Hawkesbury City Council

attachment 1

to

item 224

# Exhibited Amendment to Part A Chapter 1 General Information and Part E Chapter 8 Redbank at North Richmond with Post-Exhibition Amendments

date of meeting: 25 November 2014

location: council chambers

time: 6:30 p.m.

# Chapter 1

# General Information

| Chapter | | Adoption Date | Effective Date |
|---|---|---|---|
| 1. | Kurrajong Heights | 12 March 2002 | 7 August 2002 |
| 2. | Macdonald Valley | 12 March 2002 | 7 August 2002 |
| 3. | Grose Wold | 12 March 2002 | 7 August 2002 |
| 4. | Pitt Town | 3 February 2009 | 19 February 2009 |
| 5. | Macquarie & Bridge Street, Windsor | 13 December 2005 | 11 January 2006 |
| 6. | Bligh Park Neighbourhood Business Precinct | *Repealed on 4 July 2013.* | |
| 7. | Windsor District Baptist Church Site, 739 – 741 George Street, South Windsor | 13 December 2011 | 21 September 2012 |
| 8 | Redbank at North Richmond | *[Date to be inserted]* | *[Date to be inserted]* |
| **Appendices** | | 12 March 2002 | 7 August 2002 |
| A. | Dictionary | 12 March 2002 | 7 August 2002 |
| B. | Lodging a Development Application | 12 March 2002 | 7 August 2002 |
| C. | Development Application Fees | 12 March 2002 | 7 August 2002 |
| D. | Landscaping Species | 12 March 2002 | 7 August 2002 |
| E. | Engineering Specifications | 12 March 2002 | 7 August 2002 |
| | Part 1 Design Specifications | 12 March 2002 | 7 August 2002 |
| | Part 2 Construction Specifications | 12 March 2002 | 7 August 2002 |
| | Part 3 Drawings | 12 March 2002 | 7 August 2002 |

## 1.6 HOW TO USE THIS DCP

To use this DCP there are a number of key steps to consider. They are outlined in table below.

| | |
|---|---|
| **Step 1**<br><br>Does this DCP apply? | Is the proposed development permitted with consent under LEP 2012? If yes, then this DCP applies.<br><br>***Note:*** *This DCP does not apply to a development that is classified as:*<br>- *exempt development under the State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (Codes SEPP) or Schedule 2 of the LEP or;*<br>- *complying development under the Codes SEPP or Schedule 3 of the LEP*<br>*See Codes SEPP and the LEP for details. A copy of the Codes SEPP is available at the following website* ***www.legislation.nsw.gov.au.*** |
| **Step 2**<br><br>What does a DA need to address? | To understand what needs to be addressed when preparing a Development Application (DA), refer to Council's "Guidelines for Submitting Applications" and Appendix 2 of this DCP. When preparing a DA, consult with Council's Customer Service Unit. |

# Chapter 8

# Redbank at North Richmond

# CONTENTS

## Part E - Chapter 8

# 8.0 INTRODUCTION

This chapter applies to development on land known as "Redbank" at North Richmond ~~as shown in Figure 8.1 below. The land~~ consisting of Lot 72 DP 1187236, 124 Grose Vale Road, North Richmond; Lot 73 DP 1187236, 26 Arthur Phillip Drive North Richmond; Lot 74 DP 1187236, 96 Grose Vale Road, North Richmond and Lot 274 DP 1156792, 28 Arthur Phillip Drive, North Richmond.

The land has an area of 179.2ha, and predominantly consists of cleared undulating land with a central saddle running approximately east-west creating two distinct valleys. The land is located on the northern side of Grose Vale Road and, immediately to the ~~east~~ west of the North Richmond residential area and Peel Park, ~~west~~ east of the Belmont Grove rural residential area, and south of Redbank Creek. The site and surrounds is shown in Figures 8.1 and 8.2 below.

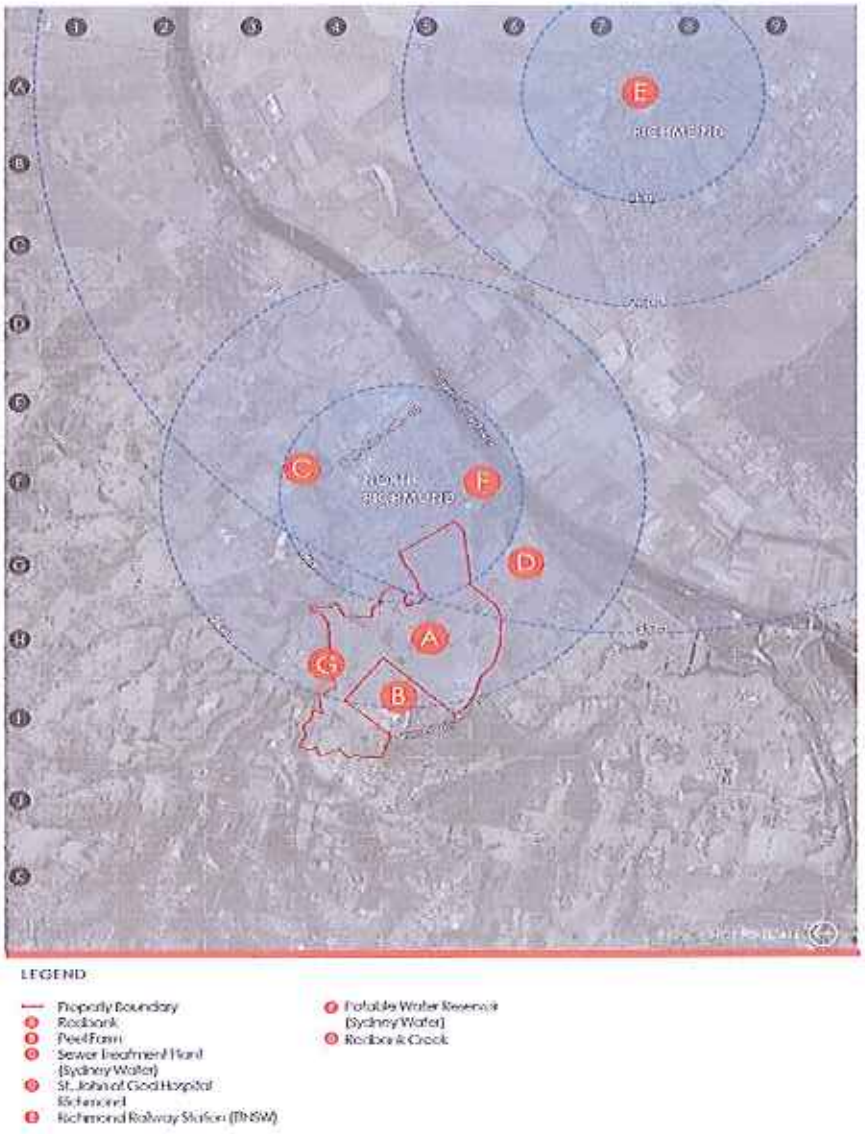



Figure 8.1 - Location Map

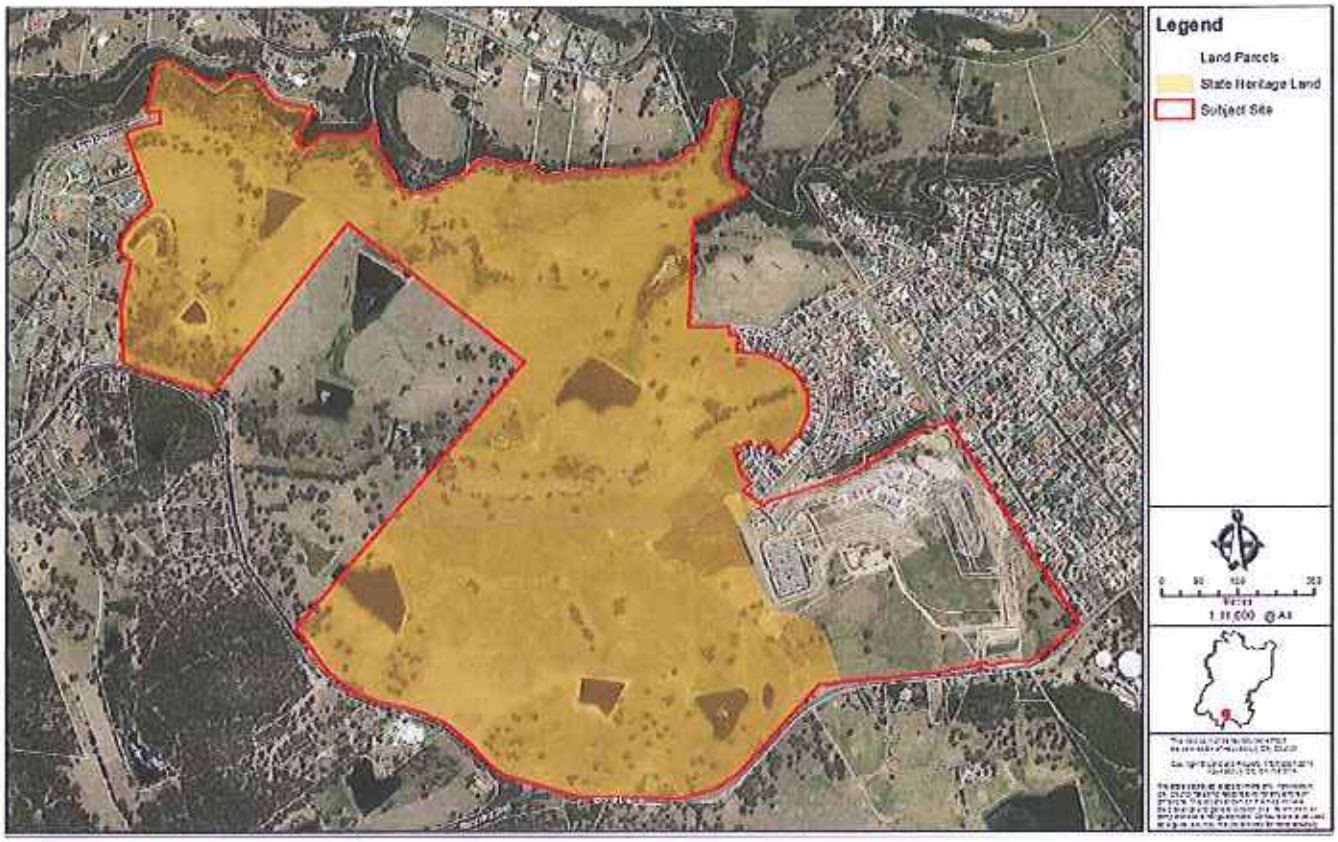




Figure 8.2 - Subject Site and Surrounds

~~Part of the site is located on the former property 'Yobarnie' site which is subject to heritage listing under the State Heritage Register of the *Heritage Act 1977*. Yobarnie is of heritage significance as it is where the Yeoman's Keyline system of agriculture was first developed, trialled and demonstrated. In accordance with the Heritage Council endorsed Heritage Conservation Management Plan (CMP), the significance of the site does not warrant the system's complete reconstruction. Rather, robust and meaningful interpretation of the site and Keyline is crucial to the retention of significance in the context of development. In particular, it is not imperative that the system operate as originally intended, rather than, it be apparent how it did. To achieve this outcome, this part of the DCP incorporates the recommendations of the CMP.~~

~~The Minister has granted an exemption from section 57(1) of the Heritage Act 1977, and thereby State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (the Codes SEPP) applies to the land.~~

The land varies in height from approximately 60-90m AHD along Grose Vale Road down to Redbank Creek at approximately 20-40m AHD and, it varies in slopes from reasonably flat terrain to land in excess of 15%.

The land is above the 1 in 100 year Hawkesbury River flood event level and a small part of the land (generally within the confines of the Red-bank Creek riparian area) is below the Hawkesbury River Probable Maximum Flood Level.

The land contains some larger stands of remnant vegetation and creek lines which contain threatened ecological communities and threatened fauna and habitat resources. The land has been previously used for grazing and contains~~. There are~~ 11 dams ~~on the land~~ which are a part of a former demonstration/experimental Keyline irrigation system development by P. A. Yeomans in the early 1950s.

The land contains remnants of the former Richmond to Kurrajong railway line in the form of two culverts and the path of the former railway line is apparent.

Part of the site is located on the former property 'Yobarnie' site which as of 8 March 2013 is subject to heritage listing under the State Heritage Register of the *Heritage Act 1977* (see Figure 8.2). Yobarnie is of heritage significance as it is where the Yeomans' Keyline system of agriculture was first developed, trialled and demonstrated. In accordance with the Heritage Council endorsed Heritage Conservation Management Plan (CMP) dated 27 March 2013, the significance of the site does not warrant the system's complete reconstruction. Rather, robust and meaningful interpretation of the site and Keyline is crucial to the retention of significance in the context of development. In particular, it is not imperative that the system operate as originally intended, rather than, it be apparent how it did. To achieve this outcome, this part of the DCP incorporates the recommendations of the CMP.

Associated with the State Heritage Register listing for Yobarnie are the following exemptions for works requiring Heritage Council of NSW approval under Section 57(1) of the Heritage Act 1977:

*1. All Standard Exemptions*

*2. Future development:*

*(i) Development that is specified as exempt development or complying development in State Environmental Policy (Exempt and Complying Development Codes) 2008 provided it is also in accordance with a site specific Development Control Plan endorsed by the Heritage Council of NSW and a Masterplan for the site endorsed by the Heritage Council of NSW.*

*(ii) Development carried out generally in accordance with any site specific Development Control Plan endorsed by the Heritage Council of NSW.*

*3. Maintenance of dedicated open space:*

*General maintenance and repair by Hawkesbury City Council for:*

*(i) Tree surgery where considered necessary for the health of a tree;*

*(ii) Removal or pruning of trees considered a danger to the public or staff;*

*(iii) Minor works to reduce risks to public safety;*

*(iv) Repair of damage caused by erosion and implementation of erosion control measures; and*

*(v) Routine horticultural maintenance, including lawn mowing, cultivation and pruning.*

*4. Maintenance and repair of infrastructure*

*Maintenance and repair by Hawkesbury Council of existing roads, paths, fences, gates, sporting amenities, drains, water reticulation facilities and other utilities. This exemption does not apply to excavation, unless Council can demonstrate the subject site is previously disturbed or comprises previous fill.*

*5. Temporary uses*

*Erection and dismantling by Hawkesbury Council of temporary structures, signs, crowd control barriers, banners, stages, lighting and sound, and public address equipment associated with special events, sporting activities and functions held on Council land. This exemption does not apply to excavation, unless Council can demonstrate the subject site is previously disturbed or comprises previous fill.*

In summary Exemption 2 means that provided a development is in accordance with a Heritage Council of NSW endorsed site specific DCP and, if required, endorsed Masterplan for the site, the development does not require approval from the Heritage Council under the provisions of Section 57(1) of the *Heritage Act 1977*.

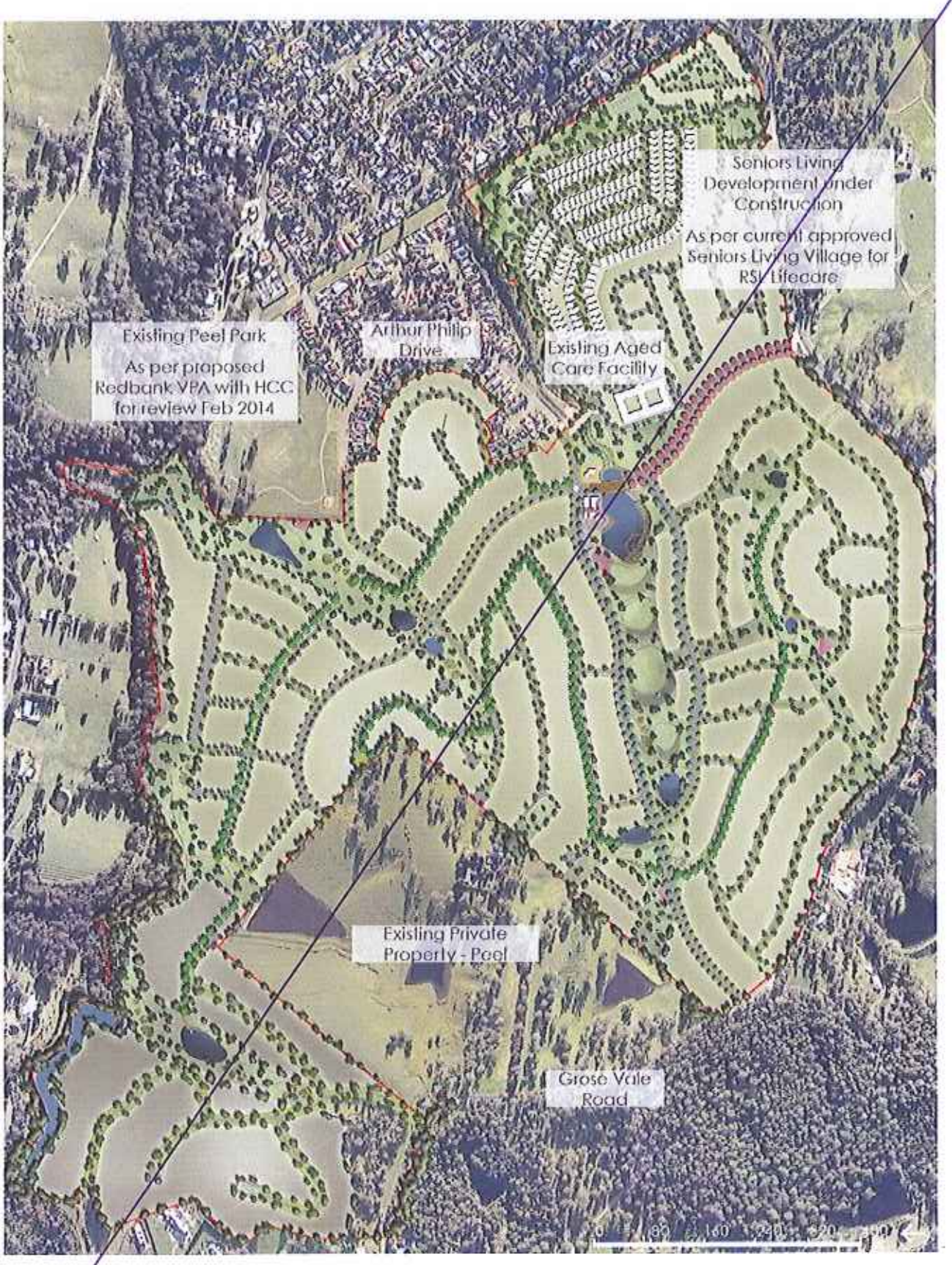
## 8.1 DESIRED FUTURE CHARACTER

The vision for Redbank at North Richmond is to be a sustainable and innovative residential community that responds to its unique heritage setting on the site of the original Yeoman's' Keyline system of agriculture (see Figures 8.3 and 8.7). Extensive, connected areas of public open space, being the parklands are to incorporate Keyline and City Forest principles and ~~will~~ establish a distinct sense of place that creates a feeling of a community in an expansive open space/

parkland setting. In particular, the Keyline elements are ~~concept is~~ to be retained, adapted, and interpreted as appropriate ~~-~~and made a significant feature of the community.

Water is to be made a distinct feature of Redbank at North Richmond. Heritage elements including dams are to be retained or adapted, water is to be maintained high in the landscape and an integrated runoff management system incorporating best practice water sensitive urban design is to be provided in the public domain, including open spaces and streets.

Redbank at North Richmond is targeting the incorporation of smaller lots and areas of small scale attached housing. The residential community is to be supported by a small neighbourhood centre that provides for a range of local retail, commercial and community facilities.


Seniors Living Development under Construction
As per current approved Seniors Living Village for RSL Lifecare
Existing Peel Park
As per proposed Redbank VPA with HCC for review Feb 2014
Arthur Phillip Drive
Existing Aged Care Facility
Existing Private Property - Peel
Grose Vale Road

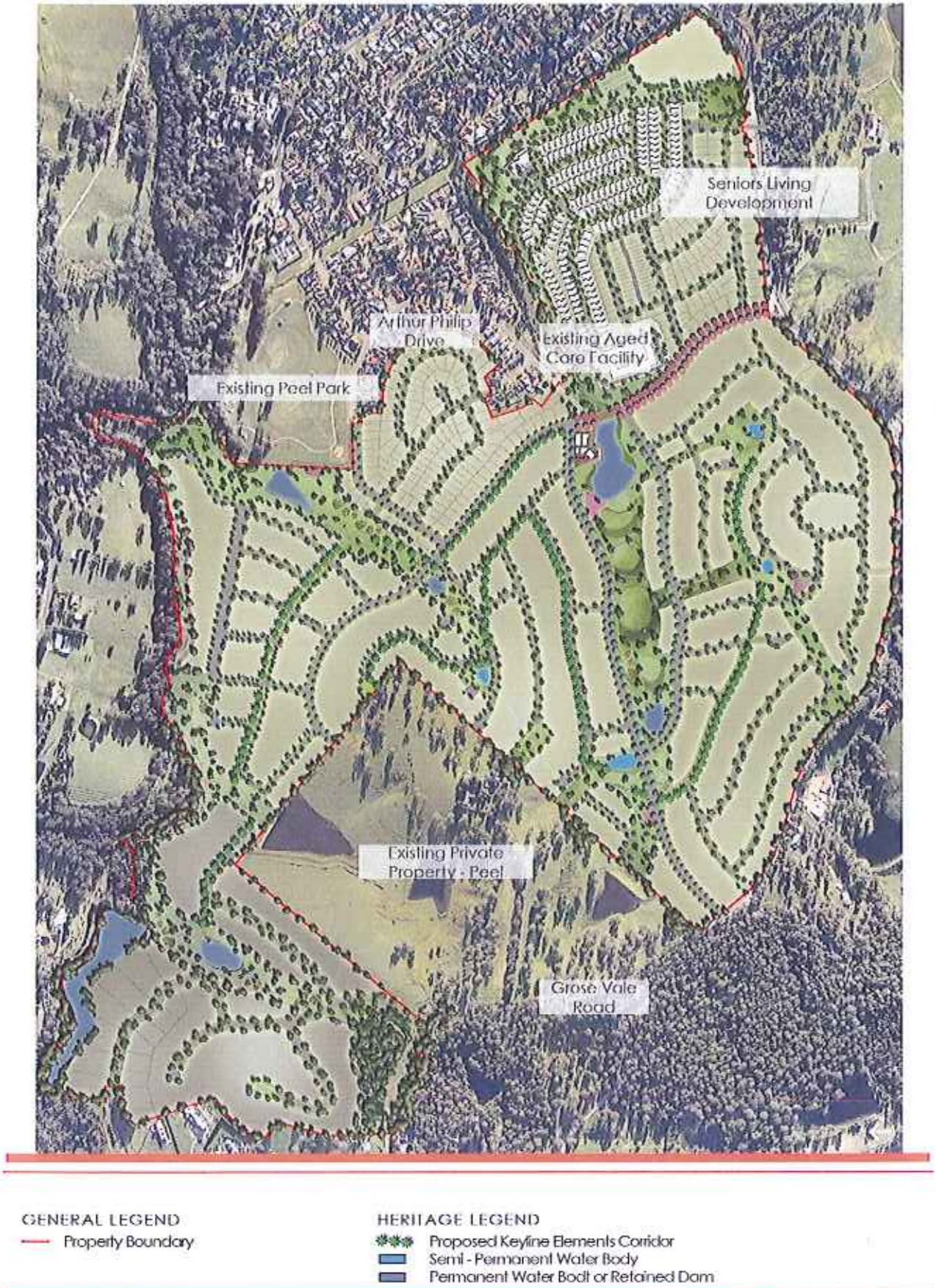



**Figure 8.3 - Vision Plan**

## 8.2 OBJECTIVES

The primary objectives of this chapter are to:

(a) *Provide appropriate framework to guide future development of Redbank at North Richmond to enable a sustainable and innovative residential community that responds to its unique heritage context on the land, and is compatible with the surrounding development.*

(b) *To encourage energy efficient, cost effective and functional housing and ancillary development that is pleasant to live in.*

(c) *To ensure development that will respond to the land attributes and not detrimentally affect the amenity of the locality.*

(d) *To protect any significant vegetation and encourage additional significant vegetation within the land.*

(e) *To provide a variety of lot sizes and housing types to promote housing choice~~, and affordability.~~*

(f) *To create a permeable, interconnected street network and encourage the use of sustainable transport options such as public transport, walking and cycling.*

(g) *To integrate heritage and water cycle management in the open space network and to have regard to P.A Yeoman~~'~~s' Keyline System.*

(h) *To respond to the dominant topography and natural landscape features, in particular ridges, valleys and waterways, both internal to the site and in the broader surrounds.*

(i) *To provide an extensive, connected, diverse and multi- functional open space network.*

(j) *To make water a dominant landscape feature, including the retention and enhancement of existing riparian corridors, and improve water and soil quality throughout Redbank at North Richmond.*

(k) *To provide opportunities for community interaction across a broad spectrum of the local community.*

## 8.3 DEVELOPMENT CONTROLS

This chapter sets out specific development controls for development of the land. These development controls are additional to the general development controls and land-use specific development controls within other parts of the DCP. If this chapter is inconsistent with other parts of the DCP, this chapter prevails to the extent of the inconsistency.

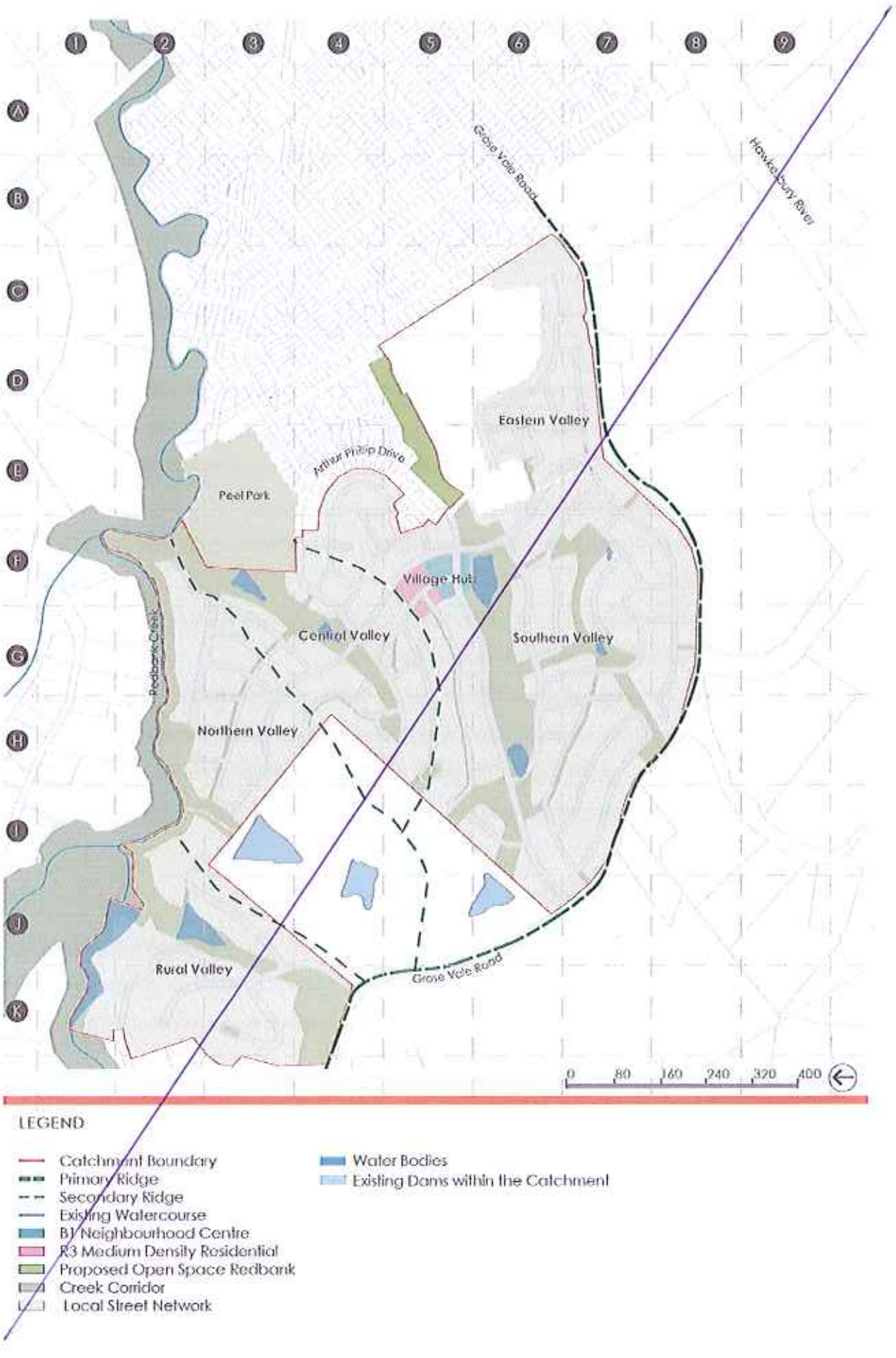
### 8.3.1 DEVELOPMENT PRECINCTS

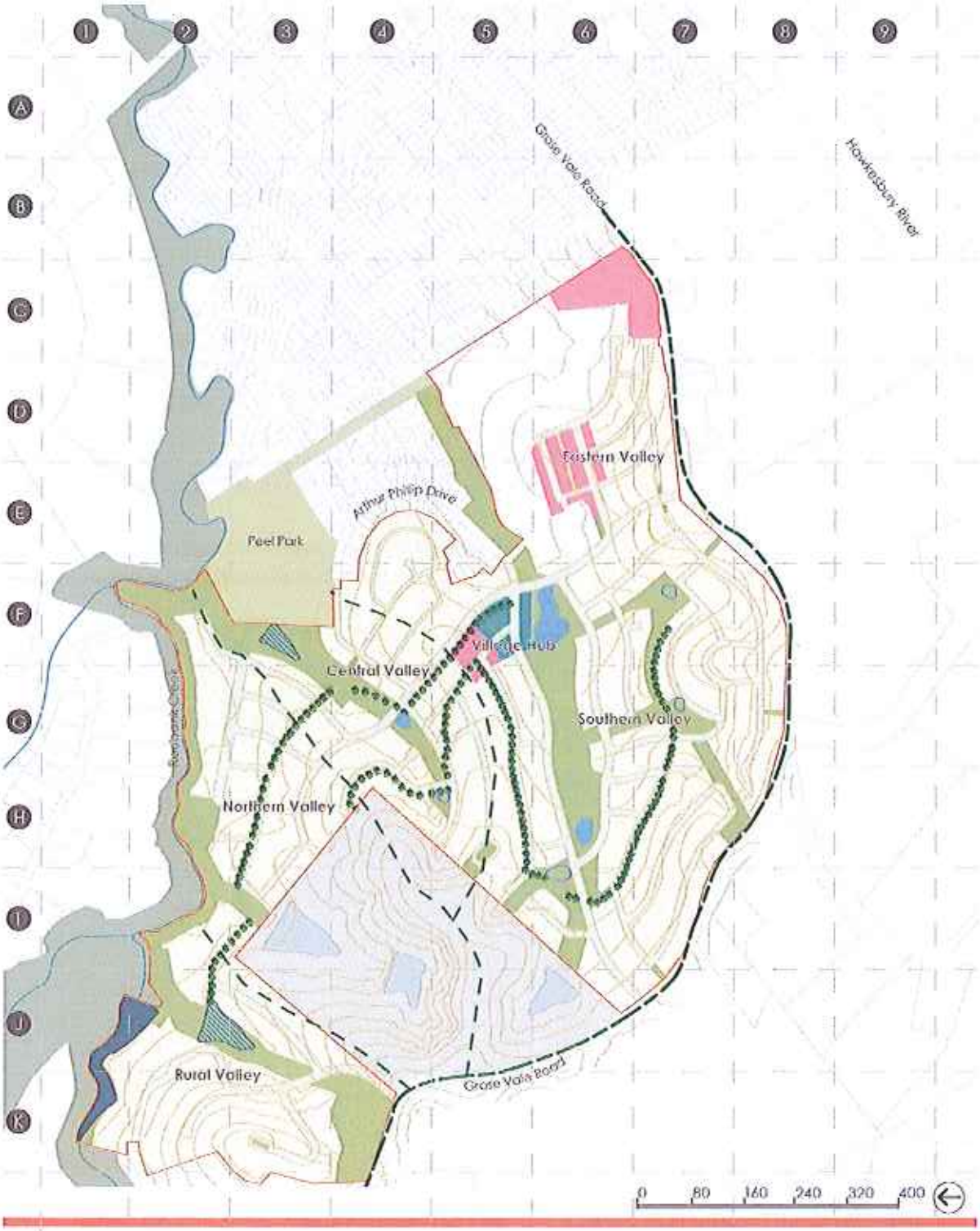
**Objectives:**

(a) *To create a sense of place comprised of distinct neighbourhoods that respond to the dominant natural landscape features of the site, in particular dominant ridges and valleys.*

**Development Controls**

1. Future development and use of the five precincts identified within the land as shown in Figure 8.4 should be consistent with respective precinct characteristics identified in Table 1 below:


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
Grove Vale Road
Hawkesbury River
Eastern Valley
Arthur Phillip Drive
Peel Park
Village Hub
Redbank Creek
Central Valley
Southern Valley
Northern Valley
Rural Valley
Grove Vale Road
0
80
160
240
320
400
LEGEND
Catchment Boundary
Primary Ridge
Secondary Ridge
Existing Watercourse
B1 Neighbourhood Centre
R3 Medium Density Residential
Proposed Open Space Redbank
Creek Corridor
Local Street Network
Water Bodies
Existing Dams within the Catchment




GENERAL LEGEND

- Catchment Boundary
- Existing Watercourse
- B1 Neighbourhood Centre
- R3 Medium Density Residential
- Proposed Open Space Redbank
- Redbank Creek Corridor
- Local Street Network

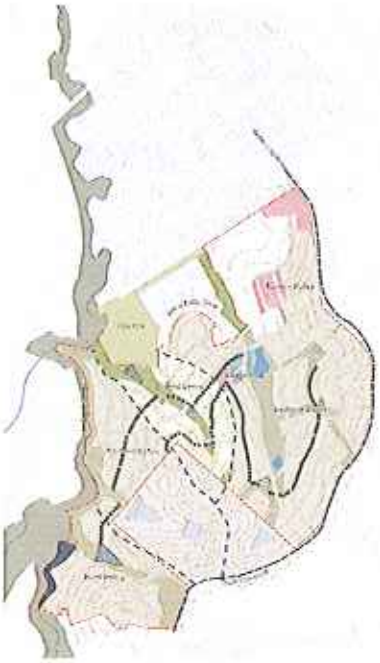
HERITAGE LEGEND

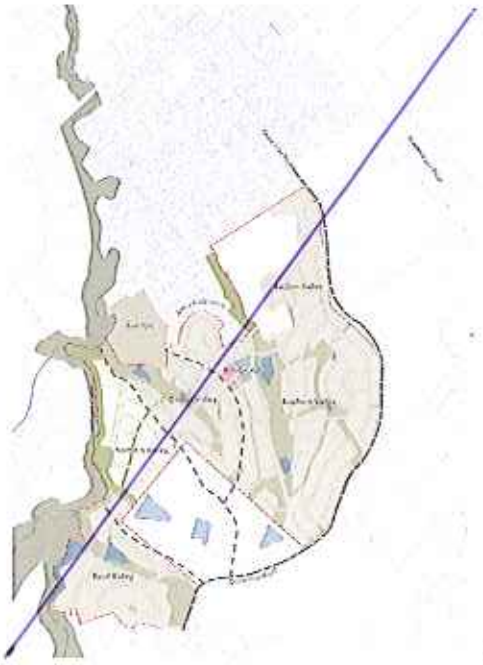
- Primary Ridge
- Secondary Ridge
- Proposed Keyline Elements Corridor
- Existing Dams within Catchment
- Retained Dams
- Existing Dam Adapted / Modified
- Semi Permanent Water Body
- Permanent Water Body

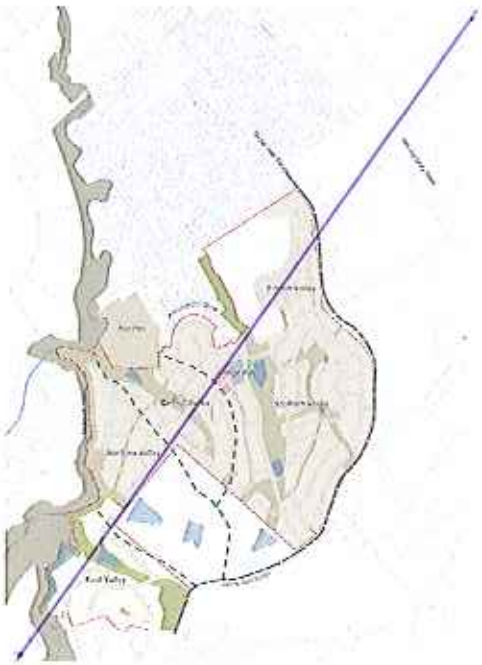
**Figure 8.4 Proposed Precincts**

**Table 8-1: Precinct Characteristics**

| Precinct | Key characteristics |
|---|---|
| Southern valley<br>  <br>  | • Prevailing west to east precinct orientation<br>• Open space focus in the centre of the valley<br>• Suburban character comprising single, detached houses located on lots predominantly approaching 450m$^2$ or greater<br>• Smaller lots and areas of medium density housing provided in locations as per zoning<br>• Contains the neighbourhood centre which provides for the day to day convenience needs of the community and includes:<br>○ an area of medium density housing in a village like character<br>○ shops, cafes and restaurants<br>○ indoor and outdoor community gathering space including a multi- function room<br>• The neighbourhood centre is integrated with and provides strong connections to the adjoining public open space and water-body<br>• Several small parks and play spaces<br>• Large areas of informal parkland and open space providing pedestrian connectivity throughout the valley<br>• Open space areas encompassing the historical features of the Redbank property |

| Precinct | Key characteristics |
|---|---|
| Central valley<br>  | • Prevailing south-west to north-east precinct orientation<br>• Focussed on open space in the centre of the valley<br>• Suburban character comprising single, detached houses located on lots predominantly approaching 450m$^2$ or greater<br>• Large areas of informal parkland and open space providing pedestrian connectivity throughout the valley<br>• The north eastern end of the valley connects directly to Peel Park and Redbank Creek<br>• Peel Park contains several sporting facilities<br>• Open space areas encompassing the historical features of the Redbank property<br>• Walking trails along Redbank Creek |

| Precinct | Key characteristics |
|---|---|
| Northern valley<br>  | • Broad open valley with northern precinct aspect sloping towards Redbank Creek<br>• Suburban character comprising single, detached houses located on lots predominantly approaching 450m$^2$ or greater<br>• Open space areas will have an informal and naturalistic character providing pedestrian and ecological connectivity throughout the valley<br>• Open space areas encompassing the historical features of the Redbank property<br>• Walking trails along Redbank Creek |
|  | |
| Rural valley | • Undulating, elevated land with a generally northern precinct aspect sloping towards Redbank Creek<br>• A distinct north, south valley falling into Redbank Creek<br>• Large blocks that accommodate generously sized houses with generous setbacks and private open space on blocks along with special design requirements provide a distinct open space, rural character<br>• Minimum lot size is 1,500m$^2$, with a greater average lot size<br>• Fencing is typically specific types of post and rail fencing |

| Precinct | Key characteristics |
| --- | --- |
|   | • The precinct incorporates areas of remnant Cumberland Plain Woodland and River Flat Eucalypt Forest<br>• The existing dam in the lower part of the precinct is retained<br>• Large areas of informal parkland and open space providing pedestrian and ecological connectivity throughout the valley<br>• Open space areas encompassing the heritage features of the Redbank property |

| Precinct | Key characteristics |
|---|---|
| Eastern Valley<br>  | • Smaller precinct directly adjacent existing North Richmond and Grose Vale Road<br>• Undulating land with a generally northern aspect sloping towards Redbank Creek<br>• Suburban character comprising single, detached houses located on lots predominantly approaching 450m$^2$ or greater<br>• Smaller lots and areas of medium density housing provided in locations as per zoning<br>• Open space areas will have an informal and naturalistic character providing pedestrian and ecological connectivity throughout the valley |

## 8.3.2 SUBDIVISION

### Objectives

*(a) To ensure that development occurs in a co-ordinated manner consistent with the vision.*

*(b) To ensure key features ~~elements~~ are delivered whilst providing flexibility as to the final layout and design.*

### Development Controls

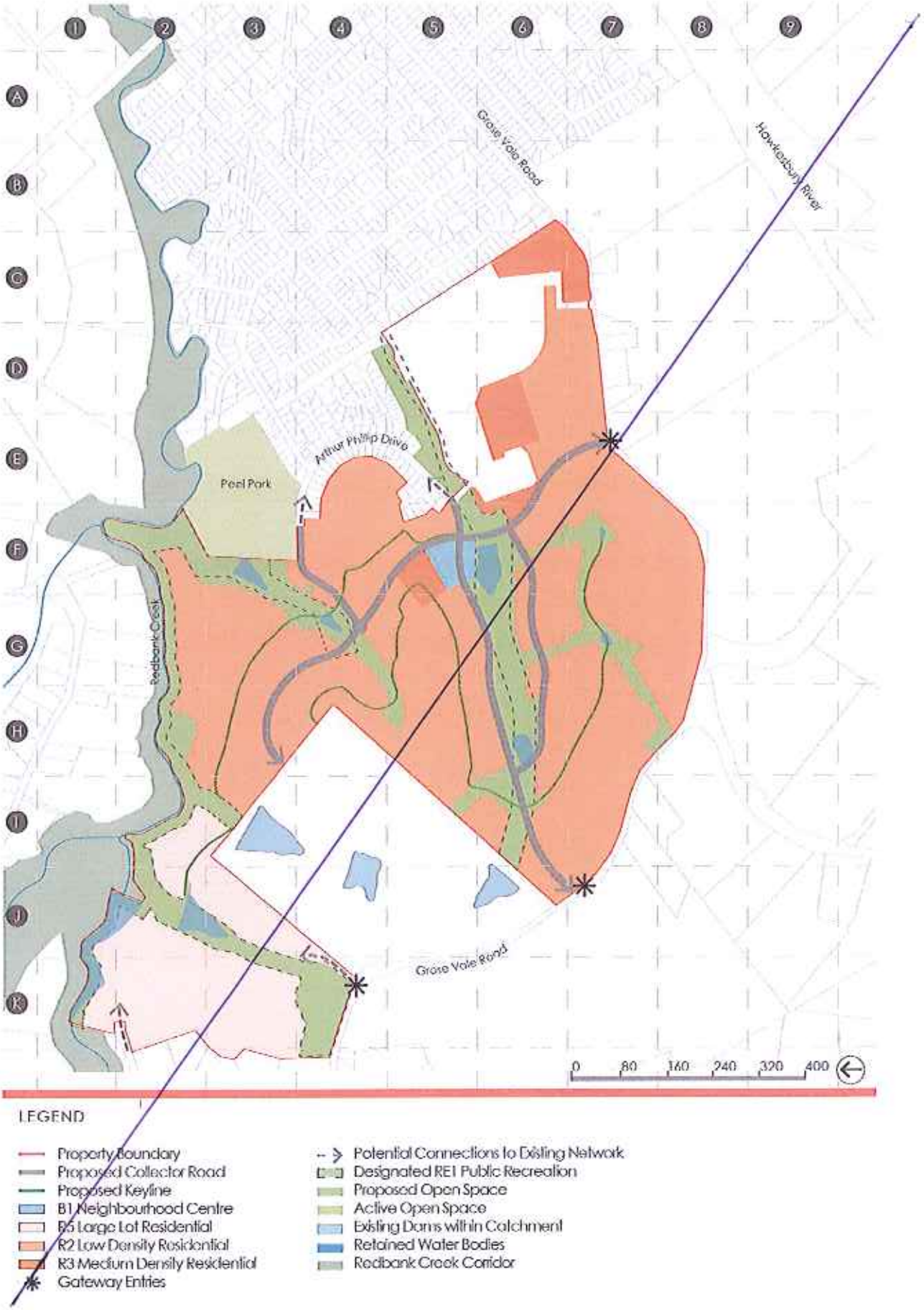
(a) Development is to be generally in accordance with the Development Plan at Figure 8.5. Where variations are proposed, applicants are to provide a written justification in accordance with the requirements of Part A Chapter 1 Section 1.7 of the DCP. The justification is to also explain why the variation is needed and demonstrate how the desired future character and general objectives of this chapter are to be achieved.

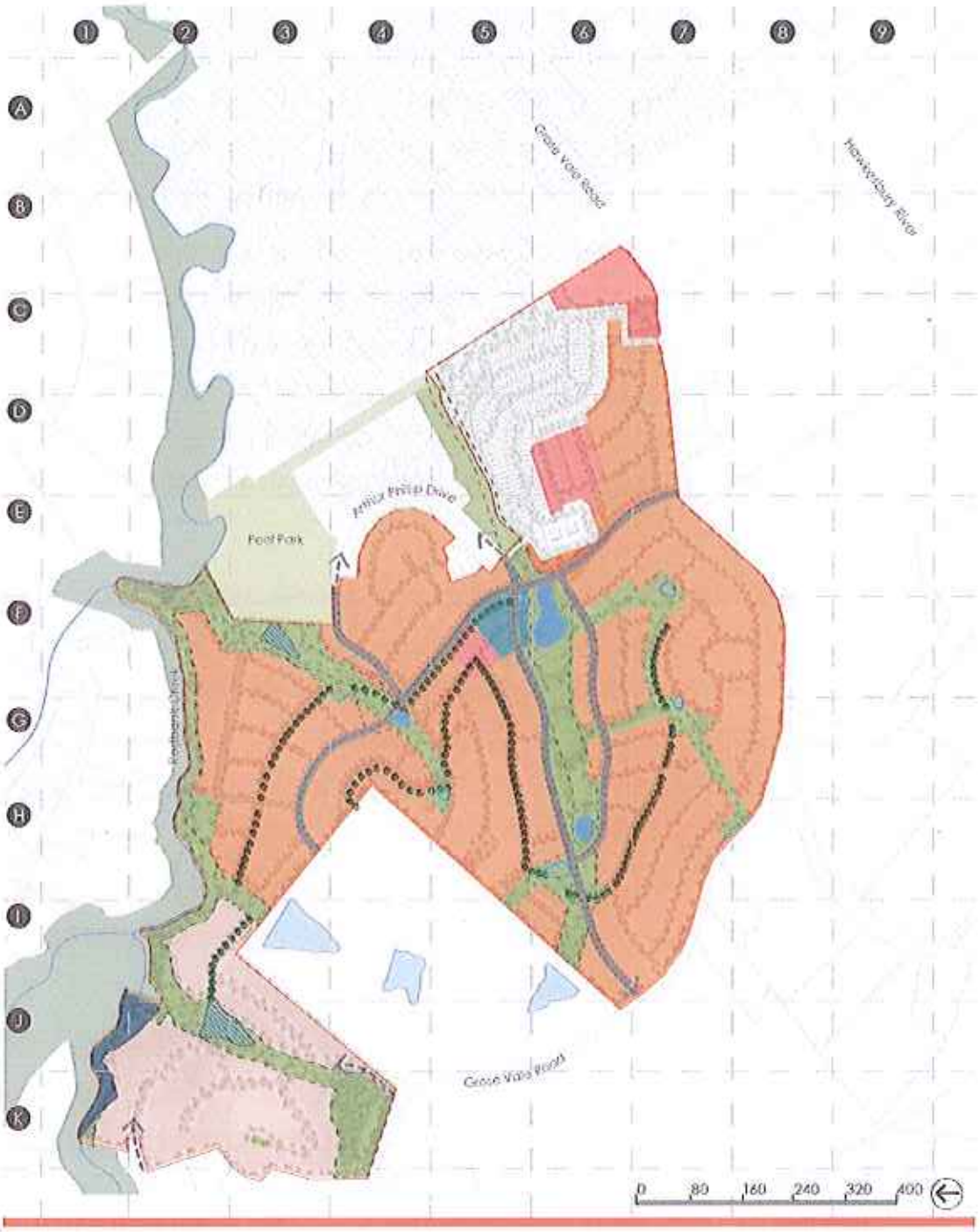
### Notes

(i) Development includes subdivision; lot, road and drainage works; open space; proposed water bodies and keyline element corridor.

(ii) Key features are the keyline elements, the principal roads, key nodes, view corridors, heritage interpretation centre and signage.

(iii) The keyline elements are those heritage components being retained, adapted or interpreted in the proposed urban landscape being the combination of swale, significant tree in the swale (along with the dual use pedestrian/cycle path) connecting retained/adapted dams and new water bodies.


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
Grose Vale Road
Hawkesbury River
Arthur Phillip Drive
Peel Park
Redbank Creek
Grose Vale Road
0
80
160
240
320
400
LEGEND
Property Boundary
Proposed Collector Road
Proposed Keyline
B1 Neighbourhood Centre
R5 Large Lot Residential
R2 Low Density Residential
R3 Medium Density Residential
Gateway Entries
Potential Connections to Existing Network
Designated RE1 Public Recreation
Proposed Open Space
Active Open Space
Existing Dams within Catchment
Retained Water Bodies
Redbank Creek Corridor




GENERAL LEGEND

- Property Boundary
- Proposed Collector Road
- B1 Neighbourhood Centre
- R5 Large Lot Residential
- R2 Low Density Residential
- R3 Medium Density Residential
- Potential Connections to Existing Network
- Designated RE1 Public Recreation
- Proposed Open Space
- Active Open Space
- Redbank Creek Corridor

HERITAGE LEGEND

- Proposed Keyline Elements Corridor
- Existing Dams within Catchment
- Retained Dams
- Existing Dam Adopted / Modified
- Semi Permanent Water Body
- Permanent Water Body

**Figure 8.5 - Development Plan**

## 8.3.3 HERITAGE CONSERVATION

### Introduction

The Keyline system is a system of soil development and water management principles that provide for the development of farm and grazing landscapes, and more broadly, sustainable water management in the urban environment. Its primary aim is the development of better soil structure, increased soil fertility and greater actual depth of fertile soil.

The Keyline concept determines that there is a "keypoint" in the valley of a landscape which marks the point where the relationship changes between the upper and narrower slopes of the valley and the lower flatter slopes. The "keyline" then forms a contour in both directions from this point, lying at right angles to the slope of the land, and as the slope changes direction, the contour lines curve and turn. This keyline forms the basis for landscape planning, including the placement of the homestead or farm buildings, placement of roads, dam sites, irrigation channels and tree plantings. The result is an integrated system of farm dams, feeder and irrigation drains to create a constantly moist and aerated soil climate, which promotes soil improvement.

Dams are then located to enable the farmer to use gravity to provide water under pressure, with the dams of greatest value being in the higher areas, allowing irrigation of the lower pastures. Dams are interconnected by a system of feeder and irrigation drains and spillways that channel run off to lower dams in the system (feeder drains) and irrigate pastures (irrigation drains). The landscape of Yobarnie made it possible to have two chains of dams at Keyline levels, with a third low level chain, starting at the Redbank Creek (thus using water which originates from outside the site and pumped up to the higher dams) with the lower dams positioned where excess water would leave the site.

The retention and correct positioning of trees is also an important part of the Keyline philosophy and timber clearing is planned to derive the greatest benefit from trees, for the whole of the farm. Typically there is a keyline tree corridor strip running below the keyline which forms a permanent guide for keyline cultivation.

Out of the original 16 keyline dams, 3 are part of a separate site (Peel property) and 2 were removed as part of earlier subdivisions to the former Yobarnie. Keyline at Redbank is to be demonstrated in the retention / interpretation of remnant dams (9 dams) and the interpreted feeder and irrigation drains to become the Keyline Elements Corridor.

### Objectives

*(a) To retain, adapt or interpret the significant history of the site, in particular the Keyline system.*

*(b) To incorporate City Forest and Keyline principles into the site, including:*

*i. maximising water retention high in the land and in the soil*

*ii. division of land into zones determined by gravity flowing water lines*

*iii. principal roads are generally located along crest lines*

*iv. provision being made for healthy landscaped environmental zones in the Keyline Elements Corridor and RE1 Public Recreation zoned land*

*v. retention or adaptation of dams along with interpretation of existing dams to become new waterbodies*

vi. *maintaining connectivity between dams to reflect the Keyline*

*(c) To be responsive to significant aspects of the natural topography and landform.*

*(d) To retain key views and vistas.*

## Development Controls

1. Significant elements of the Keyline system, including dams, irrigation and feeder drains are to be retained, adapted or interpreted and ~~and Keyline tree planting, are to be~~ incorporated into the public open space and water management systems
2. The Keyline is defined as a central landscape feature of the site, with accessibility being provided through its inclusion in public open space and its visual prominence reinforced by distinct tree planting ~~as per Figure 8.7~~.
3. Dams and new waterbodies are to be incorporated in public open space and are key elements within the overall water management network for the site

~~4.~~ Dams are to be retained or modified where safe and practical or alternatively where it

~~5.~~1. ~~Where the retention of dams in their existing condition~~ is not safe or practical, they are to be reconstructed as water-bodies (permanent or semi-permanent) or completely removed

~~6.~~5. Permanent and ~~S~~semi-permanent water-bodies are to be created to maintain water high in the catchment, with linkages to the prominent keyline elements ~~feature~~ via the open space focal points

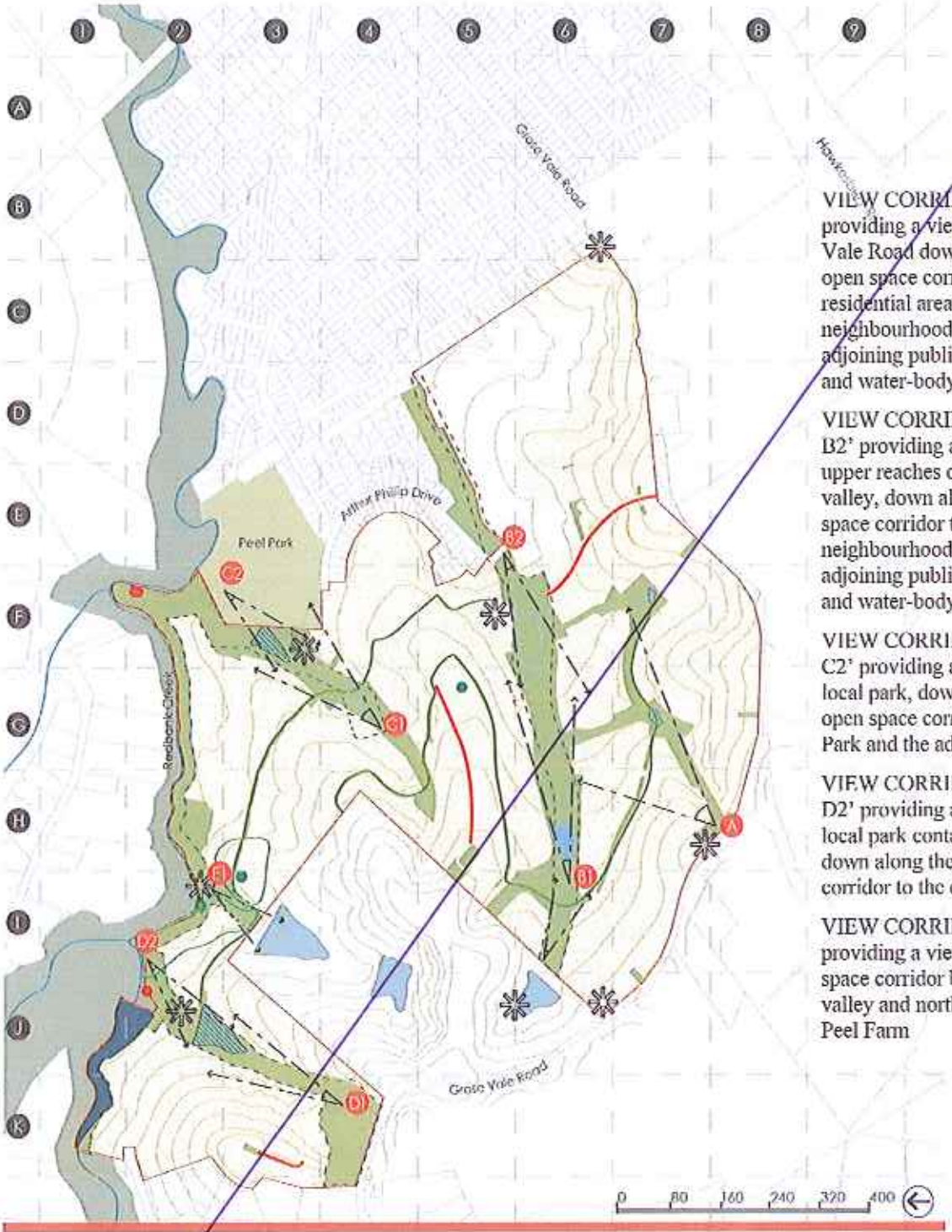
~~7.~~6. Heritage interpretation nodes distinct from the surrounding open space and that typically include features such as signage and may include seating and shelter are to be provided at key locations as shown in Figure 8.6

~~8.~~7. View corridors are to be provided as follows:

i. View corridor 'A' providing a view from Grose Vale Road down along the open space corridor and above residential areas to the neighbourhood centre and adjoining public open space and water-body
ii. View corridor 'B1 and B2' providing a view from the upper reaches of the southern valley, down along the open space corridor to the neighbourhood centre and adjoining public open space and waterbody
iii. View corridor 'C1 and C2' providing a view from the local park, down along the open space corridor to Peel Park and the adjoining dam
iv. View corridor 'D1 and D2' providing a view from the local park containing Cumberland Plain Woodland (CPW), down along the open space corridor to the dam
v. View corridor 'E1' providing a view from the open space corridor between the rural valley and northern valley to Peel Farm

~~9.~~8. Rainfall and stormwater is to be retained where possible across the site through the retention, adaptation and interpretation of heritage features, including existing dams as retained dams and suitable reconstructed new water bodies through the retention, adaption or interpretation ~~modification, retention and adaption~~ of Yeoman~~'s~~' elements

9. Indigenous heritage as shown are to be protected and retained in public ownership, and where appropriate, opportunities are provided for their interpretation
10. The design (civil and landscape) needs to address slope and subsequent lot size and configuration due to the sites' topography and its historical reference to Yeomans' elements




VIEW CORRIDOR 'A' providing a view from Grose Vale Road down along the open space corridor and above residential areas to the neighbourhood centre and adjoining public open space and water-body

VIEW CORRIDOR 'B1 and B2' providing a view from the upper reaches of the southern valley, down along the open space corridor to the neighbourhood centre and adjoining public open space and water-body

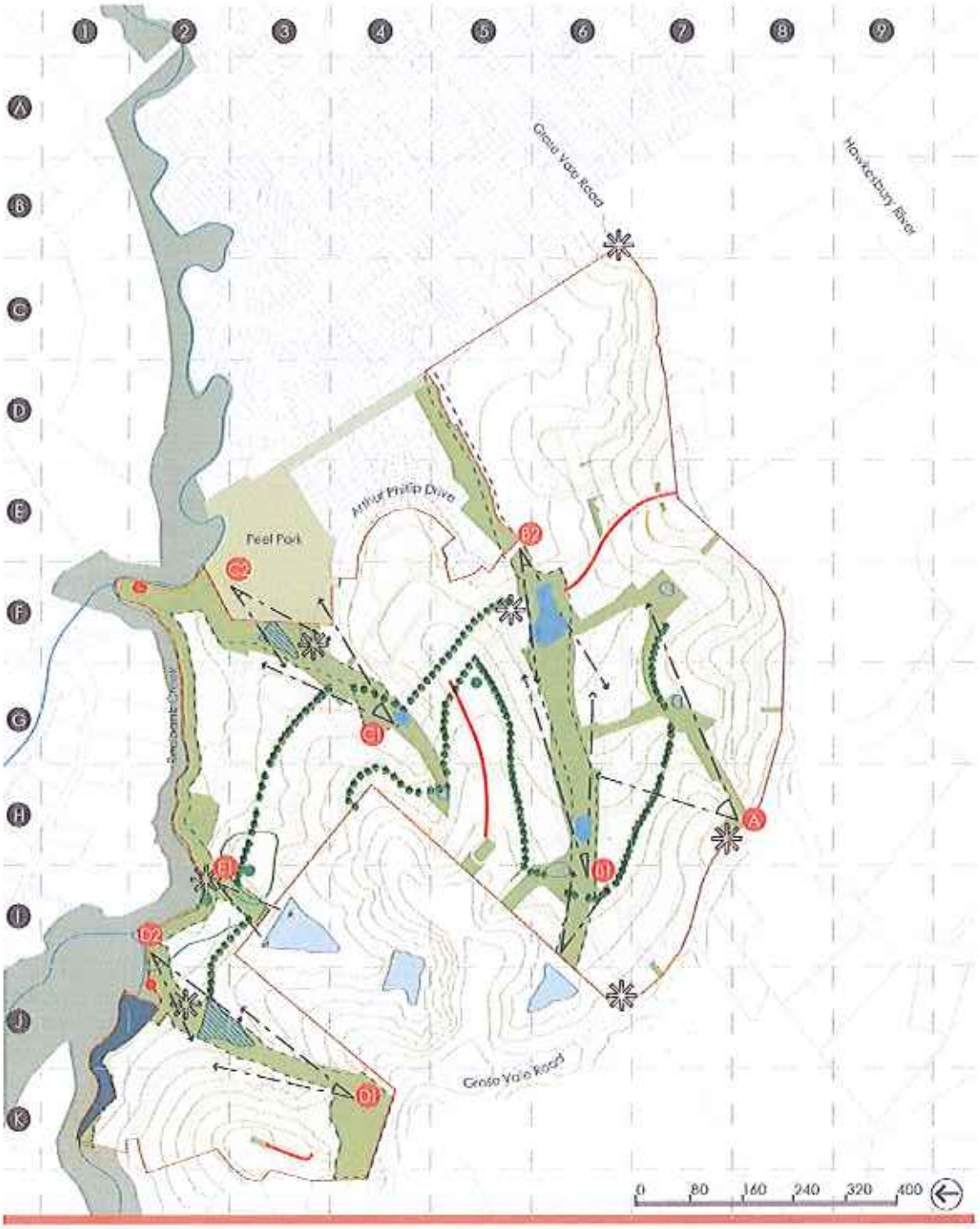
VIEW CORRIDOR 'C1 and C2' providing a view from the local park, down along the open space corridor to Peel Park and the adjoining dam

VIEW CORRIDOR 'D1 and D2' providing a view from the local park containing CPW, down along the open space corridor to the dam

VIEW CORRIDOR 'E1' providing a view from open space corridor between rural valley and northern valley to Peel Farm

LEGEND

- Property Boundary
- Connectivity of Water Bodies to Reflect Keyline
- Existing Dams within Catchment
- Adapted/Modified Dams to become New Water Bodies
- Existing Dams Retained with Perimeter modifications
- Existing Dam Retained
- Proposed New Water Bodies
- Water Bodies
- Heritage Interpretation Nodes
- Aboriginal Heritage Sites
- Retention of Key Views
- Principle Roads of Ridge Lines
- Proposed Open Space
- 5m Landform Contours




GENERAL LEGEND

- Property Boundary
- Proposed Open Space
- 5m Landform Contours

HERITAGE LEGEND

- Proposed Keyline Elements Corridor
- Existing Dams within Catchment
- Retained Dams
- Existing Dam Adapted / Modified
- Semi Permanent Water Body
- Permanent Water Body
- Heritage Interpretation Nodes
- PAD Sites for Investigation and Salvage or Retention
- Artefact Sites to be Retained
- Principle Roads of Ridge Lines
- Retention of Key Views

Figure 8.6 - Heritage Plan

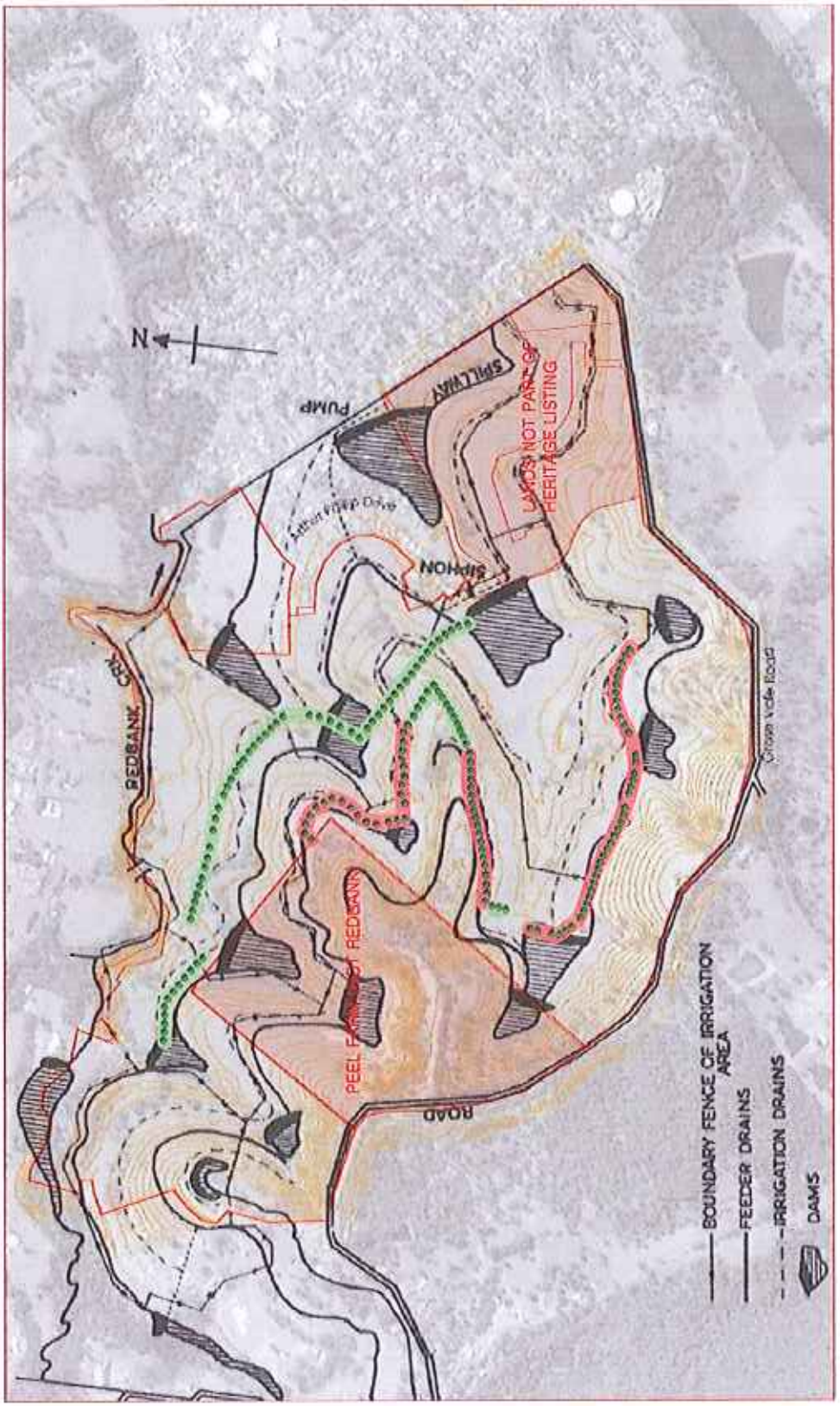



Figure 8.7 – Keyline Corridor Overlay on Yeomans Sketch from CMP

## Keyline Element Corridor Trees

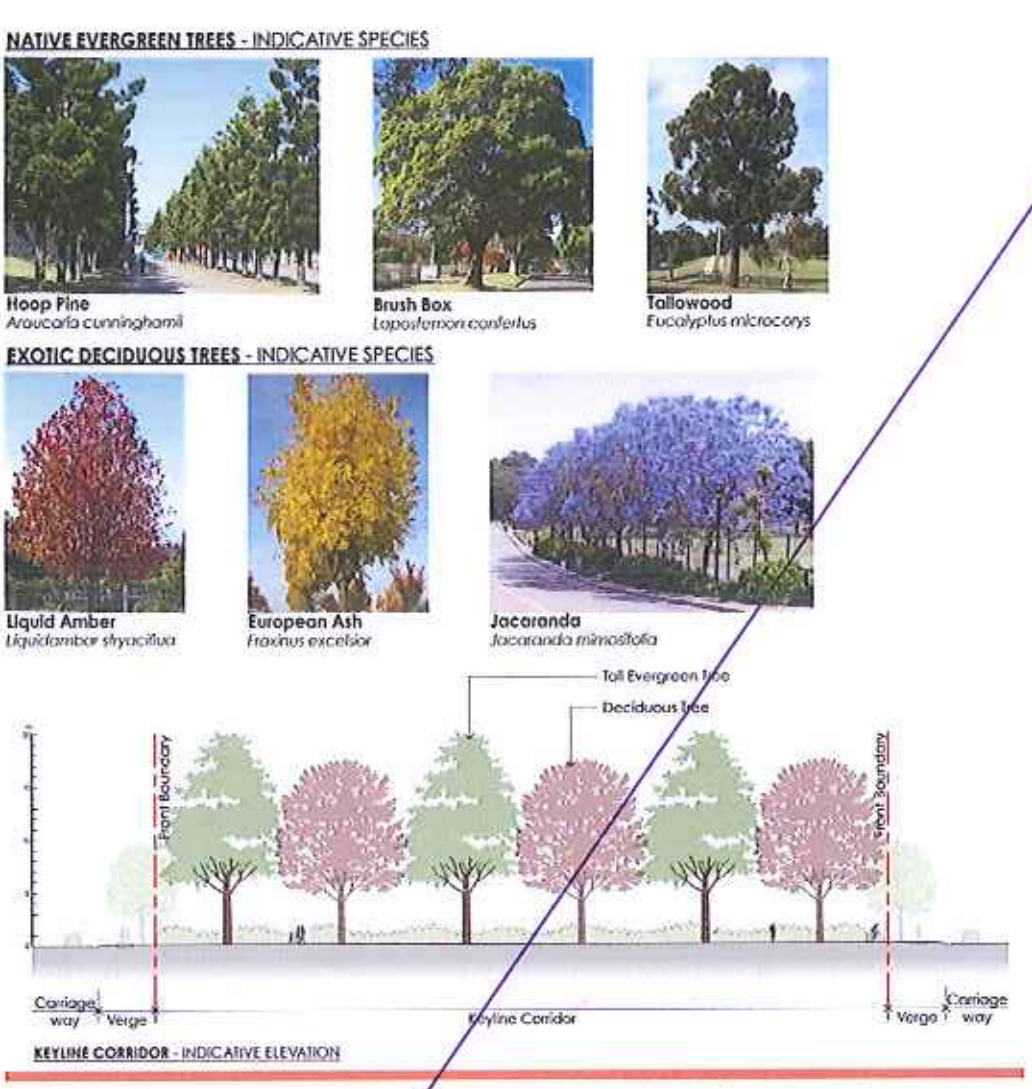
The Keyline is to ~~will~~ be identified in the landscape by ~~with alternating~~ signature tree species plantings of~~,~~ endemic native vegetation. An indicative species list can be obtained from Council and is to be used when preparing development applications for subdivision.~~Tall evergreen trees growing to approx. 20m in height will clearly emphasise the Keyline's location even when surrounded by future development. Deciduous trees in autumn will further highlight the Keyline as it winds across the landscape, providing shade in summer and light in winter.~~

~~The indicative t~~Tree species selection is to be based on:

- ~~have been selected for their proven~~ ability to withstand harsh urban conditions~~.~~
- ~~Together with~~ the provision of adequate soil volume to support tree root growth
- ~~, and therefore tree health and growth,~~ the long term survival and sustainability ~~of the Keyline trees are ensured.~~

Adequate soil volume is to ~~will~~ be achieved by reinstating an appropriate ~~300mm~~ depth of uncompacted topsoil to the verge and building setback zones. This will provide adequate aeration, hydration and nutrients to support the long term growth and survival of trees. Under these circumstances, tree roots will less likely grow towards infrastructure and building zones to search for air, water and nutrients. Furthermore, zones external to the verge and building setback areas ~~these zones~~ are composed of highly compacted sub base ~~&~~and foundations, which are poor conditions for tree root growth.

In addition, the keyline corridor tree is to be placed in a shallow swale that interprets two of the original keyline elements being the feeder and irrigation drains.




~~Figure 8.7 – Indicative Keyline Planting~~

## 8.3.4 OPEN SPACE

### Objectives

*(a) To provide a diverse, multi- functional and connected open space network that includes opportunities for passive and active recreation, environmental protection, heritage protection and collection and treatment of stormwater.*

*(b) To encompass to the historic features of Yeoman's land and water management practices*

*(c) To retain, modify and adopt the features of Yeoman's elements, in particular the waterbodies and the Keyline, as focal points for the open space network*

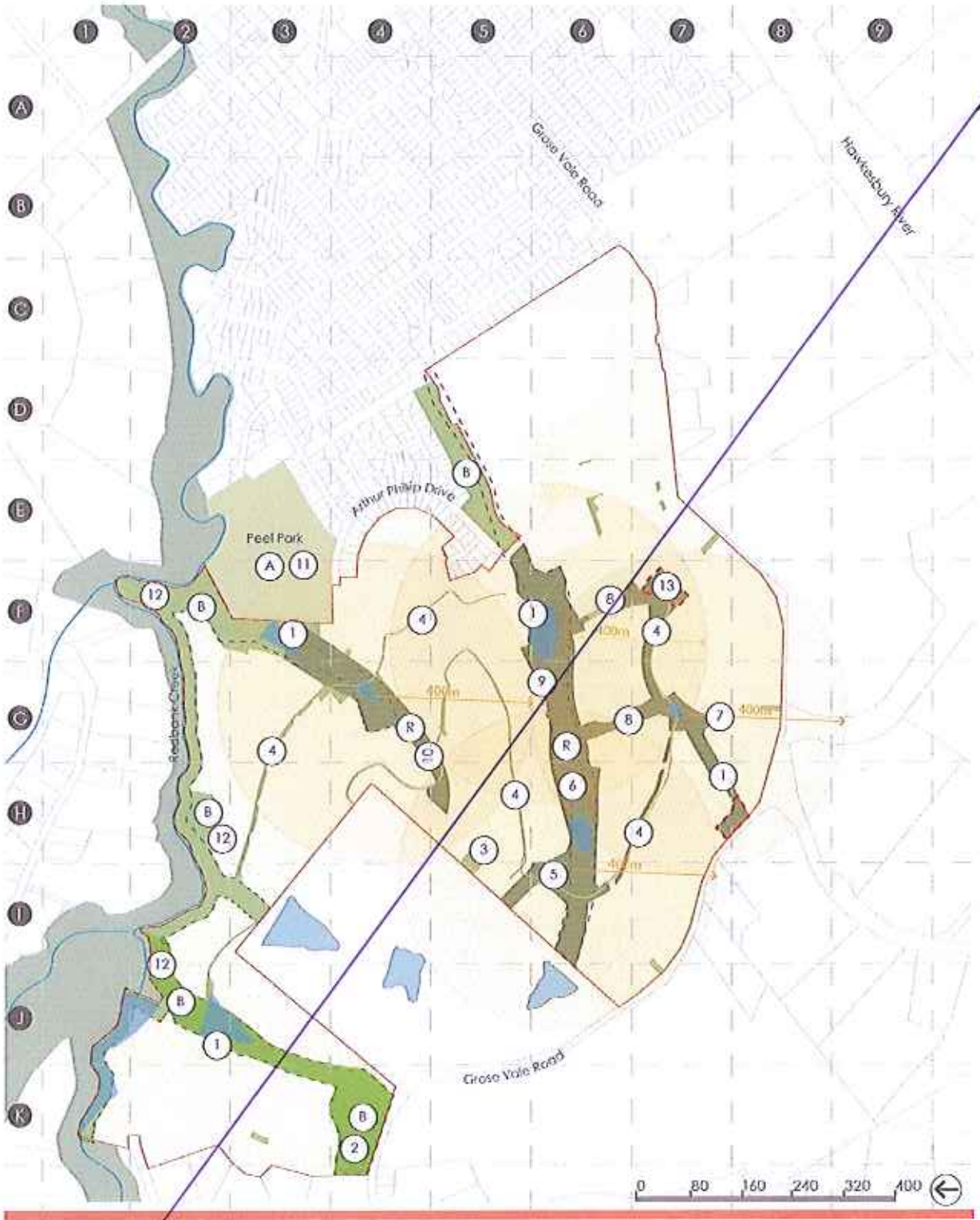
*(d) To incorporate and express environmentally sensitive water management systems for the development.*

*(e) To reinstate deep top soil and demonstrate passive rainfall collection and conveyance as an interpretation of Yeoman's principals.*

### Development Controls

1. The open space network is to be provided generally in accordance with the Voluntary Planning Agreement (VPA), the Conservation Management Plan (CMP), Hawkesbury City Council Planning and Design Guidelines, Stage 2 of HCC Regional Open Space Strategy (ROSS) ~~, as demonstrated within~~ Figure 8.8~~, Figure 8.9, Figure 8.10~~ and Table 8.2
2. The open space areas are to predominantly be open grassland, in keeping with the rural heritage of Redbank. The areas close to Redbank Creek and the area of remnant Cumberland Plain Woodland are to include endemic native vegetation. Away from Redbank Creek, small disbursed groupings of native and exotic vegetation in keeping with the broader North Richmond area and the farming heritage of Redbank are to be provided.
3. Street trees are to enhance the visual and sensorial amenity of Redbank's streetscapes and be able to withstand urban limitations and sustain healthy growth within the proposed verge conditions.

~~1.~~4. A concept landscape plan is to be provided with development applications for subdivision. An indicative species list of endemic native vegetation can be obtained from Council and is to be used when preparing the concept landscape plan.


Grose Vale Road
Hawkesbury River
Arthur Phillip Drive
Peel Park
Redbank Creek
Grose Vale Road
0 80 160 240 320 400
LEGEND
Property Boundary
Passive Recreation (Revegetation, Connectivity)
Passive Recreation (Conservation, Connectivity)
Active Recreation
Designated RE1 Public Recreation
Redbank Creek Corridor
Existing Watercourse
Existing and Proposed water bodies within Redbank Site
Other Existing Dams within the Catchment


GENERAL LEGEND

- Property Boundary
- Passive Recreation (Revegetation, Connectivity)
- Passive Recreation (Conservation, Connectivity)
- Active Recreation
- Designated REI Public Recreation
- Redbank Creek Corridor

HERITAGE LEGEND

- Proposed Keyline Elements Corridor
- Existing Dams within Catchment
- Retained Dams
- Existing Dam Adapted / Modified
- Semi Permanent Water Body
- Permanent Water Body

**Figure 8.8 - Interpretive Open space Embellishment Plan**

## Table 8.2: Interpretive Open Space Embellishment Plan

| Refer to Figure 8.~~13~~8 | Stormwater Management | Active Recreation | Visual Amenity | Connectivity | Environmental Conservation | Passive Recreation | Heritage Conservation - Keyline | Heritage Conservation | Social Hub | |
|---|---|---|---|---|---|---|---|---|---|---|
| Ref # | Description | | | | | | | | | Indicative Facilities |
| 1 | • | | • | • | | • | | • | | Existing water-body modified and retained.<br>Heritage / Environmental ~~interpretive~~ interpretive information |
| 2 | | | • | • | • | | | | | Remnant Cumberland Plain Woodland<br>Pedestrian paths and ~~i~~interpretive information<br>Environmental ~~P~~protection, revegetation / regeneration |
| 3 | | | • | | | • | | | | Pocket ~~Park~~ park within passive open space incorporating:<br>Seating / Shelters<br>Historical and ~~Environmental~~ environmental interpretive information |
| 4 | | | • | • | | • | • | | | Keyline ~~Linear~~ linear corridor.<br>Passive open space feature representing the keyline and incorporating:<br>Heritage ~~Interpretive~~ interpretive ~~Information~~information,<br>Pedestrian and ~~Bicycle~~ bicycle ~~Paths~~paths.<br>Providing connectivity and a "green" link between numerous small parks and larger areas of open space |
| 5 | | | • | • | | • | • | • | | Local park and playground within passive open space incorporating:<br>Seating/ Shelters/ Lookout ~~Point~~point<br>Grassy ~~Kick~~kick-about ~~Area~~area<br>Heritage ~~Interpretive~~ interpretive ~~Information~~information<br>Pedestrian and ~~Bicycle~~ bicycle ~~Paths~~paths |
| 6 | • | | • | • | | • | | • | | Passive open space incorporating:<br>Seating<br>Grassy ~~Kick~~kick-about ~~Area~~area<br>Heritage/Environmental ~~i~~interpretive ~~i~~information<br>Pedestrian and ~~B~~bicycle ~~P~~paths |
| 7 | | | • | | | • | | • | | Local park and playground within passive open space incorporating:<br>Seating/ Shelters<br>Grassy ~~Kick~~kick-about ~~Area~~area<br>Heritage ~~Interpretive~~ interpretive ~~Information~~ information<br>Pedestrian and ~~Bicycle~~ bicycle ~~Paths~~paths |
| 8 | • | | • | • | | | | | | Passive open space providing connectivity and a "green" link between small parks and larger areas of open space<br>Pedestrian ~~Paths~~paths |
| 9 | • | | • | | | • | | • | • | Community ~~Centre~~ centre adjacent a local park set in passive open space.<br>A regional destination for the broader community providing a range of recreational opportunities including:<br>Playground<br>Boardwalks<br>Grassy ~~Kick~~kick-about ~~Area~~area<br>Seating/ Shelters/ Picnic / BBQ |

| Refer to Figure 8.~~138~~ | Stormwater Management | Active Recreation | Visual Amenity | Connectivity | Environmental Conservation | Passive Recreation | Heritage Conservation - Keyline | Heritage Conservation | Social Hub | Note: Continued from previous page |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Heritage ~~i~~interpretive node<br>Car parking and ~~Bus~~ bus stop<br>Pedestrian and ~~Bicycle~~ bicycle ~~Paths~~paths |
| Ref# | Description | | | | | | | | | Indicative ~~Facilities~~ facilities |
| 10 | • | | • | • | | • | | | | Playground<br>Seating/ Shelters<br>Heritage ~~i~~Interpretive ~~i~~information<br>Pedestrian and ~~Bicycle~~ bicycle ~~Paths~~paths |
| 11 | | • | • | • | | | | | | Existing Peel Park - Primarily for active recreation<br>Catering to district catchment with:<br>Sportsfield, ~~Hardcourts~~hardcourts<br>Training and informal kick-about areas<br>Off-~~Leash~~ leash ~~D~~dog ~~W~~walking<br>BMX ~~Track~~track<br>Seating/ Shelters/ Picnic<br>Heritage/ Environmental ~~Interpretive~~ interpretive ~~Information~~information<br>Car parking and ~~Bus~~ bus ~~Stop~~stop<br>Pedestrian and ~~Bicycle~~ bicycle ~~Paths~~paths |
| 12 | | | • | • | • | • | | • | | Redbank Creek Riparian Corridor<br>Revegetated or regenerated with pockets of informal recreation opportunities including:<br>Seating/ Shelters<br>Grassy ~~Kickabout~~ kick-about ~~Area~~area<br>Heritage/ Environmental ~~Interpretive~~ interpretive ~~Information~~information<br>Pedestrian and ~~Bicycle~~ bicycle ~~Paths~~paths |
| 13 | | | • | | | • | | | | Pocket park within passive open space incorporating:<br>Seating/ Shelters<br>Grassy ~~Kickabout~~ kick-about ~~Area~~ area<br>Heritage ~~Interpretive~~ interpretive ~~Information~~ information<br>Pedestrian and ~~Bicycle~~ bicycle ~~Paths~~paths |

## ~~Open Space - Indicative Tree Species~~

~~The open space areas will be predominantly open grassland, in keeping with the rural heritage of Redbank. The areas close to Redbank Creek and the area of remnant Cumberland Plain Woodland will include native trees. Away from Redbank Creek, there will be small disbursed groupings of native trees as well as evergreen and deciduous exotics in keeping with the broader Richmond area and the farming heritage of Redbank.~~

### NATIVE EVERGREEN TREES

**Rough Barked Apple**
*Angophora floribunda*
15m high x 10m wide, evergreen, native to Eastern Australia
Part of the the River-flat Eucalypt Forest community

**Forest Red Gum**
*Eucalyptus tereticornis*
25m high x 12m wide, evergreen, native to Australia
Part of the the Cumberland Plain Woodland community

**Flood Gum**
*Eucalyptus grandis*
25m high x 12m wide, evergreen, native to Eastern Australia
Part of the the River-flat Eucalypt Forest community

### EXOTIC DECIDUOUS TREES

**English Oak**
*Quercus robur*
18m high x 18m wide, deciduous native to England

**Bay Bull Magnolia**
*Magnolia grandiflora*
15m high x 12m wide, deciduous native to China

~~Figure 8.9 - Openspace - Indicative Tree Species~~

## ~~Open Space – Indicative Street Tree Species~~

~~Streets are an important part of the overall open space network. As well as connecting discrete areas of open space they provide an important visual and physical link between individual homes and surrounding areas of open space. Healthy street trees will reinforce this connection. Reinstating deep top soil within the verge will provide the necessary soil volume to support healthy trees into the future.~~

~~The indicative species for the street trees have been selected to enhance the visual & sensorial amenity of Redbank's streetscapes. The allowance of summer shade and winter sun have been considered particularly in the selection of deciduous trees. Other criteria determining this selection is the ability of the trees to withstand urban limitations and sustain healthy growth within the proposed verge conditions.~~

**NATIVE EVERGREEN TREES**


**Brush Box**
*Lophostemon confertus*
20m high x 12m wide; native to QLD, NSW
Large evergreen tree suitble for wide streets with wide verges



**Water Gum**
*Tristaniopsis laurina*
10m high x 8m wide; native to QLD, NSW, VIC
Small evergreen tree suitble for narrow streets with narrow verges

**EXOTIC DECIDUOUS TREES**



**Saw-leaf Zelcova**
*Zelcova serrata*
20m high x 12m wide; from China and Japan
Large deciduous tree suitable for wide streets with wide verges



**Manchurian Pear**
*Pyrus ussuriensis*
8m high x 5m wide; from Europe and Asia
Small deciduous tree suitable for narrow streets with narrow verges

~~Figure 8.10 – Openspace – Indicative Tree Species~~

## 8.3.5 WATER MANAGEMENT

### Objectives

*(a) To ensure no net increase in discharge to Redbank Creek*

*(b) To improve waterway health, slow the conveyance of water across the site, ~~and~~ improve the quality and regulate the quantity of stormwater discharge into Redbank Creek through Water Sensitive Urban Design (WSUD) initiatives*

*(c) To provide a water management network that integrates with the broader objectives of the open space network*

*(d) To retain, ~~-~~modify and adapt existing Yeoman~~'s~~'s' Keyline elements, in particular waterbodies and the Keyline, as focal points for the open space network*

*(e) To use water as a key landscape feature and incorporate the key elements of Yeoman~~'s~~'s' Keyline elements within the water management network*

*(f) To retain a quantifiable amount of stormwater prior to ~~stormwater~~ discharge to Redbank Creek*

### Development Controls

1. Post development flows from the site shall not exceed the pre-development flows for all storms from the 1 in 1 year ARI to the 1 in 100 ARI storm.

~~1.~~2. Selected (see Figure~~s 8.6 and~~ 8.~~9~~8) existing dams are to be retained, ~~, modified~~ or adapted to become feature water-bodies, or removed. The specific dams are to ~~will~~ be confirmed with the development application process. Suitable documentation reviewing dams from the perspectives of safety, heritage, public health, public and private property risk, environmental risk and engineering standards and on-going serviceability (maintenance) is to be submitted with relevant development applications.

~~2.~~3. High retention of water in the ground is to be facilitated and a vegetated landscape character is to be created through the establishment of a connected keyline linear corridor and waterbody network

~~3.~~1. The Yeoman~~'s~~'s' feeder and irrigation drains are to be represented through ~~conveyance~~ capture of stormwater from frequent rainfall events in the Keyline Element Corridor by the swale~~s~~

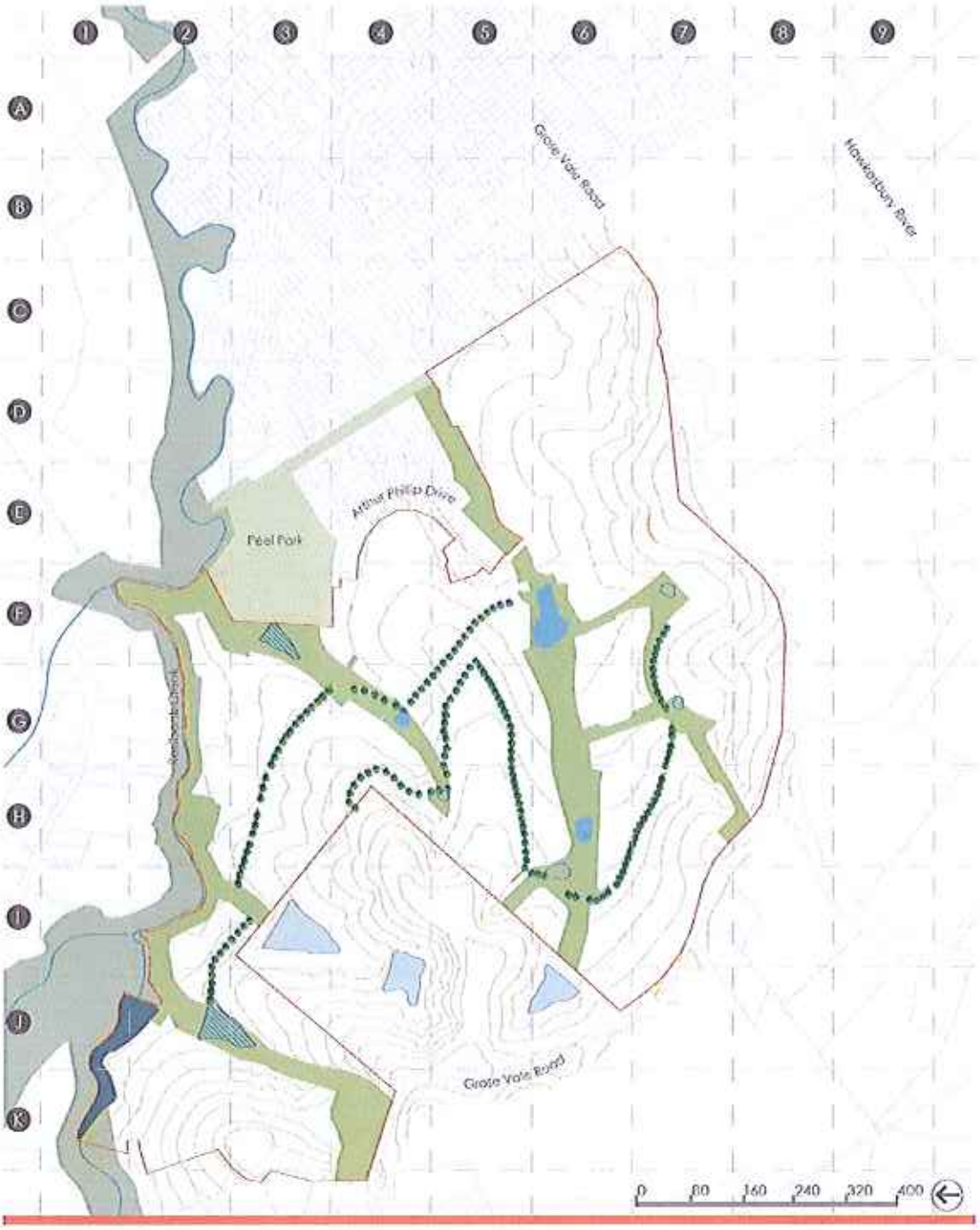
~~4.~~ Rainfall is to be retained on site where possible for re-use through improved groundwater retention.

5. The water management network is to include:
    i. dams to be retained , modified or adapted to become permanent water bodies,
    ii. bio-retention basins
    iii. gross pollutant traps
    iv. dry basins
    v. swales and rain gardens

6. Development Applications for ~~S~~subdivision ~~is~~ are to include measures for:
    i. street level treatment
    ii. sub-catchment treatment
    iii. overall site catchment/s treatment

7. The following environment targets are to be met via the implementation of the water cycle network shown in Figure 8.10:
    - Gross pollutants (GP) – 90% retention of the average annual load (>5mm)
    - Suspended solids (TSS) – 85% retention of the average annual load
    - Total Phosphorous (TP) – 65% retention of average annual load
    - Total Nitrogen (TN) – 45% retention of average annual laoad

    *(Source: NSW Department of Environment and Climate Change, Environmental Targets 2007)*
8. Where lots front grass swales and on site disposal of stormwater is not appropriate, suitable surface drainage outlets into the swale are to be provided prior to the issuing of a Subdivision Certificate. Details of the proposed surface outlets are to be provided with relevant development applications.
9. Where required, piped and sealed driveway crossings for large lot residential lots are to be provided prior to the issuing of a Subdivision Certificate. Crossings are to ensure the integrity of the waterway area and protect the swale from vehicle damage. Details of proposed crossings are to be provided with relevant development applications.



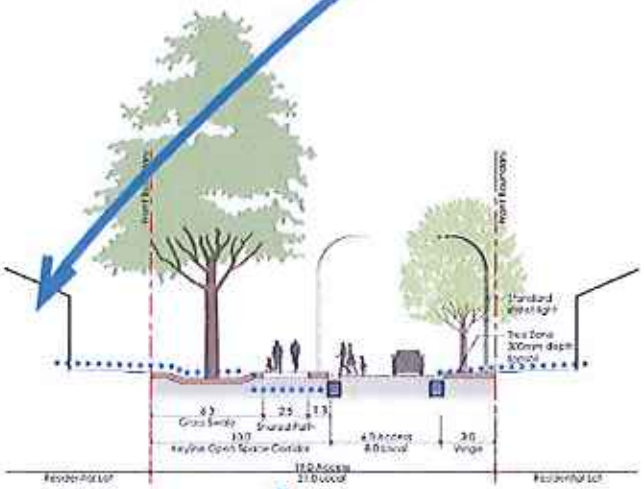

GENERAL LEGEND
- Property Boundary
- Proposed Open Space
- Proposed 5m Contours

HERITAGE LEGEND
- Proposed Keyline Elements Corridor
- Existing Dams within Catchment
- Retained Dams
- Existing Dam Adapted / Modified
- Semi Permanent Water Body
- Permanent Water Body

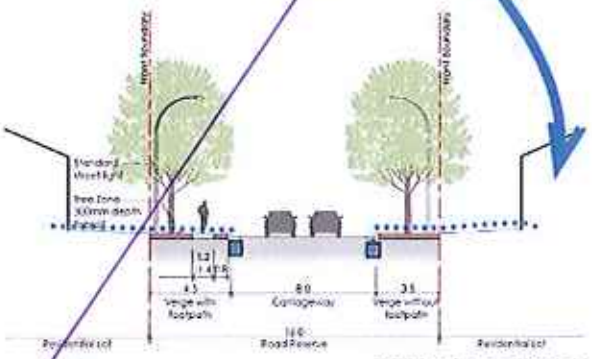
Figure 8.9 - Proposed Dam and Water bodies Network

Residential Building

Water Tanks for onsite water storage, reuse & water quality



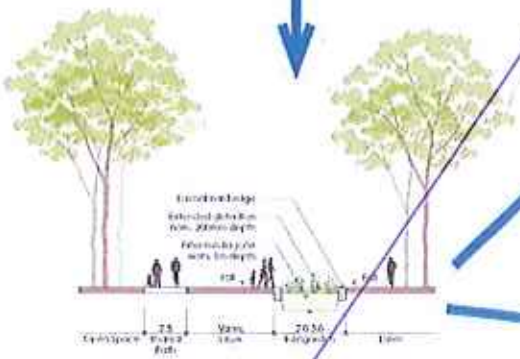
Street Adjacent Keyline



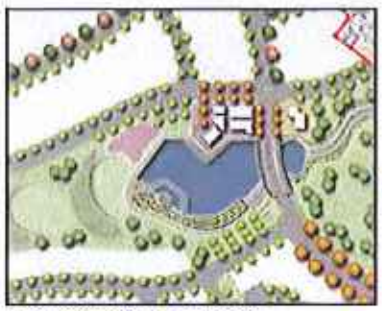
Typical Local Street

Gross Pollutant Trap

Discharge to Redbank Creek (North Valley)



'Rain-Garden' In Lawn Area



Detention Storage Basin (Southern Valley)

Discharge to Unnamed Creek

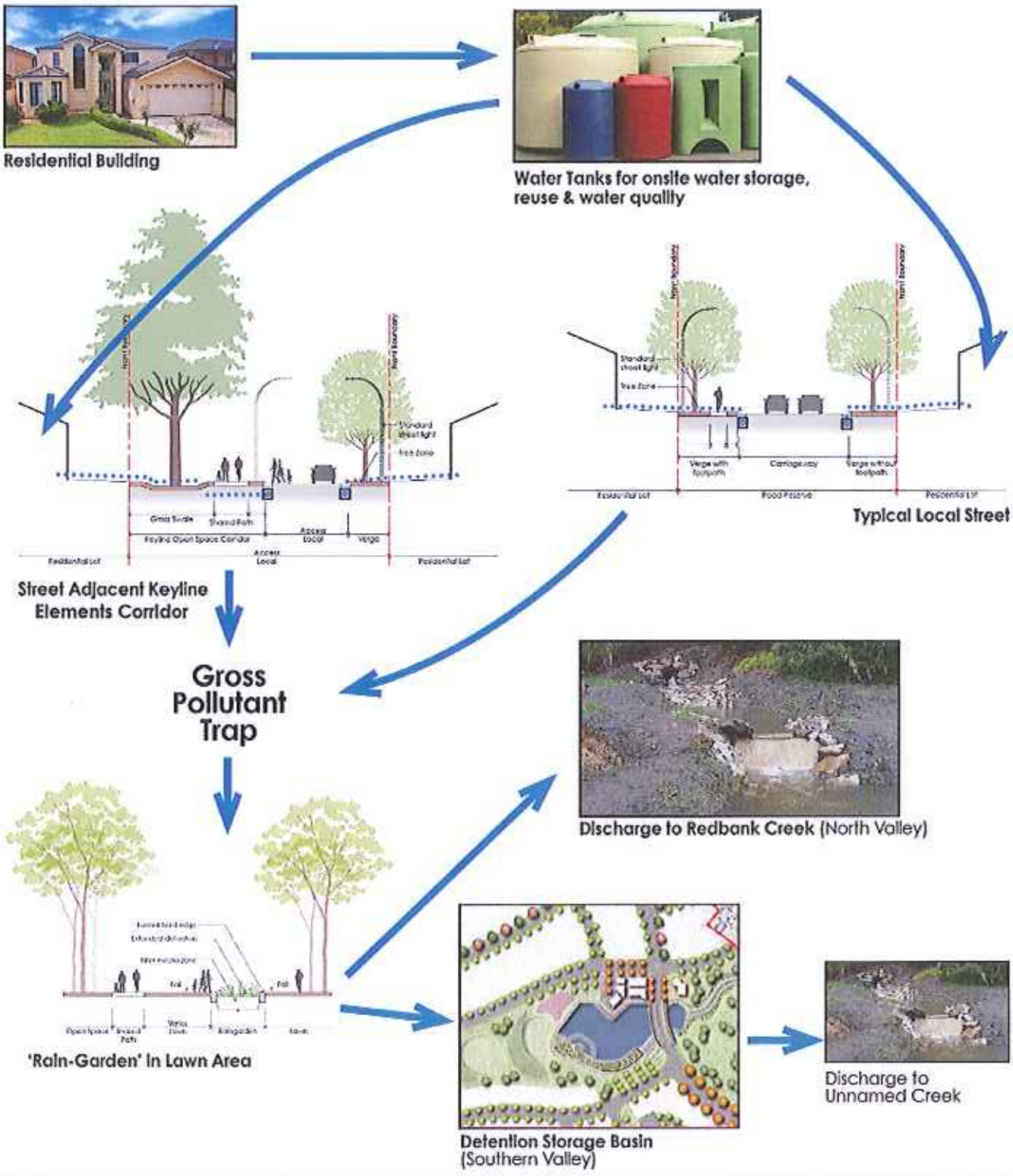



Figure 8.10~~11~~ - Water Cycle Plan

## 8.3.6 ENVIRONMENTAL MANAGEMENT

### Objectives

(a) *To protect significant existing vegetation ~~(eg. largest area of Cumberland Plain Woodland)~~*

(b) *To protect and enhance riparian corridors for the following purposes:*

i. *water conveyance*

ii. *water quality*

iii. *protection of significant vegetation*

iv. *wildlife movement/habitat*

v. *visual amenity*

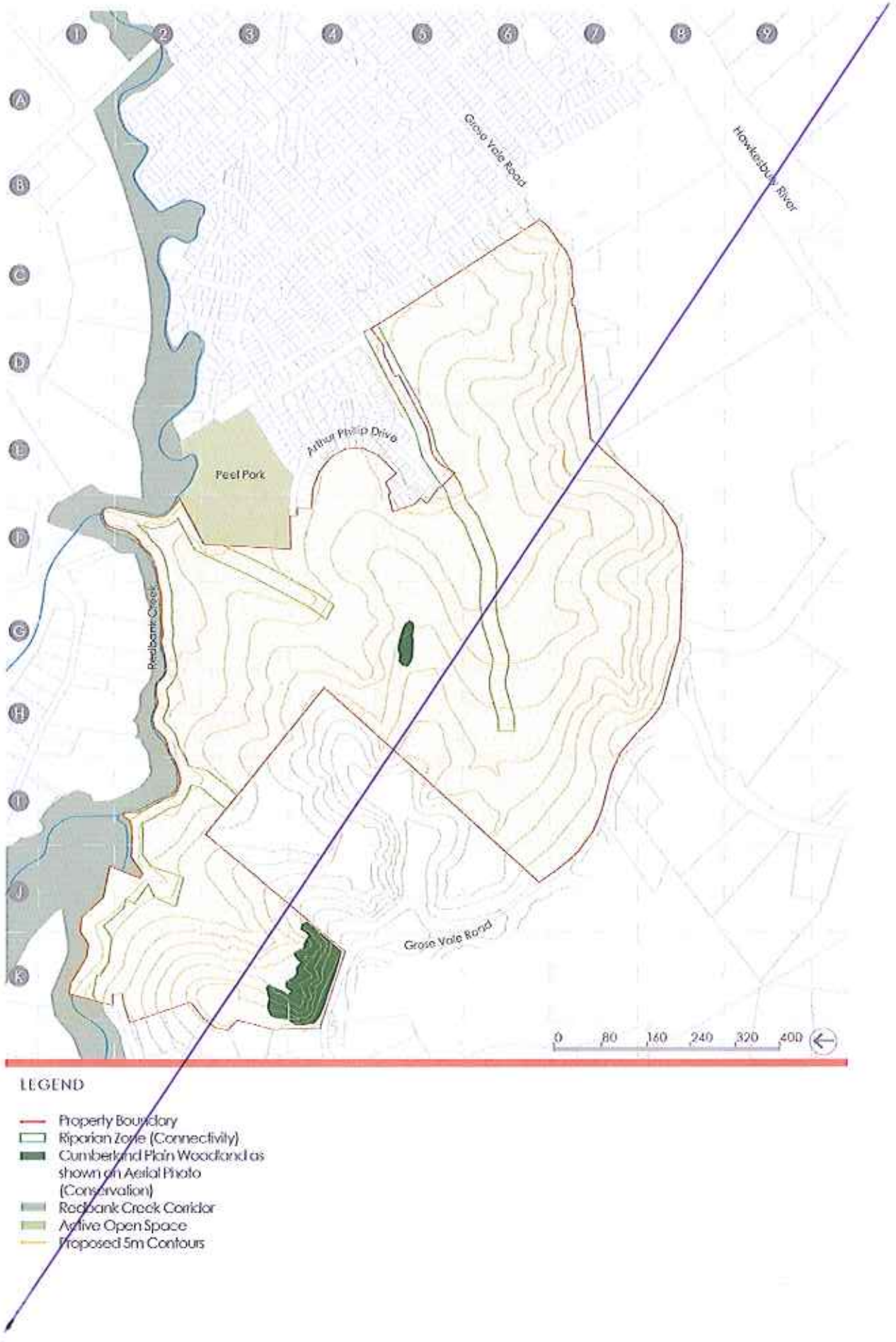
vi. *low impact recreation activities such as pedestrian and cyclist paths*

(c) *To mitigate bush fire risk to provide an appropriate level of personal and property safety on private land*

(d) *To plant vegetation in the public open space and the street networks to contribute to sense of place and character*

### Development Controls

1. Cumberland Plain Woodland ~~is~~ (identified both at a state and federal level as Critically Endangered Ecological Community) as indicatively shown in Figure 8.11~~2~~ is to be protected in public open space or where appropriate removed through due process e.g. ~~V~~via biodiversity offsets
2. River Flat Eucalyptus Forest (identified as an Endangered Ecological Community) ~~it~~ is to be protected in riparian open space and large lot residential areas or where appropriated removed through due process eg. via biodiversity offsets
3. Riparian zones are to be provided generally in accordance with Figure 8.11~~2~~
4. Treatments to Redbank Creek are to be provided generally in accordance with Figures 8.17 to 8.20~~8, 8.19, 8.20 and 8.21~~
5. Water-body edges and rain garden are to be generally in accordance with Figures 8.12 to 8.16~~3, Figure 8.14, Figure 8.15 Figure 8.16 and Figure 8.17~~
6. Vegetation is to be planted in accordance with Figure 8.8 and comprise~~s~~:
   ~~i.~~ predominantly endemic native ~~indigenous~~ species in public open space
   ~~ii.~~i. ~~predominantly deciduous trees in verges~~
7. Plantings are to highlight special areas with distinct character such as the entry drive, Keyline and rural area


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
Grose Vale Road
Hawkesbury River
Arthur Phillip Drive
Peel Park
Redbank Creek
Grose Vale Road
0
80
160
240
320
400
LEGEND
Property Boundary
Riparian Zone (Connectivity)
Cumberland Plain Woodland as shown on Aerial Photo (Conservation)
Redbank Creek Corridor
Active Open Space
Proposed 5m Contours

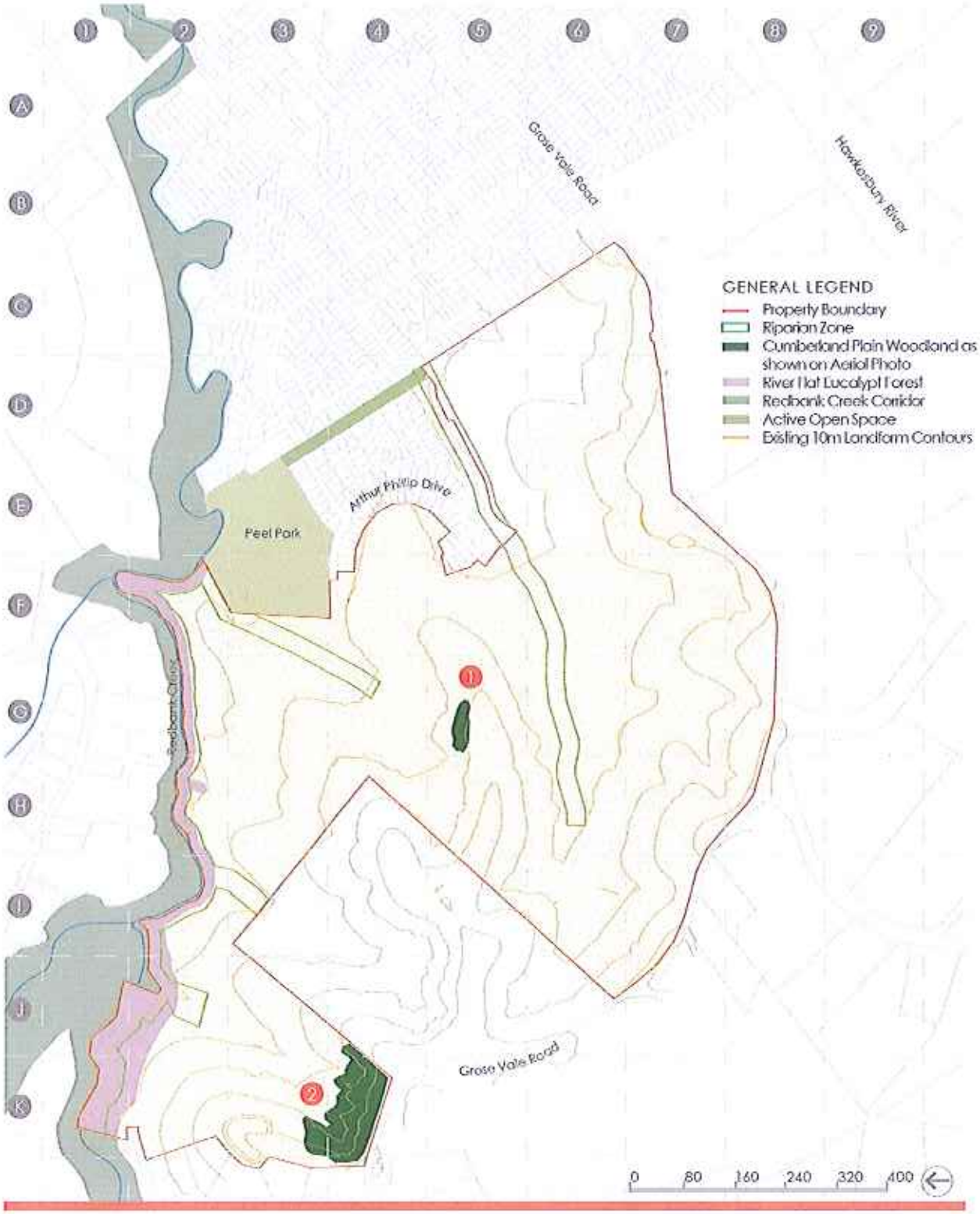



**Figure 8.112 - Environmental Constraints**

## Water-Bbody Edge Treatment

The 'water edge sections' highlight various edge treatments for the interface between water-body and open space or public domain. These 'interfaces' generally occur within the RE1 Public Recreation ~~open space~~ zoning, with the exception of the B1 Neighbourhood Centre zoning where the water-body abuts the ~~town~~ neighbourhood centre promenade. These variations in edge treatments allow for flexibility in response to existing and ~~&~~ proposed site specificities when designing the interface between land and water.

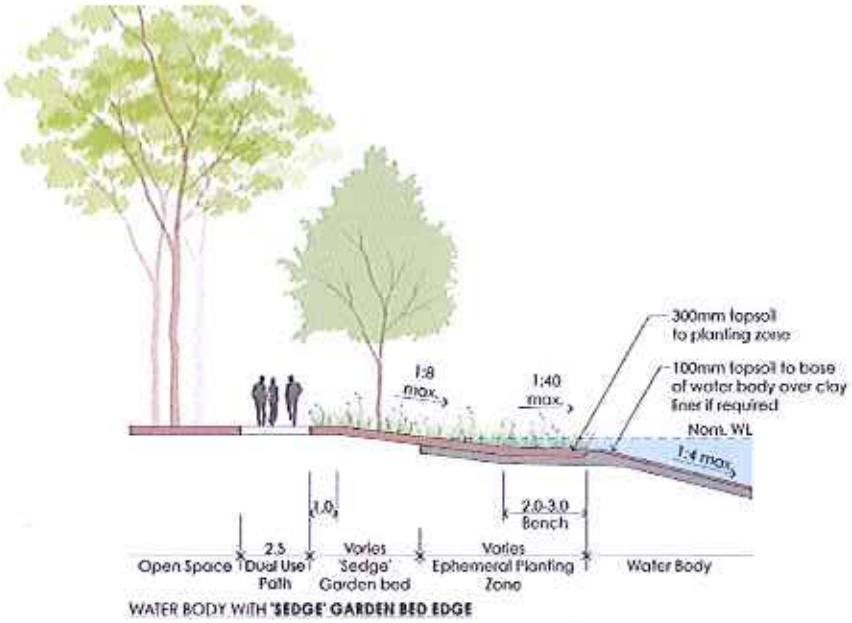
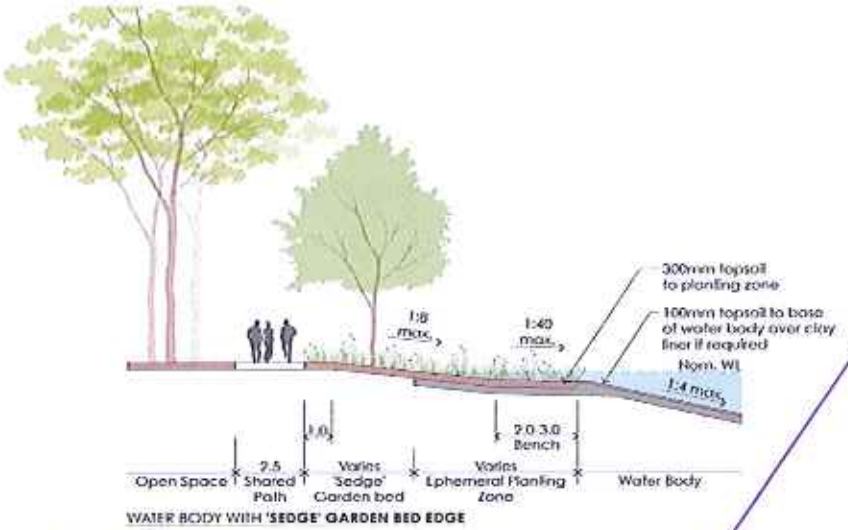



Figure 8.1~~2~~3 - Water Edge Sections



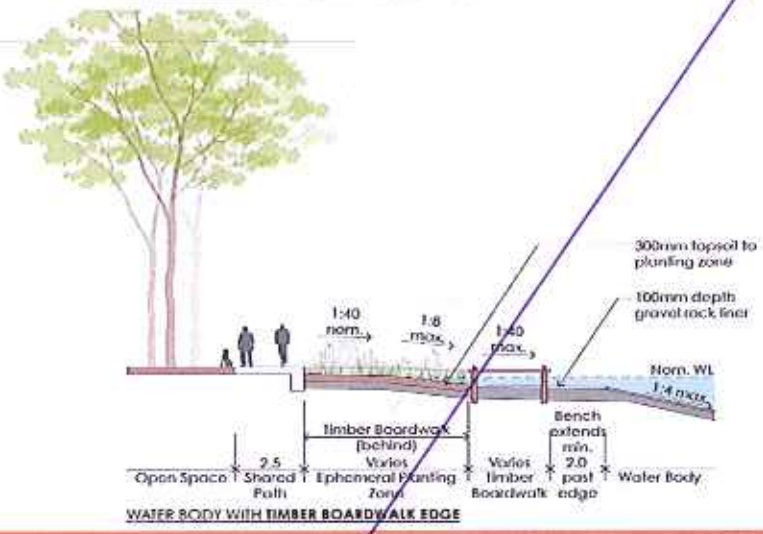




Figure 8.13 - Water Edge Sections

## Water-Bbody Edge Treatment

The 'water edge sections' highlight various edge treatments for the interface between water-body and open space or public domain. These 'interfaces' generally occur within the RE1 Public Recreation ~~open space~~ zoning, with the exception of the B1 Neighbourhood Centre zoning where the water-body abuts the neighbourhood ~~town~~ centre promenade. These variations in edge treatments allow for flexibility in response to existing and~~&~~ proposed site specificities when designing the interface between land and water

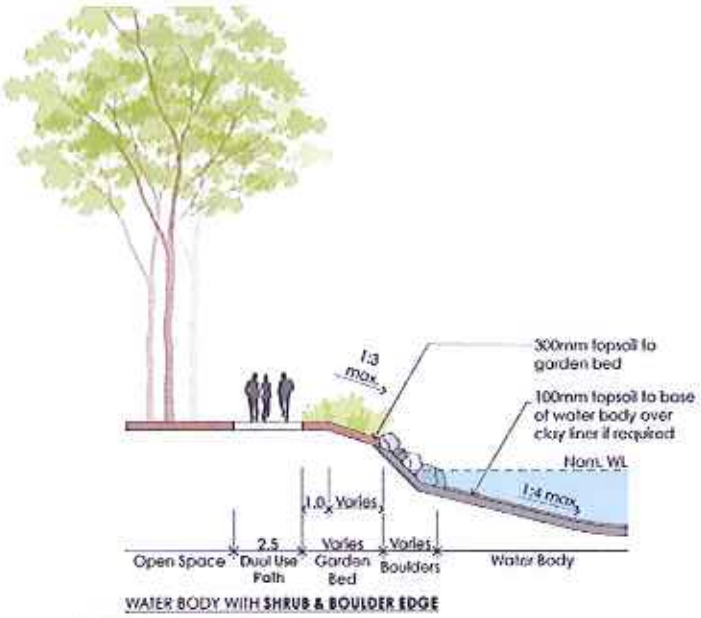
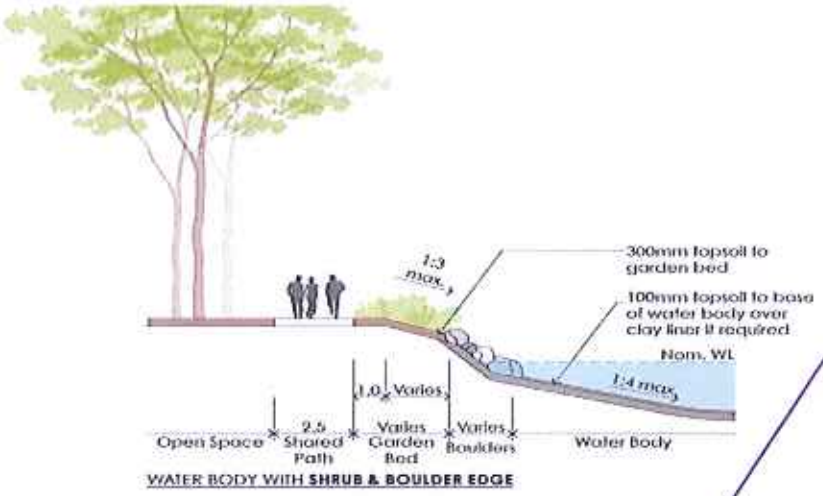
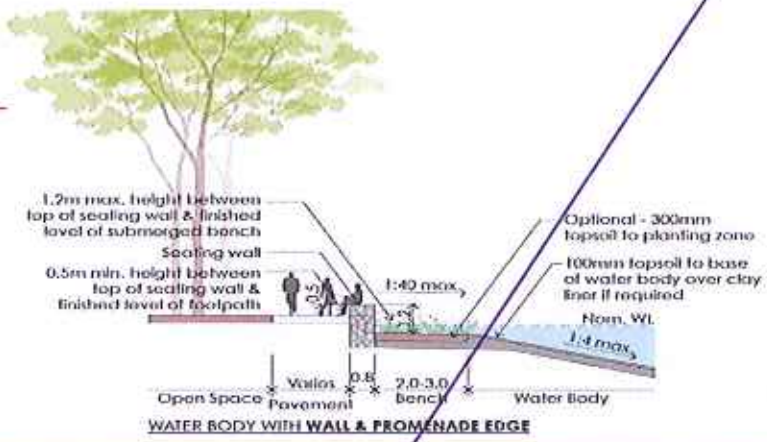



Figure 8.134 - Water Edge Sections




WATER BODY WITH **SHRUB & BOULDER EDGE**




WATER BODY WITH **WALL & PROMENADE EDGE**

**Figure 8.14 - Water Edge Sections**

## Water-Bbody Edge Treatment

The 'water edge sections' highlight various edge treatments for the interface between water-body and open space or public domain. These 'interfaces' generally occur within the RE1 Public Recreation ~~open space~~ zoning, with the exception of the B1 Neighbourhood Centre zoning where the water-body abuts the neighbourhood~~town~~ centre promenade. These variations in edge treatments allow for flexibility in response to existing and ~~&~~ proposed site specificities when designing the interface between land and water.

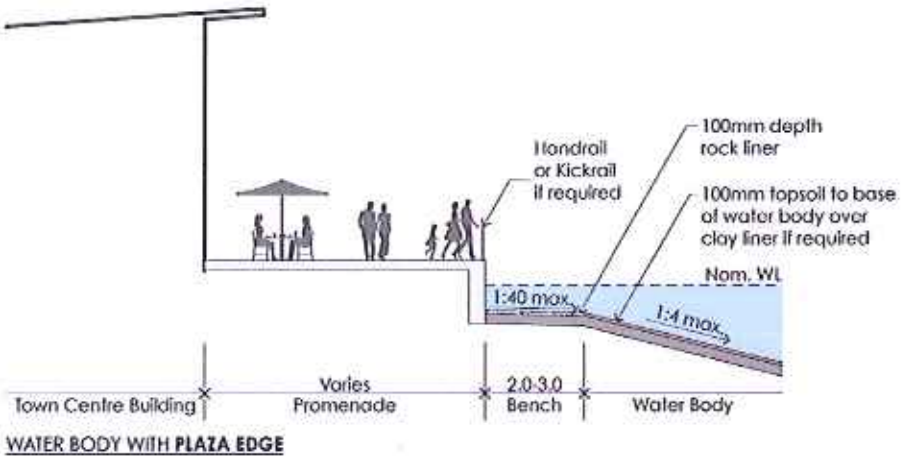



Figure 8.1~~5~~6 - Water Edge Sections

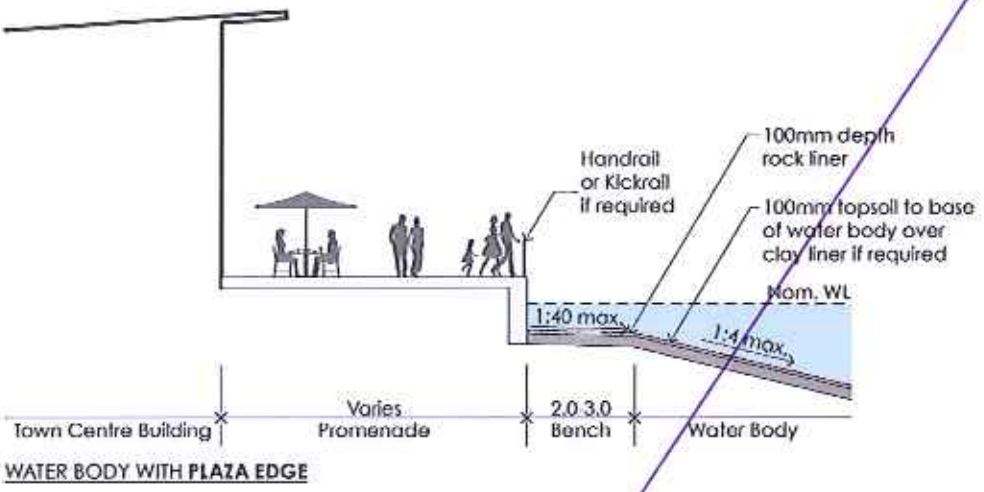
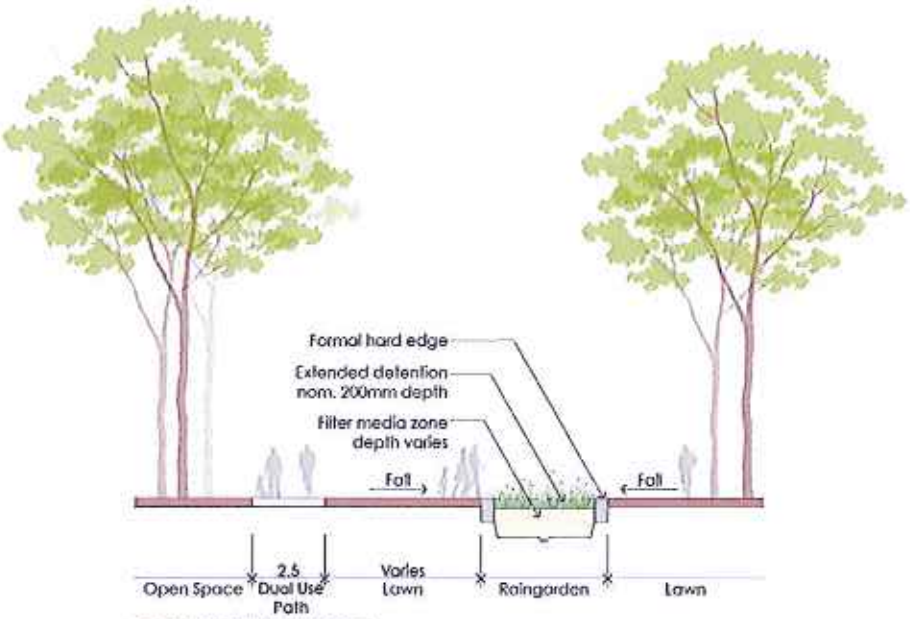


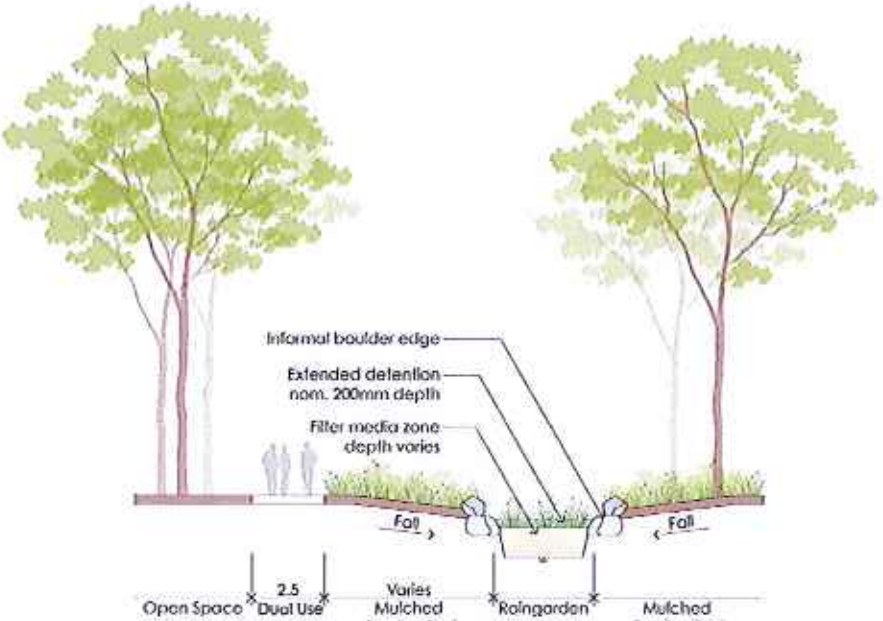

Figure 8.15 - Water Edge Sections

## Rain Garden (Bio Retention) Sections

These sections highlight several scenarios for ~~rain gardens~~bio retention occurring within RE1 Public Recreation ~~Open Space~~ zoning. Generally, a rain garden can be planted or grassed and allow for extended detention during rain events. The peripheral landscape can also be planted or grassed with falls toward the rain garden.

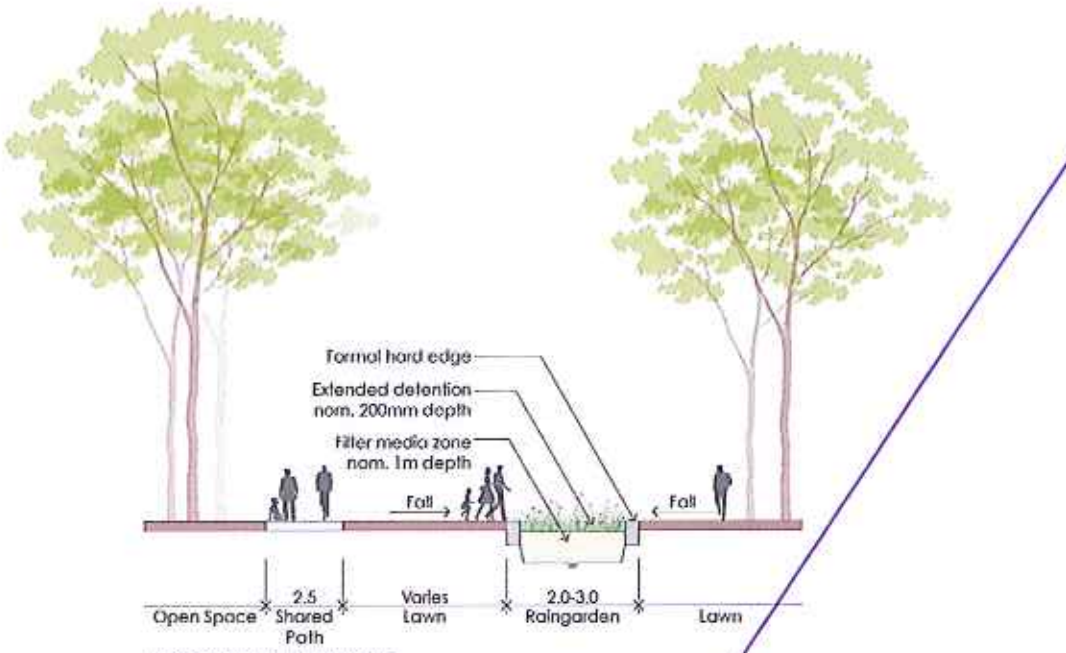



RAINGARDEN IN **LAWN AREAS**

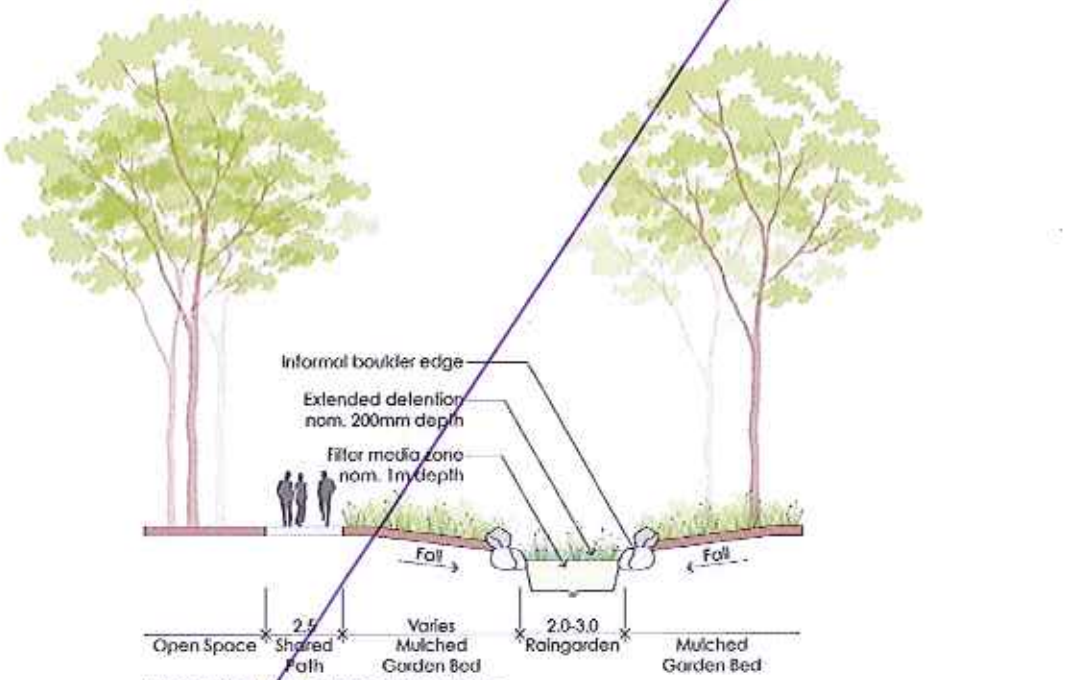



RAINGARDEN IN **MULCHED GARDEN AREAS**

Figure 8.15 - Rain Garden Sections




RAINGARDEN IN **LAWN AREAS**

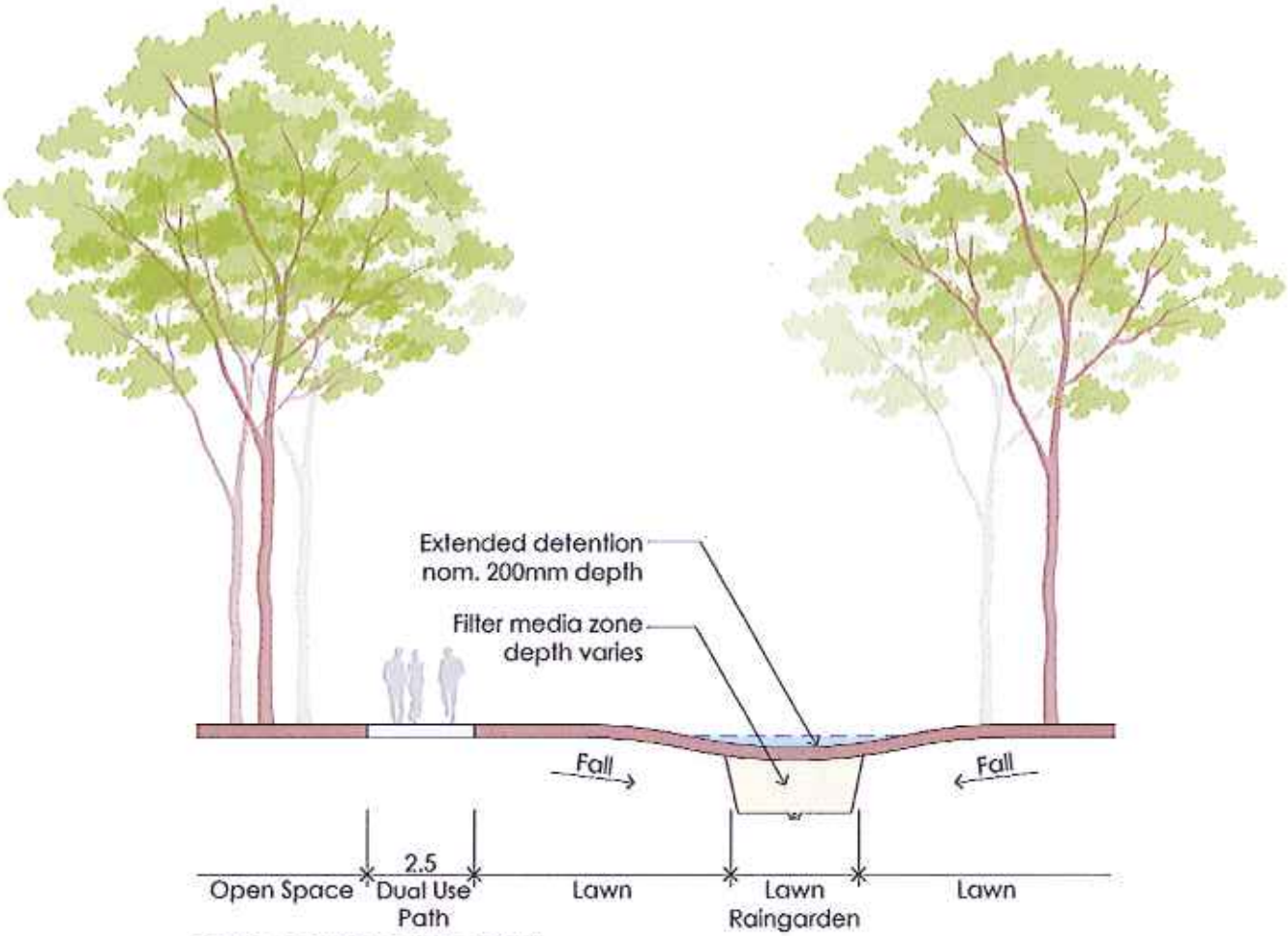



RAINGARDEN IN **MULCHED GARDEN AREAS**

**Figure 8.16 - Rain Garden Sections**

## Rain Garden (Bio Retention) Sections

These sections highlight several scenarios for ~~rain gardens~~bio retention occurring within the RE1 Public Recreation ~~Open Space~~ zoning. Generally, a rain garden can be planted or grassed and allow for extended detention during rain events. The peripheral landscape can also be planted or grassed with falls toward the rain garden.




**LAWN COVERED RAINGARDEN**

Figure 8.16 - Rain Garden Sections

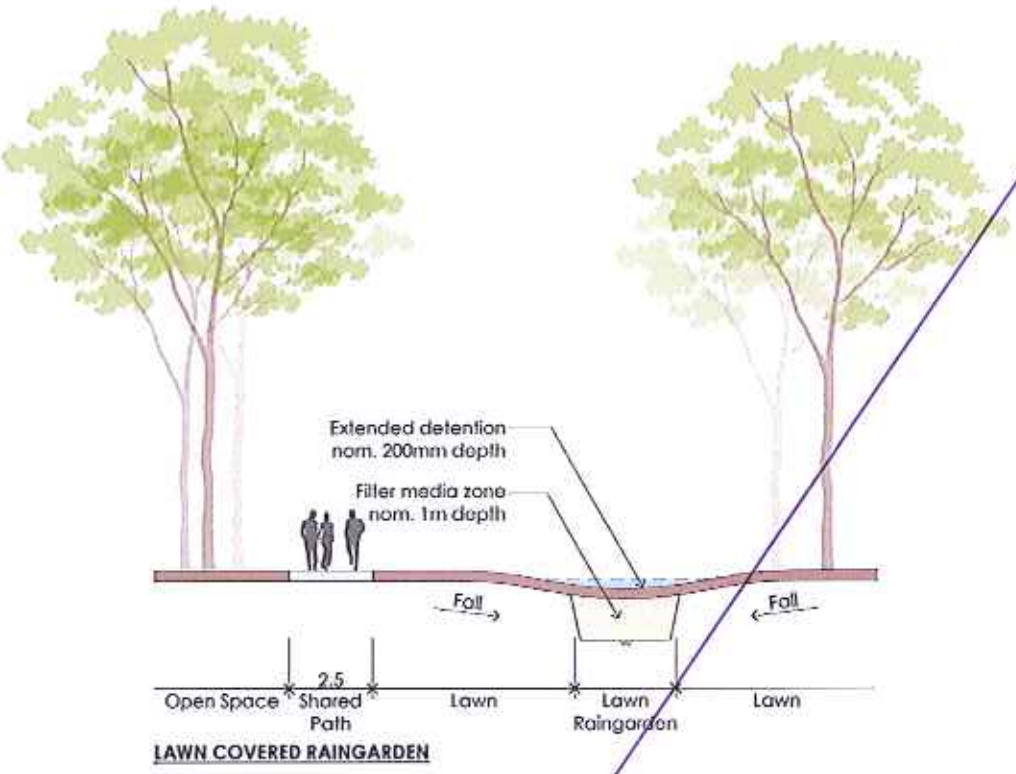
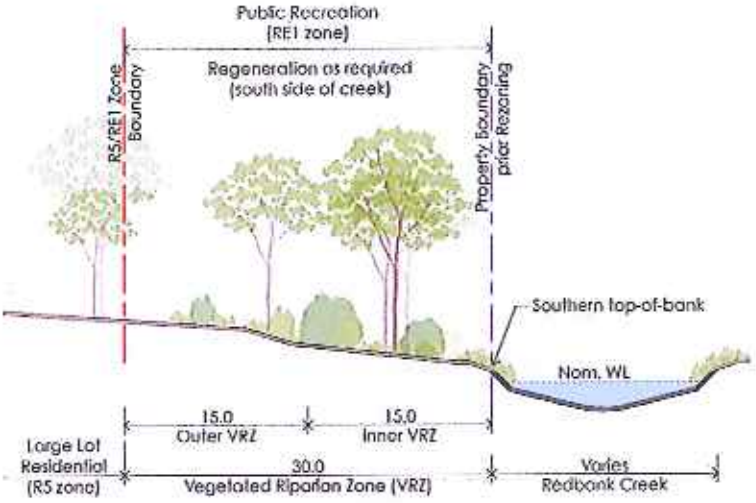



Figure 8.17 - Rain Garden Sections

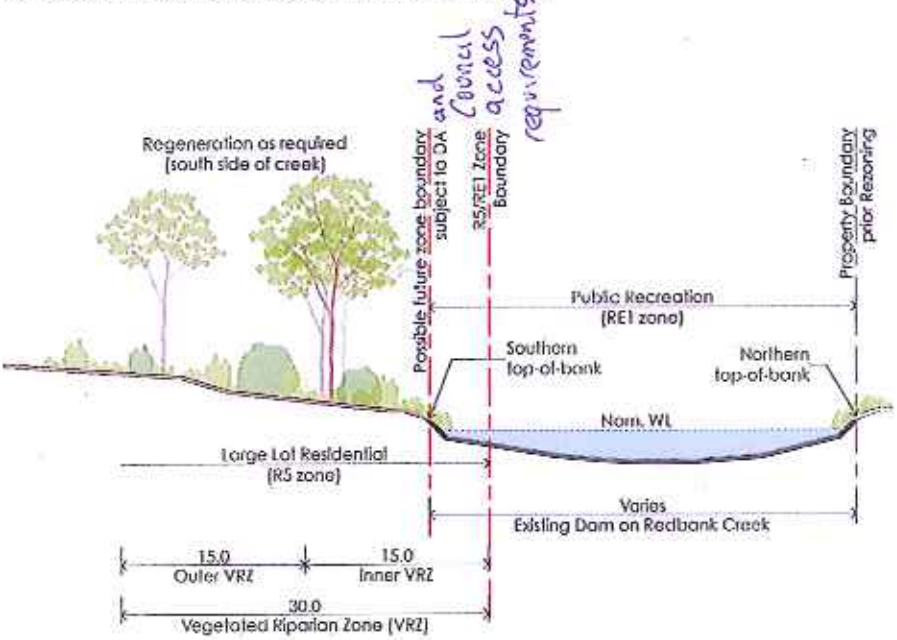
## Riparian Corridor - R5 Large Lot Residential Zoning

The following sections address the Redbank Creek Riparian Corridor in relation to R5 Large Lot Residential zoning. They highlight the extents of the Vegetated Riparian Zone (VRZ) ~~and Asset Protection Zone (APZ)~~.




RIPARIAN CORRIDOR ***ADJACENT R5 ZONING*** - TYPICAL SECTION

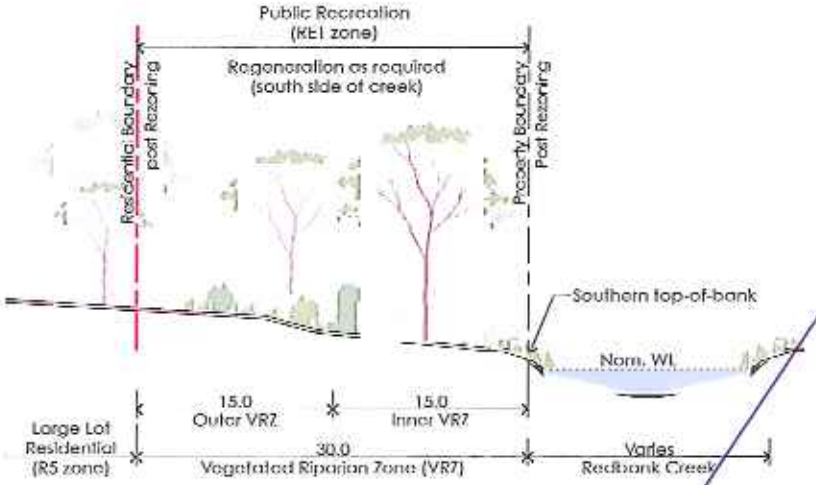
This scenario occurs down-stream of the existing dam on Redbank Creek *adjacent R5 zoning*. The Vegetated Riparian Zone sits outside the R5 zoning (Refer J1).




RIPARIAN CORRIDOR ***WITHIN R5 ZONING*** - TYPICAL SECTION

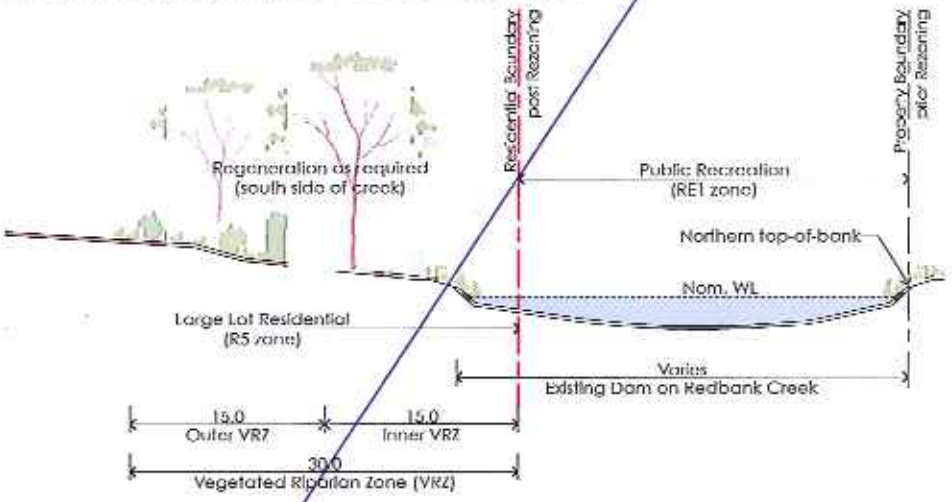
This scenario occurs up-stream & adjacent to the existing dam on Redbank Creek *within R5 zoning*. The Vegetated Riparian Zone (RPZ) are located within the R5 zoning (Refer varies K1 - J1)

**Figure 8.178 - Riparian Corridor - R5 Large Lot Residential zoning**




RIPARIAN CORRIDOR ***ADJACENT R5 ZONING*** - TYPICAL SECTION

This scenario occurs down-stream of the existing dam on Redbank Creek *adjacent R5 zoning*. The Vegetated Riparian Zone sits outside the R5 zoning (Refer J1).



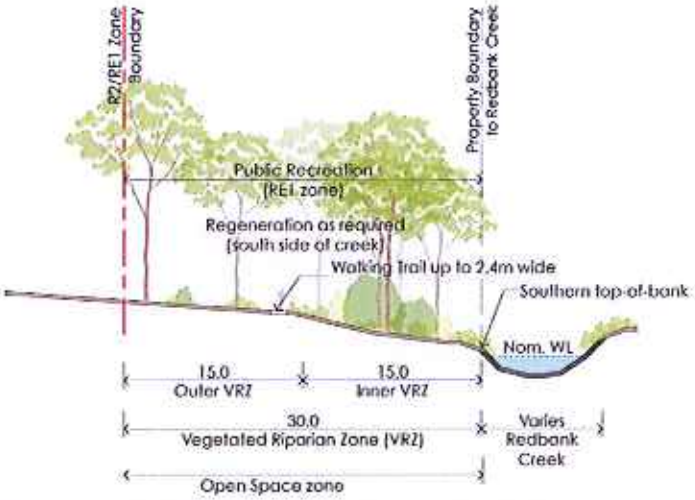

RIPARIAN CORRIDOR ***WITHIN R5 ZONING*** - TYPICAL SECTION

This scenario occurs up-stream & adjacent to the existing dam on Redbank Creek *within R5 zoning*. The Vegetated Riparian Zone (RPZ) are located within the R5 zoning (Refer J1).

**Figure 8.18 - Riparian Corridor - R5 Large Lot Residential zoning**

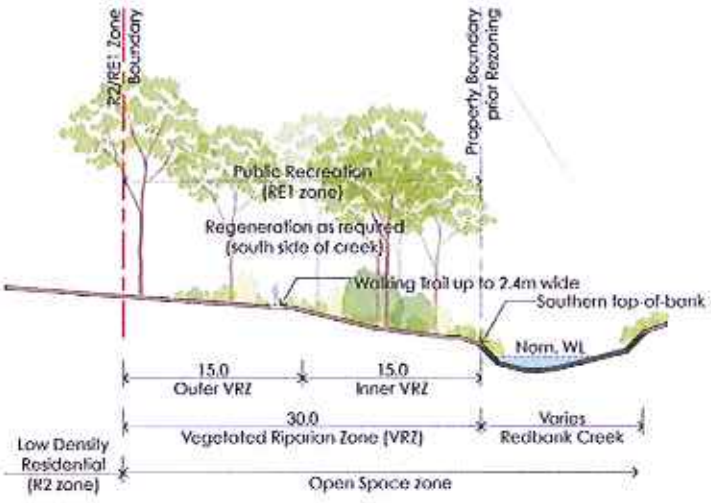
## Riparian Corridor - R2 Low Density Residential &and RE1 Public Recreation ~~Open Space~~ Zonings

The following sections address the Redbank Creek Riparian Corridor in relation to R2 Low Density Residential and RE1 Public Recreation ~~Open Space~~ zonings. They highlight the extents of the Vegetated Riparian Zone (VRZ) ~~and Asset Protection Zone (APZ)~~.




RIPARIAN CORRIDOR ***WITHIN OPEN SPACE ZONING*** - TYPICAL SECTION

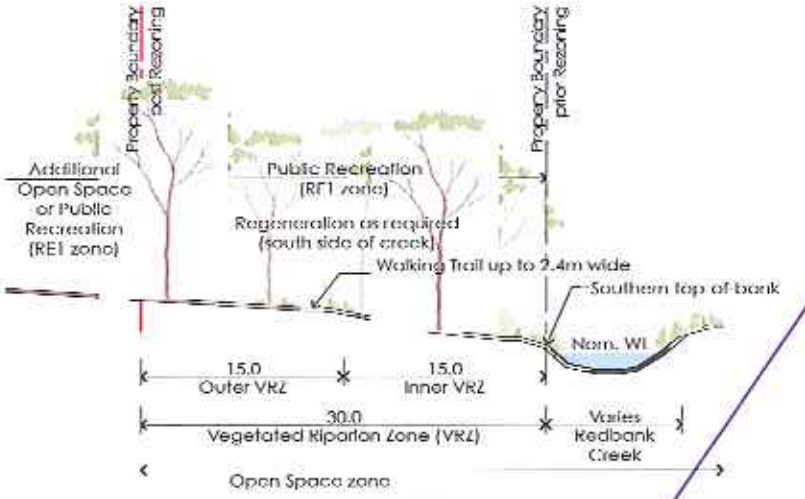
This scenario occurs where Redbank Creek is within Open Space zoning. The Vegetated Riparian Zone (VRZ) is located within the Open Space zone (Refer varies along D - F2)




RIPARIAN CORRIDOR ***WITHIN OPEN SPACE & ADJACENT R2 ZONING*** - TYPICAL SECTION

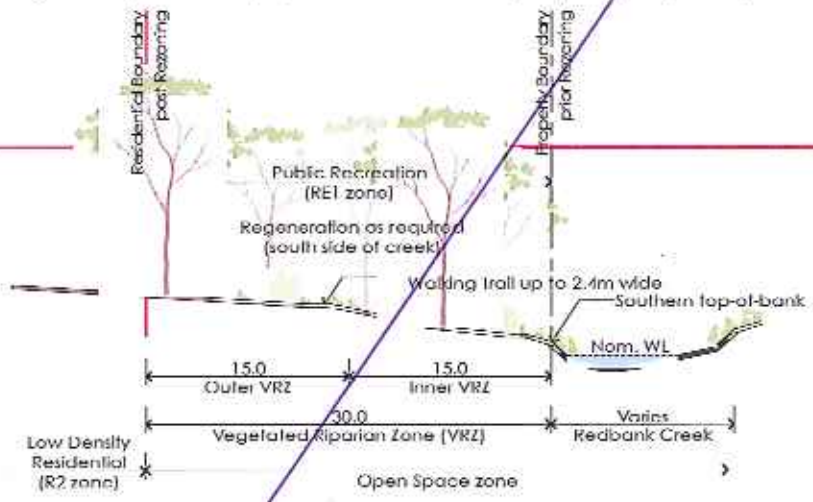
This scenario occurs where Redbank Creek is within Open Space zoning and adjacent R2 zoning. The Vegetated Riparian Zone (VRZ) is located within the Open Space zone (Refer varies along D - F2)

**Figure 8.189 - Riparian Corridor - R2 Low Density Residential + RE1 Public Recreation ~~Open Space~~ zZonings**




RIPARIAN CORRIDOR ***WITHIN OPEN SPACE ZONING*** - TYPICAL SECTION

This scenario occurs where Redbank Creek is *within Open Space zoning*. The Vegetated Riparian Zone (VRZ) is located within the Open Space zone (Refer J1).



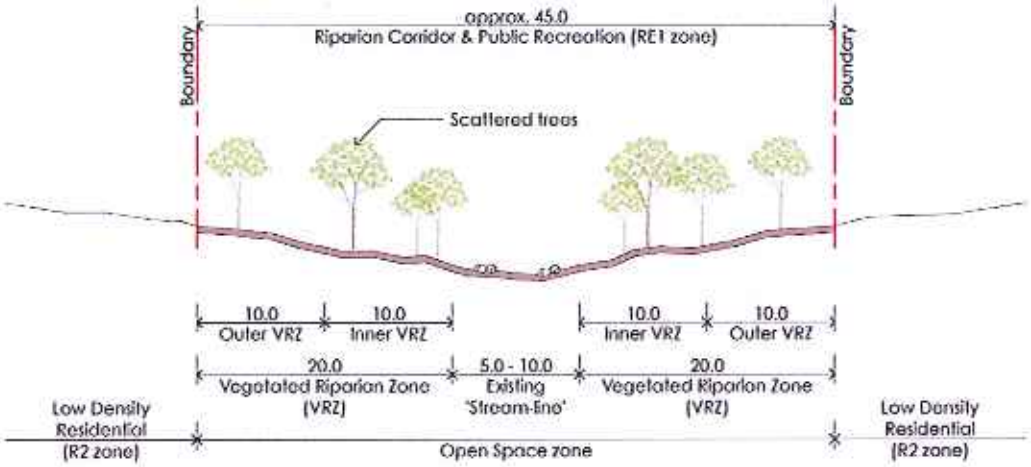

RIPARIAN CORRIDOR ***WITHIN OPEN SPACE & ADJACENT R2 ZONING*** - TYPICAL SECTION

This scenario occurs where Redbank Creek is *within Open Space zoning and adjacent R2 zoning*. The Vegetated Riparian Zone (VRZ) is located within the Open Space zone (Refer J1).

**Figure 8.19 - Riparian Corridor - R2 Low Density Residential + RE1 Public Recreation ~~Open Space z~~Zonings**

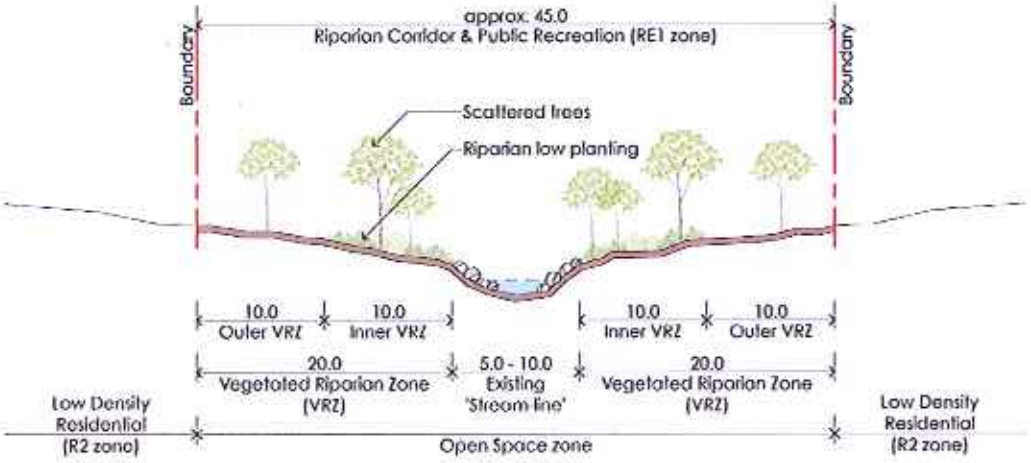
## Riparian Corridor – RE1 Public Recreation~~Open Space~~ Zoning

The following sections address Riparian Corridors within the RE1 Public Recreation ~~Open Space~~ zoning and adjacent to the R2 Low Density Residential zoning. They highlight the extents of the Vegetated Riparian Zone (VRZ) ~~and Asset Protection Zone (APZ)~~.




RIPARIAN CORRIDOR ***WITHIN OPEN SPACE ZONING*** - COMBINED HERITAGE & RIPARIAN AREAS

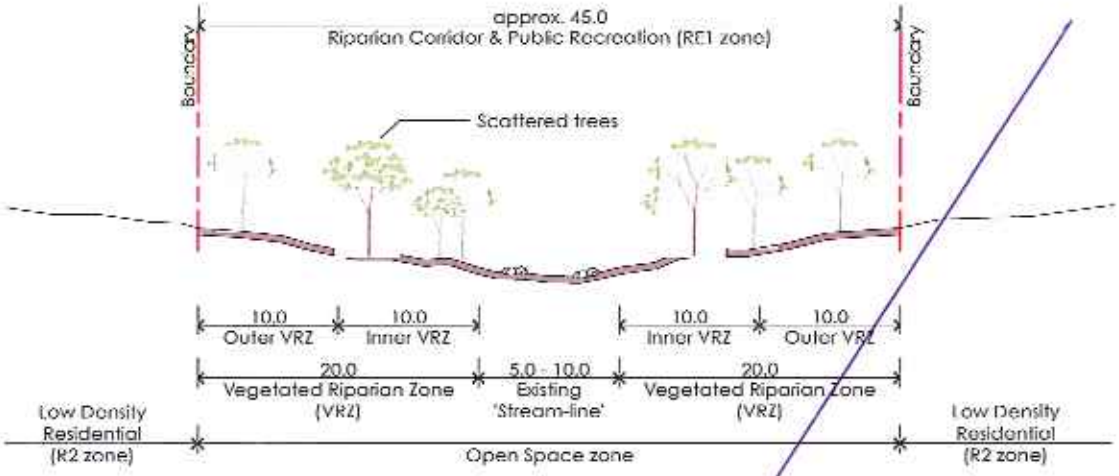
This scenario occurs where there is an existing stream-line within *Open Space zoning*. The Vegetated Riparian Zone will comprise of groves of scattered trees in lawn and/or low ground covers to maintain the stream-line as a reference to Redbank's water management heritage.




RIPARIAN CORRIDOR ***WITHIN OPEN SPACE ZONING*** - RIPARIAN ONLY AREAS

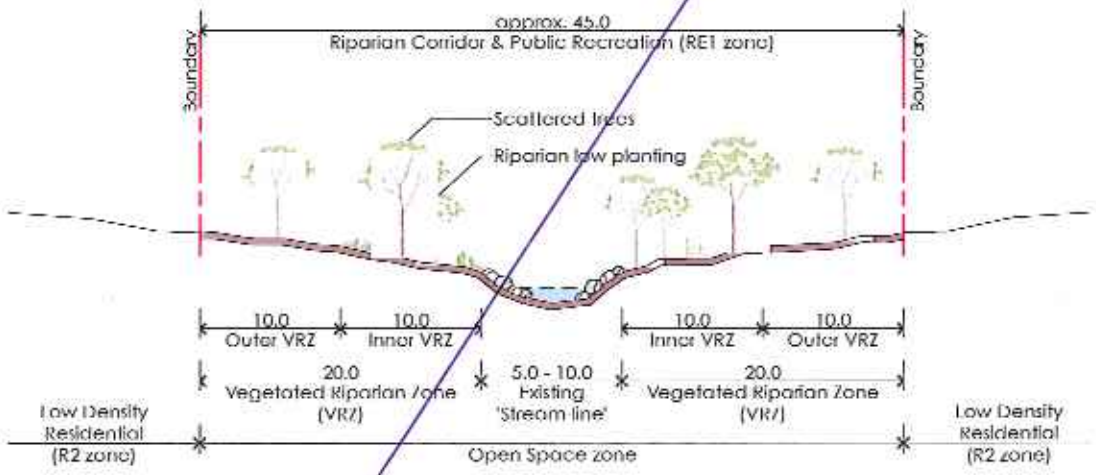
This scenario occurs where there is an existing stream-line within *Open Space zoning*. The Inner VRZ will comprise of riparian vegetation and the Outer VRZ will be groves of scattered trees in lawn.

Figure 8.19 - Riparian Corridor -RE1 Public Recreation zoning




RIPARIAN CORRIDOR ***WITHIN OPEN SPACE ZONING*** - COMBINED HERITAGE & RIPARIAN AREAS

This scenario occurs where there is an existing stream-line *within Open Space zoning*. The Vegetated Riparian Zone will comprise of groves of scattered trees in lawn and/or low ground covers to maintain the stream-line as a reference to Redbank's water management heritage.



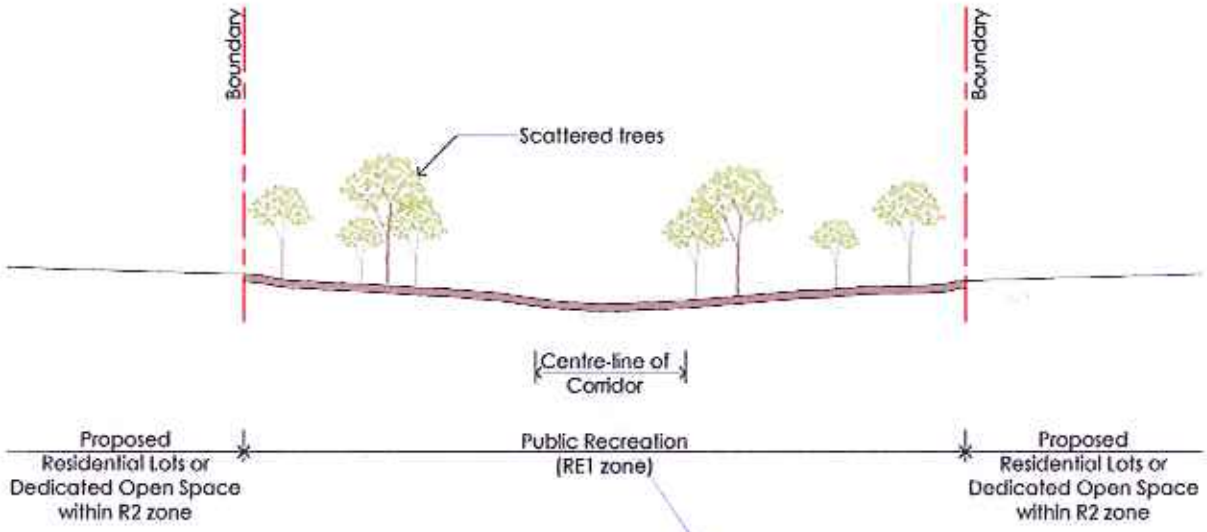

RIPARIAN CORRIDOR ***WITHIN OPEN SPACE ZONING*** - RIPARIAN ONLY AREAS

This scenario occurs where there is an existing stream-line *within Open Space zoning*. The Inner VRZ will comprise of riparian vegetation and the Outer VRZ will be groves of scattered trees in lawn.

**Figure 8.20 - Riparian Corridor - Open Space Zoning**

## Riparian Corridor -- RE1 Public Recreation ~~Open Space~~ Zoning

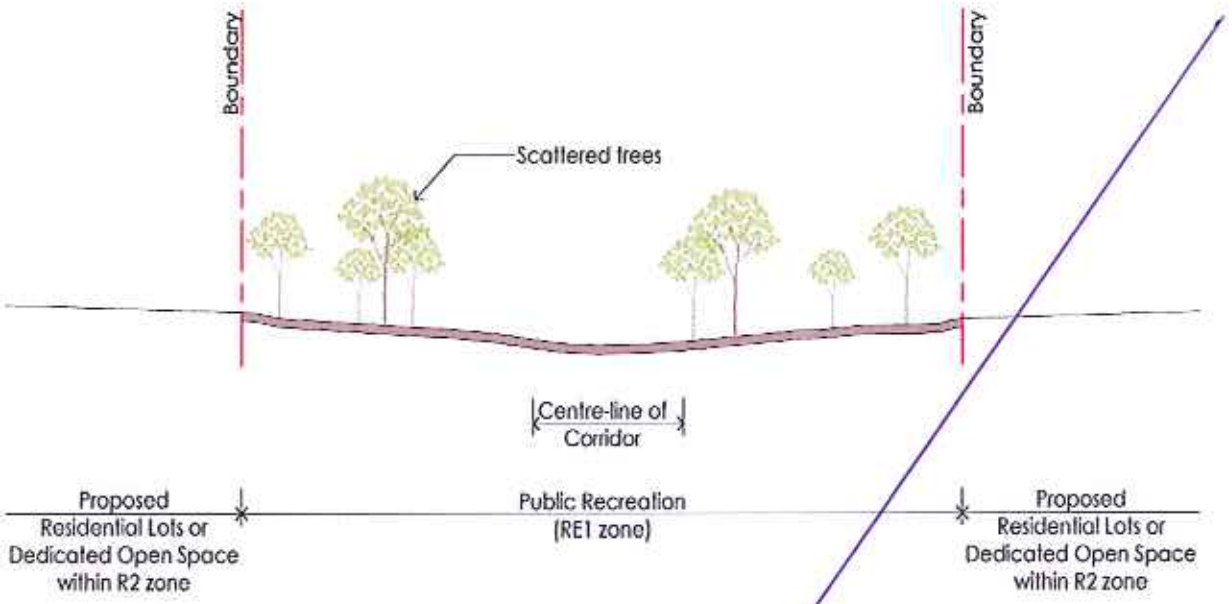
The following sections address Riparian Corridors within the RE1 Public Recreation ~~Open Space~~ zoning and adjacent to R2 Low Density Residential zoning. They highlight the extents of the Vegetated Riparian Zone (VRZ) ~~and Asset Protection Zone (APZ)~~..




**OPEN SPACE CORRIDOR - HERITAGE ONLY AREAS**

This open space corridor occurs in heritage only areas adjacent to R2 zoning. The centre-line of the corridor is grassed and adjacent open space will consist of groves of scattered trees in lawn and/or low ground covers.

Figure 8.2~~0~~1 - Riparian Corridor – RE1 Public Recreation ~~Open Space~~ Corridor




**OPEN SPACE CORRIDOR - HERITAGE ONLY AREAS**

This open space corridor occurs in heritage only areas adjacent to R2 zoning. The centre-line of the corridor is grassed and adjacent open space will consist of groves of scattered trees in lawn and/or low ground covers.

Figure 8.21 - Riparian Corridor - RE1 Public Recreation ~~Open Space~~ Corridor

## 8.3.7 MOVEMENT NETWORK

### Objectives

*(a) To create multi- functional streets that provide for the safe and efficient movement of vehicles, pedestrians and cyclists and include on-street car parking where appropriate*

*(b) To create a distinct sense of place that responds to topography, natural landscape features and significant elements of the Yeoman's system*

*(c) To create a connected and permeable street network that integrates with the surrounding street network*

*(d) To incorporate water cycle management into streets*

*(e) To provide for and encourage more sustainable modes of movement, including public transport, walking and cycling*

*(f) To enable convenient, safe and comfortable walking and cycling through a connected network of on-street and off-street pedestrian and cycle paths that links the neighbourhood centre, Peel Park and all other public open space and all residential areas*

### Development Controls

*Street Network*

1. The higher-order street network is to be provided generally in accordance with Figure 8.22

2. Streets are designed generally in accordance with Figure 8.23 through to Figure 8.49. It is not intended that these figures address all road configurations, special consideration may need to be given to other road configurations such as laneways and access ways. The characteristics and requirements for other roads will be assessed on merit as part of any relevant development application. The options shown for road design in these figures may be considered as a variation to the Road Alignment requirements of Appendix E of the DCP. Any other variations will need to address relevant provisions of the endorsed Conservation Management Plan and the following criteria:

    i. adequate manoeuvring for vehicles including commercial, service and emergency vehicles
    ii. adequate on-street parking
    iii. footpath provision on at least one side of the street
    iv. cycleway provision

    A lot layout and driveway location plan is to accompany the variation request and development application and demonstrate the abovementioned items can be achieved.

~~1.~~3. No direct vehicle vehicular access of an individual lot is permitted to ~~and~~ or from ~~onto~~ Grose Vale Road

~~2.~~4. The Entry Drive and Collector roads are ~~to create~~ to provide a distinct sense of entry from Grose Vale Road

~~3.~~5. The Entry Drive is to be aligned to create a view corridor to the neighbourhood centre and adjoining public open space and water-body

~~4.~~6. The Collector Roads are to be aligned to create a view corridor ~~is provided~~ from Grose Vale Road through the site to the central linear park, neighbourhood centre and its adjoining waterbody

~~5.~~7. Water sensitive urban design is to be incorporated within identified streets, in particular keyline verges, to capture and infiltrate stormwater

~~6.~~8. Where bordering public open space, ~~these~~ streets are to maximise opportunities for pedestrian and cyclist access and casual surveillance

~~7.~~9. Street furniture ~~for example~~ is to include seating in conjunction with street lighting and lighting of selected adjacent open space areas is to enhance~~s~~ the attractiveness, comfort and safety of streets and adjacent areas~~,~~

~~8.~~10. Street trees are to be provided on all streets and:

i. reinforce the street hierarchy and create distinct places

ii. comprise a co-ordinated palette of climatically responsive, robust and low-maintenance species

iii. are to be planted in a co-ordinated, regularly spaced and formalised manner

*Mobility - Pedestrian and Cycle Network*

~~9.~~11. Footpaths and dual use pedestrian/~~shared~~ cycle paths are to be provided on both sides of the Entry Drive and Collector roads

~~10.~~12. Pedestrian and cycle paths are to be located and designed to suit the Vision Plan (Figure 8.3) and Figure 8.21 providing connectivity between pedestrian paths within Redbank generally, and the dual use pedestrian/cycle paths along the Keyline Elements Corridor within the site.

*Mobility - Bus Network*

~~11.~~13. ~~The~~ A bus network is to be provided generally in accordance with Figure 8.2~~12~~

~~12.~~14. Bus stops are to be located within the neighbourhood centre and generally to serve 400m walking catchments

~~13.~~15. Bus stops are to be located and designed to be:

i. easily accessible and highly visible from the street network

ii. integrated with the pedestrian and cycle network

iii. provided with facilities appropriate to their forecast usage (~~, which includes~~ e.g. ~~-~~lighting and signage, and ~~may include a~~ shelters and seating)

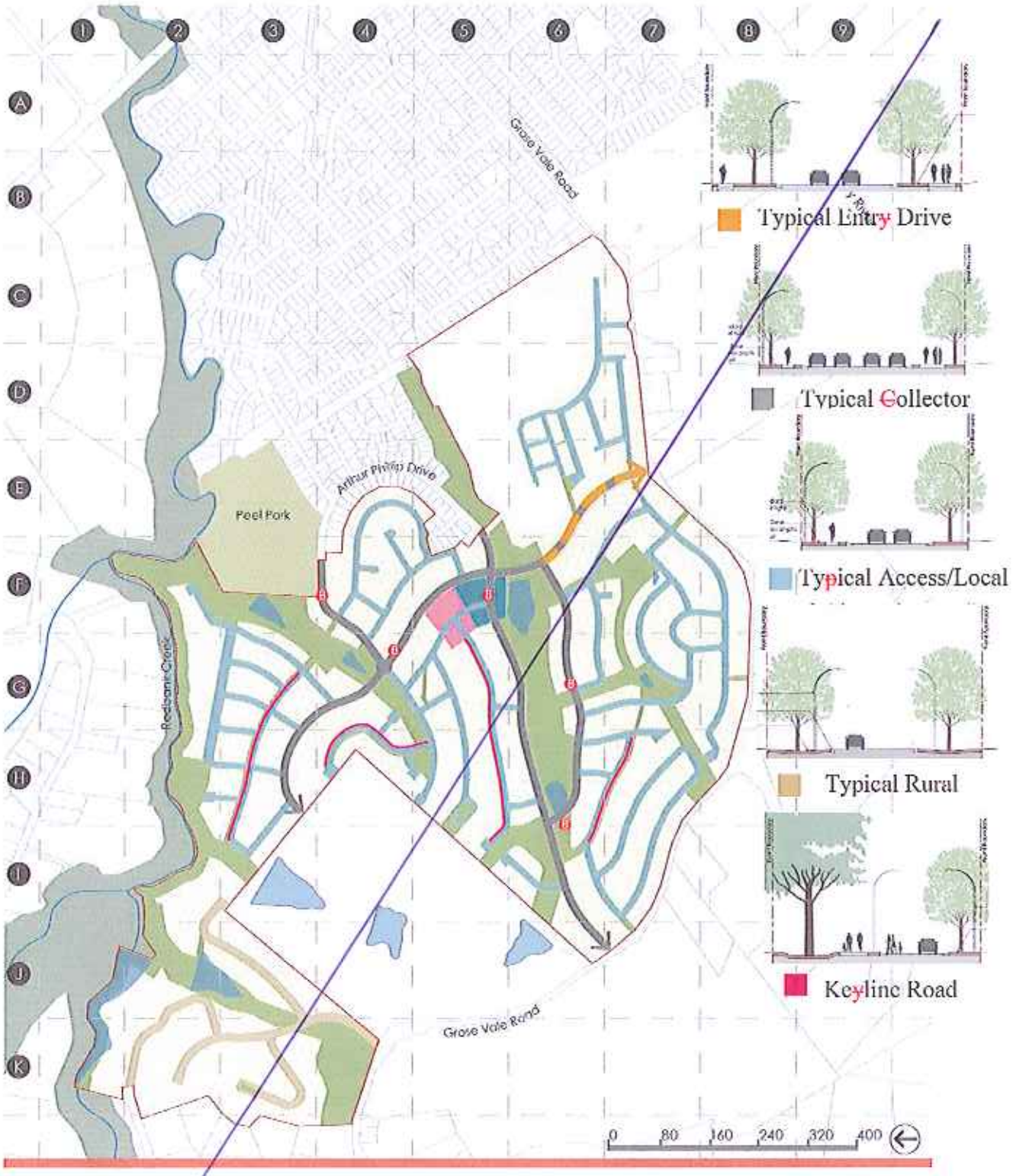
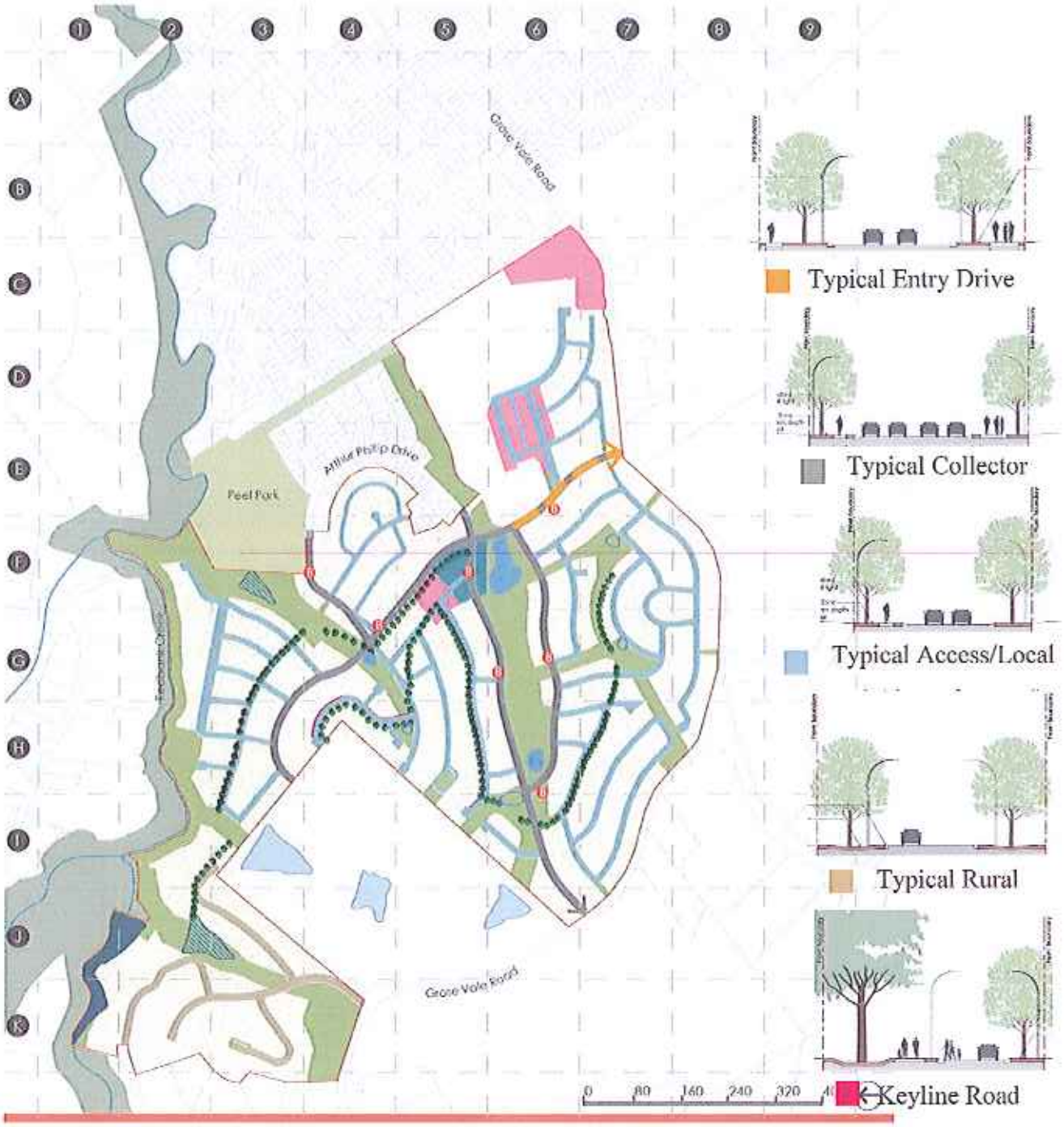



Figure 8.22 – Street Hierarchy Plan


**Figure 8.21 Public transport and Cycleway Plan**




GENERAL LEGEND

- Property Boundary
- Boulevard
- Collector Road
- Access/Local Street
- Rural Road
- Proposed Bus Stops (Indicative - TBC)
- Proposed Open Space
- B1 Neighbourhood Centre
- R3 Medium Density Residential
- Redbank Creek Corridor
- Proposed Local Street Network

HERITAGE LEGEND

- Proposed Keyline Elements Corridor
- Existing Dams within Catchment
- Retained Dams
- Existing Dam Adapted / Modified
- Semi Permanent Water Body
- Permanent Water Body

Figure 8.22 - Street Hierarchy Plan

## Verge Variations - Footpath

These verge variations show four (4) different arrangements for footpath, grass ~~&~~and trees in relation to the kerb. Verges with footpaths are to ~~will~~ be 4.5m wide and verges without footpaths are to ~~will~~ be 3.5m wide. These variations allow for flexibility in the design of road verges in response to existing ~~&~~and proposed site specificities.

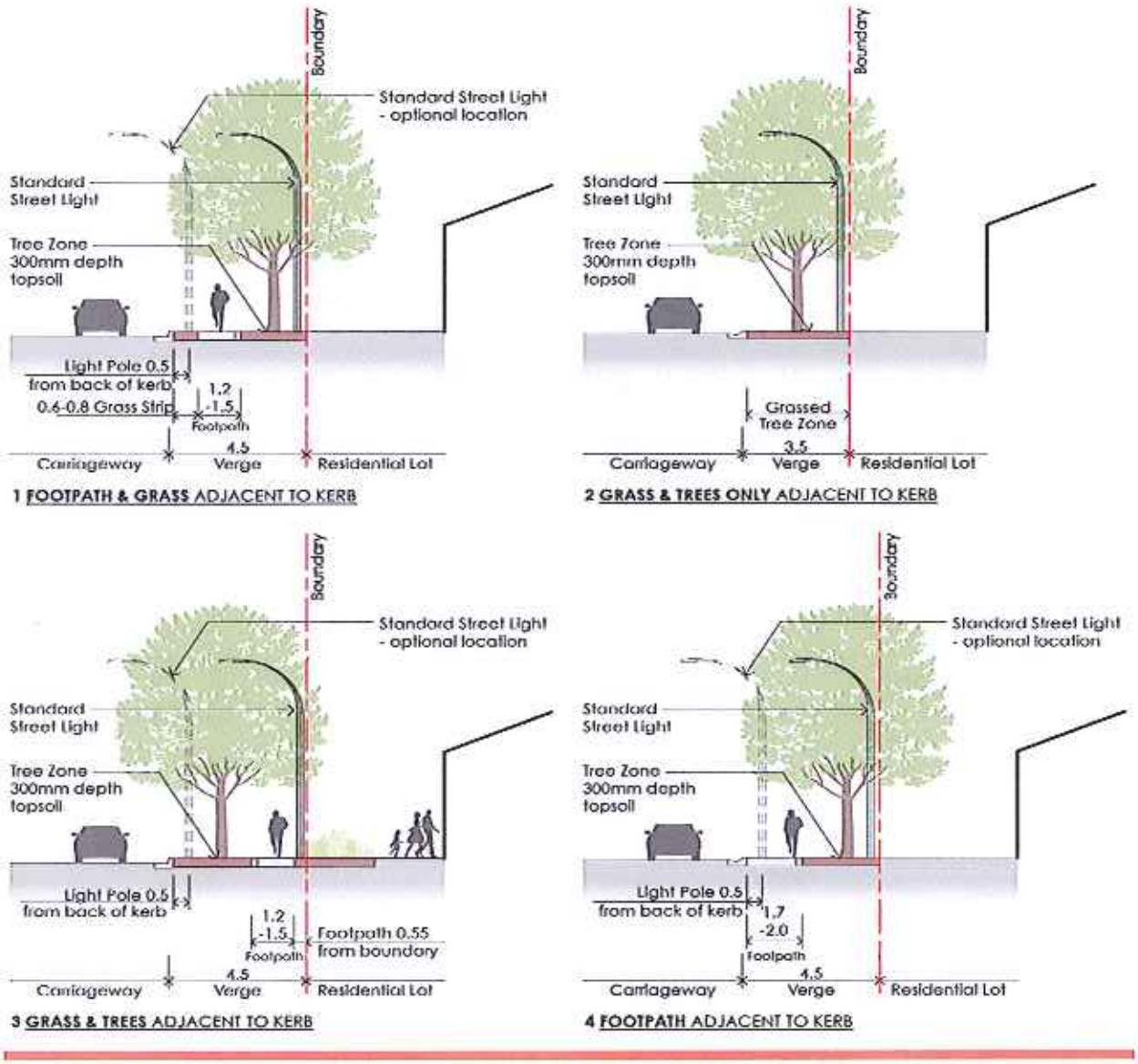



Figure 8.23 - Verge Variations - Footpath

## Variations - Grading

These verge variations include four (4) options addressing steeply sloping roads and two (2) options with allowances for Water Sensitive Urban Design (WSUD) swales within the verge.

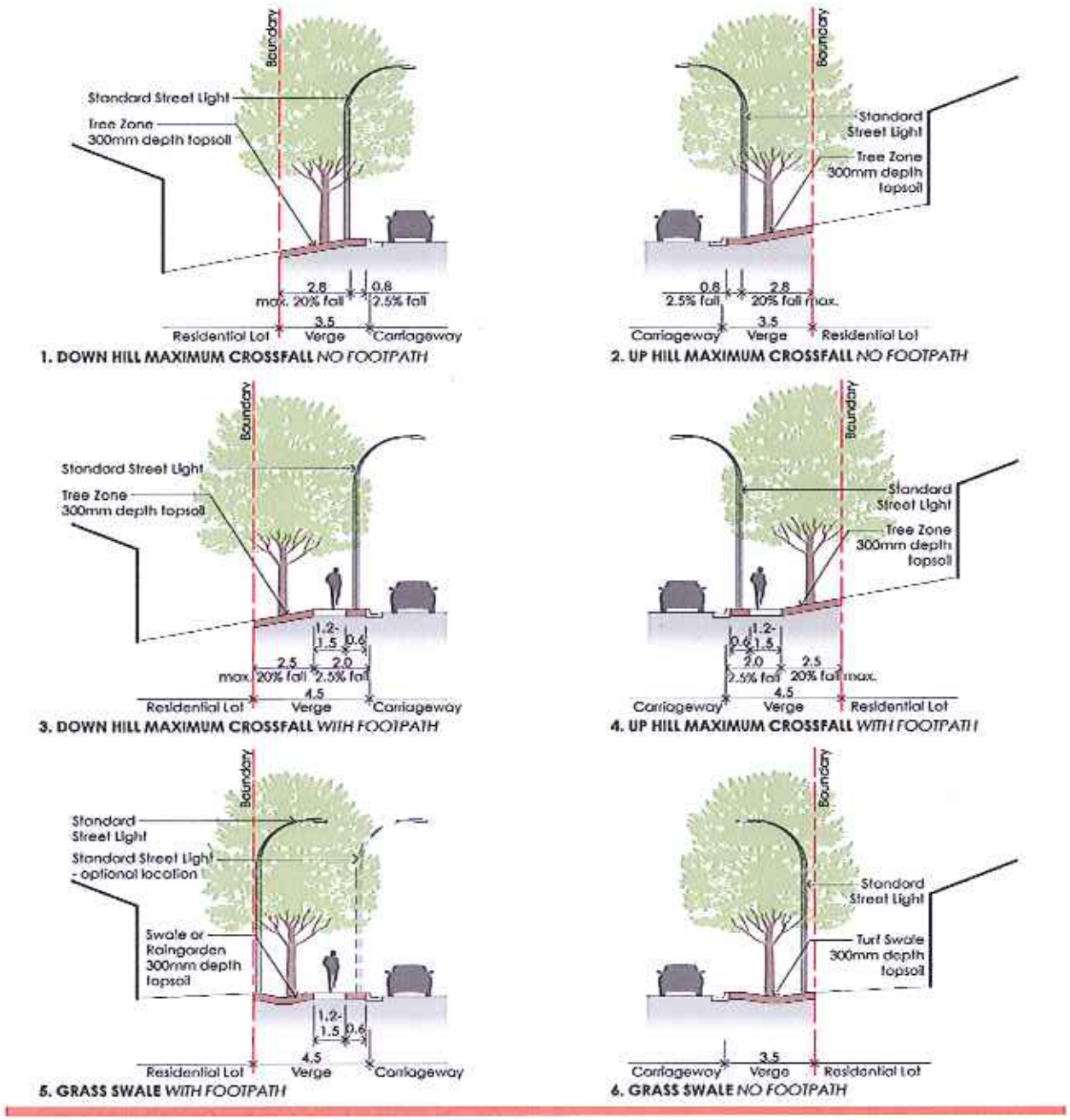



Figure 8.24 - Verge Variations – Grading

## Driveways - Typical Treatment

Driveways will typically transition across front property boundaries into road reserves. The driveway treatment within residential lots are to ~~will~~ be selected by the owner. ~~The segment of driveway between residential lots and paths will be either match the owner's selection or broom finished concrete.~~ The footpath or shared path is to ~~will~~ be clearly defined with a continuous typical treatment of broom finished concrete without tooled margins. The driveway and layback extending to the carriageway is to be in accordance with Council's Driveway Specification.

~~will also be broom finished concrete.~~

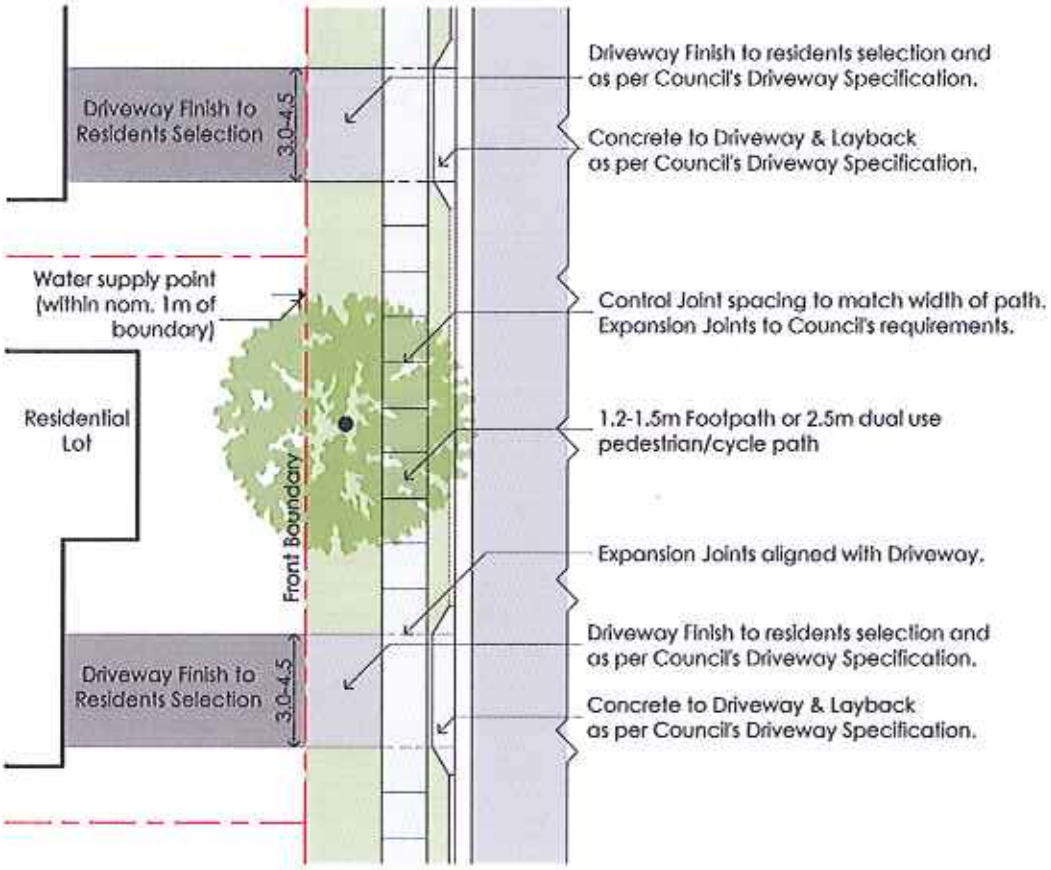



Figure 8.25 - Driveways - Typical Treatment

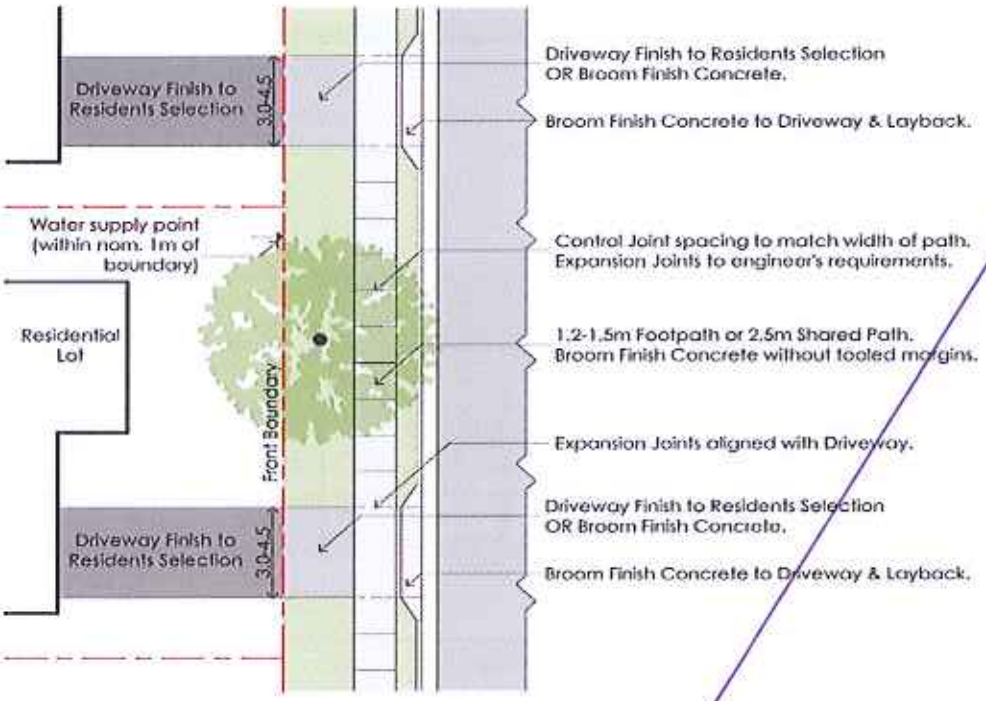



Figure 8.25 - Driveways - Typical Treatment

## Road With One-Way Cross-Fall

Roads located on sloping sites with a kerb-to-kerb one-way cross-fall will require a kerb and gutter on the lower edge only. The higher edge shall be an upstand kerb.

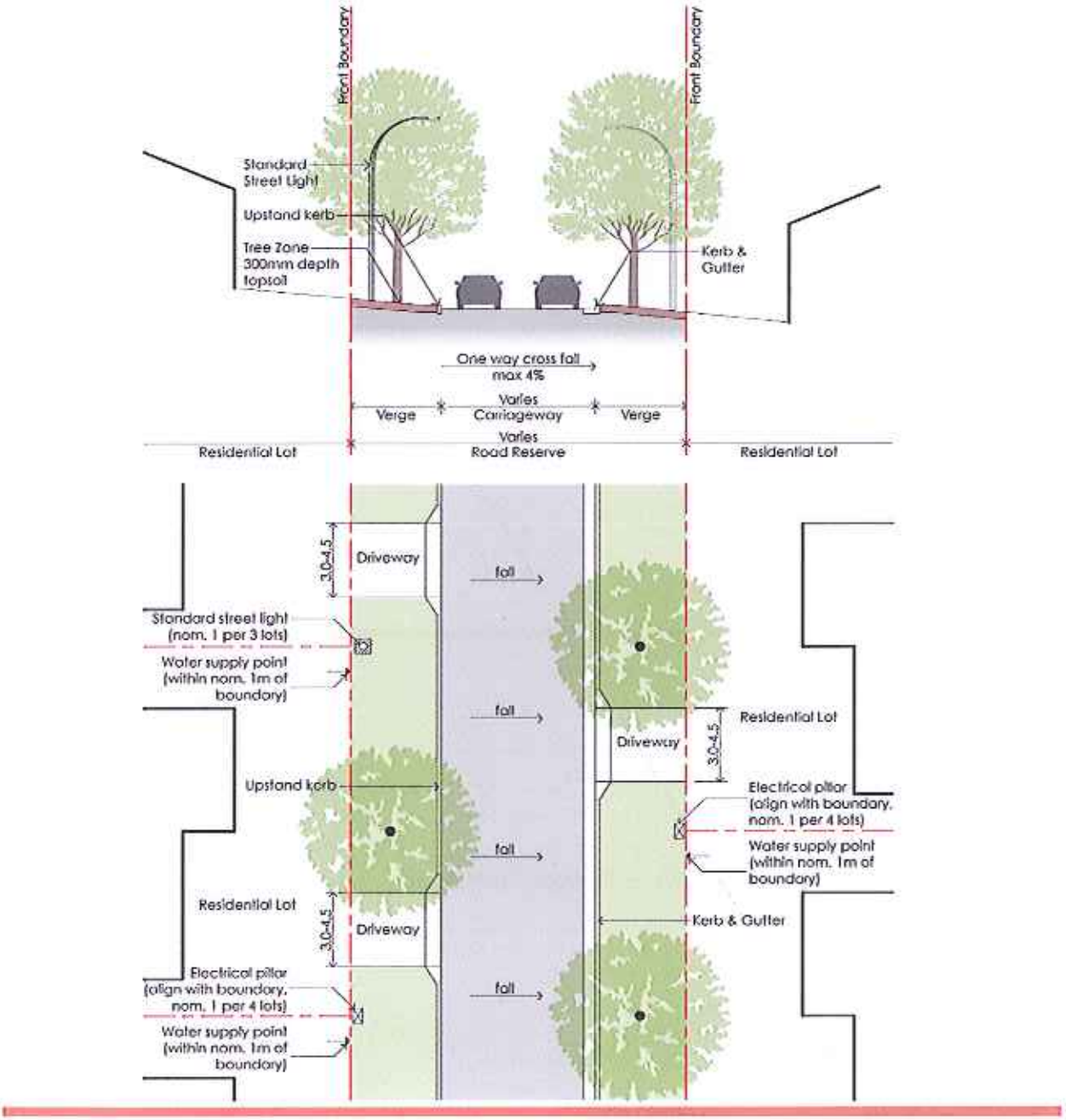



Figure 8.26 – Road with one-way cross-fall

## 13m Access Street (where street serves less than 10 properties)

Access streets are the smallest proposed streets. At 13m wide, these streets cater for low traffic volume with a 6m wide carriageway allowing for two vehicles to pass side-by-side. Verges are to be 3.5m wide with grass and trees centrally located. Access roads occur within the R2 Low Density Residential and R3 Medium Density Residential zoning.

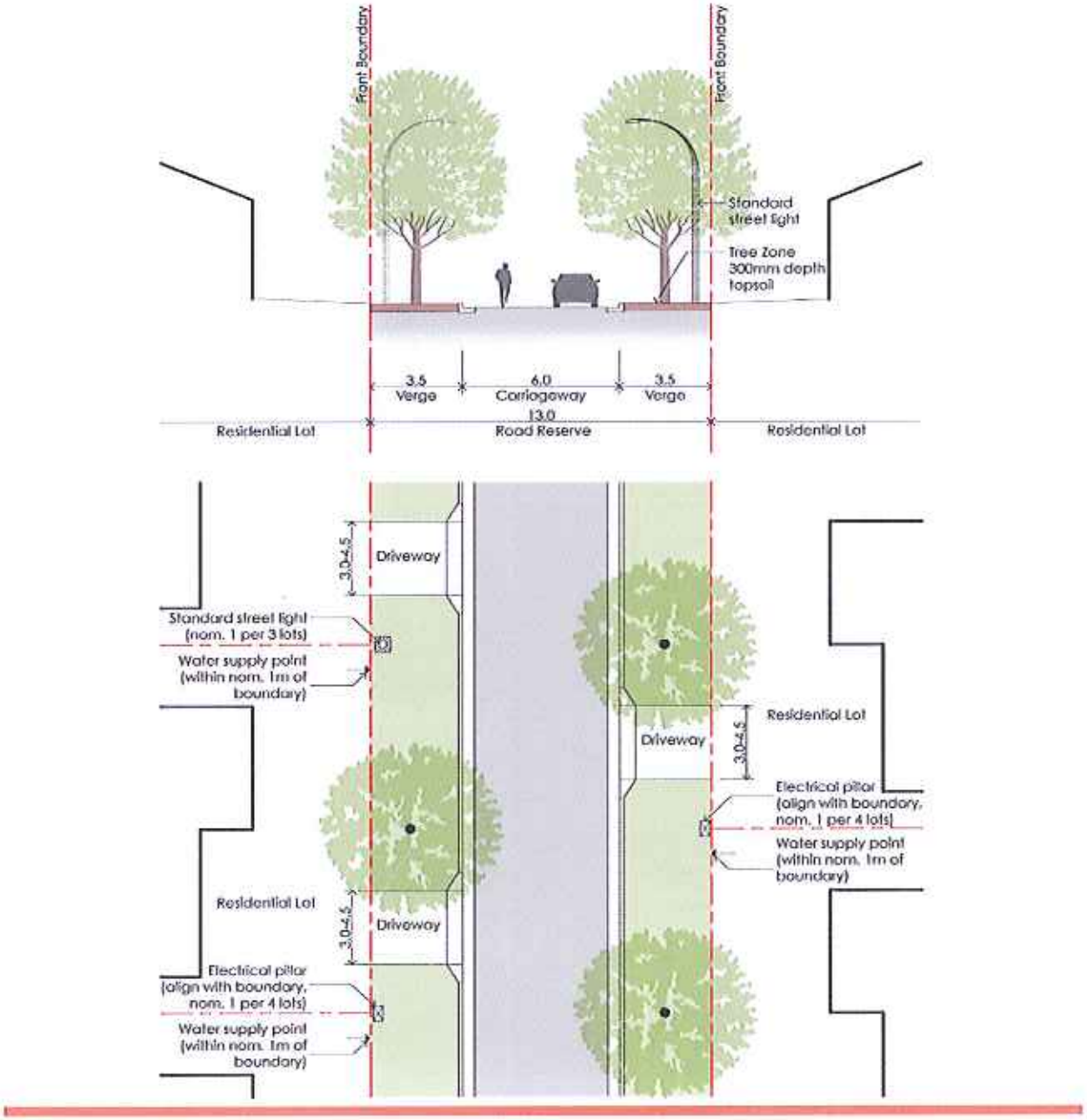



Figure 8.27 - 13M Access Street

## Access Street With Footpath (where street serves less than 10 properties)

This street type is essentially the same as the 13m Access Street but is 1m wider to accommodate a target grass area width even with a 1.2-1.5 footpath being included.

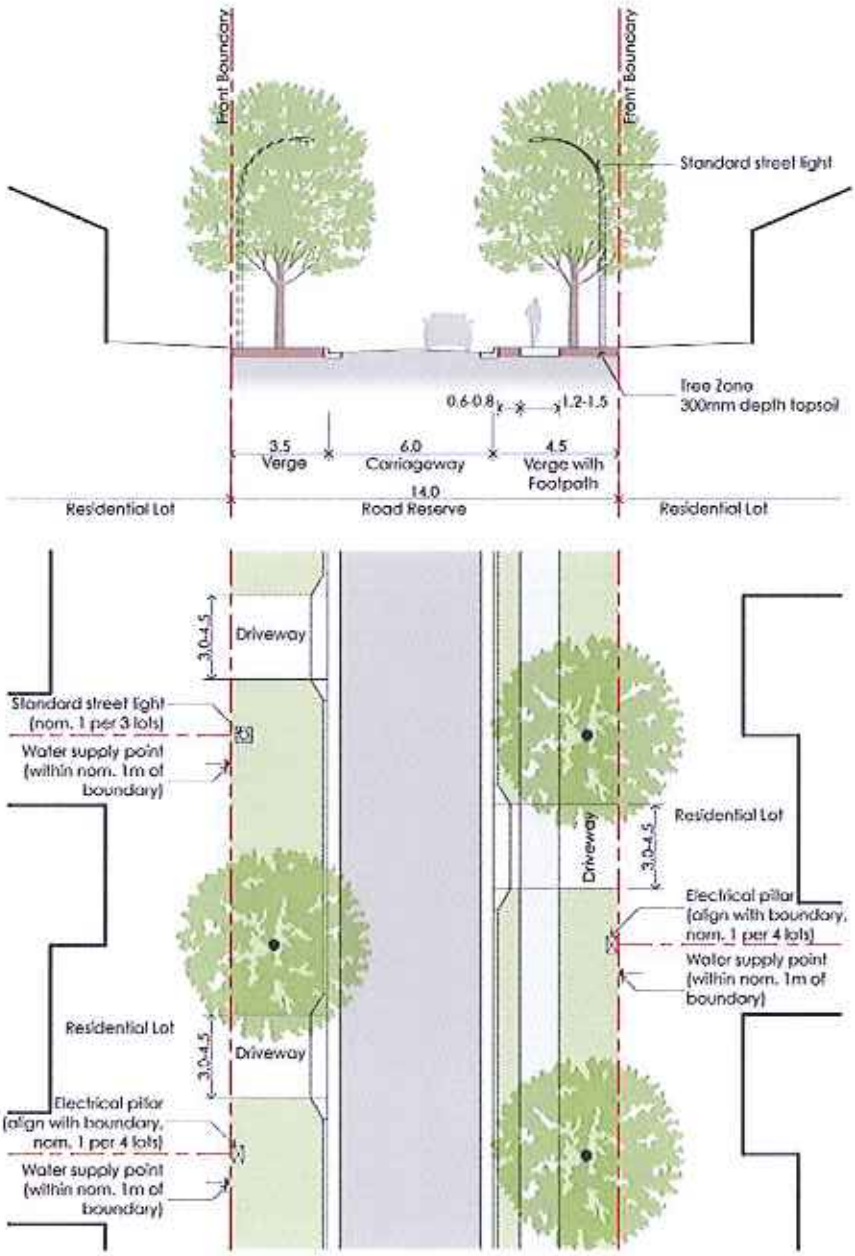



Figure 8.28 - 13M Access Street with Footpath

## 16m Local Street

Local streets are average-size streets proposed for local residential use. At 16m wide, these streets cater for medium traffic volume with an 8m wide carriageway allowing for two vehicles to pass side-by-side and an additional parked vehicle. Verges ~~are~~ are to be 3.5m wide with grass and tree only and 4.5m wide with paved footpath, tree and grass. Local streets occur within the R2 Low Density Residential and R3 Medium Density Residential ~~R2 and R3~~ zoning.

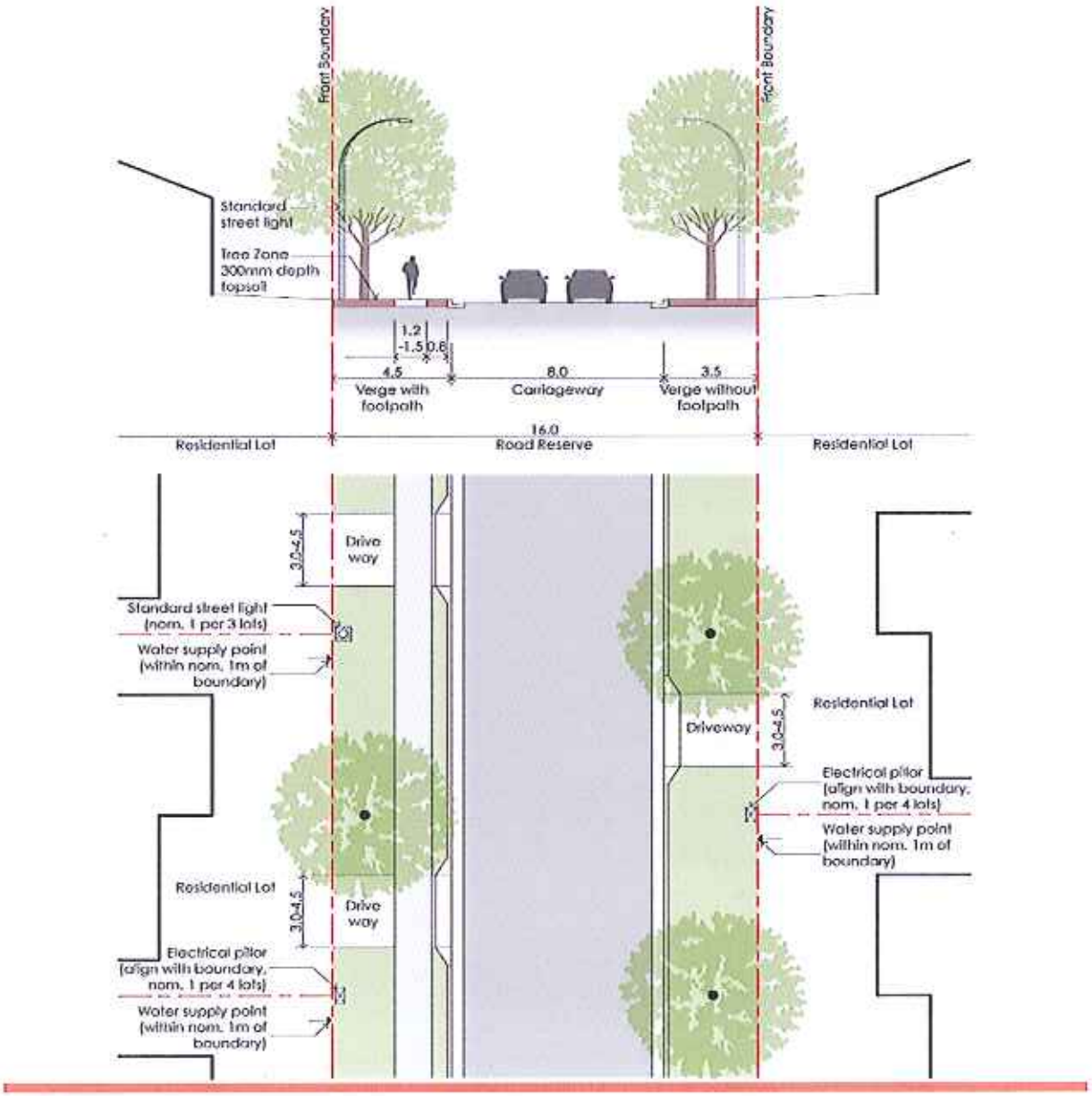



Figure 8.2~~9~~8 - 16M Local Street

## Local Street Variation - Adjacent To Open Space

Local streets adjacent to open space zoning are 14m wide, maintaining an 8m wide carriageway and one 4.5m wide verge with or without paved footpath, tree and grass. The verge adjacent to open space is only 1.5m wide to allow for street lighting, otherwise creating easy access and open vistas to parklands. This type of local street occurs within the R2 Low Density Residential and R3 Medium Density Residential ~~R2 and R3~~ zoning.

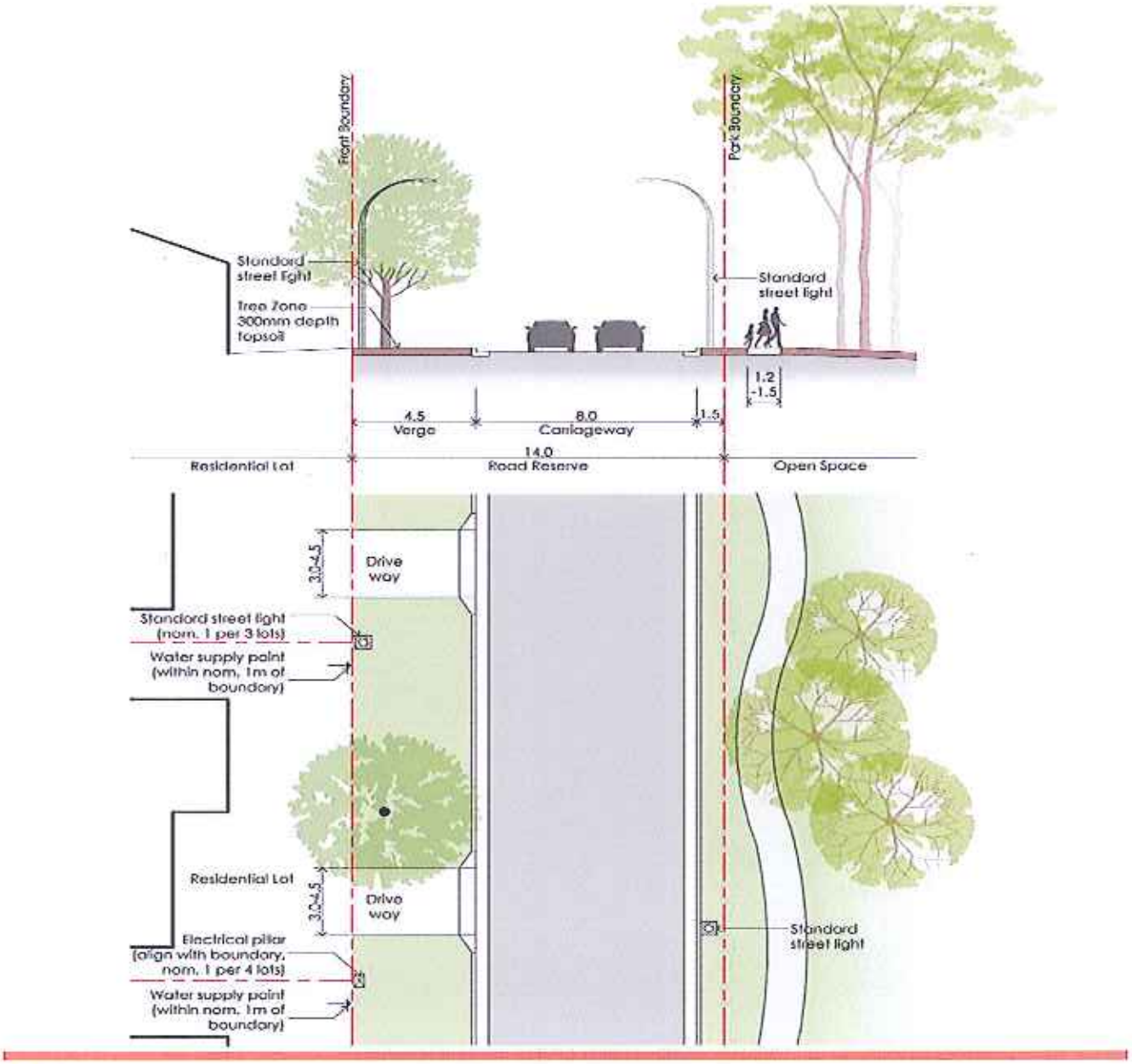



Figure 8.3029 - Local Street Variation

## Street Adjacent Neighbouring Development

This street is proposed as the interface between the R2 – Low Density Residential Area and the existing Seniors Living Development which also is of an R3 zoning. It provides for a widened verge at the interface corridor.

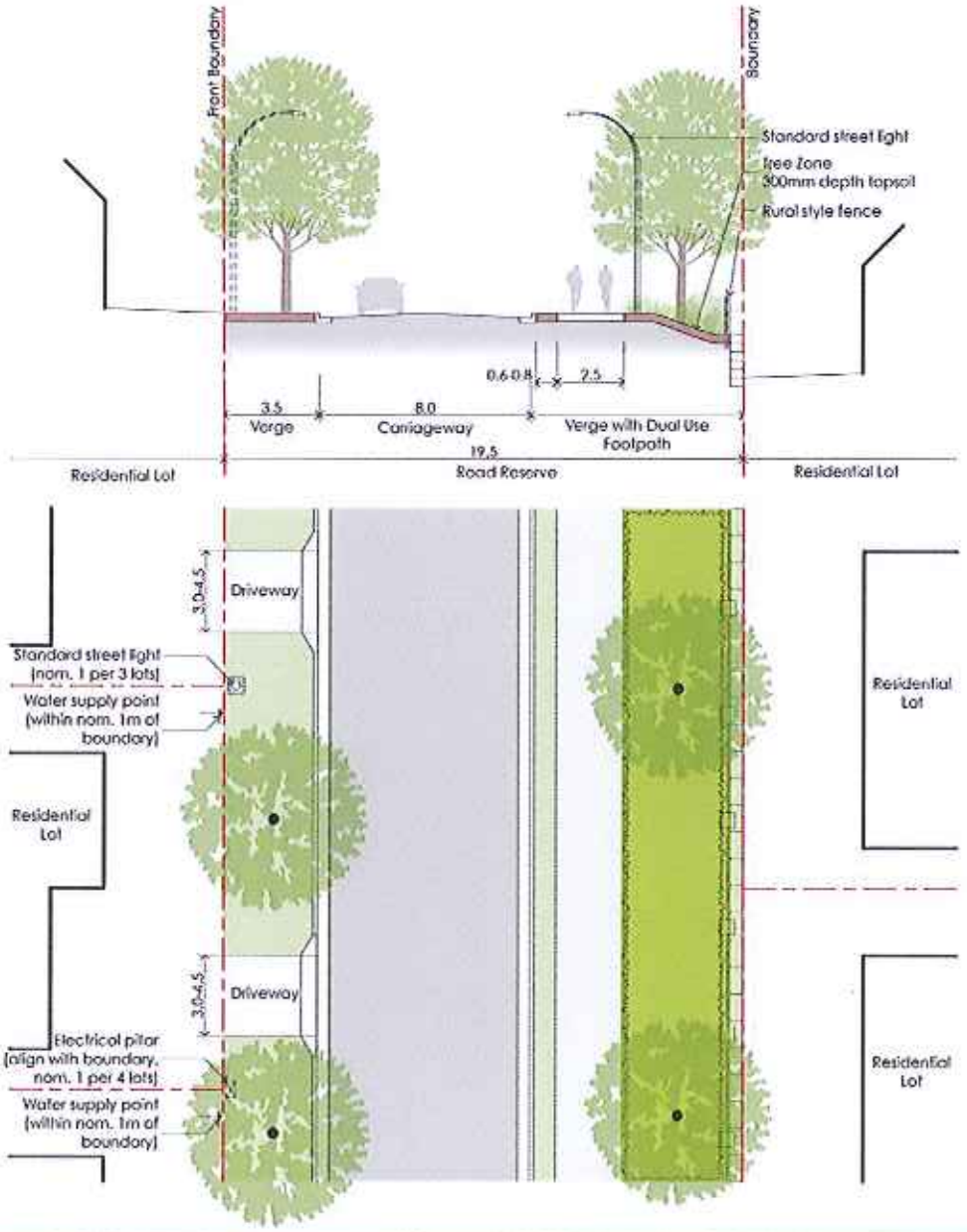



Figure 31 – Street adjoining Seniors Living Development

## Local Street Variation - Within Transmission Line Easement (on-street parking)

Local streets which are proposed along the existing transmission line are to ~~will~~ be dual carriageway, each at 3m wide. A 14m wide median strip is to ~~will~~ act as a buffer and base for the transmission line power poles, with car parking located on both sides of the median strip. Verges are to ~~will~~ be 5.0m wide and extend beyond the 30m easement to allow for a buffer and ~~&~~ tree zone. This type of local street occurs within ~~future~~ the R2 Low Density Residential zoning.

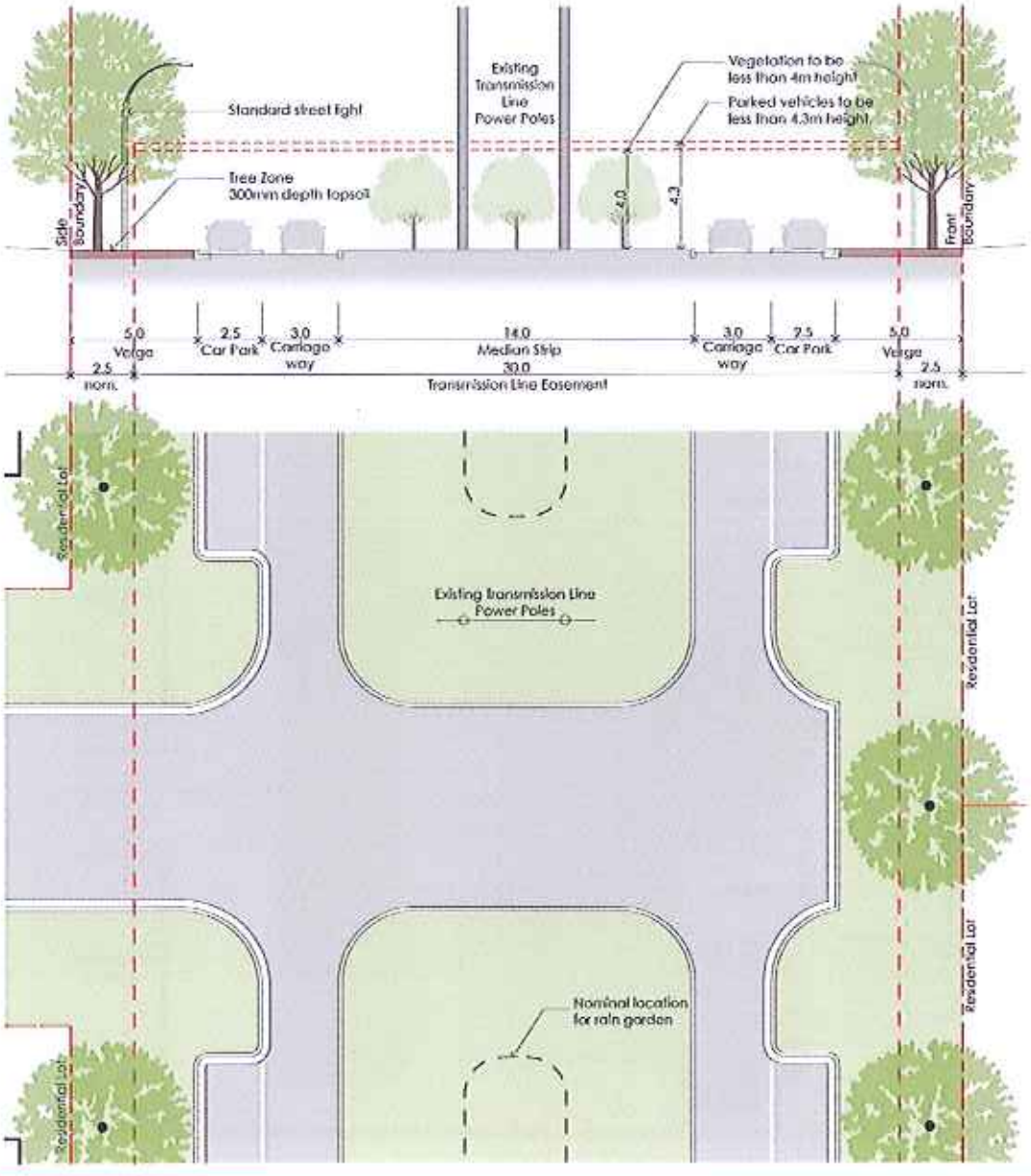



Figure 8.3~~2~~0 - Local Street Variation

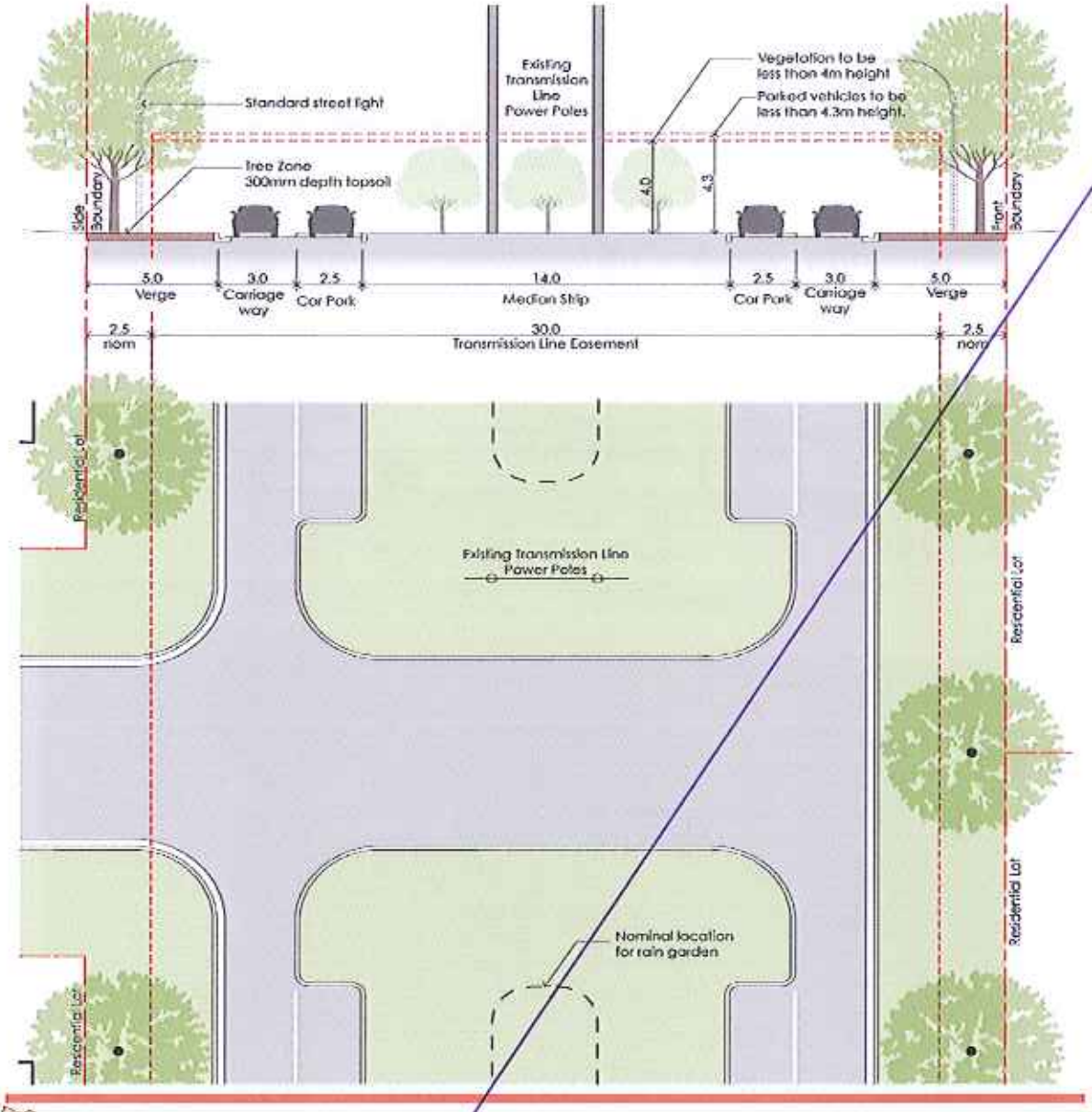



Figure 8.30 - Local Street Variation

## Local Street Variation - Within Transmission Line Easement (No Parking)

Local streets which are proposed along the existing transmission line are to ~~will~~ be dual carriageway, each at 3m wide. There will be no on-street parking in this option. A 19m wide median strip is to ~~will~~ act as a buffer and base for the transmission line power poles. Verges are to ~~will~~ be 5.0m wide and extend beyond the 30m easement to allow for a buffer and ~~&~~ tree zone. This type of local street occurs within ~~future~~ the R2 Low Density Residential zoning.

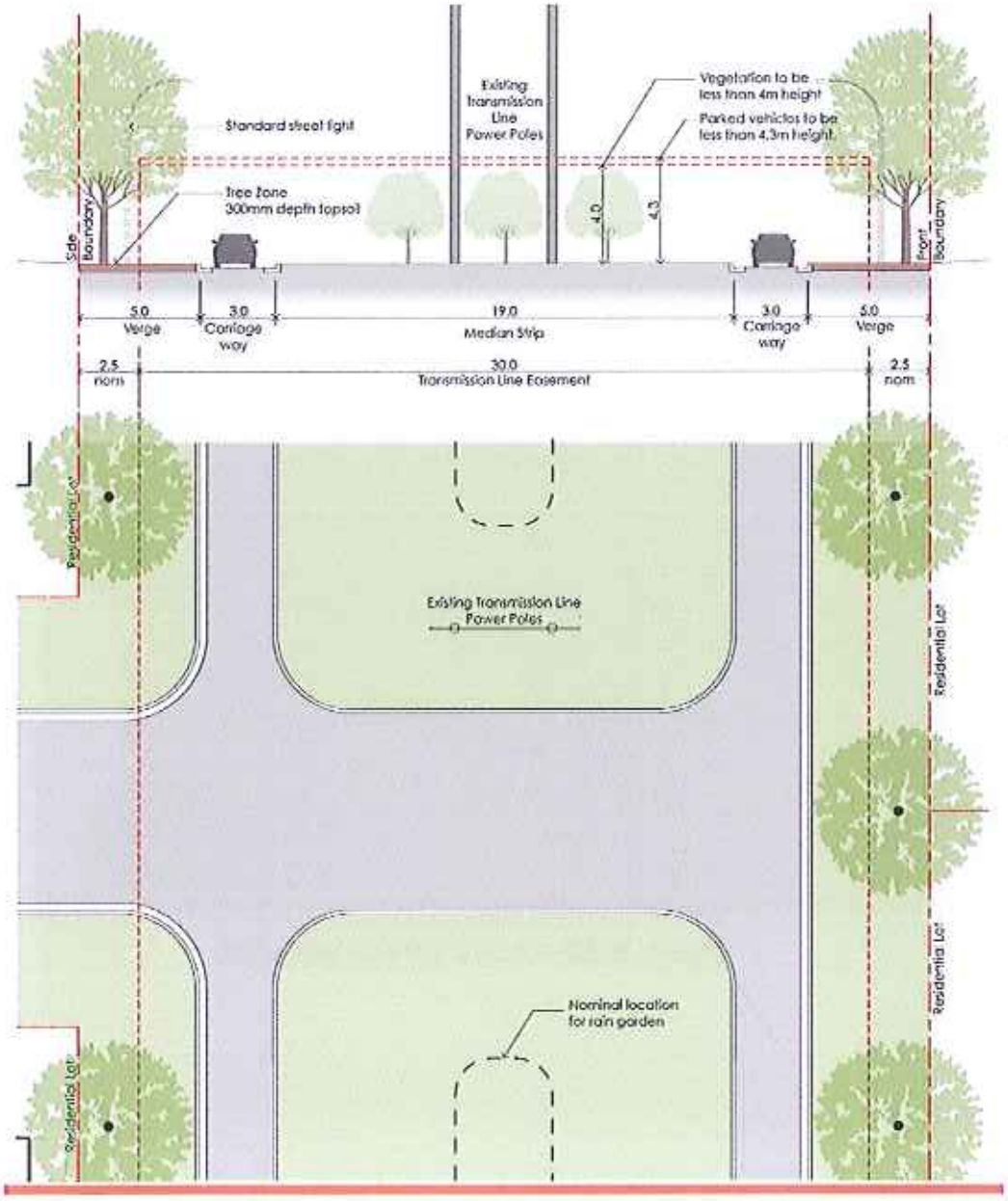



Figure 8.3~~1~~ - Local Street Variation

## Street Adjacent To Keyline Elements Corridor- Rear &and Front Property Boundaries

Streets adjacent to the Keyline ~~Open Space~~Elements Corridor (KEC~~OSC~~) are to ~~will~~ have a standard carriageway width of ~~6m for access streets and~~ 8m ~~for local streets~~. A 3m wide verge with grass and trees is to be provided ~~will occur~~ adjacent the front property boundary. On the other side of the street, the ~~KOSC~~ KEC it to ~~will~~ be 10m wide and cater for a dual~~shared~~ path and 'Keyline' tree and swale~~signature landscape~~. The adjacent property with rear boundary backing onto the ~~keyline~~ KEC sits at a higher level, requiring a retaining wall and 1.~~05~~m nominal high fence on the rear boundary. This scenario occurs within the R2 Low Density Residential zoning.

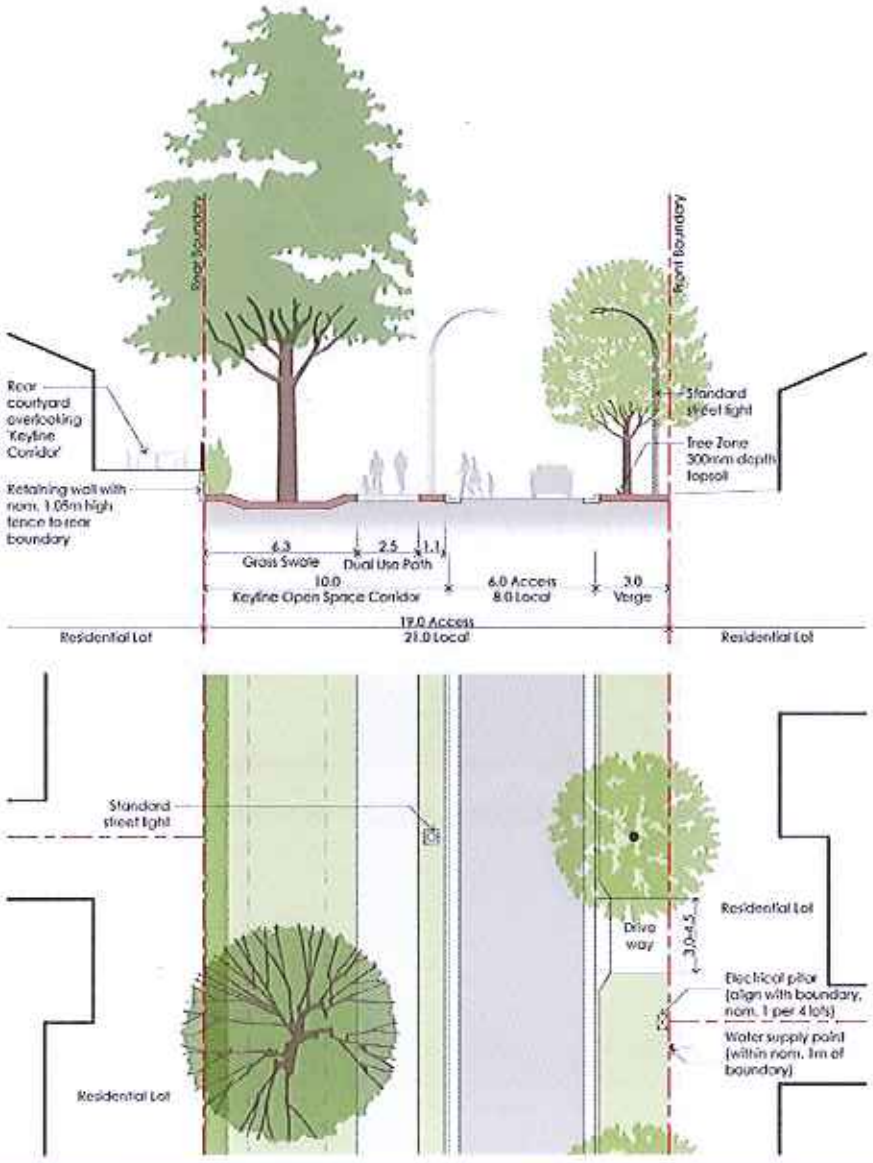



Figure 8.3~~42~~ - Keyline Elements Corridor Street Variation

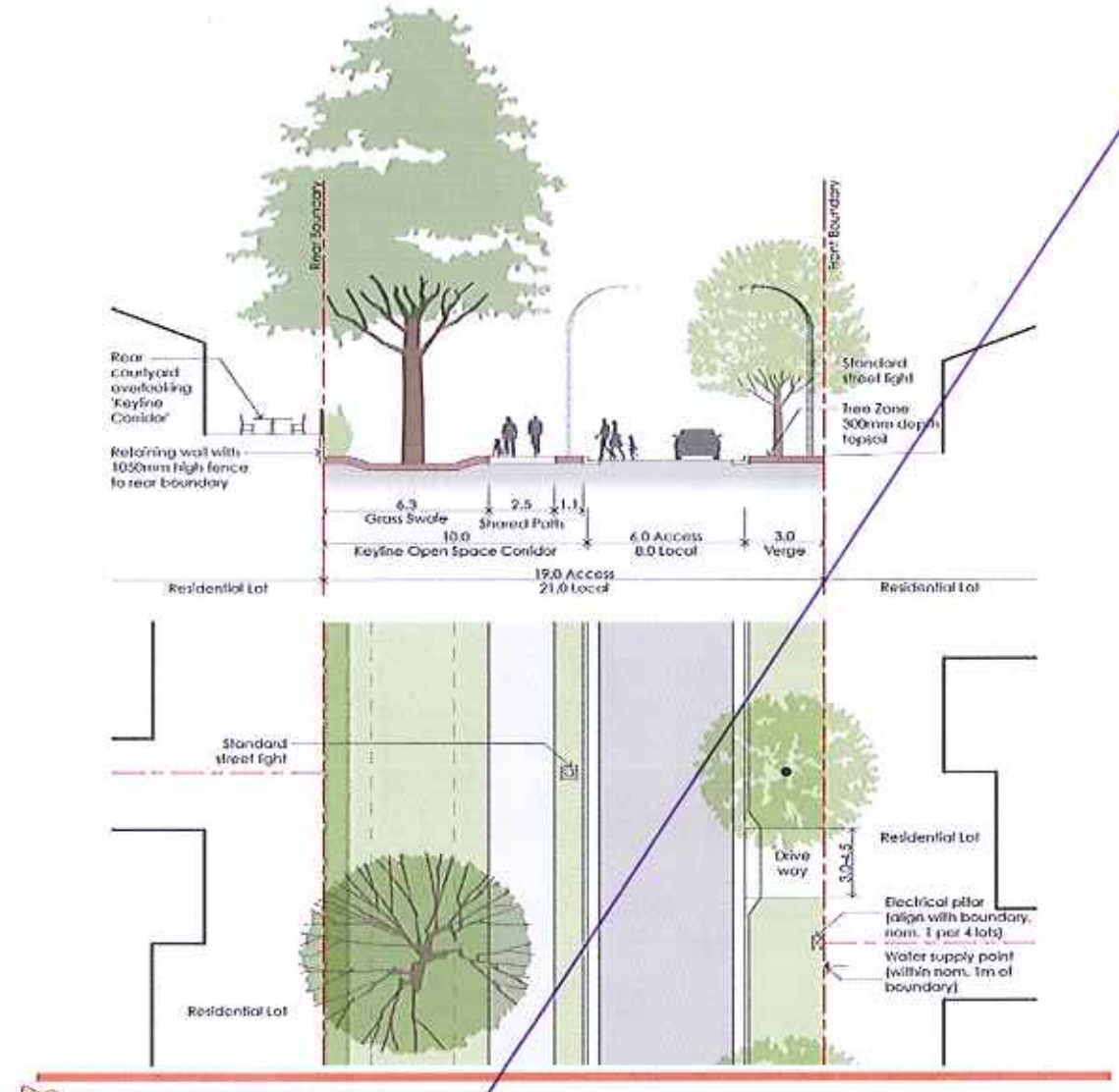



Figure 8.32 - Keyline street variation

## Street with Keyline Elements Corridor in the Central Median

Streets with front boundaries adjacent to the Keyline ~~Open Space~~ Elements Corridor (KEC~~OSC~~) are to ~~will~~ be dual carriageway, each at 5.5m wide. There is to ~~will~~ be an 8m wide central median incorporating the KEC dual ~~KOSC~~ shared path and 'Keyline' tree and swale~~signature landscape~~. This arrangement will eliminate driveway crossings to the ~~Keyline~~KEC, thus accentuating the continuity of this significant heritage landscape feature. Verges adjacent to these front property boundaries are to be 3.5m wide with grass and tree. This scenario occurs within the R2 Low Density Residential zoning.

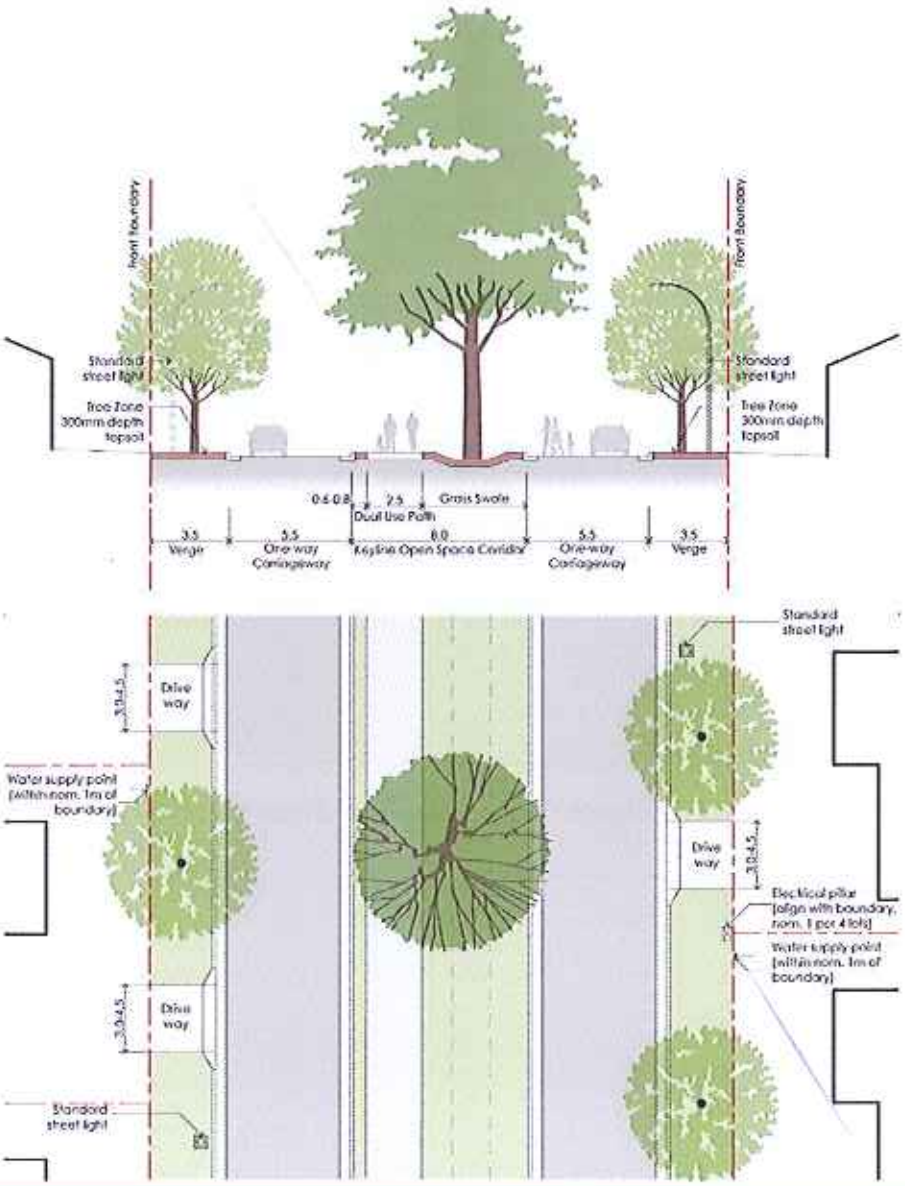



Figure 8.3~~3~~ - Keyline Elements Corridor Street Variation

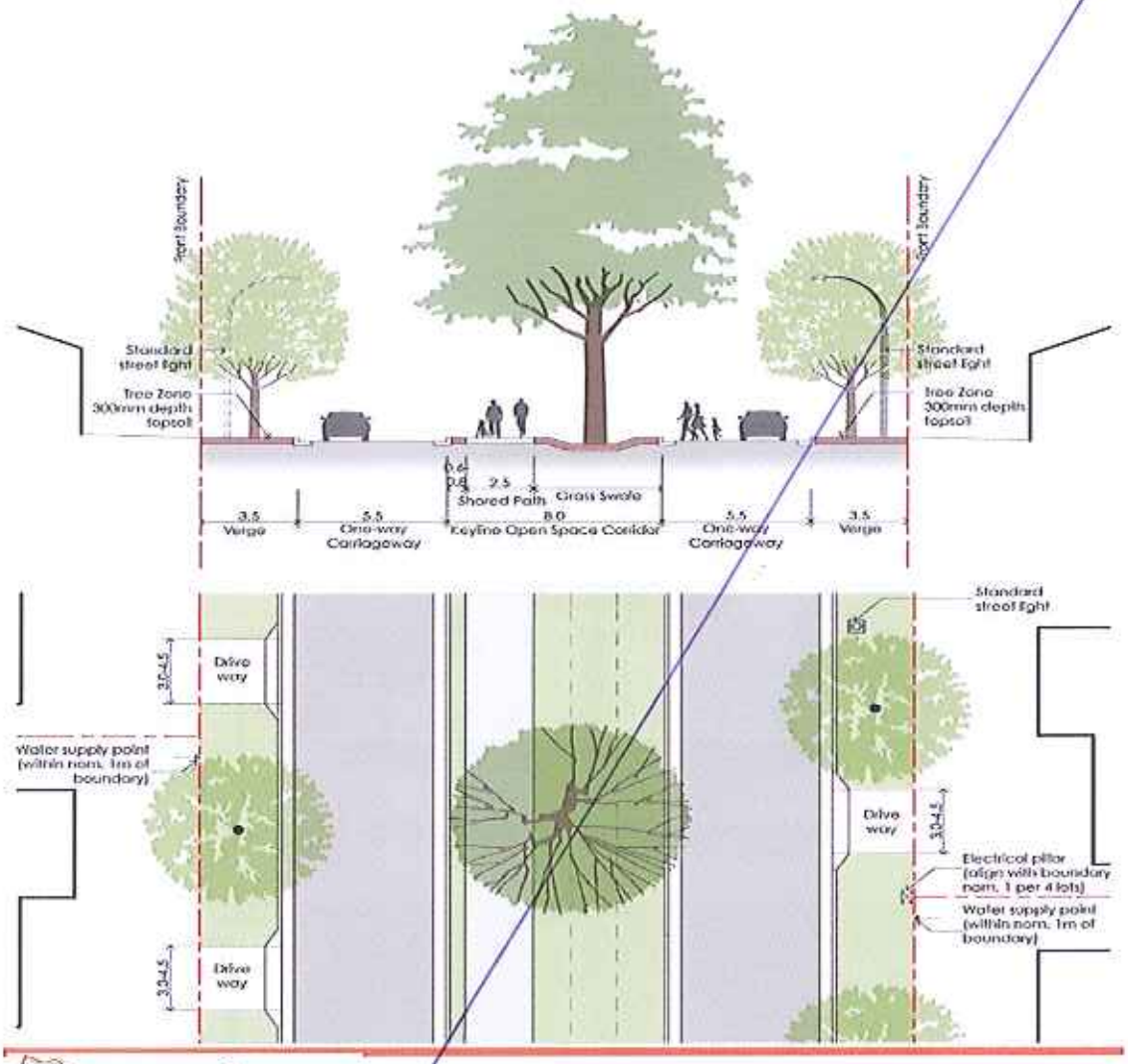



**Figure 8.33 - Keyline Street Variation**

## Street Adjacent To Keyline Element Corridor - Front Property Boundaries

Streets adjacent to the Keyline ~~Open Space~~ Elements Corridor (KEC~~OSC~~) are to ~~will~~ have a standard carriageway width of 6m for access streets and 8m for local streets. A 3m wide verge with grass and tree is to be provided ~~will occur~~ adjacent to one of the front property boundaries. On the other side of the street, the KEC~~OSC~~ is to ~~will~~ be 10m wide and cater for a dual ~~shared~~ path and 'Keyline' tree and swale~~signature landscape~~. The adjacent property sits at grade to the key line, with driveway access crossing over the KEC~~OSC~~. This scenario occurs within the R2 Low Density Residential zoning.

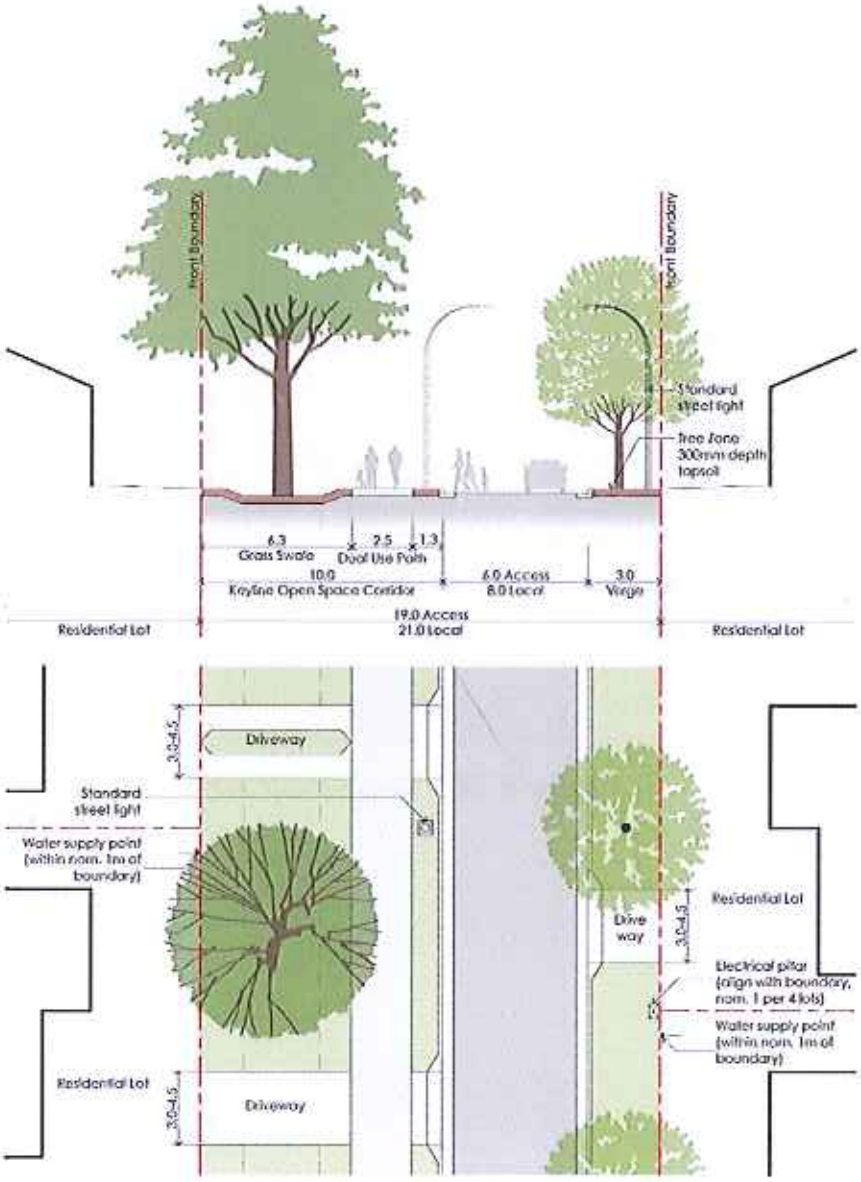



Figure 8.3~~6~~ - Keyline Elements Corridor Street Variation

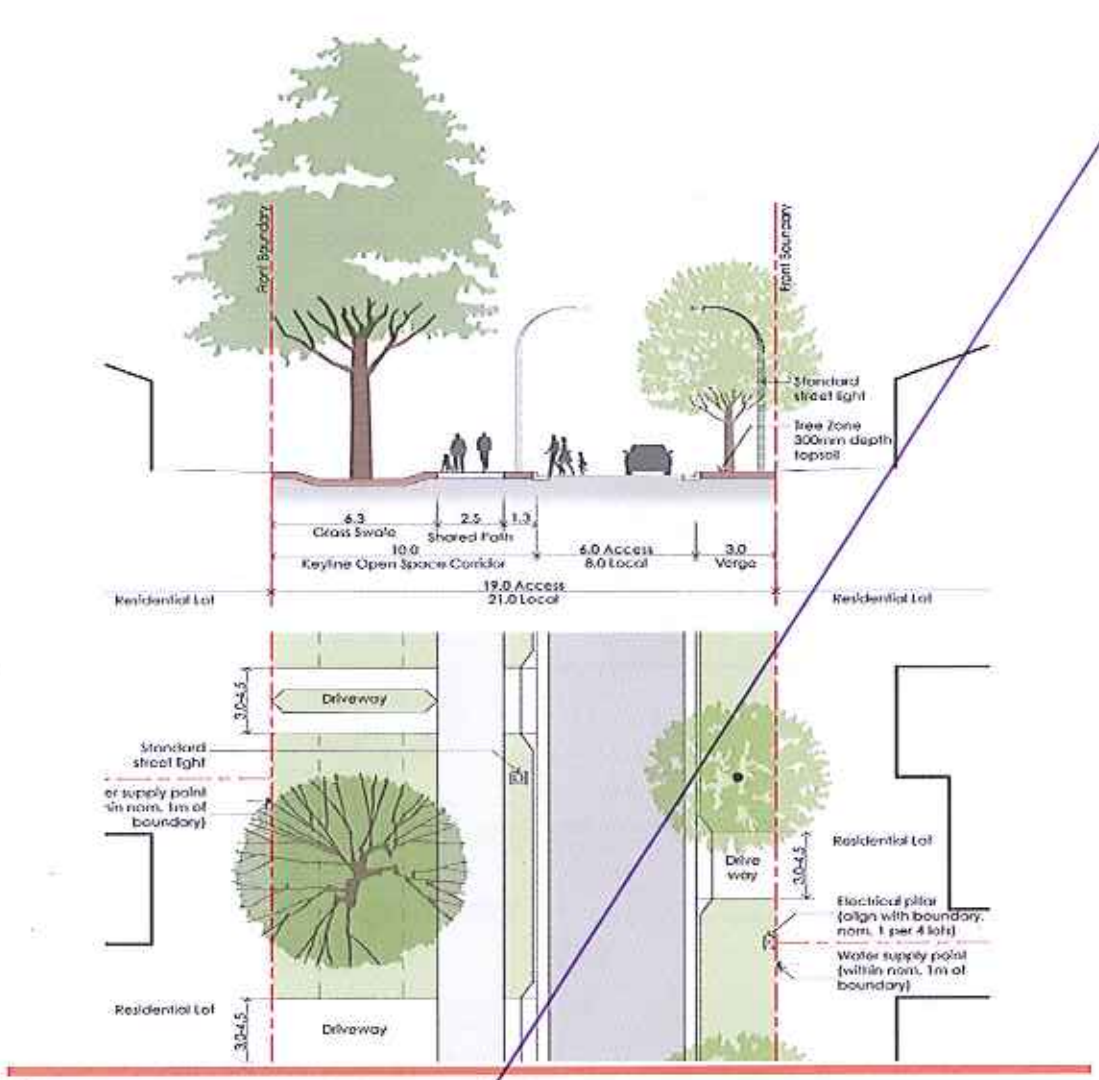
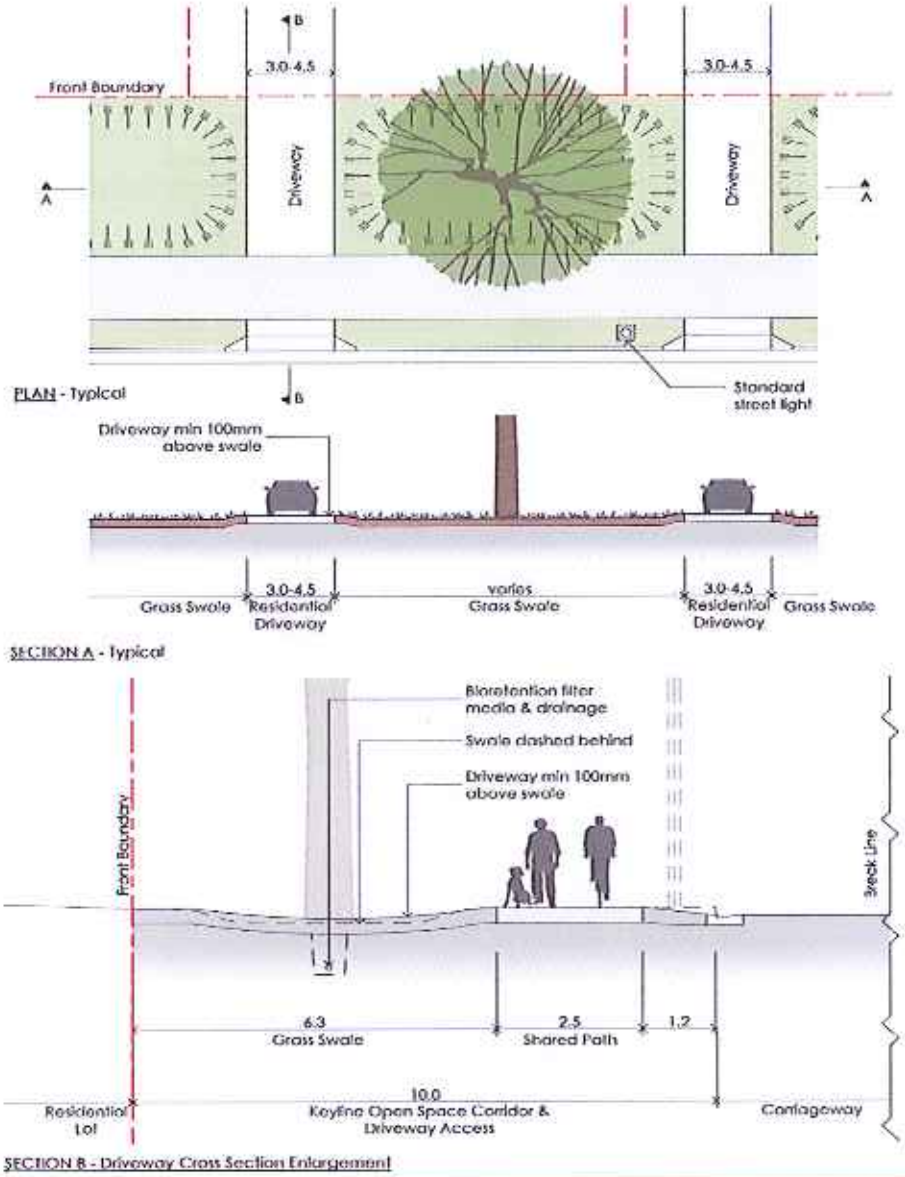



Figure 8.34 - Keyline Street Variation

## Driveways - Keyline Crossings

Front facing lots adjacent to the Keyline Elements ~~Open Space~~ Corridor (KEC~~KOSC~~) ~~will~~ are to contain driveway crossings over the keyline swale. The finished level of each driveway is to ~~will~~ be a minimum 100mm above the finished level of the adjacent swale. This swale functions as a grassed ~~raingarden~~ element that retains water between the driveways during rain events. This scenario occurs within the R2 Low Density Residential zoning.



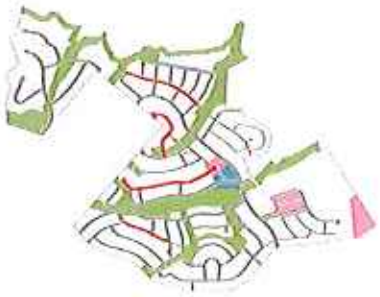



Figure 8.3~~5~~ - Keyline Street Variation

## Rural Road

Rural type roads occur only within the R5 Large Lot Residential zoning. These roads have broad verges with grass swales to channel storm water run-off. Trees are centrally located within the swale, channeling additional water to the root zone during rain events. A flush kerb further facilitates the storm water run-off to drain toward the swale. The carriageway is to be a minimum of 7.5m wide to ~~generous,~~ allow ~~ing~~ two vehicles to easily pass side-by-side.

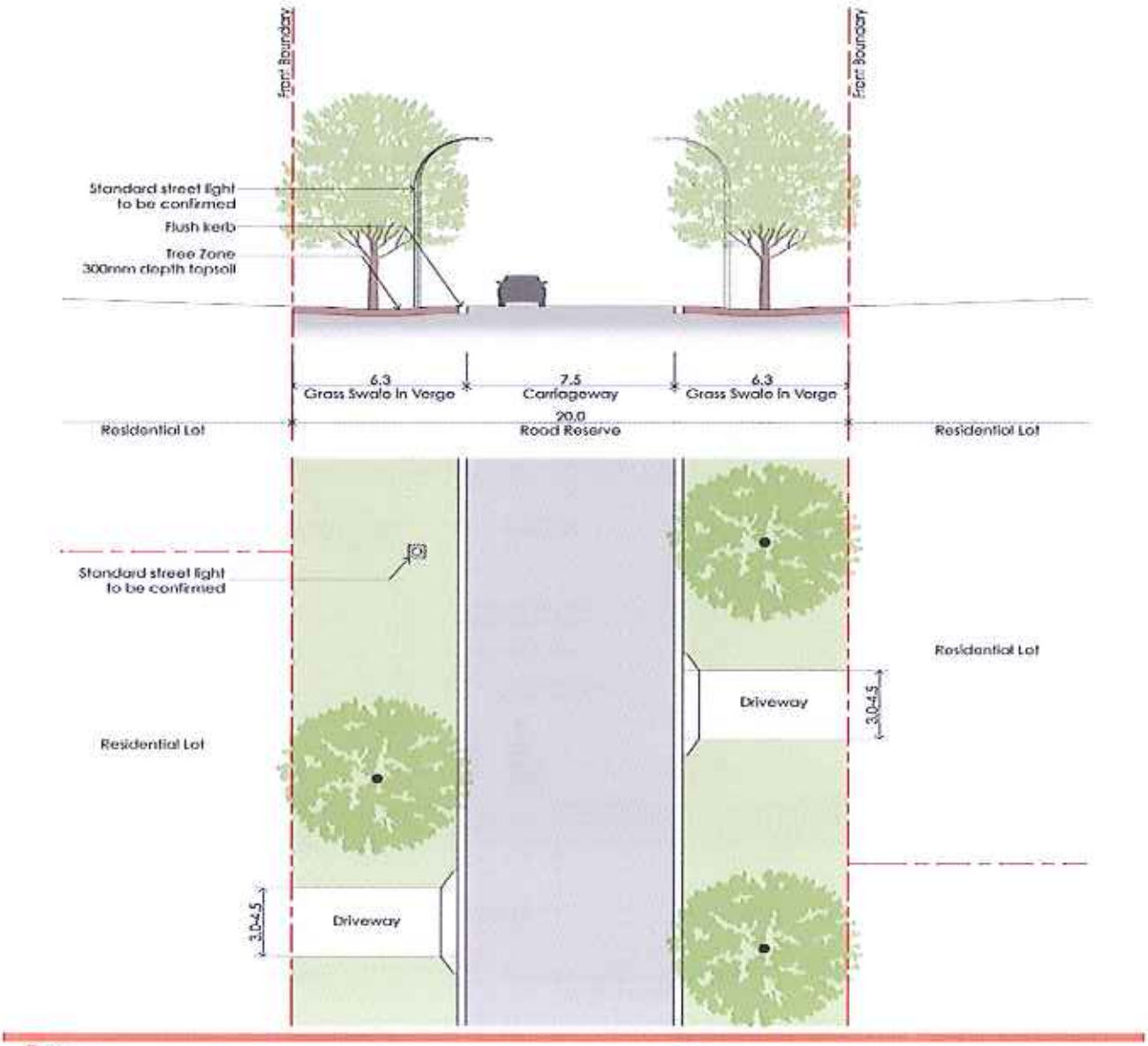



Figure 8.3~~8~~6 - Rural Road

## Collector Road

Collector roads are to ~~will~~ be the primary road providing connections across the site and linking local streets. Collector roads are to ~~will~~ have an 11m wide carriageway allowing two lanes of traffic to pass side-by-side, as well as cars parked adjacent to kerbs. The typical collector road is to ~~will~~ have an overall road reserve of 21m with a 4.5m wide verge supporting a paved footpath, trees and grass on one side. Opposite there is to ~~will~~ be a 5.5m verge supporting a shared path, trees and grass. The collector road occurs within the R2 Low Density Residential, R3 Medium Density Residential and B1 Neighbourhood Centre zoning.

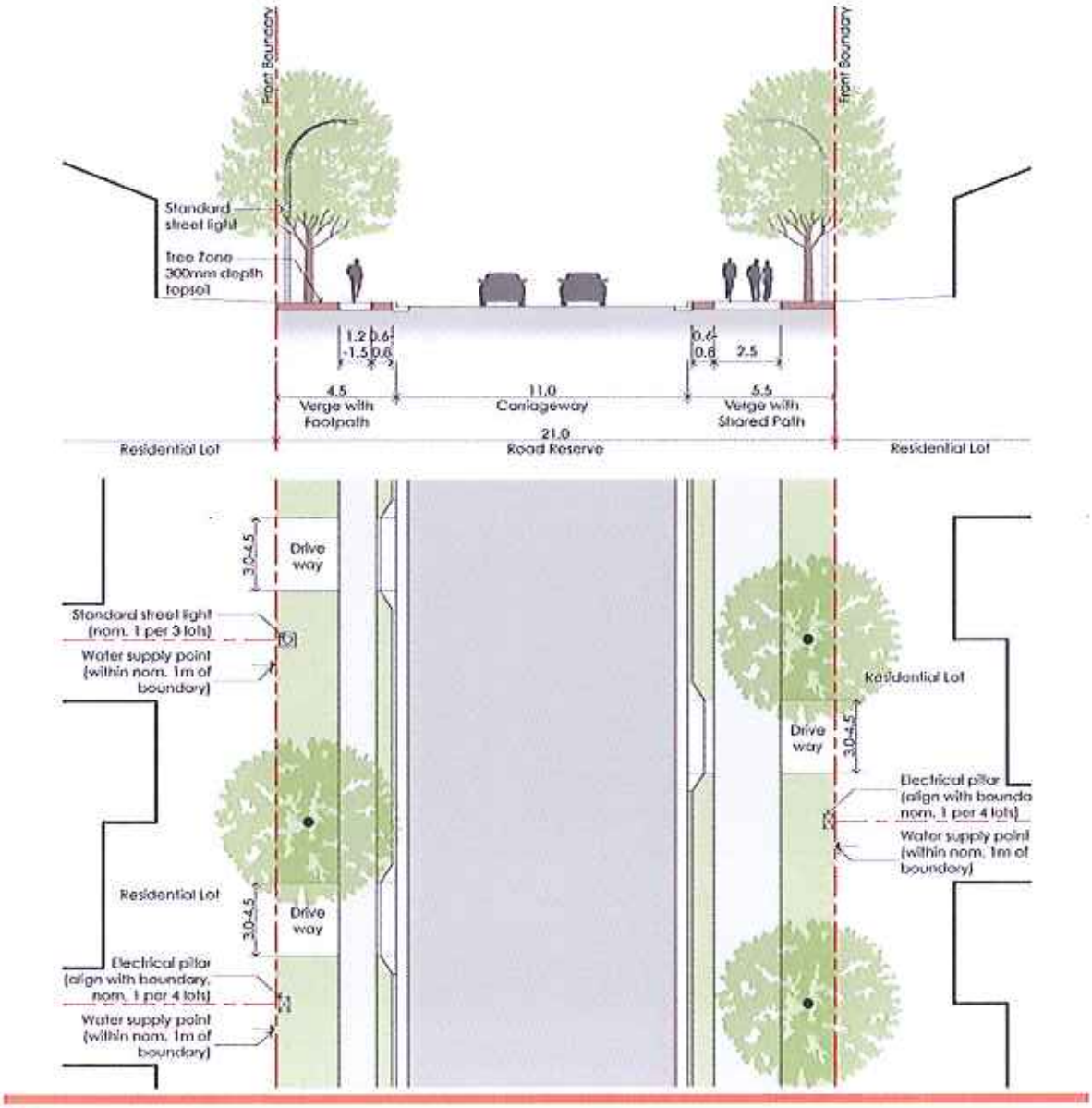



Figure 8.3~~7~~ - Collector Road

## Collector Road with Keyline Elements Corridor

This variation of the proposed street types shows the integration of a Collector Road and the Keyline Elements Corridor.

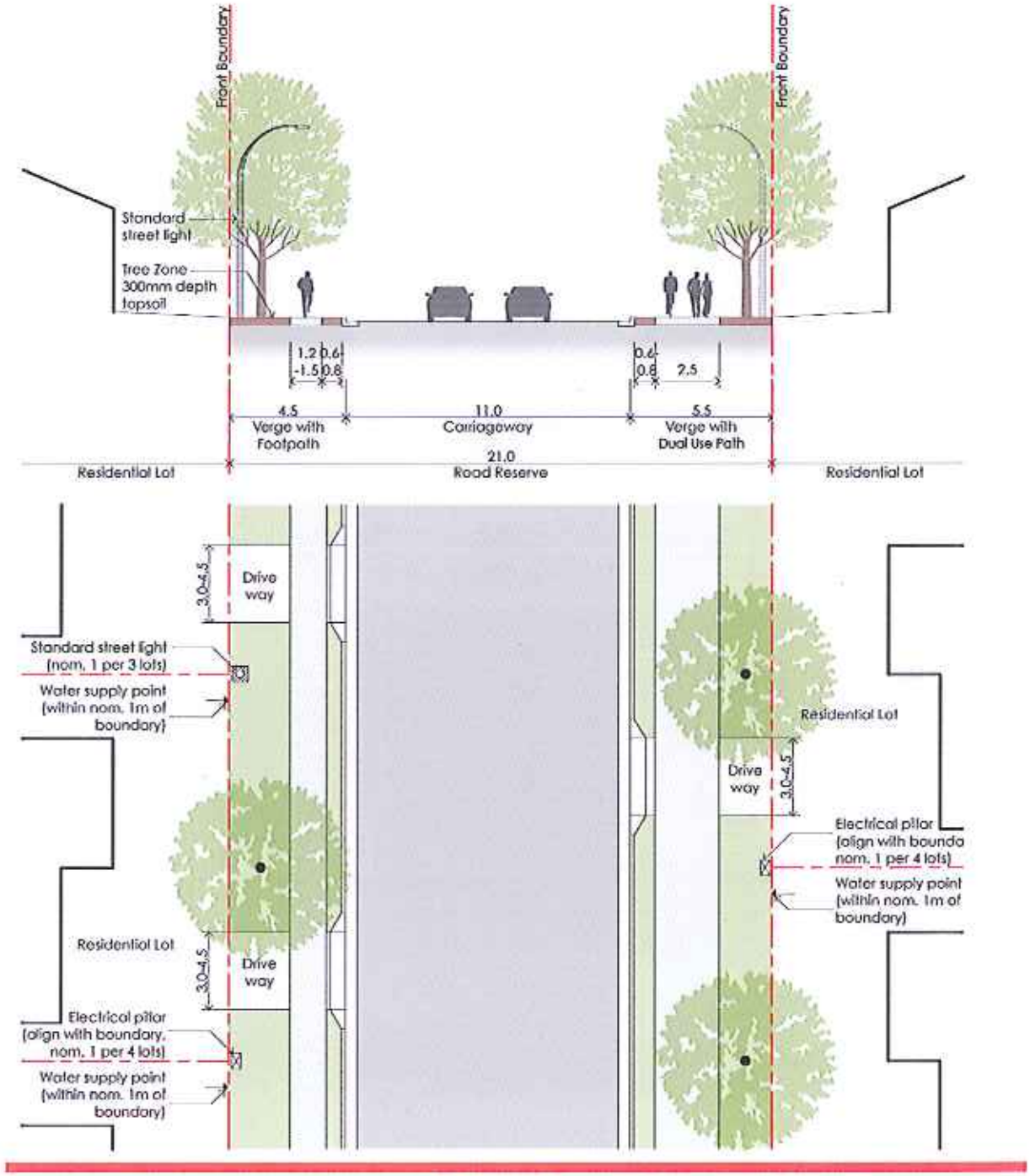



Figure 8.~~403~~- Collector Road with Keyline Elements Corridor

## Collector Road Variation - Adjacent to Open Space

Collector roads adjacent to open space zoning are 17m wide, maintaining an 11m carriageway and one 4.5m wide verge with paved footpath, tree and grass. The verge adjacent to open space is only 1.5m wide to allow for street lighting, otherwise creating easy access and open vistas to parklands. A shared path ~~will~~ is to be located within the open space. This type of collector road occurs within the R2 Low Density Residential and R3 Medium Density Residential ~~R2 and R3~~ zoning.

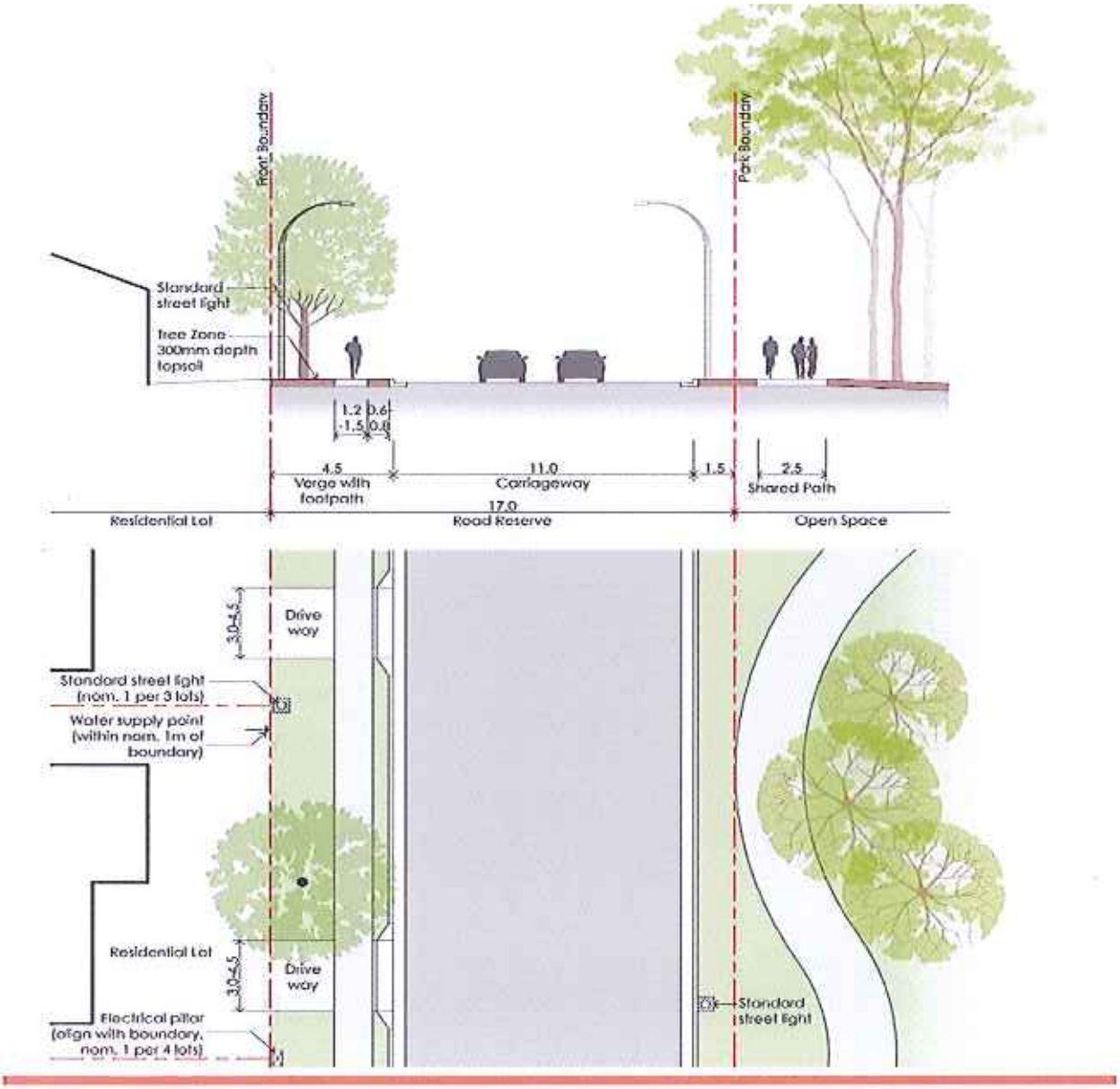



Figure 8.~~4138~~ - Collector Road Variation

## Collector Road Variation – Arthur Phillip Drive Extension

The proposed extension of Arthur Phillip Drive ~~will~~ is to match the existing configuration with an 11m carriageway and 4.5m verges to both sides. There is to ~~will~~ be a footpath to one side and grass only to the other. This type of collector road occurs within the R2 Low Density Residential zoning.

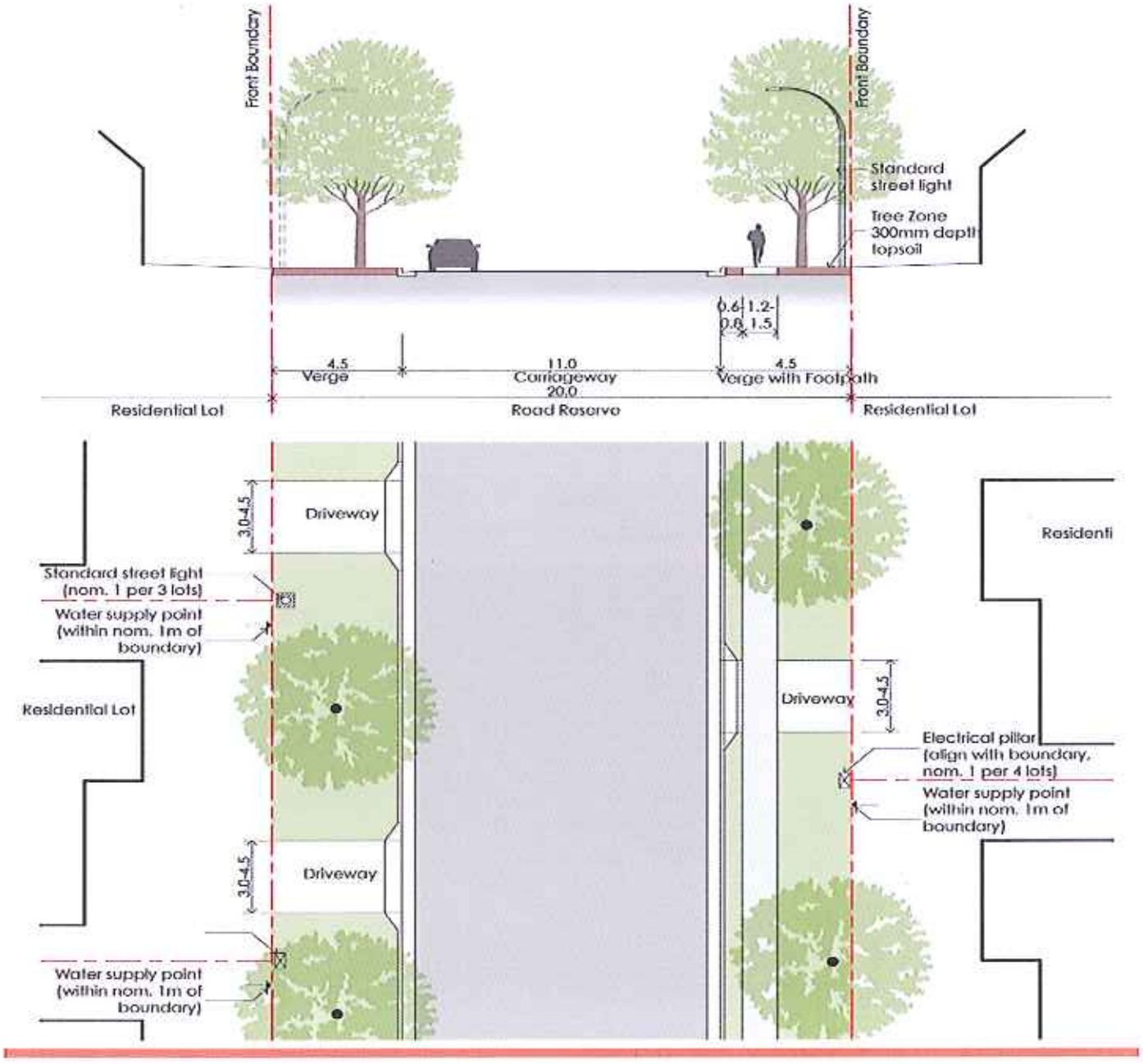



Figure 8.~~39~~42 - Collector Road Variation

## 26m Entry Road - Adjacent Side &and Back Boundaries

This scenario allows a 26m wide road reserve to cater for wide verges supporting boulevard trees, feature garden beds and & public art. This will provide a striking experience driving from Grose Vale Road to Redbank NeighbourhoodTown Centre - creating an 'entry statement'. The 11m carriageway allows for 2 vehicles to pass side-by-side as well as car parks adjacent the kerb. This entry road option occurs in the R2 Low Density Residential zoning, and in particular, near the junction with Grose Vale Road where there will be side and &-rear property boundaries and no driveway crossings.

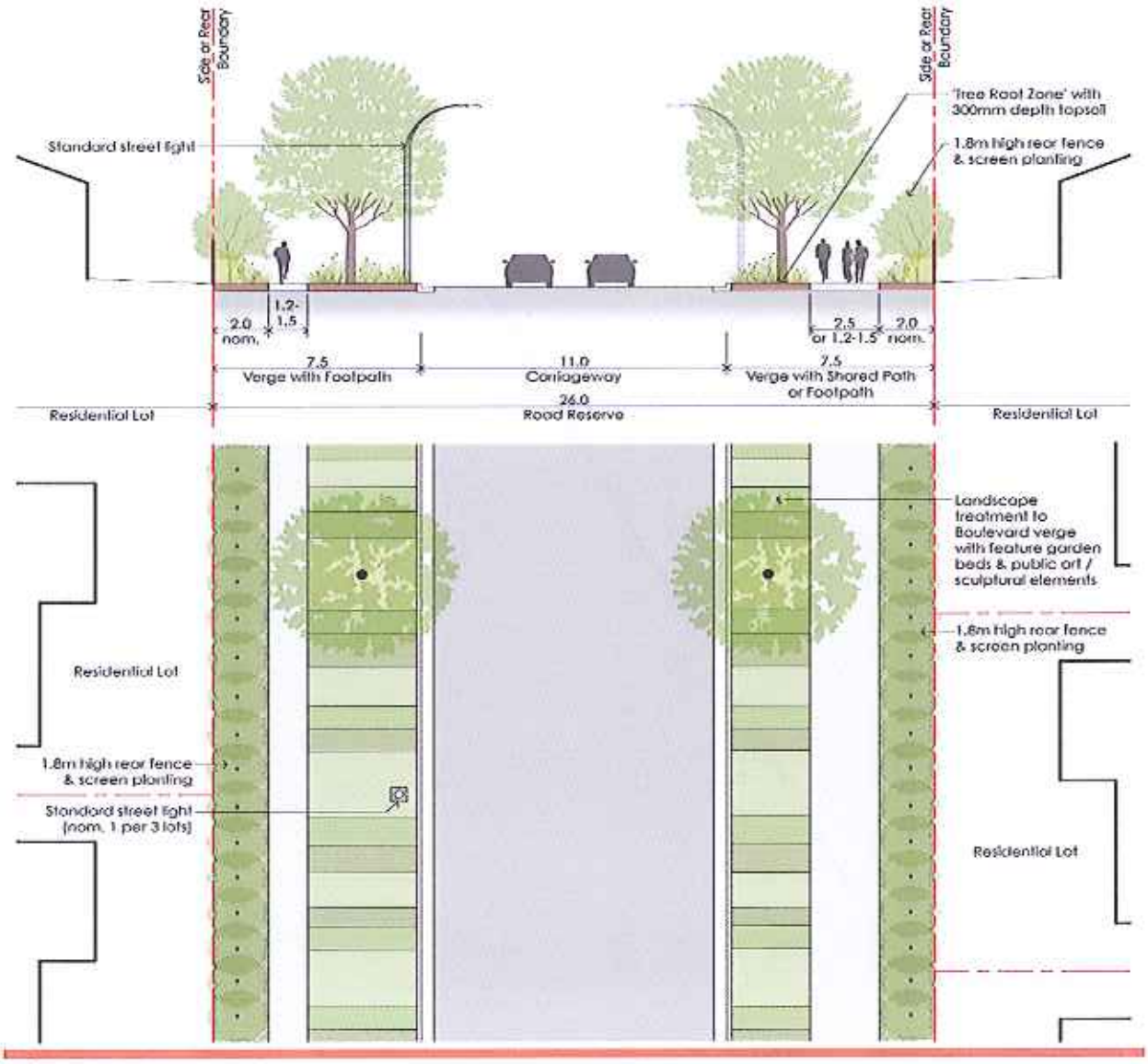
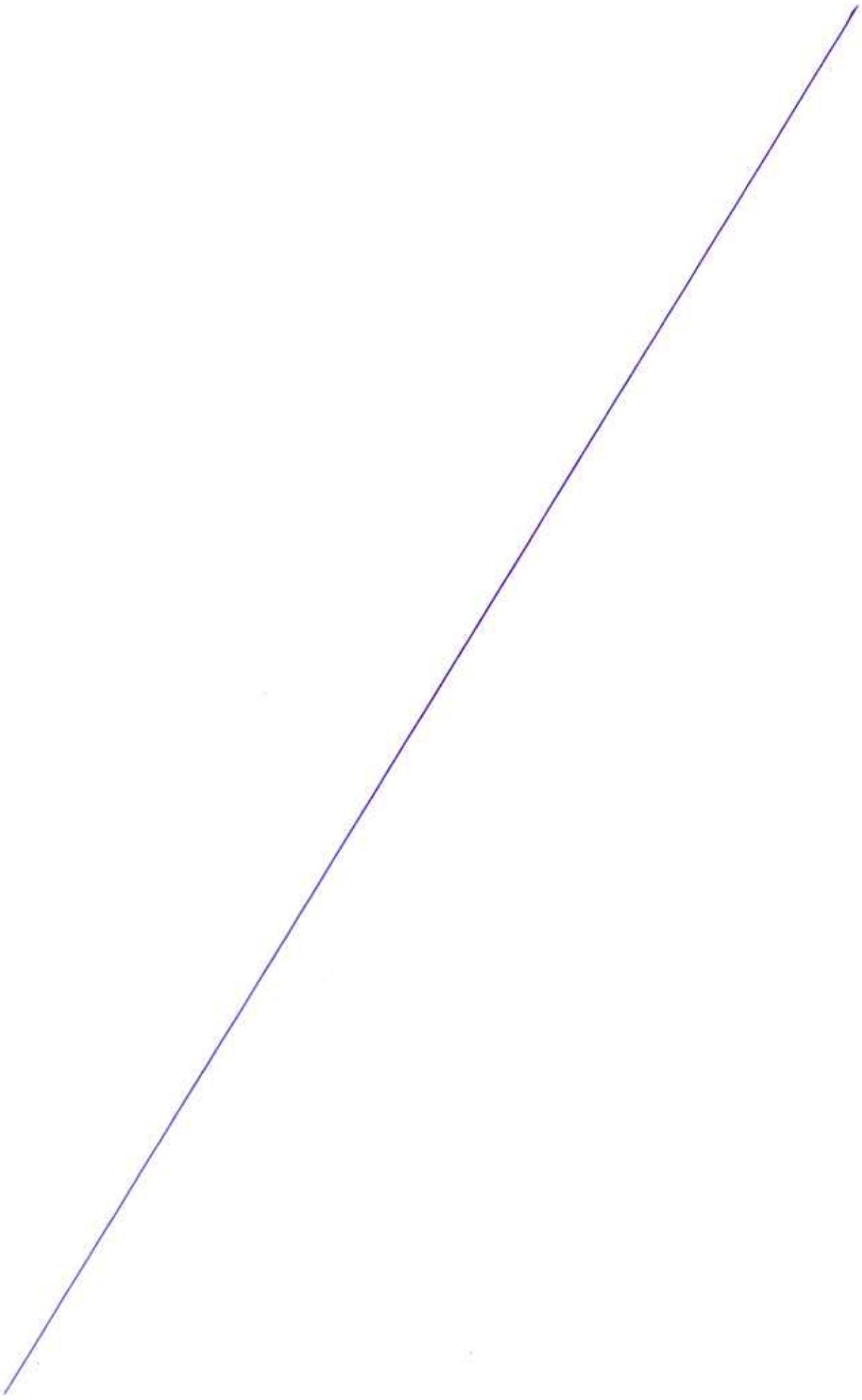



Figure 8.430 - 26M Entry Road



## 23m Entry Road - Adjacent Front Boundaries

This scenario allows a 23m wide road reserve to cater for wide verges supporting boulevard trees, footpaths and/or shared paths and front facing property boundaries. The boulevard trees continue the 'entry statement' into Redbank NeighbourhoodTown Centre, while grassed verges compliment the property frontages. The 11m carriageway allows for 2 vehicles to pass side-by-side as well as car parks adjacent the kerb. This entry road occurs in the R2 Low Density Residential zoning.

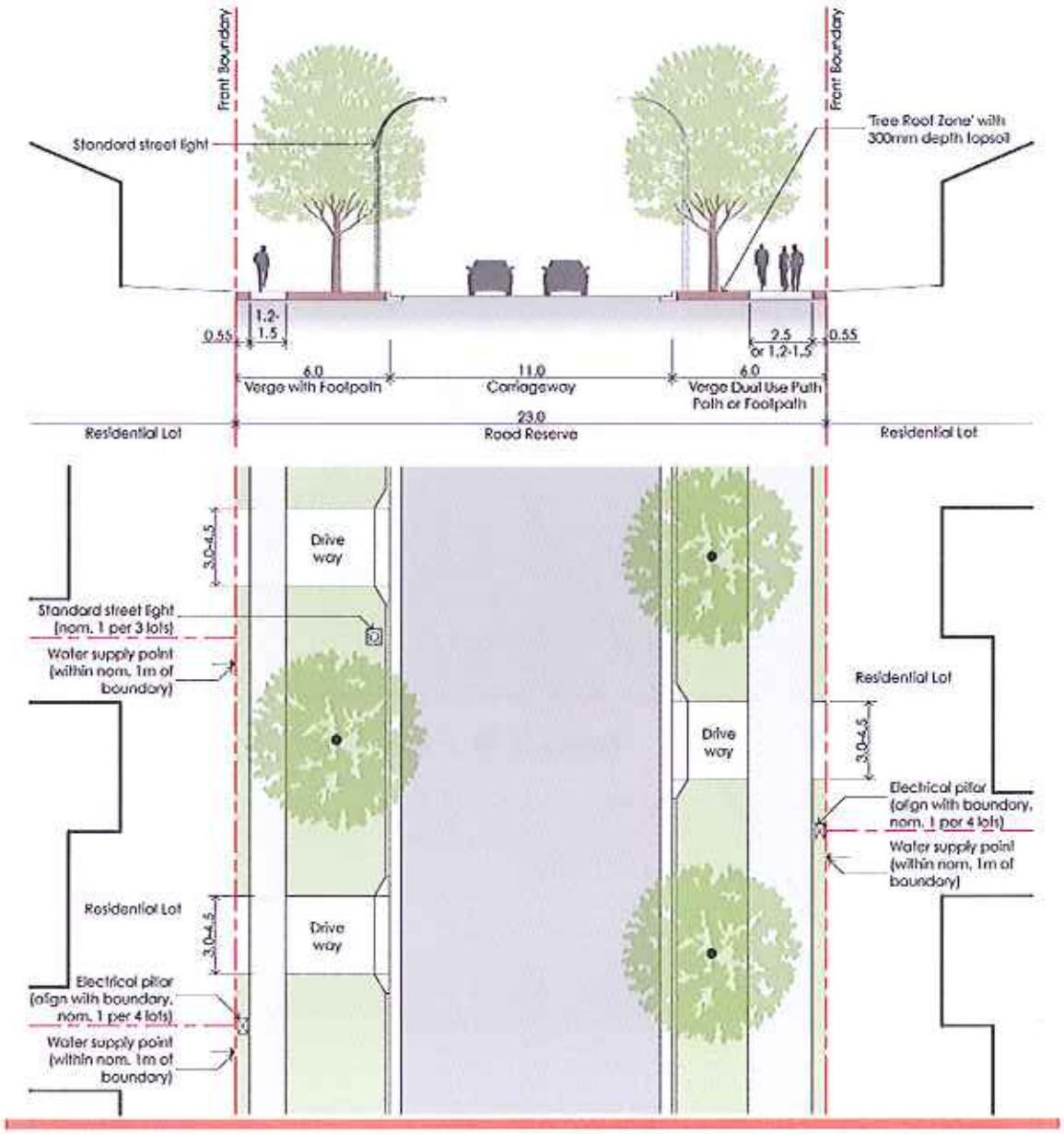



Figure 8.441 - 23M Entry Road

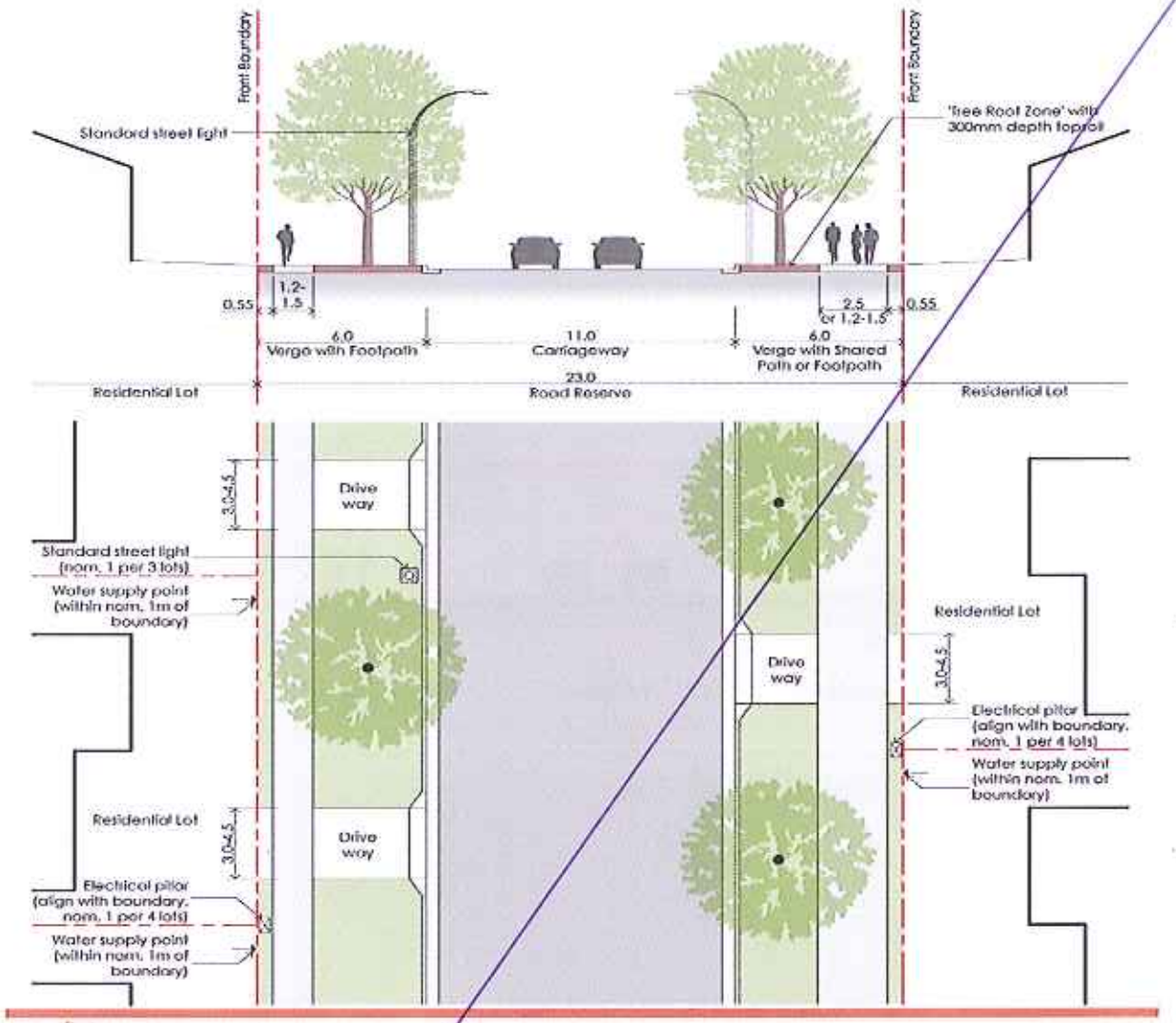



Figure 8.41 - 23M Entry Road

## ~~900~~ 90° On-Street Car Parking

90° on-street car parking may ~~will~~ occur in the neighbourhood~~town~~ centre where there will be higher density living and a higher demand for car parks for easy access to shops and facilities. Tree plantings are to ~~will~~ be located at regular intervals between car parks to provide additional visual amenity and shade for visitors to the neighbourhood~~town~~ centre. Suitable transition provisions and distances are to be applied at interfaces with adjoining road types/widths. Sets of bicycle racks are to be provided along the paved verges where appropriate.

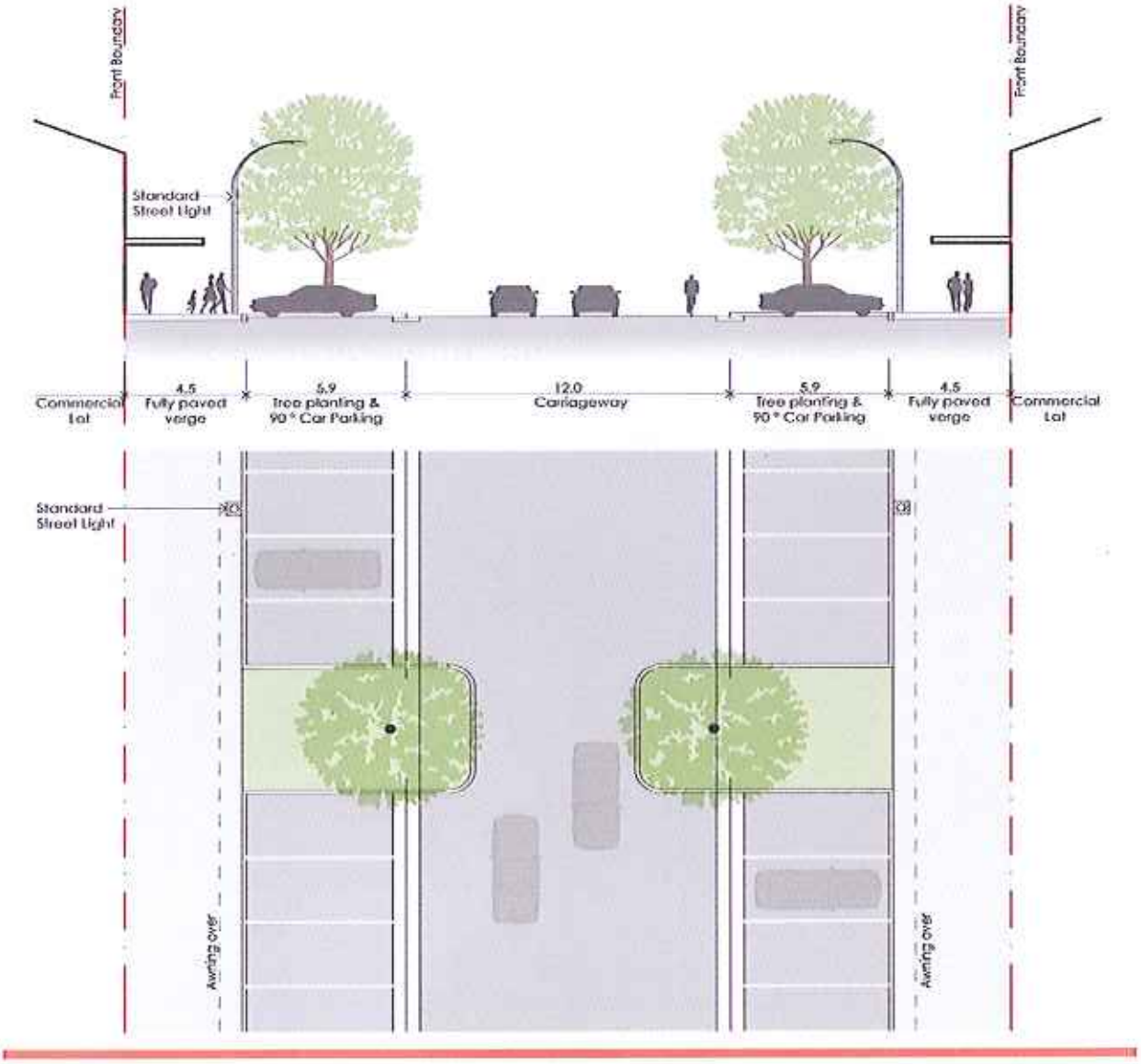



Figure 8.4~~5~~2 - 90° On Street Car Parking - Typical

## Pedestrian Paths and Pram Ramp Crossings – Typical Plan

Proposed pedestrian paths ~~&~~ and pram ramps are to ~~will~~ be consistent with Australian Standard - Design for Access and Mobility (AS 1428 set).

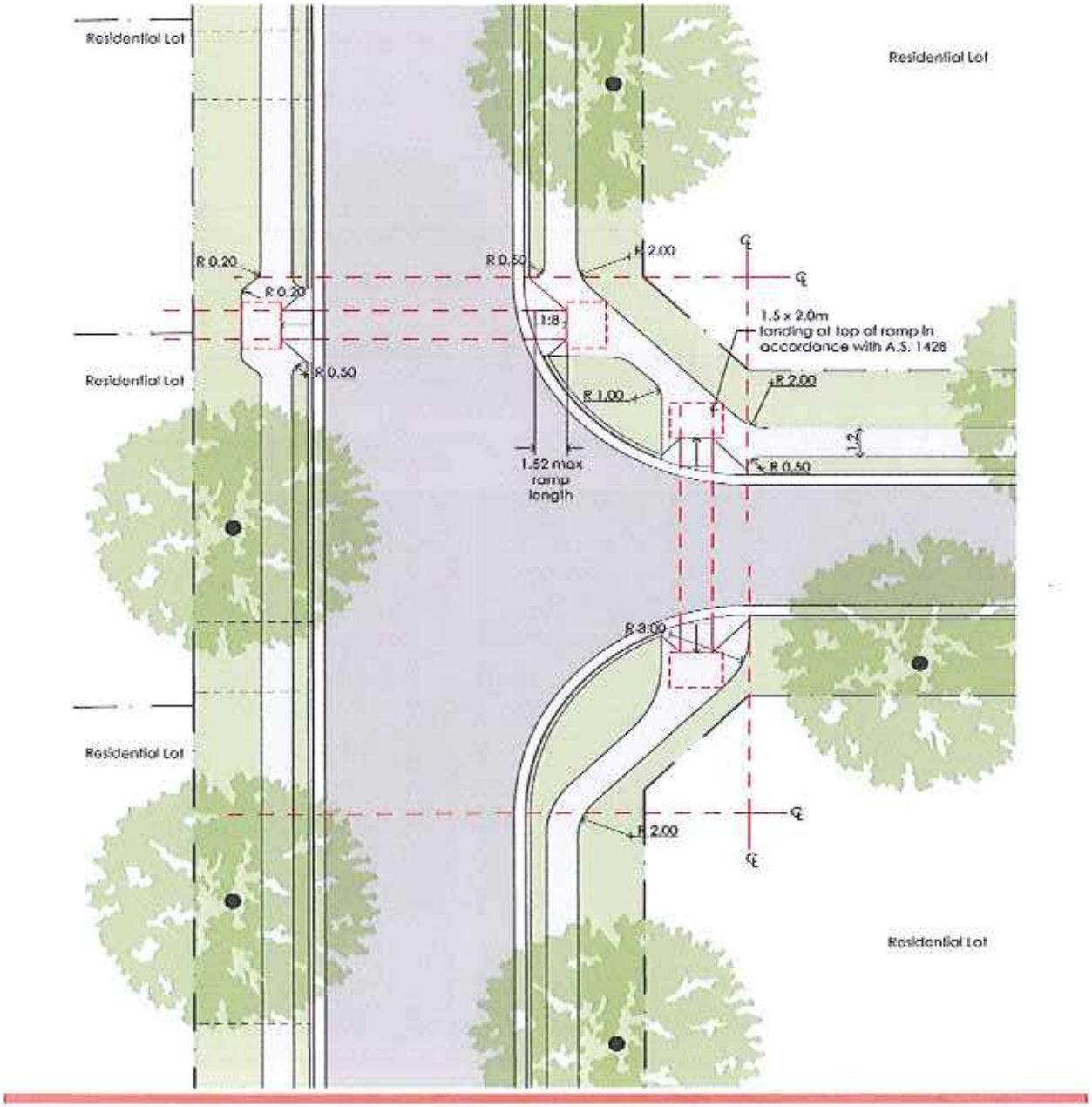



Figure 8.4~~6~~3 – Pedestrian Pathways & Pram Ramps – Typical

## Grose Vale Road

- Lots backing onto Grose Vale Road are to be approximately 40m deep
- 5-10m wide vegetated buffer is to be included in the rear of each lot
- Rural 'style' post ~~&~~and rail fence with wire mesh is to be installed on the Grose Vale Road boundary and landscaping is to be provided within the road reserve
- ~~In some areas~~Where required, retaining walls may be built to accommodate level changes between Grose Vale Road and the rear of lots

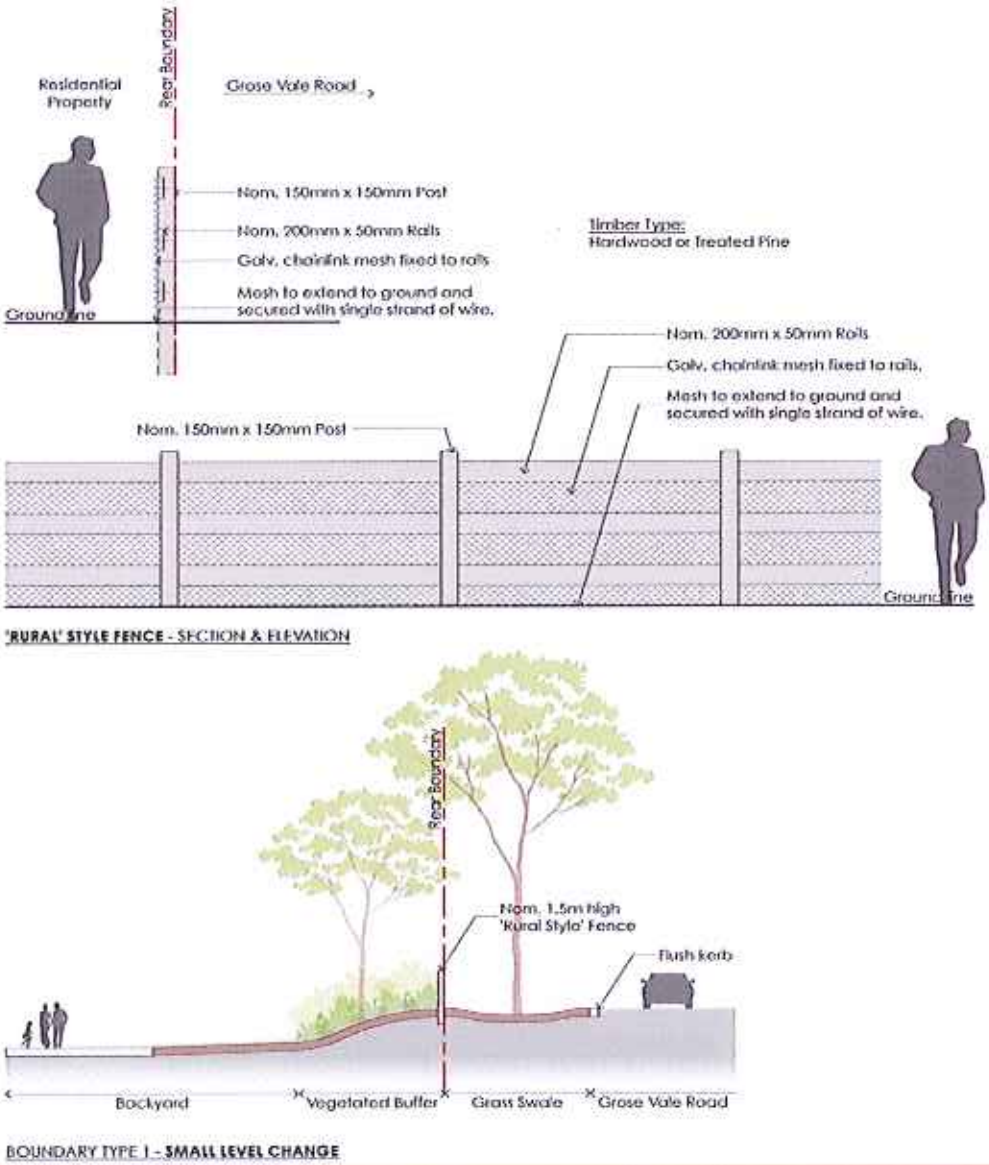
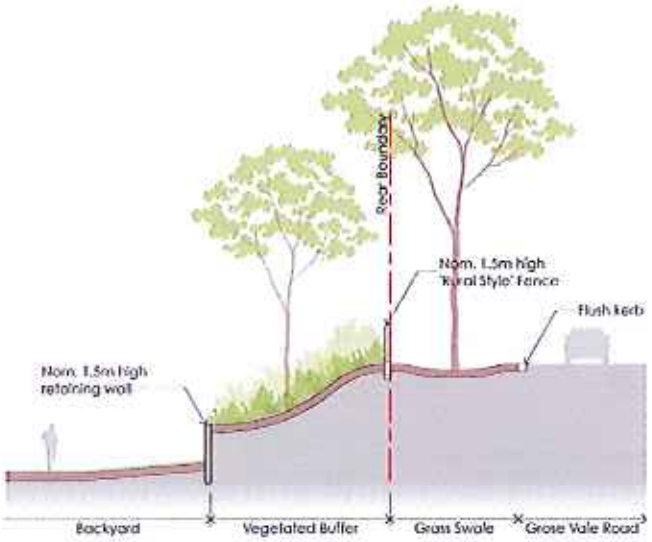


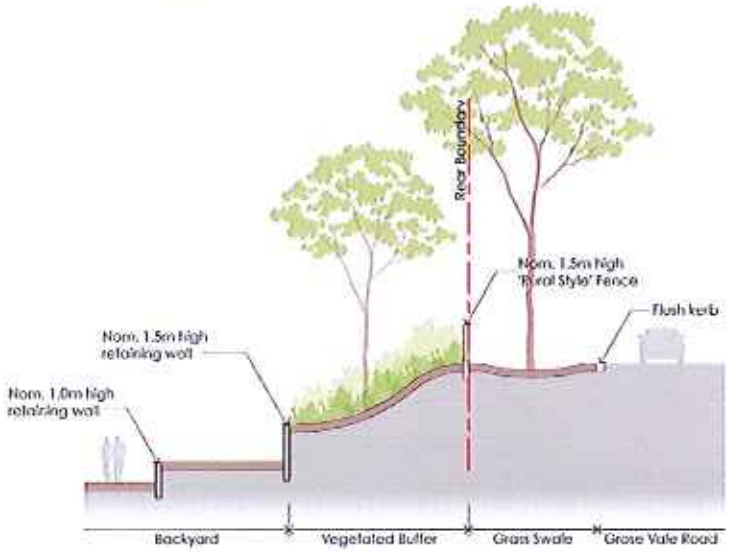

Figure 8.4~~7~~4 - Grose Vale Road -Landscape Mound and Fence

## Grose Vale Road

- Lots backing onto Grose Vale Road ~~will~~ are to be approximately 40m deep
- 5-10m wide vegetated buffer shall be included in the rear of each lot
- Rural 'style' post ~~&~~and rail fence with wire mesh shall be installed on the Grose Vale Road boundary and landscaping is to be provided within the road reserve
- ~~In some areas~~Where required, retaining walls shall be built to accommodate level changes between Grose Vale Road and the rear of lots

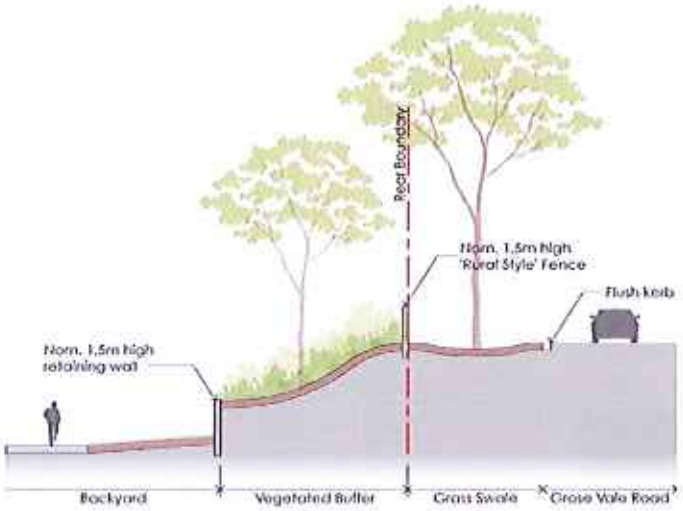



BOUNDARY TYPE 2 - MEDIUM LEVEL CHANGE

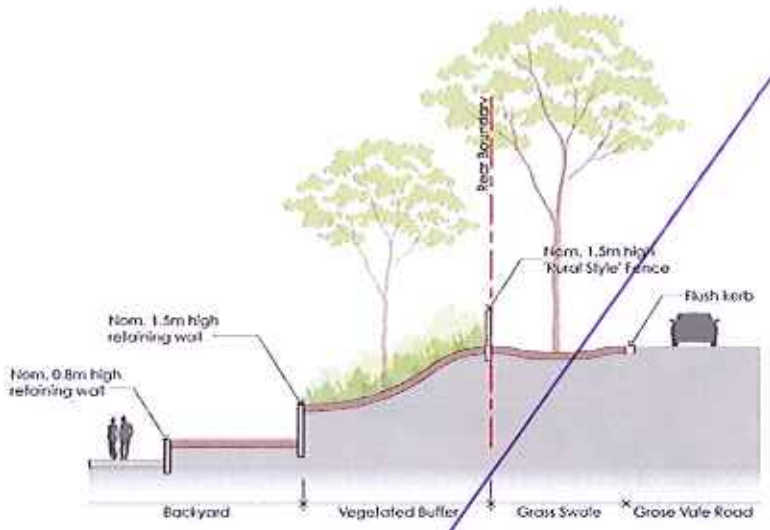



BOUNDARY TYPE 3 - LARGE LEVEL CHANGE

Figure 8.4~~85~~ - Grose Vale Road -Landscape Mound and Fence




BOUNDARY TYPE 2 - **MEDIUM LEVEL CHANGE**




BOUNDARY TYPE 3 - **LARGE LEVEL CHANGE**

Figure 8.45 - Grose Vale Road -Landscape Mound and Fence

## Entry Road - Landscape Character

The Entry Road ~~will~~ is to be characterised by a curving carriageway flanked by wide verges with shared path ~~&~~and footpath to either side, stretching from Grose Vale Road to the Redbank Neighbourhood ~~Town~~ Centre. A strong 'entry statement' is initially created at the junction with Grose Vale Road via a feature wall wrapping around the rear ~~&~~and side property boundaries within the R2 Low Density Residential zoning. The verge ~~here will~~ is to consist of boulevard trees under planted by feature garden beds and ~~&~~ strategically placed public art to herald the entry into Redbank. Further into the site, the verge is to ~~will~~ narrow slightly to cater for front facing properties within the R2 Low Density Residential zoning. Here the verge allows for the continuation of boulevard trees, feature garden beds, shared path and ~~&~~ footpath.

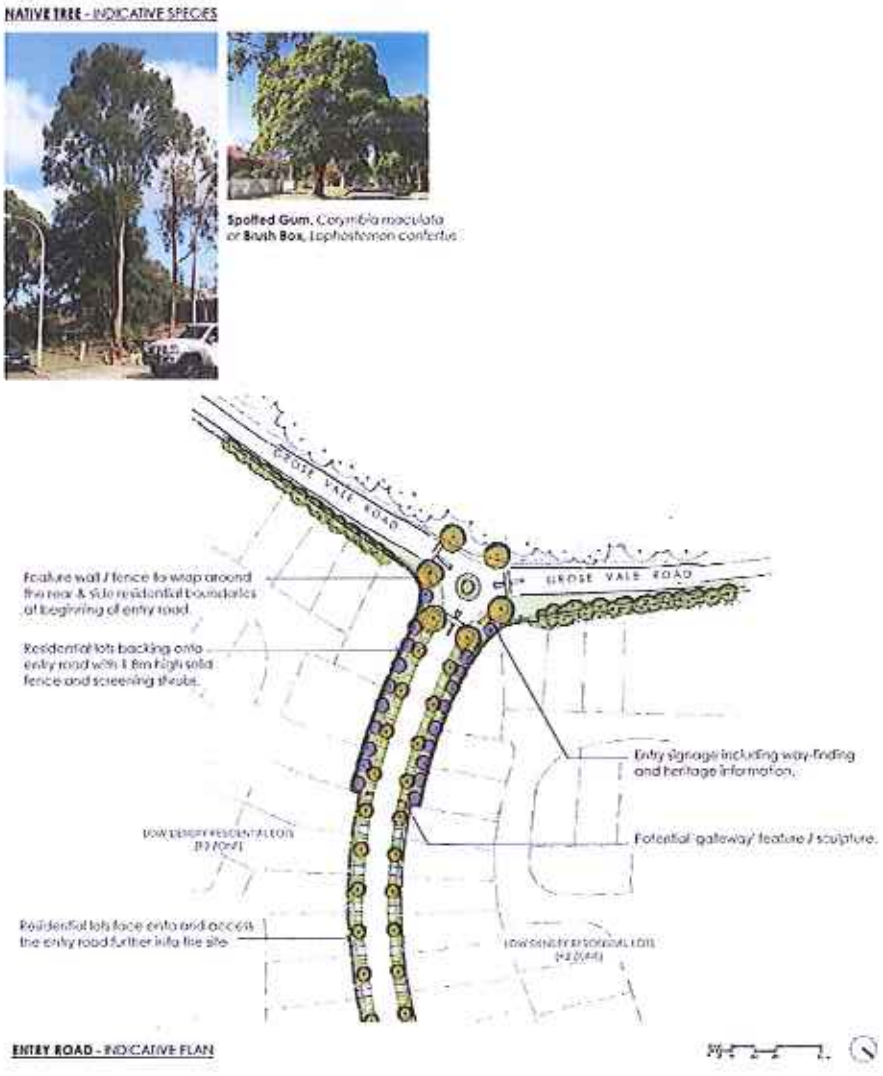
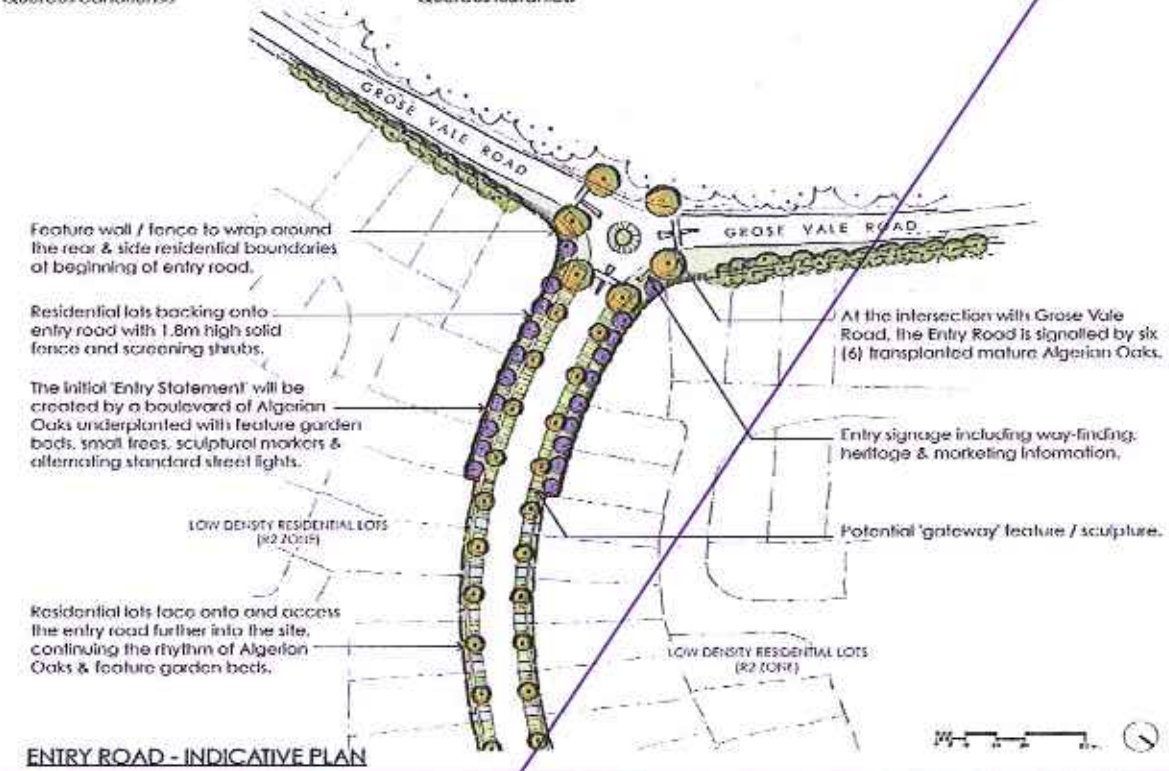



Figure 8.4~~9~~6 - Entry Road and Landscape

**EXOTIC DECIDUOUS TREE** - INDICATIVE SPECIES

**Algerian Oak**
*Quercus canariensis*

**Lusitanian Oak**
*Quercus lusitanica*




ENTRY ROAD - INDICATIVE PLAN

Figure 8.46 - Entry Road and Landscape

## 8.3.8 RESIDENTIAL LOT PARAMETERS

### Objectives

*(a) To provide for housing choice ~~and affordability be~~ by providing a range of lot sizes, including small lots*

*(b) To ensure that lots have sufficient areas and dimensions to accommodate dwellings and their associated private open space, car parking and setbacks*

*(c) To undertake bulk earthworks to create lots that are able to accommodate dwellings and their associated car parking and private open space without significant cut and fill whilst maintaining the integrity of the existing natural topography*

### Development Controls

1. Lots are to be regular shaped in order to suit contemporary housing types
2. Corner lots are to enable dwellings to address both street frontages
3. Lot layout enables dwellings to address the street
4. Bulk earthworks are to be undertaken to deliver residential lots with landform characteristics which enable quality contemporary housing construction, taking into account the features of the pre-development topography. Retaining walls and landscaping works associated with bulk earthworks are to be completed prior to the issuing of a Subdivision Certificate.
5. ~~4.~~ Lots are to conform to the solar orientation provisions contained in Part D Chapter 3 Section 3.7.6 (e) of this DCP.

## 8.3.9 UTILITY SERVICES

### Objectives

*(a) To provide water and sewer utility services to the site in a manner that:*

- *i. provides for public health and convenience*
- *ii. is of sufficient capacity to cater for the forecast needs of the site*
- *iii. connects with the surrounding infrastructure*
- *iv. avoids environmental harm*
- *v. is provided in a logical and cost effective manner*

### Development Controls

1. Utility services are provided generally in accordance with Figure 8.50~~47~~
2. Reticulated water and sewerage is to be provided to all lots.

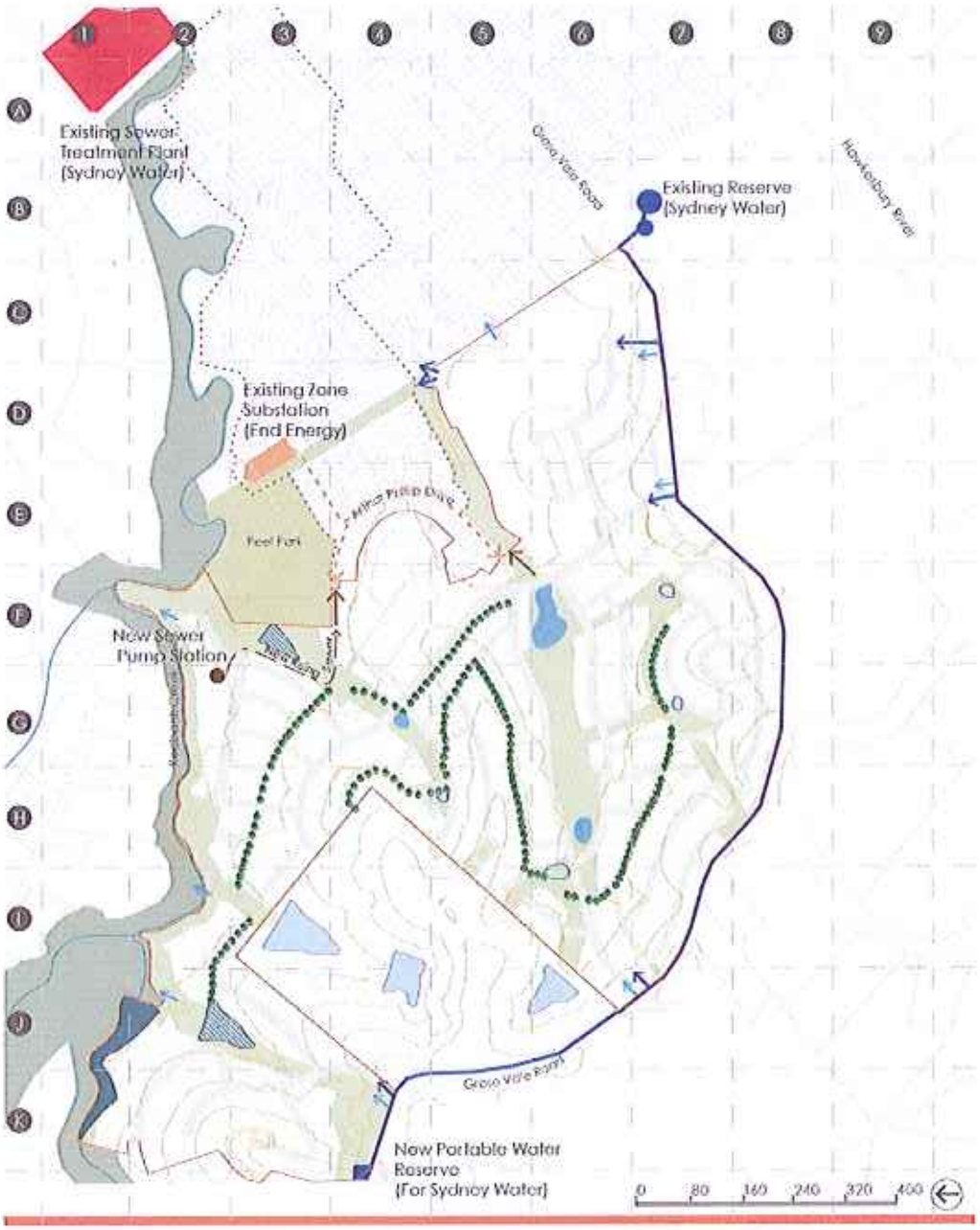
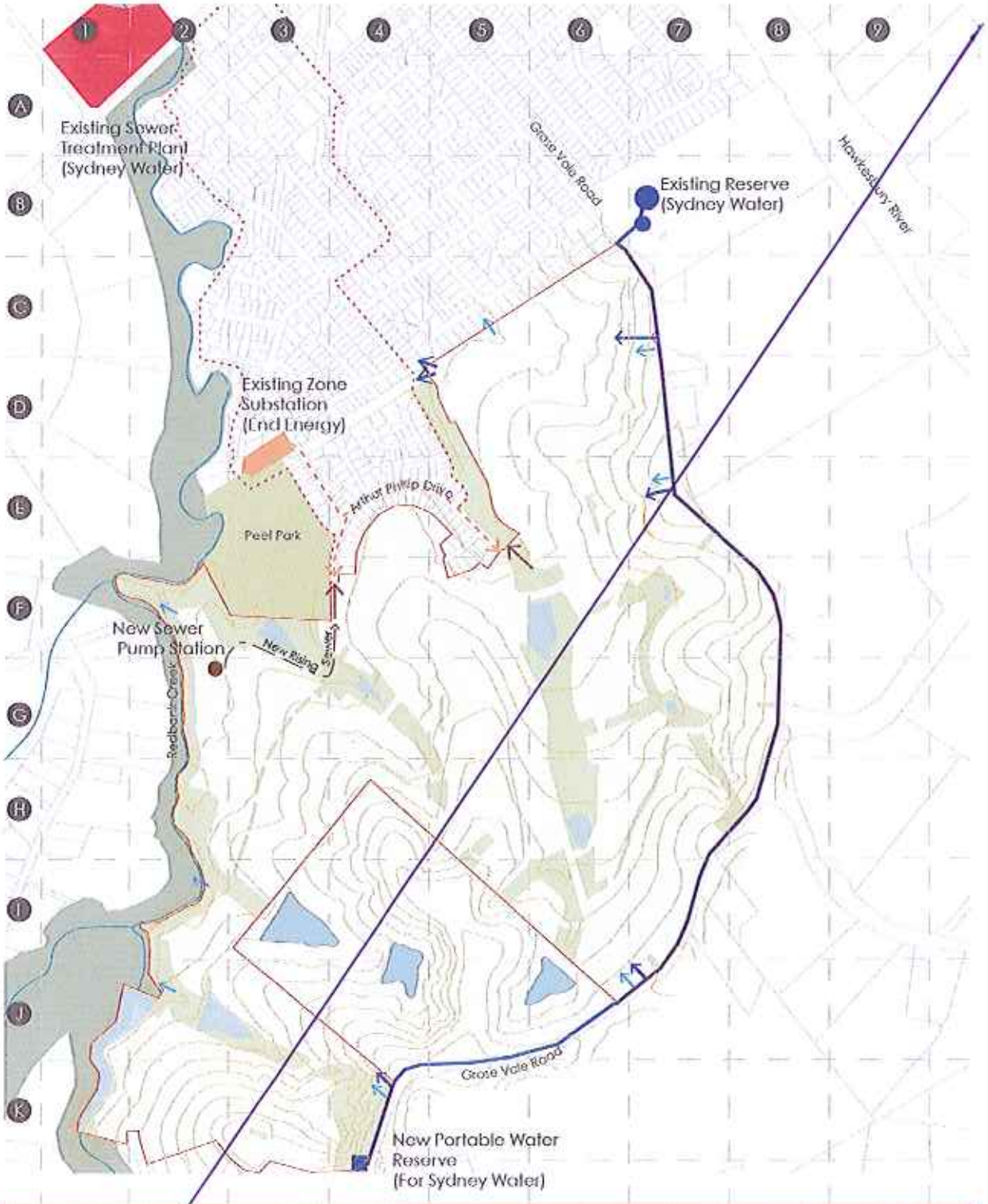



**Figure 8.~~5047~~- Utilities Plan**




LEGEND

- Property Boundary
- Portable Water
- Proposed Water Connection
- Proposed New NBN Points
- Proposed Sewer Connection
- Proposed Electrical Connection
- Proposed Storm Water Treatment Connections
- Existing Gravity Sewer
- Proposed Open Space
- Redbank Creek Corridor
- Proposed 5m Contours
- Proposed Local Street Network
- Water Bodies
- Existing Dams within the Catchment

**Figure 8.47- Utilities Plan**

## 8.3.10 BUILT FORM AND CHARACTER

### Objectives

*(a) To achieve a height and bulk that is compatible with the desired future character of the area*

*(b) To create coherent, attractive streetscapes that engage with the public domain, in particular streets, open space and heritage*

*(c) To provide for a high level of residential amenity, including solar access, air circulation, privacy, noise mitigation and appropriate boundary interfaces*

*(d) To provide landscaped open space that softens the visual impact of buildings within the landscape and includes useable private recreation space of sufficient areas and dimensions to cater for the recreational needs of residents*

*(e) To provide adequate and safe on-site vehicle access and parking in a manner that does not visually dominate the street*

*(f) To respect the topography of the site and Yeoman's keyline elements*

## 8.3.10.1 SINGLE DWELLINGS, OUTBUILDINGS AND SECONDARY DWELLINGS~~STUDIOS~~

### Development Controls

1. The development within areas shown in Figure 8.5148 are to satisfy requirements set out in Tables 8.3 and 8.4. ~~below:~~
2. Development on lots adjacent to Grose Vale Road is to appear as substantially single storey when viewed from Grose Vale Road. The purpose of this control is to reduce the visual impact of development when viewed from Grose Vale Road and to allow for distant views from Grose Vale Road to the west.
3. In order to achieve the stormwater quality objectives for Redbank all dwellings are to be provided with a 3000L minimum rain water tank which must be plumbed for internal use.

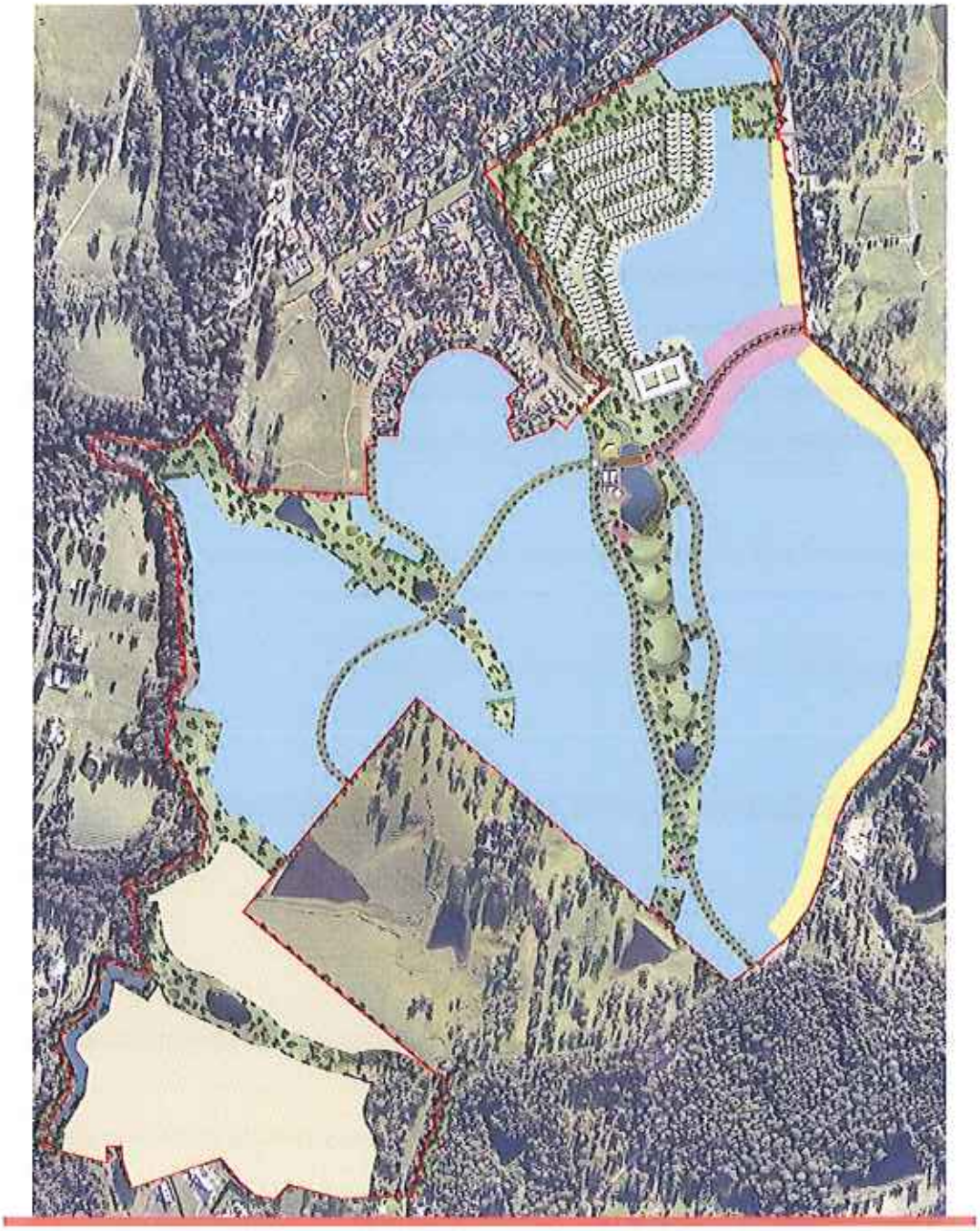



Figure 8.5148 - Shading Plan

## Table 8.3 - Built Form Controls for Single Dwellings, Outbuildings and ~~Studies~~Secondary Dwellings

**Redbank Built Form Control Areas - R2 & R3 & R5**
**Development Standards relating to Lot area**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lot Details & approx Location | Shading (refer to Fig.8.53) | Blue | | | | | | | Yellow | Purple | Tan | |
| | Group | Level A (General) | | | | | | | Level B (Grose Vale Road to rear) | Level C (Boulevard & Entry) | Level D (R5 - Large Lot) | |
| | Redbank min width | varies | | | | | | | >=15.0m | >=18.0m | >=18.0m | |
| | Redbank typical depth | varies | | | | | | | varies | varies | varies | |
| | Redbank typical lot size OR 'specific lot area' | R3 min @ 180m² - 250m² (< 250m²) | R3 at 250m² - 300m² (< 300m²) | R3 at 300m² - 450m² (<450m²) R2 min @ 375m² - 450m² (<450m2) | 450-600m² (<600m²) | 600-900m² (<900m²) | 900-1500m² (<1500m²) | 1500m²+ | > 700m² | > 700m² | R5 min @ 1500m² - 4000m² (<4000m²) | R5 ≥ 4000m² |
| Dwelling Height (MAX) | | 10m | | | | | | | | | | |
| Floor area (% lot area or m2) (MAX) | | 90% | 85% | 270 | 330 | 380 | 430 | | 380 | 380 | 430 | N/A |
| Total Site coverage (% of lot area) (MAX) | | 65% | 60% | 55% | 50% | 50% | 40% | 30% | 50% | | 30% | N/A |
| Rear Setback (MIN) | | up to 4.5m = 3m above 4.5m = average of rear setbacks of adjoining dwelling houses or 10m, whichever is the lesser | | up to 4.5m = 3m above 4.5m = 8m | | | up to 4.5m = 5m above 4.5m = 12m | up to 4.5m = 10m above 4.5m = 15m | Up to 4.5m = 5m above 4.5m = 12m | | 15m - Dwelling houses + attachments to dwelling houses | |
| Primary street setback (MIN) | | 3.0m or average of adjoining residential development | | 4.5m or average of adjoining residential development | | | 6.5m or average of adjoining residential development | 10.0m or average of adjoining residential development | 6.5m or average of adjoining residential development | | Average of nearest two dwelling houses within 40m of lot, or 10m where two dwellings are not located within 40m of lot | |
| Landscaping (MIN) See Note 1 | | 10% | | 15% | 20% | 30% | 40% | 45% | 30% | 30% | 45% | N/A |
| Private open space (MIN) | | 16m² | | 24m² | | | | | | | N/A | |
| Outbuilding: MAX floor area | | 36m² | | 45m² | | 60m² | 100m² | | 60m² | 60m² | 100m² | 100m² |
| Outbuilding: MAX height | | 4.8m | | | | | | | | | | |
| Secondary dwellings: MAX height | | 6m | | | | | | | | | | |

Note:
1. Minimum dimension of landscaped area is 1.5m. 50% of landscaped area must be located behind the building line.

## Redbank Built Form Control Areas - R2 & R3 & R5

### Development Standards relating to Lot area

| | Shading (refer to Fig.8.53) | Blue | | | | | | | Yellow | Purple | Tan | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lot Details & approx Location | Group | Level A (General) | | | | | | | Level B (Grose Vale Road to rear) | Level C (Boulevard & Entry) | Level D (R5 - Large Lot) | |
| | Redbank min width | varies | | | | | | | >=15.0m | >=18.0m | >=18.0m | |
| | Redbank typical depth | varies | | | | | | | varies | varies | varies | |
| | Redbank typical lot size OR 'specific lot area' | R3 min @ 180m² - 250m² (< 250m²) | R3 at 250m² - 300m² (< 300m²) | R3 at 330m² - 450m² (<450m²) R2 min @ 375m² - 450m² (<450m2) | 450-600m² (<600m²) | 600-900m² (<900m²) | 900-1500m² (<1500m²) | 1500m²+ | > 700m² | > 700m² | R5 min @ 1500m² - 4000m² (<4000m²) | R5 ≥ 4000m² |
| Dwelling Height (MAX) | | 10m | | | | | | | | | | |
| Floor area (% lot area or m2) (MAX) | | 90% | 55% | 270 | 330 | 380 | 430 | | 380 | 380 | 430 | N/A |
| Total Site coverage (% of lot area) (MAX) | | 65% | 60% | 55% | 50% | 50% | 40% | 30% | 50% | | 30% | N/A |
| Rear Setback (MIN) | | up to 4.5m = 3m above 4.5m = average of rear setbacks of adjoining dwelling houses or 10m, whichever is the lesser | | up to 4.5m = 3m above 4.5m = 8m | | | up to 4.5m = 5m above 4.5m = 12m | up to 4.5m = 10m above 4.5m = 15m | Up to 4.5m = 5m above 4.5m = 12m | | 15m - Dwelling houses = attachments to dwelling houses | |
| Primary street setback (MIN) | | 3.0m or average of adjoining residential development | | 4.5m or average of adjoining residential development | | | 5.5m or average of adjoining residential development | 10.0m or average of adjoining residential development | 5.5m or average of adjoining residential development | | Average of nearest two dwelling houses within 40 m of lot, or 0 m where two dwellings are not located within 40 m of lot | |
| Landscaping[2] (MIN) | | 10% | | 15% | 20% | 30% | 40% | 45% | 30% | 20% | 45% | N/A |
| Private open space (MIN) | | 16m² | | 24m² | | | | | | | N/A | |
| Outbuilding: MAX floor area | | 36m² | | 45m² | | 60m² | 100m² | | 60m² | 60m² | 100m² | 100m² |
| Outbuilding: MAX height | | 4.8m | | | | | | | | | | |
| Studios/Secondary dwellings: MAX height | | 6m | | | | | | | | | | |

Note: 1. Minimum site coverage for single storey dwelling house on lot of at least 450m² but less than 500m² is 55%.

2. Minimum dimension of landscaped area is 1.5m. 50% of landscaped area must be located behind the building line.

## Table 8.4 - Built Form Controls for Single Dwellings, Outbuildings and ~~Studies~~Secondary Dwellings

**Redbank Built Form Control Areas - R2 & R3 & R5**
**Development Standards relating to Lot width**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lot Details & approx Location | Shading (refer to Fig.8.63) | Blue | | | | | | | Yellow | Purple | Tan | | | |
| | Group | Level A (General) | | | | | | | Level B (Grose Vale Road to rear) | Level C (Boulevard & Entry) | Level D (RS - Large Lot) | | | |
| | Redbank min width OR 'specific width' | 6-8m (<8m) | 8-10m (<10m) | 10 - 12.5m (<12.5m) | 12.5 - 15m (<15m) | 15-18m (<18m) | 18-24m(<24m) | 24m+ | >=15.0m | >=18.0m | >=18.0m | | | |
| | Redbank typical depth | varies | | | | | | | varies | varies | varies | | | |
| | Redbank typical lot size | varies | | | | | | | > 700m² | > 700m² | R5 min @ 1500m2 - 4000m2 (<4000m²) | | R5 ≥ 4000m2 | |
| Side Setbacks - dwelling houses and outbuildings (MIN) | | 0.9m up to building height of 5.5m; 0.9 plus 1/4 of additional height above 5.5m | | 0.9m up to building height of 4.5m; 0.9m plus 1/4 of additional height above 4.5m | | | 1.5m up to building height of 4.5m; 1.5m plus 1/4 of additional height above 4.5m | 2.5m | 0.9m up to building height of 4.5m; 0.9m plus 1/4 of additional height above 4.5m | 1.5m up to building height of 4.5m; 1.5m plus 1/4 of additional height above 4.5m | 2.5m | | 10m - Dwelling houses 5m- outbuildings | |
| Built to boundary | | Lot width 6-8m: both sides<br>Lot width 8-12.5m: one side<br>Maximum height: 3.3m or match adjoining built to boundary wall<br>Maximum length: the lesser of 20m or 50% of lot depth, or match adjoining built to boundary wall | | | N/A | | | | | | | | | |
| Basement (MAX) | | 25m² | | 45m² | | | | | | | N/A | | | |
| Landscape area/ front setback (MIN) (see Note 1) | | 25% of the area forward of the building line must contain landscaped area | | | | | 50% of the area forward of the building line must contain landscaped area | | 25% of the area forward of the building line must contain landscaped area | 50% of the area forward of the building line must contain landscaped area | 45% of Lot | | N/A | |
| MAX garage door width | | 6m (rear lane only) No access from front street/road | 3.2m | | 6m | | | | | | 9m | | | |
| Private open space (MIN) (see Note 2) | | 16m² | | 24m² | | | | | | | N/A | | | |
| Outbuilding rear setback (MIN) | | 0.9m | | | | | 1.5m | 2.5m | 0.9m | 1.5m | | | | |
| Secondary dwellings : MAX floor area | | 60m² | | | | | | | | | | | | |
| Secondary dwellings: MIN side setback | | 0.9m up to 4.5m building height<br>1.2m above 4.5m building height | | | 0.9m up to 4.5m building height<br>1.5m above 4.5m building height | | 1.5m up to 4.5m building height<br>2.5m above 4.5m building height | | 0.9m up to 4.5m building height<br>1.5m above 4.5m building height | 1.5m up to 4.5m building height<br>2.5m above 4.5m building height | 2.5m | | 10m | |

Note: 1. Minimum dimension of landscaped area is 1.5m.
2. Minimum dimension of private open space 3m. Maximum gradient 1:50.

## Redbank Built Form Control Areas - R2 & R3 & R5

### Development Standards relating to Lot width

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lot Details & approx Location | Shading (refer to Fig 8.63) | Blue | | | | | | | Yellow | Purple | Tan | | |
| | Group | Level A (Corners) | | | | | | | Level B (Grose Vale Road to rear) | Level C (Boulevard & Entry) | Level D (R5 - Large Lot) | | |
| | Redbank min width OR 'specific width' | 5-8m (<8m); | 8-10m (<10m); | 10 - 12.5m (<12.5m) | 12.5 - 15m (<15m) | 15-18m (<18m) | 18-24m(<24m) | 24m+ | >=15.0m | >=18.0m | >=18.0m | | |
| | Redbank typical depth | varies | | | | | | | varies | varies | varies | | |
| | Redbank typical lot size | varies | | | | | | | > 730m² | > 700m² | R5 min @ 1500m2 - 4000m2 (<4000m²) | R5 ≥ 4000m2 | |
| Side Setbacks - dwelling houses and outbuildings (MIN) | | 0.9m up to building height of 5.5m; 0.9 plus 1/4 of additional height above 5.5m | | 3.0m up to building height of 4.5m; 0.9m plus 1/4 of additional height above 4.5m | | | 1.5m up to building height of 4.5m; 1.5m plus 1/of additional height above 4.5m. | 2.5m | 0.9m up to building height of 4.5m; 0.9m plus 1/4 of additional height above 4.5m | 1.5m up to building height of 4.5m; 1.5m plus 1/of additional height above 4.5m. | 2.5m | 10m - Dwelling houses 5m- outbuildings | |
| Built to boundary | | Lot width 5-8m: both sides<br>Lot width 8-12.5m: one side<br>Maximum height: 3.3m or match adjoining built to boundary wall | | | N/A | | | | | | | | |
| Basement (MAX) | | 25m² | | 45m² | | | | | | | N/A | | |
| Landscape area: front setback 1 (MIN) | | 25% of the area forward of the building line must contain landscaped area | | | | | 50% of the area forward of the building line must contain landscaped area | | 25% of the area forward of the building line must contain landscaped area | 50% of the area forward of the building line must | 45% of Lot | N/A | |
| MAX garage door width | | 3m | 3.2m | 6m | | | | | | | 9m | | |
| Private open space 2 (MIN) | | 16m² | | 24m² | | | | | | | N/A | | |
| Outbuilding rear setback (MIN) | | 0.5m | | | | | 1.5m | 2.5m | 0.9m | | 1.5m | | |
| Studios/Secondary dwellings : MAX floor area | | 60m² | | | | | | | | | | | |
| Studios/Secondary dwellings: MIN side setback | | 0.5m up to 4.5m<br>1.2m above 4.5m | | | 0.9m up to 4.5m<br>1.5m above 4.5m | | 1.5m up to 4.5m<br>2.5m above 4.5m | | 0.9m up to 4.5m<br>1.5m above 4.5m | 1.5m up to 4.5m<br>2.5m | 2.5m | 10m | |

Note: 1. Minimum dimension of landscaped area is 1.5m.

2. Minimum dimension of private open space 3m. Maximum gradient 1:50.

## 8.3.10.2 OTHER RESIDENTIAL ACCOMMODATION

***Note: this section applies to attached dwellings, dual occupancies, multi dwelling housing, residential flat buildings, ~~secondary dwellings,~~ semi-detached dwellings, shop-top housing***

### Development Controls

1. Development is to ~~be~~ complyied with relevant requirements set out in Part D Specific Development, Chapter 1 Residential of the DCP.
2. In addition, the development is to comply with the following requirements:

   ~~i. Minimum Lot Size is to be 180 m.²~~

   ~~ii. Minimum Lot Frontage is to be 6 m.~~

   iii.i. The Hheight of Bbuildings is to be maximum 2 storey with some 3 storey features on key corners.

   ~~iv.~~ii. Development is to comply with the following setback requirements:

   - Minimum Front Setbacks – 3.5 m to the building and 2 m to the articulation zone
   - Minimum Side Setback – 0 m (built to boundary) or 900 mm
   - Minimum Side Setback to Secondary Street (Corner Lots) - 2 m
   - Minimum Setback - 3 m except to rear loading garages &and studios (on laneways or corner lots)- 0 m
3. Building facades are to be articulated using appropriate architectural elements, materials, detailing, colours and varying roof forms to provide visual variety.
4. Side walls and roofing more than 10m in length are to be articulated through appropriate architectural treatments to avoid poor visual appearance.
5. Developments on corner sites are to address both street frontages.
6. Attached or multi dwelling development with 10 or more dwellings are to provide a mix of dwelling sizes.
7. At least one dwelling of a multi dwelling housing or attached dwelling development containing up to 10 dwellings is to be designed to, be capable of adaptation for disabled or elderly residents. Where the proposed development contains more than 10 dwellings, dwellings that are easily convertible as disabled dwellings are to be provided at a rate of 1 dwelling per each 10 dwellings. Dwellings are to be designed in accordance with the relevant Australian Standards (AS 4299 - Adaptable Housing and AS1428.1 – Design for Access and Mobility).
8. Building design and layout is to facilitate casual surveillance of streets, access ways, entries, driveways, car parking and common areas. Blank walls facing the street are to be avoided. There is to be at least one living room window facing the street, public or common area. The use of bay windows allows good street observation.
9. Driveway access to the street should generally be confined to a single point in order to allow for ~~maintain~~ street parking and landscaping opportunities where appropriate.
10. Driveways are to be suitably paved to prevent surface erosion. Preference should be given to light coloured natural or earth coloured paving materials. The extent of driveways should be minimised to avoid excessive amounts of hard paved surfaces.

11. Private open areas should not be located within the front setback. However, Council may consider proposals which clearly demonstrate that the location of private open spaces within the front setback will achieve the most desirable design outcomes that otherwise will not be achieved and it will not pose any adverse impact upon the amenity or streetscape character of the locality.
12. Any development containing 10 or more dwellings is to be provided with a garbage and recycling bin area within close vicinity of the road. If this is not feasible, a sufficient levelled area (<5% grade) adjacent to the common access driveway is to be provided for bin collection. The bin area is to be appropriately located, designed, screened and incorporated into the landscape plan in order to minimise the impact on adjoining developments, the streetscape and residents within the proposed development, and to provide easy and convenient access to both residents and waste and recycling contractors whilst protecting against potential vandalism.
13. Development on lots adjacent to Grose Vale Road is to appear as substantially single storey when viewed from Grose Vale Road. The purpose of this control is to reduce the visual impact of development when viewed from Grose Vale Road and to allow for distant views from Grose Vale Road to the west.
14. In order to achieve the stormwater quality objectives for Redbank all dwellings are to be provided with a 3000L minimum rain water tank which must be plumbed for internal use.

~~12. Water sensitive urban design principles are to be incorporated into the design of the development to minimise impacts on the surrounding development and protect waterways, groundwater systems and bushland areas.~~

~~13.~~

## 8.3.10.3 NEIGHBOURHOOD SHOPS

### Development Controls

1. The scale, form and external appearance of a new business/retail development should be sympathetic with adjoining developments and the existing or desired future character of the ~~existing business/retail area or the centre~~site.
2. Where a building adjoins ~~a~~ residential land, the minimum side and rear set backs should be three metres. Within these set backs native trees and shrubs should be planted to minimise overlooking and reduce the visual impact of the building from those adjacent properties. If a building contains more than two storeys and ~~adjoining~~ adjoins residential land, a minimum of 6 metres set back should be provided above two storeys.
3. High quality and durable materials and finishes with easy and low maintenance should be used for external building facades to create a unique architectural appearance and enhance the existing streetscape. The use of materials derived from renewable sources or those that are sustainable is encouraged.
4. Attractive, innovative and articulated built forms with appropriate architectural elements such as vertical fin walls, recessed/projected wall elements, horizontal bands, contemporary roof forms, building entrances and sun shade devices should be used to create visually pleasing business/retail environment.
5. All front windows at ground floor level shall be designed to promote an active street level frontage and have a display function. The use of obscured glazing is generally not supported.

6. Buildings should be designed and finished in order to maximise solar access in winter and minimise the heating of buildings during summer. The reliance upon artificial lighting and ventilation should also be minimised by appropriate building design, site layout, internal design and energy efficient appliances, fixtures and fittings.
7. In order to facilitate active street frontages zero side setbacks is permitted. A zero rear set back may also be permitted depending on the nature of the adjoining development. However, zero set backs to road frontages must also contain an active front and not be blank walls or back of house facades.
8. Buildings should be designed to minimise overshadowing and maximise solar access to any adjoining development and the public domain. Solar access should be maintained for any north facing window of a habitable room of any adjoining residential dwelling and at least 50% of the private courtyard area for a minimum three hour continuous period between 9:00am and 3:00pm for the 21 June, winter solstice period.
9. Buildings are to be designed to maximise opportunities for effective surveillance and thereby minimising opportunities for crimes. "Crime Prevention Through Environmental Design" (CPTED principles should be considered as part of the design of any new or refurbishment of buildings.
10. Shop fronts should be designed to maximise visual exposure and enable direct pedestrian access from the front of buildings to encourage active and attractive street frontages.
11. Developments should provide a suitable loading and/or unloading dock in accordance with *AS2890.2 2002 Off-street commercial vehicles facilities*. Any views of loading and/or unloading areas from the street and adjoining residential areas should be screened through landscaping buffer or any other suitable landscaping screening.
12. Developments should provide a waste and recycling collection areas that are readily accessible by collection contractors. Any views of waste and recycling collection areas from the street and adjoining residential areas should be screened through landscaping buffer or any other suitable landscaping screening.
13. Development applications are to demonstrate compliance with any onsite stormwater quality controls/study assumptions relating to the subdivision of the land. This may include the installation of rain water tanks and the collected water being used for toilet flushing and irrigation purposes.

## 8.3.10.~~11~~ CAR PARKING AND ACCESS

### Development Controls

1. On-site parking for residential development is to be provided in accordance with the requirements specified in Part C, Section 2.5.1 Residential of Chapter 2 Parking and Access of the DCP.
2. On-site parking for neighbourhood shop /development is to be provided in accordance with the requirements specified in Part C, Section 2.5.2 Commercial of Chapter 2 Parking and Access of the DCP.

## 8.3.10.5~~12~~ RETAINING WALLS AND FENCES

### Development Controls

1. Retaining walls are to be provided generally in accordance with Figures 8.47, 8.48, 8.5249 and 8.5~~0~~3 and comply with the following:
    i. step down in segments from site boundaries and incorporate landscaping to minimise their visual impact and the perception of height change, particularly when viewed from the public domain

ii. maximum height of any retaining wall is 1.5m

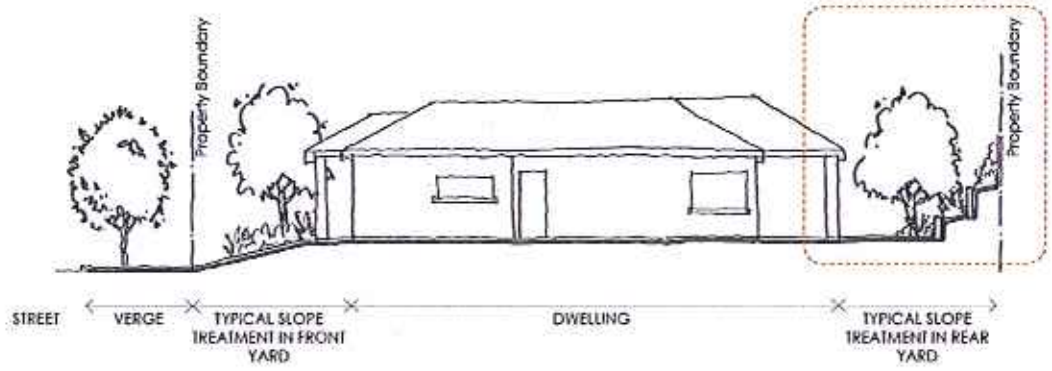
iii. minimum separation between retaining walls is 1.0m or as per standard engineering principles whichever is the greater.

2. Fences are to be provided generally in accordance with Figure 8.5~~1~~4 and comply with the following:

i. have a maximum height at all other boundaries of 1.8m

ii. where on a corner lot, address both streets

Rear to Front Sloping




Front to Rear Sloping

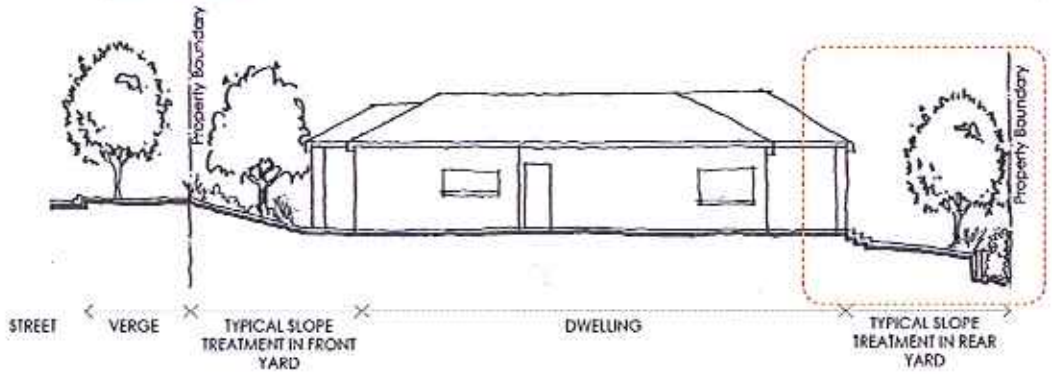
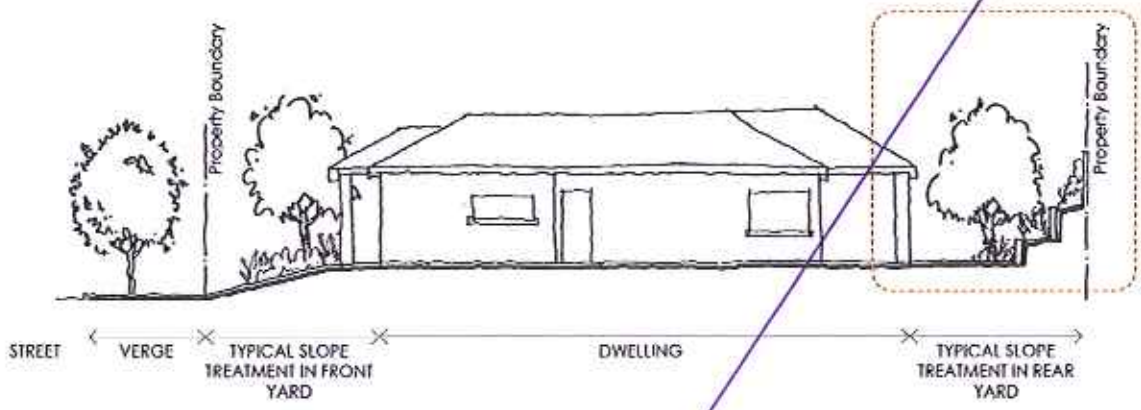
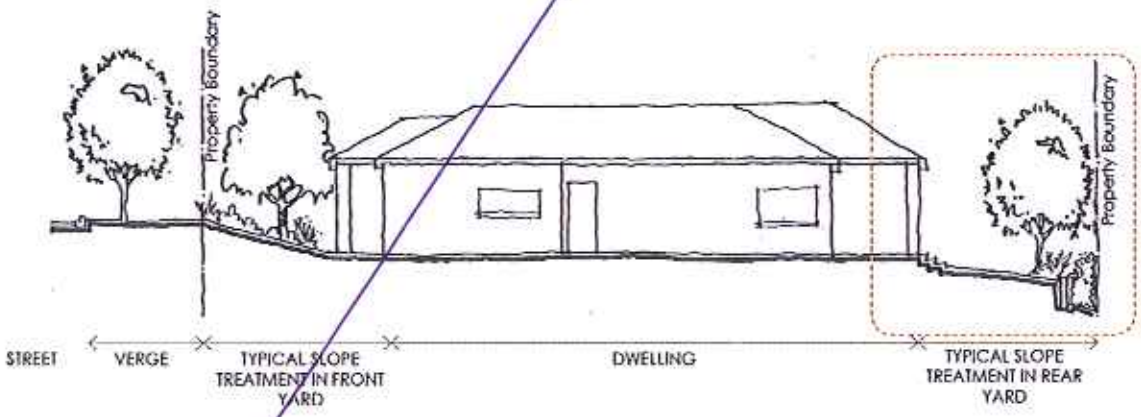



Figure 8.5249 - R2 and R3 -front and rear typical

R2 Rear to Front Sloping



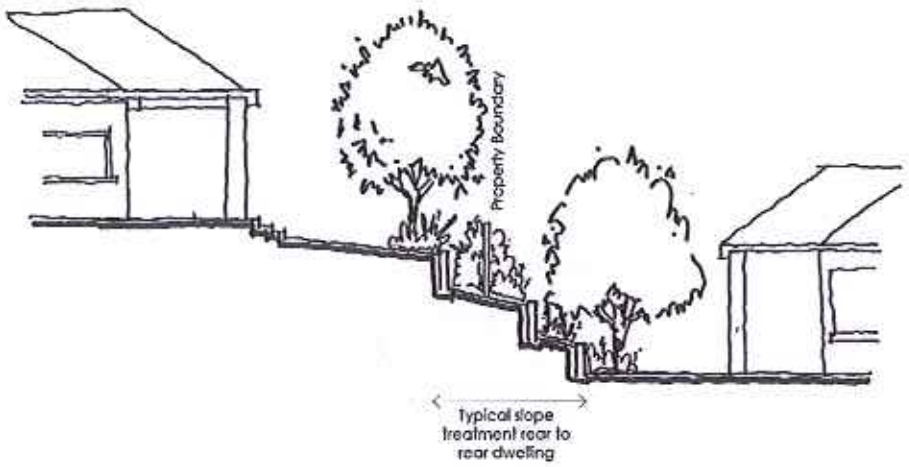

R2 Front to Rear Sloping




** For specific dimensions please refer to the current CDC and '5.1 CDC comparison table for R2+R3'*

**Figure 8.49 - R2 front and rear typical**

Rear to Rear dwelling retaining




Side - Interface between adjacent dwellings

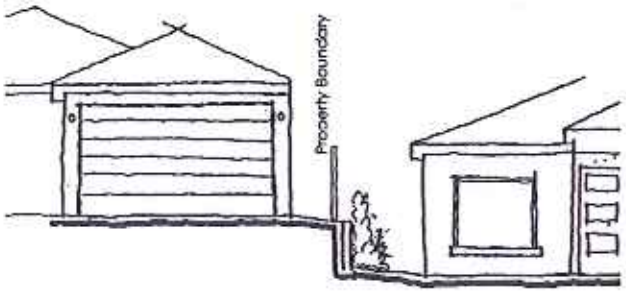
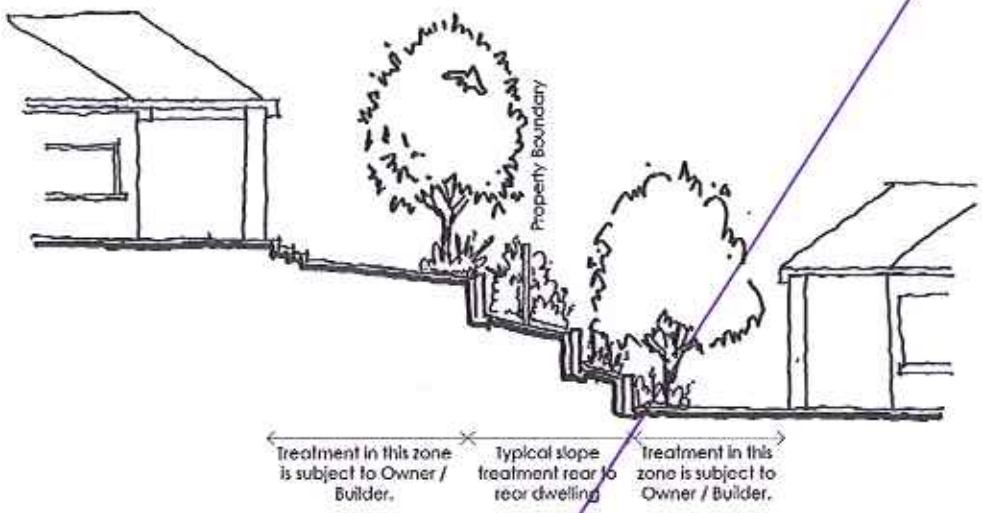
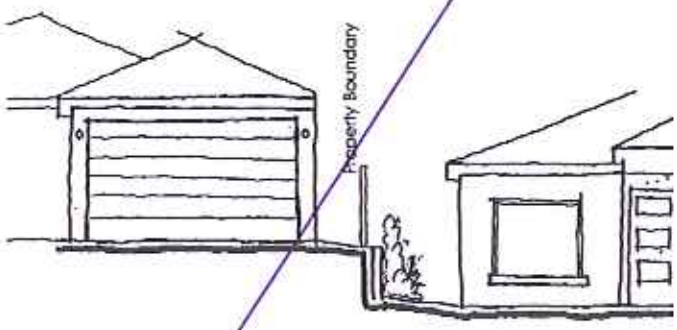



Figure 8.530- R2 and R3 -Rear to Rear Dwelling Retaining

R2 Rear to Rear dwelling retaining




R2 Side - Interface between adjacent dwellings




** For specific dimensions please refer to the current CDC and '5.1 CDC comparison table for R2+R3'*

Figure 8.50- R2 -Rear to Rear Dwelling Retaining

## Fences

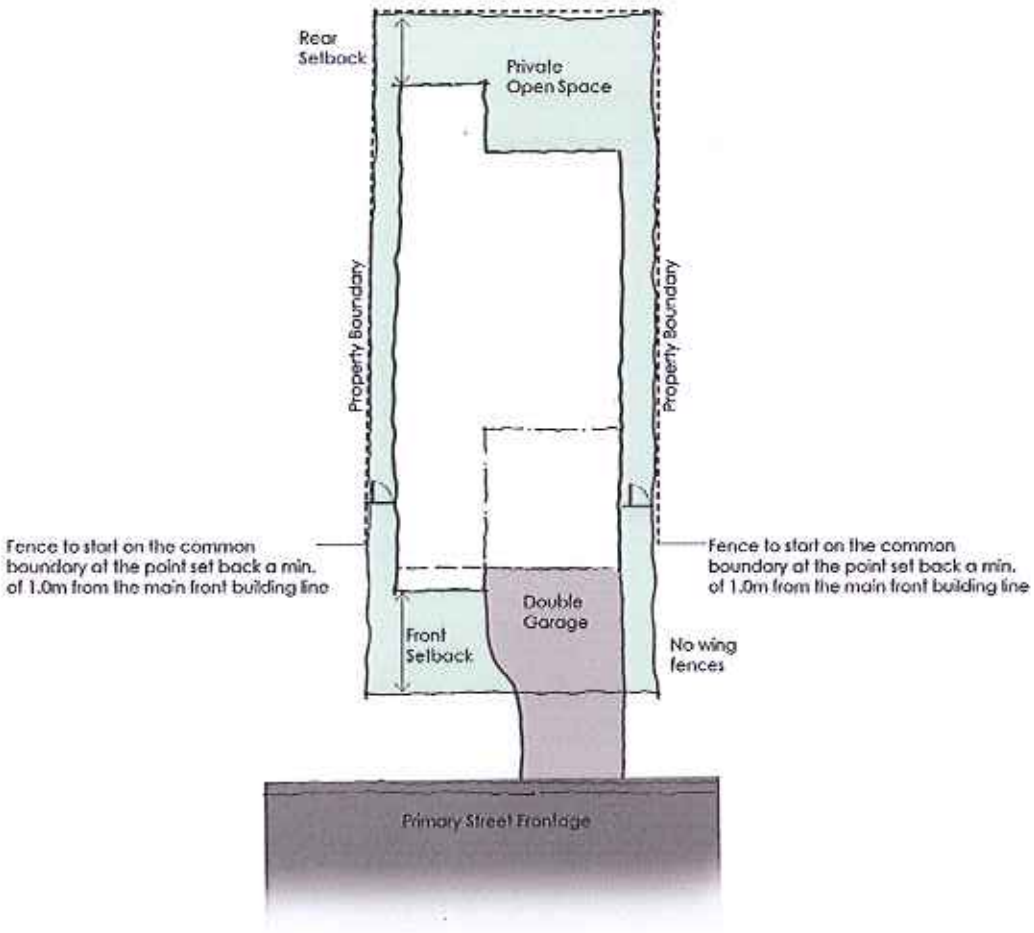
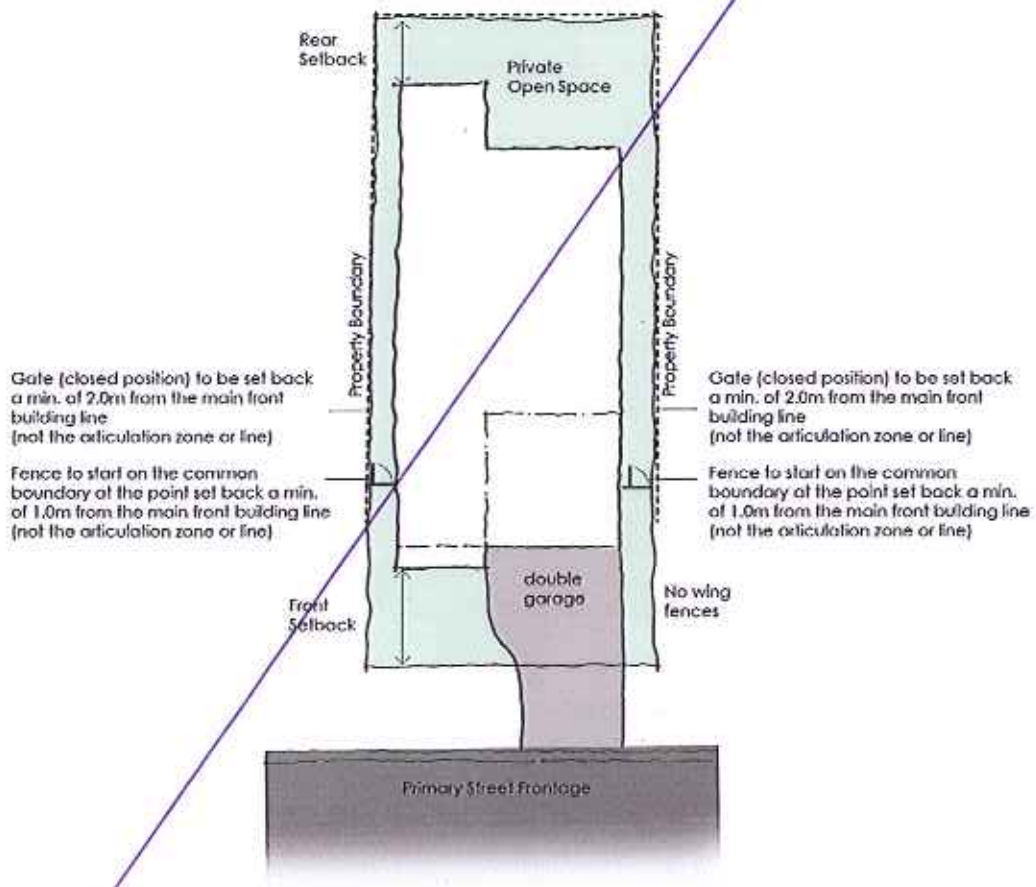



Figure 8.54 - Fences

## Fences




** For specific dimensions please refer to the current CDC and '5.1 CDC comparison table for R2+R3'*

**Figure 8.51 - Fences**

## 8.4 SUBMISSION REQUIREMENTS

Refer to Appendix B Lodging a Development Application of the DCP and Council's relevant development checklists (e.g. checklists for dwelling houses, multi-unit housing, secondary dwellings and subdivision of land) available on Council's website www.hawkesbury.nsw.gov.au/development/publications-and-forms or at Council's Customer Service Unit.

In addition the following additional information may be required to enable comprehensive assessment of applications:

A. Development Applications for **Subdivision** ~~Applications~~

**1. Subdivision Plan/layout**

A subdivision plan/layout drawn to an appropriate ~~sacle~~ scale incorpor~~t~~ating the following information should be submitted with the application:

- Existing and proposed lot boundaries
- Relationship of the lot(s) to existing roads
- Location and dimensions of any proposed accessway and/or road to each proposed lot
- Proposed boundary dimensions (metres) and lot areas (square metres)
- Proposed easements and rights-of carriageway
- Proposed public reserves and drainage reserves
- Potential developable areas of each lot
- All existing buildings and structures proposed to be retained
- Existing and proposed finished levels (contours and spot heights to AHD)
- Location of utility services

~~2. Detailed landscape plan~~

~~Detailed Landscape Plan drawn to an appropriate scale incorporating the following information should be included:~~

~~a. Site Layout~~

~~i. Location of utility areas and screening details (e.g. garbage receptacle area, storage of recyclable waste, clothes drying area, letter boxes, play areas, common open space, staff recreation areas).~~

~~ii. Location and details of lighting and other outdoor fixtures (e.g. signs, furniture).~~

~~iii. Details for special treatments (e.g. weed eradication, creek banks, roof gardens, podium areas).~~

~~b. Built structures~~

~~i. Existing and proposed buildings and other structures (including finished levels and floor heights).~~

~~ii. Driveways, carparks, podiums and footpaths (including materials and finished levels).~~

iii. Existing and proposed walls, fences and retaining walls (including materials, heights and finished levels).

c. Plant selection

i. Planting layout plan showing location of species and size at maturity, including street trees, trees on site, shrubs, groundcovers, grasses, turf, etc.

ii. Planting schedule with botanical and common names, whether evergreen or deciduous and local/native/exotic species, container size, quantities and staking and tying requirements for all species nominated.

d. Construction details

### 3.2. Stormwater Management Plan

A Stormwater Management Plan prepared by a suitably qualified professional is to be submitted with all development applications. The plan is to show the stormwater quantity and quality measures that will be implemented and retained on the site. As a minimum, the plan is to address the following criteria:

- Proposed conveyance of stormwater through the development – include a minor system to cater for the 1 in 5 year ARI event and major system to cater for the 1 in 100 year ARI event.
- Where development adjoins on exisiting creek, channel or waterbody, the top water level in the 1 in 100 year ARI event.
- The location, size and type of water quality/stormwater detention devices proposed to achieve the water quantity and quality objectives provisions in Section 8.3.5 of this chapter
- The connection and treatment of the stormwater system to a legal point of discharge downstream
- General drainage pattern and flow details and natural water courses and water channels on site
- The location of all points of discharge from the site
- Site design to minimise impervious areas and maximise on-site infiltration
- Location, level and volume of any on-site detention (OSD) facilities or water quality devices (where required)
- Demonstration of the application of appropriate water sensitive urban design elements

### 4.3. Arborist Report

Where the development will impact on trees within the development site an Arborist Report addressing the following prepared by a suitably qualified and experienced arborist should be submitted as part of the application:

- Tree survey; including a site survey plan with the location of existing trees clearly indicated.
- Trees numbered on the survey.
- Species name and common name, dimensions, health, whether to be retained or removed and why.
- Location of trees in adjoining properties located within close proximity to development site.
- Overall rating for groups of trees where they contribute to the area as a mass

Consideration should be given to impacts that the following factors will have when determining the retention or removal of trees:

- Stormwater drainage.
- Earthworks.
- Proposed location of buildings, driveways etc.

### 5.4. Traffic Impact Statement

A Traffic Impact Statement explaining likely traffic generation, capacity or the ability of existing local road network and proposed measures to accommodate future increase of traffic in the existing road network, relationship to adjacent transport network and safe access and egress to the site prepared by a suitably qualified and experienced traffic engineer should be submitted.

## B. Development Applications for Multi dwelling Housing, Residential Flat Building and Shop Top Housing

### 1. Access Report

An Access Report prepared by a suitably qualified consultant describing how the development will comply with the provisions of the National Construction Code, Disability Discrimination Act and Australian Standard 1428.1 should be submitted for applications for multi-unit developments.

### 2. Crime Risk Assessment Report/Statement

Crime Risk Assessment Report/Statement addressing the principles of CPTED (Crime Prevention Through Environmental Design) prepared by a suitable qualified and experienced person should be provided for development with more than 20 dwellings.

If required, the an applicant may be asked to submit additional information to enable Council effective assessment of the proposal. Before lodging a DA, the applicants is are encouraged to consult with Council's Development Services planning staff to ensure that all relevant issues are addressed and sufficient information is provided. To avoid possible delays in assessment of development proposals applicants are required to submit

good quality design and documentation with sufficient information demonstrating satisfactory compliance with aims and objectives of relevant plans/policies and guidelines including LEP 2012 and the DCP.

Applicants are also required to consult Council's Development Services planning staff on submission requirements for development that is ~~are~~ permitted within the R2 Low Density Residential, R3 Medium Density Residential,~~-~~ R5 Large Lot Residential, B1 Neighbourhood Centre and RE1 Public Recreation ~~-~~zones ~~within the site,~~ and ~~-~~for which checklists, development controls or submission requirements are not available.