



25th November 2005

**General Manager**  
Pittwater Council  
2<sup>nd</sup> Floor, Unit 11,  
No 5 Vuko Place,  
Warriewood  
NSW 1660

**Re: Rezoning Application for Sector 3, Warriewood Valley.**

The rezoning application for Sector 3 has been amended to take into consideration Council's requirements as they have been highlighted through a series of meetings that have included Council planning officers and Mirvac.

The items that have been addressed include:

1. The redesign of Brands Lane to create a harmonious interface between Sector 3 and the Anglican Retirement Village.
2. The throttling down of the fourth leg of the round-about from the Garden/MacPherson Street intersection.
3. Amendment of the water management plans and confirmation that the water management design is consistent with Pittwater Council's requirements.
4. Amendment of the traffic analysis study confirming that the road design complies with the Warriewood Valley Roads Masterplan.
5. Amendment of landscaping plan to be consistent with the Warriewood Valley Landscaping Masterplan.
6. Provision of a 6.5m setback for dwellings fronting MacPherson Street.
7. Provision of a main entrance to the sector including a landscaped median.

Please find enclosed the following information relating to the Warriewood Valley Sector 3 Rezoning Application:

- Volume A – Amended Planning Report *November 2005*
- Volume B – Consultant Reports Folder 1. *August 2005*
- Masterplan (A0 – Laminate)
- Streetscapes (A0 – Laminate)
- Sections (A0 – Laminate)

Mirvac Homes (NSW) Pty Ltd ABN 22 006 922 998  
A Member of The Mirvac Group comprising  
Mirvac Limited ABN 92 003 280 699 and Mirvac Property Trust ARSN 086 780 645

Suite 205 Level 2, 30 Cowper Street  
PARRAMATTA NSW 2150  
PO Box 787 Parramatta 2124  
DX 28427 Parramatta  
Tel 61 2 9893 8800 Fax 61 2 8836 4500

Suite 1-265 Wharf Road  
NEWCASTLE NSW 2300  
PO Box 503 Newcastle 2300  
DX 7874 Newcastle  
Tel 61 2 4915 2600 Fax 61 2 4915 2699

[www.mirvac.com.au](http://www.mirvac.com.au)

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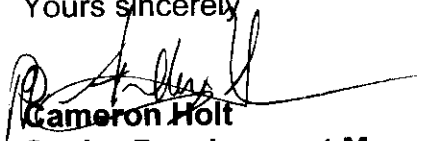
Appendix A. Water Management Addendum – Supplement to report 23/11/05  
Water Management Plans - 5194-01

- 5194-02
- 5194-03
- 5194-04
- 5194-05

Appendix B. Traffic Analysis Addendum- Supplement to Report 21/11/05

If you require any additional information or clarification with regard to this matter, do not hesitate to contact the undersigned.

Yours sincerely



**Cameron Holt**  
**Senior Development Manager**  
**Mirvac Homes (NSW) Pty Ltd**  
**(02) 9895 1845**

Our Ref: JH/5426/jj

Transport Planning  
Town Planning  
Retail Studies

21 November, 2005

Mirvac Homes  
Level 2, 30 Cowper Street  
PARRMATTTA NSW 2150

**Attention: Cameron Holt**  
**Fax: 8836 4445**

Dear Sir,

**RE: PROPOSED RESIDENTIAL DEVELOPMENT,**  
**SECTOR 3, WARRIEWOOD VALLEY**

1. As requested, we are writing to comment on the internal road widths proposed for the above development. We have previously prepared a transport report<sup>1</sup> in relation to the development. We understand that the internal road widths have been amended and that Council has requested additional information in relation to the ability of the proposed roads to cater for traffic flows within the proposed subdivision.
2. As noted in our report submitted with the development application, the proposed development is for 131 residential dwellings. Vehicular access is now proposed to be provided as follows:
  - from a new internal road running north from the intersection of Macpherson Street with Garden Street (5.5 metre carriageway width);
  - from Brands Lane (three metre carriageway width (plus passing opportunities) beyond the entry to the adjacent residential aged care facility to the east); and
  - via a new internal road running north from Macpherson Street, approximately half way between Garden Street and Brands Lane (7.5 metre carriageway width near and parallel to Macpherson Street and 5.5 metre width beyond these points).

---

<sup>1</sup> Transport Report for Proposed Residential Development, Sector 3, Warriewood Valley, July 2005.  
Suite 1801/Tower A, Zenith Centre, 821 Pacific Highway, Chatswood NSW 2067  
P.O. Box 5186 West Chatswood NSW 1515 Tel: (02) 9411 2411 Fax: (02) 9411 2422  
Directors - Geoff Budd - Lindsay Hunt - Stan Kafes - Tim Rogers - Joshua Hollis ACN 002 334 296  
EMAIL: cbhk@cbhk.com.au

3. As noted in our report, the proposed development would generate some 100 vehicles per hour two-way during morning and afternoon peak hours.
4. The section of Brands Lane with the three metre carriageway width would generally only serve some 13 dwellings (10 dwellings fronting this section of Brands Lane and a small number of dwellings fronting the road parallel to the creek). It would therefore carry some 10 vehicles per hour two-way during peak hours. This is equivalent to a daily flow of some 100 vehicles two-way. The proposed road width and volume is in accordance with AMCORD guidelines for an access way with a minimum width of three metres with passing opportunities.
5. The secondary access road from the Macpherson Street/Garden Street roundabout will have a 5.5 metre carriageway width and would generally serve some 35 to 40 dwellings. It will therefore carry up to some 30 vehicles per hour two-way during peak hours. This is equivalent to a daily flow of up to some 300 vehicles two-way. The proposed road width and volume is therefore in accordance with the Warriewood Valley Roads Master Plan for an access street. It is also in accordance with AMCORD guidelines which indicate that roads with 5.5 metre wide carriageways can cater for traffic flows up to 1,000 to 2,000 vehicles per day (100 to 200 vehicles per hour).
6. The remaining dwellings (some 73 to 78) would generally be served by the main access road in the centre of the site. The busier sections of this road, with 7.5 metre carriageway widths, will therefore carry up to some 60 vehicles per hour two-way during peak hours. This is equivalent to a daily flow of some 600 vehicles two-way. The proposed road width and volume is therefore in accordance with the Warriewood Valley Roads Master Plan for a local street. It is also in accordance with AMCORD guidelines which note that roads with 7.5 metre wide carriageways can cater for traffic flows up to 1,000 to 3,000 vehicles per day (100 to 300 vehicles per hour).
7. Beyond these points, the internal roads from the main internal access road from Macpherson Street would generally serve some 15 to 25 dwellings. These roads, with 5.5 metre carriageway widths, will carry up to some 10 to 20 vehicles per hour two-way during peak hours. This is equivalent to a daily flow of some 100 to 200 vehicles two-way. The proposed road widths and volumes are therefore in accordance with the Warriewood Valley Roads Master Plan for access streets. They are also in accordance with AMCORD guidelines which note that roads with 5.5 metre wide carriageways can cater for traffic flows up to 1,000 to 2,000 vehicles per day (100 to 200 vehicles per hour).

Colston Budd Hunt & Kafes Pty Ltd

8. Therefore, the proposed internal carriageway widths are generally in accordance with the Warriewood Valley Roads Master Plan to cater for the expected traffic flows. They are also in accordance with AMCORD guidelines. The proposed internal road widths are therefore considered appropriate to cater for traffic from the proposed development.
9. We trust the above provides the information you require. Finally, if you have any queries, please do not hesitate to contact us.

Yours faithfully,

COLSTON BUDD HUNT & KAFES PTY LTD



J F Hollis  
Director

level 4  
104 Mount Street  
North Sydney 2060

PO Box 515  
North Sydney 2059  
Australia

telephone: (02) 9957 1619  
facsimile: (02) 9957 1291  
email: reception@patbrit.com.au  
ABN: 89 003 220 228

**Patterson Britton  
& Partners Pty Ltd**

Newcastle Office  
8 Telford Street  
Newcastle East 2300

PO Box 668  
Newcastle 2300  
Australia

telephone: (02) 4928 7777  
facsimile: (02) 4926 2111  
email: mail@newcastle.patbrit.com.au

consulting engineers

Mirvac Homes Pty Ltd  
Suite 205, Level 2  
30 Cowper Street  
Parramatta NSW 2150

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23 November 2005

**Attention: Andrew Johnson**

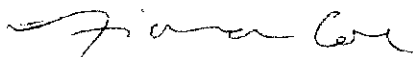
Dear Sir

**RE: SECTOR 3, WARRIEWOOD VALLEY REZONING APPLICATION**

Patterson Britton and Partners' previously submitted a report titled *Warriewood Valley Sector 3, Water Management Report Rezoning Application Stage, Issue 2, August 2005* to accompany the rezoning application. Accompanying drawings to this report (no.s 5194-01 to 05) have since been revised to reflect an amended lot layout and were reissued November 22, 2005. Drawing no.s 5194-06 and 07 have not been revised. I am writing to confirm that the amendment to the lot layout was not of significance to the water management at the site and does not affect the body of the report.

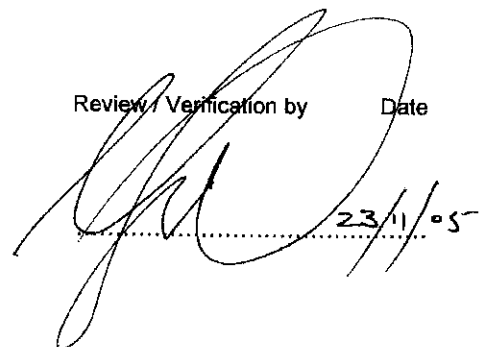
Please do not hesitate to contact either myself or Michael Shaw, should you require anything further.

Yours faithfully  
**PATTERSON BRITTON**



Fiona Coe  
Engineer

Review / Verification by      Date



Principals

Greg Britton BE MEngSc FIEAust Andrew Chitty BE MIEAust CPEng Peter Coltman BE MEngSc MIEAust  
Bruce Drury BE Dip Sc(Geol) M AppSc MIEAust Paul Harvey-Walker BE FIEAust David McConnell BSc MIEAust  
Joe Marson BE MEngSc FIEAust Andrew Patterson BE FIEAust Christopher Thomas BE MEngSc MIEAust  
Mark Tooker BSc(Eng) MEngSc FIEAust CPEng Michael Wright BE MEngSc MIEAust

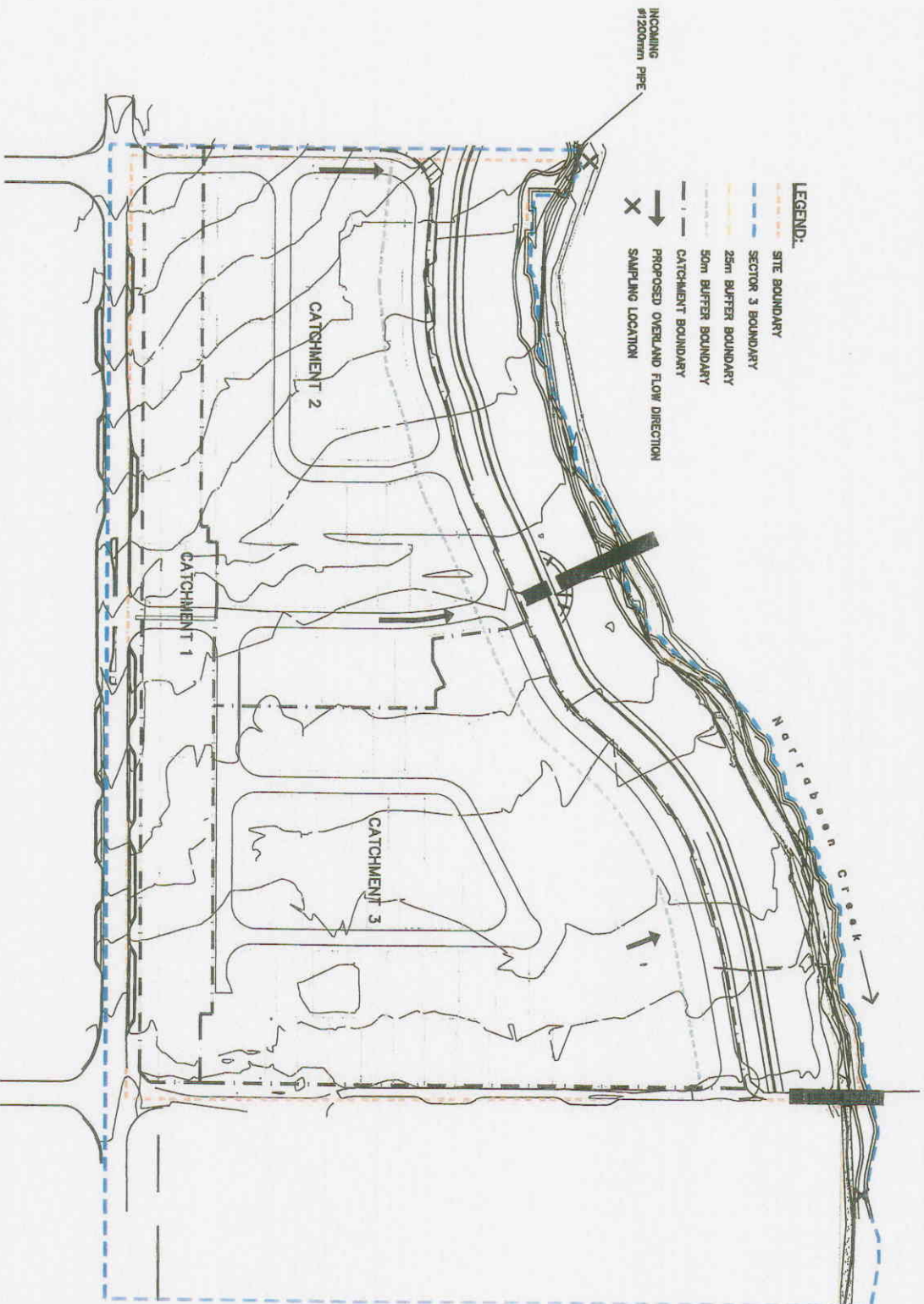
Senior Associates

Steve Barrett Simon Batt BE MIEAust Paul Macinante BE MEnvEngSc MIEAust Ben Patterson BE MIEAust  
Marc Roberts BE Michael Shaw BE MIEAust CPEng

Associates

Stephen Aebi BE MIEAust Neville Boyes OMIEAust Scot Cranfield Cameron Drury BE MIEAust  
Tod Hall BA (Bio) MEM (Coastal) Grad Dip (Bus-HR) Adam Knight BE MIEAust CPEng  
Cameron Smith BE MEngSc MIEAust CPEng Alexandra Stone BE MIEAust Chris Yates BE MIEAust





- LEGEND:**
- SITE BOUNDARY
  - SECTOR 3 BOUNDARY
  - 25m BUFFER BOUNDARY
  - 50m BUFFER BOUNDARY
  - CATCHMENT BOUNDARY
  - PROPOSED OVERLAND FLOW DIRECTION
  - X SAMPLING LOCATION
- INCOMING PIPE  
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**DRG STATUS : PRELIMINARY, NOT FOR CONSTRUCTION**

Issue	Drawn	Checked	Approved	Date
D	RG	SM	MS	23/1/08
C	RG	JMS	MS	24/02/08
B	RG	JMS	MS	22/07/08
A	RG	JMS	MS	14/07/08

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Head Office  
1st Floor, 100th Street  
Melbourne VIC 3000  
Telephone (03) 9607 1100  
Fax (03) 9607 1200  
www.patersonbritton.com.au  
A.C.N. 003 232 222

**Patterson Britton & Partners Pty Ltd**  
consulting engineers

Client: **WARRAVAC**  
Project: **SECTION 3 WARRAWOOD VALLEY**

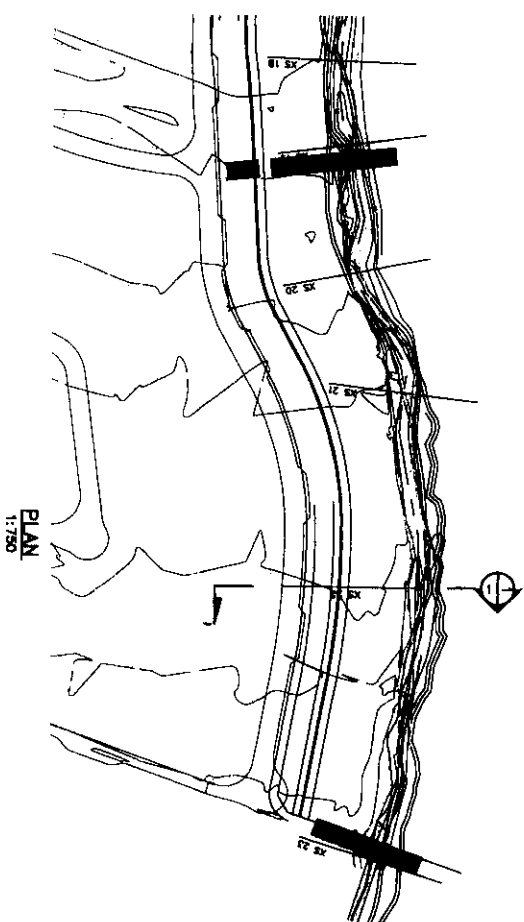
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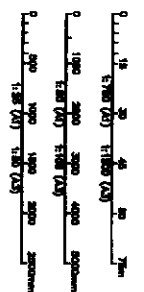






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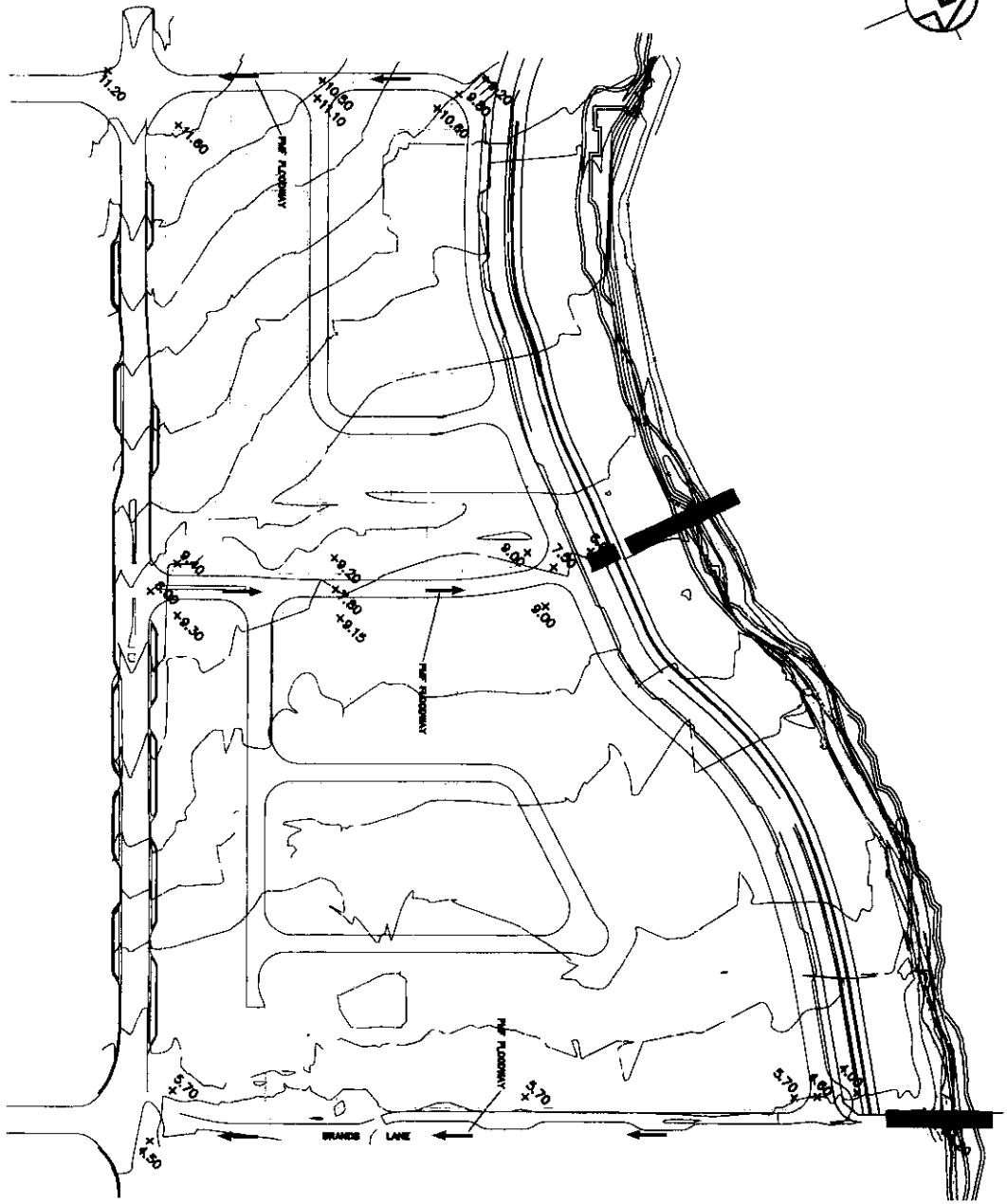
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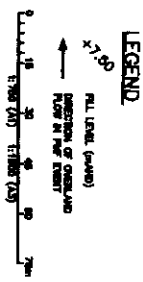
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PROJECT NAME: CREEK REHABILITATION  
 PROJECT NO: 5194-04  
 SHEET NO: D  
 DATE: 10/04/04



DRG STATUS : **PRELIMINARY, NOT FOR CONSTRUCTION**

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<p><b>PROPOSED SURFACE LEVELS</b></p>		<p>Drawing No. <b>5194-05</b></p> <p>Scale: <b>D</b></p> <p>Sheet No. <b>001</b></p>																			





# WARRIEWOOD

SECTOR 3



WARRIEWOOD  
Sector 3

REZONING REPORT

NOVEMBER 2005

VOLUME A: PLANNING REPORT

FOR MIRVAC HOMES (NSW) PTY LTD



WARRIEWOOD  
SECTOR 3



## CONTENTS

<b>1.0 Introduction</b>	<b>2</b>
<b>2.0 Background to the Rezoning Proposal</b>	<b>4</b>
<b>3.0 Site &amp; Surrounding Locality</b>	<b>7</b>
<b>4.0 Key Issues</b>	<b>10</b>
4.1 Traffic Impact Statement	
4.2 Geotech Report	
4.3 Contamination Report	
4.4 Acid Sulphate Soils	
4.5 Water Management Report	
4.6 Flora & Fauna	
4.7 Archeological Heritage	
4.8 Utilities & Services	
4.9 Landscaping	
4.10 Bushfire	
<b>5.0 Rezoning Proposal</b>	<b>22</b>
5.1 Masterplan	
5.1.1 Solar Access	
5.1.2 Building Lines & Setbacks	
5.1.3 Building Materials	
5.1.4 Retaining Walls	
5.1.5 Parking	
5.1.6 View Sharing & De Facto Building Lines	
5.1.7 Fences & Walls	
5.1.8 Social Environment	
5.1.9 Acoustic Criteria	
5.1.10 Ecologically Sustainable Development	
5.1.11 Pets & Companion Animals	
5.1.12 Waste Management Plan	
5.1.13 Public Recreation & Open Space	
5.2 Multi Functional Creekline Corridor	
5.3 Proposed Road, Cycleway & Pedestrian Network	
<b>6.0 Conclusion</b>	<b>32</b>

## Figures

1. Location Map
2. Zoning Plan
3. Site Surrounds
4. Site Analysis
5. Land Survey - Byrne & Associates
6. Road Hierarchy
7. Geotech Test Locations
8. Proposed Surface Levels
9. Creek Rehabilitation
10. Existing Flood Levels
11. Stormwater Drainage Concept Plan (SDCOP)
12. Landscape Plan
13. Landscape Sections
14. Masterplan
15. Subdivision Plan
16. Multi Functional Creek Line Corridor Plan
17. Multi Functional Creek Line Corridor Section
18. Pedestrian/Cycle Way Legend



INTRODUCTION

## 1.0 INTRODUCTION

The following report consists of a detailed examination of the suitability of land within Sector 3 for urban development and includes a summary of findings from consultant reports prepared to identify and assess the constraints and opportunities associated with the site.

The land release area within the Warriewood Valley was originally identified for development in 1991 when it was included in the State Government Urban Development Program by the Minister for Planning. Pittwater Council has developed a planning process for a series of sectors to be developed with an integrated and co-ordinated approach. Sector 3 has been designed to conform to this strategy by creating a high quality urban outcome with a natural creek line corridor providing significant opportunities for public recreation and open space.

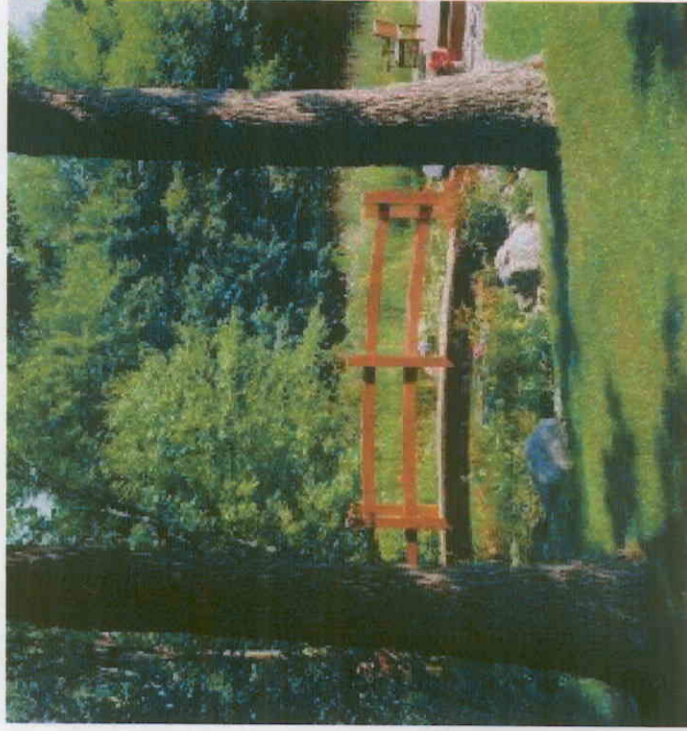
# WARRIEWOOD SECTOR 3

A number of specialist studies have been undertaken to address the key issues, characterise the site and to determine its suitability for future urban development.

This report describes the findings of these studies and makes conclusions and recommendations with regard to the future development of Sector 3. In the process of summarising the findings of these reports, no significant impediments to the use of Sector 3 for urban development were discovered.

Sector 3 consists of three properties with a combined area of approximately 6.1ha. Mirvac Homes (NSW) Pty Ltd has control over a portion of the sector with the remainder being controlled by two other parties. The site is currently occupied by several retail and wholesale plant nurseries that consist of a combination of greenhouses, residences and hardstand. The site is generally flat, sloping downwards towards the creek corridor in the north east with drainage of the site feeding into Narrabeen Creek. Generally, the site's natural environment is significantly depleted with the creek line being impacted by noxious weeds.

Underpinning this rezoning request is the recognition that the subject site represents an opportunity to implement Pittwater Council's planning strategies by providing urban development consistent with the dwelling yield required for Sector 3, ensuring certainty for delivering significant environmental outcomes for the site, providing Council with early assurance of development intent and additionally by delivering a masterplanned estate that will result in a neighbourhood that meets the diverse needs of contemporary households.





BACKGROUND TO CURRENT  
REZONING PROPOSAL

# WARRIEWOOD SECTOR 3

## 2.0 BACKGROUND TO CURRENT REZONING PROPOSAL

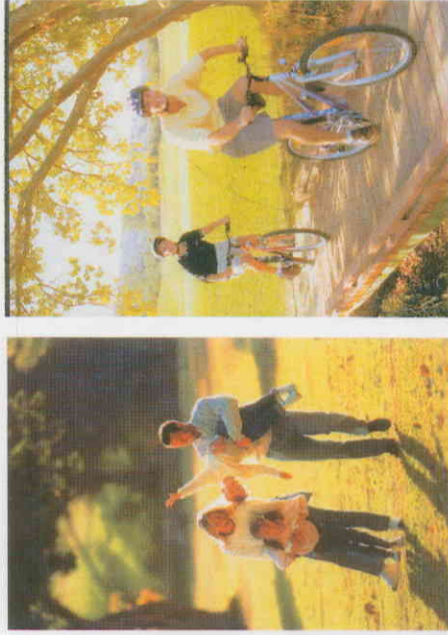
The recent history of the release of land for residential development within the Warriewood area stems from late 1991 when land at Ingleside and Warriewood were included in the State Government Urban Development Program by the Minister for Planning. Pittwater Council was given responsibility for undertaking the relevant investigations and feasibilities necessary for the urban land release.

To progress this process, Council created a Land Release Advisory Committee to discuss and implement the planning objectives. Included in this committee (but not limited to) were representatives of Council, the State Government including members of the Department of Urban Affairs and Planning (DUAP), the Roads and Traffic Authority and relevant utilities.

A Residents Consultative Committee was also formed to voice opinions of land owners and residents. These committees developed a Draft Planning Strategy which served as the basis for further consultation with the community and the State Government. Together, the Draft Planning Strategy and the consultation outcomes were submitted to DUAP for consideration.



Figure 1: Location Map



# WARRIEWOOD SECTOR 3

## 2.0 BACKGROUND TO CURRENT REZONING PROPOSAL

In May 1997, a restricted release of land for urban development within the Warriewood Valley was announced by the Minister of DUAP. The release consisted of 110 hectares of land within the Warriewood Valley and West Mona Vale with a projection of 1510 new dwellings.

In order to provide the planning format to guide landowners and developers, a series of planning documents and studies were undertaken. These included the:

- Warriewood Valley Development Control Plan No.29
- Warriewood Valley Section 94 Contributions Plan WVS94
- Warriewood Valley Roads Master Plan
- Warriewood Valley Water Management Specification
- Warriewood Valley Open Space and Recreation Master Plan
- Warriewood Valley Landscape Masterplan and Design Guidelines

Mirvac has co-ordinated the preparation of this report, in conjunction with the other property owners within Sector 3, to seek the re-zoning of the site to enable residential development consistent with Council's strategy for the Valley.

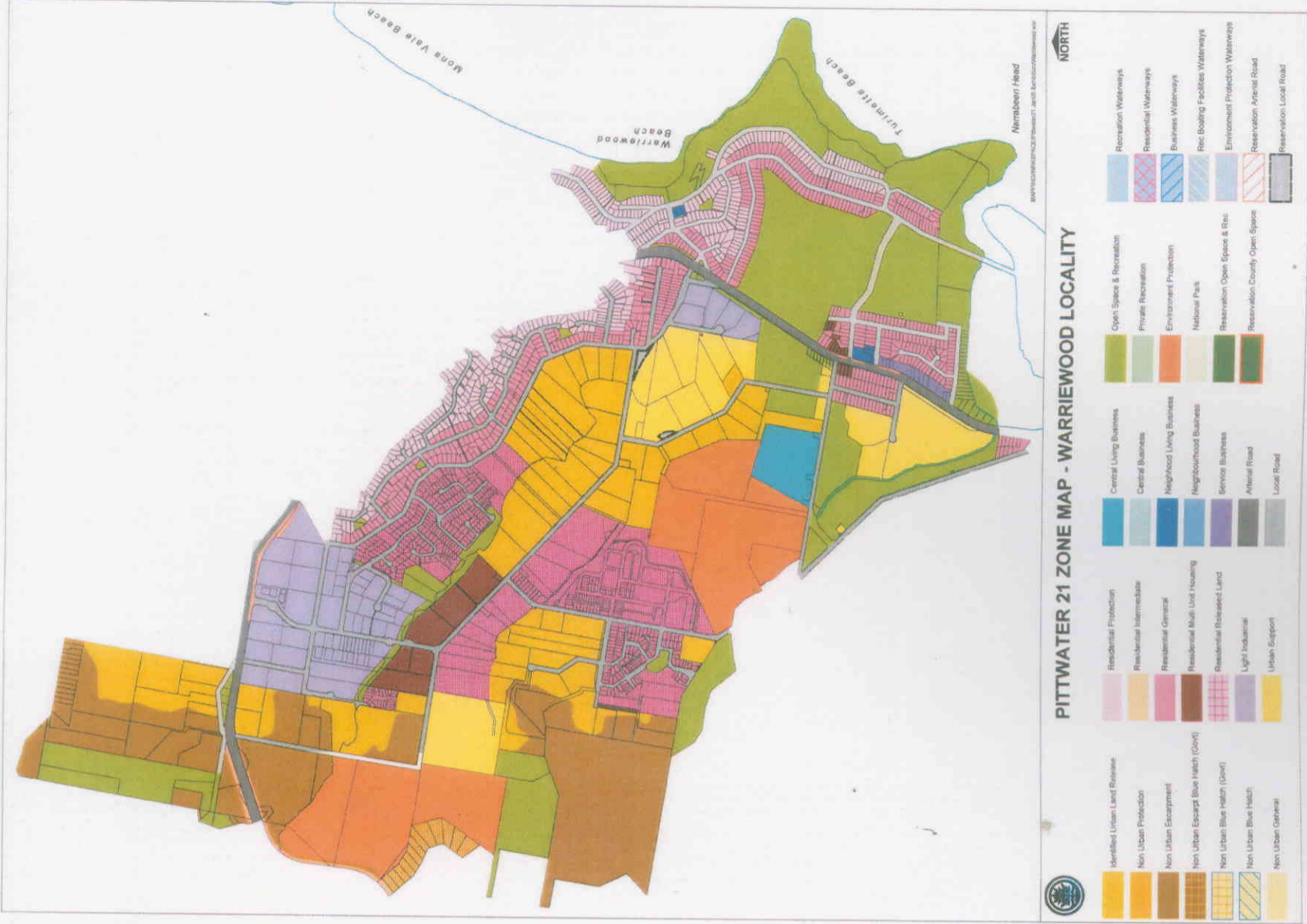


Figure 2: Zoning Map



SITE & SURROUNDING LOCALITY

### 3.0 SITE & SURROUNDING LOCALITY

Sector 3 ("the site") consists of three properties being 16, 18 and 20 MacPherson Street, located in the centre of the Warriewood Valley, on Sydney's Northern Beaches (refer to Figure 1. Location Map). The properties are zoned Rural 1(a), two of which are currently operating as retail nurseries. The combined site area totals approximately 6.1 ha. Sector 3 previously included 14 MacPherson Street, however this land parcel is no longer located within Sector 3 as it has now been included in the STP Buffer Zone.

The site's boundaries include MacPherson Street and Sector 11 to the south, Brands Lane and the STP Buffer area to the east, Narrabeen Creek and Sectors 1 and 2 to the north and an existing medium density development to the west (refer to Figure 3. Site Surrounds). Residential development now surrounds all boundaries of Sector 3, except for its eastern boundary that is the subject of an application before council for a Retirement Village.

All three properties have operated or are operating as nurseries and have improvements associated with this type of business. They consist of hardstand for car-parking and storage of materials, retail sheds/structures for the display of plants and horticultural equipment, offices, dwellings for owner/operators, greenhouses and a café/restaurant on the Flower Power property. The site also includes a frontage to Narrabeen Creek to the north. This creek consists of predominantly overgrown vegetation and the natural environment is in a depleted state with the exception of a small collection of swamp mahoganies. Apart from the creek, the site is predominately void of native vegetation.

Historically, the site has been used for rural and agricultural purposes. Initially, dairy farming was the primary industry on the site which later was converted to a market garden until being turned into nurseries, which are still present on the site today.

The site is generally flat, sloping towards the creek corridor to the north east (refer to Figure 5 Land Survey). Drainage from the site currently follows in the same direction, with the distinguishable drainage route being at Brands Lane.

## WARRIEWOOD SECTOR 3



Figure 3: Site Surrounds

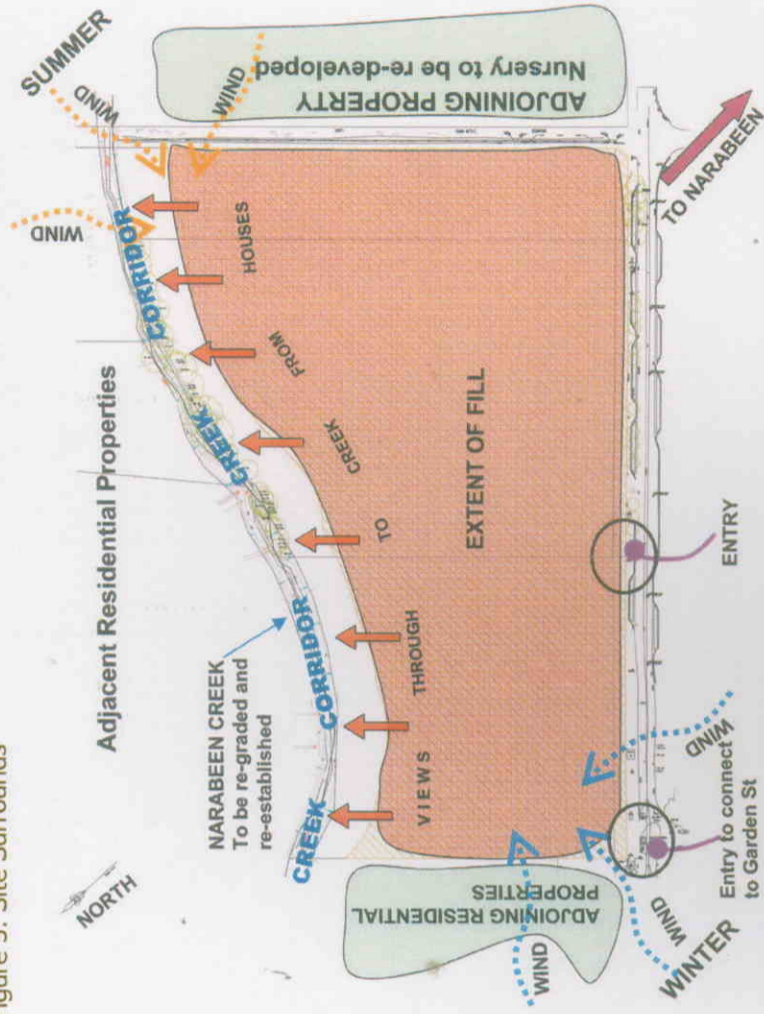


Figure 4: Site Analysis

**SITE & SURROUNDING LOCALITY**

Address	Folio Identifier	Area	Owner
16 MacPherson	4/553816	1.0204ha	Lyndon Foley, Foley's Nursery
18 MacPherson	1/604035	3.05ha	Mirvac Homes (NSW) Pty Ltd
20 MacPherson	1/592091	2.06ha	Flower Power
		<b>6.1304 ha</b>	

Table 1 – Property Particulars  
(refer to Appendix N – Title Particulars)

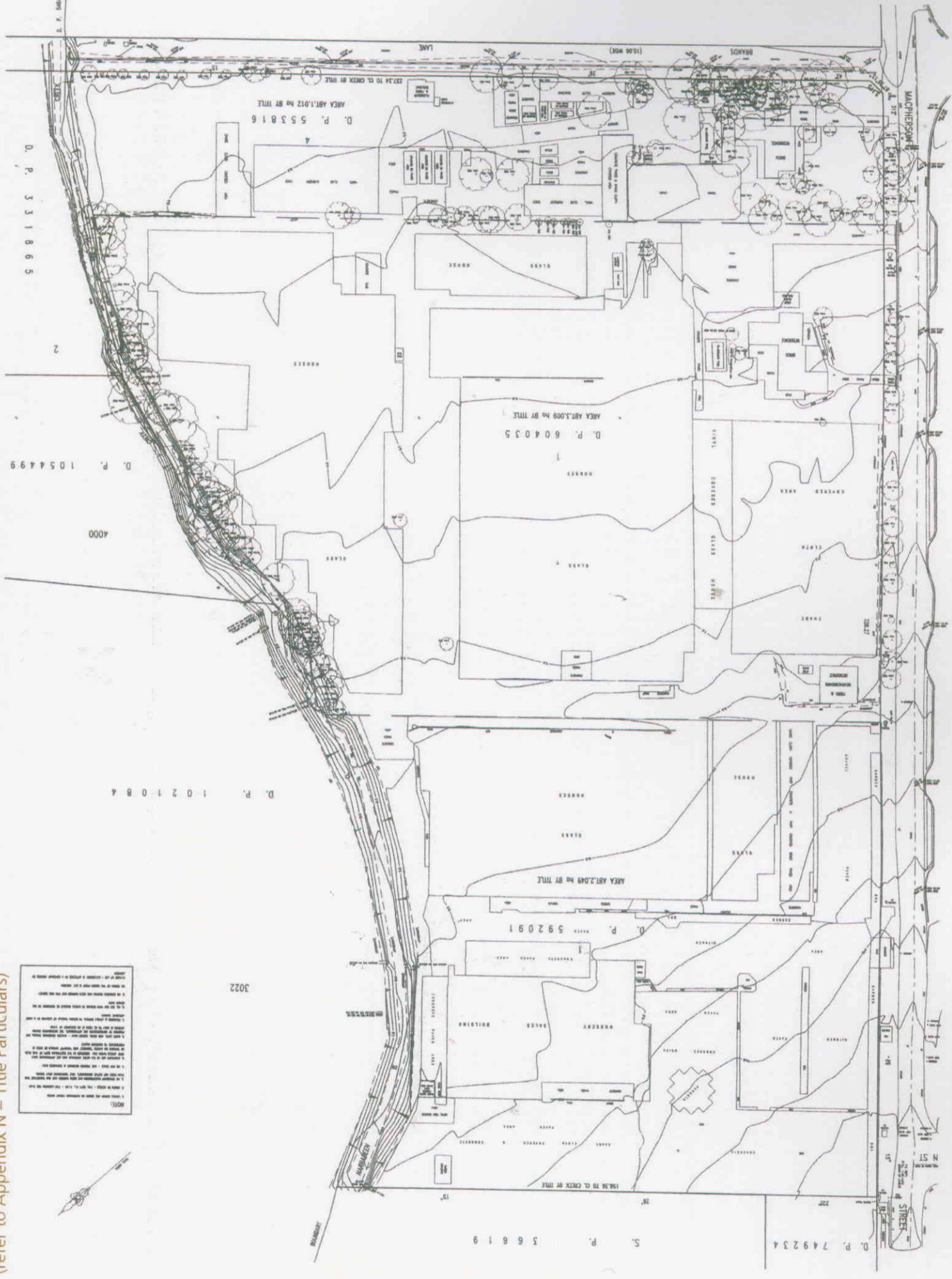


Figure 5: Land Survey - Byrne & Associates

**WARRIEWOOD  
SECTOR 3**



KEY ISSUES

## 4.0 KEY ISSUES

A comprehensive examination of the Warriewood Sector 3 area was undertaken by various specialist consultants to determine the site's suitability and capability to support urban development.

A copy of each report has been included with this submission for review in conjunction with the Rezoning Proposal. The following summarises the findings and where appropriate incorporates maps, photographs and diagrams from those studies.

### 4.1 TRAFFIC IMPACT STATEMENT

Colston Budd Hunt and Kafes (CBHK) traffic consultants has undertaken a traffic analysis study to determine the effect of the development of Sector 3 on the overall Road Masterplan for the Warriewood Valley and the operation of the new roads within it.

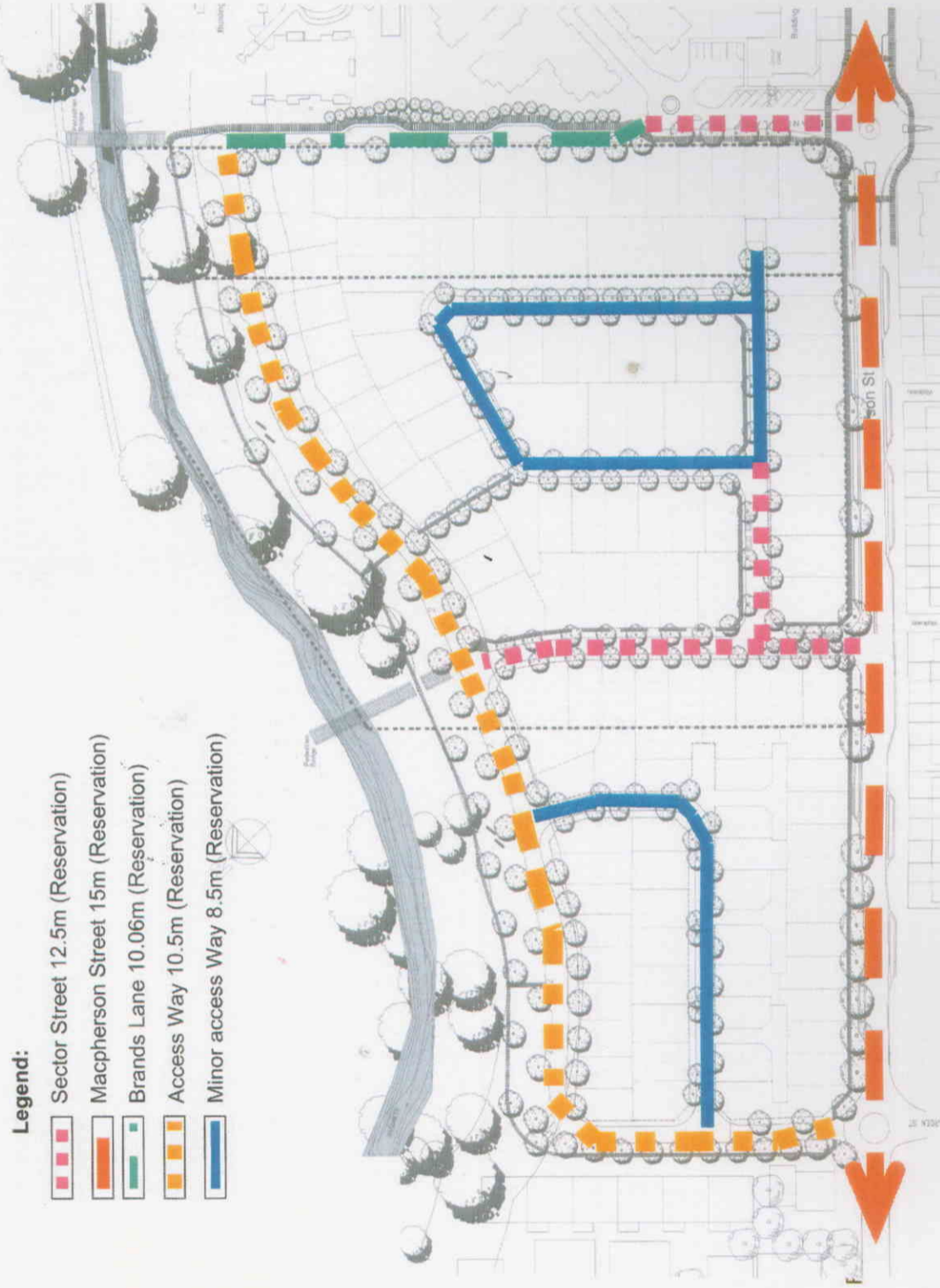
Masterplanning for Sector 3 has been undertaken consistent with the objectives outlined in Development Control Plan No. 29 and the Warriewood Valley Roads Masterplan.

The road infrastructure is assembled into a hierarchy, starting with MacPherson Street, which is to be an avenue, sector streets and accessways, and finally shareways that will be used for access to rear loaded garages.

Pedestrian and cycleways connect the sector with other sectors and provide the opportunity for alternative forms of transport to private vehicles. Sector 3 is also in close proximity to the existing bus service assisting in providing an increased demand for them.

Several upgrades to the road system will be carried out in conjunction with the Sector 3 proposed development. These include road widening at MacPherson Street, construction of roundabouts at the corners of Brands Lane/MacPherson Street and Garden Street/MacPherson. A "seagull" type intersection is proposed to be located for easy access to and from the central street in Sector 3.

## WARRIEWOOD SECTOR 3





## KEY ISSUES

The CBHK study concludes:

"Overall, the proposed layout provides for an efficient subdivision pattern and a low speed environment in accordance with the principles in DCP 29 and AMCORD. Access, internal circulation and layout arrangements are considered appropriate."

Traffic generation for the proposed development has been forecast to determine the affect of additional vehicles within the Warriewood Valley road system. It was found that during peak hours, the proposed development would generate some 100 vehicles per hour two-way, which is an approximate increase of 75 to 50 vehicles compared with existing conditions.

This increase in traffic is considered to be acceptable and the report summarises:

"With the works identified for the area, the road network will be able to cater for the traffic generated by the proposed development and future development."

The results of the CBHK study state that the proposed road layout of the masterplan is appropriate to achieve a low speed environment and provide effective internal circulation for vehicular traffic. Additionally, it states that the proposed development can be accommodated within the road network taking into account the proposed upgrades for the area.

# WARRIEWOOD SECTOR 3



## 4.2 GEOTECH REPORT

A Preliminary Geotechnical Assessment has been undertaken for Sector 3 by Douglas Partners Pty Ltd. The report investigates the existing conditions and outlines recommendations for site preparation and foundations to be used in the development of the sector.

The assessment consisted of six cone penetration tests (CPTs) and 15 test bores to determine the subsurface conditions (refer to Figure 7. Location of Tests). It was found that the site:

"...is underlain by Quaternary deposits, consisting of silty to peaty quartz sand, silt and clay with ferruginous and humic cementation in places and common shell layers."

It continued to summarise the site as consisting of:

"...a surficial layer of filling (to depths of 0.3 m to 1.5 m) underlain by highly variable alluvial sediments to the depth of investigation (1.5 m to 12.98 m)."

The existing site conditions have implications on the settlement of the site over time. In order to effectively prepare the site for residential purposes preloading will be required to induce as much settlement as possible prior to construction. This process would likely include:

- Demolition and removal of all existing site improvements
- Proof rolling prior to placement of bulk filling
- Removal of soft compressible or oversized material
- Local excavation then reworking of existing very loose sub-grade materials
- Placement and compaction of imported filling

Further geotechnical work will need to be undertaken to determine specific requirements for preloading and house construction. The report concludes "that both shallow and deep foundation will be feasible on the site". The use of raft foundations, construction pads and piles will need to be designed and constructed specific for the site to ensure that conditions are such that differential settlement patterns will be minimised.

The report states that the combination of preloading the site to induce settlement and specifically designing raft foundations, pads and piles for the proposed development will be sufficient to provide suitable geotechnical conditions for the masterplan.





**Douglas Partners**  
Geotechnics, Environment, Groundwater

Sydney, Newcastle, Brisbane,  
Melbourne, Perth, Wyang,  
Campbelltown, Townsville  
Cairns, Wollongong

**TITLE:** Location of Tests  
Preliminary Geotechnical Assessment  
Warriewood Valley Sector 3 Rezoning  
MacPherson Street  
WARRIEWOOD

**CLIENT:** Mirvac Homes (NSW) Pty Ltd  
**DRAWN BY:** PSCH | **SCALE:** As shown  
**APPROVED BY:** *[Signature]*  
**PROJECT No:** 37274  
**OFFICE:** STONEY  
**DATE:** 1.11.2004  
**DRAWING No:** 1

**LEGEND**

- ◆ TEST BORE LOCATION (BH1 to BH15)
- ◆ CONE PENETRATION TEST LOCATION (CPT16 to CPT21)

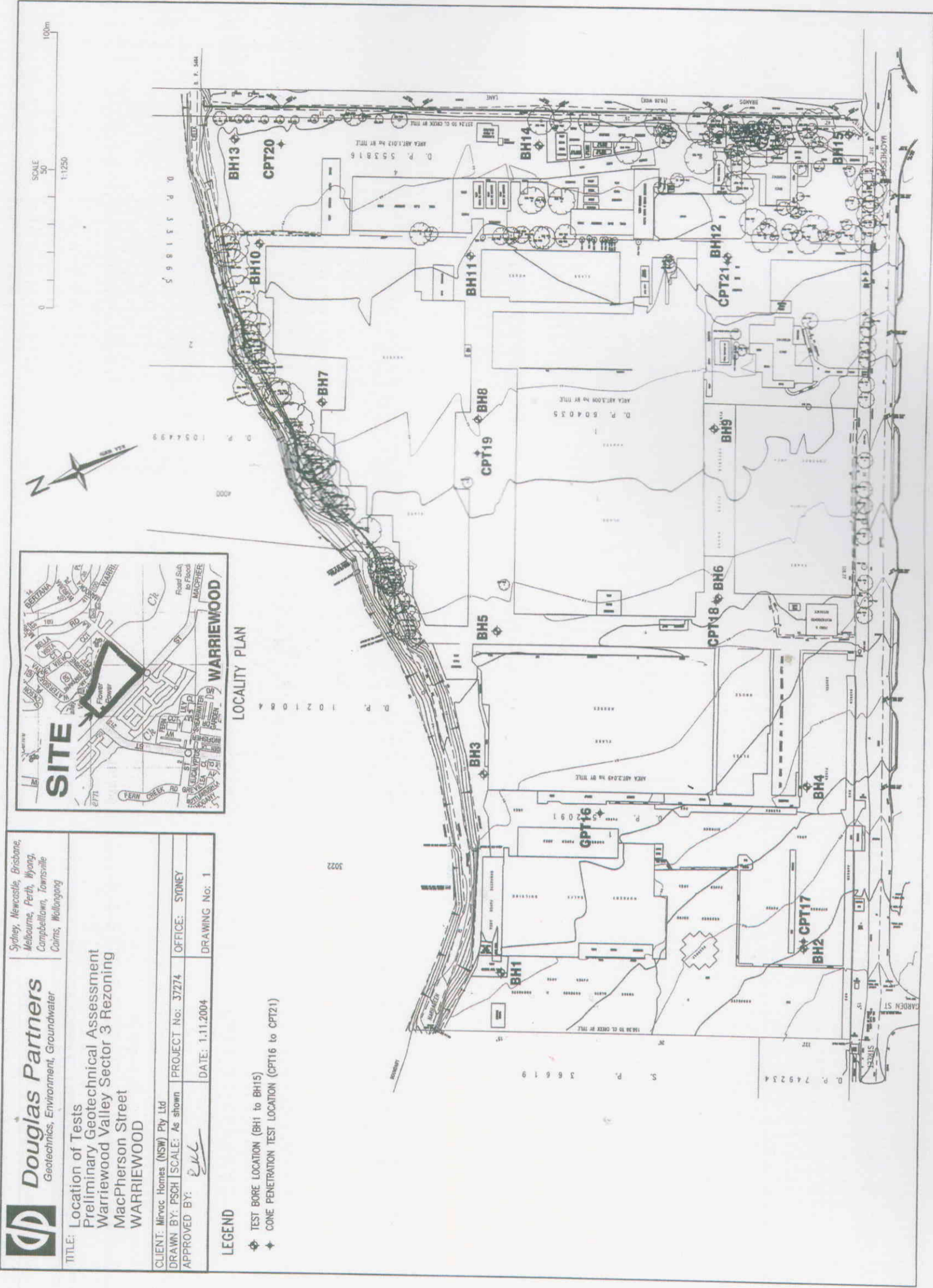


Figure 7: Geotech Test Locations

WARRIEWOOD  
SECTOR 3



## KEY ISSUES

### 4.3 CONTAMINATION

Douglas Partners Pty Ltd has undertaken a Preliminary Contamination Report for Sector 3 on the basis that it is to be rezoned to allow residential development on the site. The report has taken into account a site history review, drilling and sampling from 15 test bores and additionally, 23 selected soil samples that were analysed for potential contaminants.

The findings of this report are:

"Concentrations of potential contaminants (viz heavy metals, TRH, BTEX, PAH, phenol, PCB, OCP and OPP) were low in all samples tested, and were within human health-based investigation levels for residential sites...."

It continues:

"the analytical results obtained from the sampling locations indicate consistently low levels of chemical contaminants in all samples, showing no signs of undue chemical contamination impacts, and further assessment (with respect to chemical contamination) may not be warranted."

The contaminant concentrations recorded at the site were also within the Provisional Phytotoxicity-based Investigation Levels (PPIIL). The one exception to this was recorded in one sample that had a concentration of zinc that was marginally over the guideline, although this exceeded level was considered "insignificant".

On the basis of these findings, chemical contaminants do not create any constraints on the development of the site and further investigation would not be required at this stage.

In one of the three samples analysed for asbestos, a 2mm fibre bundle was detected. It is stated in the report that the asbestos "is likely to be confined to the near surface horizon". The report recommends that further identification of the hazardous materials is undertaken and disposed of with the NSW EPA and WorkCover requirements.

The report additionally states:

"Based on site observations, site history and laboratory results it is considered that the site can be rendered suitable for the proposed residential development by removal of asbestos containing materials and filling and validation of the site with respect to asbestos."

These recommendations will be suitably addressed and the appropriate disposal of any asbestos found on site will be undertaken in accordance with the direction of a qualified specialist.

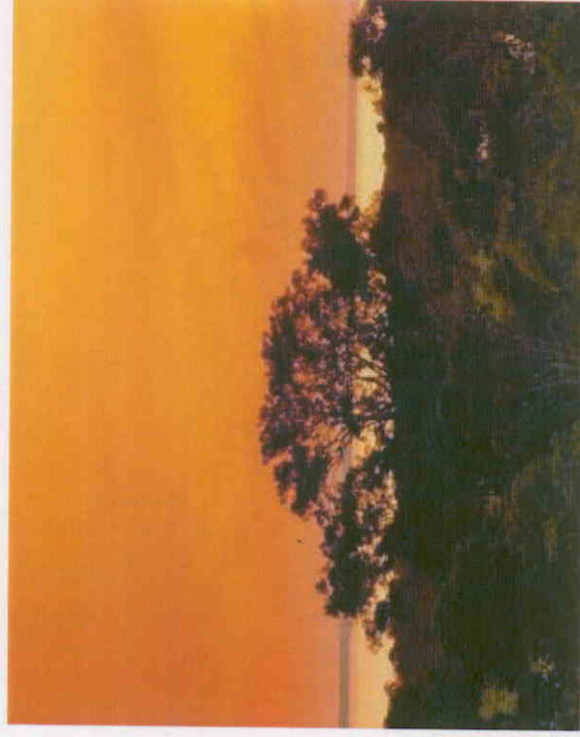
### 4.4 ACID SULPHATE SOILS

As part of the Preliminary Contamination Assessment report undertaken by Douglas Partners Pty Ltd for the Sector 3 site, testing was carried out to determine the presence of Acid Sulphate Soils (ASS).

It was noted in the report that "site observations and pH screening indicate that ASS may be present on the site". However, this was qualified by explaining that "there was a low potential for finding ASS below 3m at the site. No actual ASS, ie soils containing significant quantities of acid, was identified at the site".

The Douglas Partners report recommends that if bulk excavation works or dewatering are to occur during the development of the site leading to disturbance of the ASS, in-situ sampling and Peroxide Oxidation Combined Acidity and Sulphate (POCAS) analysis will be required.

As no bulk excavation or dewatering are anticipated, it is unlikely that these measures will need to be undertaken. Additionally, as mentioned in the Water Management section of this report, the site is to be filled and this will further reduce the likelihood for ASS disturbance during the civil construction phase of development. Should there been any possibility of ASS being disrupted in this phase, further investigation will be undertaken to determine the extent of the deposit and its impacts on the development.





## KEY ISSUES

### 4.5 WATER MANAGEMENT

Patterson Britton water management consultants were commissioned to prepare a report for Sector 3 in accordance with Council's Warriewood Valley Urban Land Release Water Management Specification. This report has developed strategies with regard to water cycle management, water quality management, floodplain management, water course and corridor management.

These strategies were developed to ensure that:

- Peak runoff flow rates do not exceed existing values.
- Average annual runoff volume after development is reduced to approach the existing values.
- Average annual pollutant load in runoff after development does not exceed existing values.

The strategies of stormwater detention (to reduce localised peak runoff flow rates), on-site retention, re-use and infiltration near the source (to reduce runoff volumes) and pollutant removal devices.

The strategy for managing stormwater runoff consists of source control, the conveyance system and formal detention. The total stormwater detention volume proposed for Sector 3 is 2,236m<sup>3</sup> which is above the Council requirements in their Water Management Strategy (WMS). The source control includes the use of rainwater tanks (Effective Detention Storage Volume 260m<sup>3</sup>), the minimisation of impervious surfaces (limited to 50% of the site), and the use of landscaping that maximises infiltration.

The rainwater tanks will have a dual objective of providing water for use in toilets and car-washing as well as other non-potable uses. The conveyance system will include roads and access ways (EDSV 118m<sup>3</sup>) and the piped drainage system (EDSV 66m<sup>3</sup>) will provide additional capacity to reduce peak flow rates in events between the 20 year and 100 year ARI. Formal detention will be provided by on-site detention tanks (25 x 10m<sup>3</sup> = 250m<sup>3</sup>) for those lots fronting MacPherson Street and additionally the creation of a bio-retention basin (EDSV 1,746m<sup>3</sup>) that will run in the buffer zone of the creek line corridor that will maximise infiltration and reduce peak runoff rates for all storm events (refer to Figure 11. Stormwater Drainage Concept Plan).

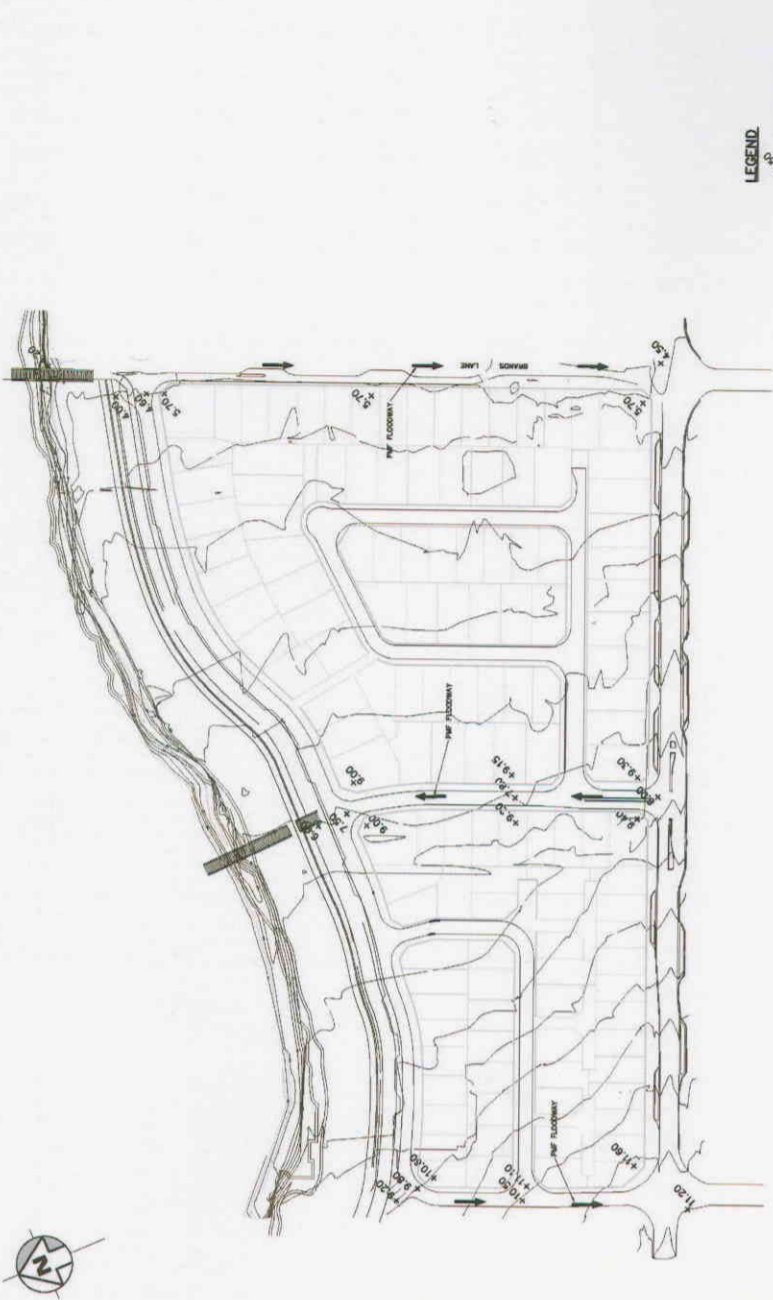


Figure 8: Proposed Surface Levels

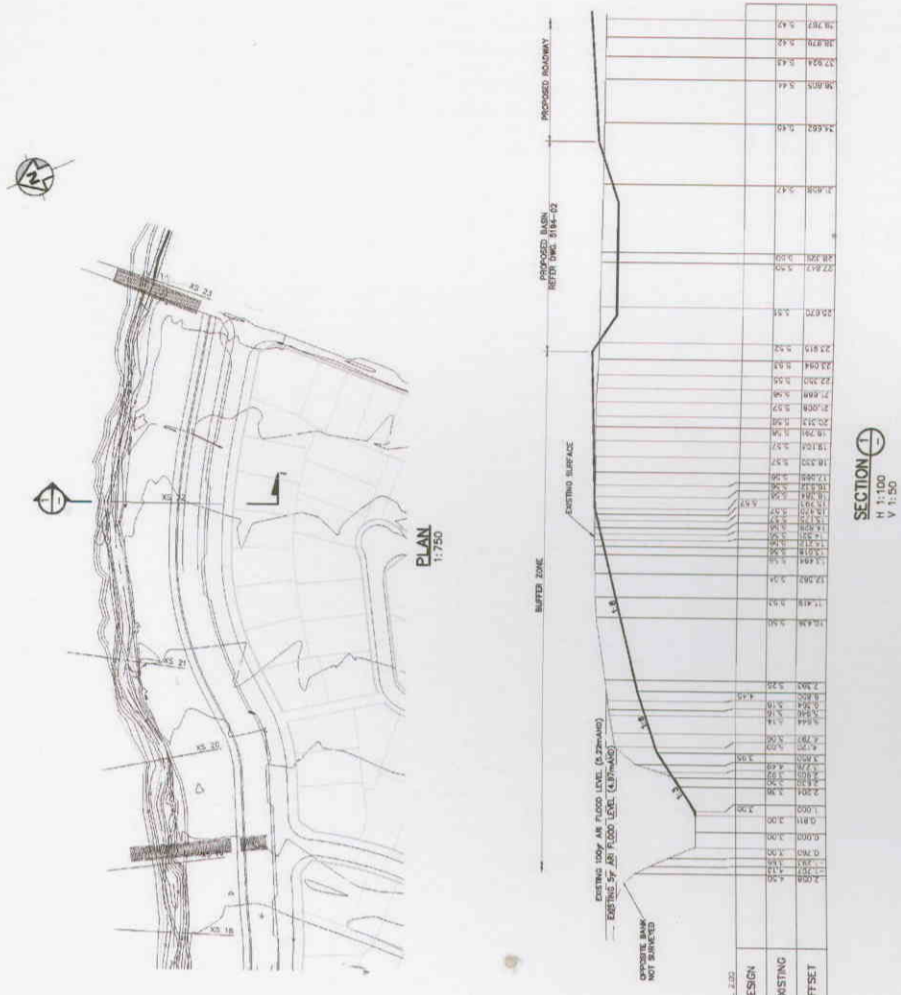


Figure 9: Creek Rehabilitation

# WARRIEWOOD SECTOR 3

The bio-retention basin will serve as a water quality management tool and in conjunction with the provision of Gross Pollutant Traps (GPTs) will ensure a "no net increase" in pollutant loads discharged from the developed site compared to existing conditions. During the construction phase of Sector 3, to ensure that water quality is maintained, adequate sediment and erosion control facilities will be designed and installed.

Sector 3 is affected by flooding from the north due to its proximity to Narrabeen Creek. A strategy has been developed to effectively manage the 5, 20 and 100 year ARI floods and the Probable Maximum Flood (PMF) for Sector 3 whilst not exacerbating conditions either up or down stream. A combination of earthworks at the creek level and throughout the site will be used to prevent flooding of the residential properties within Sector 3. This will consist of filling the site so that all habitable floors will be located at least 500mm above the 100 year ARI flood level and above the PMF level such that flooding notations will not be present on new lot Section 149 certificates (refer to Figure 8, Proposed Surface Levels). Additionally the regrading and battering of the creek within the multi function corridor in accordance with Council's requirements will prevent flooding rising to levels that will affect the private land.

The strategies outlined in the water management report will significantly improve the existing conditions at the site by reducing peak runoff flows, limiting the amount of pollutants exiting the site and mitigating flood events so that they are managed and controlled. These measures ensure that the water management issues have been adequately addressed and will not be an impediment to the proposed development.

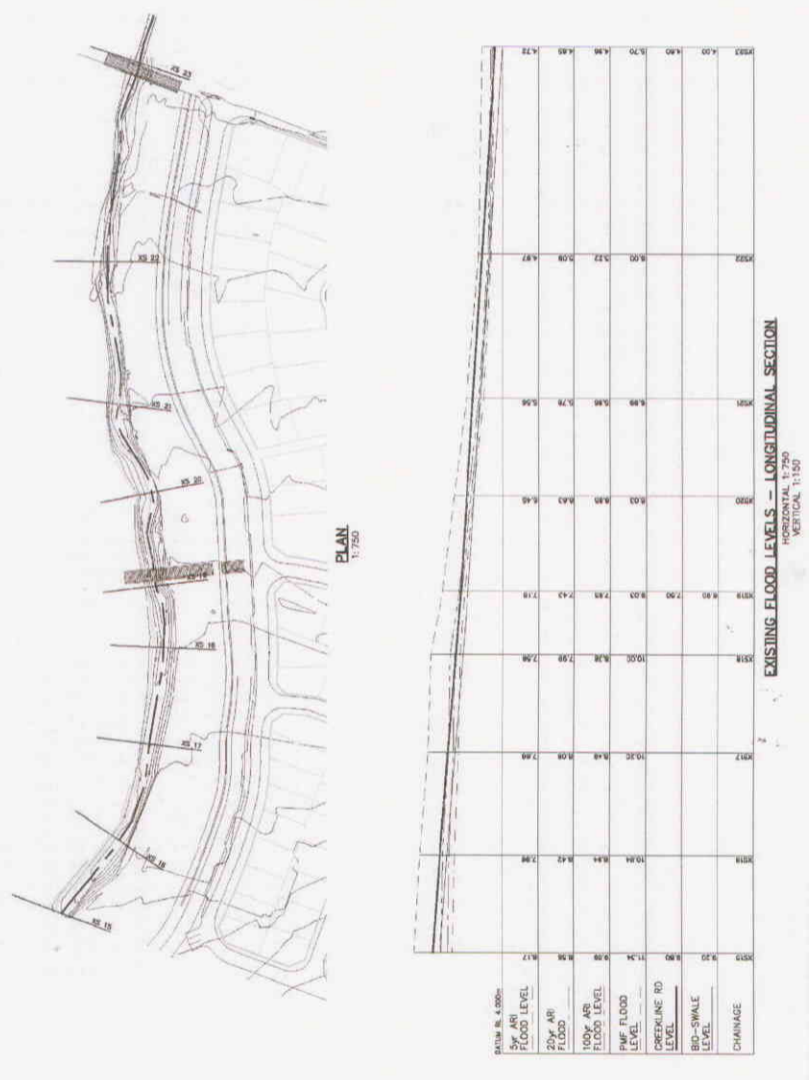


Figure 10: Existing Flood Levels

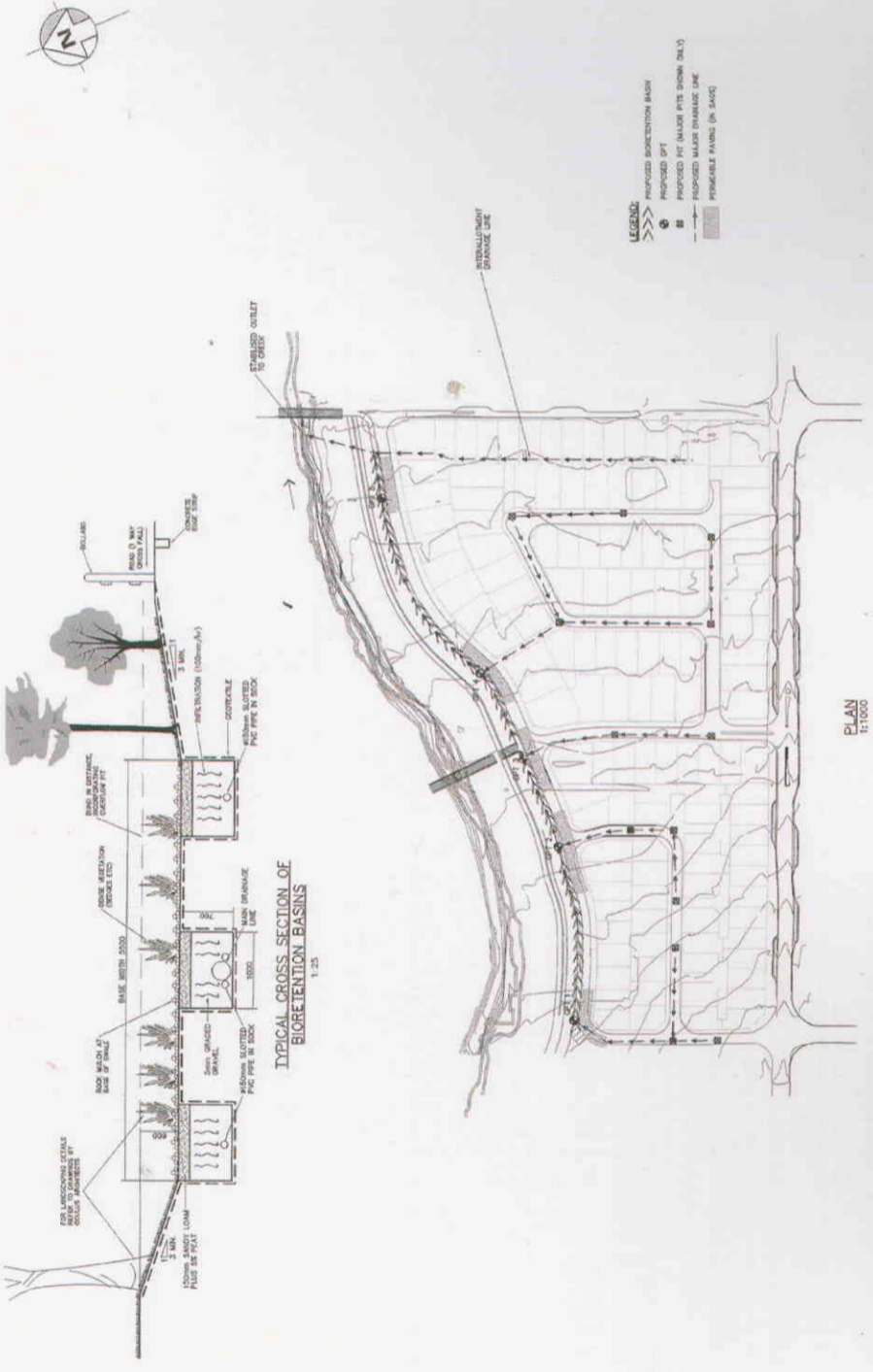


Figure 11: Stormwater Drainage Concept Plan (SDCP)



## KEY ISSUES

### 4.6 FLORA & FAUNA

Biosis Research was commissioned to undertake an assessment of the ecological constraints and development options to be addressed with consideration to the Sector 3 component of the Warriewood Valley. The following is a summary of the findings and recommendations as outlined within the report. The masterplan accommodates these recommendations with the aim to produce a higher level of natural environment for native flora and fauna than currently exists.

The Biosis study found that the vegetation within the study area comprises:

"...a highly altered and degraded native habitat for plant and animal species. The vegetation within the study area does not represent a native vegetation community and contains few resources for native animal species.

No threatened plant species, populations or communities listed on the Threatened Species Conservation (TSC) Act 1995 and/or Environment Protection & Biodiversity Conservation (EPBC) Act were recorded within the study area during the current survey. The study area is not considered to contain potential habitat for any threatened flora."

The study area was determined to provide a "notional" food resource for two threatened bird species listed on the TSC and EPBC Acts, being the Regent Honeyeater and Swift Parrot. Only one migratory species, the Pacific Black Duck, which is present on the EPBC Act was recorded within the study area. None of the abovementioned species were found to be dependent upon the site as a source of resources thus it was concluded that:

"...it is unlikely that the proposed development would result in individual death or injury, loss of limiting foraging or breeding resources, or disturbance to limiting breeding or foraging habitat. Further consideration under the TSC Act or EPBC Act is not recommended for any threatened species known to occur within the study area."

In accordance with DCP 29 Warriewood Valley Urban Release Area and consistent with the recommendations of the BIOSIS report, the Sector 3 site has been designed to minimise disturbance to the existing environment and additionally create an improved natural environment, providing opportunities for native fauna to be re-introduced.

The measures that will be adhered to ensuring this outcome include:

- Providing appropriate sediment/erosion and drainage control devices during and after excavation works to prevent sediment escaping from the site
- Retaining the maximum amount of remnant trees possible
- Eradication of noxious weeds as outlined in the Vegetation Management Plan prepared by Total Earth Care (see attachments)
- Landscaping to incorporate locally indigenous species.

The proposed development will provide an opportunity to embellish the Sector 3 site and creek line corridor with indigenous species allowing native fauna to re-establish itself within the area and in the process clear the site of noxious weeds and pests that threaten the site.

### 4.7 ARCHAEOLOGICAL

BIOSIS Research has carried out a report for Sector 3 investigating the possible existence of European or Aboriginal heritage sites within the area. BIOSIS has undertaken site inspections in conjunction with a representative of The Metropolitan Local Aboriginal Land Council (MLALC) and historical searches to determine the archaeological significance of the site.

The land within Sector 3 has been significantly modified throughout the period of European settlement. Initially used for dairy farming and subsequently for market gardening, the site is now predominately utilised by nurseries. Large amounts of topsoil have been removed through cuttings and benching and further landscaping and the construction of buildings has contributed to the disturbance of the site.

The report states:

"During the survey there were no Aboriginal or historical remains located. From the high level of disturbance, it was identified that there is a low potential for both Aboriginal and historical archaeological remains to have survived within the archaeological record."

The recommendations of the report are as follows:

- There are no Aboriginal or historical constraints to the proposed rezoning of Warriewood Sector 3;
- No further Aboriginal archaeological work is recommended;
- No further Historical archaeological work is recommended;
- In the unlikely event that Aboriginal objects are located during the course of development all work should cease and the MLALC and NSW national parks and Wildlife Service should be contacted to assess the significance of the finds and recommend an appropriate course of action.

The BIOSIS report concludes that Sector 3 is not affected by any archaeological constraints. However, if any objects are uncovered in the process of developing the site, work will be halted and further investigation will be conducted to determine the archaeological significance of the item. The findings of the BIOSIS report and those of MLALC state that there are no archaeological constraints to the Sector 3 site.



## KEY ISSUES



# WARRIEWOOD SECTOR 3



### 4.8 UTILITIES AND SERVICES

The relevant utilities and service providers have indicated that they will be able to install underground services in time to service the development. Attached with this application are letters from:

- Integral Energy
- Agility (Natural Gas)
- Sydney Water
- Transfield Services (Communication Services)

#### **Sydney Water**

Sydney Water has undertaken a preliminary investigation for the Sector 3 area and provided a letter and plan (11 October 2004). This letter outlines the current status of upgrades to the existing sewer network in the Warriewood Valley area and the likely requirements for the provision of sewer to the Sector 3 area.

Extensions would be required to connect to the part of Sector 3 that is capable of flowing into the sewer on MacPherson Street. The remainder of Sector 3 would need to drain to the proposed Narrabeen Creek Carrier. Currently, the construction of this carrier is on hold dependant upon the future strategy of the Buffer area. It would therefore be necessary for the remainder of Sector 3 to be pumped into the MacPherson Street sewer until such time as the Narrabeen Creek Carrier has been constructed.

(Refer to Appendix B)

#### **Energy Australia**

A letter of authority was received from Energy Australia dated the 3rd of August 2005 stating that:

"This letter confirms that Energy Australia has capacity available to provide underground electricity supply to this sector."

(Refer to Appendix C)

#### **Communications – Transfield Services**

Transfield Services, on behalf of Telstra Corporation, have provided pre-provisioning notification for the subject properties confirming that arrangements can be made to service the proposed development at the appropriate stage of the project.

(Refer to Appendix D)

A letter of authority was received from Agility dated the 23 of August 2005 stating that:

"This letter confirms that Agility has capacity available to provide underground gas supply to this sector."

(Refer to Appendix E)

These letters confirm that all necessary service providers are capable of providing underground connections to the site within the time frame of the project.



## KEY ISSUES

### 4.9 LANDSCAPING

A landscape master plan has been prepared by OCULUS consistent with the principles outlined in the Warriewood Valley DCP 29 and the Warriewood Valley Landscape Master Plan and Design Guidelines. In addition to this, a Vegetation Management Plan has been carried out by Total Earth Care outlining the strategy for producing and maintaining a high quality landscaped environment.

The landscape design concentrates on creating an environment utilising indigenous species which blend into the natural environment of the Warriewood Valley whilst re-establishing the creek line corridor as a habitat for fauna and for public recreation and open space. The design has been divided into streetscape, residential gardens and the creek line corridor.

The streetscape has been designed so that a continuous canopy of street trees will be created by planting indigenous trees in verges and tree pits within the road carriageway. MacPherson Street will be planted with Swamp Mahogany between the existing stands of Casuarina and Brush Box.



Figure 12: Landscape Plan



## KEY ISSUES

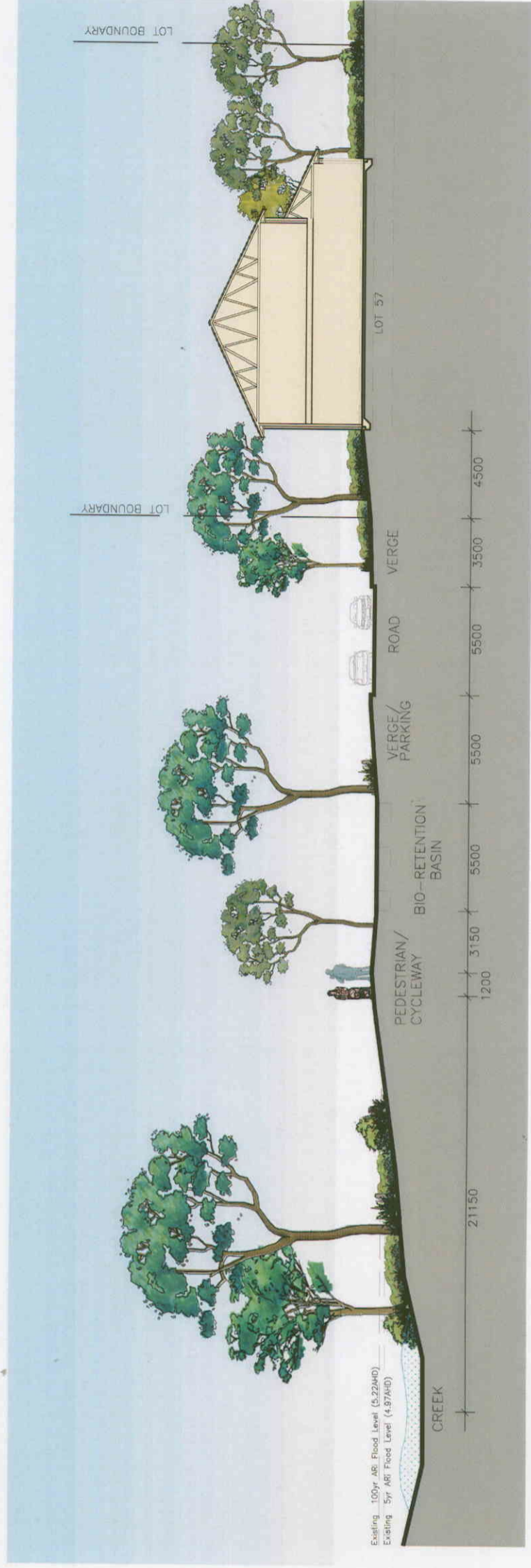


Figure 13: Landscape Sections

Swamp Mahogany will be continued into Brands Lane to compliment the existing row of Eucalypts. The link road running adjacent to the creek line corridor is to be planted with the indigenous Smooth Barked Apple Angophora Costata creating a proud boundary to the creek line area. The residential garden component of the proposed master plan has been designed to:

“Provide a landscape that is integrated, private and usable and one that provides ‘visual softening’ of the buildings.”

The vegetation will be comprised of a mix of indigenous trees and groundcovers which will include at least two trees within the front garden and one at the rear. These trees will be staggered to allow the development of the canopy providing screening to homes and creating groves contributing to the visual amenity of the street. Additionally:

“Native shrubs and groundcovers will be supplemented with a selection of exotic species that will provide seasonal colour, texture and form to the gardens.”

The creek line corridor and buffer zone are to be regraded and will achieve both a functional and an environmental outcome. The completed works will consist of a new battered creek bordered by indigenous ground covers and shrubs, a series of turfed areas intended for passive and active recreation, a 1.2m wide pedestrian walkway linked to the other sectors and also a 5.5m wide bio retention basin. The bio retention basin, which will serve as an on-site detention basin, will be landscaped with shrubs and groundcovers designed to assist infiltration.

The Vegetation Management Plan is divided into four phases being:

1. Site establishment
2. Creek bank stabilisation and regrading
3. Revegetation
4. Maintenance

The site establishment will consist of initial meetings and co-ordination of tasks to ensure that weed eradication and erosion controls are implemented as the foundation for the latter stages of the plan. The creek bank stabilisation and regrading will include civil works, sandstone battering, tree removal, bank stabilisation, mulching and jute matt installation.

This stage shall prepare the site for the revegetation phase which is primarily covered in the material from Oculus. It is envisaged that the maintenance for the landscaped areas within the multifunctional corridor will need to be maintained for two years from the date of final planting.

The vegetation management plan itemises within an action plan the requirements of the relevant parties to implement and maintain the landscaped outcome.



# WARRIEWOOD SECTOR 3

## 4.10 BUSHFIRE

Sector 3 is not immediately adjoining a bushfire zone and has buffer zones from adjoining sectors and the creek line in the form of roads and open space. Sector 3's boundaries include Brands Lane to the east, MacPherson Street to the south, townhouses to the west and Narrabeen Creek to the north.

Only the northern boundary adjoins a "natural" environment which does not consist of residential dwellings. The proposed residential properties that will address the northern boundary will be sufficiently isolated from this creek line with a private 25m buffer consisting of a road, pedestrian way and bio-retention basin providing an adequate fire break. Additionally, this access road provides direct access to the creek and would provide an ideal location for containing a bushfire.

## 4.11 KEY ISSUES – OPPORTUNITIES & CONSTRAINTS

The findings of these specialist reports highlight that Sector 3 does not possess any constraints that would make the site unsuitable for urban development. The reports outline effective strategies, taking into account Council's requirements, that have been used as the basis for the preparation of the proposed masterplan and all future works will be carried out in accordance with the recommendations of these specialist consultants. By rezoning the site to allow for urban development, significant opportunities will be gained by allowing Sector 3 to become part of Council's urban release strategy for the Warriewood Valley. Below is a summary of the major points for each issue:

- The traffic impact report states that the layout of the masterplan is appropriate to provide adequate internal circulation within the proposed development and that additional private vehicle trips will be accommodated by the proposed works that are to be undertaken within the Warriewood Valley.

- The Geotechnical and Contamination studies present a number of strategies to be carried out prior to construction commencing on site. The site will be preloaded to induce settlement and dwellings will be designed to incorporate foundations, pads and piles specific to the site. The contamination report has found minimal contaminants to be present on site and those that exist will be removed in accordance with the regulations of the NSW EPA and Work Cover. Acid Sulphate Soils have been found in small concentrations at depths that will not be impacted at the civil construction phase of the proposed development.
- The strategies outlined in the water management report will significantly improve the existing conditions at the site by reducing peak runoff flows, limiting the amount of pollutants exiting the site and mitigating flood events so that they are managed and controlled. These measures ensure that the water management issues have been adequately addressed and will not be an impediment to the proposed development.
- The Biosis Flora and Fauna report states that the flora at site is in a depleted condition and provides limited foraging opportunities to native fauna. The revegetation of the creek line corridor will provide an opportunity to replenish the site with native flora and subsequently provide an ideal habitat for native fauna. The findings of the BIOSIS Archaeological Report and those of MLALC state that there are no archaeological constraints to the Sector 3 site.
- The Utility companies have confirmed that relevant underground services will be available to the site.
- A landscape masterplan has been prepared in accordance with the Warriewood Valley DCP 29 and the Warriewood Valley Landscape Master Plan and Design Guidelines that achieves Council's requirements to create an environment using local indigenous species, providing visual separation of residences and embellishment of the multi functional creekline corridor.



REZONING PROPOSAL

MASTERPLAN

WARRIEWOOD  
SECTOR 3



Figure 14: Masterplan



## 5.0 REZONING PROPOSAL

### 5.1 RESIDENTIAL MASTERPLAN

Sector 3 within the Warriewood Valley is a unique site with natural opportunities and constraints. The design and masterplan for the site have been undertaken by HPA Architects Planners Interior Designers Pty Ltd to facilitate the residential development of an urban community consistent with Council's planning strategies (Refer Figure 14. Masterplan for "Warriewood Sector 3"). An innovative masterplan will be the foundation for controlling urban form, the desired housing choice and the creation of a strong community lifestyle.

The masterplan demonstrates that access will be provided at three points, being from Brands Lane, a central access way in the centre of the proposed development and from the intersection of Garden and MacPherson streets. These access points will assist to provide a high degree of connectivity within the site and between the site and adjoining areas, while minimising the negative impacts of through traffic.

Legibility of road, pedestrian and cycleway networks is achieved through the adoption of a clear hierarchical street system such as Avenues, Sector Streets, Access ways and Share ways. The Access Ways are designed with integrated landscaping and slow points to keep speed to a minimum within these areas.

The masterplan incorporates both on and off road, walk and cycleways, to allow maximum permeability for residents within Sector 3 and with the adjoining sectors. The walk and cycleways also encourage alternate modes of transport whilst promoting exercise and resulting in improved environmental outcomes.

The layout is integrated with the surrounding environment and will compliment existing streetscapes and landscapes along Macpherson Street and Brands Lane as explained in the Landscaping section of this report.

The multi functional creekline corridor running along the northern boundary of the site will be the primary opportunity for the provision of open space and serve as the natural focus for the sector. The masterplan maintains the alignment of the existing creekline corridor while enhancing the corridors environmental quality, ecological connectivity and visual amenity. The creekline corridor will be edged with a public road which is fronted by dwellings providing surveillance and increased security within the area. This corridor will be planted with indigenous trees and shrubs as part of the overall scheme to provide an interconnected corridor through the Warriewood Valley.

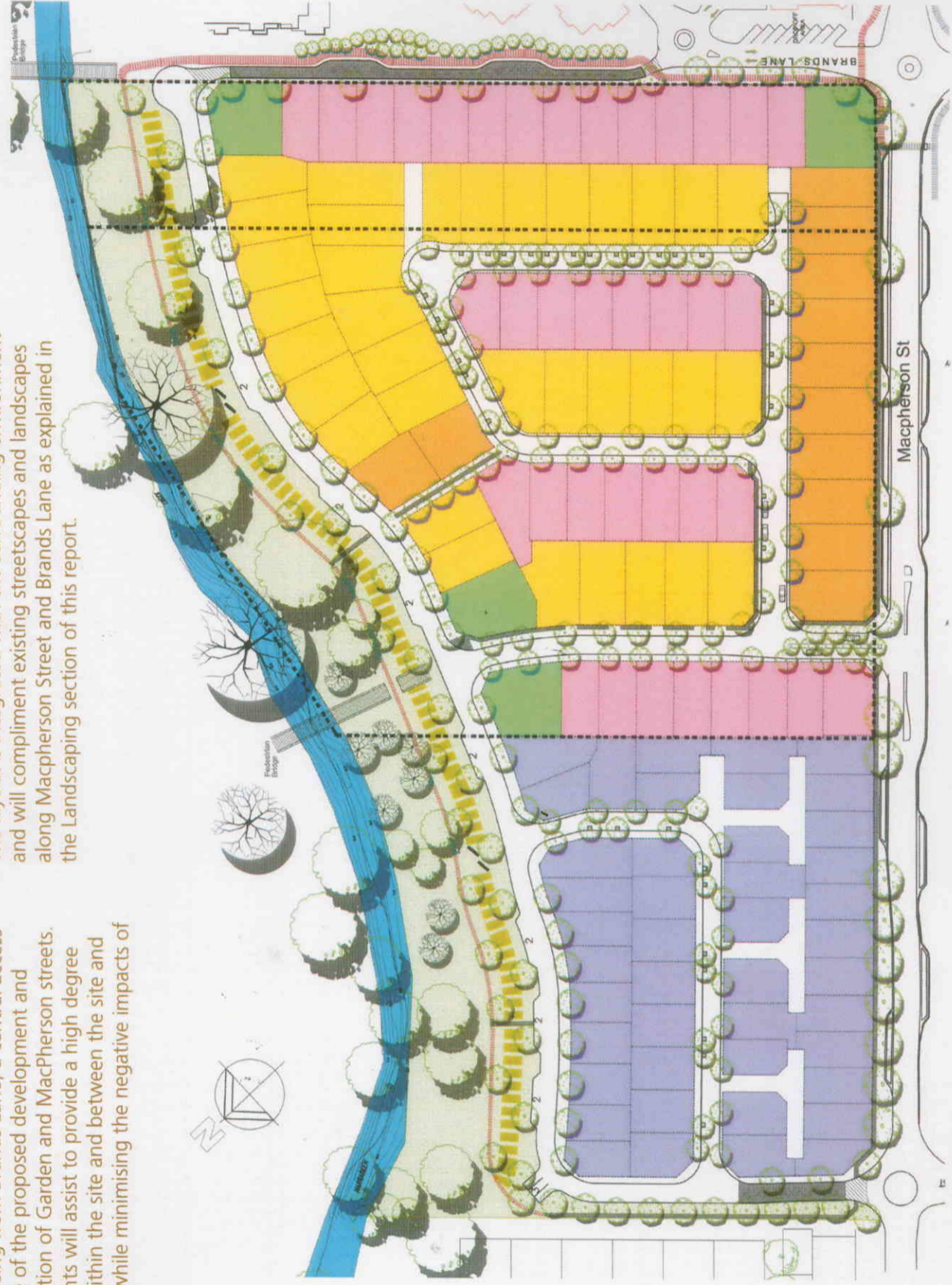
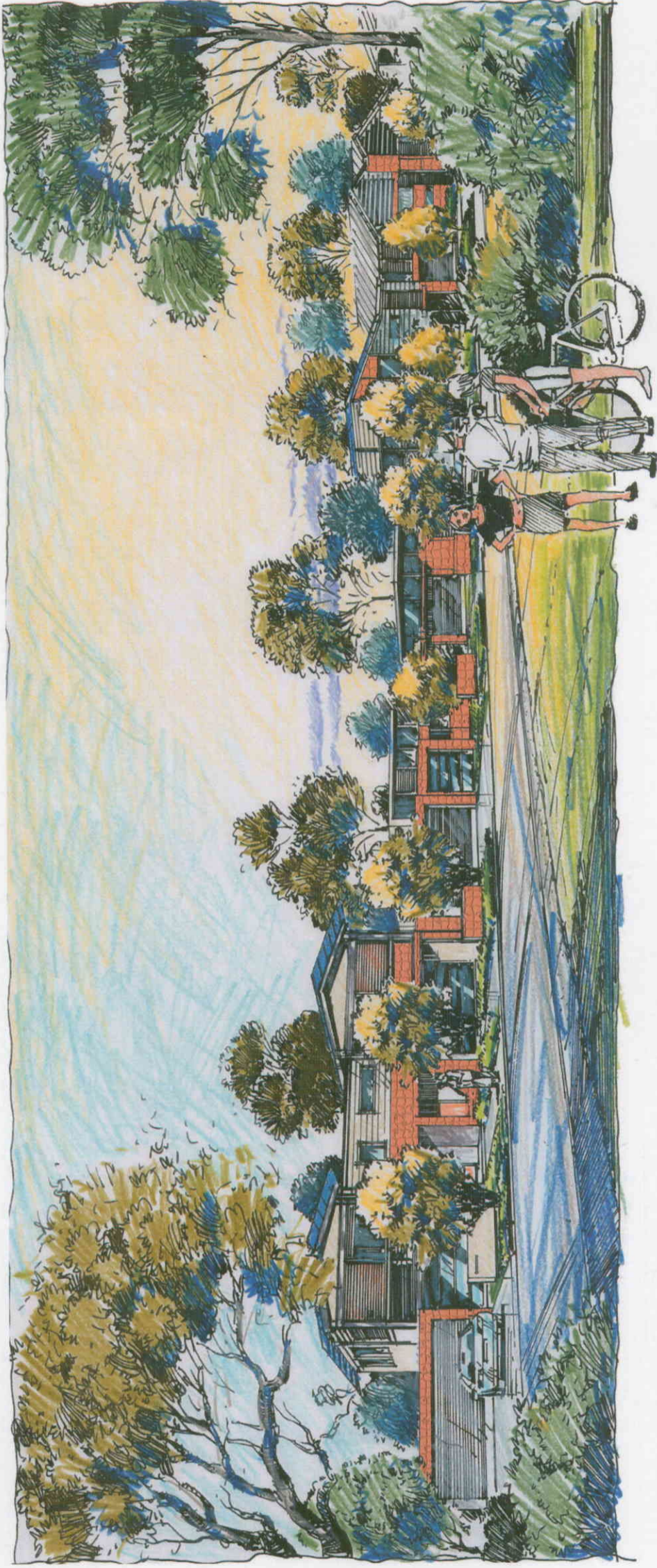


Figure 15: Subdivision Plan

## RESIDENTIAL MASTERPLAN



## WARRIEWOOD SECTOR 3

The site is targeted for medium density development which consists of a combination of attached and detached dwellings. The site will consist of 131 dwellings with living areas and lots ranging in size to promote social sustainability and providing an appropriate socio economic mix. Urban design controls will be applied to houses fronting the creek to achieve attractive streetscapes. Special treatment will be given to dwellings on significant lots such as corner lots and entry houses.

All dwellings are situated within a 400m radius of the bus stop on MacPherson street to promote the use of public transport. The density for Sector 3 will be 25 dwellings per hectare which is consistent with Pittwater Council's requirements for the dwelling yield.

The following is a list of design principles that have been addressed during the preparation of the master plan:

### 5.1.1 Solar Access

Solar diagrams have been prepared for all dwellings within the site consistent with the requirements of DCP 29 ensuring no property is unreasonably overshadowing an adjoining property and to make sure all principle private open space areas are receiving the appropriate amount of solar access.

Each individual dwelling has at least one window located on the Northern side attached to the principle private open space as per requirements in DCP 29.

### 5.1.2 Building Lines and Setbacks

The masterplan has been designed to achieve visual separation between all dwellings. Garages are setback from the front façade of houses to reduce visual impact and thus creating more attractive streetscapes.

The minimum separation between two dwellings facing one another is 16.5m

The minimum side setback is 2.5m where one side of a dwelling has a zero setback. Zero side setbacks have been limited to a minority over the site.

Dwellings along Macpherson Street have an increased setback of 6.5m.

## RESIDENTIAL MASTERPLAN

### 5.1.3 Building Material

Dwellings are to be of brick veneer construction, with a mixture of finishes such as bagged and painted and light weight, all in natural tonings, and roofs are to be tiled in dark colours. All other materials used are to be of a nature, sympathetic to the local environment. This shall provide for attractive streetscapes with a commonality in the theme, complimented by extensive street tree planting.

### 5.1.4 Retaining Walls

Retaining walls along MacPherson Street and Brands Lane are to be constructed of Brick/ Block/ Masonry consisting of earthy colours. Internal retaining walls are to be constructed of timber. All retaining walls are to be complimented by landscaping to reduce visual impact.

### 5.1.5 Parking

Two parking spaces are provided for each dwelling. For lots with a frontage wider than 10.5m both spaces are undercover in the form of a double garage. For lots with a frontage less than 10.5m one space will be undercover in a single garage and the second space will be provided in front of the garage uncovered. The 5.5m setback to the garages on larger lots provides 2 visitor parking spaces per lot. On road visitor parking spaces caters for the remainder of the visitor parking requirements.

### 5.1.6 View Sharing and De-Facto Building Lines

Dwellings throughout the site are situated with a common setback ensuring every dwelling has equal views. Dwellings facing the creek all have views through to the creek and also provide surveillance throughout the creek corridor. The configuration of most streets allows views through to the creek whilst the road alongside the creek allows for views when driving through the site. The creek provides a focal point to four of the streets within the site.

### 5.1.7 Fences and Walls

With the exception of corner lots, no front fences will be placed along major or internal roads, all fences are to be located to the rear or side of properties. No fences are to protrude in front of the building setback line. Fences will consist of lapped and capped timber, softened by planting to improve over all appearance. Open streetscapes allows passive surveillance and create a sense of openness. Low hedges are to be planted to delineate between properties.

### 5.1.8 Social Environment

Mirvac has extensive experience in designing and building cohesive social communities. Passive surveillance from dwellings is provided along creekline corridor to increase safety within the sector. All dwellings face onto a road which allows for interaction between surrounding houses. Recreation is promoted through walkway and cycleways within the site and linkages to surrounding areas. Provision of seating and picnic areas within the multi-function corridor allows for leisure and social interaction amongst residents, whilst pedestrian bridge linkages to other sectors will facilitate an interconnected neighbourhood.

### 5.1.9 Acoustic

Dwellings on MacPherson Street have an increased setback of 6m. Private open space is situated in the rear of all lots to minimise traffic noise from streets.



## RESIDENTIAL MASTERPLAN

### 5.1.10 ESD

Extensive establishment and embellishment of the multi functional creekline corridor will create a natural environment consistent with the principles of ecologically sustainable development.

Water quality management will be undertaken to create a reduced pollutant flow into Narrabeen Creek.

Provision of Bio-Retention basins along creek corridor will reduce peak flow rates. They will potentially reduce the size and cost of drainage systems and will be located within the open space areas. This area is to be integrated with the landscape concept plan for the corridor.

The location and gradient of streets also allows for overland flow of water into Narrabeen Creek.

Water tanks installed on lots as required.

All dwellings within the development will comply with BASIX.

A flora and fauna corridor is located within the creek corridor as further discussed in the attached BIOSIS report.

### 5.1.11 Pets & Companion Animals

Pets and companion animals will be accommodated with provision for a balance between their needs and environmental considerations. Pets shall be restricted from areas where native wildlife exist by containment within the owner's property especially at night.

Pets and companion animals are required to be registered with Pittwater Council and will be kept in accordance with the Companion Animals Act.

### 5.1.12 Waste Management Plan

A waste management plan has been prepared outlining materials to be demolished and removed from the site, giving quantities, methods and locations of disposal. An application for demolition of structures on Lot 1 DP 604035 has been lodged with Council.

(Refer to Appendix M – Waste Minimisation Report)



## WARRIEWOOD SECTOR 3







**5.1.13 Public Recreation and Open Space**

Public recreation and open space are or will be delivered in the multifunctional creekline corridor as described below. This corridor provides an easily accessible space for recreation and relaxing and includes cycle ways, pedestrian walkways, benches and open space pockets. The corridor also provides linkages to adjoining areas and open spaces located within.

A minimum container size for trees when planted is 45 Litres with a minimum trunk size of 20-30mm.

At maturity all trees will reach a minimum canopy of 8.5m. All Canopy trees are to be indigenous to the local area.



## REZONING PROPOSAL

### 5.2 MULTI FUNCTIONAL CREEK LINE CORRIDOR

The creation of a multi functional creek line corridor is intended to provide an uninterrupted corridor along the duration of the Narrabeen Creek. This will contain the creek flow and floods, a pedestrian walkway, cycleway, a flora and fauna habitat, water quality management measures and open space (refer to Figure 16. Multi Functional Creek Line Corridor Plan).

The corridor will consist of a 50m wide corridor with a 25m buffer strip on either side, providing in total, a 100m corridor in the valley. Sector 3's contribution to the corridor will be a 50m wide strip of land located along the entirety of the northern boundary, consisting of the 25m creek line which is to be dedicated to Pittwater Council and the 25m buffer which is to be retained in private ownership.

Significant works and embellishment of the corridor will be required including civil works, battering, planting and creation of water management devices.

The 25m creek line corridor will be regraded as per the specifications of Council's Water Management Report and re-established to provide a natural environment with a high amenity value. This public corridor is envisaged to contain all flood events and the 1% Annual Exceedence Probability (AEP) flow. The re-vegetation within this corridor will include planting of Casuarina Glauca and Eucalyptus Robusta in conjunction with other indigenous trees and groundcovers.

The planting for this area has been informed by the Warriewood Valley Landscape Masterplan Design Guidelines to ensure that the local characteristics of the site are maintained and enhanced. This corridor will also contain a cycle way located above the 100 year ARI Flood Level which meanders through the sector crossing into sector 2 to the north and linked to MacPherson Street in the south.

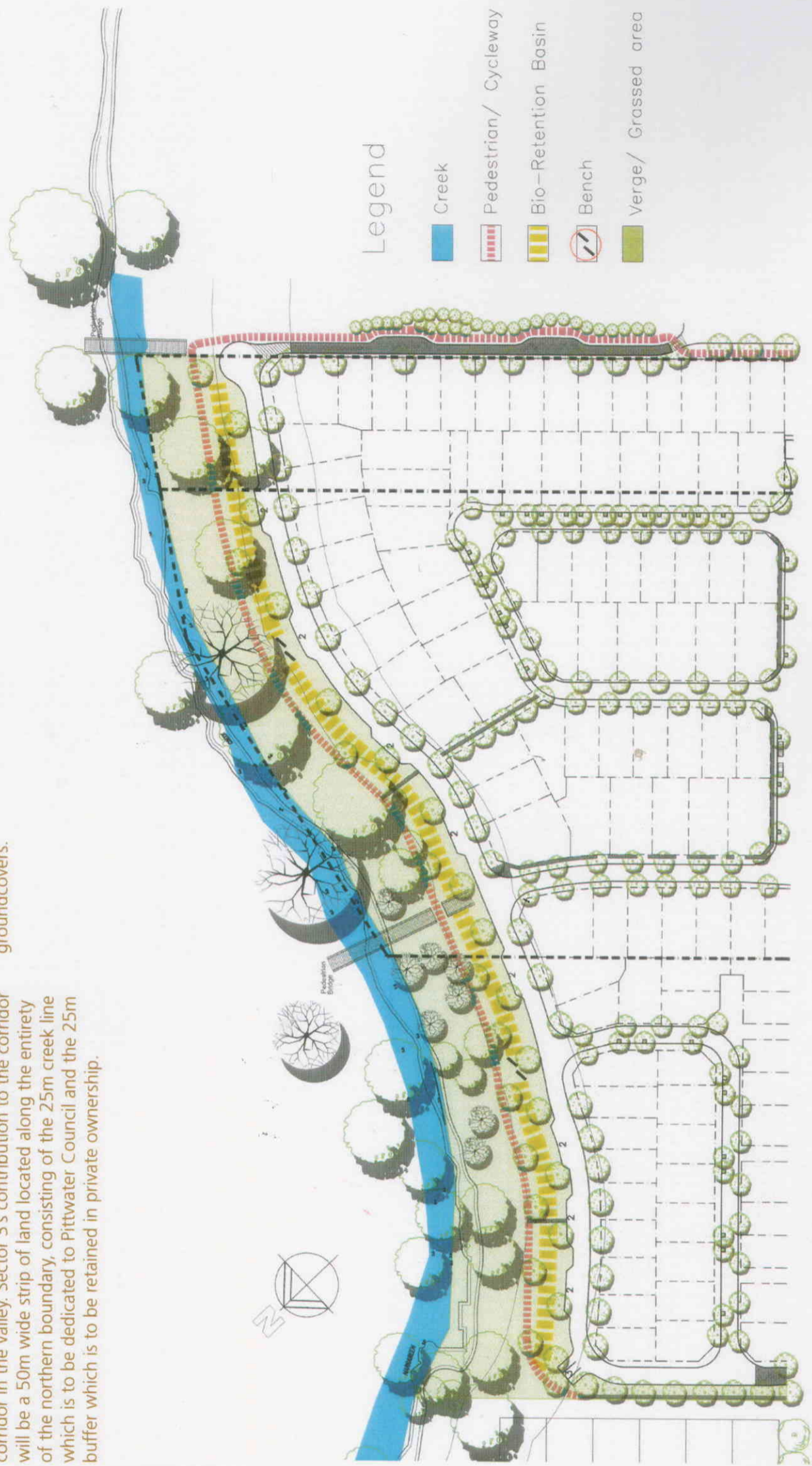
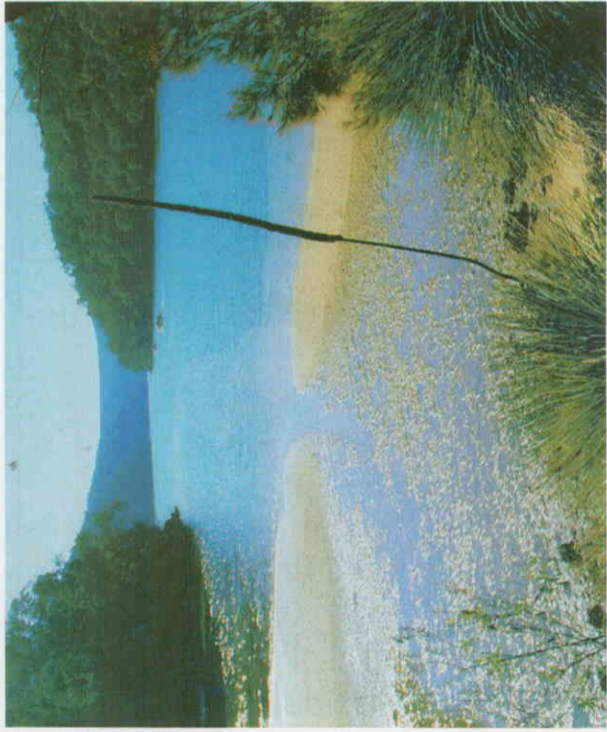


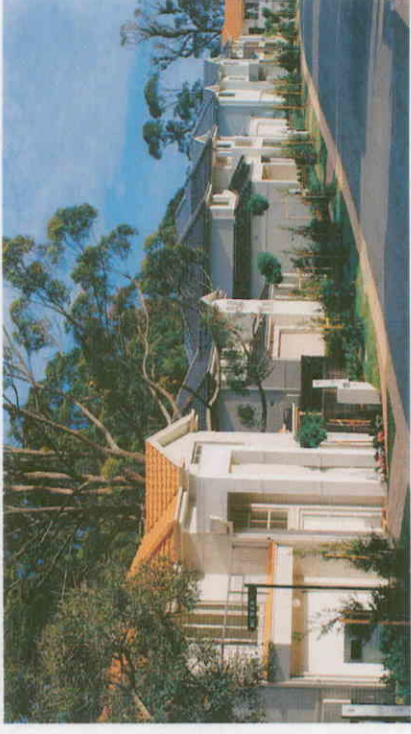
Figure 16: Multi Functional Creek Line Corridor Plan



REZONING PROPOSAL



The 25m buffer zone is to be retained within the private property of Sector 3 and is to act as an interface between the 25m creek line corridor and the proposed residential development. This buffer area will consist of the bio-retention basin, planting areas, an access road and verges. The bio-retention basin will provide a functional purpose of containing on-site detention and secondly providing a high amenity landscape area. The bio-retention basin will level at two points to provide open space locations with bench seats allowing for opportunities to utilise the area. The access road running along the northern boundary of the site will provide easy access to the recreational opportunities within this open space.



The multifunctional creek line corridor will provide open space and recreational areas for Sector 3 and other adjoining sectors. Adjoining homes have been orientated toward the creek to provide casual surveillance allowing a safe and well lit area which will increase the natural amenity of site.

WARRIEWOOD  
SECTOR 3



Figure 17: Multi Functional Creek Line Corridor Section



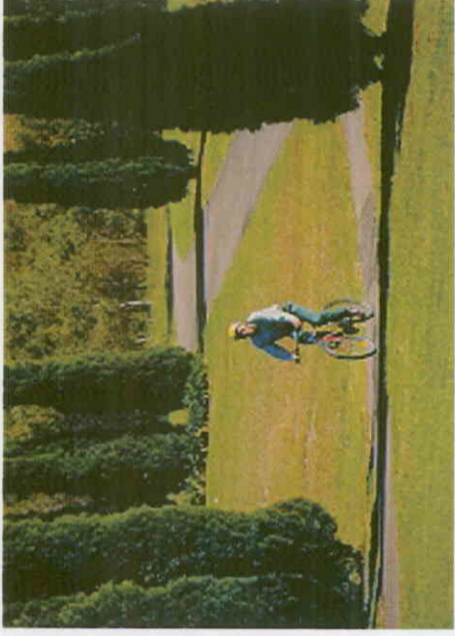
## REZONING PROPOSAL

### 5.3 PROPOSED ROAD, CYCLEWAY AND PEDESTRIAN NETWORK

Sector 3 has been designed to incorporate an integrated network for cyclists, pedestrians and vehicles to safely travel within the estate and to its neighbouring sectors. Additionally it will promote alternate forms of transport within the Warriewood Valley. The road system is discussed in part 4.1 Traffic Impact Statement within this report and explains in detail the design parameters used in Sector 3.

Cycleways have been provided consistent with the requirements of DCP 29 Warriewood Valley Urban Land Release creating a link to the adjoining sectors and a continuous passage along MacPherson Street promoting cycling as an alternate mode of transport to private vehicles. An off road, 2.5m wide cycleway has been located on the eastern boundary. This will provide a link to sectors 1 & 2 on the northern boundary via pedestrian bridges and to MacPherson Street via Brands Lane. The pedestrian footpath on the northern boundary is designed to meander through the regenerated creekline corridor. The cycle way will turn into an on street cycle way at the corner of Brands Lane and MacPherson Street, which will be designated by line marking. It is envisaged that the cycle way network will provide increased inter sector mobility creating a more interactive community and combined with the pedestrian pathway network increase opportunities for local trips to be made by foot or bicycle.

Pedestrian pathways have been provided throughout the Sector 3 Master Plan (Refer to Figure 18. Pedestrian/Cycleway Legend). MacPherson Street is the main artery through the valley and has a 1.2m wide path in addition to a 1m verge providing a buffer to the carriageway. The width of paths are 1.2m on the sector streets within the proposed development in addition to the verge and a further buffer provided by visitor parking bays. Safety has been addressed by creating a low speed environment for private vehicles by limiting distances between intersections and narrow pavements, also by providing traffic calming measures in the form of kerb extensions planted with street trees. Pedestrian traffic along Brands Lane will be accommodated on the 2.5m wide cycle way.



## WARRIEWOOD SECTOR 3



Figure 18: Pedestrian/cycle Way Legend

CONCLUSION

## 6.0 CONCLUSION

### 6.0 CONCLUSION

This rezoning application has been prepared in recognition that the subject site represents an opportunity to implement Pittwater Council's planning strategies to create a medium density residential zone for Sector 3 within an overall sector by sector approach. The specialist reports that have been produced to determine the suitability of the site for urban development have informed the preparation of the masterplan and do not identify any impediments to the residential development of the site.

The masterplan proposes a development that has been designed in accordance with Council's requirements and the recommendations of various specialist reports to provide housing suitable for the diverse needs of contemporary households.

## WARRIEWOOD SECTOR 3

