

**PLANNING PROPOSAL TO PERMIT
RESIDENTIAL DEVELOPMENT
2 MACPHERSON STREET, WARRIEWOOD
*Assessment of Traffic and
Parking Implications***

October 2016
(Rev B)

Reference 14247

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LIST OF ILLUSTRATIONS

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FIGURE 3	ROAD NETWORK
FIGURE 4	TRAFFIC CONTROLS

1. INTRODUCTION

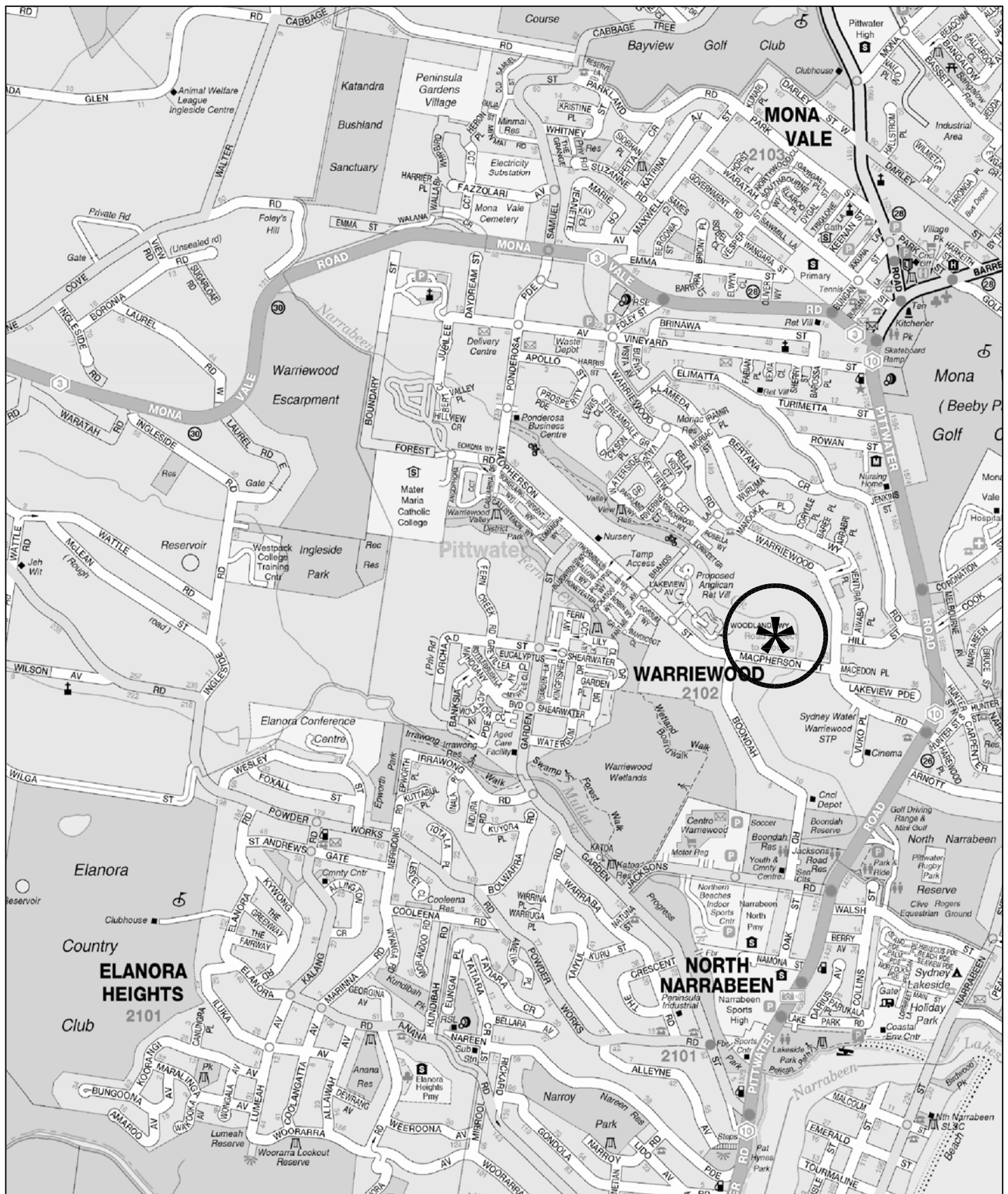
This report has been prepared to accompany a Planning Proposal to Northern Beaches Council to amend the LEP to permit residential development on the site of 2 Macpherson Street at Warriewood (Figure 1).

The site forms part of the Warriewood Valley Land Release Area which comprises 18 sections and the ultimate development of the area will comprise some 2,222 dwellings together with 33ha of industrial and commercial uses. Residential development in the area involves both low and medium density elements with an evolving access road system.

The envisaged development, subject to approval of the Planning Proposal, involves a subdivision and construction of a new access road providing for 22 residential dwellings.

The purpose of this report is to:

- * describe the site and the envisaged development scheme
- * describe the road network serving the site and the traffic conditions
- * assess the appropriateness of the envisaged access road system
- * assess the adequacy of the envisaged parking provision
- * assess the potential traffic implications
- * assess the suitability of the envisaged vehicle access, internal circulation and servicing arrangements



LEGEND

LOCATION

FIG 1

2. ENVISAGED DEVELOPMENT SCHEME

2.1 SITE, CONTEXT AND EXISTING USE

The site (Figure 2) is Lot 25 in Section C of DP5464 being an irregular shaped area of some 2.327ha which is bounded to the north and east by Narrabeen Creek. The site, which contains a “nursery/market gardens use”, has a frontage of some 126m to the northern side of Macpherson Street.

The surrounding landuse comprises:

- * the rural residential uses which adjoin to the north and east
- * the new townhouse further to the west and large retirement village to the northwest
- * the existing single dwelling houses extending along Warriewood Road
- * the Sydney Water STP located on the southern side of Macpherson Street

The Mona Vale centre is located some 2.0km to the north while the Centro Warriewood Centre is located some 1.0km to the south.

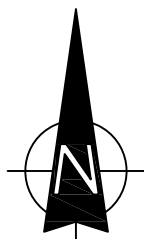
2.2 PRECINCT PLANNING

Planning for development of the Warriewood Valley Release Area has been subject to a number of processes over the past decade. The ultimate projected development yield is based on the 2010 Planning Framework as follows:

2010 Planning Framework	2,012 dwellings and 33ha of industrial/commercial development
2012 Strategic Review	+193 dwellings
2014 Review Addendum	+17 dwellings
Total:	2,222 dwellings and 33ha industrial/commercial



LEGEND



SITE

FIG 2

Relevant extracts of the planning documents are reproduced in Appendix A comprising:

Warriewood Valley Release Area Map
Landuse Designation Map
Residential Density Map
Road Network Map

It is noted that the subject site is designated as “Buffer Area” with no development potential on the plans.

2.3 ENVISAGED DEVELOPMENT

The Planning Proposal seeks to amend the LEP to permit residential development on the site and the envisaged development would be in the form of a new crescent shaped access road encompassing residential lots. There would be a 25m dedicated “riparian zone” strip around with a further 25m “set back” area to the lots.

The site would be cleared and earthworks undertaken to provide the new access road and level building platforms. A total of 22 lots will be established ranging between some 247m² to 303m² and 2 level “free standing” dwellings would be constructed along the new access road frontage.

Each dwelling would have 4 bedrooms and a garage and there would be extensive landscaping around the dwellings and along the access road.

Details of the envisaged subdivision and development are provided on architectural plans prepared by Meriton Group which accompany the application and are reproduced in part in Appendix B.

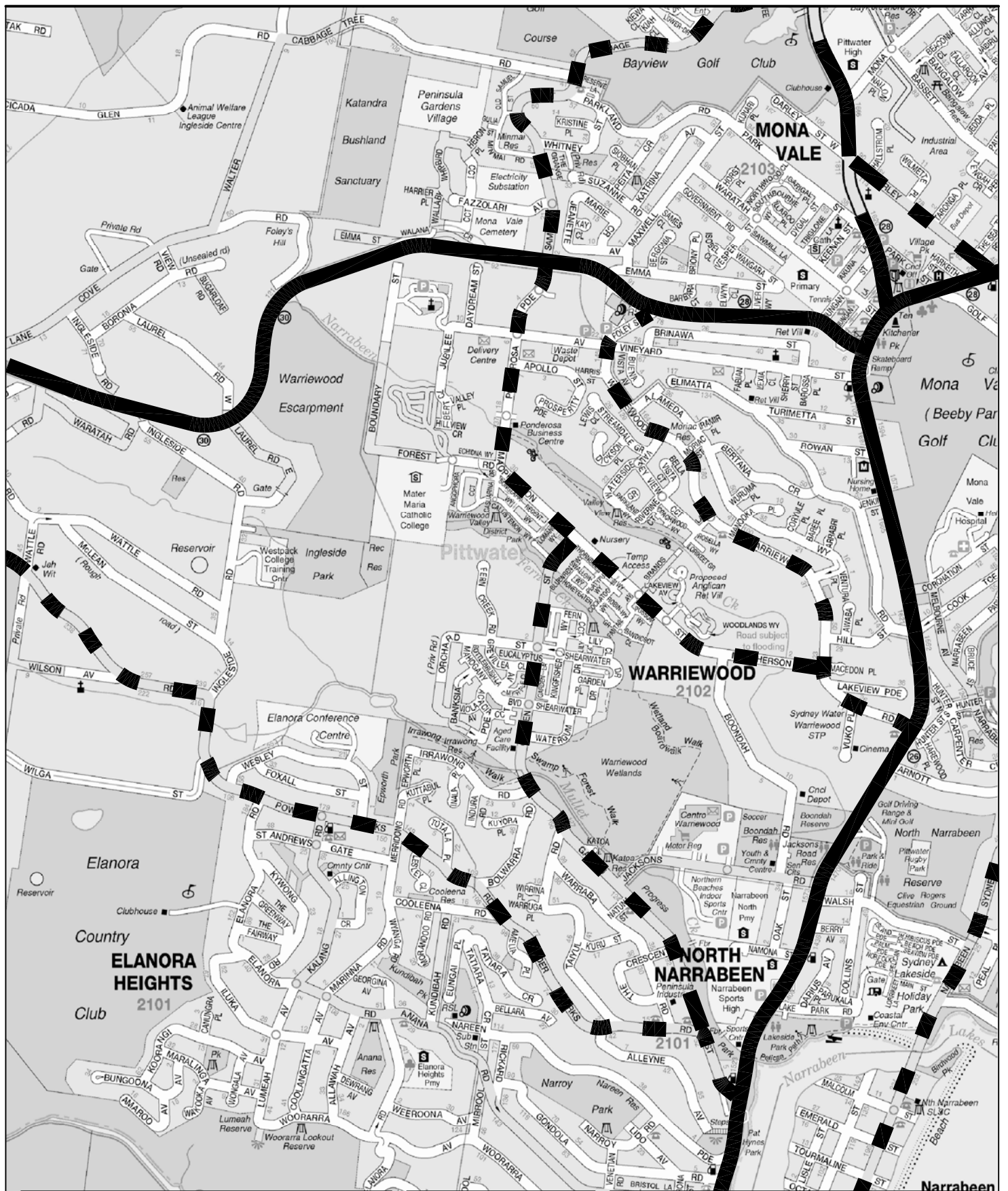
3. ROAD NETWORK AND TRAFFIC CONDITIONS

3.1 ROAD NETWORK

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

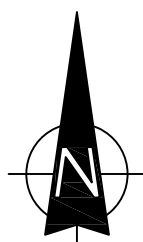
- * *Mona Vale Road* – a State Road and arterial route linking Pittwater Road at Mona Vale and the Pacific Highway at Gordon
- * *Pittwater Road / Barrenjoey Road* - a State Road and arterial route connecting the Warringah - Pittwater peninsula from Manly
- * *Powderworks Road* – a Regional Road and major collector road route connecting Mona Vale Road and Pittwater Road
- * *Warriewood Road / Foley Street* – a collector road route connecting between Mona Vale Road and Pittwater Road
- * *MacPherson Street – Ponderosa Parade* – a collector road route connecting between Mona Vale Road and Pittwater Road
- * *Garden Street* – a collector road connecting between Macpherson Street and Pittwater Road
- * *Boondah Road and Jacksons Road* – minor collectors roads

Macpherson Street in the vicinity of the site is relatively straight and level with one traffic lane in each direction.



LEGEND

- ARTERIAL
- SUB-ARTERIAL
- COLLECTOR



ROAD NETWORK

FIG 3

3.2 TRAFFIC CONTROLS

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

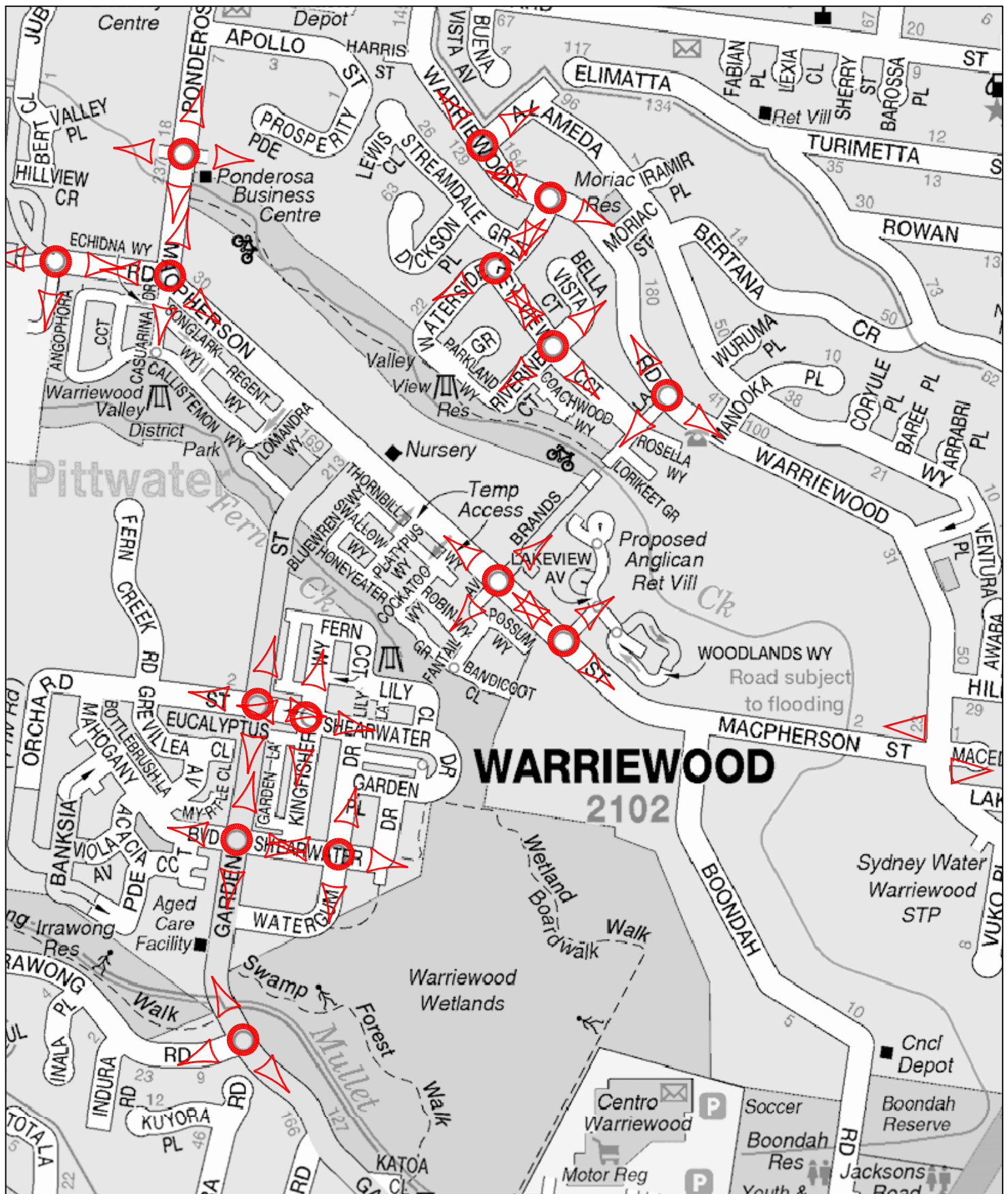
- * the traffic signals at the intersections of:
 - Mona Vale Road and Pittwater Road
 - Pittwater Road and Warriewood Road
 - Pittwater Road and Jacksons Road
 - Pittwater Road and Garden Street
- * the roundabouts along Warriewood Road at the Brands Lane, Valleyview Circuit and Almeda Way intersections
- * the roundabouts along Macpherson Street at the Woodlands Way and Brands Lane intersections
- * the 50 kmph speed limit on the local roads including MacPherson Street and Warriewood Road

3.3 TRAFFIC CONDITIONS





An indication of the existing traffic conditions on the road system serving the site is provided by data published by RMS and traffic surveys undertaken as part of this study. The RMS data is published in terms of Annual Average Daily Traffic (AADT) at the following locations:

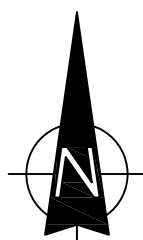
	AADT
Mona Vale Road east of Ponderosa Parade	19,084
Pittwater Road south of Mona Vale Road	47,841
Powderworks Road south of Ingleside Avenue	10,089

Traffic surveys have been undertaken during the weekday morning and afternoon peak periods on Warriewood Road. The results of those surveys are summarised in the following:



LEGEND

-  TRAFFIC SIGNAL CONTROL
-  ROUNDABOUT
-  RESTRICTED TURNING MOVEMENT
-  GIVE WAY



TRAFFIC CONTROLS

FIG 4

		AM	PM
Macpherson Street	Eastbound	320	440
(west of Warriewood Road)	Westbound	460	310
Warriewood Road	Northbound	200	300
(north of Macpherson Street)	Southbound	320	260

The operational performance of intersections along Macpherson Street and Warriewood Road under the prevailing peak traffic demands is quite satisfactory. Level of Service 'A-B' prevailing at these peak times.

3.4 TRANSPORT SERVICES

State Transit is the accredited public transport provider in the Warriewood district and operates the seven days per week E85, 185 and L85 services between Mona Vale and the City via MacPherson Street, Garden Street, Warriewood Square, Narrabeen, Dee Why and Warringah Mall. These services currently operate on a combined frequency of a bus every 30 minutes during weekdays and Saturdays, and hourly at night and on Sundays (see details overleaf).

Discussions with State Transit indicate that whilst there are no plans to further increase the existing level of service, patronage demands will be monitored as the redevelopment of the Warriewood Valley intensifies over the next few years.

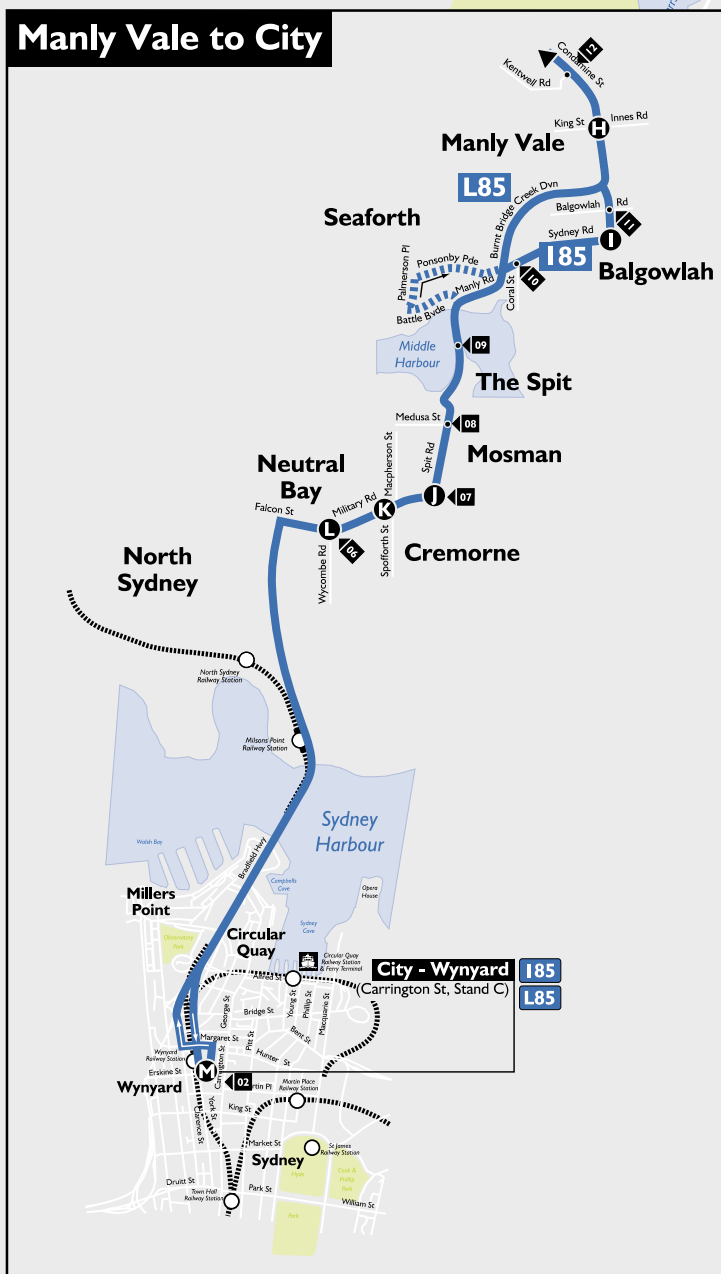
3.5 FUTURE CIRCUMSTANCES

The Warriewood Valley Roads Masterplan document identified the road network, road cross sections, traffic calming and management measures for implementation in the Warriewood Valley Land Release Area.





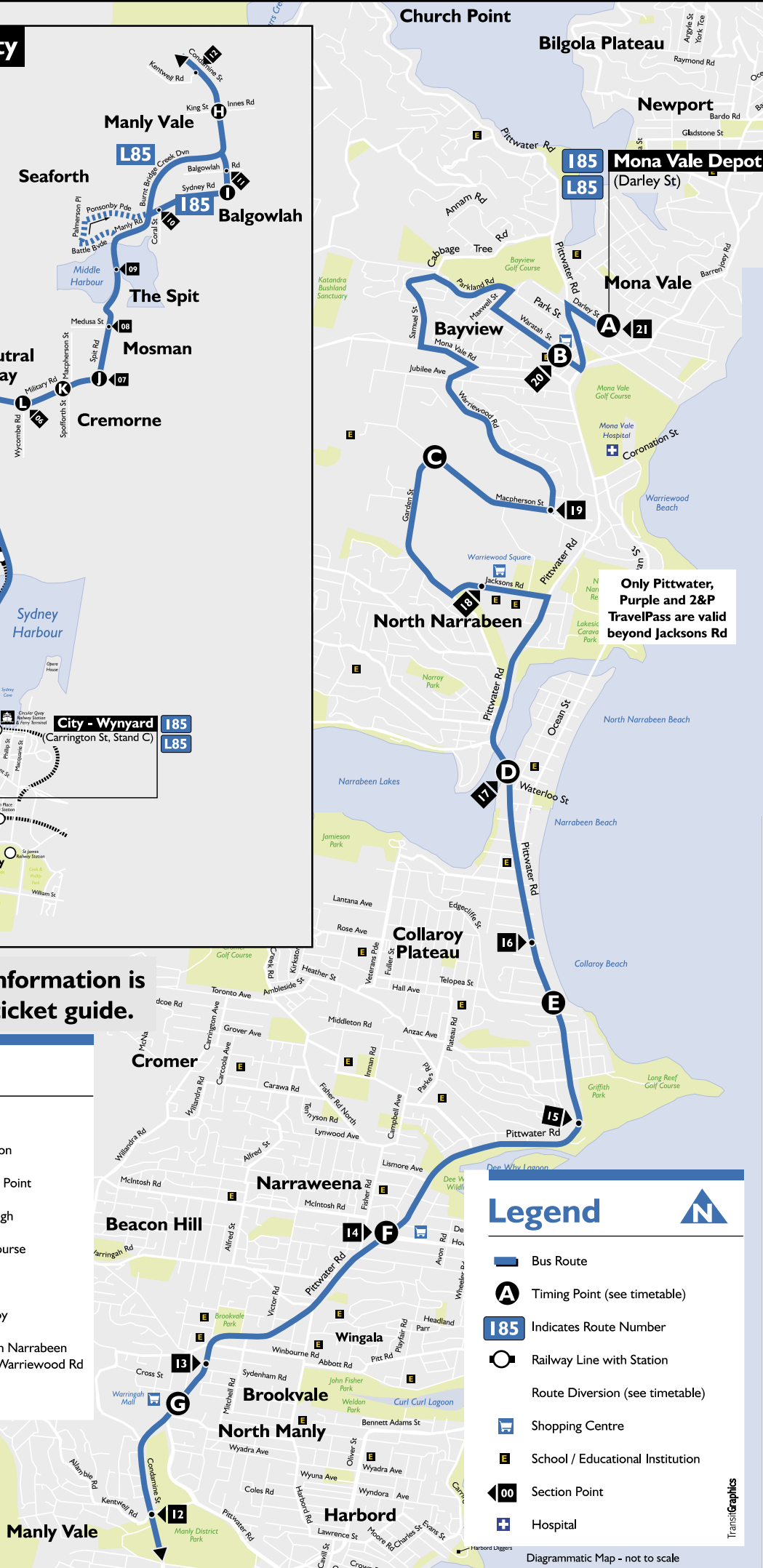
Manly Vale to City



Fare and Ticket information is available in our ticket guide.

Sections

- | | |
|----|-------------------------------|
| 01 | City - QVB |
| 02 | City - Wynyard |
| 06 | Neutral Bay Junction |
| 07 | Spit Junction |
| 08 | Medusa St, Beauty Point |
| 09 | The Spit |
| 10 | Balgowlah Boys High |
| 11 | Balgowlah Road |
| 12 | Warringah Golf Course |
| 13 | Brookvale Shops |
| 14 | Dee Why |
| 15 | Hay St, Long Reef |
| 16 | Ramsay St, Collaroy |
| 17 | Narrabeen |
| 18 | Jacksons Rd, North Narrabeen |
| 19 | Macpherson St & Warriewood Rd |
| 20 | Mona Vale |
| 21 | Mona Vale Depot |



Works which remain to be undertaken include:

- * widening and raising of Macpherson Street – Boondah Road to Warriewood Road including a new bridge over Narrabeen Creek
- * Warriewood Road and Macpherson Street – realignment and construction of roundabout
- * Macpherson Street and Boondah Road – construction of a roundabout
- * pedestrian/cycle paths along the Narrabeen Creek Road reserve

Details of Council's proposed works on upgrading Macpherson Street are provided on the plans overleaf.

The former Department of Planning engaged AECOM to undertake a Strategic Transport Study¹ of Warriewood Valley to assess the implications of various levels of development. The Scenario 1 of that study involved 2,224 dwellings as well as the 33ha of commercial/industrial development.

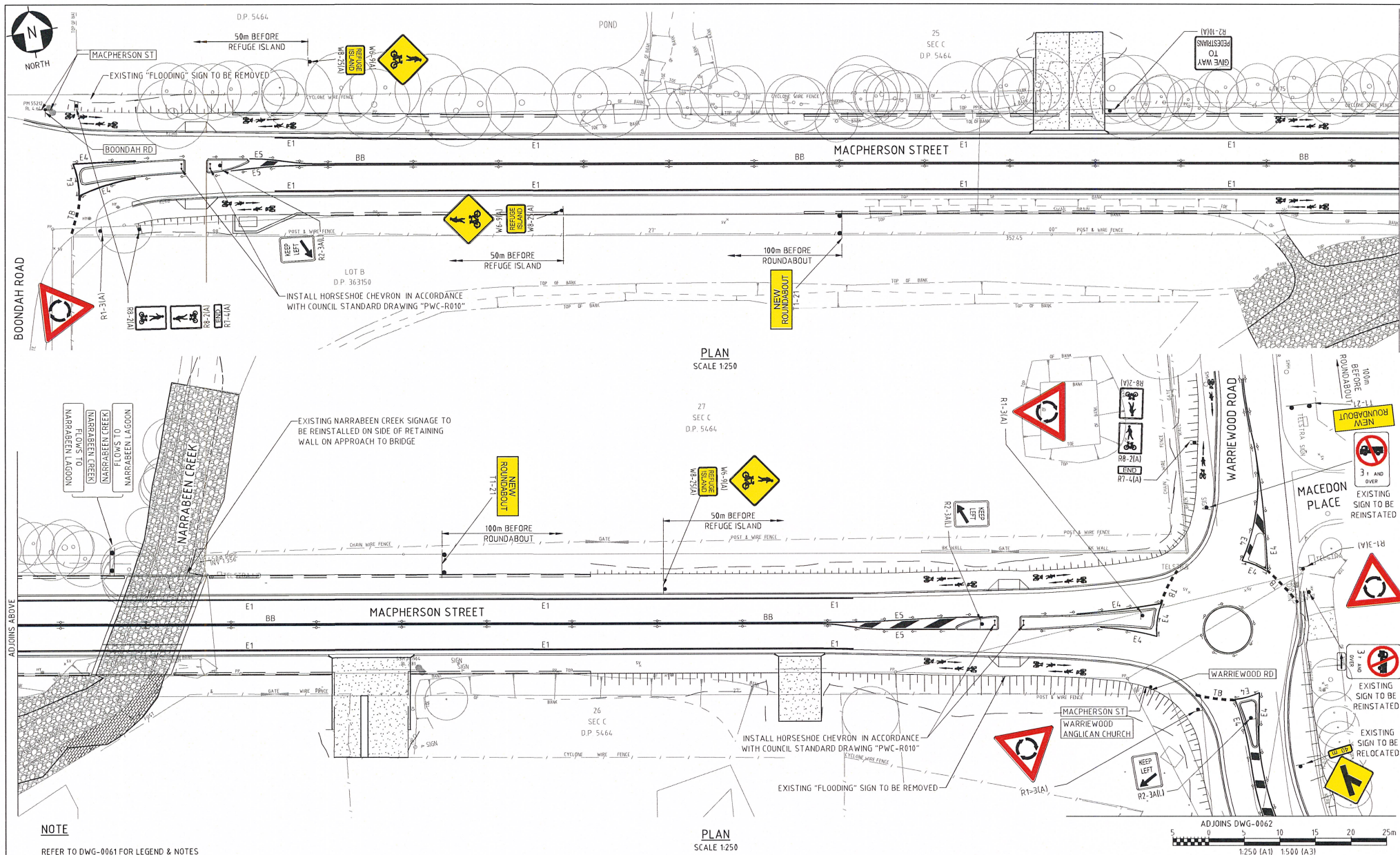
The traffic modelling of that scenario outcome is compared to the recorded AM and PM peak movements along Macpherson Street and Warriewood Road in the following:

		Existing		Scenario 1	
		AM	PM	AM	PM
Macpherson Street	EB	422	557	462	686
N of Garden Street	WB	587	385	716	422
Warriewood Road	NB	381	492	385	507
S of Macpherson Street	SB	367	316	517	481

¹ Warriewood Valley Strategic Transport Study AECOM Nov 2011

The assessed operational performance of the intersections with the Scenario 1 peak traffic volumes is as follows:

	AM		PM	
	LOS	AVD	LOS	AVD
Warriewood Road / Macpherson Street	A	7.0	A	6.4
Warriewood Road / Pittwater Road	B	22.5	B	24.3
Macpherson Street / Boondah Road	A	6.2	A	6.1
Macpherson Street / Garden Street	A	7.6	A	7.8



NOTE
REFER TO DWG-0061 FOR LEGEND & NOTES

REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHG	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
A	24.10.14	ISSUED FOR CLIENT REVIEW	PBC	TM	PBC	ARG				

AT SHEET SCALE

Oneway
by one way

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WORLEYPARSONS PROJECT No
301015-03441

ENGINEERING AND PERMIT STAMPS (As Required)

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CUSTOMER

PITTWATER COUNCIL

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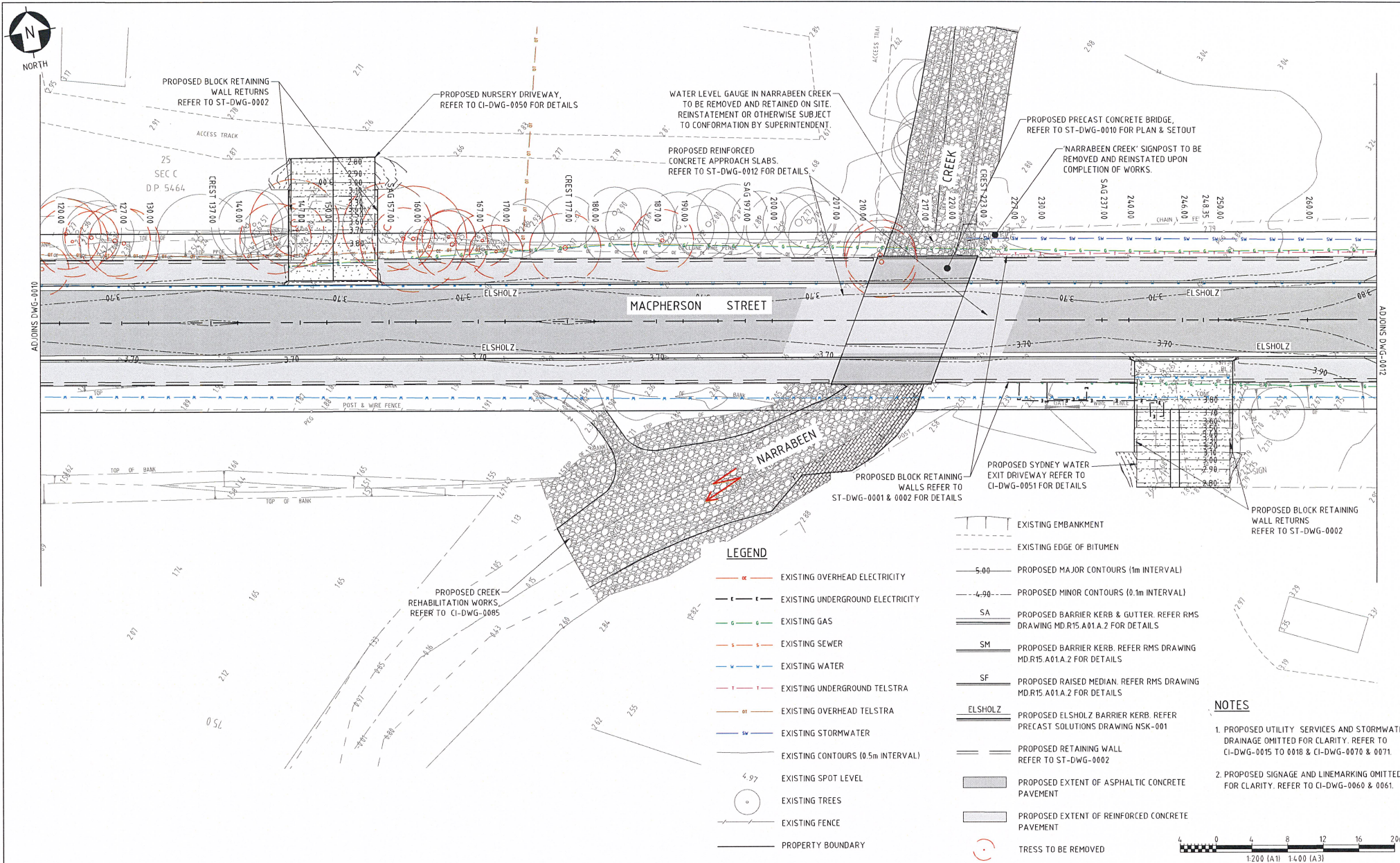
WorleyParsons
RESOURCES & ENVIRONMENT




MACPHERSON ST & WARRIEWOOD RD UPGRADES
SIGNAGE & LINEMARKING PLAN
SHEET 1

DRG No
301015-03441-CI-DWG-0060

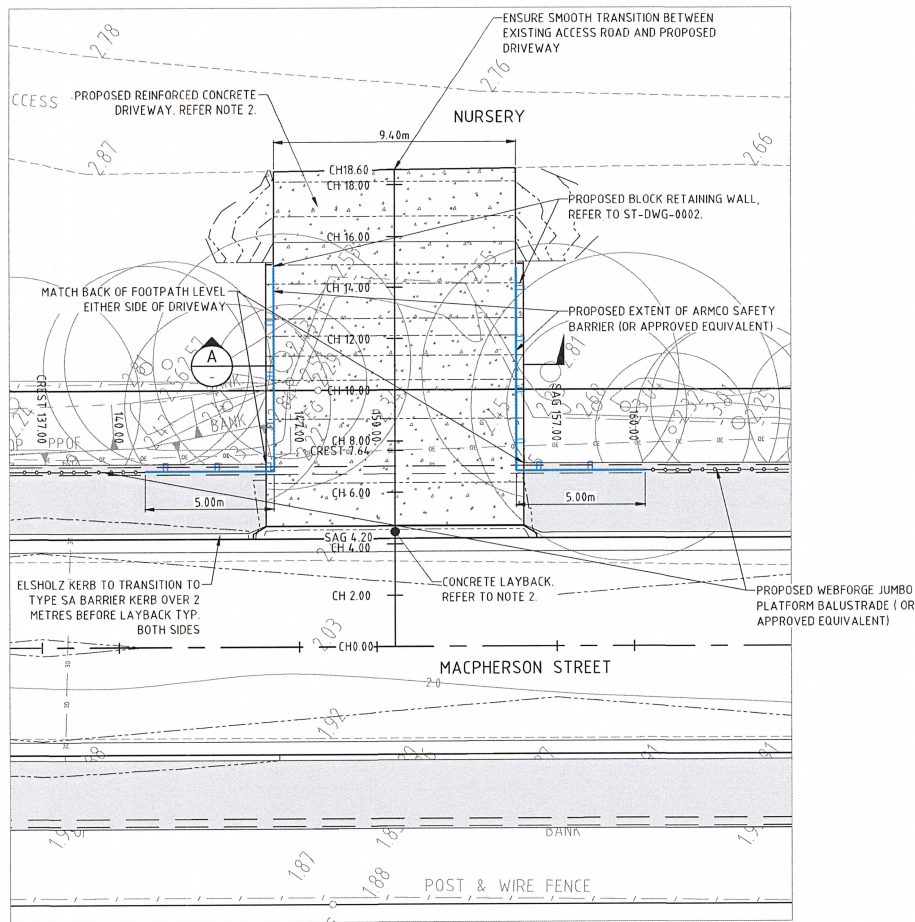
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SAVE DATE & TIME: 23/07/2024 4:23:50 PM



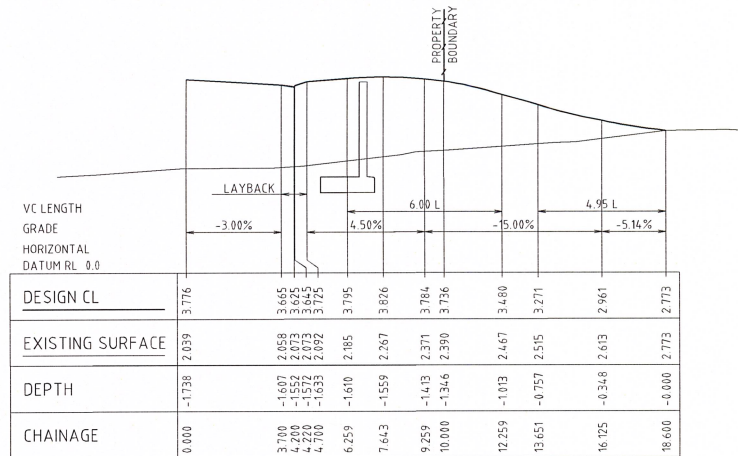
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										WORLEYPARSONS PROJECT No. 301015-03441				<div>"This drawing is prepared solely for the use of the contractual customer of WorleyParsons and WorleyParsons assumes no liability to any other party for any representations contained in this drawing."</div>		DRG No 301015-03441-CI-DWG-0011	
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 SAVE DATE & TIME: 23/10/2014 14:51 PM

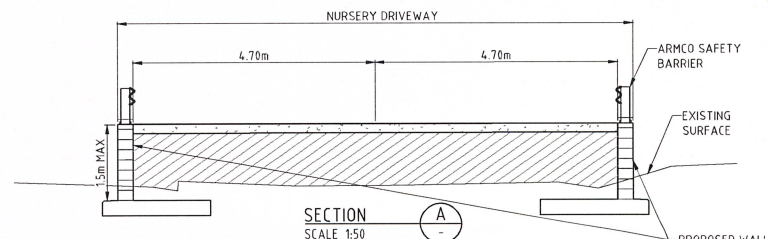


NURSERY DRIVEWAY PLAN
1:100

NURSERY DRIVEWAY SETOUT					
Pt	Chainage	Easting	Northing	Level	Bearing
IP1	0	327583.838	1270725.602	3.776	9d26°39"
IP2	18.60	327586.89	1270743.95	2.773	9d26°39"

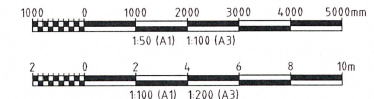


PROPOSED DRIVEWAY 1 LONGITUDINAL SECTION
SCALE HORIZONTAL 1:100
SCALE VERTICAL 1:50



NOTES

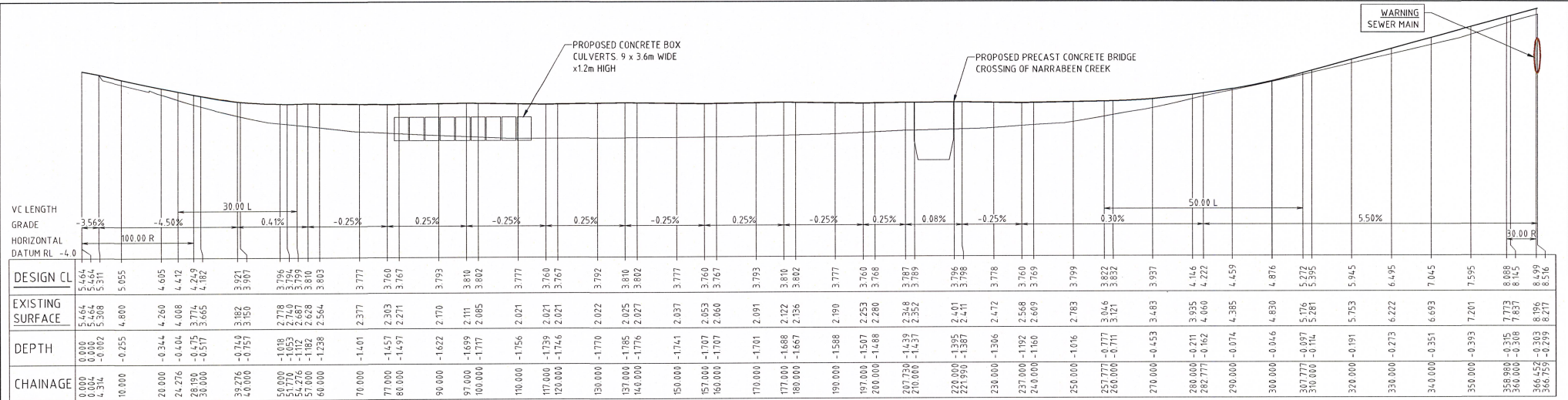
- REFERTO CI-DWG-0042 FOR LEGEND
- DRIVEWAY TO BE CONSTRUCTED IN ACCORDANCE WITH PITTWATER COUNCIL'S DCP STANDARD DRAWING STD-01 (VEHICULAR ENTRANCE WITH LAYBACK & DRIVEWAY)
- PAVEMENT THICKNESS AND REINFORCEMENT AS PER INDUSTRIAL TYPE
- DRIVEWAY RAMP GRADING IS BASED ON AS 2890.2
- INSTALL 2 LAYERS OF WATERPROOF MEMBRANE BETWEEN TOP OF WALL AND UNDERSIDE OF DRIVEWAY / SHARED PATH, TOP COARSE OF BLOCKS TO BE GROUND FLUSH



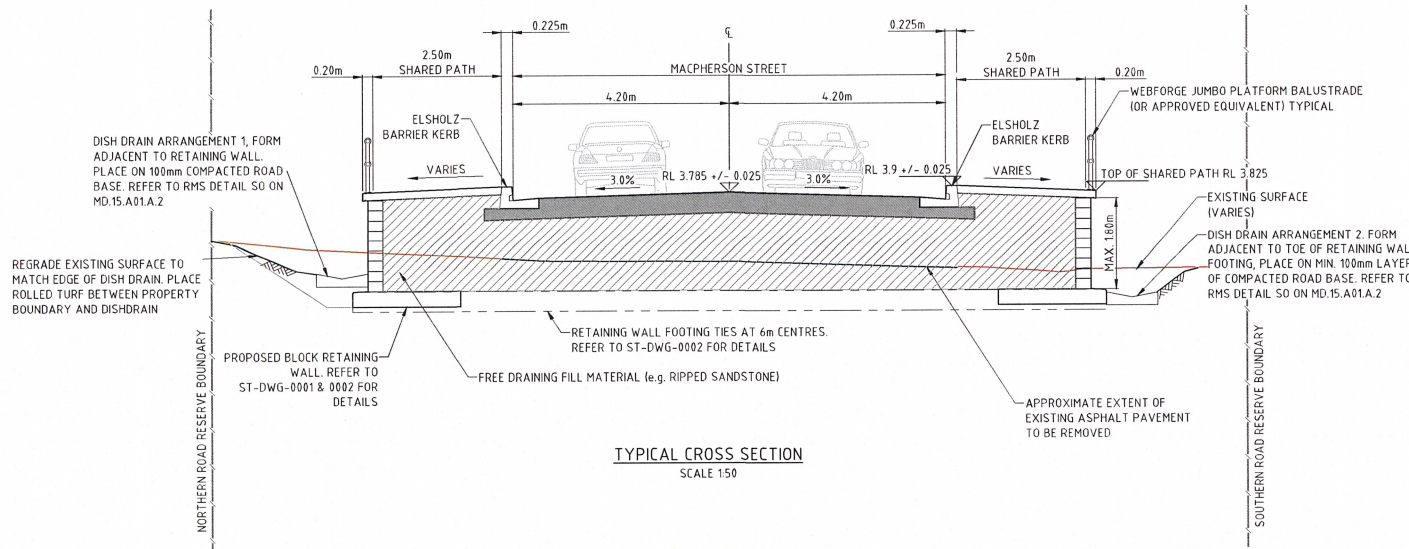
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A	08.07.14	ISSUED FOR CLIENT REVIEW	EN							

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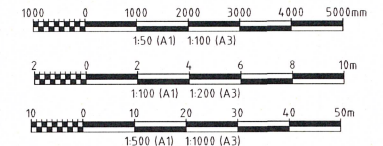
PROPOSED MACPHERSON STREET CENTRELINE LONGITUDINAL SECTION
SCALE HORIZONTAL 1:500
SCALE VERTICAL 1:100



MACPHERSON STREET CENTRELINE SETOUT TABLE					
PI	Chainage	Easting	Northing	Level	Bearing
IP1	0.000	327434.876	1270746.308	5.464	83d18'49"
IP2	0.004	327434.879	1270746.309	5.464	0.000000
IP3	14.097	327448.97	1270747.96	4.870	0.000000
CT	28.190	327462.964	1270745.628	4.249	99d27'48"
IP4	29.835	327464.587	1270745.357	4.187	0.000000
TC	358.980	327789.306	1270691.563	8.088	99d24'23"
IP5	362.716	327793.011	1270690.95	8.294	0.000000
CT	366.452	327796.45	1270689.442	8.499	113d4'0'33"
IP6	366.759	327796.732	1270689.318	8.516	113d4'0'33"

NOTES

- REFER TO CI-DWG-0055 FOR PAVEMENT DETAILS.
- SUBGRADE BELOW FILL MATERIAL SHALL BE STRIPPED TO A DEPTH OF AT LEAST 100mm TO REMOVE ALL EXISTING ASPHALT PAVEMENT AND ORGANIC MATERIAL, THEN PROOF ROLLED WITH AT LEAST 8 PASSES OF A STATIC SMOOTH DRUM ROLLER (AT LEAST 30t DEAD WEIGHT). FINAL 2 PASSES SHALL BE UNDERTAKEN UNDER THE SUPERVISION OF AN EXPERIENCED GEOTECHNICAL ENGINEER.
- FILL MATERIAL SHALL BE COMPACTED TO 100% DENSITY RATIO RELATIVE TO STANDARD COMPACTION WITH MOISTURE CONTENT WITHIN 2% OF OPTIMUM.



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4. ENVISAGED ACCESS ROAD

The envisaged vehicle access arrangements would involve an “access street” in the form of a crescent connecting to Macpherson Street having:

- * a 8m wide roadway (widening on corners)
- * 1.5m wide footway

The design (cross sectional elements) of the new roadway while not entirely complying with the design criteria of the Warriewood Valley Roads Masterplan reflects the particular circumstances of the site development and the design requirements of the Fire Brigade.

The roadway connections with Macpherson Street would replace the proposed new Nursery access driveway shown on Council’s construction plans and will be located where it is relatively straight and level. There will be excellent sight distances available and the new access intersections would also be suitably located well away from the Warriewood Road intersection to the east and the Boondah Road intersection to the west.

5. TRAFFIC

RMS recently released updated data in relation to the traffic generation of various landuses including “residential”. However, the application of this data is questionable because the precinct surveyed to obtain the data incorporated other major landuses (e.g. schools and shopping centres etc.). It is noted that 2 of the precincts (Westleigh and North Epping) provided peak generation rates in the on-street peak periods of 0.60 and 0.44 vtpd per dwelling and the rate adopted for large scale assessment by Growth Centres is 0.65 vtpd as has the AECOM Warriewood Valley Strategic Transport Study.

The assessed peak traffic generation on this basis for the proposed development is as follows:

22 lots @ 0.65 vtpd 14.3 vtpd (15)

The projected distribution of this additional traffic generation is as follows:

AM		PM	
IN	OUT	IN	OUT
3	12	12	3

Thus the projected peak direction movements will be:

Macpherson Street/Warriewood Road South	25%	4 vtpd
Macpherson Street/Warriewood Road North	15%	2 vtpd
Boondah Road	25%	4 vtpd
Macpherson Street North	35%	5 vtpd

The projected movements represent only some 1 vt each 4 minutes in the morning and afternoon peak periods and because the egress movements will be so minor (ie. maximum of 12 vtph with some 5 vtph turning right) there will not be any delay or capacity issues at the access intersection.

It is apparent that the projected traffic movements generated by the proposed development will be very largely imperceptible on the access road system (albeit that they may not have been anticipated in the planning for the development of the Warriewood area). Planning for the Warriewood Valley area envisages some 2,222 dwellings and the proposed development therefore only represents an extremely minor fraction of potential dwellings in the area and the resultant traffic generation.

The Warriewood Valley Strategic Transport Review assessed a number of development outcome options (i.e. Scenarios 1 to 4) and the resultant implications for intersections in the area. The results of that assessment indicated that:

- * the operational performance of the Warriewood Road/Macpherson Street and Warriewood Road/Boondah Road intersections (as upgraded) will be level of Service A in all cases
- * there was only 1 intersection on the road network in any of the option scenarios where some need for minor remedial treatment was indicated

It is apparent that the existing nursery/market garden business which has occupied the site for many years is relatively inactive at the present time. However, there is no reason why this business could not be reactivated as a popular contemporary nursery which would potentially generate greater traffic volumes than the proposed residential development.

6. PARKING

Pittwater Council's 21 DCP Part B & C specifies a parking provision in relation to a "residential with 2 or more bedrooms" of 2 spaces.

The envisaged development would provide 2 parking spaces for each of the dwelling as well as an additional space for visitors on the driveway.

It is apparent that the envisaged parking provision for the development will be quite satisfactory and appropriate.

7. ACCESS, INTERNAL CIRCULATION AND SERVICING

ACCESS

The individual access driveways would be at least 3.0m wide in satisfaction of Pittwater 21 DCP Part B (Appendix 10) and AS2890.1. The driveways would also be located where there are good sight distances available and where there will be satisfactory manoeuvring space available for ingress and egress.

INTERNAL CIRCULATION

The design of the envisaged access road system, whilst not entirely compliant with the criteria contained in the Warriewood Valley Roads Master Plan, reflects the particular circumstances of the site development and the design requirements of the Fire Brigade.

SERVICING

The service vehicle provisions will comprise:

- * refuse removal from the street frontage by Council's service
- * service personnel and small service vehicles using the available on driveway or on-street spaces
- * occasional delivery vehicles using on-street parking as is normal for small residential subdivision of this nature

These arrangements will be suitable and appropriate for the envisaged small residential subdivision.

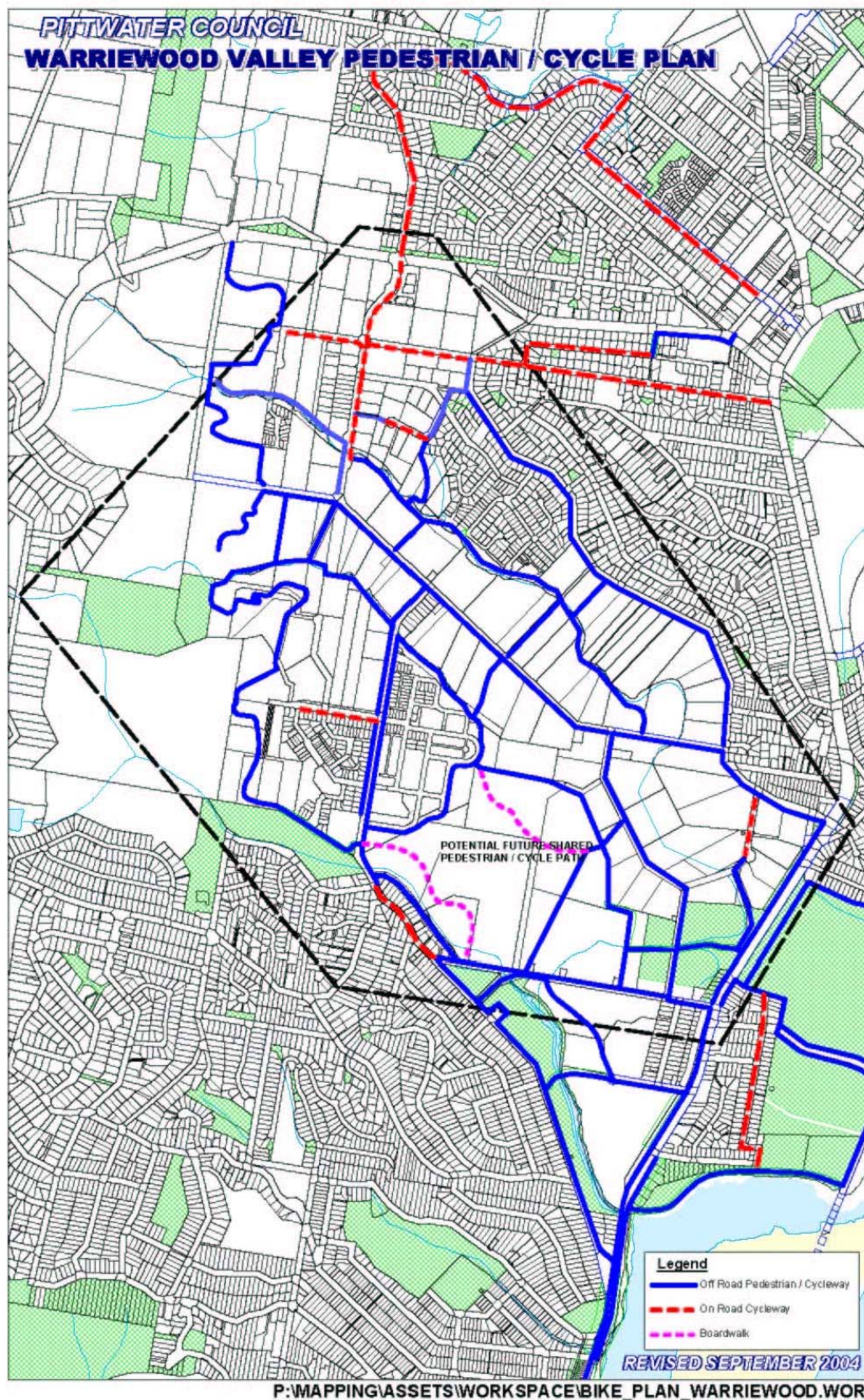
8. PEDESTRIANS AND CYCLISTS

The movements of pedestrians and cyclists will be facilitated by the future shared path provisions along the edge of Narrabeen Creek (adjacent to the site) connecting to the local and region shared and separate networks as indicated on the diagram overleaf.

These provisions provide easy access to Centro Warriewood Shopping Centre, schools and sporting facilities, etc. in the area.

Appendix D

Cycling Routes



9. CONCLUSION

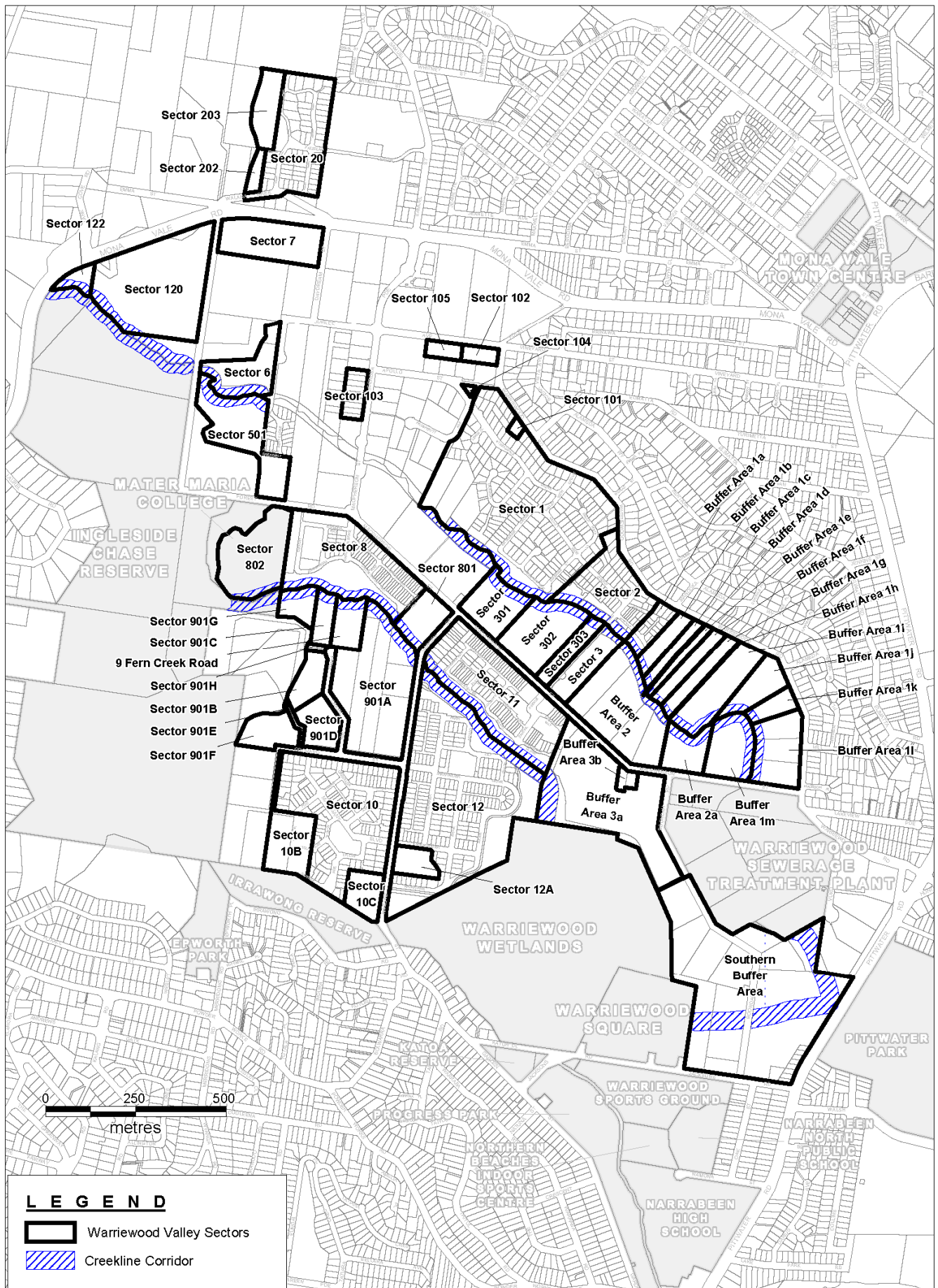
The Warriewood Valley area is experiencing significant urban development. The envisaged subdivision for 22 dwellings will be consistent with the design criteria for the area. The assessment undertaken of the development scheme concludes that:

- * the envisaged new road will be appropriate to the circumstances
- * the envisaged vehicle access and circulation arrangements will be suitable and satisfactory
- * the envisaged parking provision will be adequate and there will not be any adverse traffic outcomes
- * the provision for delivery and service vehicles will be adequate and appropriate
- * the provision for pedestrians and cyclists will be suitable and appropriate

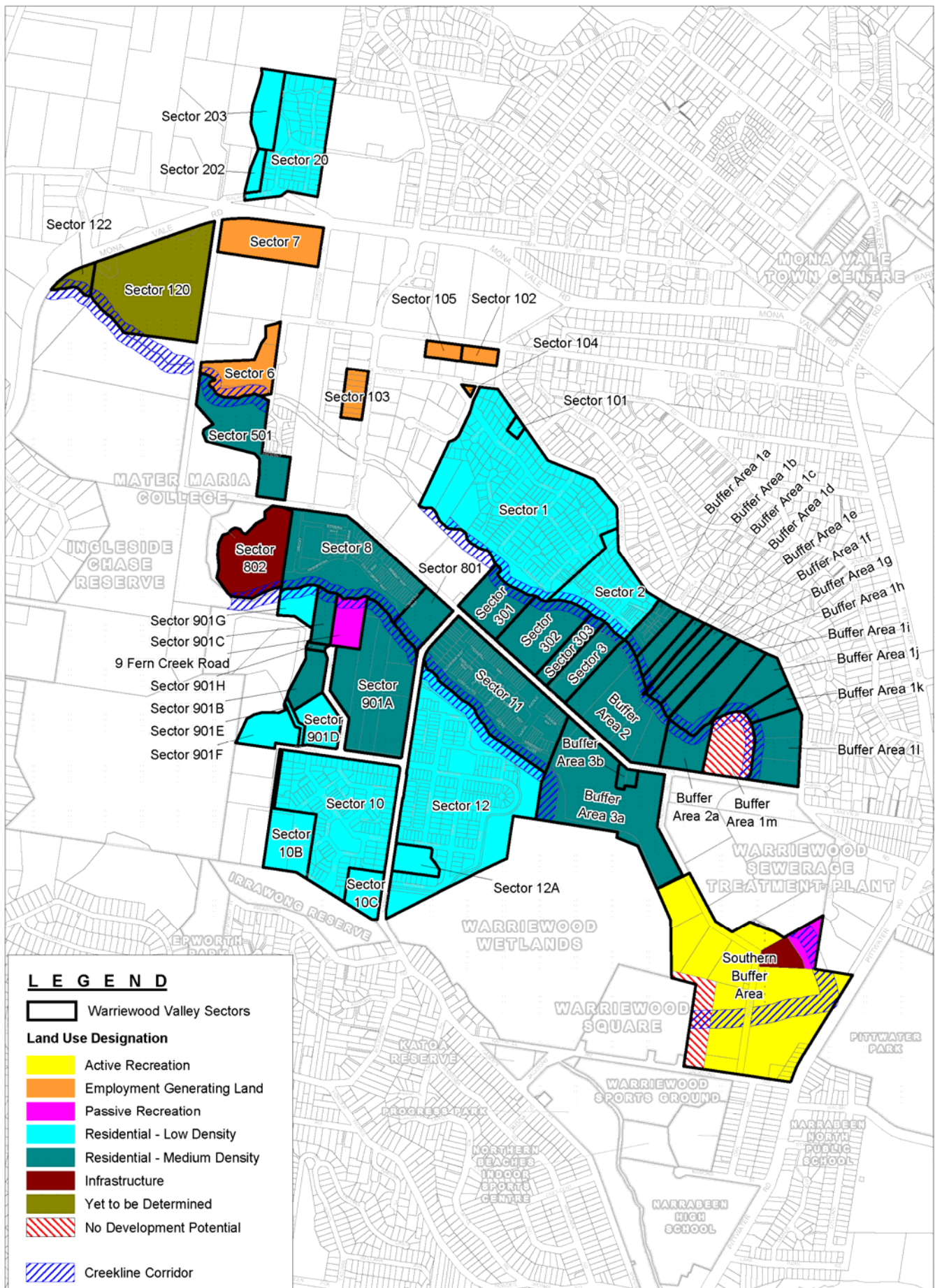
APPENDIX A

PLANNING MAPS

Map 3: Warriewood Valley Release Area Map



Map 5: Land Use Designation Map



Map 4: Residential Density Map

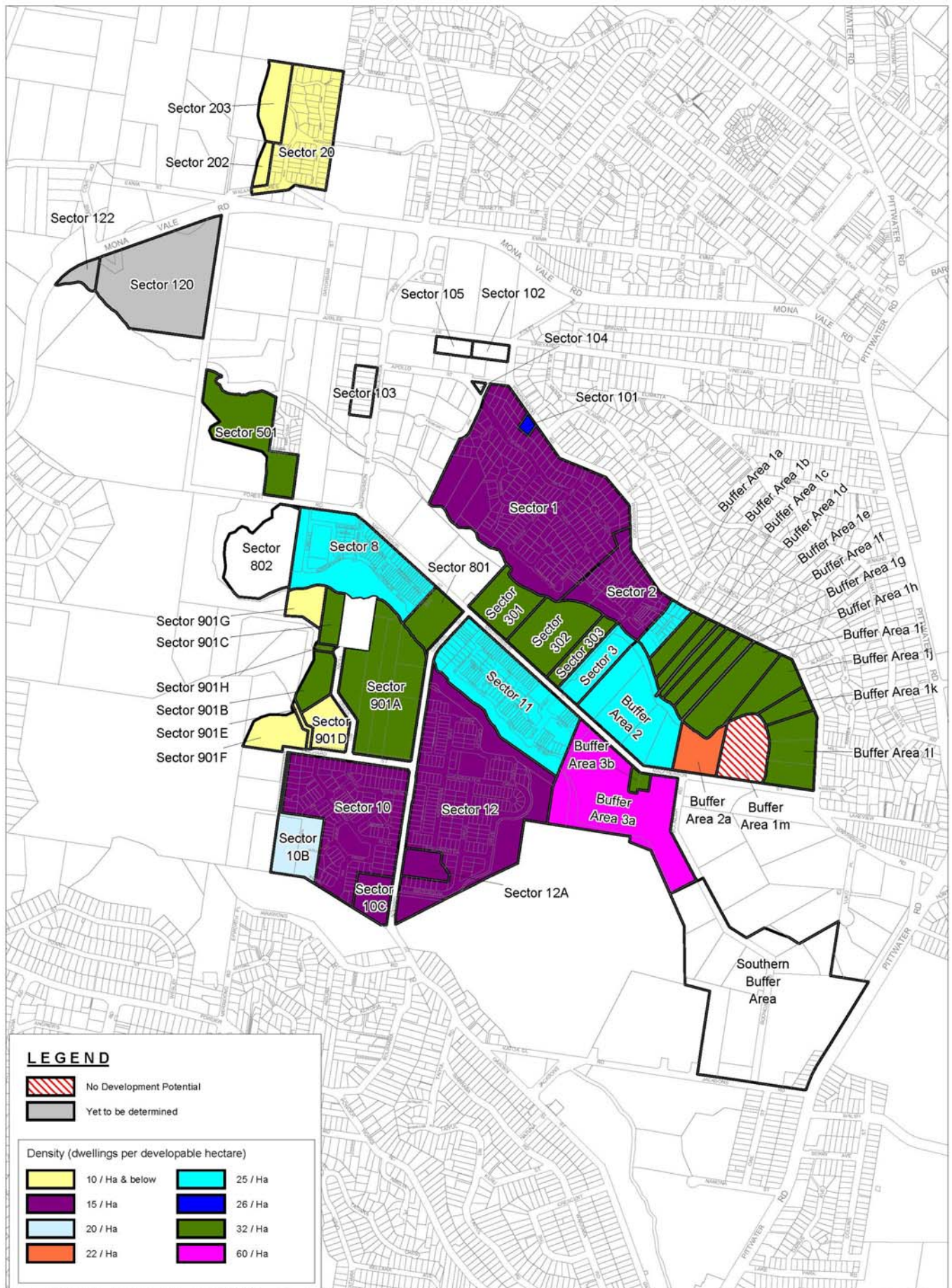
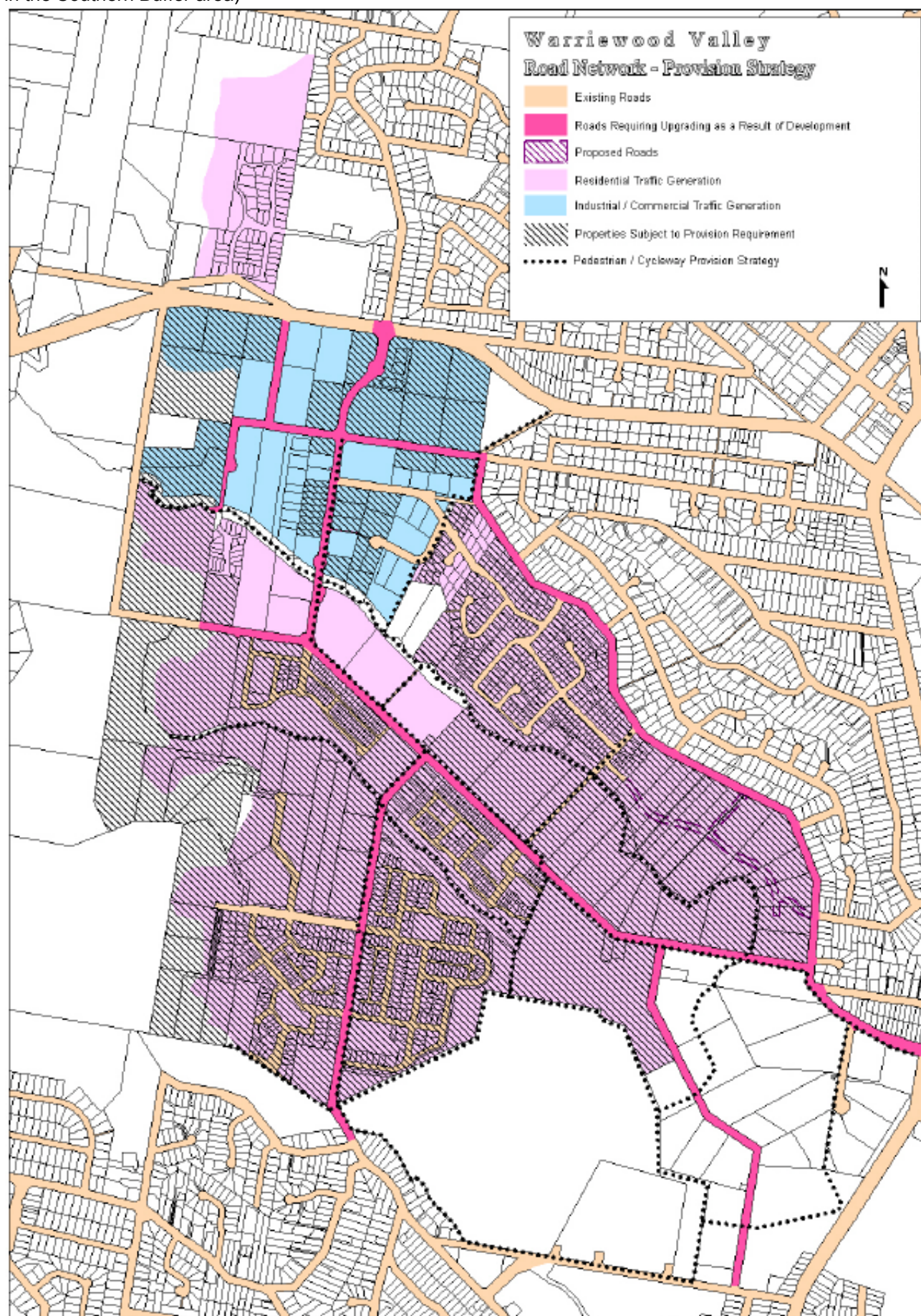


Figure 5: Road Network (Subject to change as a result of the Strategic Transport Study and future planning in the Southern Buffer area)



APPENDIX B

PLANS OF ENVISAGED DEVELOPMENT
