

**PROPOSED  
RESIDENTIAL DEVELOPMENT  
14 – 18 BOONDAH STREET, WARRIEWOOD**  
*Assessment of Traffic and  
Access Implications*

February 2010

Reference 08171

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## APPENDIX A                      TURNING PATH ASSESSMENT

### LIST OF ILLUSTRATIONS

FIGURE 1	LOCATION
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# 1. INTRODUCTION

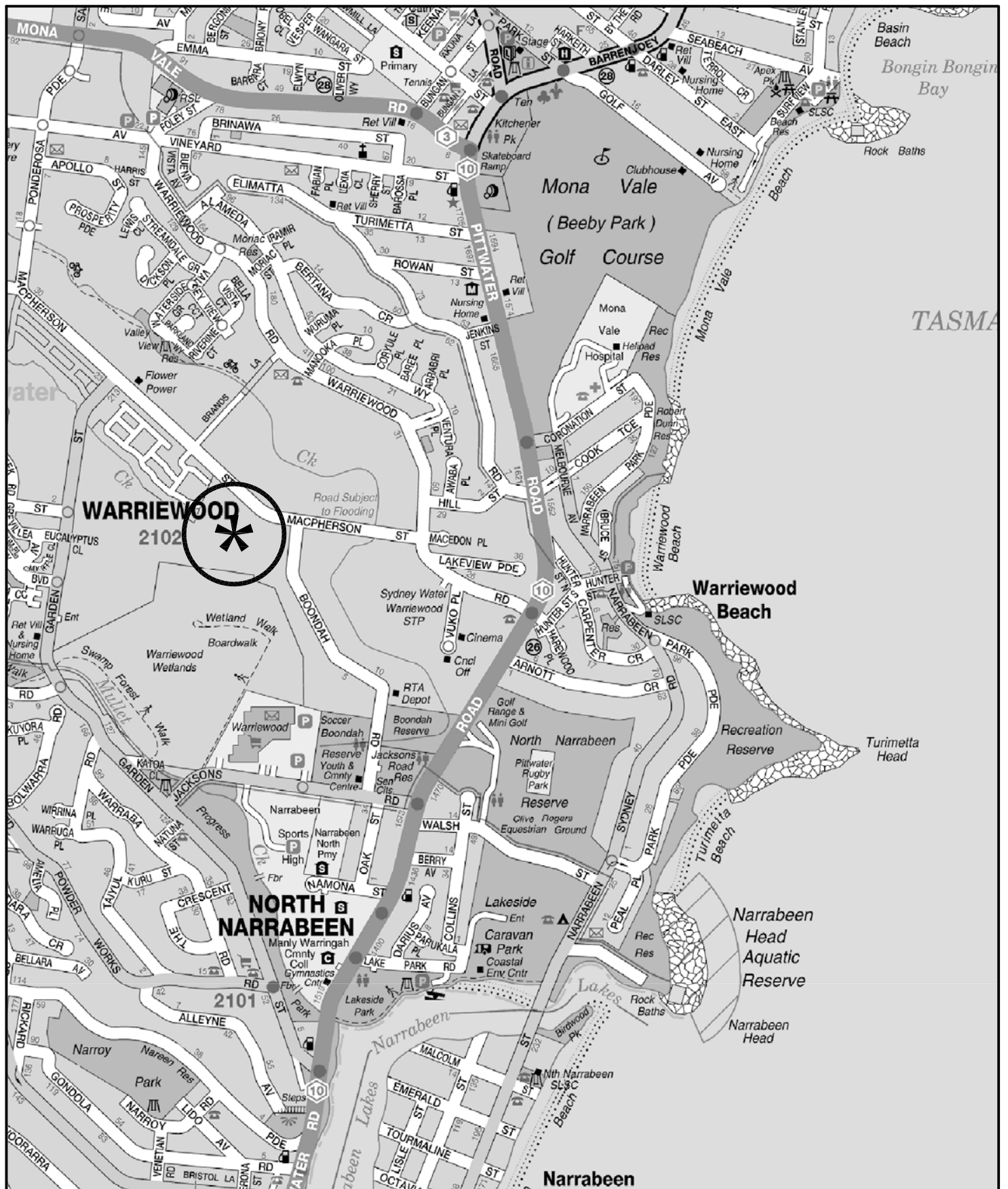
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This report has been prepared for Meriton Apartments to accompany a Stage 1 Project Application to the Department of Planning for residential development at 14 – 18 Boondah Road, Warriewood (Figure 1).

The Warriewood Valley area is a principal element of new urban development on the Warringah Peninsula. The Warriewood Valley Urban Land Release Area comprises some 110 ha providing an area of some 53.9 ha for industrial/commercial development in the northern area and residential development in the central/southern areas.

The subject site occupies some 8 ha and it is proposed to undertake a staged development of residential apartments with small ancillary day care and convenience store. The proposed Stage 1 development will involve 313 apartments in 6 buildings with a new access road system.

The purpose of this report is to provide a parking and access assessment of the proposed Stage 1 development scheme while the Traffic Impact Assessment and Transport Management and Accessibility Plan are the subject to a separate document.



LEGEND



LOCATION

FIG 1

## 2. PROPOSED DEVELOPMENT SCHEME

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### 2.1 SITE, CONTEXT AND EXISTING USE

The site (Figure 2) is an irregular shaped parcel of land with an area of some 81,160m<sup>2</sup>, which is bounded by MacPherson Street in the north, Boondah Road to the east and the Warriewood Wetland to the south. The site generally comprises undeveloped land and small rural holdings with only a small number of single storey buildings/ structures.

The Mona Vale retail/commercial centre is located some 2 – 2.5 kms to the north of the site whilst the Warriewood Square Shopping Centre is located some 1 km to the south. Other major landuses in the vicinity of the site include:

- \* Mona Vale Hospital which is located approximately 1.5 kms to the north-east
- \* Narrabeen Sports High and Narrabeen North Primary School which are located on the southern side of Jacksons Road and within 1 km of the site
- \* a proposed Neighbourhood Centre located just to the north on the corner of Macpherson Street and Garden Street.

The surrounding development to the north, east and west comprises a mix of established residential areas, small rural holdings and some new medium density residential estates.

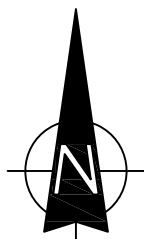
### 2.2 PROPOSED DEVELOPMENT

The Stage 1 development area occupies the north-western part of the site which will be cleared and excavated to provide for basement carparking and level building platforms. A new access road will be constructed along the north-western boundary





**LEGEND**



**SITE**

**FIG 2**

connecting between Macpherson Street (creating a roundabout controlled cross junction) and Boondah Street.

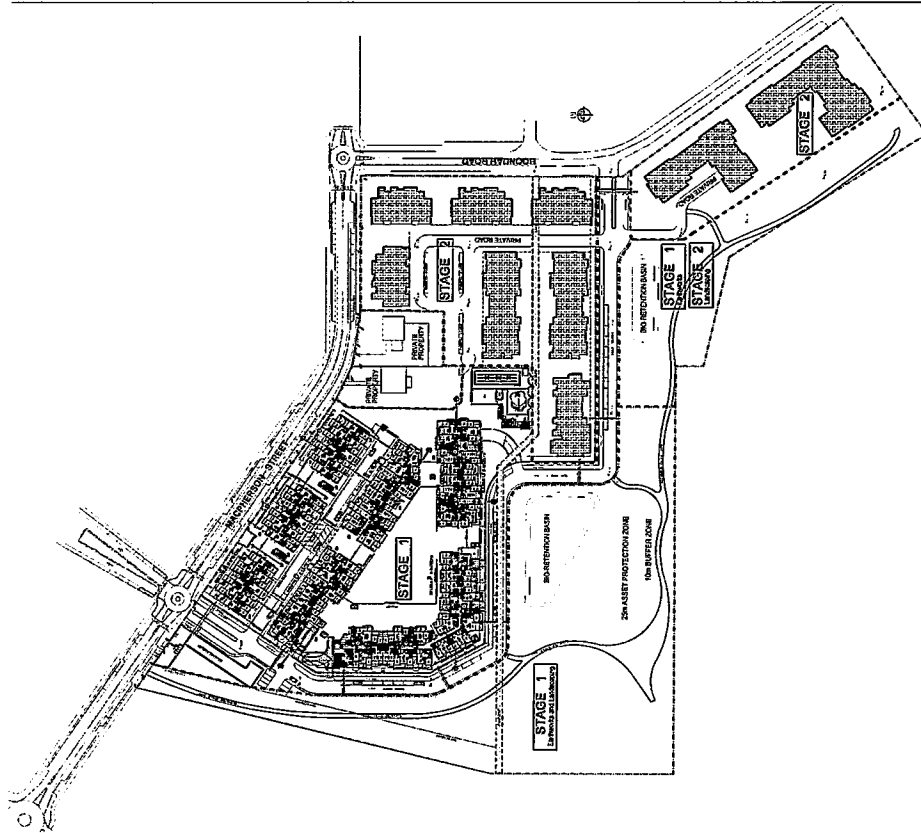
The 6 new buildings will comprise:

13 x studio apartments  
67 x one-bedroom apartments  
216 x two-bedroom apartments  
17 x three-bedroom apartments  
**Total 313 apartments**

The single level basement carpark areas will have 2 access points and will provide 320 spaces while there will be 31 on-street spaces for visitors. Separate subsequent applications will be submitted for the proposed 'day care' centre to be located along the northern boundary and for Stage 2 which will include a pool, gym and convenience store.

Architectural details of the proposed development are provided on the plans prepared by Meriton Apartments which accompany the Development Application and are reproduced in part overleaf.

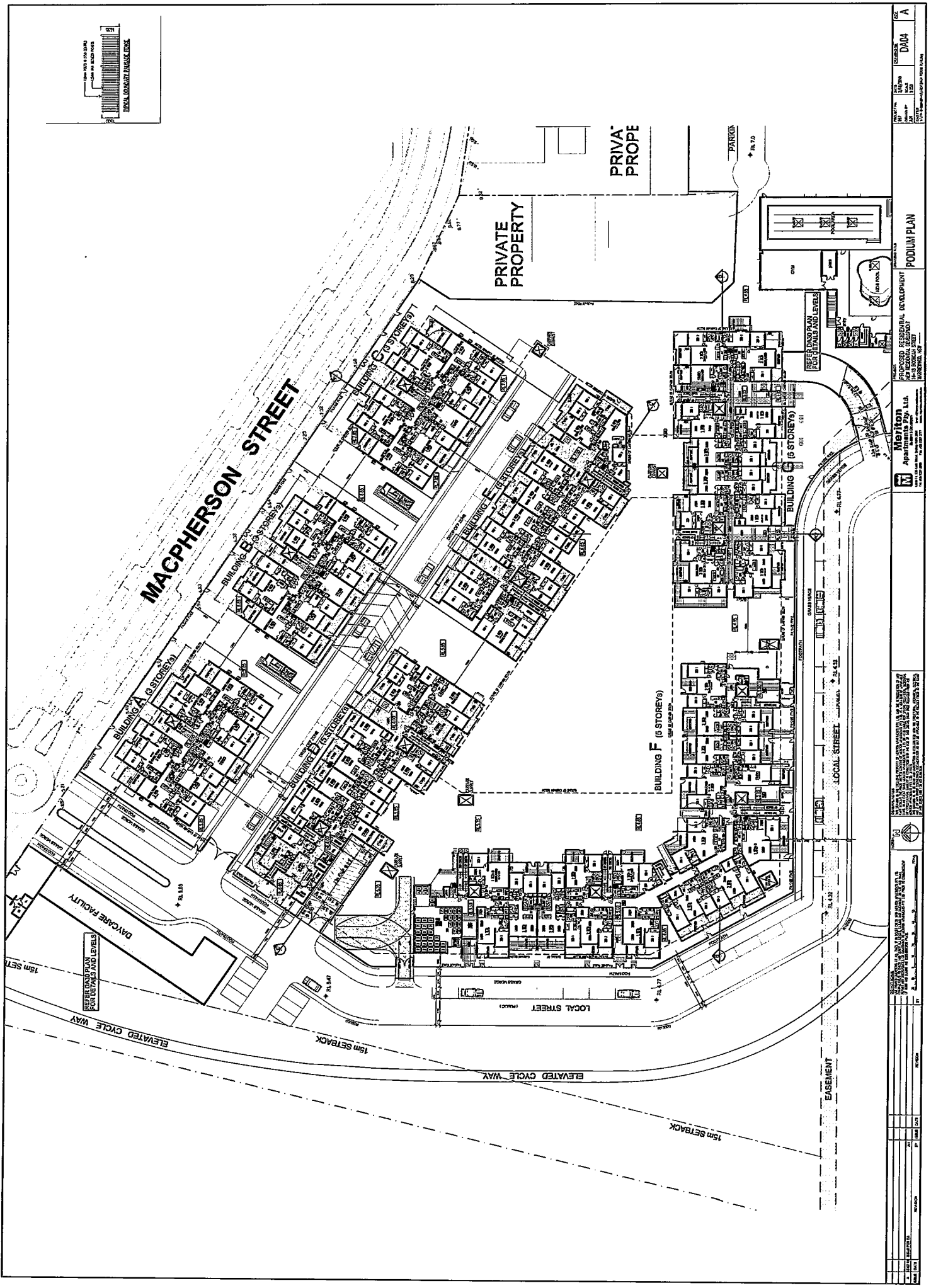




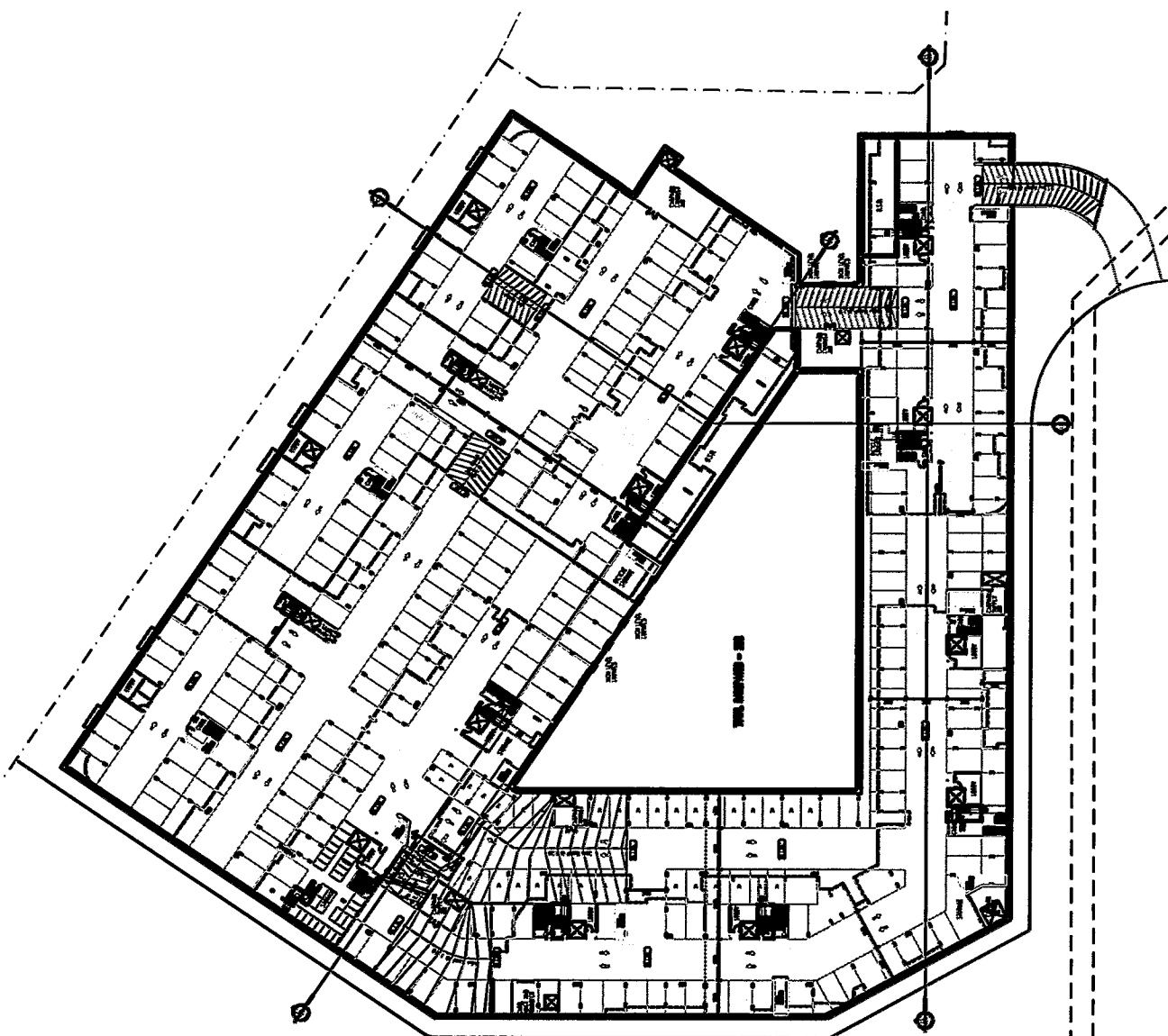
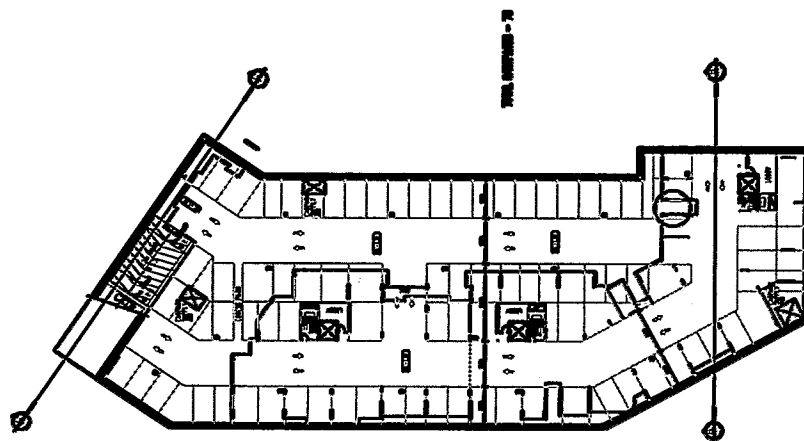
OVERALL SITE STAGING PLAN  
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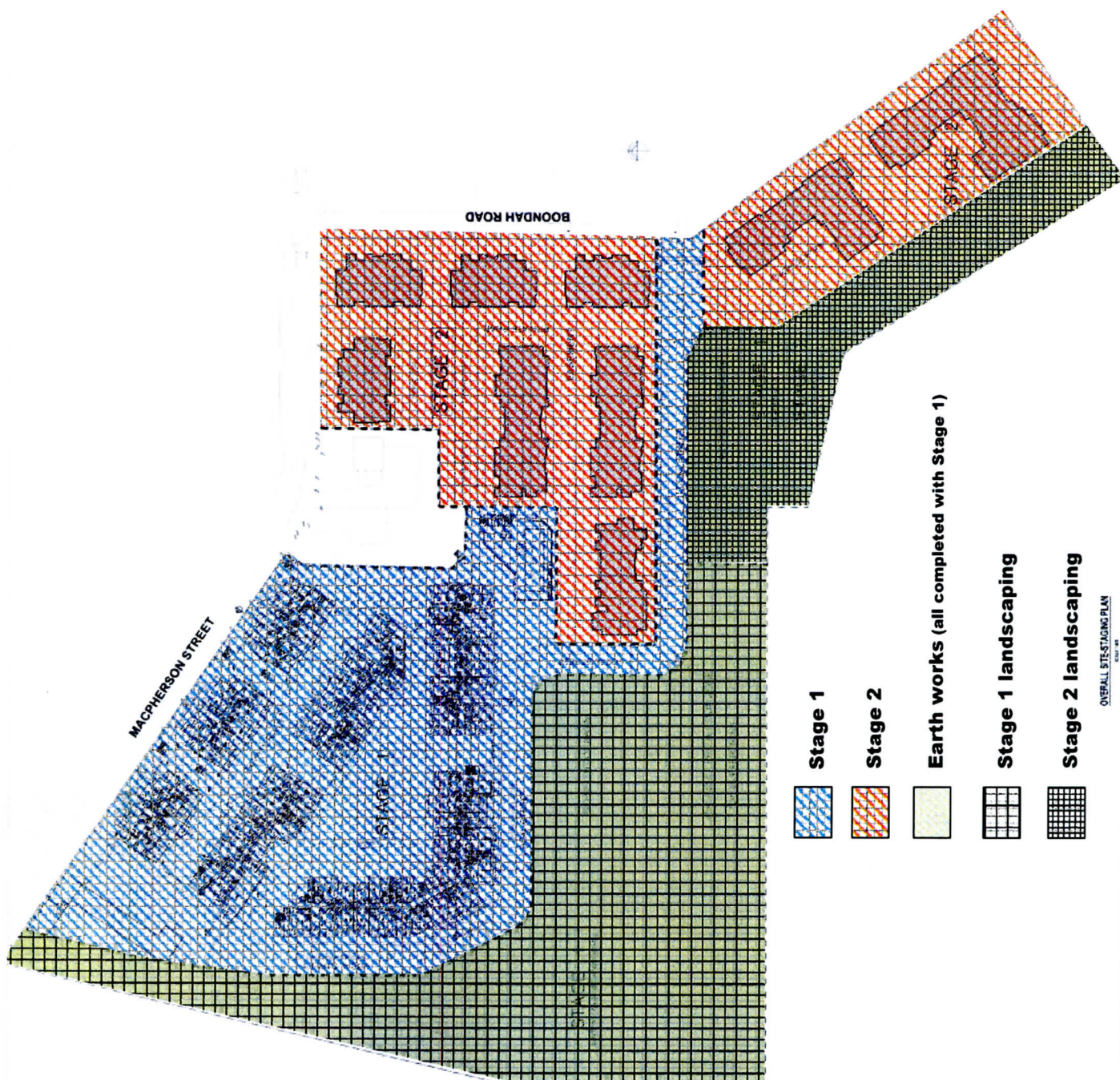
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-  **Stage 1**
-  **Stage 2**
-  **Earth works (all completed with Stage 1)**
-  **Stage 1 landscaping**
-  **Stage 2 landscaping**

### 3. ROAD NETWORK AND TRAFFIC CONDITIONS

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#### 3.1 ROAD NETWORK

The existing road network serving Warriewood Valley (Figure 3) comprises:

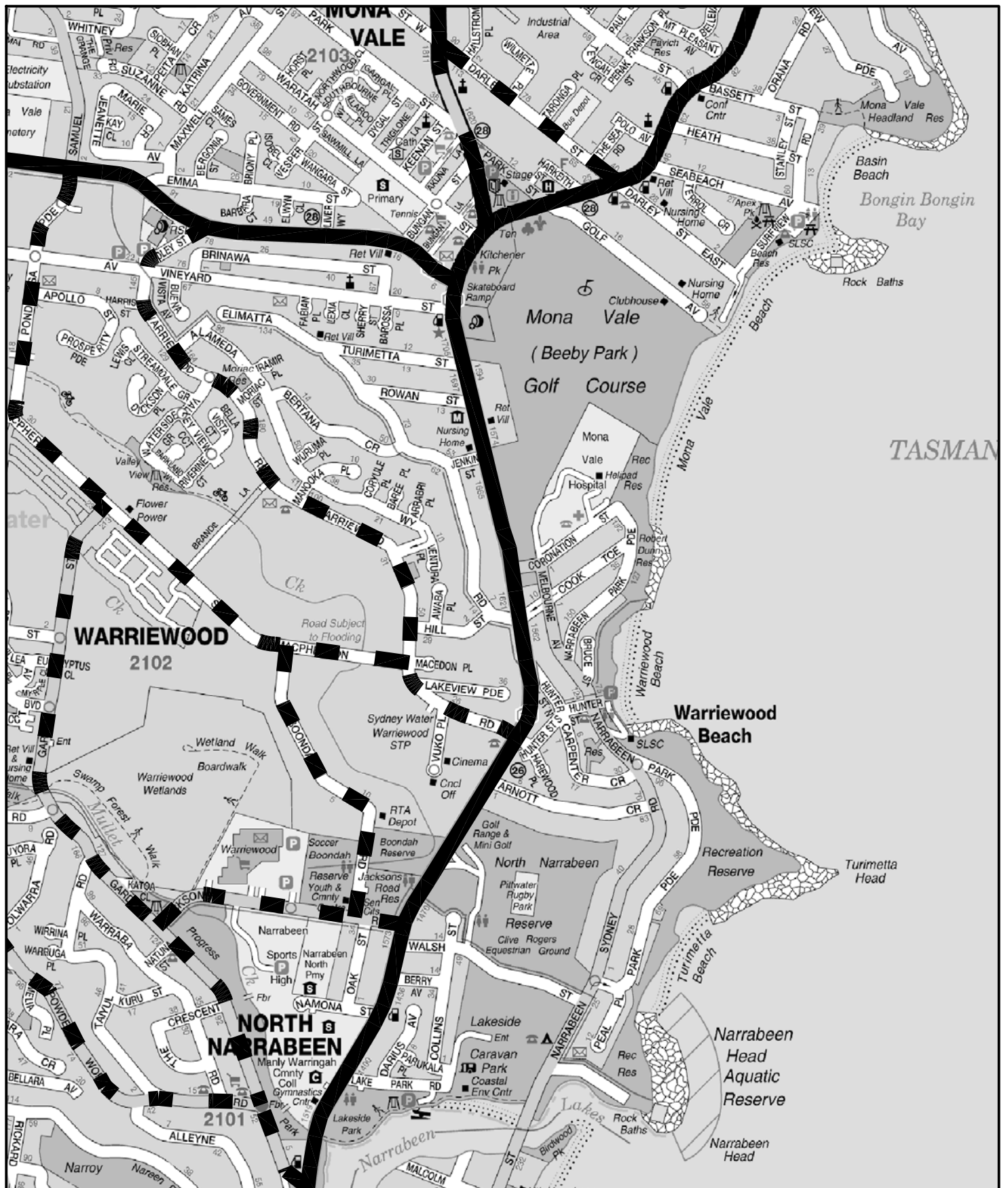
- \* *Mona Vale Road* - a State Road and arterial route linking Pittwater Road at Mona Vale and the Pacific Highway at Gordon
- \* *Pittwater Road/Barrenjoey Road* - a State Road and arterial route connecting the Warringah - Pittwater peninsula from Manly
- \* *Powderworks Road* - a Regional Road and major collector road route connecting Mona Vale Road and Pittwater Road
- \* *MacPherson Street - Ponderosa Parade - Boondah Road and Warriewood Road* - collector road routes connecting Mona Vale Road and Pittwater Road.

#### 3.2 TRAFFIC CONTROLS




The traffic controls which exist on the road system serving the site comprise:

- \* the large roundabout at the Mona Vale Road and Ponderosa Parade intersection
- \* the traffic signals at the intersections of:
  - Mona Vale Road and Pittwater Road
  - Pittwater Road and Warriewood Road
  - Pittwater Road and Jacksons Road
  - Pittwater Road and Garden Street





## LEGEND

-  ARTERIAL
-  SUB-ARTERIAL
-  COLLECTOR



## ROAD NETWORK

FIG 3



- \* the future/existing ?? roundabout on the Macpherson Street at the access road intersection opposite the site
- \* the 'light traffic' restriction on Warriewood Road and the central section of MacPherson Street
- \* the 50 km/h speed limit on the local roads including MacPherson Street and Boondah Road
- \* the proposed roundabout at the Macpherson Street and Garden Street intersection.

### **3.3 TRAFFIC CONDITIONS**

The existing and projected future traffic conditions on the road network serving Warriewood Valley (incorporating the traffic generated by the subject development scheme) are addressed in the Halcrow report<sup>1</sup> which accompanies the application.

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<sup>1</sup> *Proposed Residential Development, Boondah Road, Warriewood  
Traffic Impact Assessment and TMAP  
Halcrow - February 2010*



## **4. ACCESS ROAD, CARPARK AND SERVICING**

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### **Access Road**

The proposed access road will have a 'local street' status and the Warriewood Valley Masterplan specifies a road width of 7.5 metres for 'traffic, parking and cyclists'. The proposal is compliant with this design standard and the geometry is suitable to the design speed objective of 40 kmph.

### **Carpark**

The basement carparking areas will be integrated with 2 access ramp connections to the access road system. The carpark arrangements comply with the design criteria of AS 2890.1 including the bay, aisle, ramp provisions. The access ramps for the carpark will be located where there is excellent visibility and the design of these accesses will comply with the AS 2890.1 criteria.

### **Servicing**

A loading bay area is proposed adjacent to the garbage store at the eastern end of Building F. This area will suitably provide for refuse removal vehicles, small furniture and delivery vehicles. Details of the turning path assessment for vehicles accessing in this area are provided in Appendix A.

Small service vehicles as well as occasional large furniture pantechnicons will be accommodated in the on-street visitor parking bays as is normal for residential apartment developments of this nature.

## 5. PARKING

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The RTA Development Guidelines<sup>2</sup> specify a parking provision for high density residential apartments (sub-regional) as follows:

One-bedroom apartment	-	0.6 spaces
Two-bedroom apartment	-	0.9 spaces
Three-bedroom apartment	-	1.4 spaces
Visitors	-	1 space per 5 to 7 apartments

A common LGA requirement for apartments is 1 space per dwelling and it is relevant that the proposed scheme has a significant proportion of studio and one-bedroom apartments (ie low car ownership). Examples of contemporary parking criteria for residential apartments is provided in the following:

Liverpool	Studio	-	0.5 space
	One and two-bedroom	-	1.0 space
	Three-bedroom	-	1.5 spaces
	Visitors	-	1 space per 10 apartments
Penrith	One and two-bedroom	-	1.0 space
	Three-bedroom	-	1.5 spaces
	Visitors	-	1 space per 20 apartments
Leichhardt	Bedsit	-	Nil
	One-bedroom	-	0.5 space
	Two-bedroom	-	0.8 space
	Three-bedroom	-	1.0 space
	Visitors	-	1.0 space per 10 apartments

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<sup>2</sup> *Guidelines for Traffic Generating Roads and Traffic Authority December 2002*

It is noted that the Director General's Requirements seek to contain the traffic generation while promoting the use of public transport, walking and cycling and a constraint on parking is a typical means to achieve this outcome. A fact which is not generally taken into account in establishing parking criteria is the actual rate of car ownership. Detail studies have been undertaken cross matching Census data for 'type of dwelling', 'No of bedrooms' and 'cars parked' and for the Warringah LGA the established rate of car ownership was:

One-bedroom	-	0.63
Two-bedroom	-	1.0
Three-bedroom	-	1.31

*Pittwater LGA did not have any high density residential*

It is apparent that an appropriate rate of provision would be:

Studio and one-bed apartments	-	1 space
Two-bed apartments	-	1 space
Three-bed apartments	-	2 spaces
Visitors*	-	1 space per 10 apartments

*\* with completion of Stage 2 there will be a significant element of visitor parking providing flexibility within the access road system for these users*

Thus, the proposed provision is as follows:

13 x studio	13 spaces
67 x one-bedroom	67 spaces
216 x two-bedroom	216 spaces
17 x three-bedroom	34 spaces
<b>Total</b>	<b>320 spaces</b>
Visitors	32 spaces

It is apparent that this proposed provision will be quite suitable and appropriate for the circumstances particularly as there will be a neighbourhood shopping centre (with supermarket) and good bus services within easy walking distance.



A suitable provision will also be made for bicycle parking with 1 space per 10 apartments for residents and racks for visitors provided at ground level at a number of locations where surveillance will be available.

## 6. CONCLUSION

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The Stage 1 development scheme will introduce residential apartments into the urban 'mix' of Warriewood Valley. Assessment of the access and parking aspects of the scheme has concluded that:

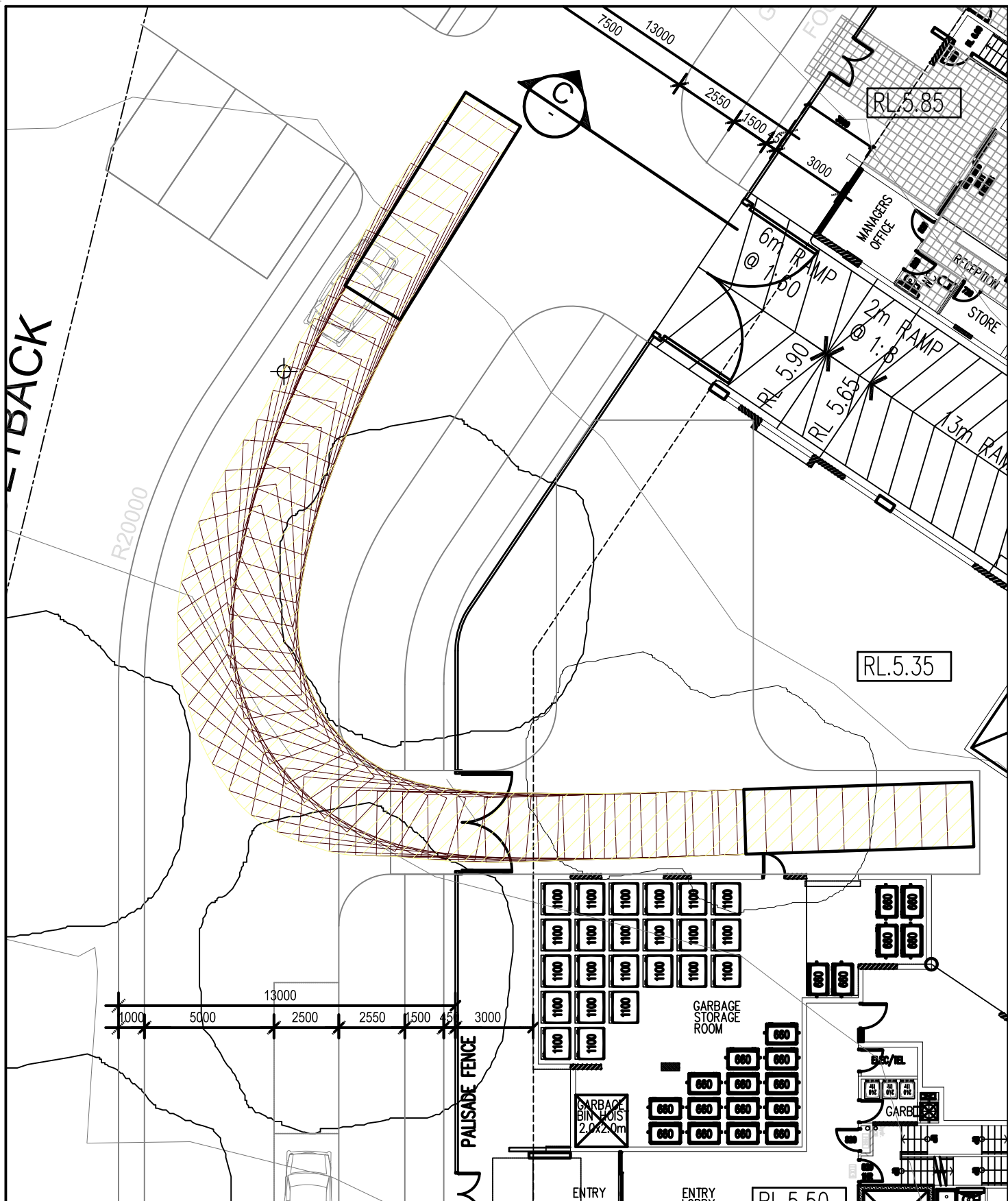
- \* the proposed parking provision will be adequate and appropriate
- \* the design and arrangement of the vehicle access provisions will accord with the relevant standards and objectives.

# APPENDIX A

## TURNING PATH ASSESSMENT

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## LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2000. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

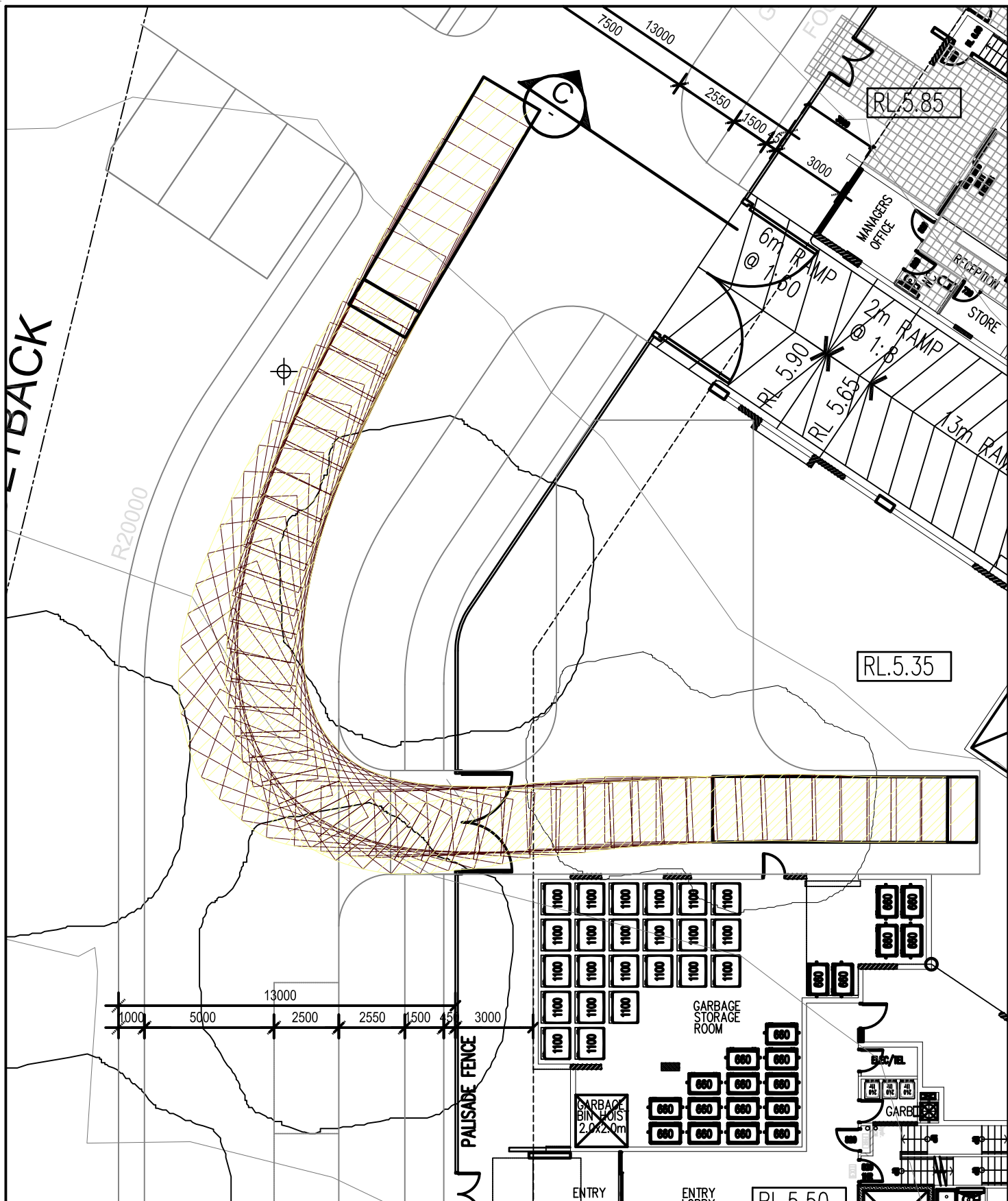


## SWEPT PATH ANALYSIS OF AN 8.8m RIGID VEHICLE EXITING THE SITE

SP 2







## LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2000. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



**SWEPT PATH ANALYSIS  
OF A 10.2m REFUSE  
VEHICLE EXITING THE SITE**

**SP 4**