Urban Design Study diagram is only conceptual and detail design development will have regard for the RMS design principles which are reproduced in Appendix E particularly in relation to:

- regulatory signage
- absence of kerb and gutter
- vehicle speed constraint

In order to minimise “through” traffic it may be necessary to only permit egress to Dover Road (i.e. no ingress) or prohibit the left turn ingress on Dover Road. Ultimately RMS approval will be required for the Shared Zone to be implemented.

SERVICING

The envisaged access corridors will include Loading Zone provisions for small delivery and refuse removal vehicles while small service vehicles (e.g. service personnel) will be able to use the public parking spaces. The occasional needs for larger service vehicles will be satisfied by the available kerbside parking (including some Loading Zone provisions) in the area as is normal for small developments of the nature envisaged.

ROAD GEOMETRY

Changes to the existing road geometry are envisaged with:

- * modification of the Dover Road/Ian Street intersection roundabout to provide for egress from the Wilberforce Avenue site
- * closure of the existing section of Wilberforce Avenue connecting to Newcastle Street to provide the envisaged new Urban Square with a new road connection through the northern part of Pannerong Reserve

It is apparent that both of these changes can be made appropriately and in the case of the latter would present a preferable intersection geometry although consideration could be given to the provision of a roundabout at the new intersection with kerb extensions and splitter islands to assist pedestrian crossings.

5. PARKING

An indication of the appropriate parking provision of the envisaged development is provided in Council's DCP as follows:

Residential Apartments (Mixed Use Developments)	
One-bedroom	0.5 space
Two-bedroom	1.0 spaces
Three-bedroom	1.5 spaces
Visitors	0.2 space
Retail	3.3 spaces per 100m ² (0.7)*
Food and Drink	7.0 spaces per 100m ² (0.6)*
Office	2.5 spaces per 100m ² (0.5)*
Community Facility	2.0 spaces per 100m ² (0.5)*

**() Rose Bay Centre Multiplier*

Application of this criteria to the envisaged development outcome would indicate the following:

Ian Street Site

Residential Apartments	
11 x One-bedroom	5.5 spaces
7 x Two-bedroom	7.0 spaces
7 x Three-bedroom	10.5 spaces
Visitors (25)	5 spaces
Total:	28 spaces
Retail 223m ²	7.4 spaces (5)
Total:	33 spaces

Wilberforce Avenue Site

Retail 359m ²	11.8 spaces (8)
Office 782m ²	19.5 spaces (10)
Community 881m ²	16.2 spaces (8)
Total:	26 spaces

The envisaged parking provision is as follows:

Ian Street Site

Residents and Visitors 32 spaces

Public 37 spaces

Total: 69 spaces

Wilberforce Avenue Site

Public 268 spaces

It is proposed to provide 32 spaces in the Ian Street site for residents and visitors while the parking for retail, food & drink, office and community (i.e. 31 spaces) will be provided as part of the public parking provision. It is envisaged that there will be a total of 305 public parking spaces compared to the existing 140 spaces although it is not indicated in the concept plans how the required provision of accessible spaces, services or structure will impact on this outcome.

It is apparent that the proposed parking provision will be adequate and appropriate in relation to the envisaged development elements. It is also apparent that the design development process will need to address the issue of “managing” the public parking spaces to ensure appropriate use and availability (and potential income). This could have some influence on the design of the ingresses and egresses if boom gates and ticket machines are ultimately required or that “number of spaces available” technology is to be included to avoid unnecessary entry circulation and congestion.

6. TRAFFIC

The survey results of the existing car park access movements cannot be used to assess the potential traffic generation of the envisaged development due to:

- the significant bypass movement through the existing Wilberforce Avenue carpark
- the significant existing entry and exit of drivers seeking and not being able to obtain a parking space

Reference to the RMS Working Paper (Halcrow) for Shopping Centres in the Sydney Metropolitan Area provides data relative to “Number of Parking Spaces” and “Peak Traffic Generation” for AM and PM peaks. Aggregation of this data reveals the following traffic generation (vtph) per parking space:

AM	PM
0.4 vtph	0.8 vtph

Application of this to the envisaged 305 public parking spaces would indicate the following:

	AM	PM
Ian Street (37 spaces)	15 vtph	30 vtph
Wilberforce Avenue (268 spaces)	108 vtph	216 vtph

The RMS traffic generation rate for residential apartments (no easy access to rail services) is 0.29 vtph per apartment and application to the envisaged 25 apartments on the Ian Street site would indicate:

AM		PM	
IN	OUT	IN	OUT
2	8	8	2

Assessment of the overall traffic outcome is as follows:

Ian Street Site

AM		PM	
IN	OUT	IN	OUT
10	15	23	17

Wilberforce Avenue Site

	AM		PM	
	IN	OUT	IN	OUT
Dover Road	27	27	54	54
Wilberforce Avenue	27	27	54	54

It is apparent that the traffic outcome of the envisaged development scheme will be satisfactory even if:

- the peak traffic generation per public parking space is somewhat greater (i.e. than the RMS surveyed rate)
- there is some constraint imposed on ingress to the Wilberforce Avenue site from Dover Road to prevent bypass traffic movements through the Shared Zone

7. PEDESTRIAN, BICYCLES AND PUBLIC TRANSPORT

PEDESTRIANS

It is evident with the envisaged development plans that pedestrians will be provided with improved connectivity along with upgraded public domain and civic spaces. Consideration could however be given to improved provision for pedestrians at the new Newcastle Street/Wilberforce Avenue intersection and careful design consideration will need to be given to the envisaged Shared Zone.

BICYCLES

Council's Draft DCP contains the following requirements for bicycles and motorcycles in new developments:

	Residents	Visitors
Residential Apartments	1 per 4 apartments	1 per 10 apartments
	Staff	Customers
Office	1 per 150m ²	1 per 400m ²
Shop / Café	1 per 250m ²	2 + 1 per 100m ² over 100m ²
Community Facility	1 per 10 staff	2 + 1 per 200m ²

The DCP also specifies the provision of 1 motorcycle per 10 car spaces for all types of development.

Application of this to the envisaged development would indicate:

	Bicycles		Motorcycles
Ian Street Site	Residents	Visitors	
25 apartments	7 spaces	3 spaces	
	Total: 10 spaces		7 spaces

Wilberforce Avenue Site		Bicycles		Motorcycles
Office	782m ²	5 spaces	2 spaces	
Retail	359m ²	1 space	5 spaces	
Community	811m ²	1 space	6 spaces	
		Total: 20 spaces		27 spaces

PUBLIC TRANSPORT

The envisaged development will not have any implications for public transport services. The existing bus movements along Dover Road and the bus stops will not be impacted in anyway.

8. CONCLUSION

Council is concerned to arrest the decline in retail and business activity in the Rose Bay Centre and to achieve the objectives of the envisaged development on the two existing car park sites. This supplementary assessment has concluded that the proposed planning control changes and envisaged development will:

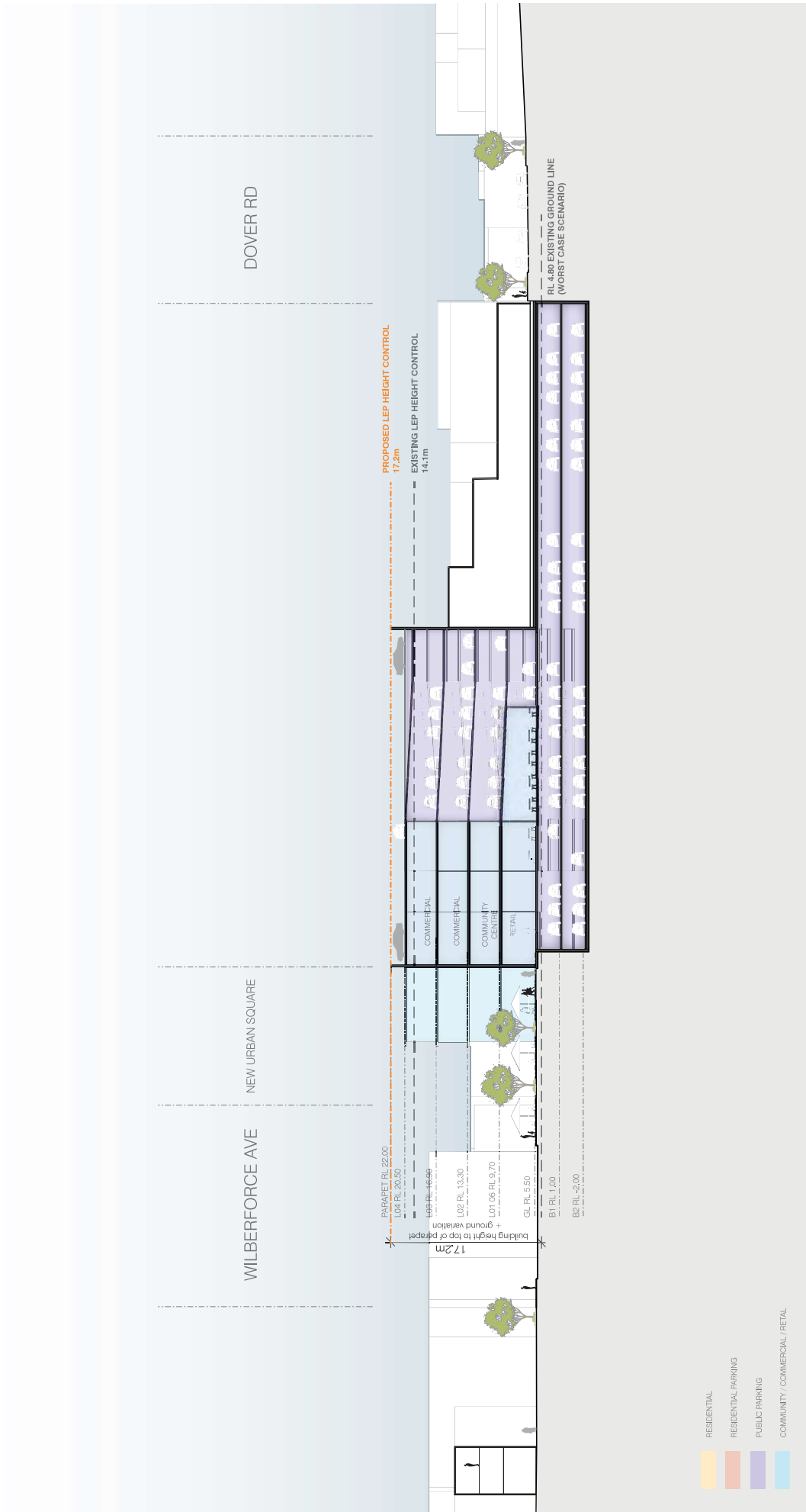
- * not have any adverse traffic implications
- * will have suitable and appropriate parking provisions
- * will have satisfactory access and circulation arrangements
- * will provide the opportunity for improved pedestrian and cyclist connectivity
- * will not have any adverse impact on public transport services

APPENDIX A

CONCEPT DEVELOPMENT PLANS

5 ARCHITECTURAL CONCEPTS

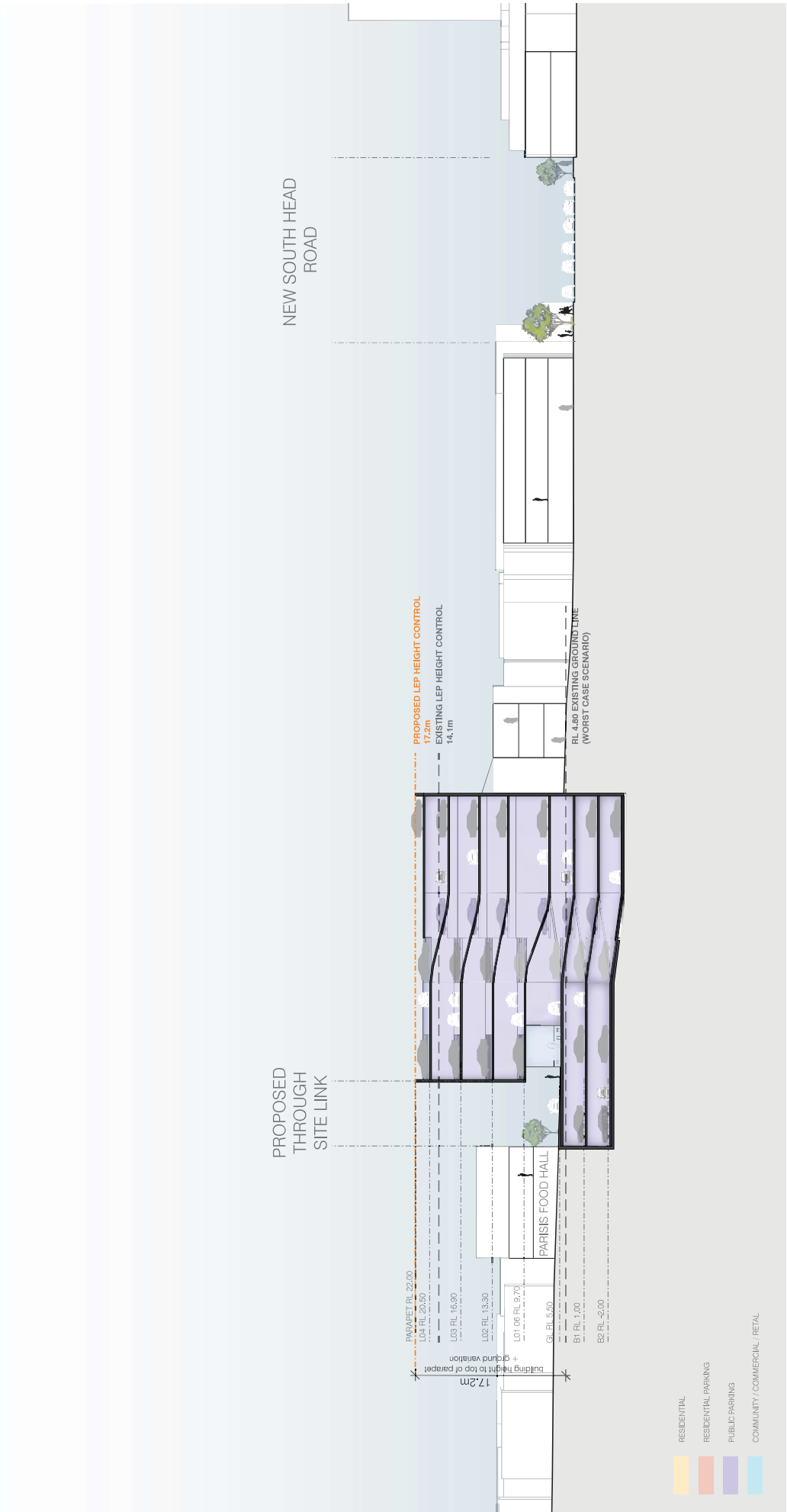
5.1 Wilberforce Ave Car Park



Section A-A

5 ARCHITECTURAL CONCEPTS

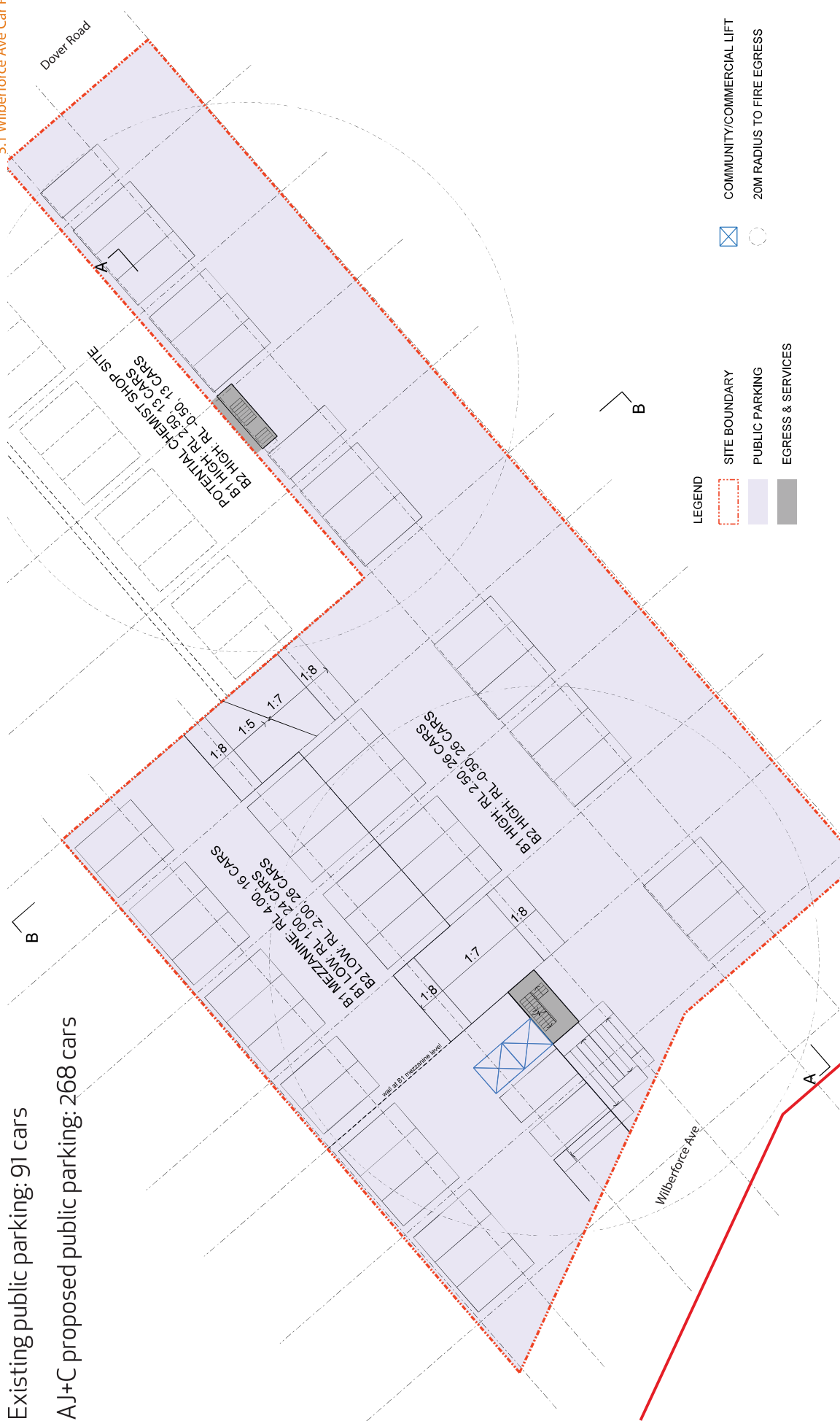
5.1 Wilberforce Ave Car Park



Section B-B

5 ARCHITECTURAL CONCEPTS

5.1 Wilberforce Ave Car Park



Rose Bay Car Parks
WILBERFORCE AVE

B1 & B2 LEVEL FLOOR PLAN

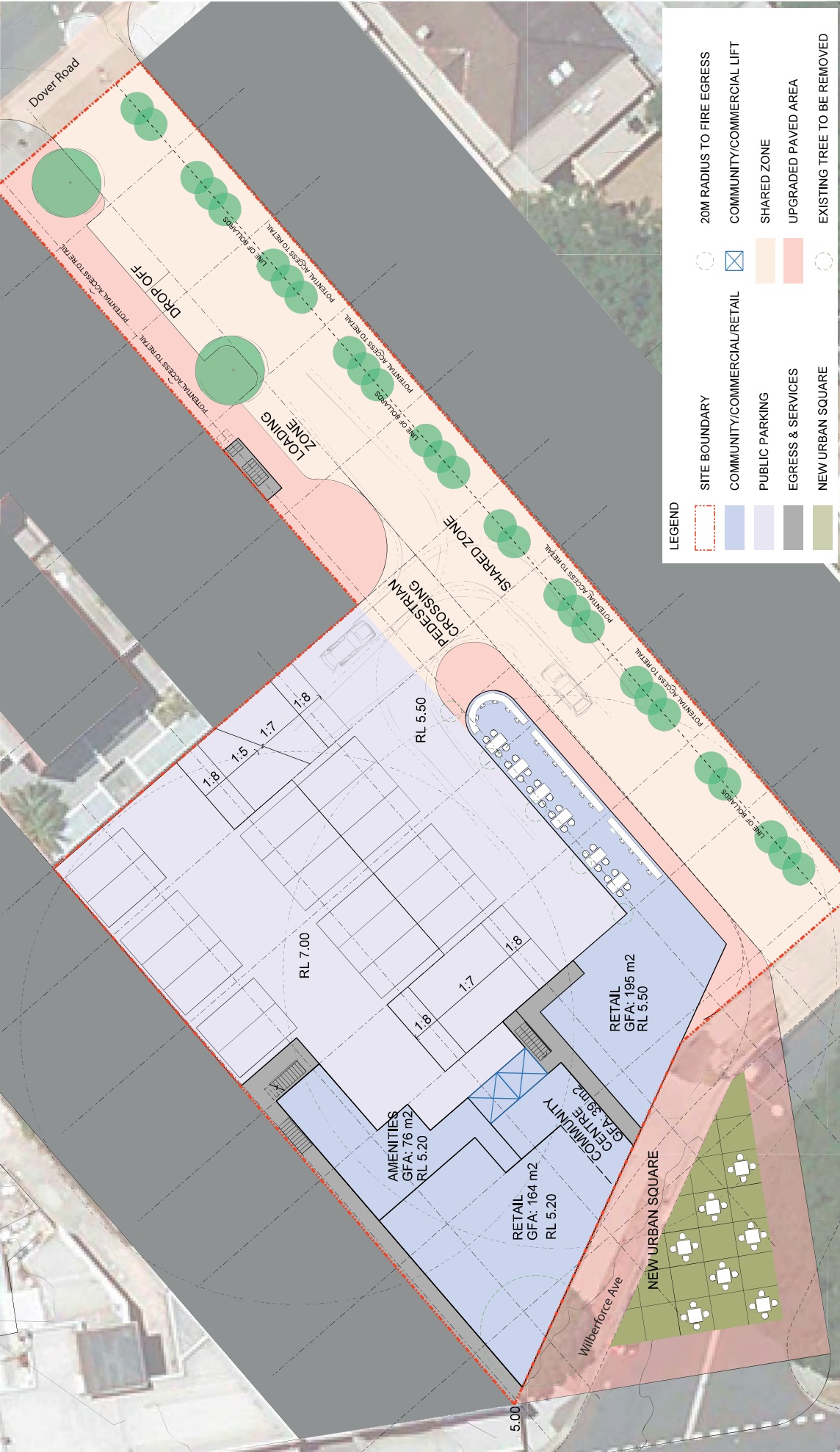
B1 COMMUNITY/COMMERCIAL PARKING: 66 CARS;
B2 COMMUNITY/COMMERCIAL PARKING: 52 CARS;
TOTAL COMMUNITY/COMMERCIAL PARKING: 118 CARS

AJ+C

ALLIANCE JACKSON
79 Myrtle Street, Chippendale NSW 2008 AUSTRALIA
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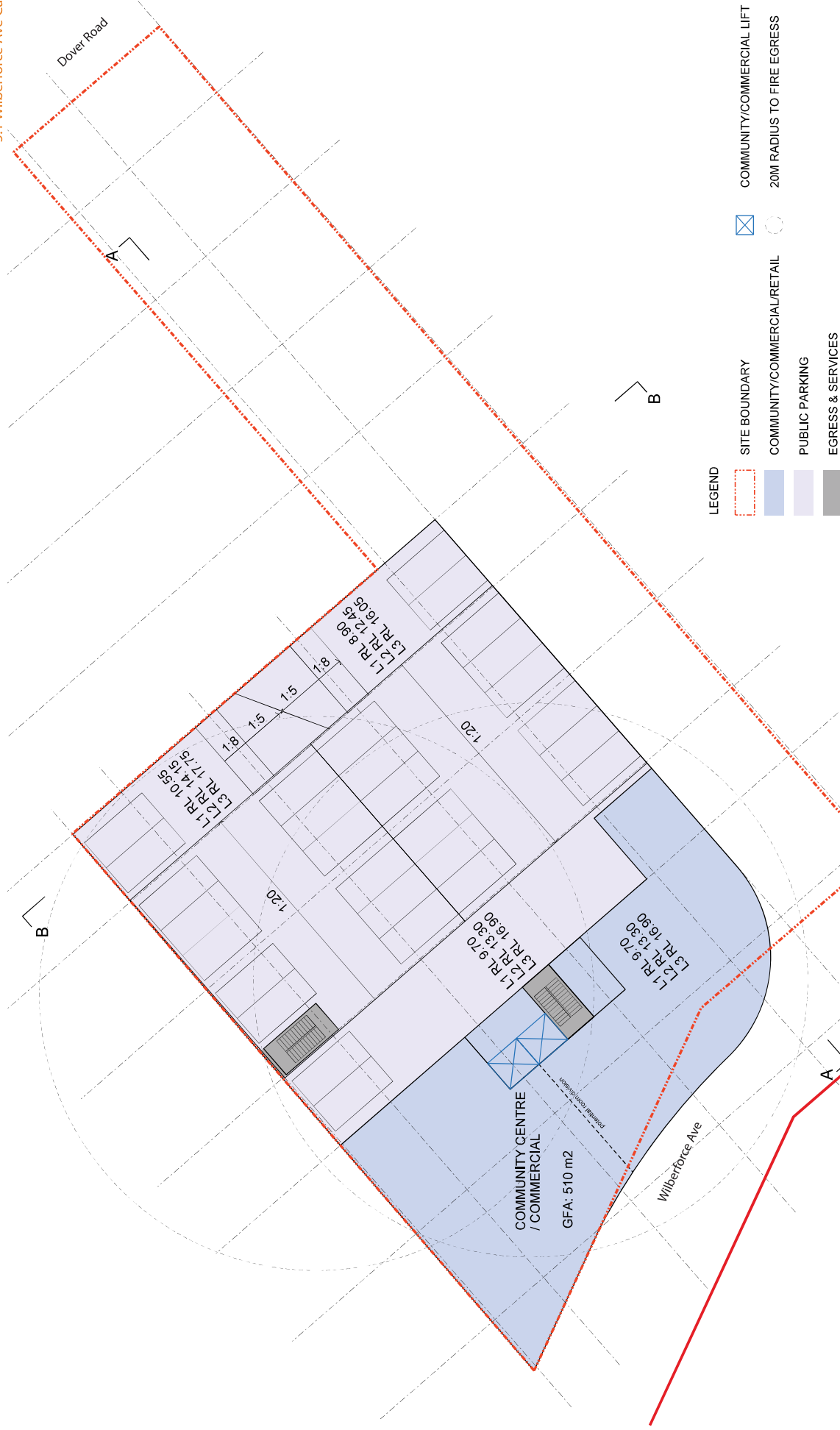
5 ARCHITECTURAL CONCEPTS

5.1 Wilberforce Ave Car Park



5 ARCHITECTURAL CONCEPTS

5.1 Wilberforce Ave Car Park



Rose Bay Car Parks
WILBERFORCE AVE

LEVEL 1-3 FLOOR PLAN

L1-3 COMMUNITY/COMMERCIAL PARKING: 29 CARS/LEVEL
TOTAL 87 CARS

AJ+C

ALUN JACK-COTTER
79 Myrtle Street Chippendale NSW 2008 AUSTRALIA
PH: +61 2 9311 8522 FX: +61 2 9311 8500 ABA: 53,003,122-250

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