

The Hills Development Control Plan (DCP) 2012

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THE
HILLS
Sydney's Garden Shire



Part D Section 17
Box Hill North

D17

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1. INTRODUCTION

This section of the Development Control Plan should be read in conjunction with the following parts of The Hills Development Control Plan (DCP) 2012:

- Part A - Introduction
- Part B
 - Section 2 - Residential
 - Section 3 - Dual Occupancy
 - Section 4 - Multi-Dwelling Housing
 - Section 5 - Residential Flat Building
 - Section 6 - Business
- Part C
 - Section 1 - Parking
 - Section 2 - Signage
 - Section 3 - Landscaping
 - Section 4 - Heritage
 - Section 5 - Telecommunication Facilities
 - Section 6 – Flood Control Lots
- Appendix A - Waste Management Plan
- Appendix B - Water Sensitive Urban Design

Consideration should also be given to the plans and policies that apply to the Box Hill Release Area (which adjoins the subject Box Hill North Precinct), particularly in relation to road connectivity through the precincts.

In the event of any inconsistency between this section of the Development Control Plan and any other sections of the Development Control Plan, the provisions of this section shall prevail only to the extent of the inconsistency.

1.1 LAND TO WHICH THIS SECTION OF THE PLAN APPLIES

The Plan applies to the area outlined in red, as shown in Figure 1 and referred to as Box Hill North.

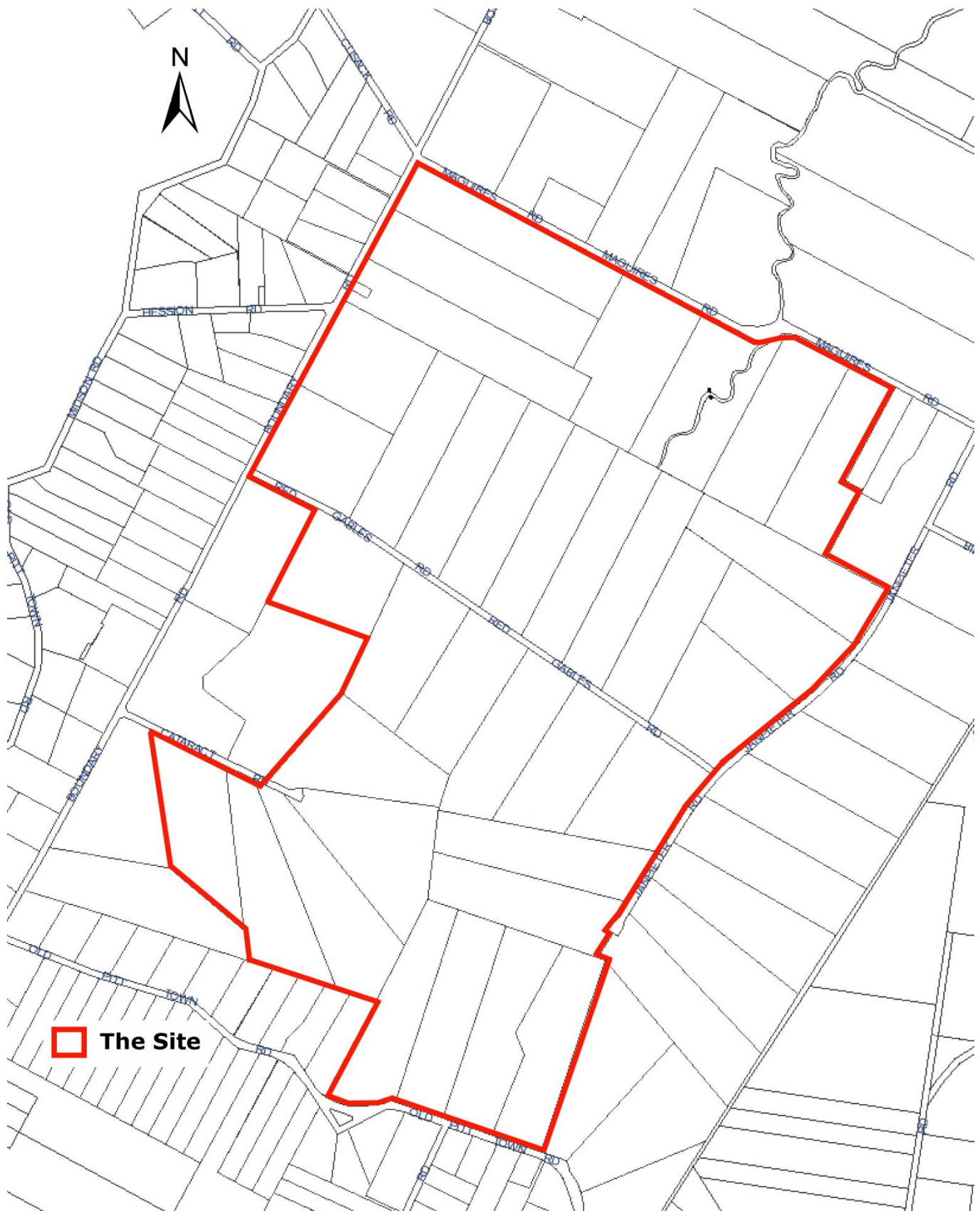


Figure 1 – Land to which this section of the DCP applies

1.2 THE PURPOSE OF THIS DCP

The purpose of this DCP is to:

- Communicate the planning, design and environmental objectives and controls against which The Hills Shire Council will assess future Development Applications;
- Promote high quality urban design outcomes within the context of environmental, social and economic sustainability;
- Ensure that development will not detrimentally affect the environment by ensuring that satisfactory measures are incorporated to ameliorate any impacts arising from the proposed development; and
- Provide safe and high quality environments for the residents, workers and visitors of Box Hill North.

1.3 AIM, VISION AND OBJECTIVES OF THIS SECTION OF THE DCP

AIM

The aim of this section of the Development Control Plan is to identify the built form parameters for Box Hill North and to facilitate the development of residential, open space, recreation, retail and commercial uses within the site. This section will identify Council's objectives for development within Box Hill North and provide relevant controls to ensure the vision and objectives are achieved.

VISION

To create a high quality, integrated and ecologically sustainable urban environment integrated with good public transport accessibility, open space, community facilities and employment opportunities.

OBJECTIVES

The objectives for development within Box Hill North in addition to those specified in Part A of this DCP are:

- (i) *To focus business and community activities in and around the Town Centre with a mix of retail, commercial and community uses.*
- (ii) *To create a mixed use Town Centre which has main street characters, is pedestrian friendly and*

offers high levels of amenity for residents, workers and visitors.

- (iii) *To accommodate up to 10,000m² of non-residential floor space principally within the Town Centre.*
- (iv) *Accommodate approximately 4,000 dwellings within a range of housing products and densities.*
- (v) *Promote innovative housing types/design.*
- (vi) *Encourage walking and cycling and use of public transport.*
- (vii) *Provide a hierarchy of roads and paths with links to the surrounding area.*
- (viii) *Create safe and walkable neighbourhoods.*
- (ix) *Provide community and social infrastructure including schools, local parks, district sporting fields that provide for a range of facilities and opportunities.*
- (x) *Accommodate water sensitive urban design measures, including the use of recycled water and integrated options for water supply, wastewater and stormwater servicing.*
- (xi) *Protect and rehabilitate waterways and riparian corridors as natural systems.*

2. INDICATIVE LAYOUT PLAN

The Indicative Layout Plan illustrates the broad level development outcomes for Box Hill North, and outlines the development footprint, land uses, open space, key transport linkages and location of community facilities and the proposed primary school.

OBJECTIVE

- (i) *To ensure development of Box Hill North is undertaken in a coordinated manner generally consistent with the structure of the Box Hill North Indicative Layout Plan in Figure 2.*

DEVELOPMENT CONTROLS

- a) All development is to be undertaken generally in accordance with the Indicative Layout Plan in Figure 2 subject to compliance with the objectives and development controls set out in this Development Control Plan.

- b) Where variation from the Indicative Layout Plan is proposed, the applicant is to justify in writing indicating how the development is meeting the intention of the objectives of the relevant control and/or is generally consistent with the Indicative Layout Plan, the vision and development objectives for the area and the objectives and controls in Section 1.3 of this part of the DCP.

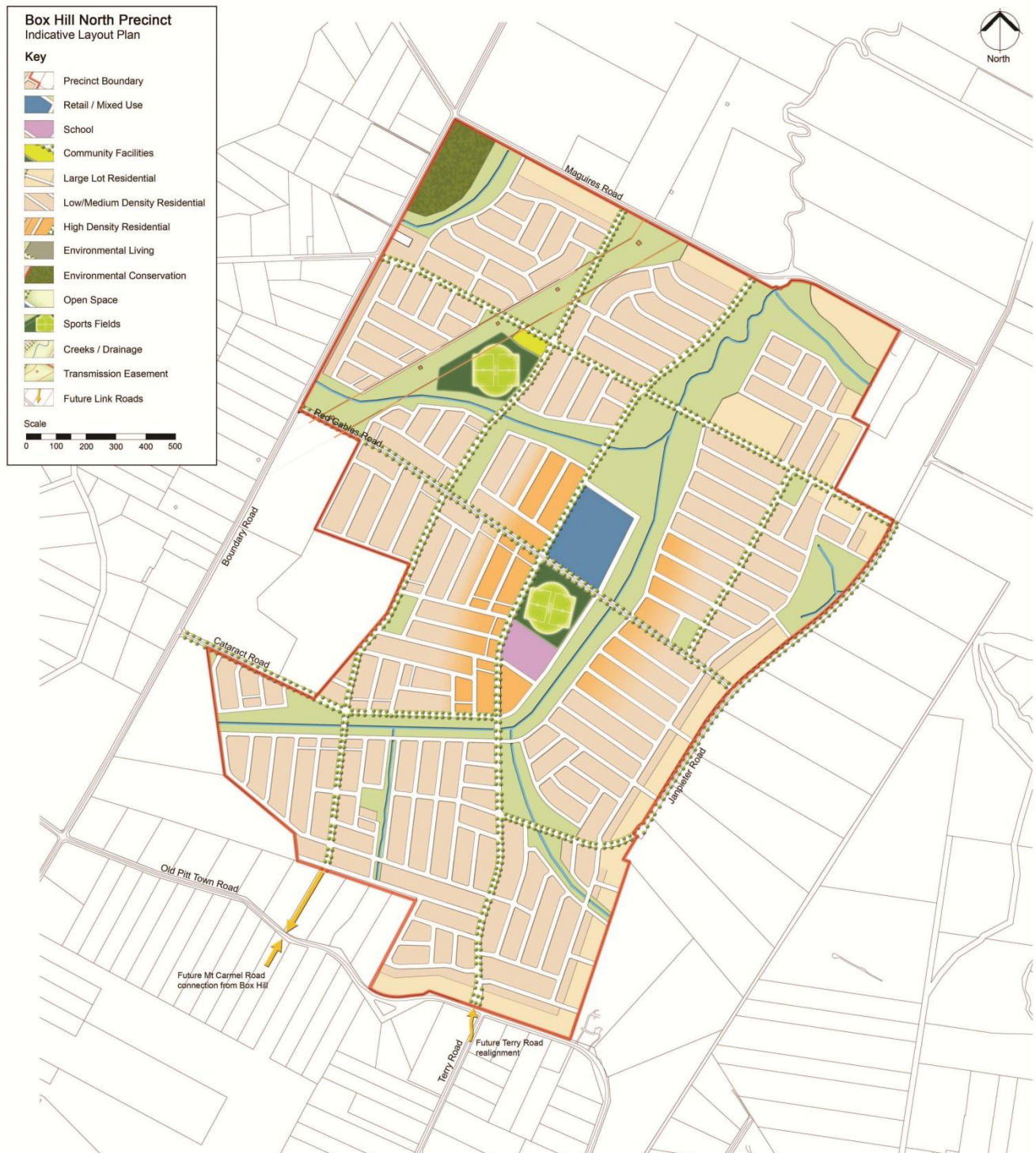


Figure 2 – Box Hill North Indicative Layout Plan

2.1 SITE ANALYSIS

OBJECTIVES

- (i) *To encourage a comprehensive approach to site planning, design and assessment of development.*
- (ii) *To facilitate assessment of how future buildings relate to their immediate surroundings and to each other.*
- (iii) *To facilitate development of a design that minimises the negative impacts on the amenity of adjoining development.*
- (iv) *To ensure development is compatible with land capability*
- (v) *To minimise adverse impacts on the environment.*

DEVELOPMENT CONTROLS

- a) Where variation is proposed from the Development Control Plan the applicant is to demonstrate that the proposed development is consistent with the vision and development objectives for the area and the objectives and controls in Section 1.2 of this part of the Development Control Plan.
- b) Development should be designed to respect site characteristics such as topography, drainage, soil, landscapes, flora, fauna, salinity and bushfire hazard.
- c) Watercourses should be protected from further degradation and their environmental function is to be improved to mimic natural systems. Disturbance to existing natural vegetation and landforms is to be minimised and disturbance to natural watercourses, wetlands and overland flow paths should be avoided.
- d) Development on land adjoining bushland reserves should incorporate measures (such as setbacks and buffers) to prevent any impact on the reserves.
- e) Development should be sited on the area of land requiring minimal earthworks.
- f) Development should be sited away from steep slopes (particularly those containing natural vegetation) so that, where possible, these features can be kept in a natural state.

2.2 DEVELOPER CONTRIBUTIONS

Applicants should refer to Council's Section 94 Contribution Plan No.16.

2.3 TOWN CENTRE

Indicative layouts of the Box Hill North Town Centre are shown at Figure 3 & 4. The Town Centre is the key activity centre within Box Hill North. This section outlines the objectives and design principles relating to the Local Town Centre.

OBJECTIVES

- (i) *To create a compact, vibrant, safe and prosperous town centre.*
- (ii) *To ensure an appropriate supply, distribution and mix of land uses within the town centre.*
- (iii) *To encourage higher density living around transport, open space and service nodes.*
- (iv) *To ensure development within the town centre is compatible with an integrated access network that encourages walking, cycling and the use of public transport.*
- (v) *To ensure that the detailed design of the town centre is coordinated, and achieves a high quality urban design.*
- (vi) *To provide a range of retail, commercial, entertainment, recreation and community uses.*
- (vii) *Consider the needs of health and aged care providers, facilities for young people, civic and emergency services within the Town Centre.*
- (viii) *To ensure that pedestrian streetscapes are provided through the Town Centre which are of a high amenity and provide effective pedestrian and cycle connections, and minimise walking distances.*

DEVELOPMENT CONTROLS

- a) The future design for the Box Hill North Town Centre is to incorporate the following key requirements:
 - Street level activation is required in the core of the Town Centre, in particular, fronting the main street and open space.
 - Concentrate small retail uses along and fronting key streets/plazas.

- The street layout is to emphasise sight lines to local landscape features, parks, places of key cultural significance, civic buildings and public open space.
- A range of building heights (up to 5 storeys, or 16m) with a transition to surrounding residential areas.
- A range of higher density housing is to be provided within the town centre, including apartments, terraces, multi-unit housing and small lot housing.
- All large format retail premises and decked parking areas, visible from prominent public areas, are to be sleaved with active uses. Blank walls visible from the public domain are to be limited.
- Bicycle parking shall be provided in accordance with Council's requirements as set out in Part C Section 1 - Parking of The Hills Shire Council Development Control Plan.

2.4 STREET NETWORK

OBJECTIVES

- (i) *To provide for the safe and efficient circulation of pedestrians, bicycles and motor traffic and on street parking requirements.*
- (ii) *To provide a hierarchy of streets with good connectivity that utilises features and landmarks to enhance way-finding for pedestrians, buses, and private vehicles.*
- (iii) *To minimise vehicular usage by enhancing pedestrian and bicycle connections to the Town Centre, schools and parks.*
- (iv) *To ensure connectivity with Box Hill Release Area.*

DEVELOPMENT CONTROLS

- a) Street Network is generally to be in accordance with Figure 5.
- b) Street design is to be in accordance with the indicative street cross sections at Figure 5 and Table 1. Alternative street designs may be permitted on a case by case basis if they preserve the functional objectives and requirements of the design standards.

Key



Figure 3 – Town Centre

Key

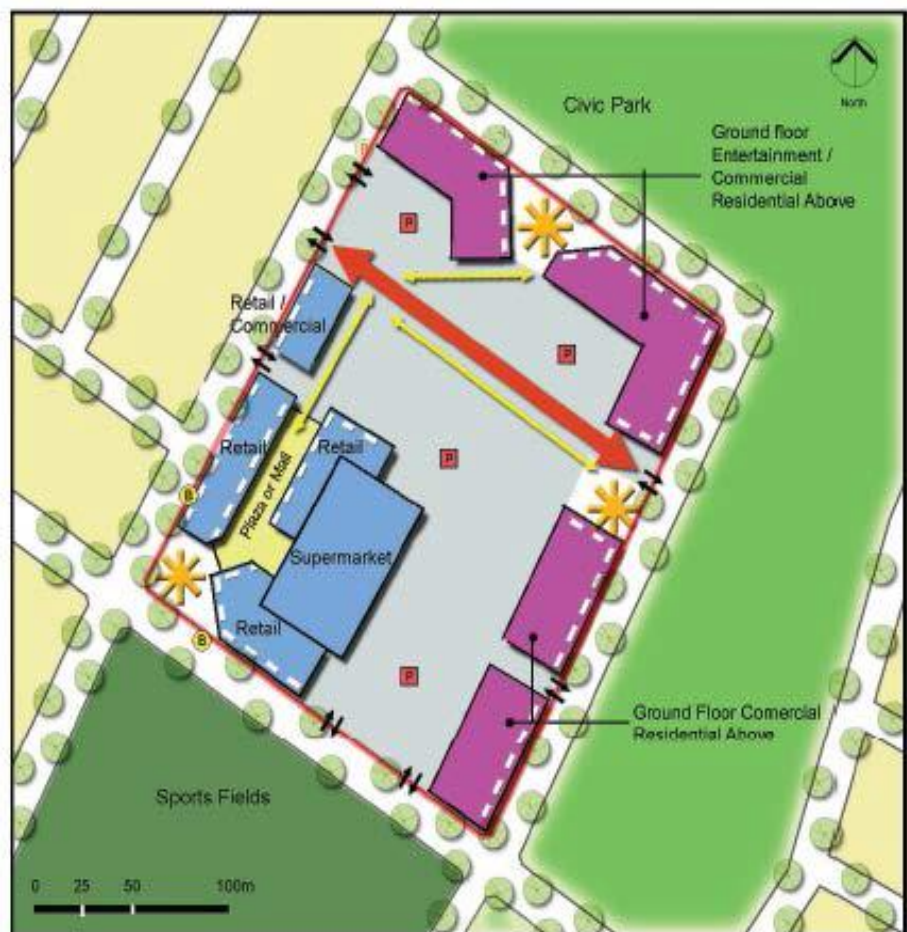


Figure 4 – Town Centre

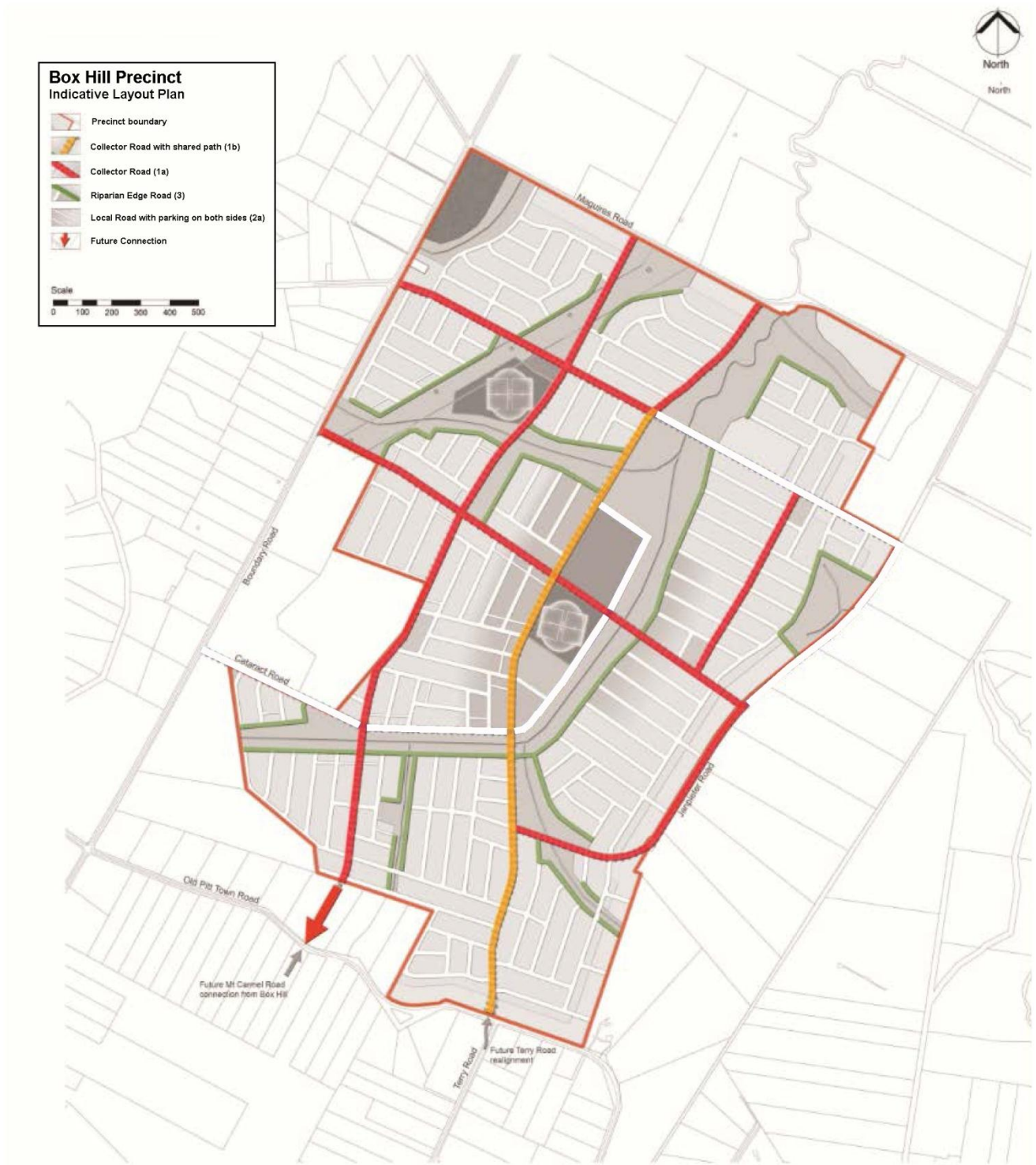
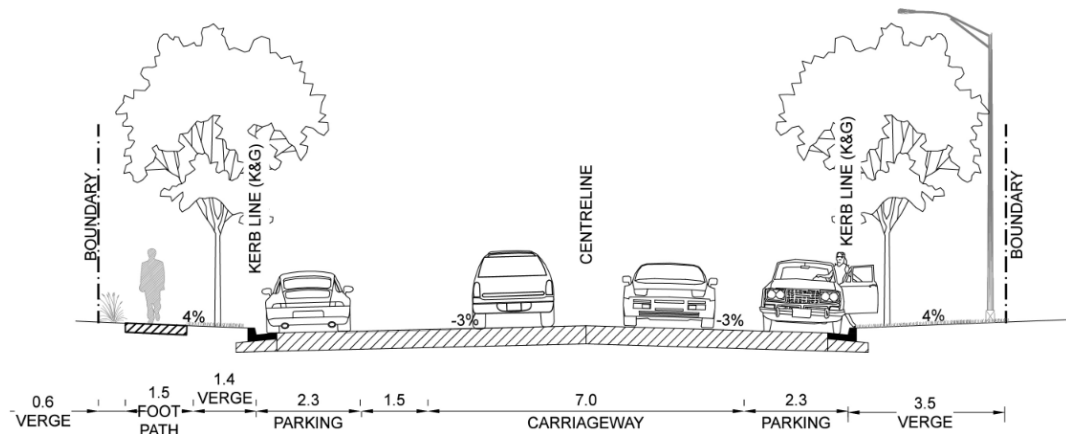
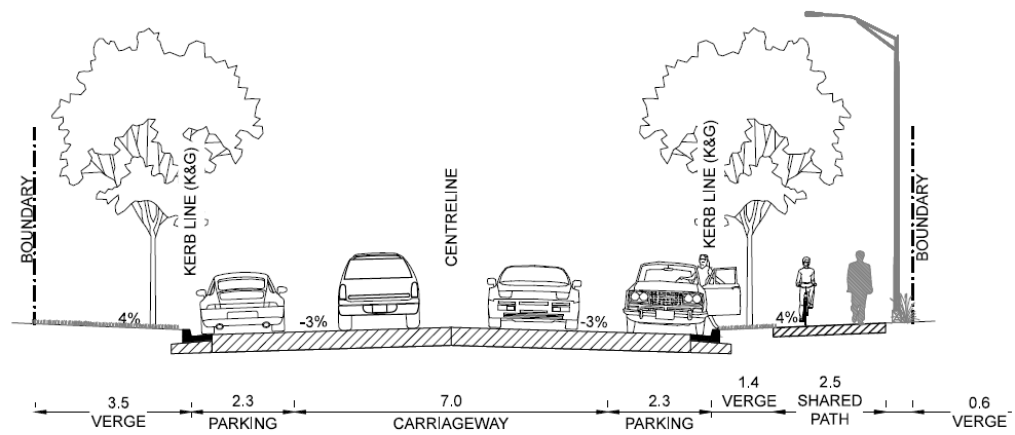


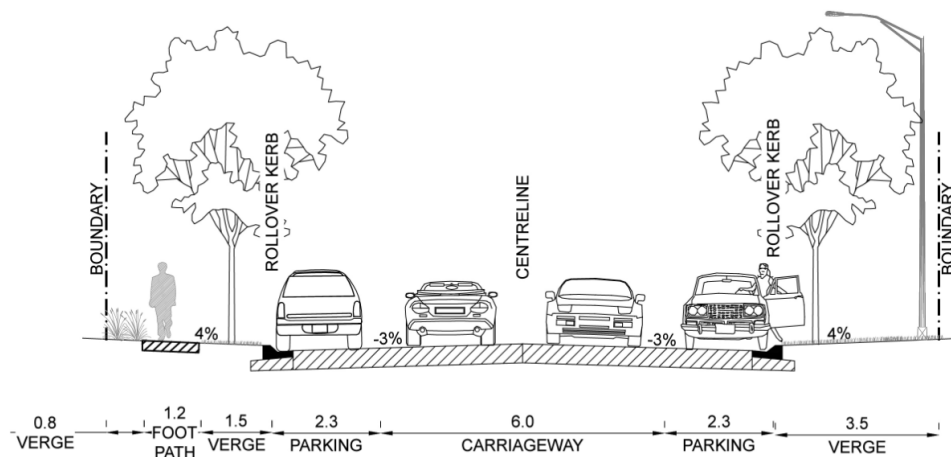
Figure 5 – Indicative Street Layout



Typical Collector Road



Typical Collector Road with Shared Path



Typical Local Road with Parking on One Side

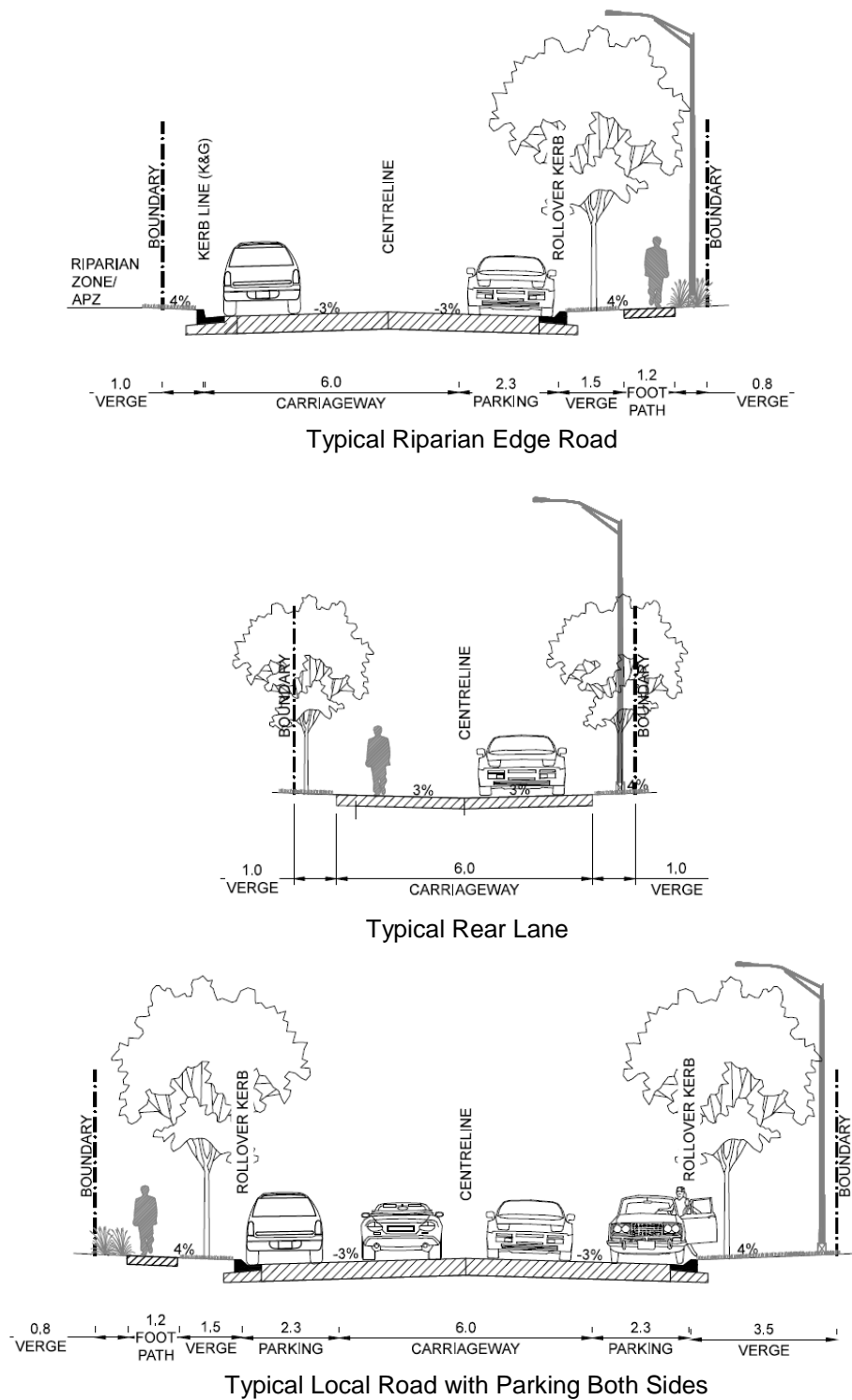


Figure 6 – Road hierarchy

Table 1 – Street Types

No	Street Type	Carriageway Width (metres)	Footpath Reservation Widths	Road Reserve	Concrete Footpath/Cycleway Required
1a	Collector Road	13.1 metres	3.5 metres	20.1 metres	1.5 metres one side
1b	Collector Road with Shared Path	11.6 metres	5.0 metres	20.1 metres	2.5 metres
2a	Local Road with Parking on Both Sides	10.6 metres	3.5 metres	17.6 metres	1.2 metres
2b	Local Road with Parking on One Side	8.3 metres	3.5 metres	15.3 metres	1.2 metres
3	Riparian Edge Road	8.3 metres	1 metre & 3.5 metres	12.8 metres	1.2 metres

2.5 LOCAL ROAD HIERARCHY

OBJECTIVES

(i) *The road network is to be based on a hierarchy of three local road/street types, as shown in Figure 5, and includes:*

- *Collector Road: is a road that collects traffic from access streets and carries higher volumes of traffic. A reasonable level of amenity and safety is to be maintained by restricting vehicle speeds through traffic-calming devices and intersection design;*
- *Local Road: provide local residential access with shared traffic and pedestrian use; and*
- *Riparian Edge Road: adjoins a riparian corridor on one side with property access and footpath on opposite side only.*

(ii) *The specific objectives of locating roads adjacent to open space, riparian corridors and other public areas are:*

- *To facilitate the orientation of lots and dwellings to front the open space and drainage areas.*
- *To enhance the outlook, setting and amenity of subdivisions adjoining open space, drainage areas and other public areas.*
- *To increase pedestrian accessibility to those public areas.*
- *To provide an acceptable level of access, safety and convenience for all street and road users within the release area, while ensuring acceptable levels of amenity, and minimising the negative impact of traffic.*
- *To provide a legible and permeable movement network for pedestrians and cyclists along streets and paths to points of attraction within and adjoining any development.*
- *To provide a suitable interface between the riparian corridors and urban development to minimise edge effects.*
- *To provide a bushfire asset protection zone between urban development and the riparian corridors.*

DEVELOPMENT CONTROLS

a) Internal intersections are to be T-junctions, roundabouts or controlled by other appropriate

traffic management treatments to slow and control traffic.

- b) For roads that cross natural drainage lines, the construction of bridges with raised approaches is preferred to culverts in order to maintain stream corridor function. Any works in or within 40 metres of a watercourse, or alterations to, natural drainage systems will require the necessary approvals of the Office of Water as well as consideration of the Fisheries Management Act 1944 for dredging or reclamation works.
- c) Roads constructed across waterways are to be designed and constructed with reference to the Department of Primary Industries preferred waterway crossing design documented in "Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossing" (NSW Fisheries 2003) and the NSW Office of Water (2012) controlled activities guidelines for watercourse crossing on waterfront land.
- d) Where culverts are required to be constructed across natural drainage lines:
 - Light wells are to be provided in the centre of the road;
 - Natural bases and a combination of elevated dry cells and recessed wet cells are to be incorporated into the design to facilitate the movement of aquatic, riparian and terrestrial fauna.
- e) Wherever shown on the Indicative Layout Plan and wherever else possible, roads are to be located along and adjacent to public open space, or other public lands. Where roads front open space, or riparian corridor land, the costs associated with their construction is the responsibility of the developer.
- f) Driveway access is to be avoided within 30 metres of signalised intersections.
- g) Street networks are to conform to the requirements set out in Table 1: Street Types.

2.6 ROAD DESIGN AND CONSTRUCTION

OBJECTIVES

(i) *To ensure sufficient carriageway and verge widths are provided to allow streets to perform their designated functions within the street*

network and to accommodate public utilities and drainage systems.

- (ii) To encourage the use of street by pedestrians and cyclists, and to allow cars, buses and other users to proceed safely without unacceptable inconvenience or delay.*
- (iii) To provide street geometry that is consistent with the needs of the street function, physical land characteristics and safety.*
- (iv) To encourage efficient and orderly development by providing for partial and temporary road construction.*

DEVELOPMENT CONTROLS

- (a) No retaining walls are to be constructed along the edge of roads fronting future or existing public open space, drainage areas or riparian corridor land.
- (b) On access streets there will be only light traffic and the travelled way should allow for unobstructed movement in one lane as well as passing opportunities.
- (c) The design of the carriageway is to discourage motorists from travelling above the intended speed by reflecting the functions of the street in the network. In particular the width and horizontal and vertical alignment is not to be conducive to excessive speeds.
- (d) Roundabouts, street cross falls, longitudinal gradient, vehicle-turning movements and sight distances are to comply with Council's Design Guidelines Subdivisions/Developments (June 1997).
- (e) Construction of roads and footpath/cycle paths fronting Open Space or Trunk Drainage are at the developer's expense.
- (f) Street trees are to be provided in all subdivisions and will be required to be planted at the time of subdivision construction. Street trees will be protected with tree guards and a 12 month bond will be imposed for each tree.
- (g) All collector roads are to be planted with a consistent species of tree in order to provide a boulevard treatment of the streetscape.
- (h) All plans documenting proposed street tree planting must indicate the location of Sydney Water sewer and water pipes including where they enter a public road reservation. No planting of street trees is permitted within 1.5 metres of a Sydney Water pipe.

- (i) Landscape works in roundabout islands may include low-maintenance groundcover planting and native grasses with a mature height of up to 0.5 metres as well as clear-stemmed tree planting to maximise sight distances. A metered water supply point and subsurface drainage is required in all small island planter beds.
- (j) Road verges provide opportunities for unifying the appearance and landscape character of the area and should be provided as a continuous design feature along the length of the arterial road.

2.7 PUBLIC TRANSPORT

OBJECTIVES

- (i) To encourage public transport use through the provision of integrated bus, pedestrian and cycle routes.*
- (ii) To stage bus services in line with the development.*
- (iii) To locate public transport stops close to key nodes, community facilities, schools and medium density residential development.*
- (iv) To ensure clear, safe pedestrian and bicycle links to all public transport stops.*
- (v) Provide dedicated cycle routes and facilities, and a highly permeable and safe pedestrian network.*

DEVELOPMENT CONTROLS

- (a) Provide local bus routes (short, medium and long term) determined by Transport for NSW and Council.
- (b) Provide adequate provision for bus turning at intersections of Boundary Road with Red Gables Road and Cataract Road.
- (c) Bus stops are to be:
 - easily accessible and located close to major trip attractors;
 - provided on-street and not within indented bays;
 - generally at separation distances of around 400m;
 - well connected with cycling and walking paths and crossing points of major roads, and positioned to ensure a high level of personal safety and security.

- (d) Bus shelters are to be provided at key and installed at the subdivision construction stage by the developer to the satisfaction of Council.
- (e) All roads that are accommodating buses are required to have the following:
- Corresponding bus stops (bus stops on both sides of the street);
 - A 3 metre wide kerbside parking lane in each direction to allow for buses to serve bus stops without implementing movements of other vehicle/buses in a travel lane;
 - Travel lanes on these roads should be 3.5 metres wide to adequately and safely accommodate buses.
- accordance with AS 1428 (Part 1 to 4 Design for access and mobility).

2.8 PEDESTRIAN AND CYCLE NETWORK

OBJECTIVES

- (i) *To provide a clear pedestrian and cycle network that provides links between all key activities, community facilities, open space areas and the Town Centre.*
- (ii) *To create an interconnected pedestrian and cycle network comprising streets and paths that are safe, legible, and comfortable.*
- (iii) *To ensure a high level of pedestrian and cycle accessibility which is well lit, safe and clearly defined within the Town Centre.*
- (iv) *To provide an efficient and safe network of pedestrian and cycleway paths for the use of the community, within and beyond the site.*

DEVELOPMENT CONTROLS

- (f) Pedestrian and cycle routes are to be provided in accordance with Figure 7. Alternate configurations can be provided subject to consistency with the objectives.
- (g) A shared cycle / pedestrian path is to be a minimum width of 2.5m.
- (h) Pedestrian and cycle paths are to be provided as part of the open space and recreation areas.
- (i) Pedestrian and cycle ways, as well as pedestrian refuge islands should be designed so that they are fully accessible by all users in terms of access points and gradients, in

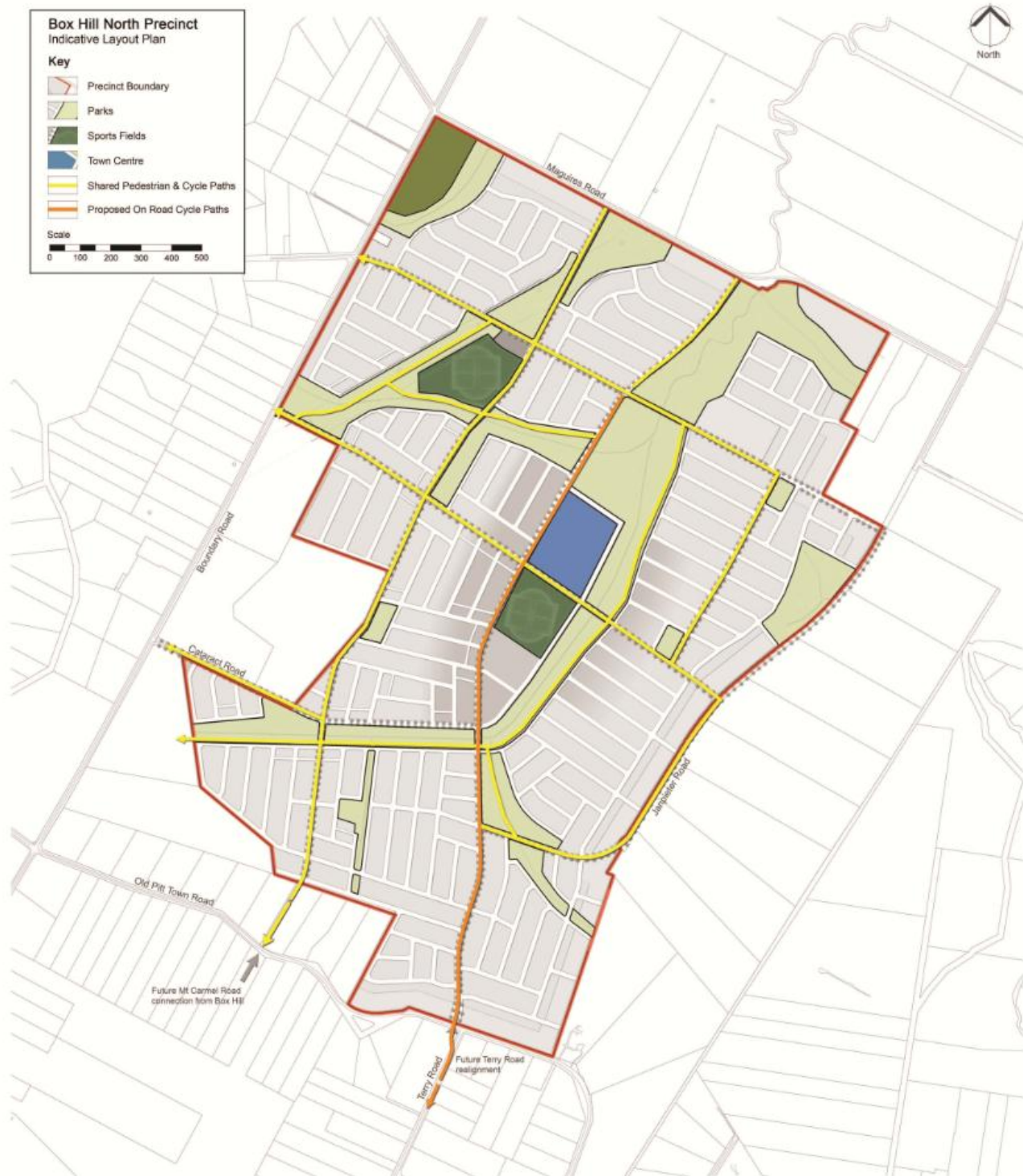


Figure 7 – Indicative Pedestrian and Cycle Network

2.9 PUBLIC DOMAIN

OBJECTIVES

- (i) *To provide places and spaces that are acceptable to all, accommodate a range of activities for residents and visitors and are capable of responding to changes in demand and future needs.*
- (ii) *To incorporate environmentally sensitive areas such as riparian land, bushland, and archeologically sensitive sites into the open space network and provide appropriate protection and management mechanisms.*
- (iii) *To establish open spaces that promote local character and identity as an interconnected network of open space comprising parks, squares and streets.*
- (iv) *To ensure that public domain elements such as street trees, paving, street furniture, lighting and signage contribute to a consistent street character.*

DEVELOPMENT CONTROLS

- (a) Link the open spaces using streets, riparian corridors, pedestrian paths and cycle ways.
- (b) Orient development surrounding open space towards the public domain to maximise opportunities for casual surveillance
- (c) Provide perimeter streets to all parks on at least three sides. Where a street frontage is not provided the development must front the park to provide casual surveillance.
- (d) Public domain elements such as street trees, paving, street furniture, lighting and signage are to be consistent and create local character.
- (e) Incorporate public art in open space areas. Where appropriate artwork should serve a dual role (e.g. as play equipment for children, informal seating or a marker for a meeting place).

2.10 SPECIAL CONTROLS

Riparian Corridors

- Riparian corridors and conservation areas are to provide opportunities for pedestrian and cycle ways, fitness trails and additional open space in a manner that maintains the environmental significance of these areas and

is consistent with the Office of Water Controlled Activity Guidelines (2012). A range of themed elements such as boardwalks, eco-pathways, and educational tracks should be utilised in appropriate locations (i.e. within the outer 50 percent of the Vegetated Riparian Zone at locations which cause minimal harm).

- Riparian corridors are to be protected for environmental conservation purposes and enhanced with species from the local native vegetation community.

Vegetated Management Plan - (VMP)

Any subdivision within land identified as Riparian Corridor Protection Area (Figure 8), or residential subdivision on land adjacent to such an area will be required to be accompanied by a Vegetation Management Plan and integrated with the required Landscape Plan, Bushfire Assessment, and Sedimentation & Erosion Control Plan.

The recommendations of the Vegetation Management Plan will be imposed as conditions of any consent that may be issued.

Watercourses

- The watercourses on the site are to be rehabilitated to mimic natural systems from the local area.
- Any new road crossings or the upgrade of existing road crossings are consistent with the Office of Water's Controlled activities guidelines for watercourse crossings on waterfront land and NSW DPI policy and guidelines for fish friendly waterway crossings for Class 1 and 2 waterways.

Detention Basins

- Office of Water requirements for detention basins as outlined in the 2012 Controlled Activity guidelines are to be incorporated into any proposals.
- Any proposed online basins need to be dry and vegetated.

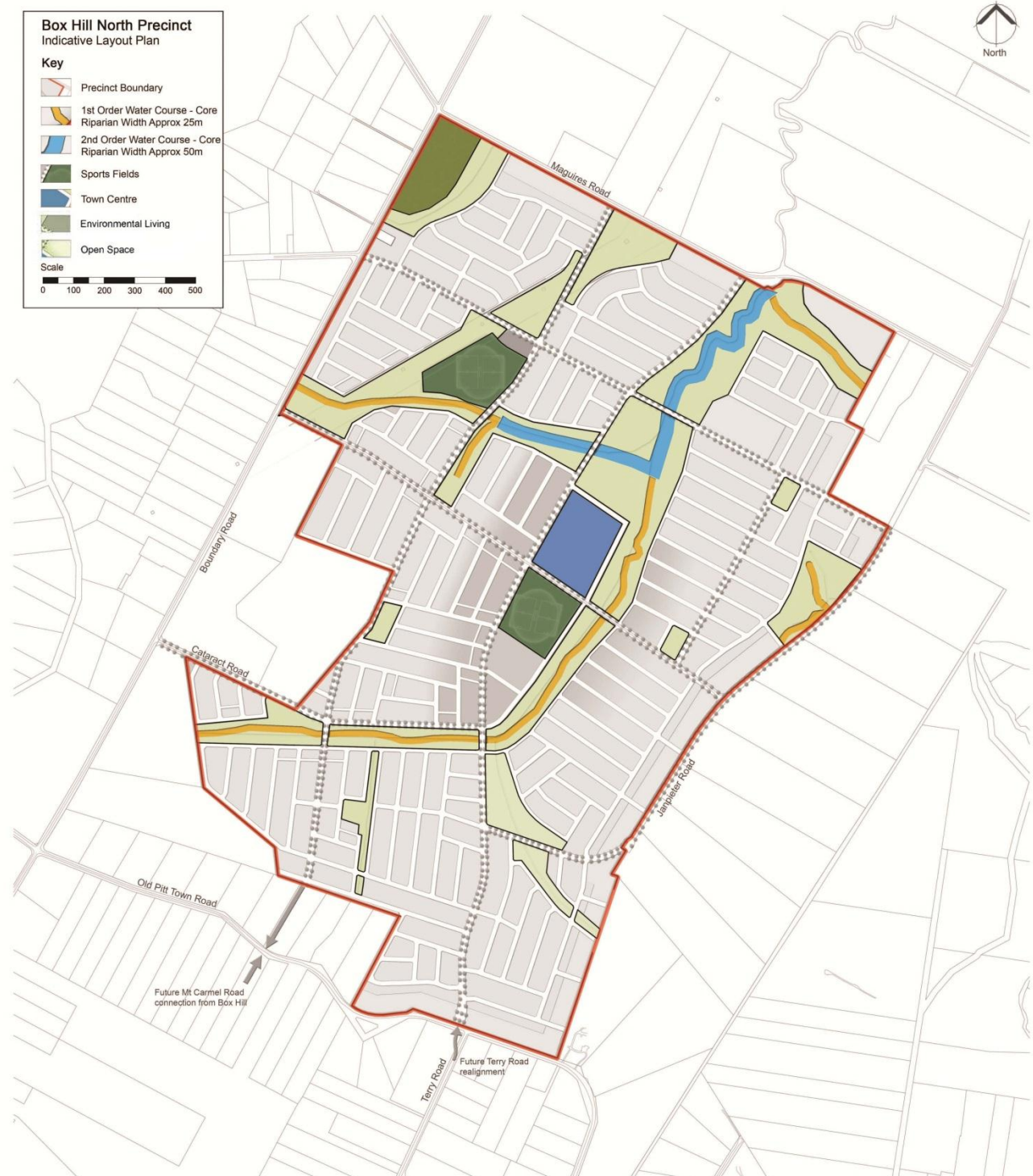


Figure 8 – Riparian Corridor Protection Areas

Signage, Street Furniture, Lighting and Public Art

- Signage, street furniture and lighting is to be consistent with DCP 2012 Part C Sections 2 and 3 Signage and Landscaping.

Utilities

- Gas and water services may be located in a shared trench on one side of the street and electricity, power and telephone located in a shared trench on the other side of the street.
- All development shall incorporate underground electricity reticulation and telecommunications.
- Any existing aboveground electricity reticulation services shall be relocated underground with the exception of main transmission lines.
- Utilities and services are to be supplied and constructed in accordance with the requirements of the relevant authority.
- Development is to have a water supply for fire fighting purposes in accordance with the NSW Rural Fire Service's Planning for Bushfire Protection 2006(as amended).

Transmission Easement

- Adequate space is to be provided around each transmission tower to ensure there is a safe working platform to facilitate the use of cranes and elevated work platforms for conducting repairs and maintenance.
- Continuity of vehicular access along the easement must be preserved without hindrance from changes to ground levels or the construction of culverts.
- Written consent shall be obtained from Transgrid for any proposed development within the easement.
- Vegetation within the easement must not be capable of growing beyond a height of 4 metres at full maturity.

2.11 STORMWATER MANAGEMENT**OBJECTIVES**

- (i) *To control stormwater runoff and discharge impacts on adjoining properties and into natural drainage systems before, during and after construction.*
- (ii) *To prevent flood damage to the built and natural environment, inundation of dwellings and stormwater damage to properties.*
- (iii) *To ensure that proposed development does not adversely affect the operational capacity of the downstream stormwater system.*
- (iv) *To encourage reuse, recycling and harvesting of stormwater to reduce demand on potable water supply.*
- (v) *To encourage and create an urban form where risks to life and property, as a result of either minor or major flooding, are minimised.*
- (vi) *To maximise opportunities for a best practice Water Sensitive Urban Design approach at the individual lot, overall development and regional scales.*
- (vii) *To reduce the impacts typically associated with urbanisation on receiving waterways, including a reduction in streamflow erosion potential.*
- (viii) *The WSUD strategy prepared for all development is to take into account water quality and stream erosivity objectives, together with attenuating flow rates and runoff volumes to acceptable levels following urban development.*

DEVELOPMENT CONTROLS

- (i) Water Sensitive Urban Design (WSUD) elements are to be designed and constructed in accordance with the following publications:
 - a. Australian Runoff Quality (Engineers Australia 2005).
 - b. Water Sensitive Urban Design Technical Guidelines for Western Sydney (NSW Government Stormwater Trust and UPRCT, May 2004).
- (ii) Discharge points are to be controlled and treated to prevent soil erosion, and may require energy dissipating devices on steeper topography, to Council's requirements.
- (iii) The minor drainage system minimum design standard is to capture and convey flows produced by a 10-year Average Recurrence Interval (ARI) design storm.
- (iv) Drainage reserves or local drainage links are required to discharge gap flows (the difference between the 100 year ARI storm event and half design pipe flow, allowing for blockage) from all ARI runoffs to the generally accepted maximum of the 100-year ARI storm event.

- (v) Local drainage links within subdivisions are to be a minimum of 5 metres in width designed in accordance with details available from Council. The developer is required to dedicate to Council at no cost, the land, all associated drainage works, erosion control planting, pathways and tree planting. Details are to be submitted with the engineering designs.
- (vi) Drainage facilities are to be of a standard acceptable to Council.
- (vii) All drainage pits shall have access from the ground surface. Buried junction pits shall not be permitted.
- (viii) All pipes to be dedicated to Council are to be located within public land.
- (ix) All residential, employment and commercial developments will be required to provide rainwater tanks in accordance with the requirements of the publication "Box Hill North Precinct Water Cycle & Flood Management Strategy Report", J Wyndham Prince, July 2013.
- (x) The natural form, characteristics and function of waterways, including riparian land, are to be retained, restored, protected and enhanced wherever possible.
- (xi) Constructed waterways, including riparian land, are to replicate as close as possible the form, characteristics and function of existing waterways at that location.
- (xii) Waterway rehabilitation and construction works are to apply 'Best Practice' combination of soft and hard engineering techniques establishing a water sensitive, geomorphically stable, diverse and functional waterway corridor that addresses urban influences and considers the immediate waterway corridor and aquatic systems both upstream and downstream of a subject site.

As a minimum, waterway design and construction ought follow the principles and guidelines in the Constructed Wetlands Manual (Department of Land and Water Conservation, NSW 1998) and A Rehabilitation Manual for Australian Streams (Cooperative Research Centre for Catchment Hydrology, 2000).

- (xiii) Soil and Water Management Plans are to be submitted with all residential subdivisions and are to be designed in accordance with The Hills Shire Council's 'Works Specification, Subdivision/Development' and the Department of Housing manual, 'Managing Urban Stormwater: Soils and Construction'.

- (xiv) During the construction phase of development, the relevant Stormwater Management Objectives for New Development as set out in the most up to date revision of "Managing Urban Stormwater: Soils and Construction" (NSW Department of Housing) must be complied with.

2.12 BUSHFIRE HAZARD MANAGEMENT

OBJECTIVES

- (i) *To reduce the risk to life and property in areas of bushfire risk.*
- (ii) *In determining Development Applications, Council will have regard to any likely bushfire hazard.*

DEVELOPMENT CONTROLS

- (j) Proposed public road within the subdivision will need to comply with the access requirements within section 4.1.3 of Planning for Bushfire Protection 2006.
- (k) A traffic report should be prepared which addresses the ability for emergency services to access the precinct whilst residents are evacuating the area, taking into account the additional traffic generated by the proposed development.
- (l) Development subject to bushfire risk will be required to address the requirements of the NSW Rural Fire Service Guidelines entitled "Planning for Bushfire Protection 2006."
- (m) Development applications on bush fire prone land within the precinct shall be supported by a bushfire assessment report which considers the provisions of Planning for Bush Fire Protection 2006.

2.13 CUT AND FILL

OBJECTIVES

- (i) *To minimise incidence of cut and fill and alterations in natural ground levels.*
- (ii) *To ensure that dwellings are designed with regard to site conditions and minimise the impact on landform.*
- (iii) *To lessen the visual impact of retaining walls on allotment boundaries.*

DEVELOPMENT CONTROLS

- (n) Cut and fill principles are illustrated in Figure 9.
- (o) Cut and fill of land is to be minimised under the following numeric controls:
 - maximum depth of any cut in the slope is 1 m, and
 - maximum height of any fill of the slope is 1 m.
- (p) Side boundary retaining walls for development on cross slopes should retain a cut no higher than 1 metre.
- (q) Where the retaining of land is greater than 1 m in height, retaining walls should be tiered with a minimum distance of 600mm between walls and suitably landscaped.
- (r) Embankments should have a maximum grade of 1:4 and be suitably landscaped to prevent erosion.

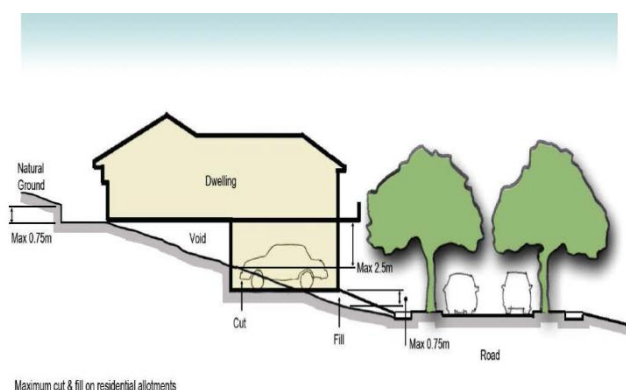


Figure 9 - Cut and fill principles

2.14 ABORIGINAL HERITAGE

Council shall require all subdivision development applications to include an Aboriginal Cultural/Archaeological Assessment including consultation and mitigation to comply with relevant legislation and associated requirements. The heritage assessment shall be prepared by a suitably qualified person.

Where the Aboriginal Assessment identifies a site as significant, submission of a letter from the relevant Aboriginal Lands Council is required expressing support or recommendations for the subdivision proposal.

3. RESIDENTIAL DEVELOPMENT

3.1 HOUSING TYPES AND DESIGN PRINCIPLES

A mix of housing types that range from residential flat buildings to large lot residential dwellings are to be provided within Box Hill North to facilitate housing diversity and choice and to meet the requirements of people with different housing needs. Generally, higher residential densities are to be located in the vicinity of the Town Centre and in areas with high visual or landscape amenity and proximity to facilities. Low density residential development is to be located along ridges and steeper slopes.

3.2 MINIMUM SUBDIVISION SIZE FOR R2 LOW DENSITY RESIDENTIAL - LARGE LOTS

OBJECTIVES

- (i) To provide lots of a size conducive to residential living, having regard to any development constraints or environmental qualities of that land.
- (ii) To ensure lots have sufficient area to provide adequate access, open space, a sufficient building platform and attractive presentation to the street.

DEVELOPMENT CONTROLS

- (a) Minimum lot size: 2000 m²
- (b) Minimum depth: 60 metres
- (c) Minimum frontage: 30 metres
- (d) Minimum front setback: 10 metres
- (e) Minimum side setback: 5 metres

3.2.1 BUILDING PLATFORM

OBJECTIVE

- (i) To ensure lots have a suitable area for the erection of a dwelling and associated structures, free of constraints or restrictions.

DEVELOPMENT CONTROLS

- (s) The lot must be capable of providing a building platform of at least 20 metres by 15 metres clear of any restrictions or building line setbacks. The building platform shall be sited in an accessible and practical location suitable for residential building construction.
- (t) Suitable graded vehicle access shall be provided from a public road to the identified building platform in accordance with Councils minimum driveway requirements.

3.3 ENVIRONMENTAL LIVING

OBJECTIVE

- (i) *To ensure that future development is designed and managed in a manner which respects the natural attributes of the environmental living zoned land area in Box Hill North.*

DEVELOPMENT CONTROLS

Integrated Development Application

- A single integrated Development Application for the whole of the environmental living zone land area is to be submitted to Council. The development is to be accompanied by a detailed site analysis plan. Environmental living design principles are illustrated in Figure 10.

Development Envelopes

- A Development Envelope Plan is to be prepared for each individual lot within the environmental living zone land area. The plan is to set out the broad parameters such as the building envelope, maximum building height and any individual characteristics of individual lots.
- The footprint of any building and related structures (including out buildings, storage sheds and courtyards) must be sited wholly within the Development Envelope Plan for individual lots.

Services

- Building services (including drainage and utilities) are to be underground. Trenching is not permitted within the drip line of existing trees to minimize impact. Site plans are to show service trench location in relation to existing trees.

Tree Retention and Removal

- In the area of individual lots outside the Development Envelope, no native trees or native understorey vegetation is to be removed or lopped unless:
 - Removal of native trees or native understorey vegetation is to be undertaken as part of an ongoing program of vegetation/ fuel management (if required); or
 - Individual native trees can be demonstrated to be a clear risk to personnel safety and or property, or
 - Removal of native trees and understorey is essential to the provision of access to a lot.
 - Prior to any such removal of native trees you must obtain approval of Council in accordance with their Tree Preservation Policy.

Clothes Drying

- Outdoor clothes drying areas are to be located within the Development Envelope for an individual lot and located to the side or rear of the dwelling and adequately screened.
- There will be no clothes drying on balconies of units within residential flat buildings.

Waste Minimisation and Recycling

- Garbage storage and recycling facilities are to be provided within the Development Envelope for an individual lot. The area is to be adequately screened.

Rainwater Tanks

- Rainwater tanks are to be located within the Development Envelope for each lot and located adjacent to the dwelling or integrated into the design of the dwelling where possible.

Outbuildings

- Any additional storage or work spaces are to be located within your development envelope and generally to the rear of a dwelling

Swimming pools and tennis courts

- If a swimming pool or tennis court is proposed it must be located within the Development Envelope for an individual lot and to the rear or side of the dwelling only.

Existing Vegetation and Natural Ground Conditions

- If the siting of a dwelling requires the removal of trees, similar species are required to be planted elsewhere within the lot.
- Landscaping is to incorporate native grasses, understorey and ground cover vegetation and consistent with any bushfire fuel management requirements.
- Suitable Plant Species Endemic or suitable native plant species selected from the approved plant species list are to be used for revegetation of disturbed areas both outside of and within individual Development Envelopes.
- Non-invasive exotic species are only permitted within Development Envelopes and must be contained within defined edges (e.g. timber, steel or masonry edging).

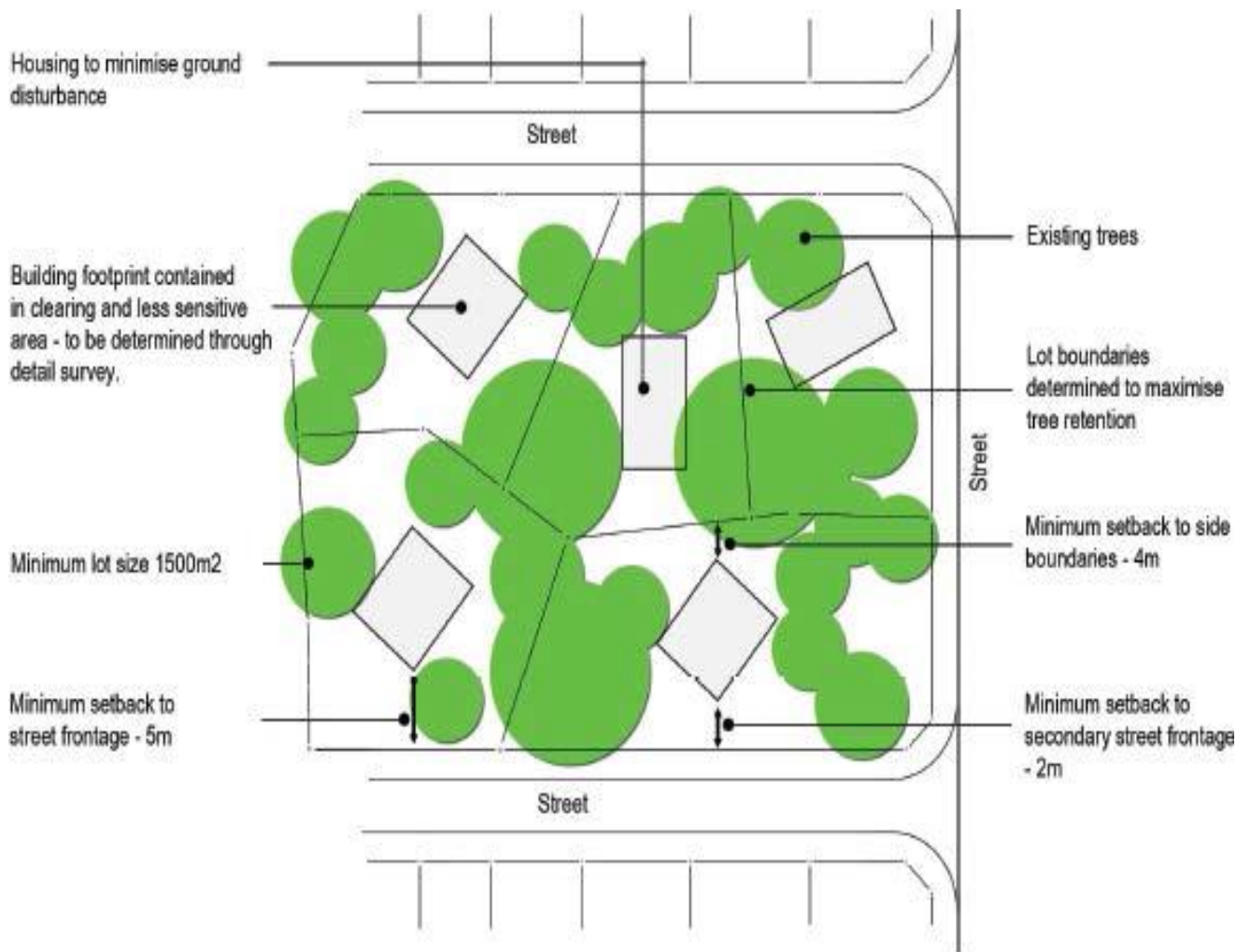


Figure 10 – Environmental Living Design Principles

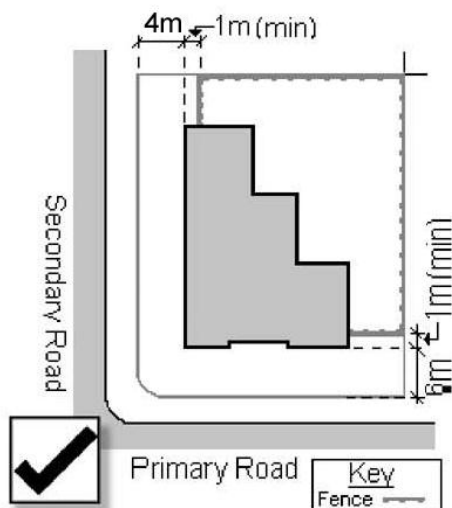
3.3.1 CORNER LOTS

OBJECTIVES

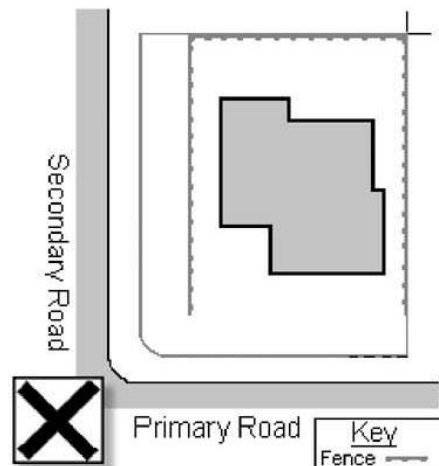
- (i) *To ensure that dwellings sited on corner lots take advantage of their visually prominent location whereby the design addresses both street frontages.*
- (ii) *To ensure that the dwelling façade along the secondary street frontage provides architectural relief to the streetscape.*

DEVELOPMENT CONTROLS

- (i) On corner lots a minimum of three of the following design elements are to be included along the secondary frontage:
 - Verandahs;
 - Gables;
 - Vertical elements to reduce the horizontal emphasis of the façade;
 - Entry feature or portico;
 - Balcony/window boxes or similar elements;
 - Landscaping/fencing compatible with the frontage status of the elevation; and
 - Windows.
- (ii) The following features are not to occur along either façade:
 - Blank walls without relief;
 - Windows or doors of utility rooms exposed to view; and
 - Hot water services, air conditioning machinery or similar utility installations.
- (iii) Fencing on each road frontage boundary will be limited to a maximum of 25% of the length of that boundary. Any such fencing will be located a minimum of 1 metre behind the closest wall of the building to that boundary (See Figure 11).



**SET BACKS FOR CONER SITES
AND STREET FRONTAGE TREATMENT**



**DESIGN ADDRESSES ONLY ONE
FRONTAGE WITH SURROUNDING
HIGH FENCES**



**VERTICAL ELEMENT THAT
HELPS TO DEFINE THE CORNER**



**DESIGN SUCCESSFULLY ADDRESSES
BOTH STREET FRONTAGES**



**DESIGN SUCCESSFULLY ADDRESSES
BOTH STREET FRONTAGES**



**FAILS TO ADDRESS THE SECONDARY
STREET FRONTAGE WITH BLANK WALL
AND HOT WATER SERVICE LOCATED
ALONG THE SECONDARY STREET
FACADE**

Figure 11 – Corner lots

3.4 RESIDENTIAL AMENITY, SOLAR ACCESS AND PRIVACY

OBJECTIVES

- (i) *To provide a high level of residential amenity with opportunities for outdoor recreation and relaxation within the property.*
- (ii) *To enhance the spatial quality, outlook, and usability of private open space, including outdoor clothes drying.*
- (iii) *To facilitate solar access to the living areas and private open spaces.*
- (iv) *To minimise overshadowing of neighbouring dwellings and their private open space.*
- (v) *To minimise the direct overlooking of internal and external living areas through site layout and building layout, location of windows and balconies, design of windows and use of screening devices.*
- (vi) *To ensure that buildings are sited and designed so as to provide for solar access and both visual and acoustic privacy.*

DEVELOPMENT CONTROLS

Solar Access and Cooling

- Dwelling design should:
 - include a living room or the like with a northern aspect,
 - ensure daylight access to habitable rooms and private open space, particularly in winter – use skylights, clerestory windows and fanlights to supplement daylight access,
 - incorporate cross ventilation,
 - incorporate shading and glare control, particularly in summer i.e. - using shading devices, such as eaves, awnings, colonnades, balconies, pergolas, external louvers and planting,
 - provide external horizontal shading to north-facing windows,
 - provide vertical shading to east or west windows.
 - provide an area with good solar access for outdoor clothes drying.

Privacy

- The siting of windows of habitable rooms on the first floor shall minimise overlooking to the private open space of neighbouring properties.
- Direct overlooking of main habitable areas and private open spaces of adjacent dwellings is to be minimised through building layout, window and balcony location and design, and the use of screening devices, including landscape treatments.
- Habitable room windows with a direct sightline to the habitable room windows in an adjacent dwelling within 3m of the property boundary are to:
 - be obscured by fencing, screens or appropriate landscaping,
 - be offset from the edge of one window to the edge of the other by a distance sufficient to limit views into the adjacent window; or
 - have fixed obscure glazing in any part of the window below 1.5m above floor level.
- A new balcony, deck, patio, pergola, terrace or verandah and any alterations to an existing balcony, deck, patio, pergola, terrace or verandah must have a privacy screen if it:
 - has a setback of less than 3m from a side or rear boundary,
 - has a floor area more than 3m², and
 - has a floor level more than 1m above ground existing ground level.
- A detached deck, patio, pergola, terrace or additions or alterations to an existing deck, patio, pergola, or terrace must not have a floor level that is more than 600mm above existing ground level.

3.5 FORMS, ROOFS AND FEATURE ELEMENTS

OBJECTIVES

- (i) *To create an attractive and cohesive streetscape (refer to Figure 12).*
- (ii) *To ensure that buildings are designed to enhance the desired future built form character of the neighbourhood.*

DEVELOPMENT CONTROLS

Porches and entries

- Should form an integral part of the dwelling, create a clear and visible entry area and where possible provide shelter for people entering the house.
- On corner lots, the main entry should ideally be on the long side of the lot to avoid a blank face to that street.
- Where possible, aerials, satellite dishes, water tanks, air conditioning units and solar hot water units should not generally be visible from the street or other public spaces.
- Careful attention is required to ensure optimum orientation for solar collectors, while avoiding the potential of such items being viewed as roof clutter.

Verandahs and pergolas

- Be provided to all elevations that are exposed to western and northern sun.
- Appear as an extension of the house.
- Be made of durable materials such as timber or metal.

Balconies and terraces

- Should provide usable external living areas for upper levels of the home.
- Provide additional opportunities for outlook to the street and garden, improving safety by encouraging passive surveillance.

Roof eaves and sun shading

- Sunscreens and awnings, particularly on the northern and western elevations are encouraged.
- Eaves of at least 450mm (to the fascia) are required on all pitched roofs except where roof portion is zero lotted. However, where practical, 600mm eaves should be considered to achieve an increased degree of shading to windows and for enhanced aesthetic appeal.
- Where flat roofs are proposed, alternative shading devices are required.
- Eaves are not mandatory on garages where they are located on the southern side of the main house.

Materials and proportions

- Durability, detailing, appearance and diversity should be considered when selecting materials to ensure a high quality appearance over time.
- Variety and individuality are important, and considered materials selection creates a harmonious balance on the facades of the house.
- Well-balanced proportions are also important for improving the appearance of the dwelling, helping to relate various elements such as doors, windows and entries.

Aerials and other clutter

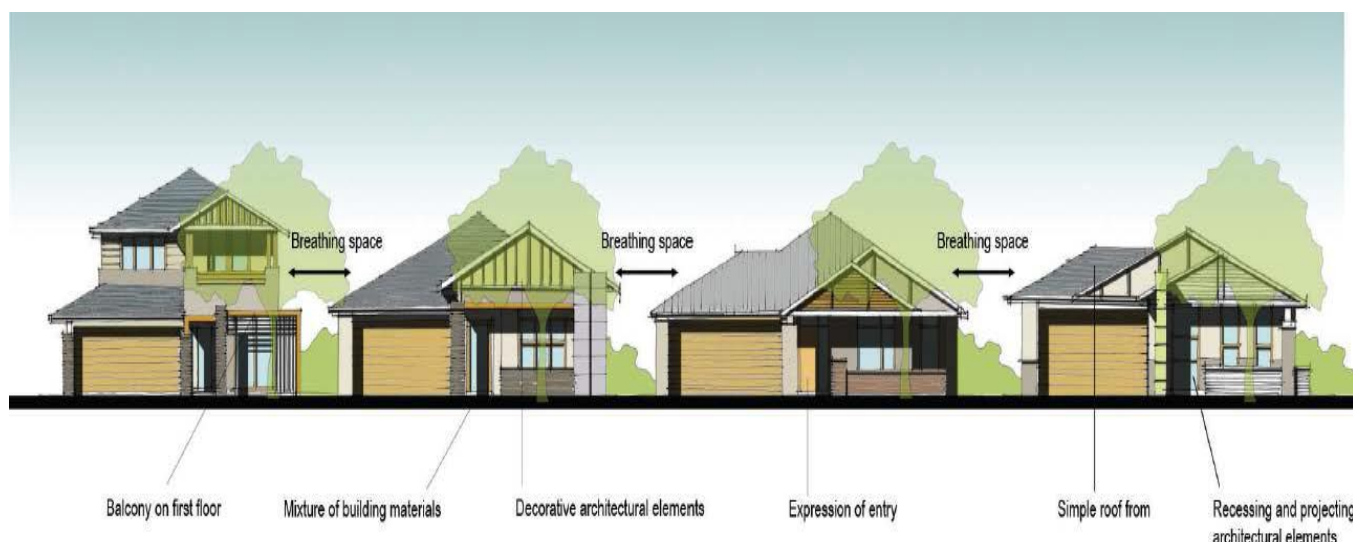


Figure 12 - Streetscape Elevation

3.6 FENCING

OBJECTIVES

- (i) *To enhance the quality of the streetscape through consistent and co-ordinated front fencing.*
- (ii) *To define the public and private domain and provide a sense of enclosure to the front yard.*
- (iii) *To ensure boundary fencing is of a high quality and compliments the streetscape.*

DEVELOPMENT CONTROLS

- (u) Side and rear fencing are to be a maximum of 1.8 m high and located not forward of the front building line.
- (v) On corner lots the preferred outcome is for the dwelling to front both street frontages providing a better overall streetscape presentation. Where fencing to the secondary street frontage is proposed, it is not to exceed 1.8 m high for more than one third of the length of the secondary road frontage, if relevant.
- (w) On corner lots the front fencing style is to be continued along the secondary street frontage to at least 1 m behind the building line of the dwelling.
- (x) Where a dwelling is located adjacent to open space, the design of the fencing is to permit casual surveillance of the open space and provide the dwelling with outlook towards the open space. Fencing that adjoins open space

is to permit casual surveillance. Colorbond or timber paling or lapped/capped fencing can only be used internally between dwelling lots.

- (y) Where cut is proposed on the boundary of a lot, retaining walls are to be constructed with side fence posts integrated with its construction (relevant construction details are required with retaining wall approval). Otherwise retaining walls must be located a minimum of 450mm from the side or rear boundary of the lot containing the cut.

3.7 GARAGES AND CAR PORTS

OBJECTIVES

- (i) *To provide safe and secure parking for residents and visitors.*
- (ii) *To reduce the visual impact of garages, carports, and parking areas on the streetscape and improve dwelling presentation.*
- (iii) *To ensure the design of garages do not dominate the frontage of the house.*
- (iv) *To encourage the use of studios over garages to provide surveillance, work from home or residential accommodation opportunities.*

DEVELOPMENT CONTROLS

- (z) Garage doors are to be set back a minimum of
 - 1m from the front facade of the home
 - 5.5m from the front boundary.
- (aa) Garage doors are to be:

- less than 50% of the width of the house
 - no wider than 6m
 - a maximum height of 2.4m.
- (bb) Double garages are only permitted on lots that are 12m wide or greater.
- (cc) Single fronted tandem garages with one space behind the other are permitted.
- (dd) Triple garages are only permitted on large residential lots with a minimum lot size of 2000m².
- (ee) Garages located on corner lots should be accessed from the secondary street (unless solar orientation would be compromised).
- (ff) Driveways should be a minimum of 1.5m from street trees.
- (gg) Landscaping is to be provided between the driveway and side fences.

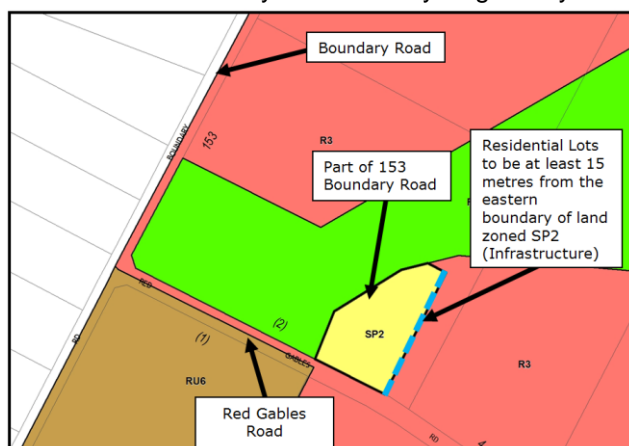
3.8 RESIDENTIAL DEVELOPMENT ADJOINING SEWAGE TREATMENT FACILITIES

OBJECTIVES

- (i) *To ensure that the amenity of residents, adjoining the water recycling facility at 153 Boundary Road, Box Hill, is appropriately maintained.*

CONTROLS

- (a) Residential lots to the east of land zoned SP2 Infrastructure, and containing a sewage treatment facility or water recycling facility, at 153 Boundary Road, Box Hill (Lot 10 DP593517), shall be at least 15 metres from the boundary of the site containing the sewage treatment facility or water recycling facility.



3.9 STREET TREES

OBJECTIVES

- (i) *Be consistently used to distinguish between public and private spaces and between different classes of street within the street hierarchy;*
- (ii) *Minimise risk to utilities and services;*
- (iii) *Be durable and suited to the street environment and, wherever appropriate, include endemic species;*
- (iv) *Maintain adequate lines of sight for vehicles and pedestrians, especially around driveways and street corners;*
- (v) *Provide appropriate shade; and*
- (vi) *Provide an attractive and interesting landscape character without blocking the potential for street surveillance.*

CONTROLS

- (b) Trees should include endemic species; however suitability to the surrounding infrastructure should be paramount.
- (c) All trees shall be sourced from a "NATSPEC" accredited nursery.
- (d) Trees species should be selected that will not cause future damage to Council and private infrastructure eg: drainage culverts and private driveways.
- (e) Street trees must be in accordance with Councils preferred planting list.
- (f) Where nature strips have a footpath street trees should be planted in the centre, between the rear of kerb and the edge of footpath.
- (g) Street trees are not to be planted within 9m from road corner or within 3m of a driveway. (Refer figure 13 below).
- (h) Street trees are to be planted away from street lighting and utilities such as storm water outlets and drainage culverts. (Refer figure 13 below).
- (i) Street trees should be spaced approximately every 6 metres.

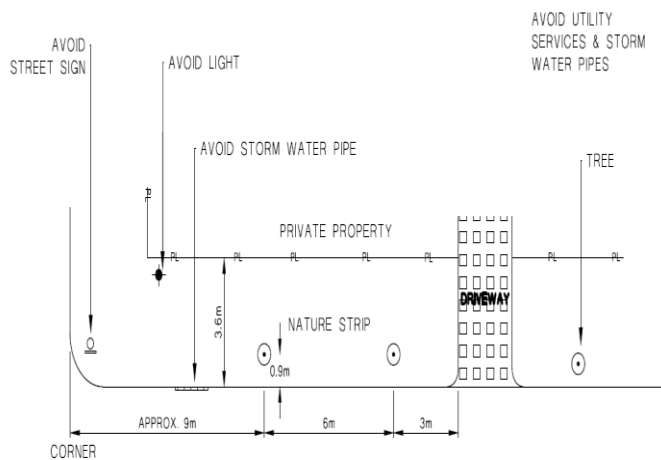


Figure 13 – Location of street trees

Footpaths

Local Roads

- Footpaths are required to be constructed on one side of the street only. On the side of the street where footpaths are constructed one tree per lot is to be planted in the centre of the lot frontage. Where there are no footpaths in the street two trees per lot spaced at 6 metre intervals are required.
- Footpaths to be 1.2m in width.

Collector/Sub-Arterial Roads

- Footpaths are required to be provided on both sides of the street.
- Footpaths are to be 1.5m in width.

SPECIES LIST FOR STREET TREES BOX HILL NORTH

Cumberland Plain Woodland – Larger mature size

Tree Species	Common Name	No Footpath	Footpaths	Cycleway
<i>Eucalyptus crebra</i>	Narrow-Leaved Ironbark	x		
<i>Eucalyptus eugenioides</i>	Thin-Leaved Stringybark	x		
<i>Eucalyptus fibrosa</i>	Broad-Leaved Stringybark	x		
<i>Eucalyptus moluccana</i>	Grey Box	x		
<i>Eucalyptus tereticornis</i>	Forest Red Gum	x		

Cumberland Plain Woodland – Small mature size

Tree Species	Common Name	No Footpath	Footpaths	Cycleway
<i>Melaleuca decora</i>	Feather Honey Myrtle		x	x

Eucalypt River Flat Forest – Larger mature size

Tree Species	Common Name	No Footpath	Footpaths	Cycleway
<i>Angophora subvelutina</i>	Narrow-Leaved Ironbark	x		
<i>Angophora floribunda</i>	Thin-Leaved Stringybark	x		
<i>Eucalyptus elata</i>	River Peppermint	x		
<i>Eucalyptus moluccana</i>	Grey Box	x		
<i>Eucalyptus tereticornis</i>	Forest Red Gum	x		
<i>Eucalyptus ovata</i>	Swamp Gum	x		
<i>Eucalyptus longifolia</i>	Woollybutt	x		
<i>Eucalyptus amplifolia</i>	Cabbage Gum	x		
<i>Eucalyptus botryoides</i>	Bangalay	x		
<i>Casuarina cunninghamiana</i>	River She Oak	x		
<i>Casuarina glauca</i>	Swamp Oak	x		

Eucalypt River Flat Forest – Medium mature size

Tree Species	Common Name	No Footpath	Footpaths	Cycleway
<i>Melia azedarach</i>	White Cedar (Deciduous)		x	x
<i>Melaleuca styphelioides</i>	Prickly Paperbark		x	x
<i>Melaleuca decora</i>	Feather Honey Myrtle		x	x
<i>Acmena smithii</i>	Lilly Pilly (not CVs)		x	x

Eucalypt River Flat Forest – Small mature size

Tree Species	Common Name	No Footpath	Footpaths	Cycleway
<i>Tristanopsis laurina</i>	Water Gum	x		
<i>Callistemon salignus</i>	White Bottlebrush	x		
<i>Livistona australis</i>	Cabbage Tree Palm	x		
<i>Melaleuca lineariifolia</i>	Snow in Summer	x		
<i>Leptospermum polygalifolia</i>	Tantoon	x		
<i>Backhousia myrtifolia</i>	Grey Myrtle	x		

Non –locally indigenous native trees

Tree Species	Common Name	No Footpath	Footpaths	Cycleway
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Medium Size				
<i>Callitris columnaris</i>	White Cypress Pine		x	x
<i>Callitris rhomboidea</i>	Port Jackson Pine		x	x
<i>Brachychiton populneum</i>	Kurrajong		x	x
<i>Glochidion ferdinandii</i>	Cheese Tree		x	x
<i>Lophostemon confertus</i>	Queensland brushbox		x	x
<i>Backhousia myrtifolia</i>		x		
<i>Cupaniopsis anacardiodes</i>		x		
<i>Elaeocarpus eumundii</i>		x		
<i>Elaeocarpus reticulatus</i>		x		
<i>Melaleuca Revolution Series</i>		x		
Small Size				
<i>Syzygium luehmannii</i>	Riberry		x	x
<i>Backhousia citriodora</i>	Lemon Myrtle		x	x
<i>Waterhousia floribunda</i>	Watergum		x	x
<i>Tristaniopsis laurina 'Luscious'</i>			x	x
<i>Callistemon 'Kings Park Special'</i>		x		
<i>Callistemon viminalis</i>		x		
<i>Ceratopetalum gummiferum</i>			x	x

Non Native Trees

Tree Species	Common Name	No Footpath	Footpaths	Cycleway
Medium Size				
<i>Pyrus calleryana</i> 'Capital'	Fastigate Ornamental Pear	x		
<i>Quercus palustris</i> 'Pringreen' Green Pillar®	Fastigate Pin Oak	x		
<i>Ulmus parvifolia</i> 'Todd' 🌳	Chinese Weeping elm	x		
<i>Fraxinus pennsylvanica</i> 'Urdbell'- Urbanite™	Ash		x	x
<i>Calodendrum capense</i>	Cape Chestnut		x	x
<i>Fraxinus Raywood</i>	Claret Ash	x		
<i>Fraxinus angustifolia</i> 'Raywood'	Claret Ash	x		
<i>Acer platanoides</i> 'Crimson Sentry'		x		
<i>Acer x freemanii</i> 'Jeffersred'		x		
<i>Agonis flexuosa</i> 'Burgundy'	Willow Myrtle	x		
<i>Backhousia citriodora</i>		x		
<i>Brachychiton populneus</i>		x		
<i>Fraxinus pennsylvanica</i> 'Lednaw' - Aerial™		x		
<i>Glochidion ferdinandi</i>		x		
<i>Jacaranda mimosifolia</i>			x	x
<i>Lophostemon confertus</i>		x		
<i>Nyssa sylvatica</i>		x		
<i>Pistacia chinensis</i>		x		
<i>Prunus cerasifera</i> 'Nigra'			x	x
<i>Prunus cerasifera</i> 'Oakville Crimson Spire'			x	x
<i>Pyrus calleryana</i>			x	x
<i>Pyrus salicifolia</i>			x	x
<i>Quercus rubra</i>			x	x

<i>Syncarpia glomulifera</i>			x	x
<i>Syzygium luehmannii</i>			x	x
<i>Ulmus parvifolia</i> 'Todd'		x		
<i>Waterhousea floribunda</i>			x	x
<i>Zelkova serrata</i>				
<i>Acer rubrum</i> 'October Glory'				
<i>Magnolia</i> × <i>soulangeana</i>		x		
<i>Magnolia grandiflora</i>			x	x
Small Size				
<i>Acer campestre</i> 'Elsrijk'	Field maple		x	x
<i>Fraxinus griffithii</i>	Ash		x	x
<i>Acer platanooides</i> 'Globosum'			x	x
<i>Acer rubrum</i>	October Glory		x	x
<i>Lagerstroemia</i>	Crepe Myrtle		x	x
<i>Prunus</i> × <i>blireana</i>	Flowering plum		x	x
<i>Prunus</i> × <i>blireana</i>			x	x
<i>Fraxinus griffithii</i>		x		
<i>Lagerstroemia indica</i> × <i>L. fauriei</i>		x		
<i>Michelia doltsopa</i>		x		