Hawkesbury City Council

attachment 1

to

item 124

Draft Redbank at North Richmond chapter for public exhibition

date of meeting: 29 July 2014

location: council chambers

time: 6:30 p.m.

CHAPTER 8

REDBANK AT NORTH RICHMOND

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 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 of North Richmond residential area and Peel Park, west of the Belmont Grove rural residential area, and south of Redbank Creek. The site and surrounds is shown in Figure 8.2 Below:

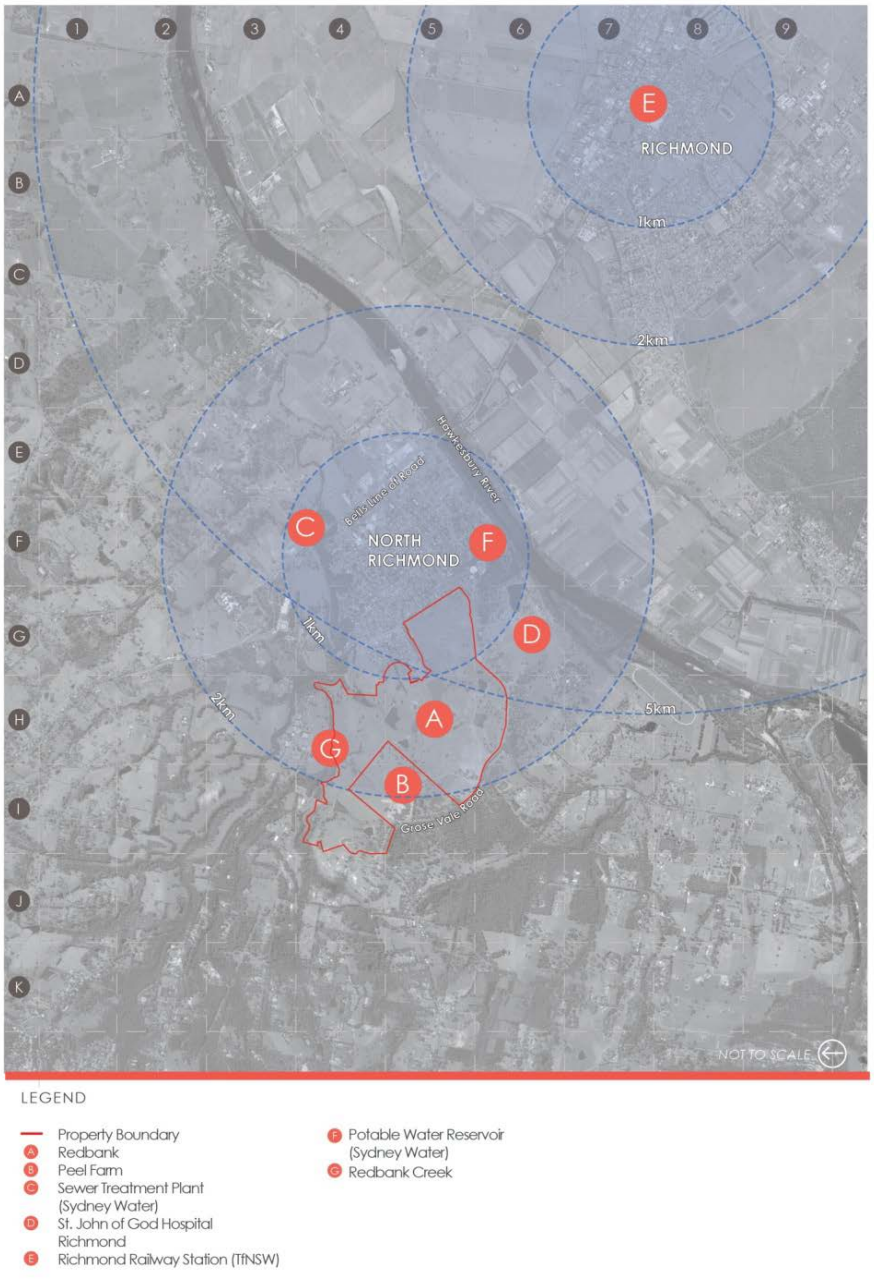

Figure 8.1: Location Map

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 that, 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. 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.

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 Figure 8.3). 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 concept is to be retained 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.

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:

Figure 8.4: Proposed Precincts

Table 8-1: Precinct Characteristics

Precinct	Key characteristics

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

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

Precinct	Key characteristics
Northern valley 	• Broad open valley with northern precinct aspect sloping towards Redbank Creek • Suburban character comprising single, detached houses located on lots predominantly approaching 450m^2 or greater • Open space areas will have an informal and naturalistic character providing pedestrian and ecological connectivity throughout the valley • Open space areas encompassing the historical features of the Redbank property • Walking trails along Redbank Creek
Rural valley 	• Undulating, elevated land with a generally northern precinct aspect sloping towards Redbank Creek • A distinct north, south valley falling into Redbank Creek • 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 • Minimum lot size is 1,500m^2, with a greater average lot size • Fencing is typically specific types of post and rail fencing • The precinct incorporates areas of remnant Cumberland Plain Woodland and River Flat Eucalypt Forest • The existing dam in the lower part of the precinct is retained • Large areas of informal parkland and open space providing pedestrian and ecological connectivity throughout the valley • Open space areas encompassing the heritage features of the Redbank property

Precinct	Key characteristics
Eastern Valley 	• Smaller precinct directly adjacent existing North Richmond and Grose Vale Road • Undulating land with a generally northern aspect sloping towards Redbank Creek • Suburban character comprising single, detached houses located on lots predominantly approaching 450m^2 or greater • Smaller lots and areas of medium density housing provided in locations as per zoning • 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 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 explain why variation is needed and demonstrate how the desired character and general objectives are to be achieved.

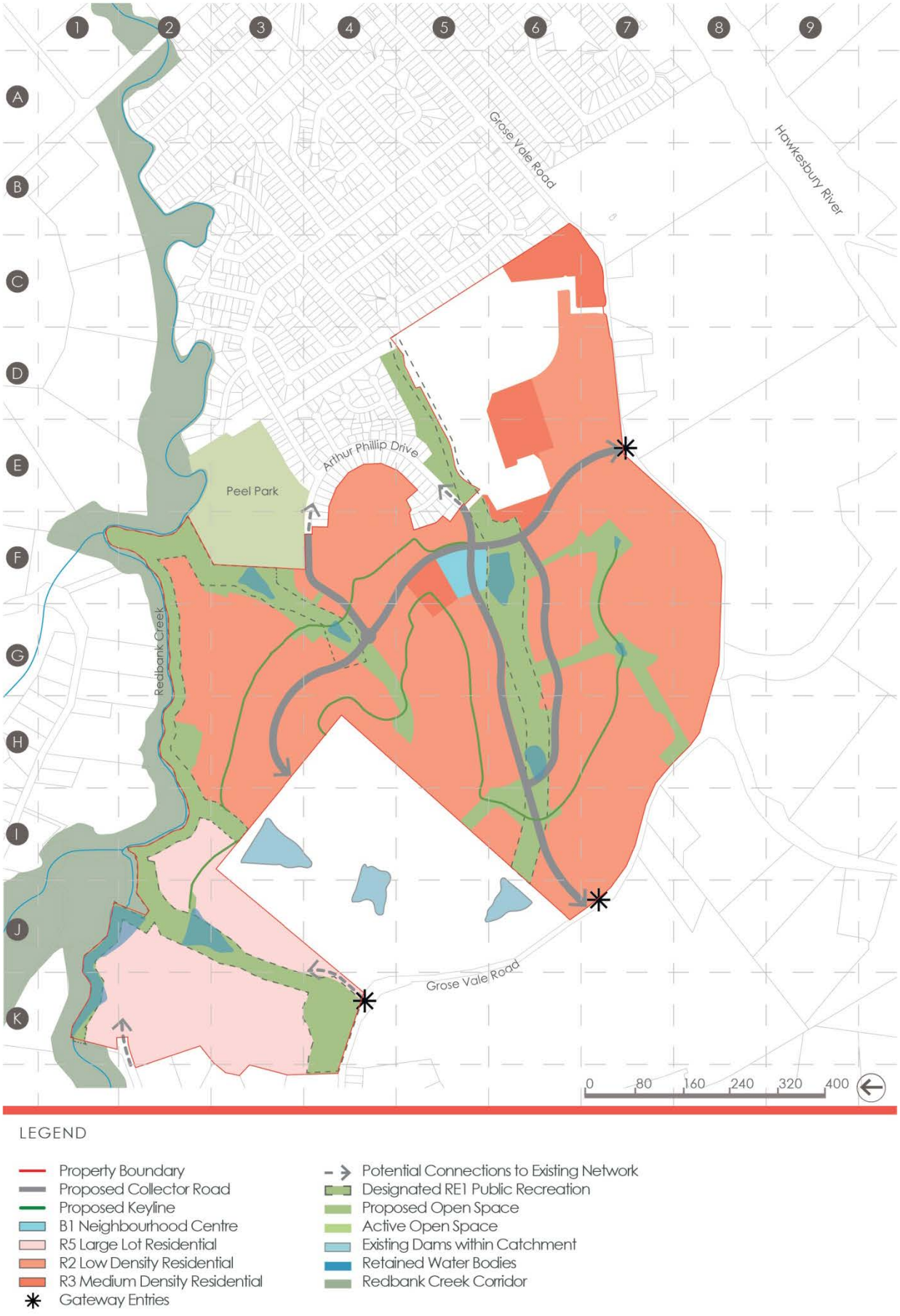

Figure 8.5: Development Plan

8.3.3 HERITAGE CONSERVATION

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

v. retention or adaptation of dams

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 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 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
5. Where the retention of dams in their existing condition is not safe or practical, they are to be reconstructed as water-bodies or removed
6. Permanent and Semi-permanent water-bodies are to be created to maintain water high in the catchment, with linkages to the prominent keyline feature via the open space focal points
7. 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. View corridors are to be provided as follows:
    i. View corridor 'A' providing a view from Grose Vale Road down along 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 open space corridor between rural valley and northern valley to Peel Farm

9. 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 water bodies through the modification, retention and adaption of Yeoman's elements
10. Indigenous heritage as shown are to be protected and retained in public ownership, and where appropriate, opportunities are provided for their interpretation
11. The design needs to address slope and subsequent lot size and configuration due to the sites topography and its historical reference to Yeoman's elements

VIEW CORRIDOR 'A' providing a view from Grose Vale Road down along 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

Figure 8.6 – Heritage Plan

Keyline Corridor Trees

The Keyline will be identified in the landscape with alternating signature tree species. 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 tree species 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 will be achieved by reinstating 300mm depth 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, these zones are composed of highly compacted sub base & foundations, which are poor conditions for tree root growth.

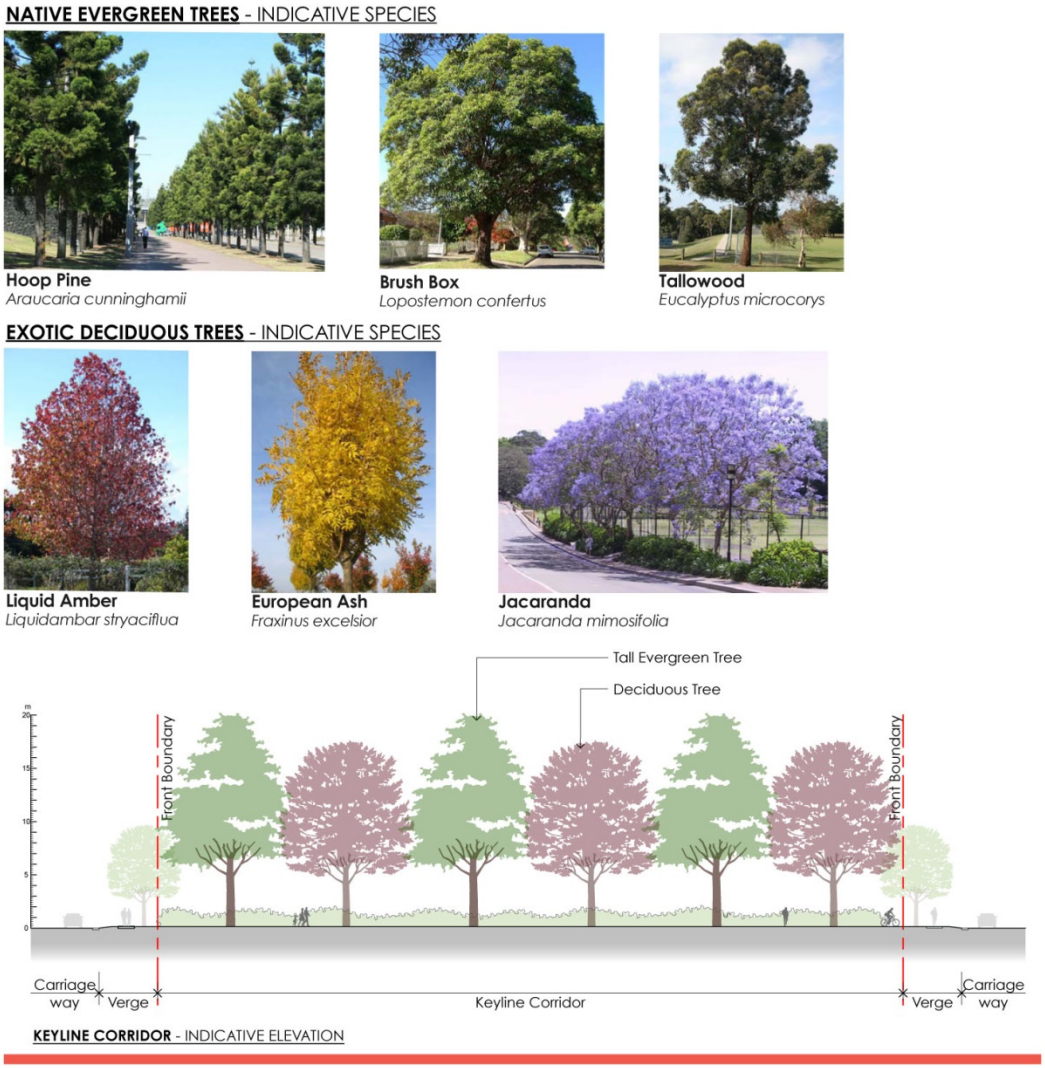

Figure 8.7 – Indicative Keyline Planting

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

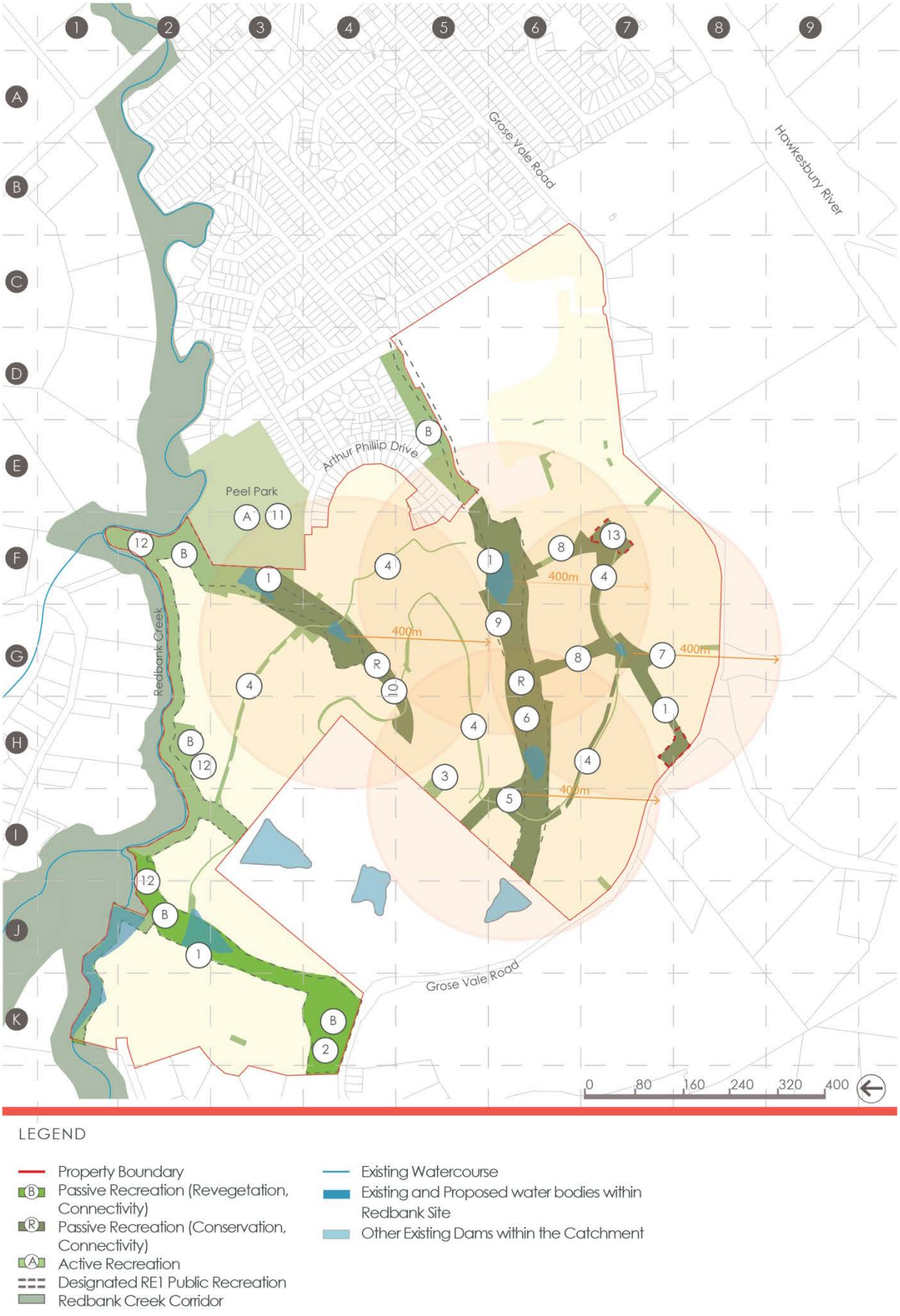

Figure 8.8 – Interpretive Openspace Embellishment Plan

Table 8.2: Interpretive Open Space Embellishment Plan

Refer to Figure 8.13	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. Heritage / Environmental Interpretive information
2			●	●	●					Remnant Cumberland Plain Woodland Pedestrian paths and Interpretive information Environmental Protection, revegetation / regeneration
3			●			●				Pocket Park within passive open space incorporating Seating / Shelters Historical and Environmental interpretive information
4			●	●		●	●			Keyline Linear corridor. Passive open space feature representing the keyline and incorporating: Heritage Interpretive Information, Pedestrian and Bicycle Paths. 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: Seating/ Shelters/ Lookout Point Grassy Kick-about Area Heritage Interpretive Information Pedestrian and Bicycle Paths
6	●		●	●		●		●		Passive open space incorporating: Seating Grassy Kick-about Area Heritage/Environmental Interpretive Information Pedestrian and Bicycle Paths
7			●			●		●		Local park and playground within passive open space incorporating: Seating/ Shelters Grassy Kick-about Area Heritage Interpretive Information Pedestrian and Bicycle Paths
8	●		●	●						Passive open space providing connectivity and a "green" link between small parks and larger areas of open space Pedestrian Paths
9	●		●			●		●	●	Community Centre adjacent a local park set in passive openspace. A regional destination for the broader community providing a range of recreational opportunities including: Playground Boardwalks Grassy Kick-about Area Seating/ Shelters/ Picnic / BBQ Heritage Interpretive node Carparking and Bus stop

Refer to Figure 8.13	Stormwater Management	Active Recreation	Visual Amenity	Connectivity	Environmental Conservation	Passive Recreation	Heritage Conservation - Keyline	Heritage Conservation	Social Hub	Note: Continued from previous page
										Pedestrian and Bicycle Paths
Ref#	Description									Indicative Facilities
10	●		●	●		●				Playground Seating/ Shelters Heritage Interpretive Information Pedestrian and Bicycle Paths
11		●	●	●						Existing Peel Park - Primarily for active recreation Catering to district catchment with: Sportsfield, Hardcourts Training and informal kickabout areas Off Leash Dog Walking BMX Track Seating/ Shelters/ Picnic Heritage/ Environmental Interpretive Information Carparking and Bus Stop Pedestrian and Bicycle Paths
12			●	●	●	●		●		Redbank Creek Riparian Corridor Revegetated or regenerated with pockets of informal recreation opportunities including: Seating/ Shelters Grassy Kickabout Area Heritage/ Environmental Interpretive Information Pedestrian and Bicycle Paths
13			●			●				Pocket park within passive open space incorporating: Seating/ Shelters Grassy Kickabout Area Heritage Interpretive Information Pedestrian and Bicycle 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 tereticomis
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 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 Keyline elements within the water management network

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

Development Controls

1. Selected (see Figures 8.6 and 8.8) existing dams are to be retained, modified or adapted to become feature water-bodies, or removed. The specific dams will be confirmed with the development application process
2. 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. The Yeoman's feeder and irrigation drains are to be represented through conveyance of stormwater from frequent rainfall events in Keyline swales
4. Rainfall is to be retained on site where possible for re-use through improved groundwater retention
   i. 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 garden
5. Subdivision is to include measures for:
      i. street level treatment
      ii. sub-catchment treatment
      iii. overall site catchment/s treatment
6. The following environment targets are to be met:
   - 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 laod

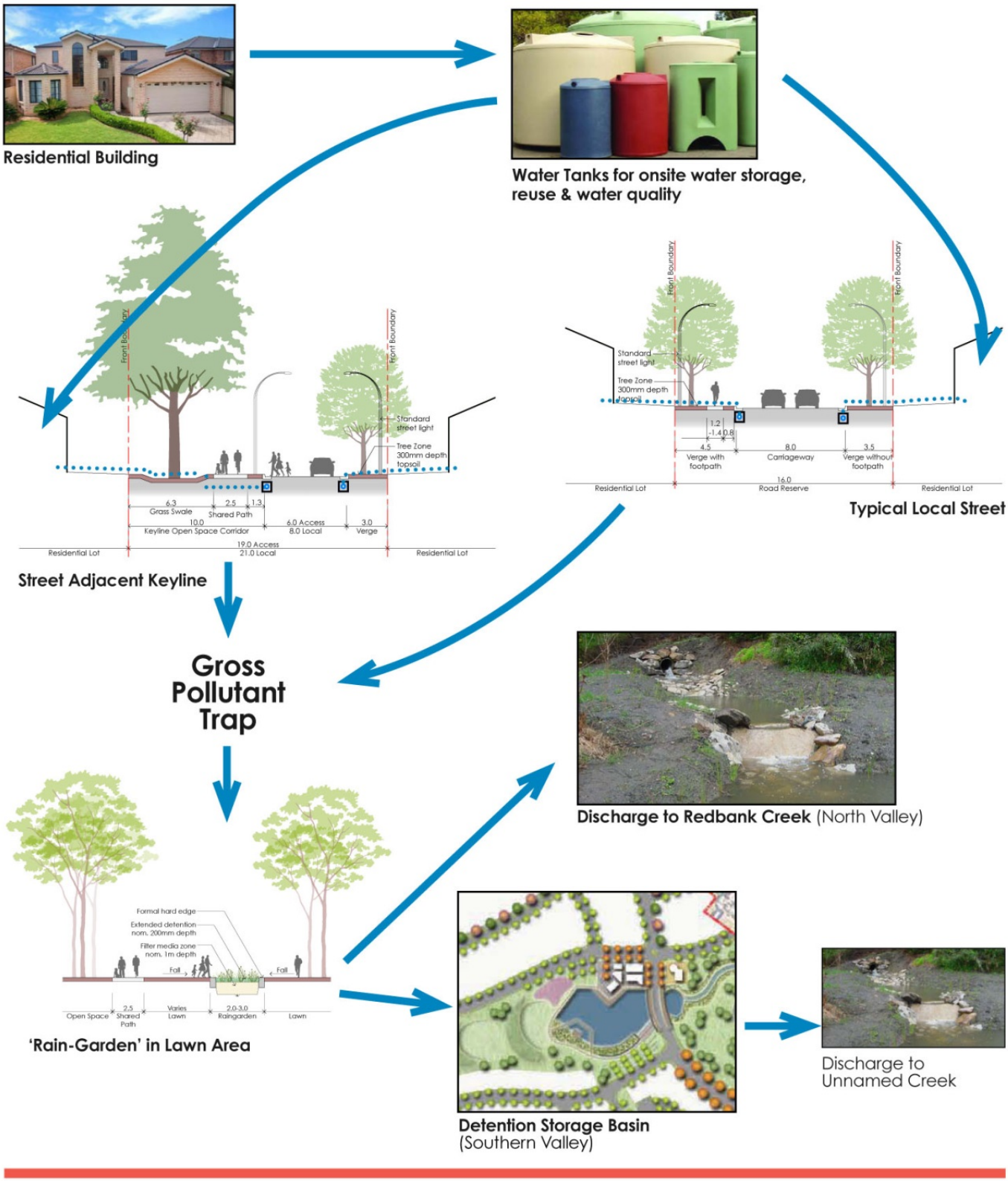

Figure 8.11 – Water Cycle Plan

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 8.12 is to be protected in public open space or where appropriate removed through due process eg. via 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 offsets
3. Riparian zones are to be provided generally in accordance with Figure 8.12
4. Treatments to Redbank Creek are provided generally in accordance with Figures 8.18, 8.19, 8.20 and 8.21
5. Water body edges and rain garden are generally in accordance with Figure 8.13, Figure 8.14, Figure 8.15 Figure 8.16 and Figure 8.17
6. Vegetation is planted in accordance with Figure 8.8 and comprises:
    i. predominantly indigenous species in public open space
    ii. predominantly deciduous trees in verges
7. Plantings to highlight special areas with distinct character such as the entry drive, Keyline and rural area

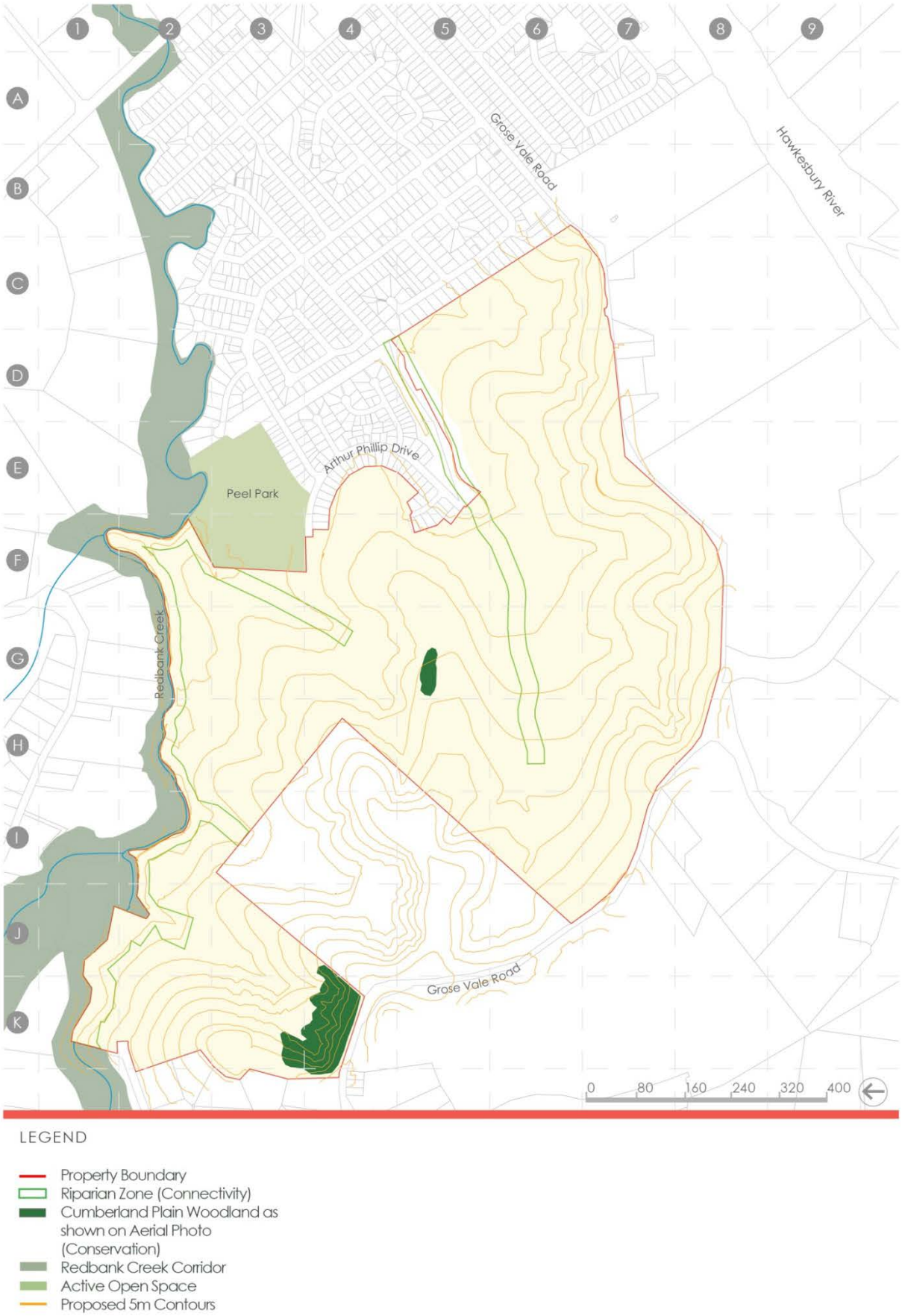

Figure 8.12 – Environmental Constraints

Water Body 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 open space zoning, with the exception of B1 zoning where the water body abuts the town centre promenade. These variations in edge treatments allow for flexibility in response to existing & proposed site specificities when designing the interface between land and water.

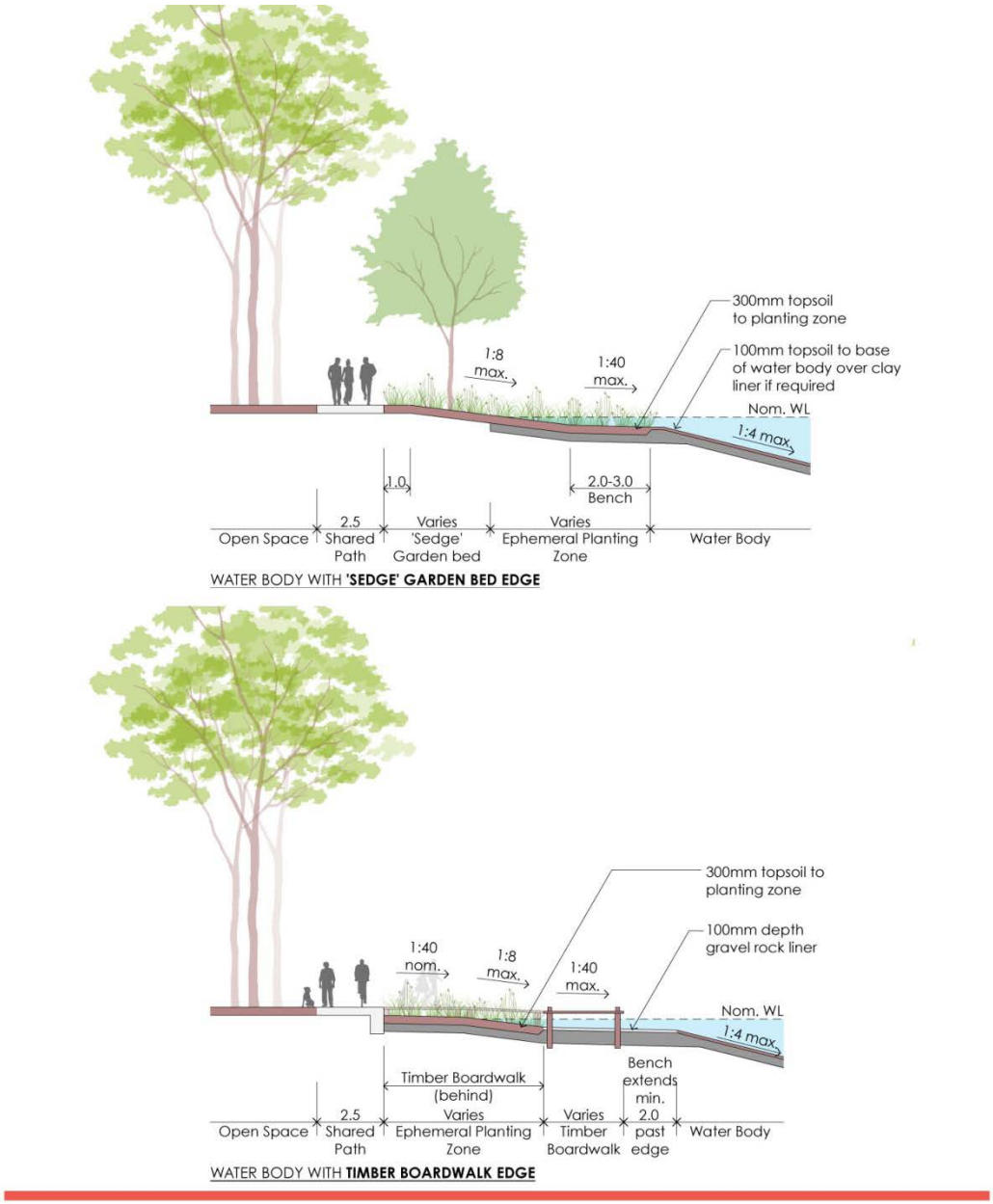

Figure 8.13 - Water Edge Sections

Water Body 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 open space zoning, with the exception of B1 zoning where the water body abuts the town centre promenade. These variations in edge treatments allow for flexibility in response to existing & proposed site specificities when designing the interface between land and water .

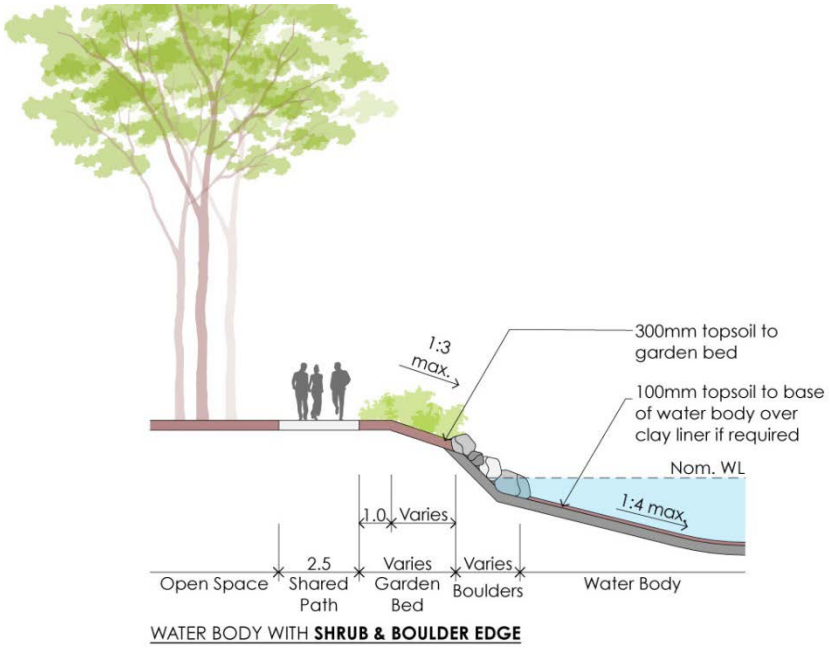

Figure 8.14 - Water Edge Sections

Water Body Edge Treatment

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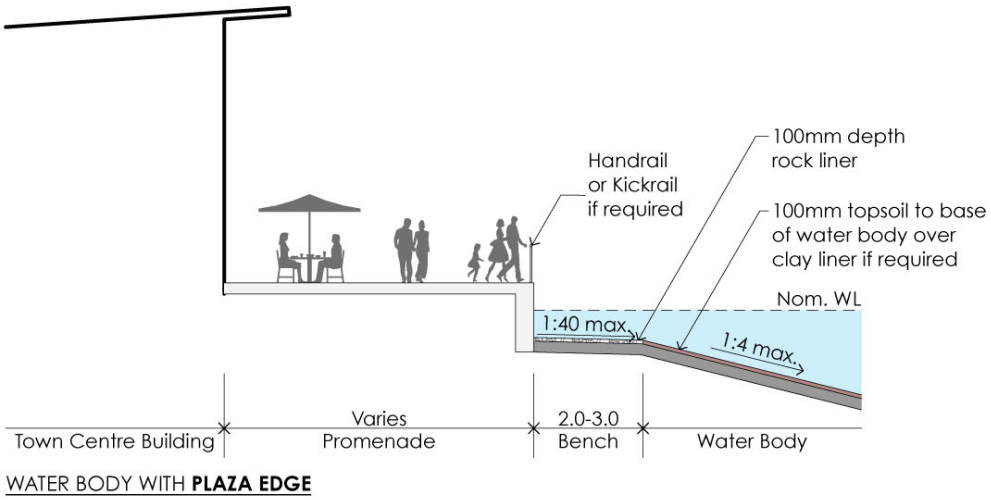
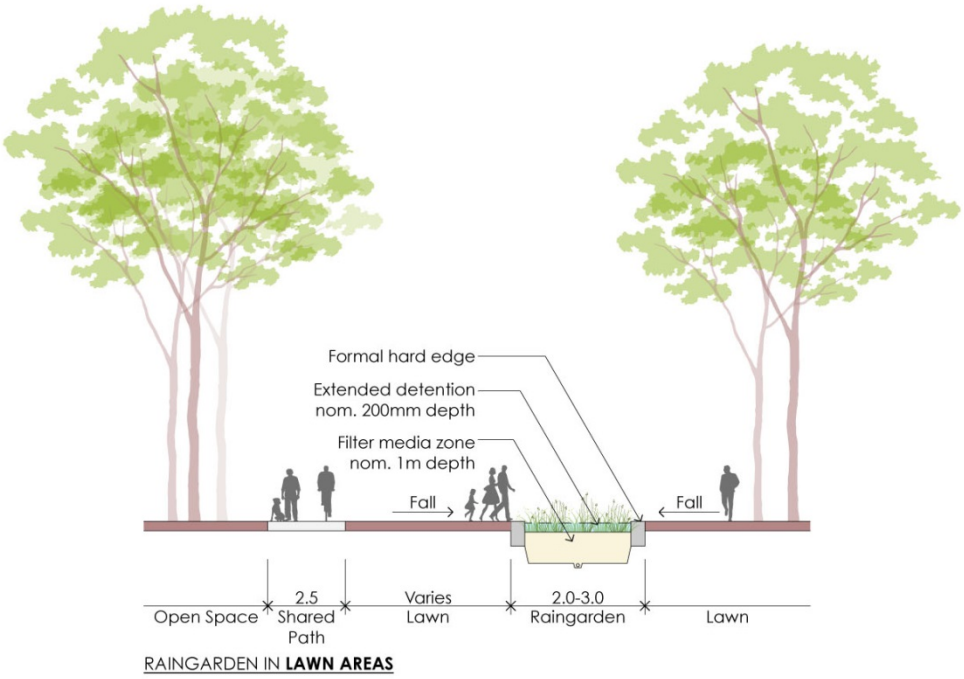


Figure 8.15_Water Edge Sections

Rain Garden Sections

These sections highlight several scenarios for rain gardens occurring within 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.



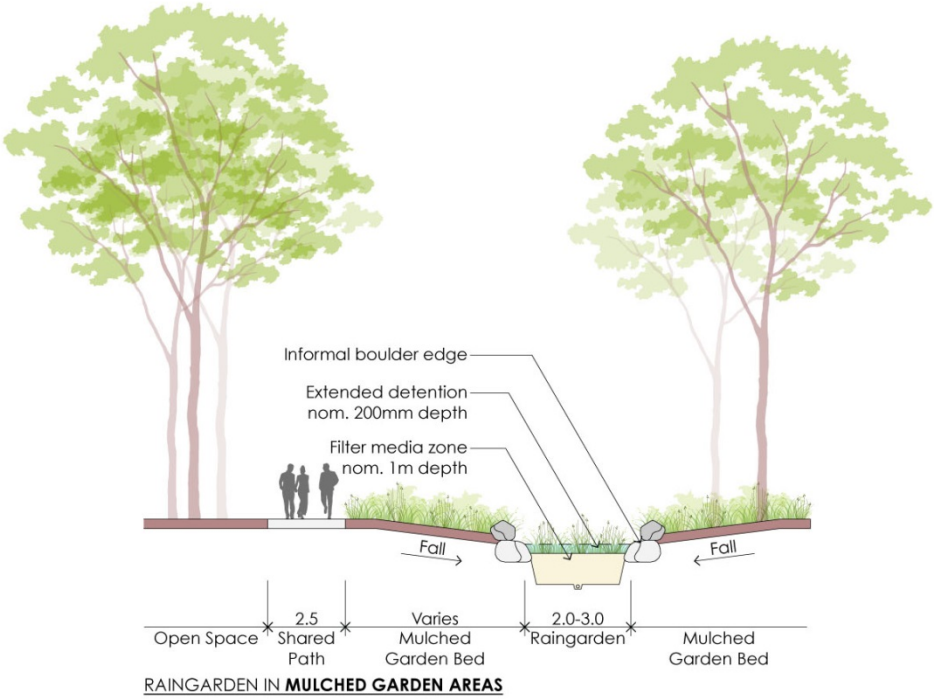


Figure 8.16 - Rain Garden Sections

Rain Garden Sections

These sections highlight several scenarios for rain gardens occurring within 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.

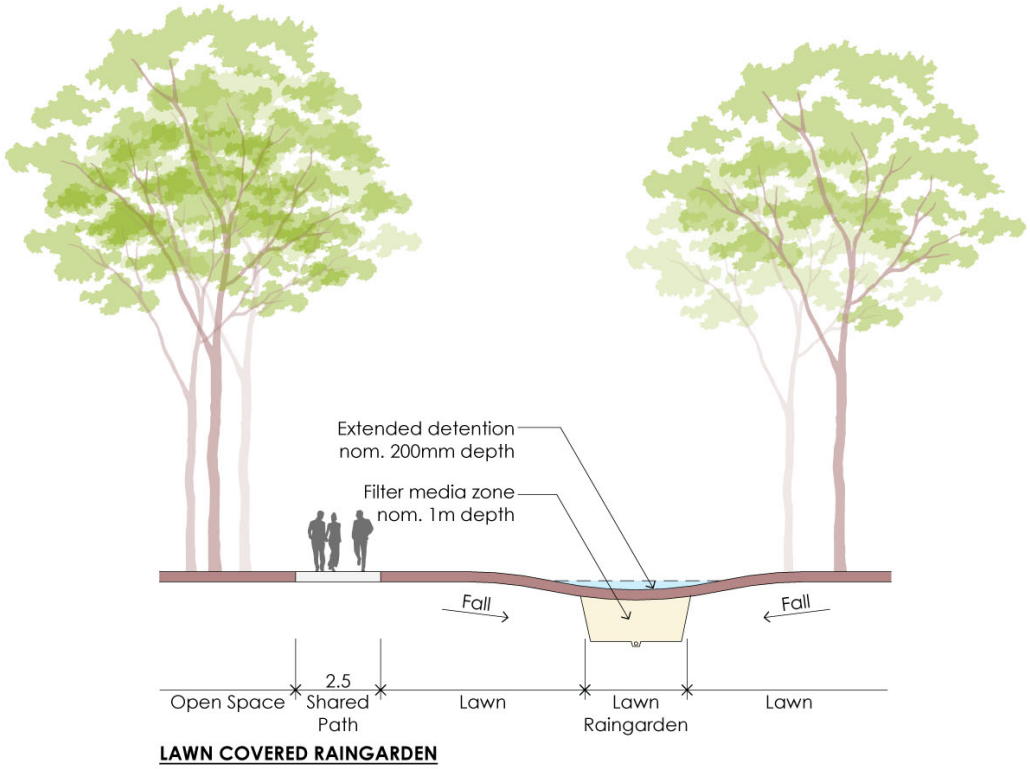
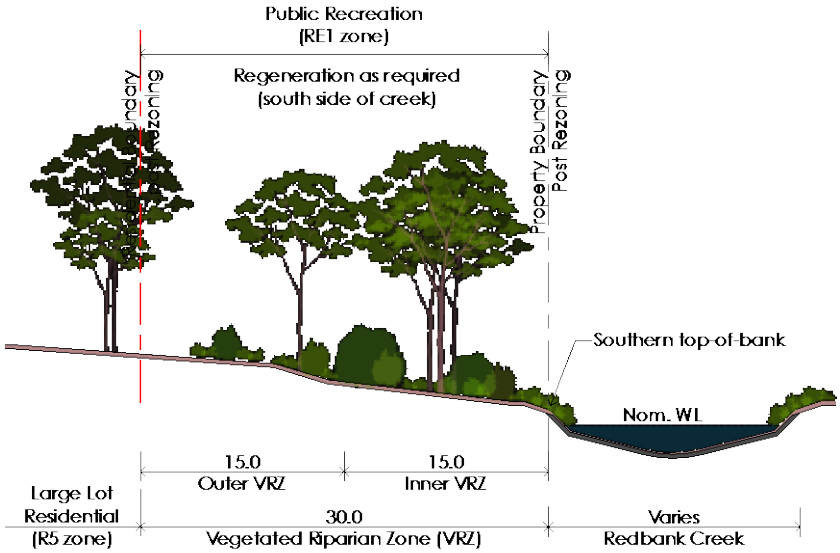


Figure 8.17 - Rain Garden Sections

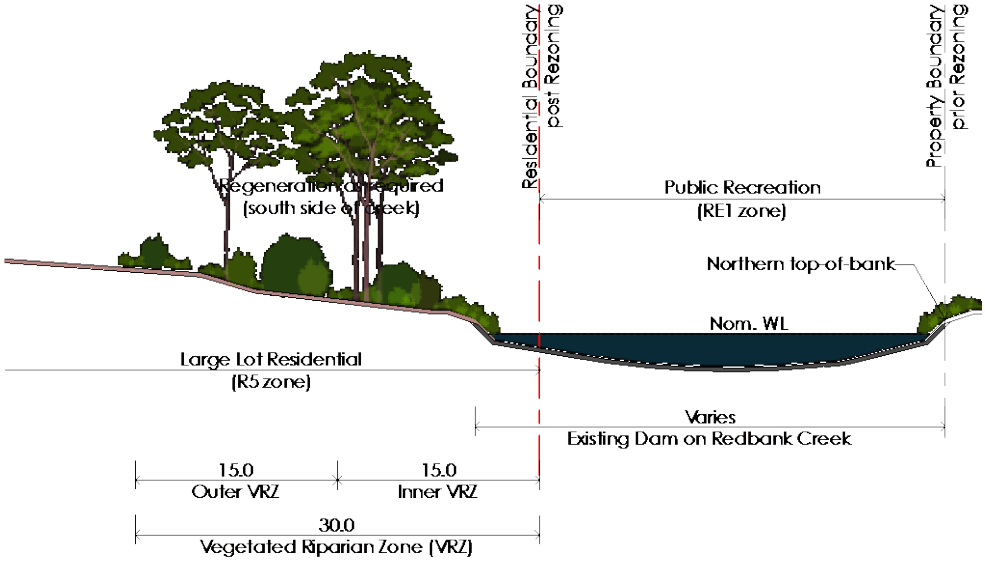
Riparian Corridor - R5 Zoning

The following sections address the Redbank Creek Riparian Corridor in relation to R5 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).



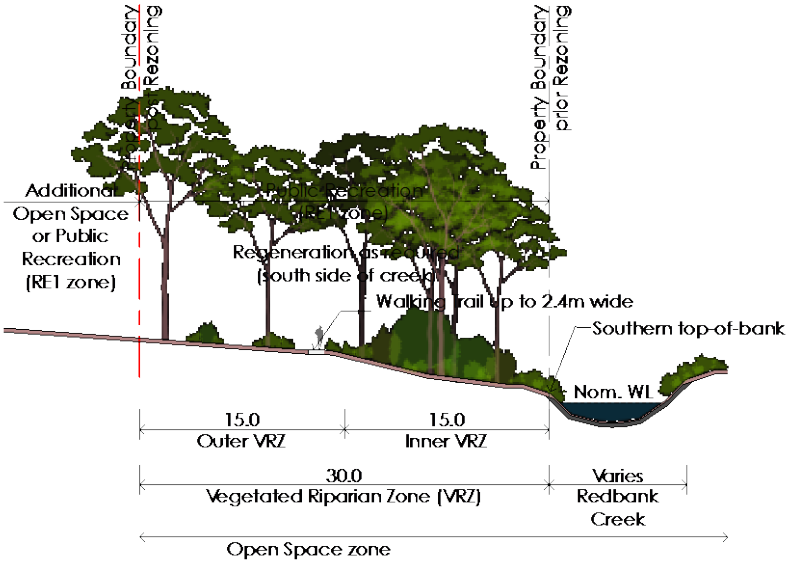
RIPARIAN CORRIDOR ***WITHIN R5 ZONING*** - TYPICAL SECTION

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 J1).

Figure 8.18 - Riparian Corridor – R5 zoning

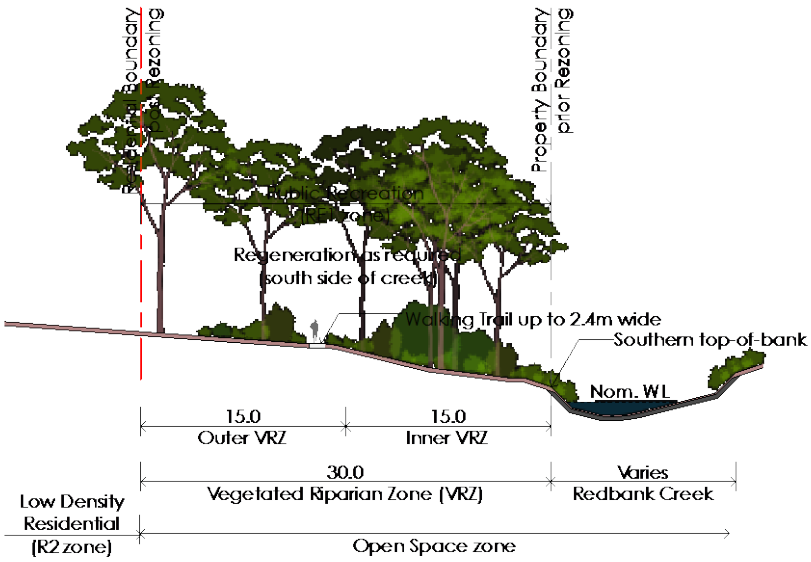
Riparian Corridor – R2 & Open Space Zoning

The following sections address the Redbank Creek Riparian Corridor in relation to R2 and Open Space zoning. 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 J1).



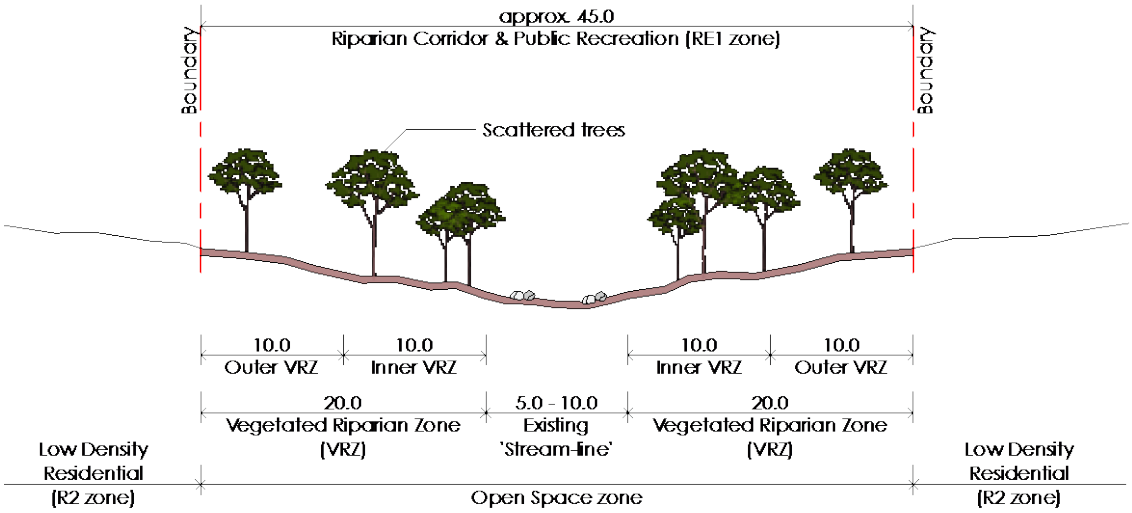
RIPARIAN CORRIDOR ***WITHIN OPEN SPACE & ADJACENT R2 ZONING*** - TYPICAL SECTION

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 + Open Space Zoning

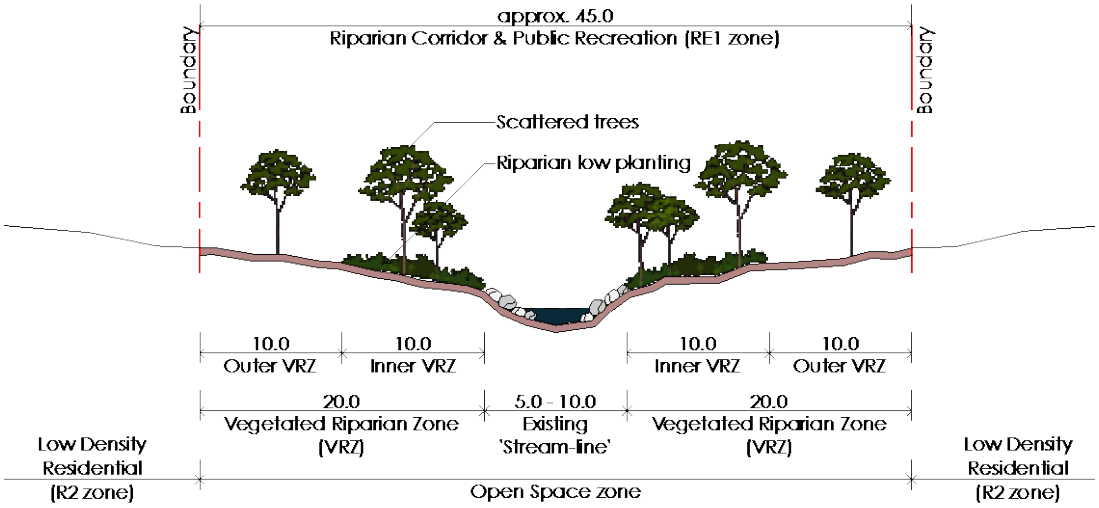
Riparian Corridor - Open Space Zoning

The following sections address Riparian Corridors within Open Space zoning and adjacent to R2 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.



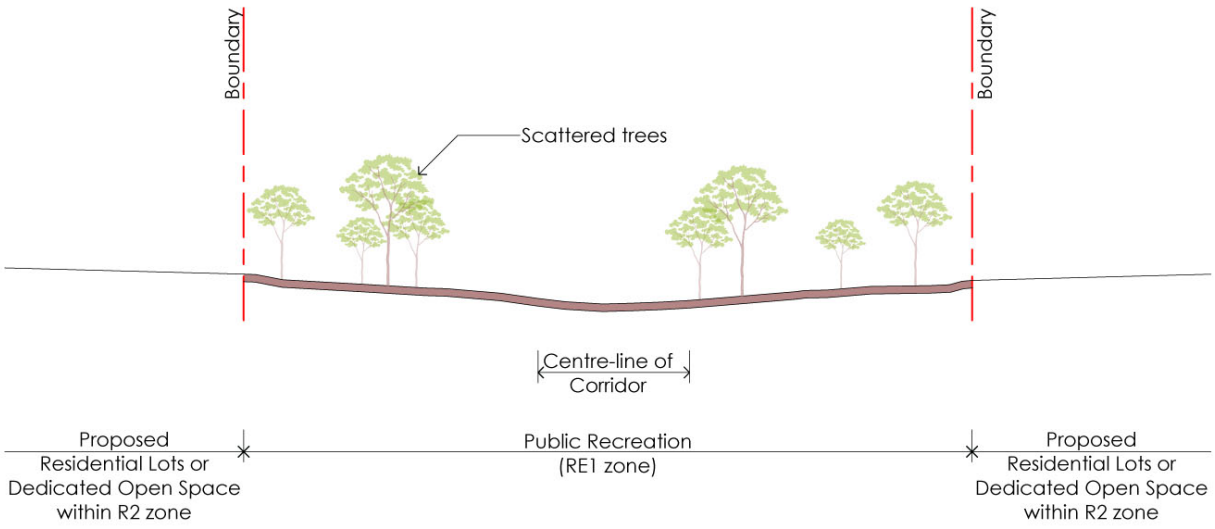
RIPARIAN CORRIDOR ***WITHIN OPEN SPACE ZONING*** - RIPARIAN ONLY AREAS

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 8.20 - Riparian Corridor - Open Space Zoning

Riparian Corridor - Open Space Zoning

The following sections address Riparian Corridors within Open Space zoning and adjacent to R2 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 8.21 - Riparian Corridor – 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 provided generally in accordance with Figure 8.22
2. Streets are designed generally in accordance with Figure 8.23 through to Figure 8.46
3. No direct vehicle vehicular access of an individual lot is permitted to and from onto Grose Vale Road
4. The Entry Drive and Collector roads are to create to provide a distinct sense of entry from Grose Vale Road
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
6. The Collectors 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
7. Water sensitive urban design is to be incorporated within identified streets, in particular keyline verges, to capture and infiltrate stormwater
8. Where bordering public open space, these streets are to maximise opportunities for pedestrian and cyclist access and casual surveillance
9. Street furniture for example is to include seating in conjunction with street lighting and lighting of selected adjacent open space areas is to enhances the attractiveness, comfort and safety of streets and adjacent areas,
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

11. Footpaths and shared cycle paths are to be provided on both sides of the Entry Drive and Collector roads
12. Pedestrian and cycle paths are to be located and designed to suit the Vision

Mobility - Bus Network

13. The bus network is to be provided generally in accordance with Figure 8.22
14. Bus stops are to be located within the neighbourhood centre and generally to serve 400m walking catchments
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 lighting and signage and may include a shelter and seating

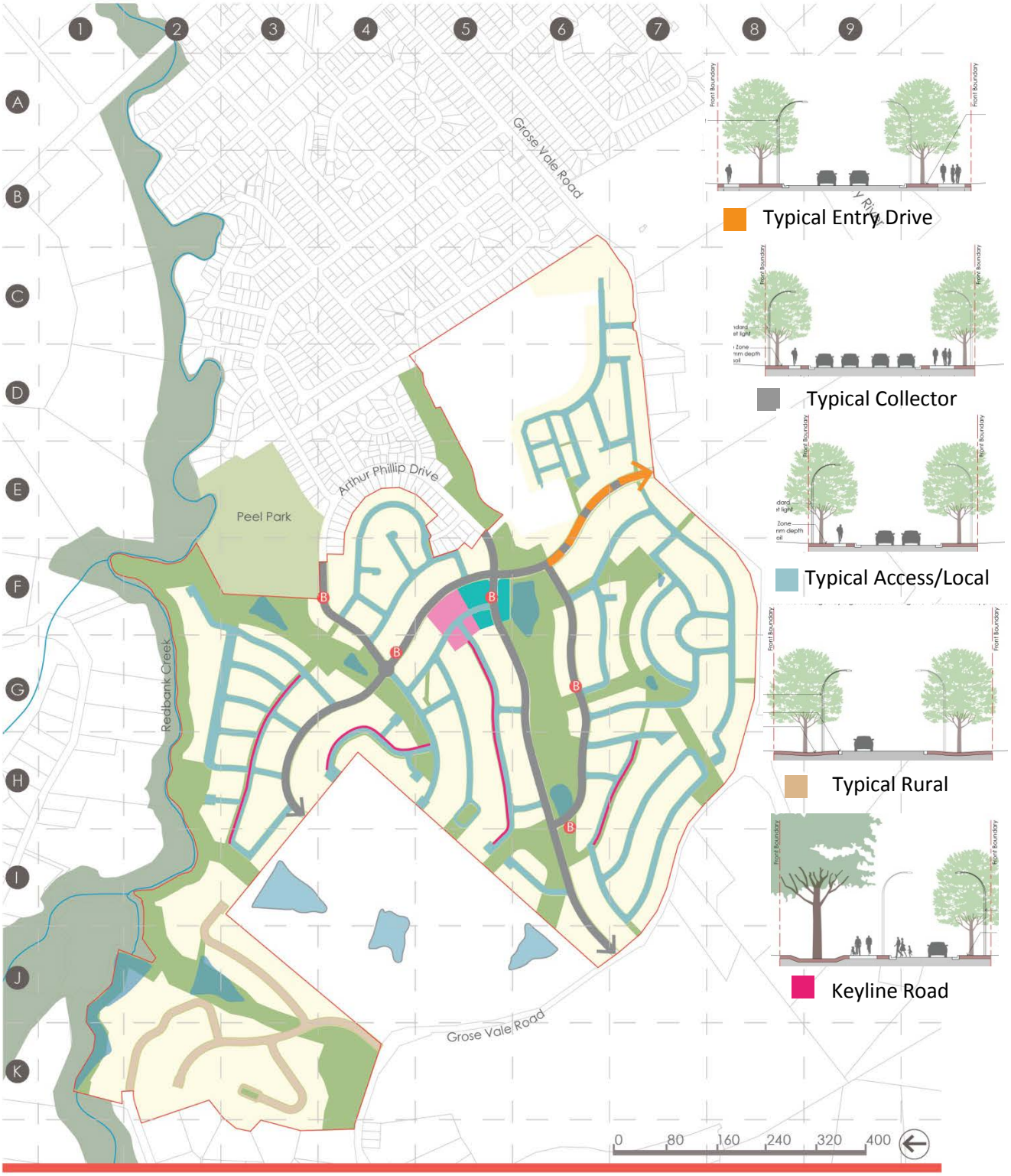


Figure 8.22 - Street Hierarchy Plan

LEGEND

- Property Boundary
- Boulevard
- Collector Road
- Access/Local Street
- Rural Road
- Proposed Bus Stops
- Proposed Open Space
- B1 Neighbourhood Centre
- R3 Medium Density Residential
- Redbank Creek Corridor
- Proposed Local Street Network
- All Water Bodies
- Existing Dams within the Catchment

Verge Variations - Footpath

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

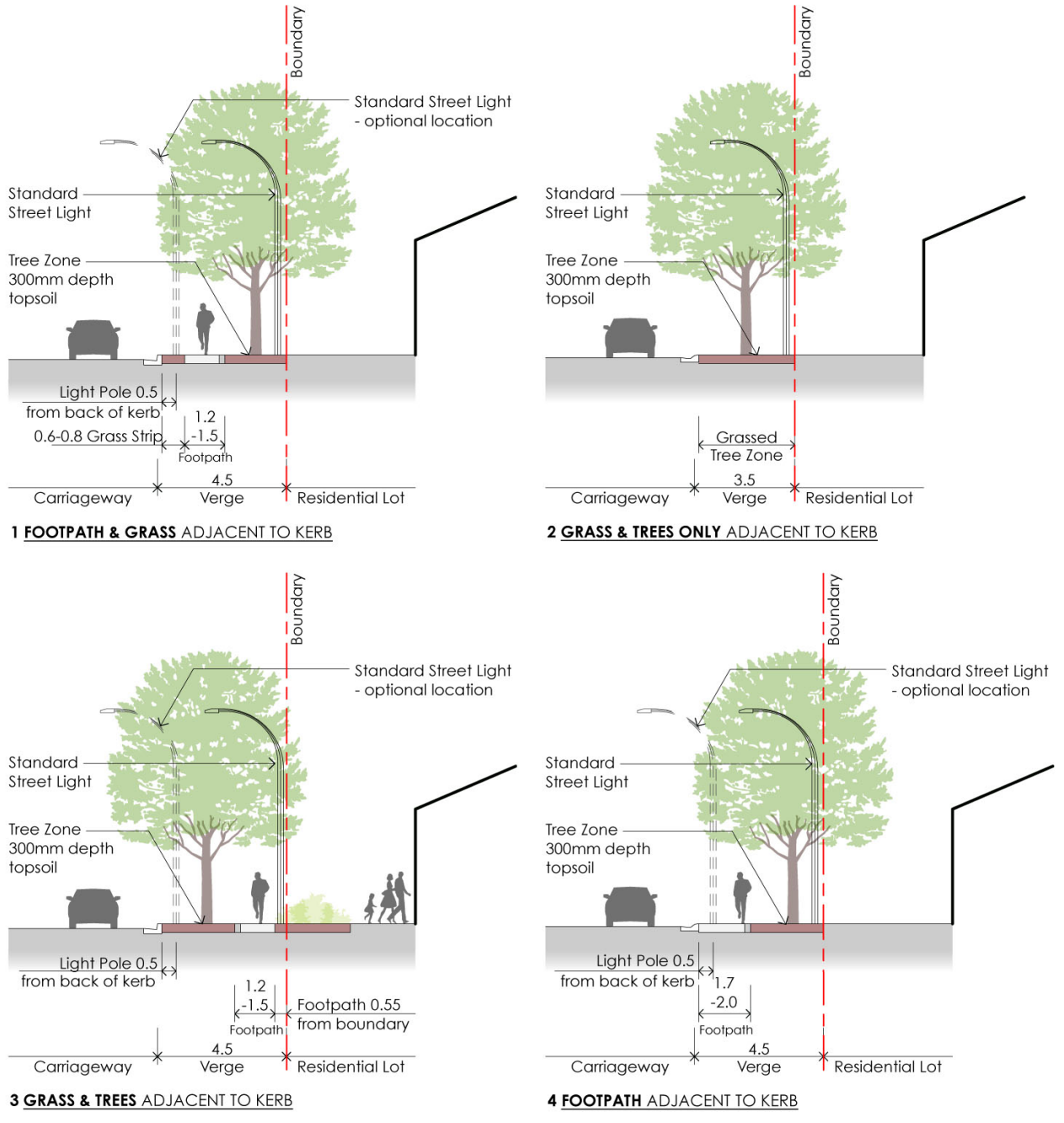


Figure 8.23 - Verge Variations - Footpath

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.

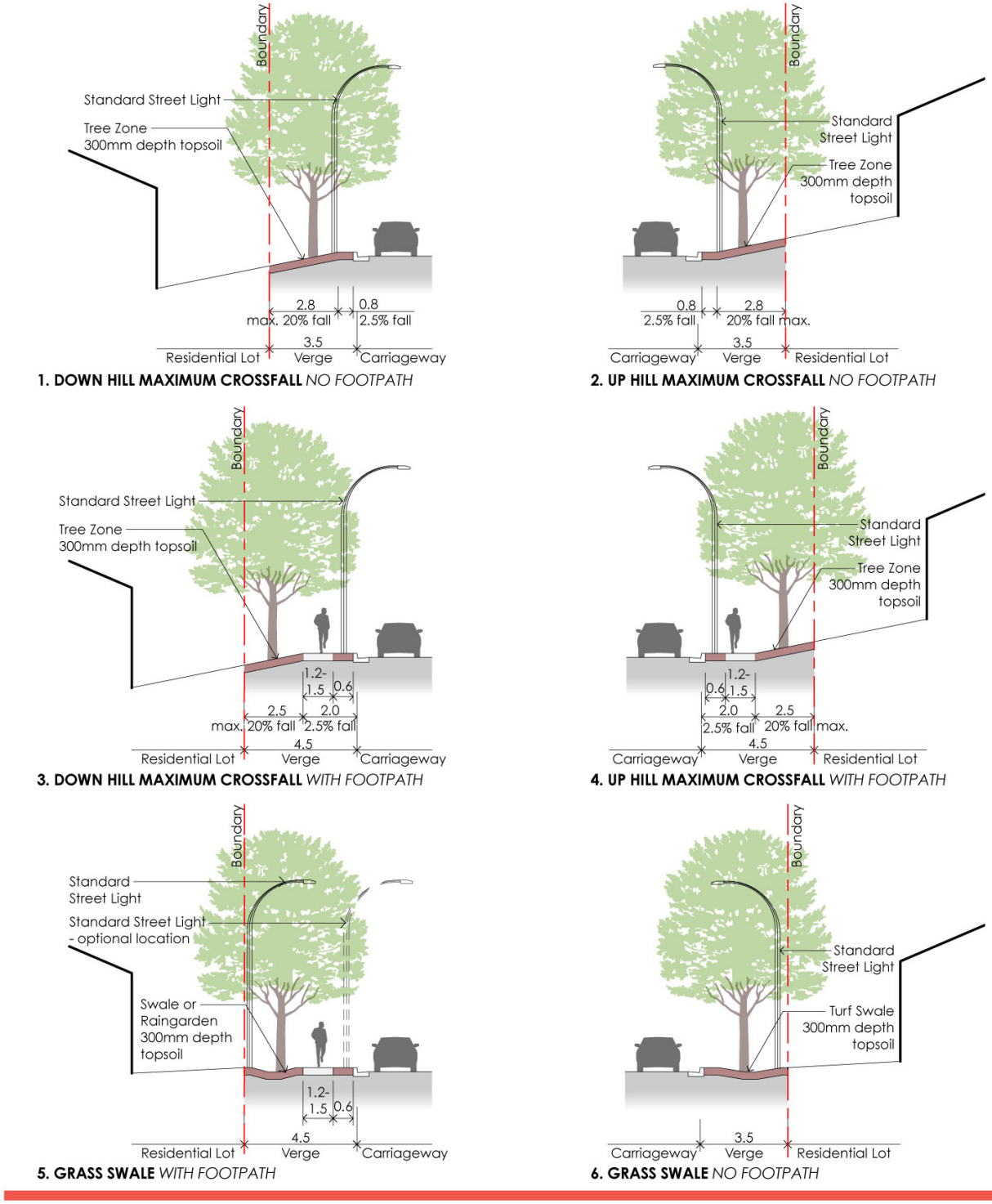


Figure 8.24 - Verge Variations - Grading

Driveways - Typical Treatment

Driveways will typically transition across front property boundaries into road reserves. The driveway treatment within residential lots 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 will be clearly defined with a continuous typical treatment of broom finished concrete without tooled margins. The driveway and layback extending to the carriageway will also be broom finished concrete.

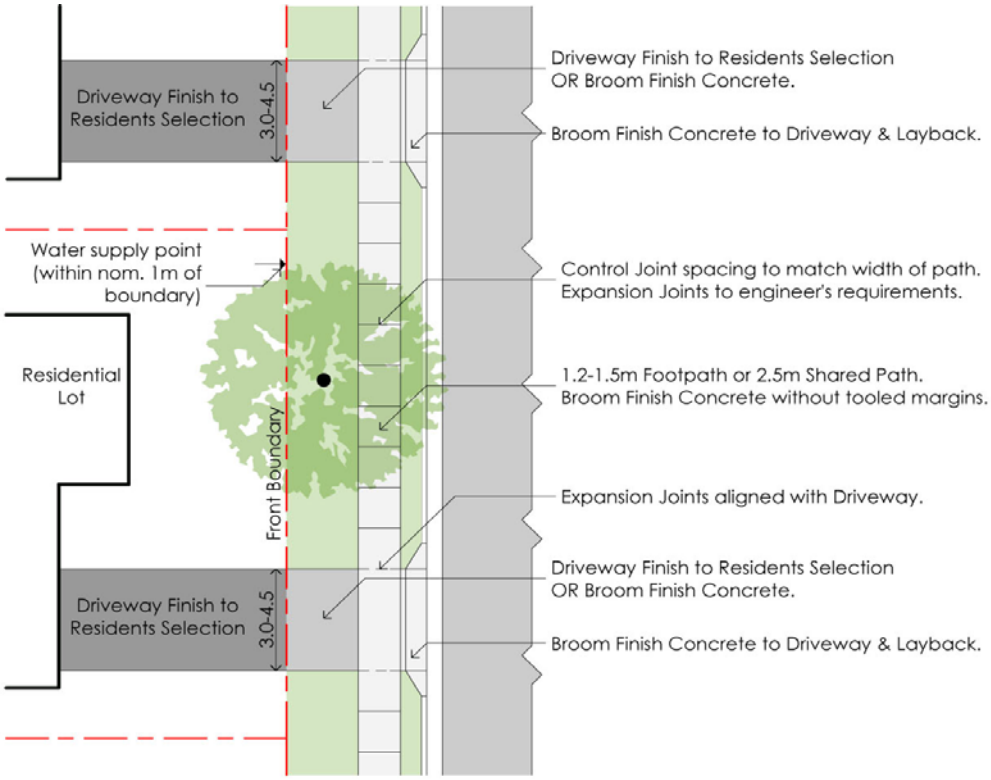


Figure 8.28 Driveways - Typical Treatment

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.

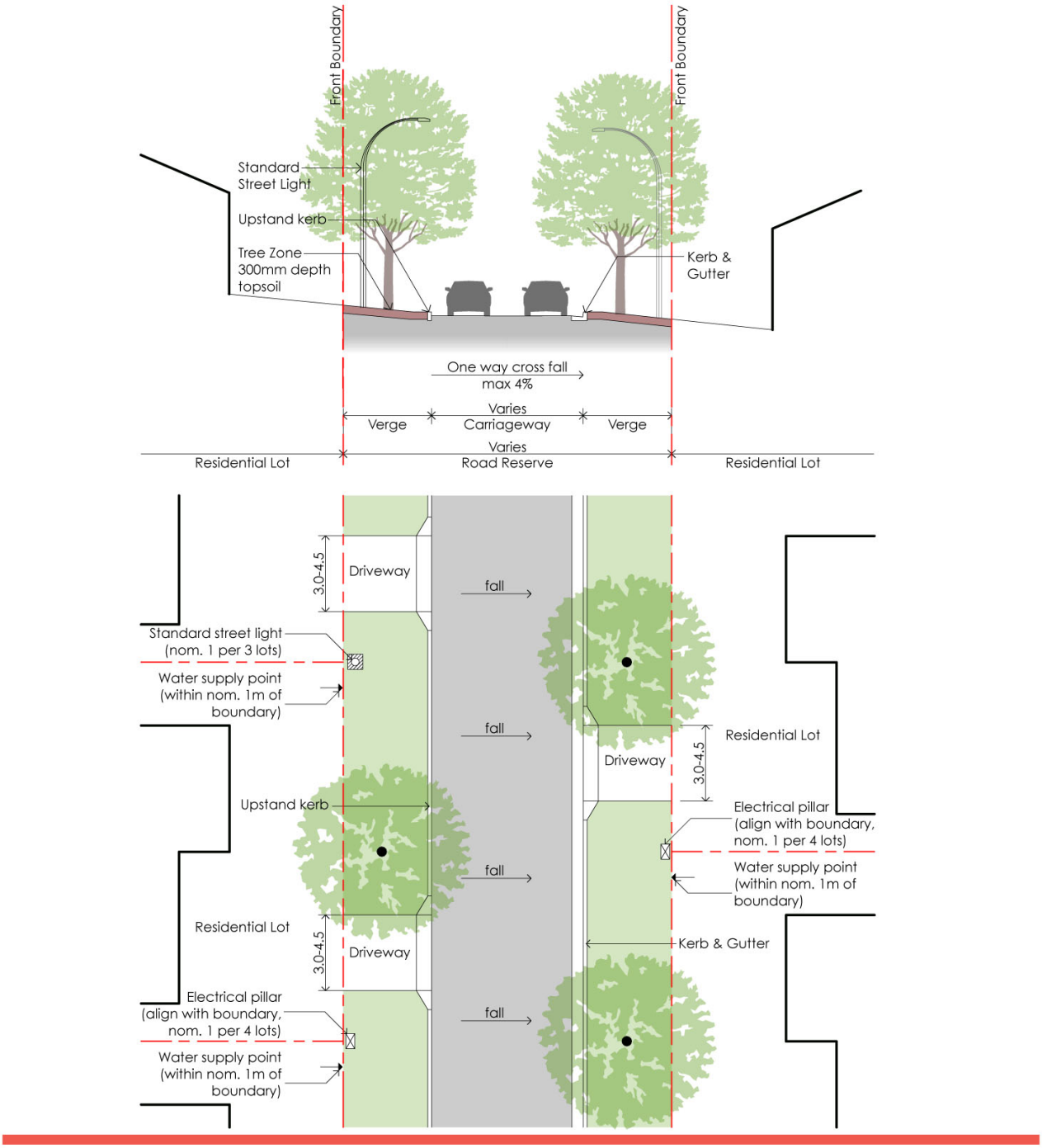


Figure 8.26 - Street Variations

13m Access Street

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 3.5m wide with grass and trees centrally located. Access roads occur within R2 and R3 zoning.

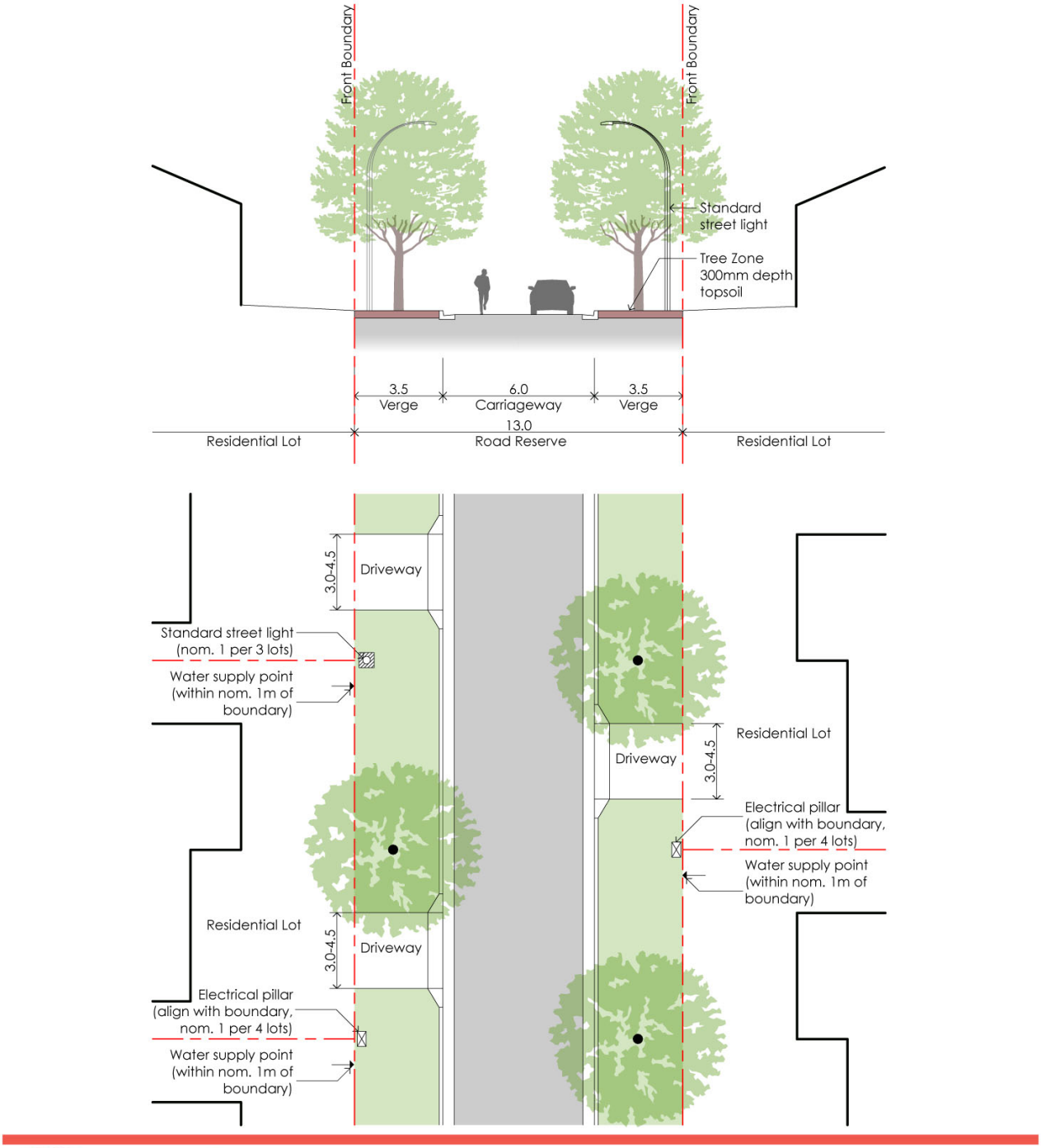


Figure 8.27 – 13M Access Street

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 3.5m wide with grass and tree only and 4.5m wide with paved footpath, tree and grass. Local streets occur within R2 and R3 zoning.

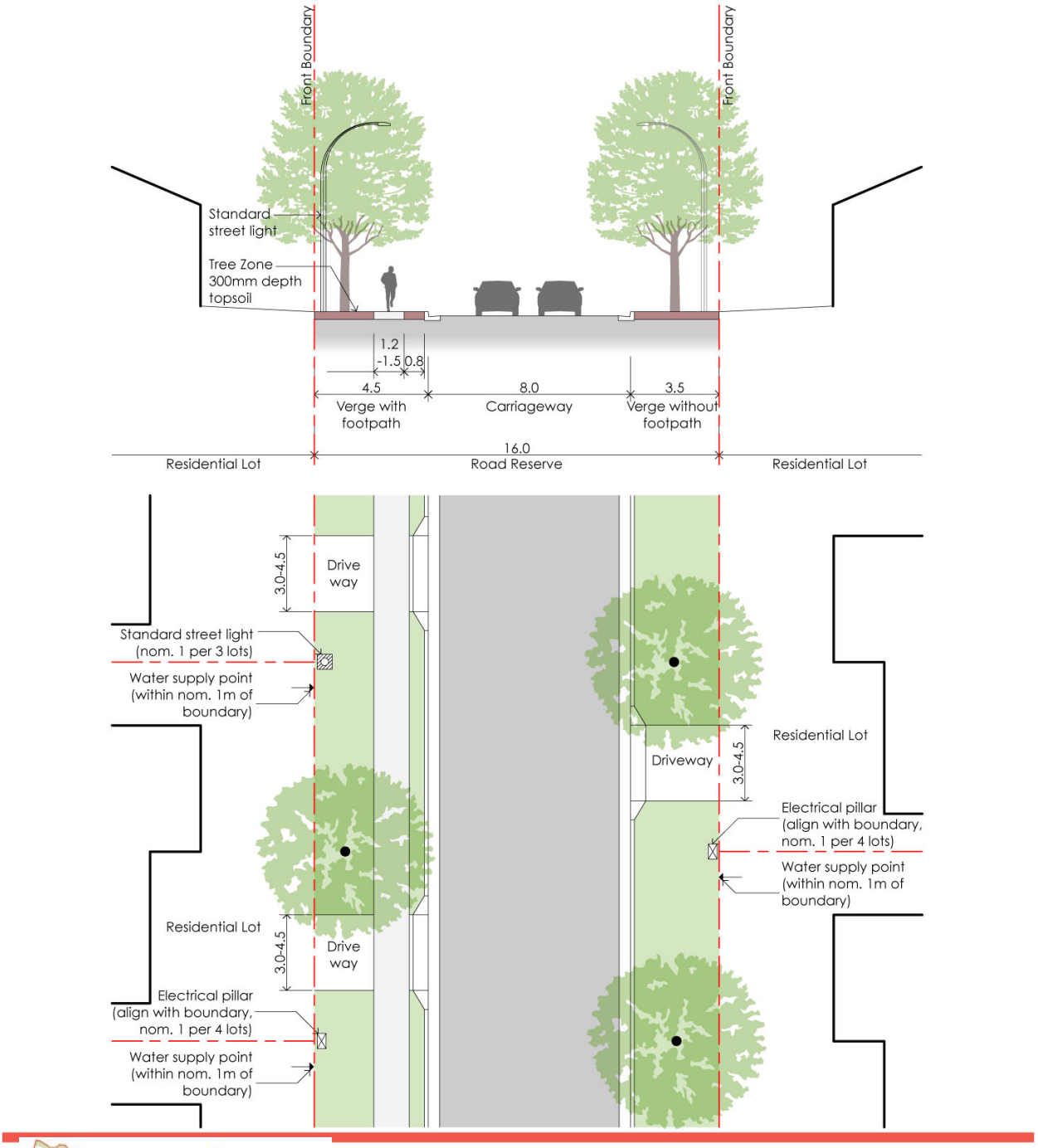


Figure 8.28 - 16M Local Street

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 R2 and R3 zoning.

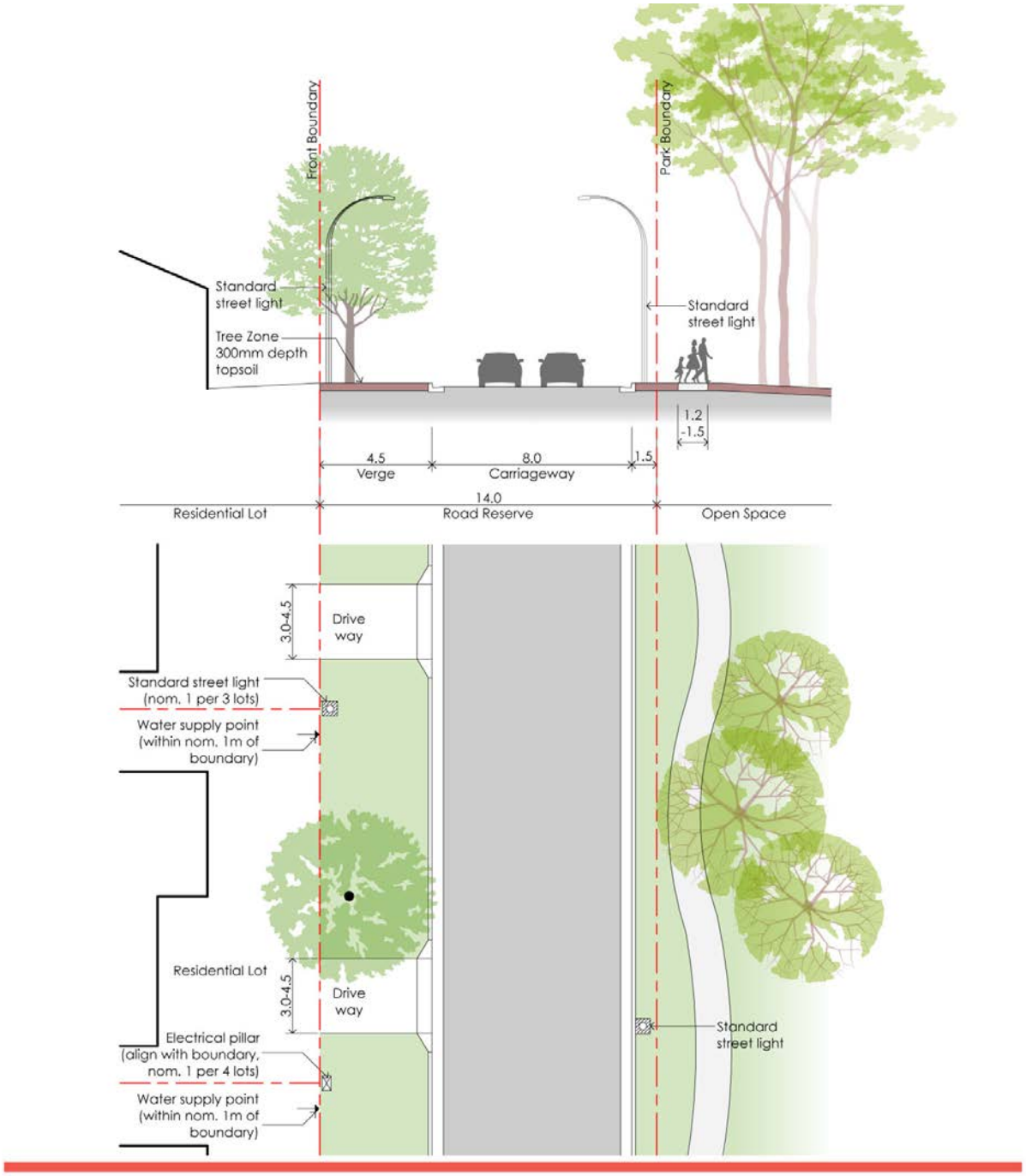


Figure 8.29 - Local Street Variation

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

Local streets which are proposed along the existing transmission line will be dual carriageway, each at 3m wide. A 14m wide median strip 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 will be 5.0m wide and extend beyond the 30m easement to allow for a buffer & tree zone. This type of local street occurs within future R2 zoning.

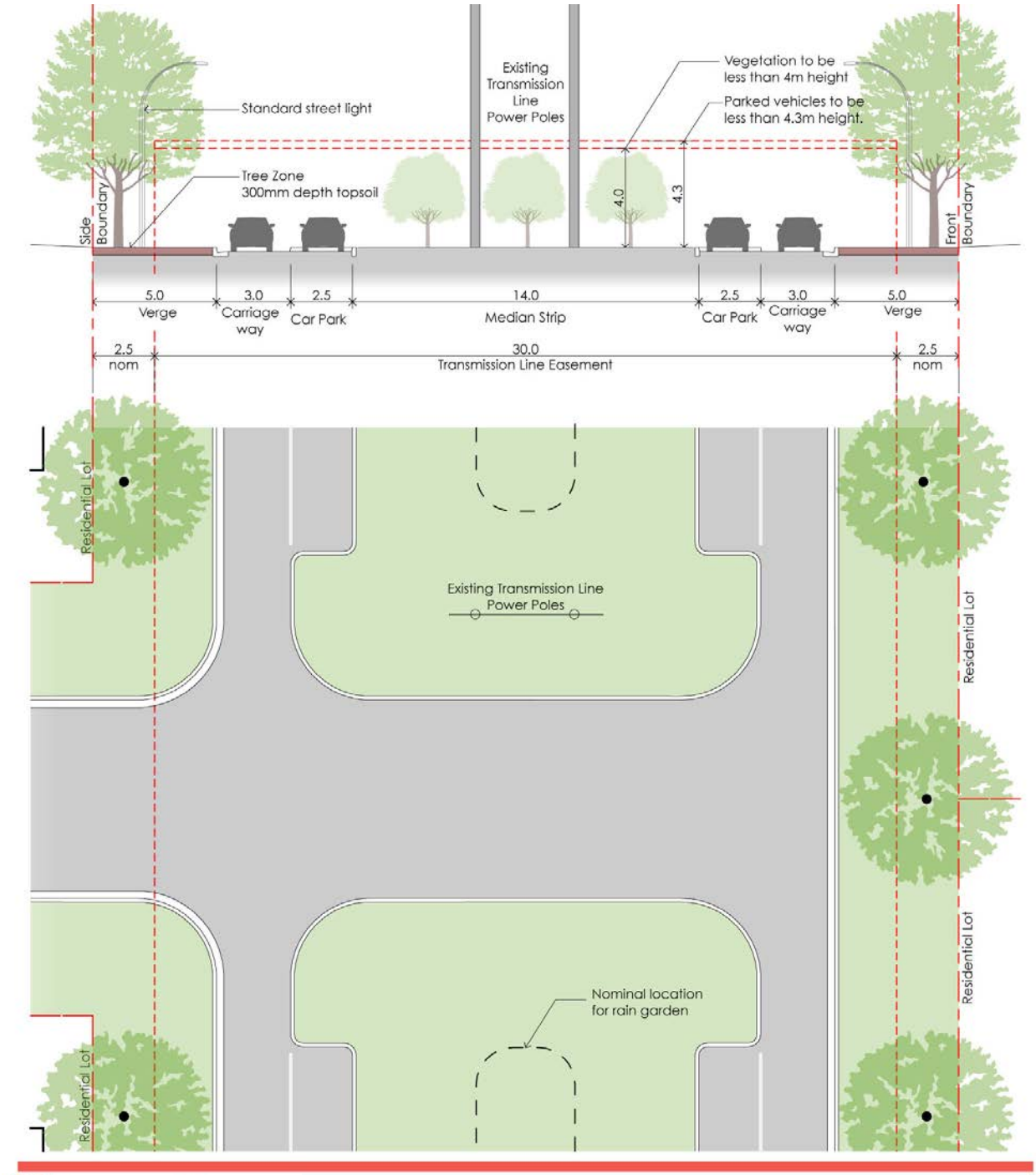


Figure 8.30 - Local Street Variation

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

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

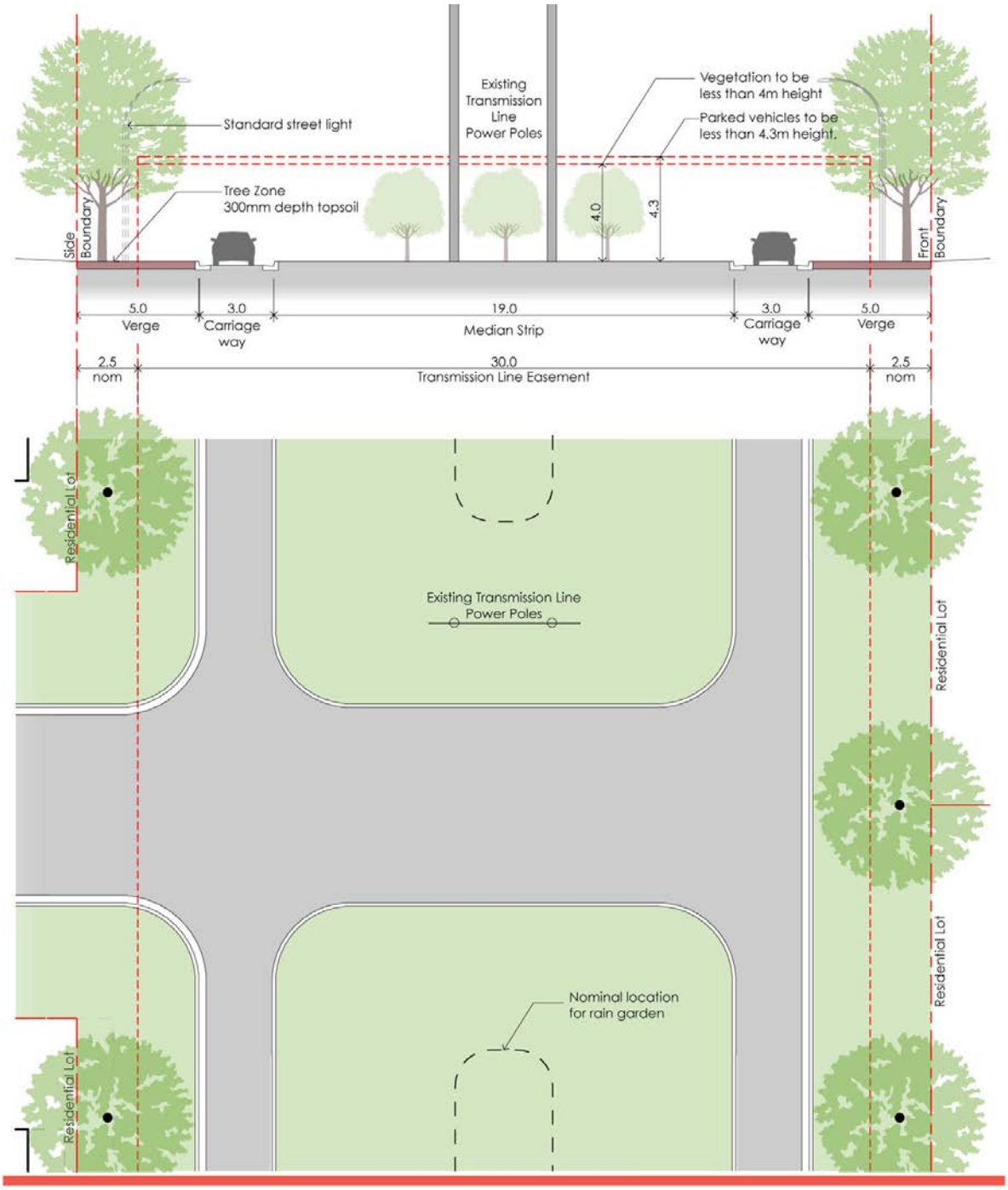


Figure 8.31 - Local Street Variation

Street Adjacent To Keyline - Rear & Front Property Boundaries

Streets adjacent to the Keyline Open Space Corridor (KOSC) will have a standard carriageway width of 6m for access streets and 8m for local streets. A 3m wide verge with grass and tree will occur adjacent the front property boundary. On the other side of the street, the KOSC will be 10m wide and cater for a shared path and 'Keyline' signature landscape. The adjacent property with rear boundary backing onto the keyline sits at a higher level, requiring a retaining wall and 1.05m high fence on the rear boundary. This scenario occurs within R2 zoning.

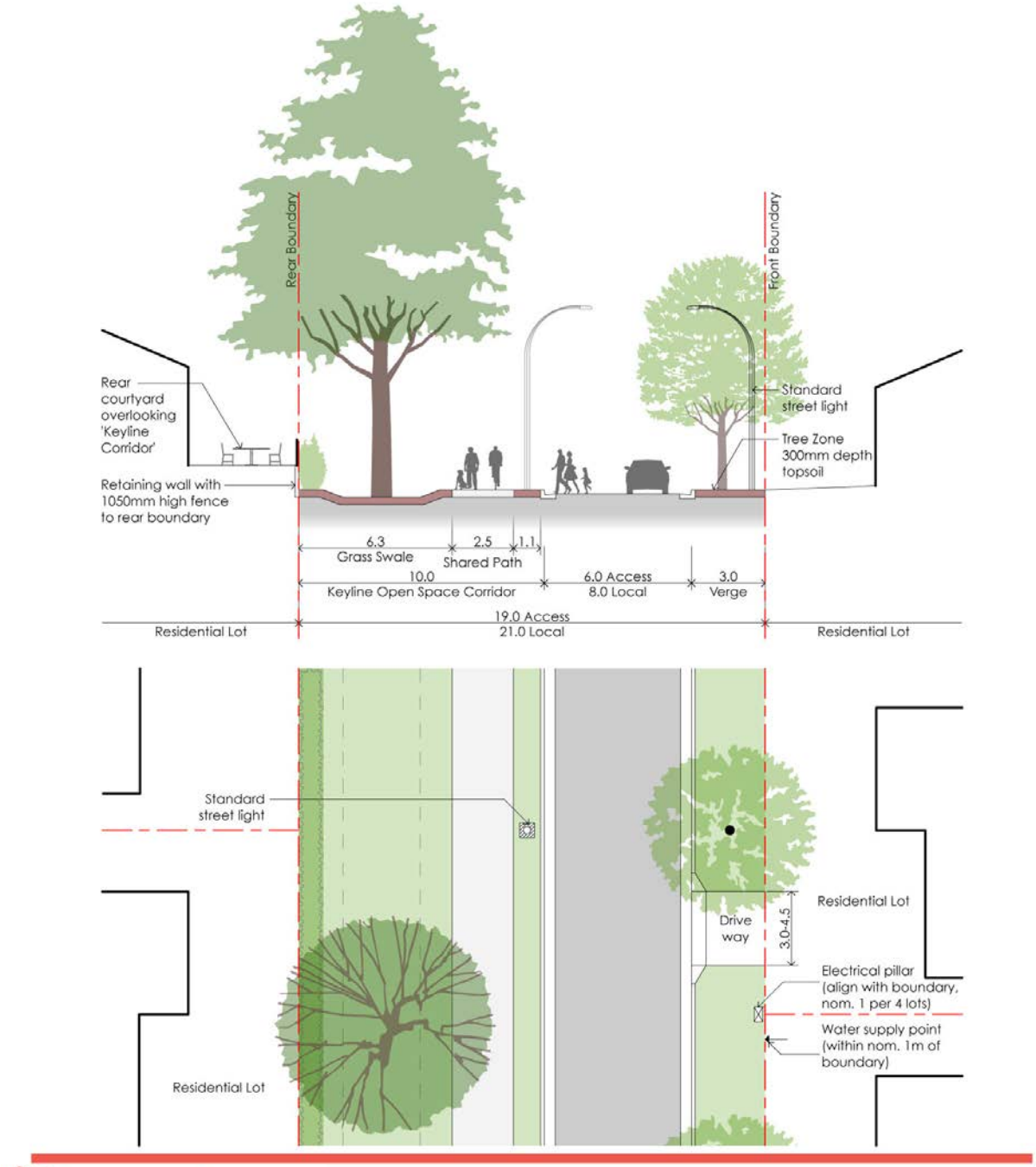


Figure 8.32 - Keyline street variation

Street with Keyline Central Median

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

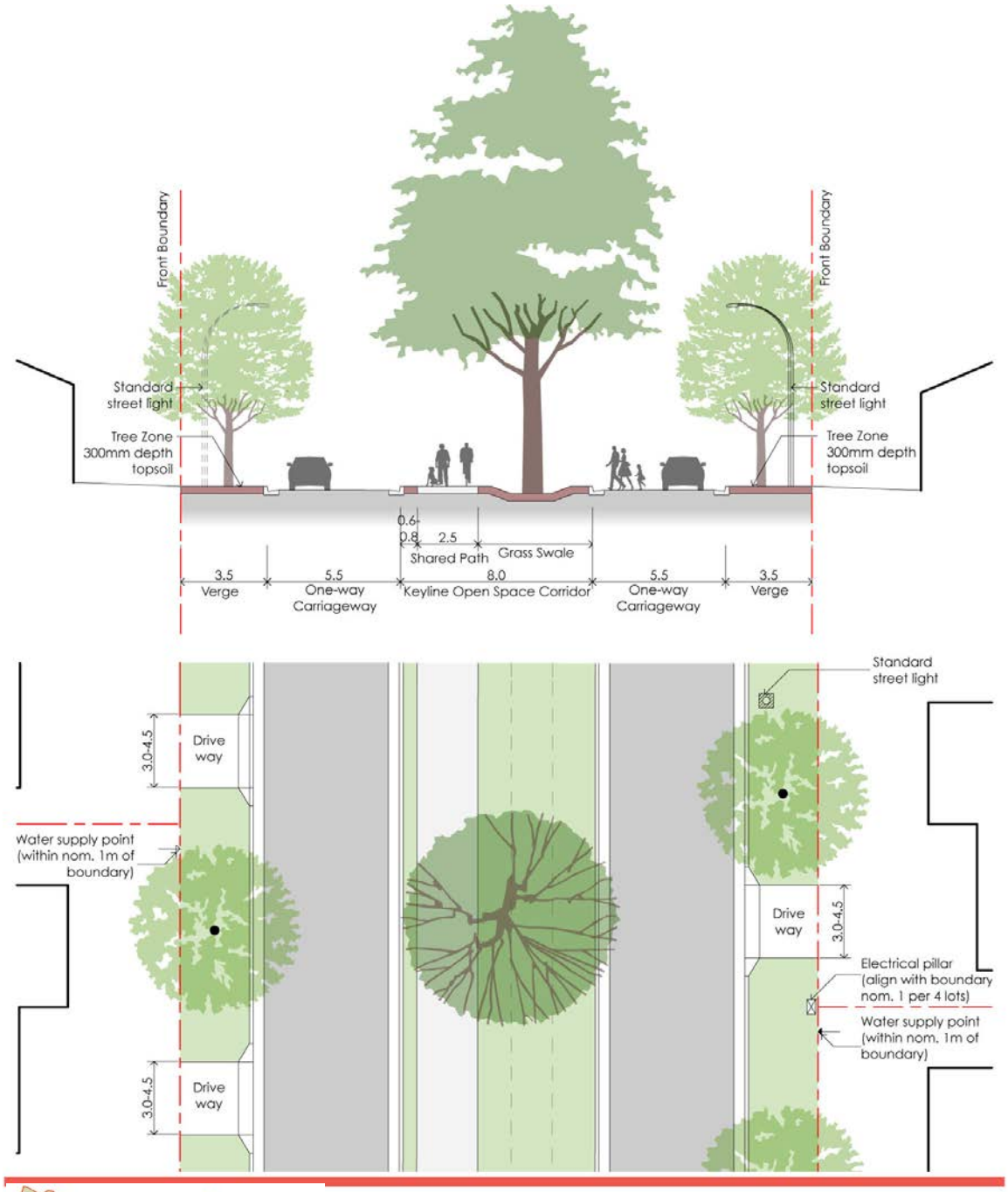


Figure 8.33 - Keyline Street Variation

Street Adjacent To Keyline - Front Property Boundaries

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

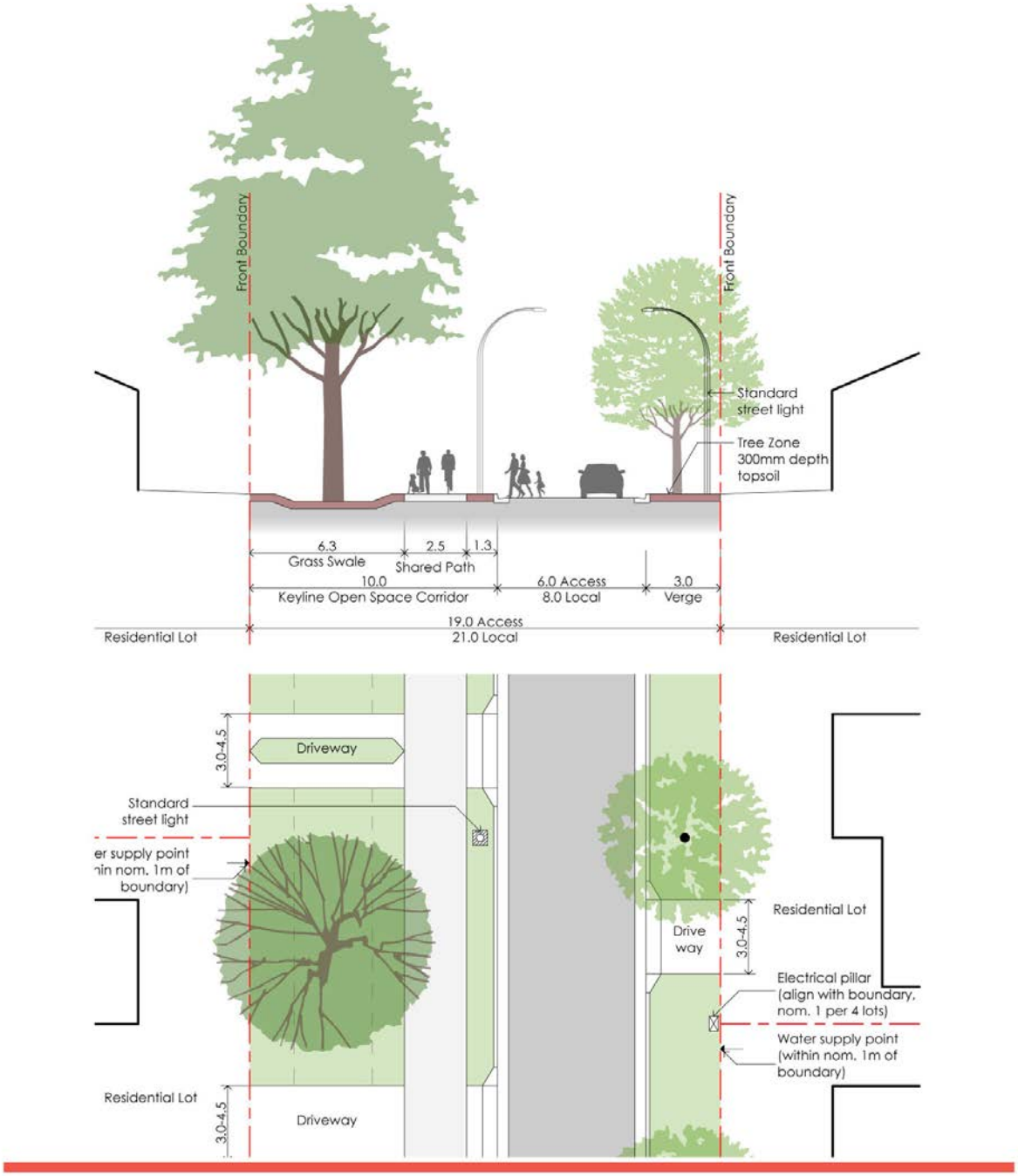


Figure 8.34 – Keyline Street Variation

Driveways – Keyline Crossings

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

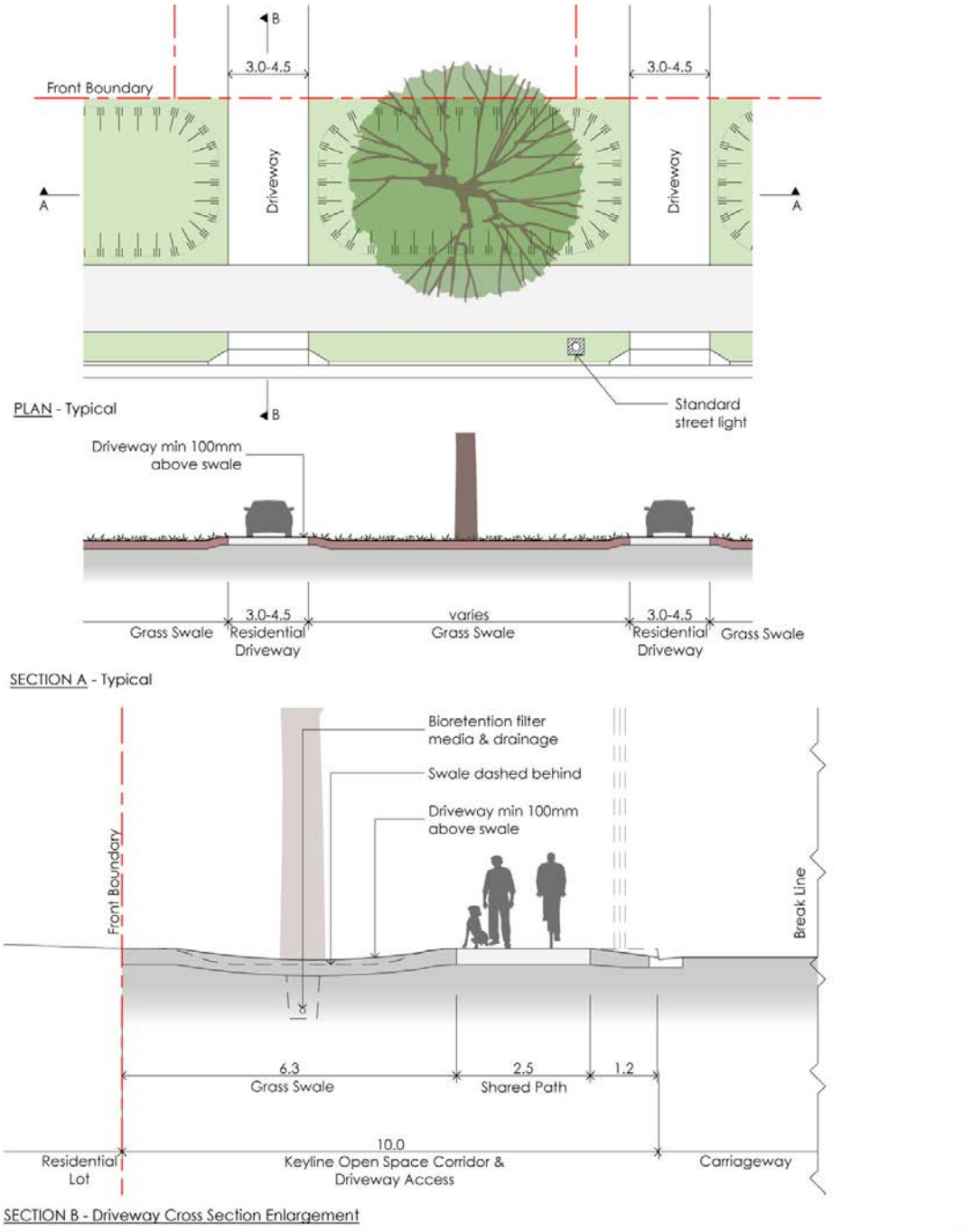


Figure 8.35 - Keyline Street Variation

Rural Road

Rural type roads occur only within the R5 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 generous, allowing two vehicles to easily pass side-by-side.

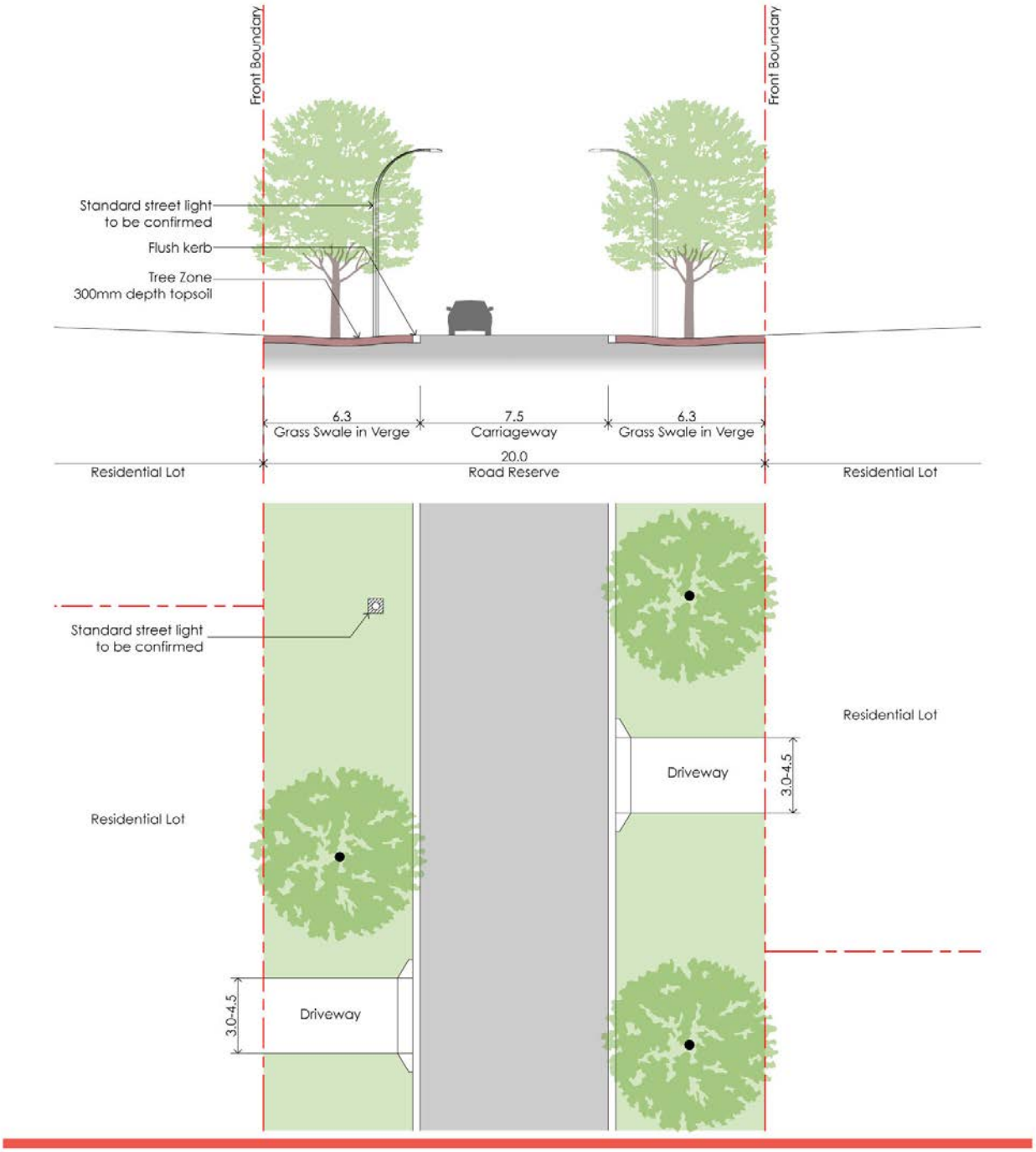


Figure 8.36 - Rural Road

Collector Road

Collector roads will be the primary road providing connections across the site and linking local streets. Collector roads 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 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 will be a 5.5m verge supporting a shared path, trees and grass. The collector road occurs within R2, R3 and B1 zoning.

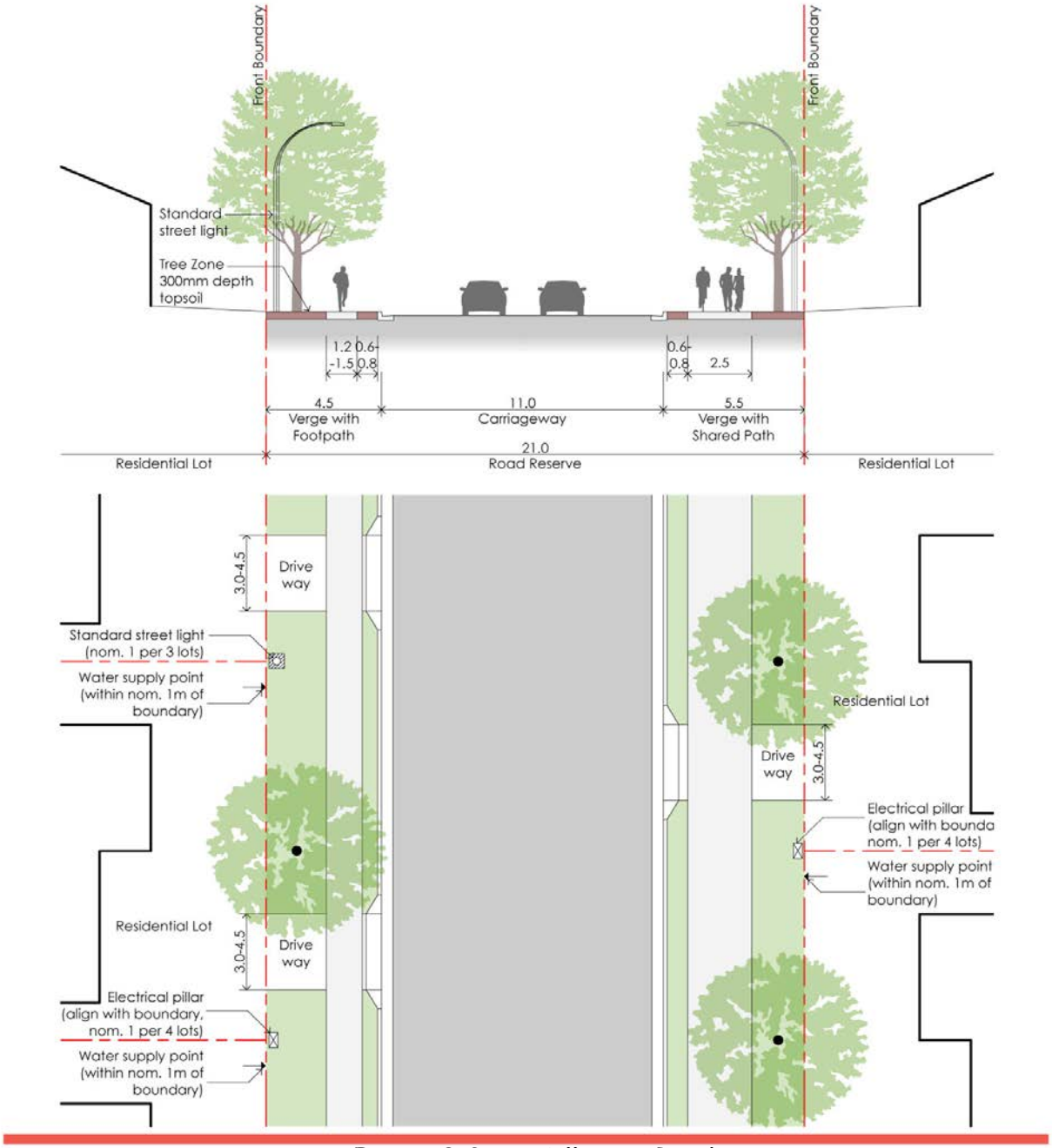


Figure 8.37 - Collector Road

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 be located within the open space. This type of collector road occurs within R2 and R3 zoning.

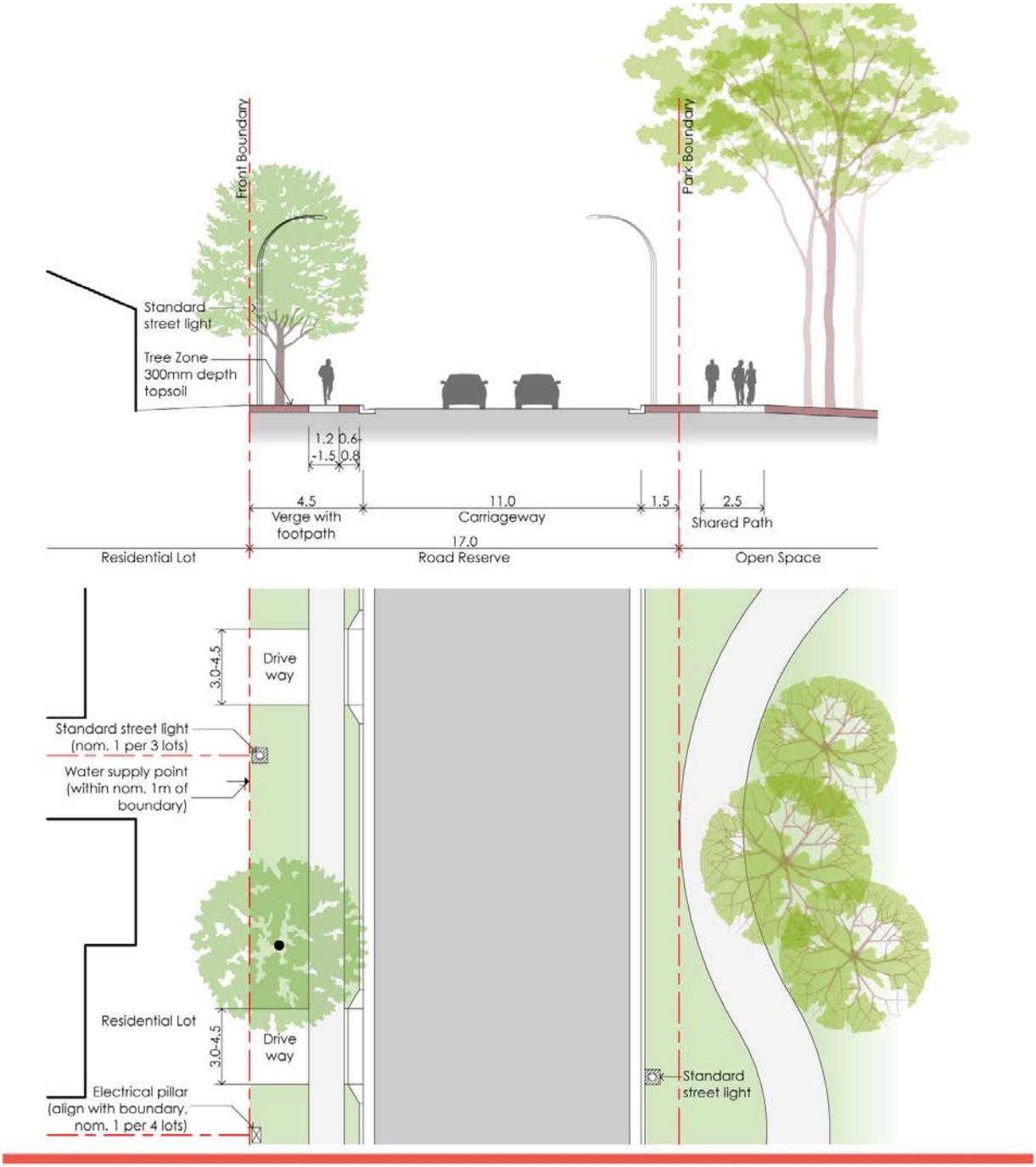


Figure 8.38 - Collector Road Variation

Collector Road Variation – Arthur Phillip Drive Extension

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

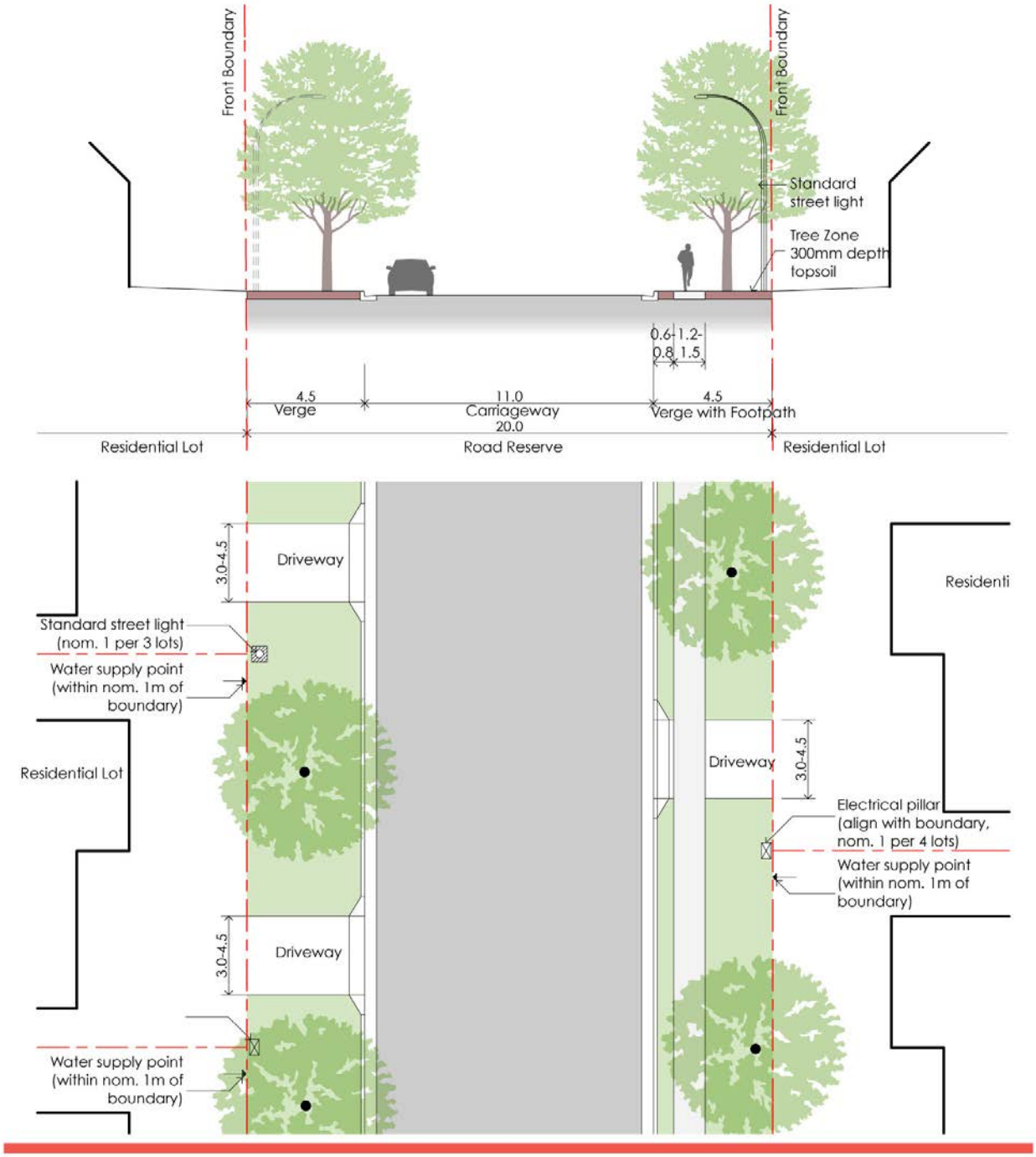


Figure 8.39 - Collector Road Variation

26m Entry Road - Adjacent Side & Back Boundaries

This scenario allows a 26m wide road reserve to cater for wide verges supporting boulevard trees, feature garden beds & public art. This will provide a striking experience driving from Grose Vale Road to Redbank Town 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 R2 zoning, and in particular, near the junction with Grose Vale Road where there will be side & rear property boundaries and no driveway crossings.

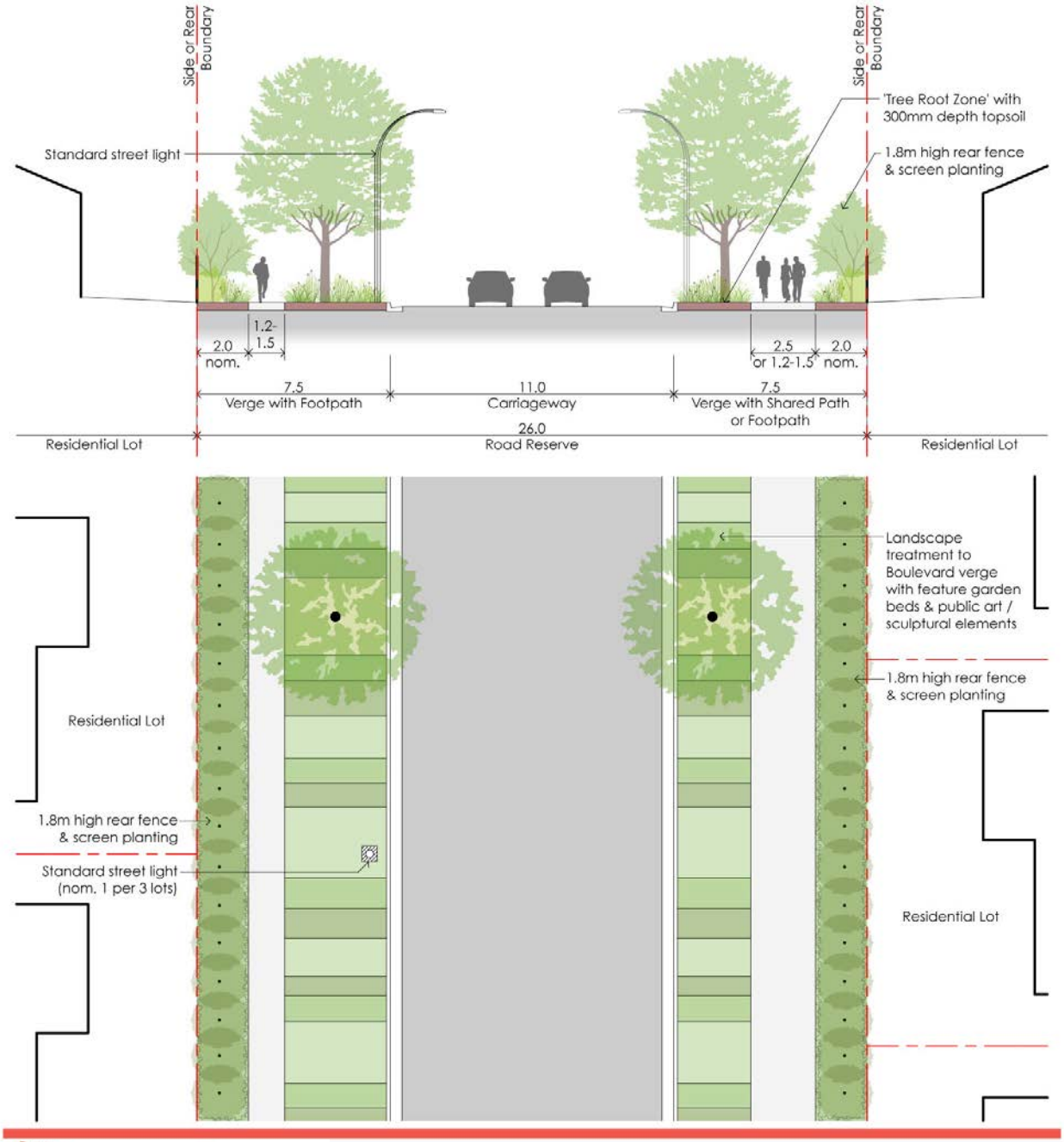


Figure 8.40 - 26M Entry Road

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 Town 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 R2 zoning.

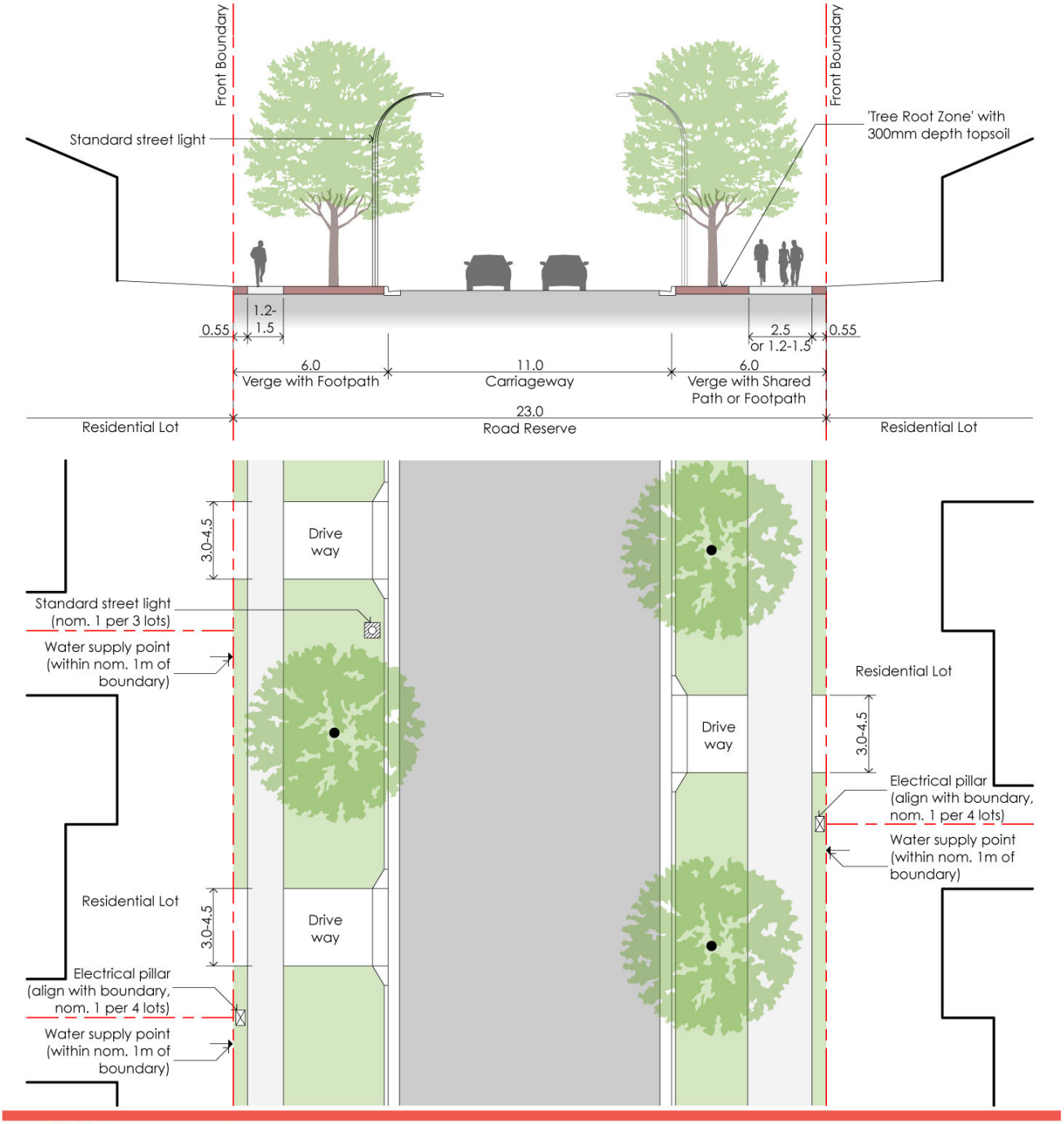


Figure 8.41 – 23M Entry Road

90° On-Street Car Parking

90° on-street car parking will occur in the 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 will be located at regular intervals between car parks to provide additional visual amenity and shade for visitors to the town centre.

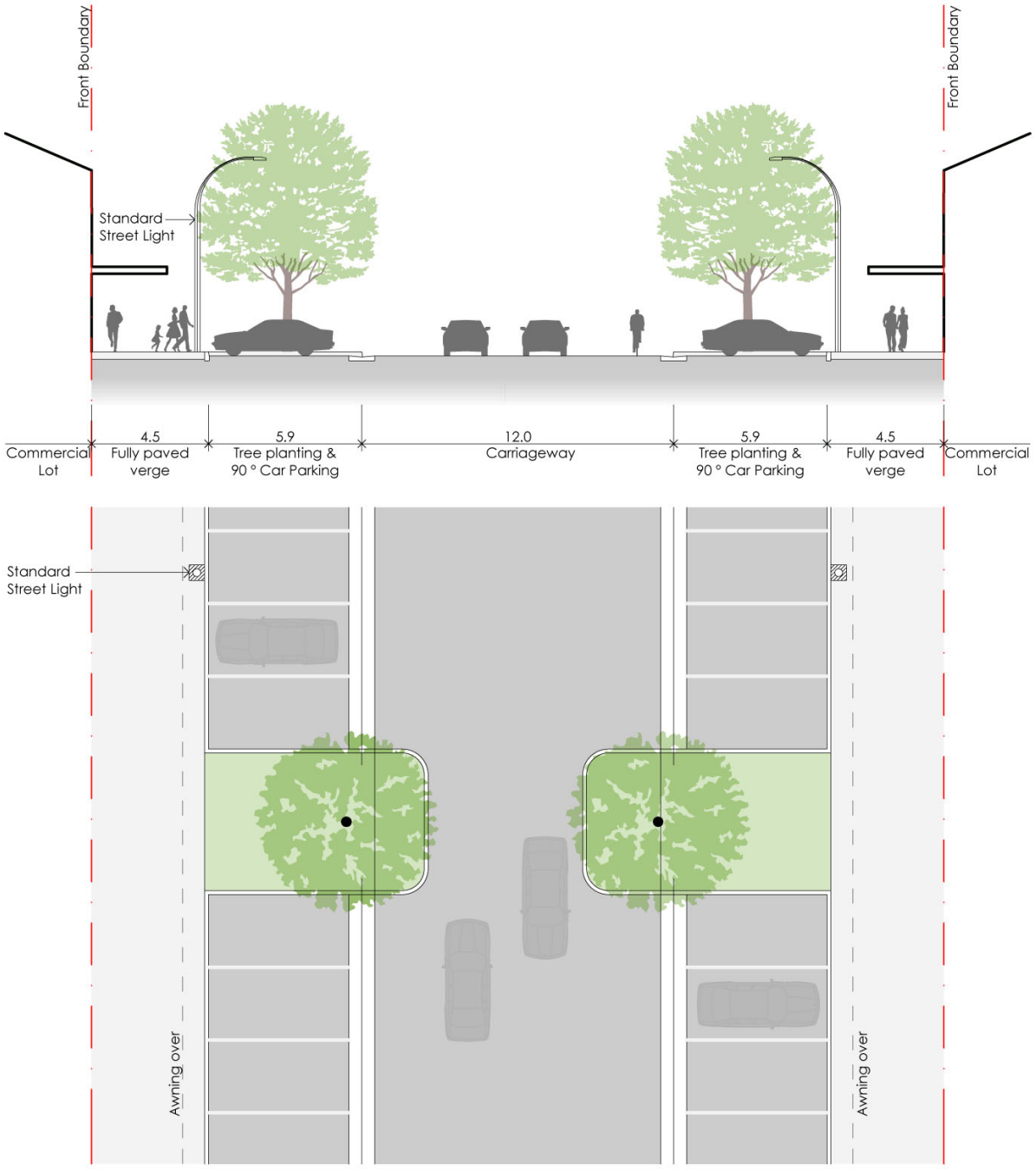


Figure 8.42 - 90° On Street Car Parking - Typical

Pedestrian Paths and Pram Ramp Crossings – Typical Plan

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

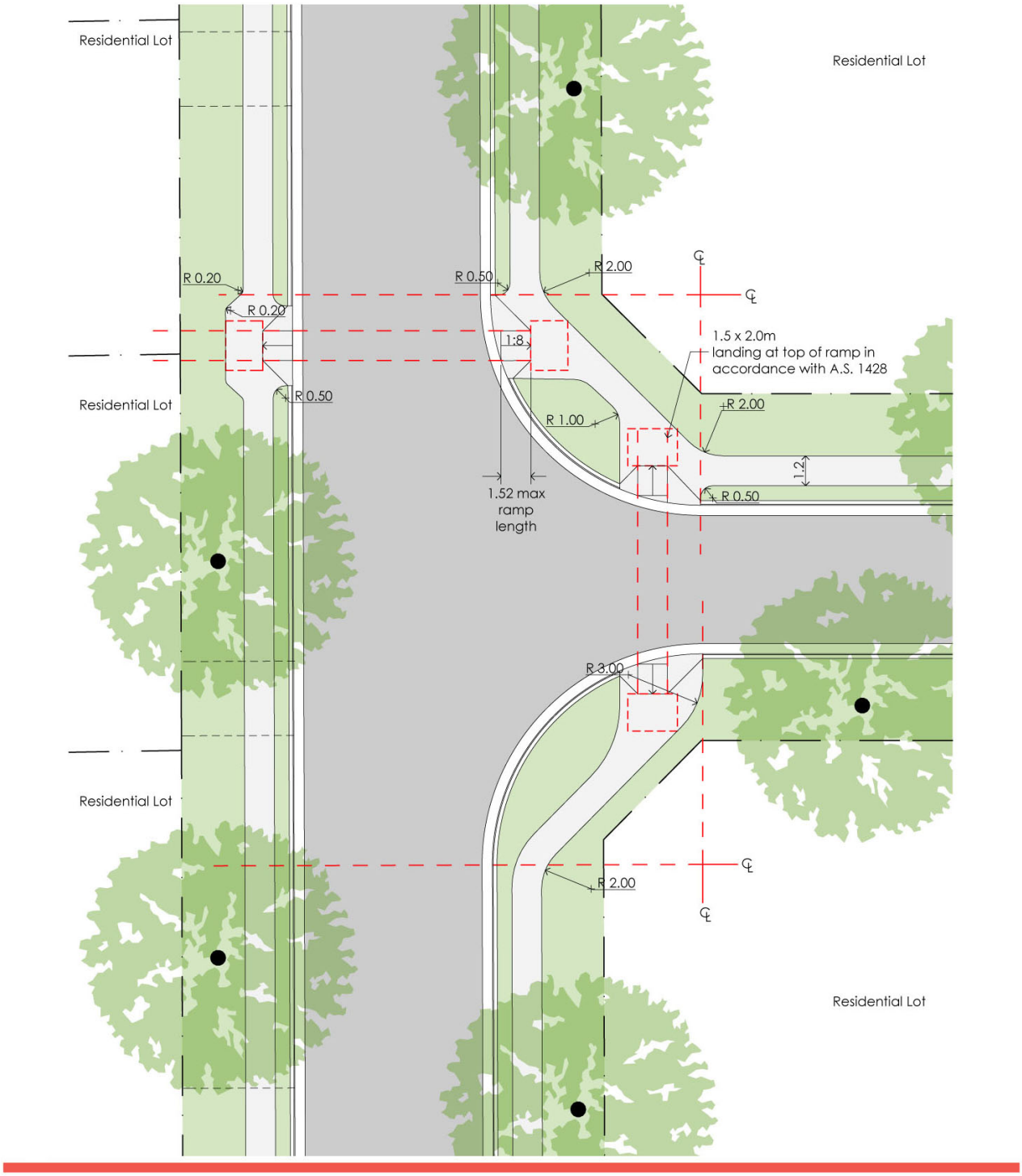


Figure 8.43 - Pedestrian Pathways & Pram Ramps – Typical

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 & rail fence with wire mesh is to be installed on the Grose Vale Road boundary
- In some areas, retaining walls may be built to accommodate level changes between Grose Vale Road and the rear of lots

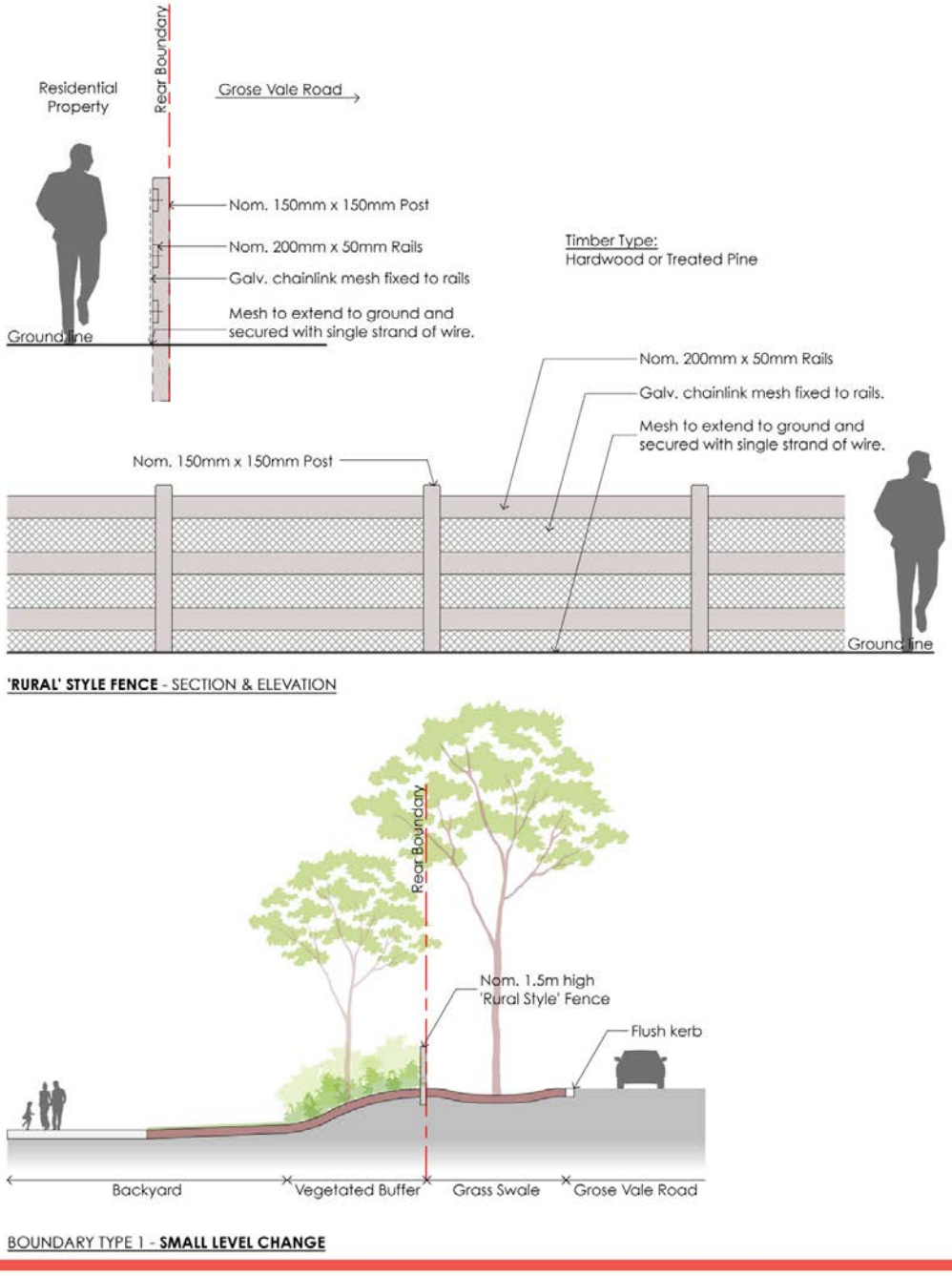
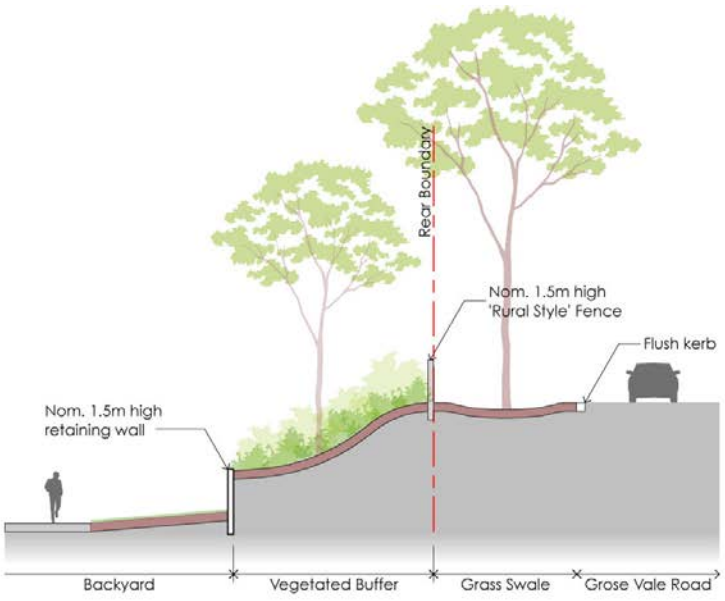


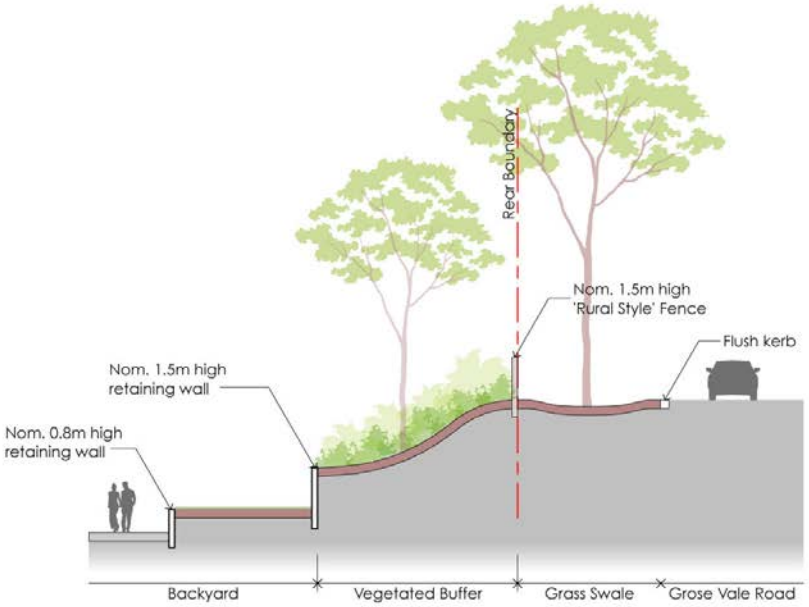
Figure 8.44 - Grose Vale Road – Landscape Mound and Fence

Grose Vale Road

- Lots backing onto Grose Vale Road will be approximately 40m deep
- 5-10m wide vegetated buffer shall be included in the rear of each lot
- Rural 'style' post & rail fence with wire mesh shall be installed on the Grose Vale Road boundary
- In some areas, 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 8.45 - Grose Vale Road - Landscape Mound and Fence

Entry Road – Landscape Character

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

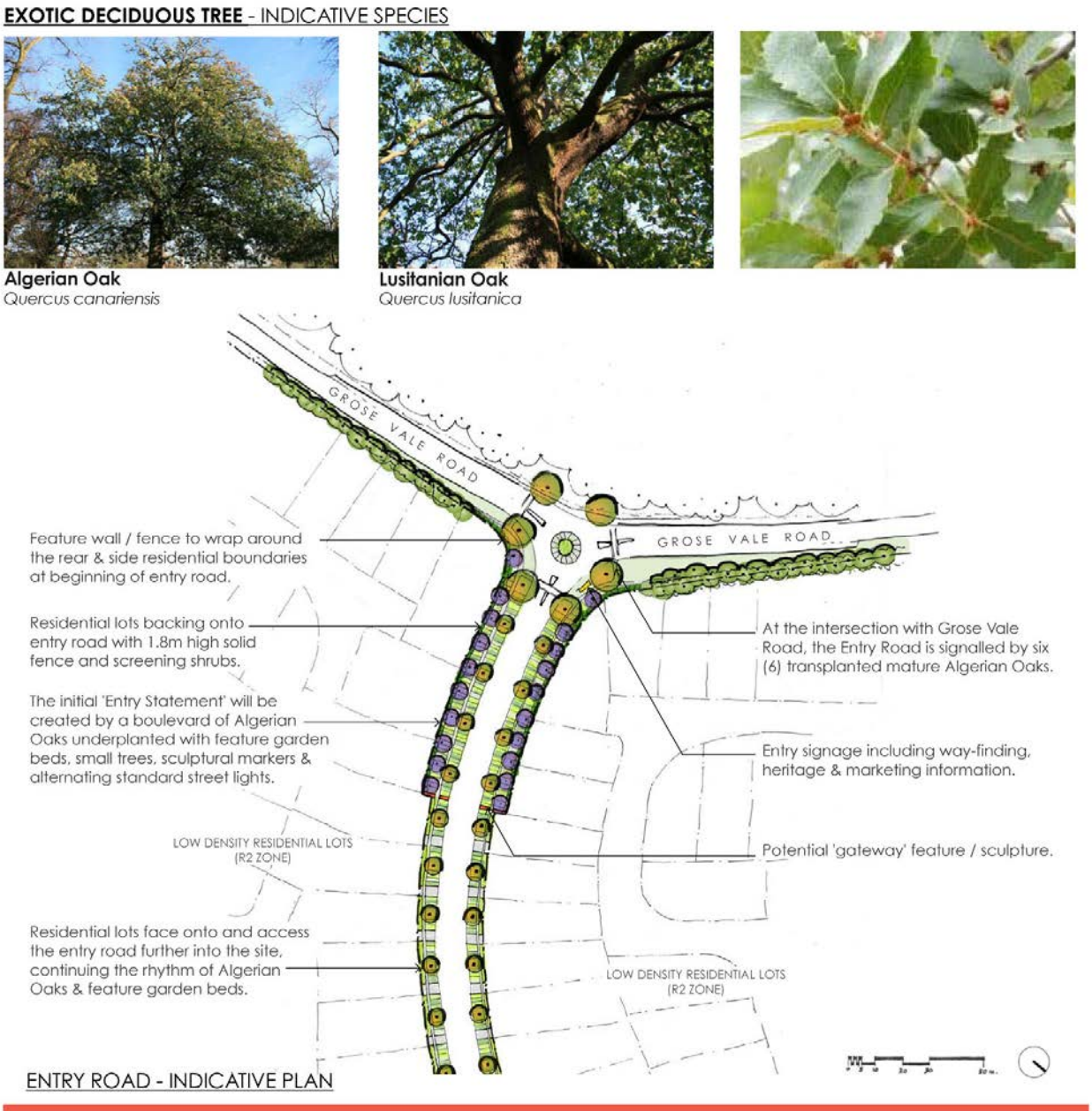


Figure 8.46 - Entry Road and Landscape

8.3.8 RESIDENTIAL LOT PARAMETERS

Objectives

(a) To provide for housing choice and affordability be 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.

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 8.47
2. Reticulated water and sewerage is provided to all lots.

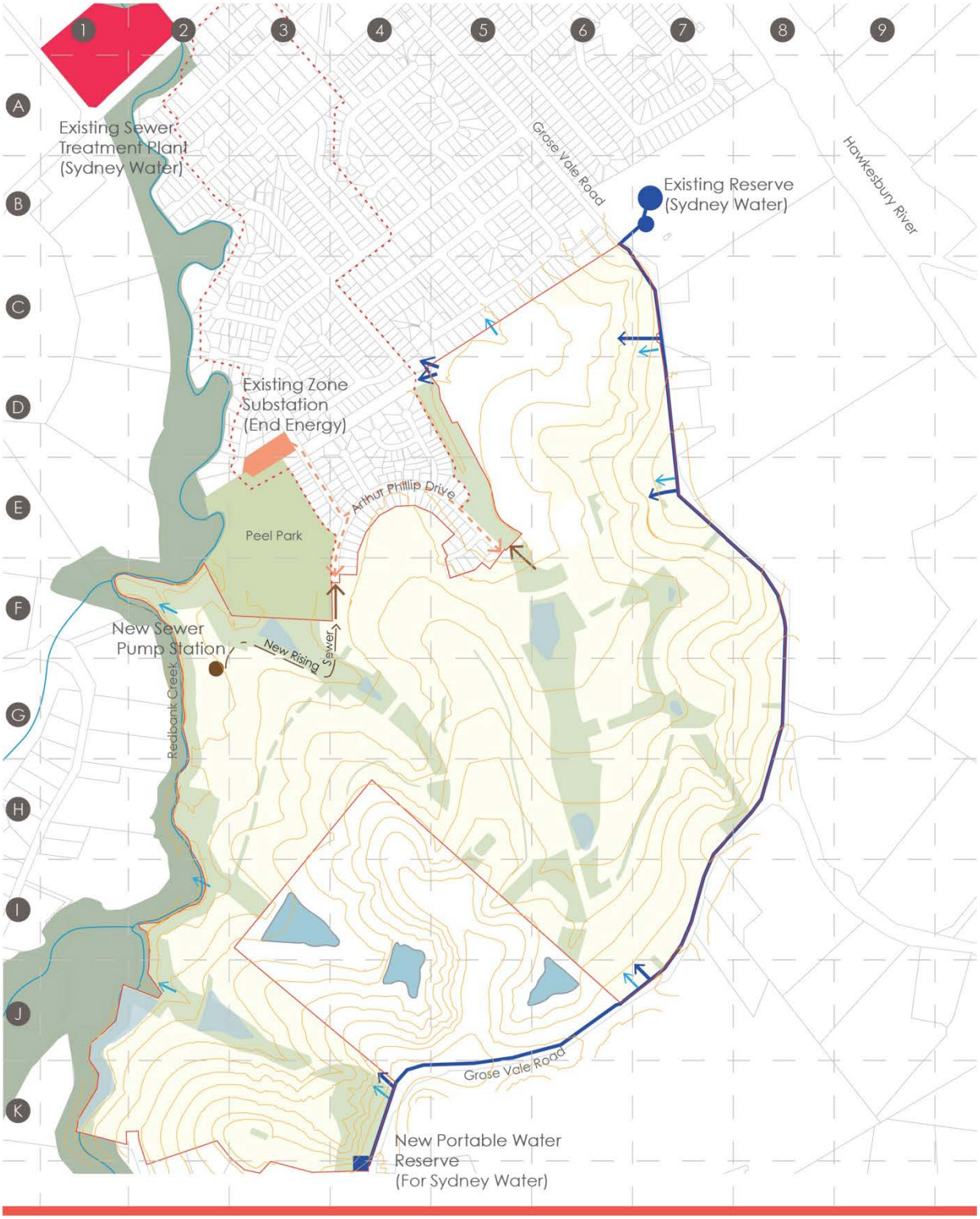


Figure 8.47- Utilities Plan

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

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 STUDIOS

Development Controls

1. The development within areas shown in Figure 8.48 are to satisfy requirements set out in Tables 8.3 and 8.4 below:

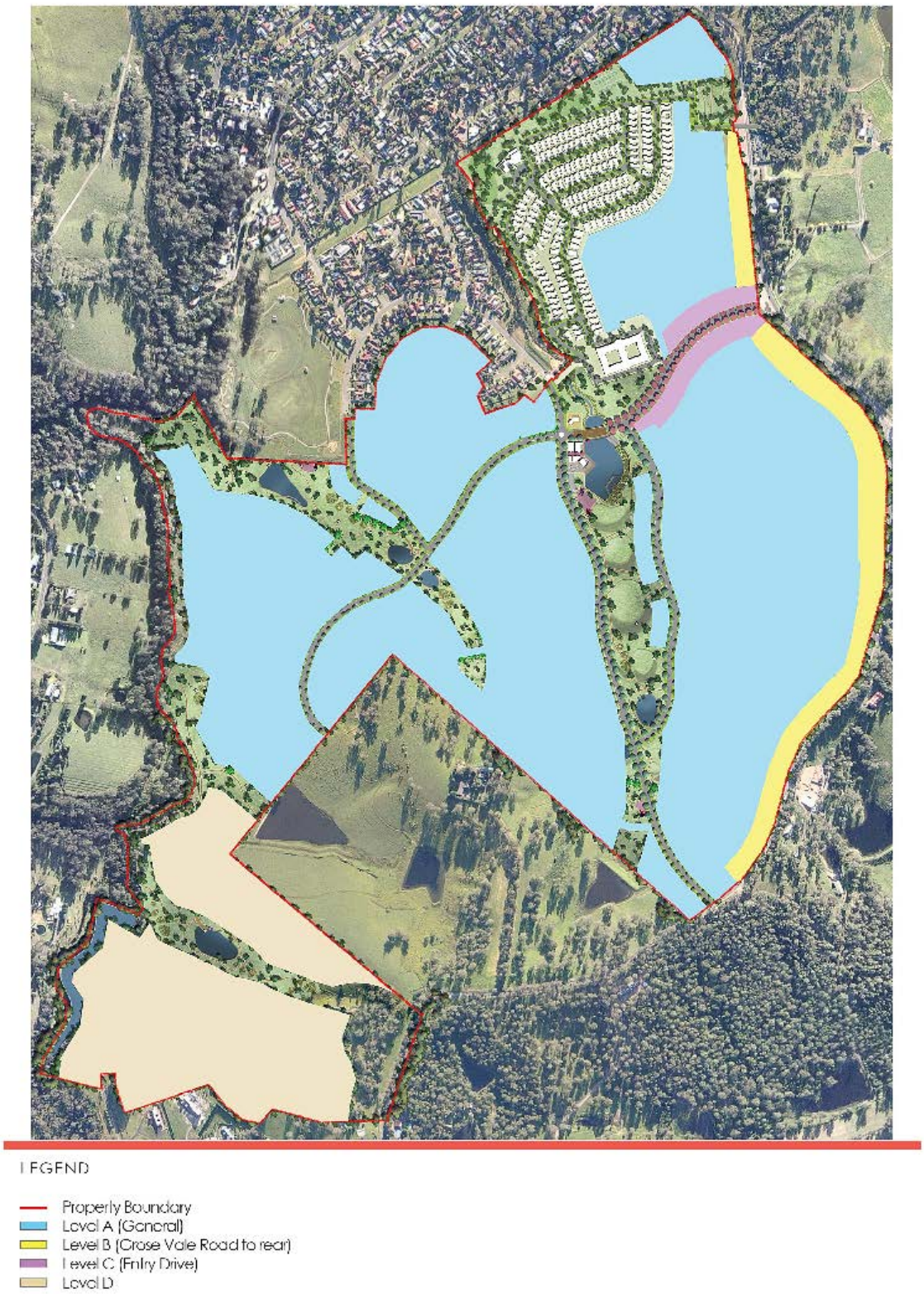


Figure 8.48 – Shading Plan

Table 8.3 – Built Form Controls for Single Dwellings, Outbuildings and Studios

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 40 m of lot, or10 m where two dwellings are not located within 40 m of lot.	
Landscaping [2] (MIN)		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										
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 Studios

Redbank Built Form Control Areas - R2 & R3 & R5

Development Standards relating to Lot width

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 OR **'specific width'**	6-8m (<8m)	8-10m (<10m)	10 - **12.5**m (<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							> 700m^2	> 700m^2	R5 min @ 1500m2 - 4000m2 (<4000m^2)	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/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 6-8m: both sides Lot width 8-**12.5m**: one side Maximum height: 3.3m or match adjoining built to boundary wall				N/A							
Basement (MAX)		M t t th th t t20 25m^2		50% t t d th 45m^2							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		0m	3.2m	6m							9m		
Private open space 2 (MIN)		16m^2		24m^2							N/A		
Outbuilding rear setback (MIN)		0.9m				1.5m	2.5m		0.9m	1.5m			
Studios/Secondary dwellings : MAX floor area		60m^2											
Studios/Secondary dwellings: MIN side setback		0.9m up to 4.5m 1.2m above 4.5m			0.9m up to 4.5m 1.5m above 4.5m	1.5m up to 4.5m 2.5m above 4.5m			0.9m up to 4.5m 1.5m above 4.5m	1.5m up to 4.5m 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 ACCOMODATION

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 complied 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. Height of Buildings **is to be** maximum 2 storey with some 3 storey features on key corners.
   iv. Development is to compy 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 & 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 maintain street parking and landscaping opportunities.
10. Driveways are to be suitably paved to prevent surface erosion. Preference should be given to 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. 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.

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.
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 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 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. 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.

8.3.11 CAR PARKING AND ACCESS

Development Controls

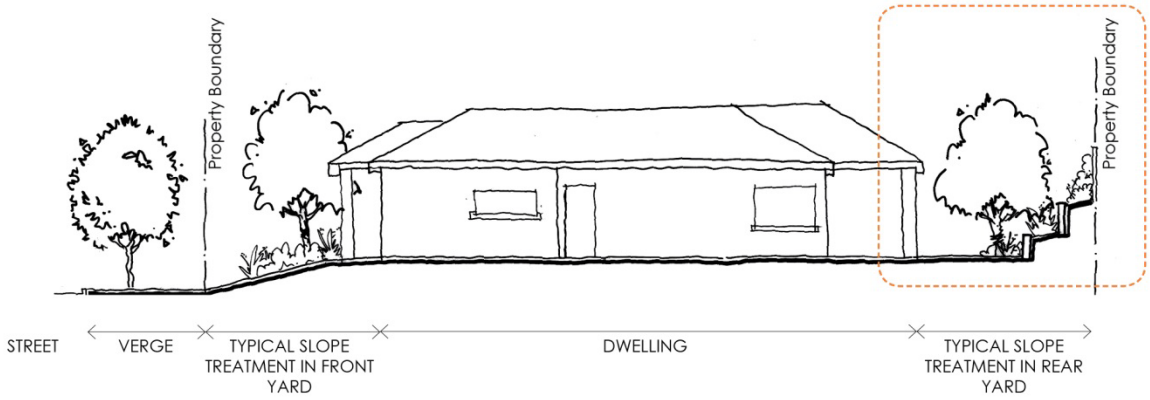
1. On-site parking for residential development is to be provided in accordance with the requirements specified in Part C, Section 2.5.1 Residential of Chapter 2 Parking and Access of the DCP.
2. On-site parking for neighbourhood shop/development is to be provided in accordance with the requirements specified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

8.3.12 RETAINING WALLS AND FENCES

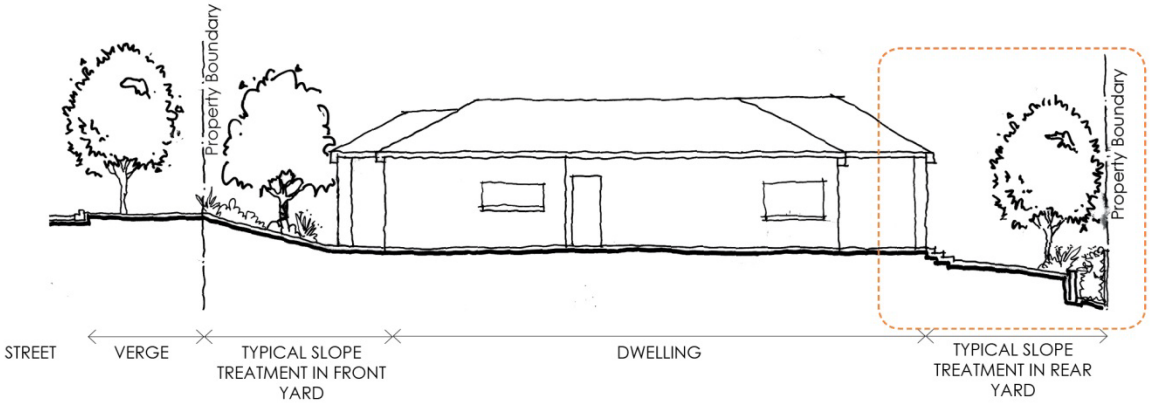
Development Controls

1. Retaining walls are to be provided generally in accordance with Figures 8.49 and 8.50 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 8.51 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

R2 Rear to Front Sloping



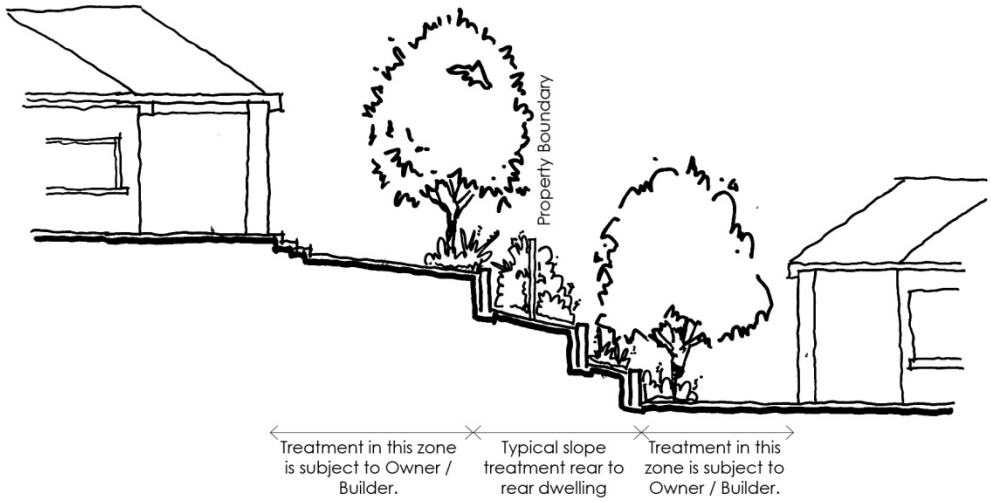
R2 Front to Rear Sloping



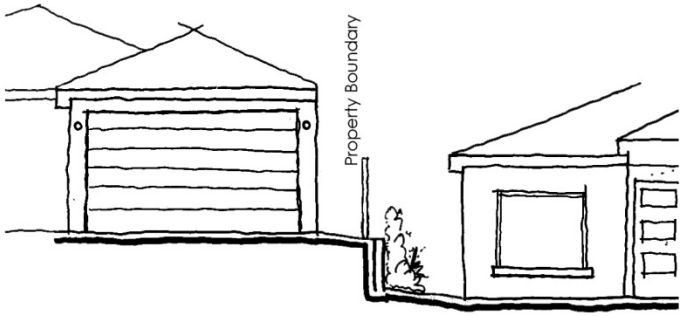
** For specific dimensions please refer to the current CDC and '5.1 CDC comparison table for R2+R3'*

Figure 8.49 - R2 front and rear typical

R2 Rear to Rear dwelling retaining



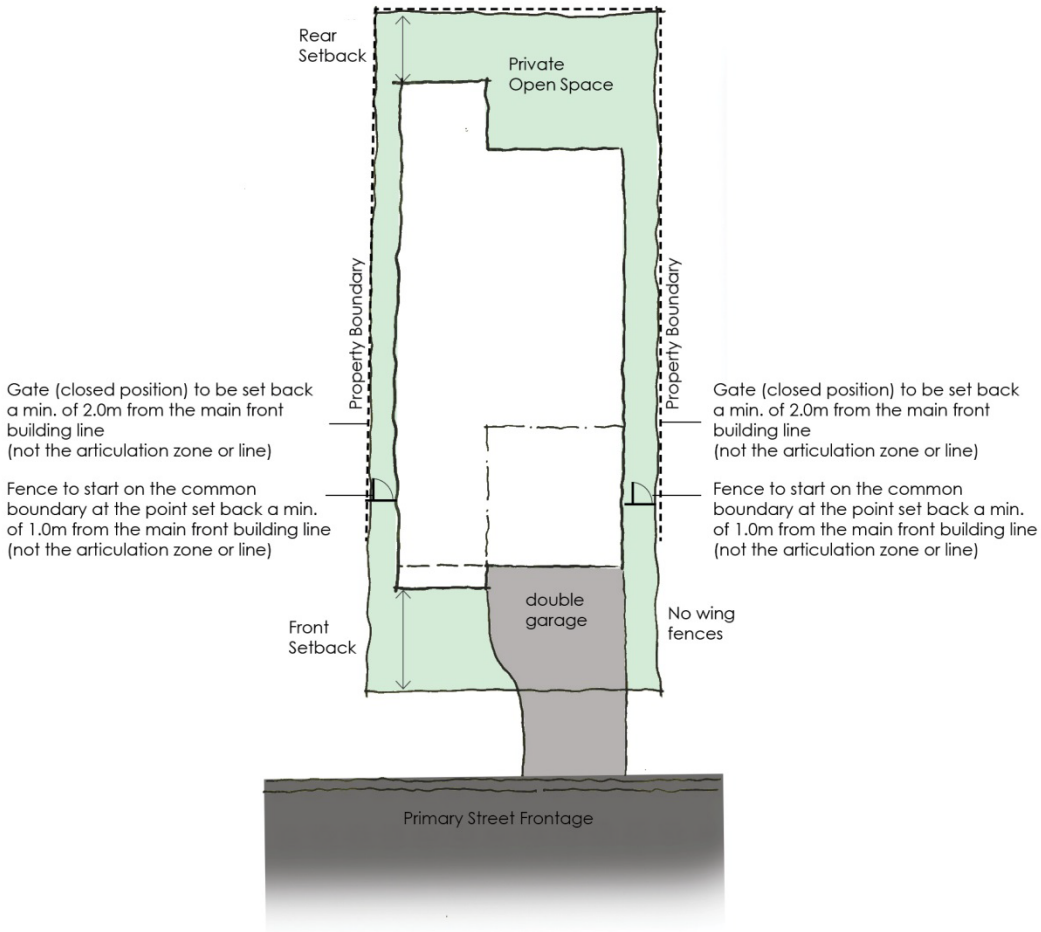
R2 Side - Interface between adjacent dwellings



** 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



** 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 **Subdivision Applications**

1. Subdivision Plan/layout

A subdivision plan/layout drawn to an appropriate sacle incorportating 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. Stormwater Management Plan

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

- Proposed convenyance 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 exisitng 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 quality objectives in Section 8.3.5 of this chapter
- The connection and treatment of the stormwater system to a legal point of discahrge 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) facilties or water quality devices (whre required)
- Demonstration of the application of approprite water sensitive urban design elements

4. 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:

a. Tree survey; including a site survey plan with the location of existing trees clearly indicated.
b. Trees numbered on the survey.
c. Species name and common name, dimensions, health, whether to be retained or removed and why.
d. Location of trees in adjoining properties located within close proximity to development site.
e. 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:

a. Stormwater drainage.
b. Earthworks.
c. Proposed location of buildings, driveways etc.

5. 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. Multi dwelling, Residnetial 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 Constuction 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 expereinced person should be provided for development with more than 20 dwellings.

If required, the applicant may be asked to submit additional information to enable Council effective assessment of the proposal. Before lodging a DA the applicant is 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 are permitted within 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.