

Prepared for: NSW Land and Housing Corporation

Date: 21 June 2022

Draft Development Control Plan

# Riverwood Estate State Significant Precinct



# Acknowledgement of Country





The location of what is now known as Riverwood Estate is within country that has been described as belonging to the Bidjigal / Bediagal / Bideegal people.

The Bediagal are described as 'Woods People' who occupied land away from the sea, along rivers and creeks, and ranged between the Georges River in the south and Parramatta in the north. This identification as woods people provides indications as to the likely primary modes of subsistence and possibly their systems of belief.

The Bediagal people were served by the freshwater and riverine resources of the Salt Pan Creek, the local widely-varied woodlands botany and its faunal species.

*"We Aboriginal people have walked this land for tens of thousands of years and we continue to do so today. We hold a deep connection to the land, skies and water ways. The study area is highly significant to us Aboriginal people as it is located close by to a water way, this would indicate that Aboriginal people would have utilized this water source."*

**Kamilaroi-Yankunjatjara Working Group, advice on the Aboriginal cultural heritage values of the study area.**

Architectus acknowledges the First Nations people. We acknowledge the traditional custodians of the lands on which our company is located and where we conduct our business. We pay our respects to ancestors and Elders, past and present. Architectus is committed to honouring First Nations peoples' unique cultural and spiritual relationships to the land, waters, and seas, and their rich contribution to society.

Project and report Riverwood Estate State Significant Precinct

Date June 21, 2022

Client NSW Land and Housing Corporation

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# Contents

<b>Acknowledgement of Country</b>	<b>2</b>	<b>7</b>	<b>Design and Built Form</b>	<b>34</b>
<b>1 Introduction</b>	<b>6</b>		7.1 Land Use	34
1.1 Name of this Document	6		7.2 Building Heights	34
1.2 Purpose of the DCP	6		7.3 Street Wall Heights	34
1.3 Land to Which this DCP Applies	6		7.4 Setbacks	36
1.4 Relationship to Legislation and Other Planning Policies	6		7.5 Landscaped Area and Deep Soil	40
1.5 Interpretation	7		7.6 Communal Open Space	40
1.6 How to Use this DCP	7		7.7 Private Open Space	40
1.7 Development Excluded from this DCP	7		7.8 Solar Access	41
			7.9 Vehicular Access and Basement Entries	41
			7.10 Design Excellence	42
			7.11 Public Art	42
<b>2 Urban Strategy</b>	<b>8</b>		<b>8 Trees and Biodiversity</b>	<b>43</b>
2.1 Vision	8		8.1 Introduction	43
2.2 Project Objectives	9		8.2 Tree Canopy	43
2.3 Structure Plan	10		8.3 Soil Volume	44
2.4 Key Design Moves	11		8.4 Tree Retention	44
2.5 Desired Future Character	12			
<b>3 Infrastructure, Open Space and Public Domain</b>	<b>15</b>	<b>9</b>	<b>Ecologically Sustainable Development</b>	<b>45</b>
3.1 Street Network, Public and Active Transport	15			
3.2 Road Widening	23	<b>10</b>	<b>Water Management</b>	<b>47</b>
3.3 Public Open Space	23		10.1 Water Sensitive Urban Design and Stormwater Management	47
3.4 View Corridors and Outlook	26		10.2 Flood Management	47
3.5 Street Trees and Landscaping	27			
3.6 Crime Prevention through Environmental Design	27	<b>11</b>	<b>Glossary</b>	<b>48</b>
<b>4 Parking</b>	<b>29</b>			
<b>5 Staging and Implementation</b>	<b>30</b>			
<b>6 Heritage</b>	<b>31</b>			
6.1 European Heritage	31			
6.2 Aboriginal Heritage	31			
6.3 Connecting with Country	33			

# 1 Introduction



Figure 1. Land to which this DCP applies

## 1.1 Name of this Document

This document is called the Riverwood Estate Development Control Plan (DCP).

## 1.2 Purpose of the DCP

The purpose of this DCP is to provide detailed controls to guide the development of the Riverwood Estate (see in Figure 1).

## 1.3 Land to Which this DCP Applies

This DCP applies to all development within the Riverwood Estate (the site), as illustrated in Figure 1.

## 1.4 Relationship to Legislation and Other Planning Policies

This DCP is for the purposes of Section 4.15 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

This DCP adopts the provisions of the Canterbury DCP 2012 (DCP 2012)/Draft Canterbury Bankstown DCP 2021 (Draft DCP) in accordance with 3.43(3) of the Act. If there is an inconsistency between this DCP and the provisions of the DCP 2012/Draft DCP, this DCP prevails to the extent of the inconsistency.

This DCP is to be read in conjunction with the provisions and requirements of:

- The Canterbury Local Environmental Plan 2012 (LEP)/Draft Canterbury Bankstown Consolidated LEP (Draft LEP);
- Any other relevant policy adopted by Canterbury Bankstown Council.

References in this DCP to the LEP 2012/Draft LEP or DCP 2012/Draft DCP are also references to any replacement of those plans.

In any case of inconsistency between this DCP, and the general provisions in the Draft LEP or Draft DCP, this DCP prevails.

*Architectus note:*

*It is noted that Council's Draft DCP was exhibited during the period February to March 2021. Whilst not yet finalised, consideration has been given to this document within this DCP.*

*It is expected that the Draft LEP and the Draft DCP will be adopted prior to finalisation of this DCP. Should this occur, it is anticipated this DCP will be updated to reflect this prior to finalisation.*

## 1.5 Interpretation

Where this DCP uses terms that are defined in the LEP 2012/Draft LEP, the definitions in the LEP 2012/Draft LEP are adopted.

Other terms used throughout this DCP are defined either in this DCP or in Schedule 3 Glossary of Terms in the LEP 2012/Draft LEP.

A reference in this DCP to any Australian Standard, legislation or policy includes a reference to any amendment or replacement as made.

## 1.6 How to Use this DCP

This DCP provides the framework for future development in the Riverwood Estate.

It contains objectives and controls that will deliver the desired outcome for future development. Certain controls within this DCP use figures to identify numeric values and/or enhanced understanding of controls. In order to graphically represent controls, some figures include a replication of the Master Plan, identifying such elements as spatial locations of building footprints on indicative new lot configurations, public domain, open space and street and pedestrian linkages.

Section 2.0 of this DCP identifies the overall proposed structure of the Master Plan, including desired future character of the proposed Roosevelt Park Urban Neighbourhood; and Garden Apartment Neighbourhood, each of which have been designed with their own distinct character.

Section 7.0 of this DCP provides built form controls for development within the Riverwood Estate. These controls

supplement the minimum lot size, height, and Floor Space Ratio (FSR) requirements of LEP 2012/Draft LEP. These controls should be read in accordance with the desired future character statements for the proposed neighbourhoods outlined in Section 2.0 of this DCP.

The DCP recognises that the Master Plan is indicative of desired future outcomes and that future development in Riverwood Estate may not necessarily align strictly in accordance with the indicative spatial layout identified in the Master Plan.

Any application for future development, excluding development for the purposes of dwellings houses, is to demonstrate how it meets the objectives and controls as set out in this DCP.

The controls contained in this DCP provide clear and measurable benchmarks for how the objectives can be practically achieved. If it is not possible to satisfy the guidance, applications must demonstrate what other responses are used to achieve the objectives.

In accordance with S4.14 of the EP&A Act, the provisions of this DCP may be applied flexibly. However, support for any variation to the Riverwood Estate DCP is subject to the merits of the particular proposal in accordance with the planning framework and will be at the considered discretion of the consent authority.

As such, variation of any control in this DCP may be acceptable where an application demonstrates its conformity with design principles, objectives and controls that are specified by this DCP.

Any variation to the controls must be supported by a written statement demonstrating how the objectives of the control that is sought to be varied are fully satisfied.

Any variation will be considered against the particulars and merits of the proposal, at the discretion of the consent authority.

## 1.7 Development Excluded from this DCP

This DCP does not apply to development for the purposes of single detached dwelling houses.

For development for the purposes of any single detached dwelling houses (or any alterations and additions to existing single detached dwellings or associated ancillary development), existing controls set out in Chapter C1 of the DCP 2012/Section 5 of the Draft DCP apply.

# 2 Urban Strategy

## 2.1 Vision

Our vision is to deliver a new neighbourhood in Riverwood that contributes to the growth of Greater Sydney as a more liveable, productive and sustainable metropolis and provides a greater supply of diverse and affordable housing in an area identified for renewal.

The Riverwood Estate will be transformed into an attractive and safe neighbourhood with a mixture of private and social housing. People will choose to live here because of the high-quality buildings, facilities and open space, and connections to nearby transport, schools, employment opportunities and services.

New housing, transport and social infrastructure will support a growing and more diverse community with different housing needs. The development will be accessible and welcoming, complementing the site's natural setting with new and upgraded parks positioned amongst mature trees and improved connections to Salt Pan Creek, a central part of Metropolitan Sydney's Blue-Green Grid.

It will be a place that celebrates the site's history and provide opportunities to re-establish Connection to Country. There will be a network of new and reinstated tree-lined pedestrian-friendly streets that connect shared facilities and open spaces to encourage residents to engage with each other and the broader Riverwood community. Buildings and dwellings will be designed to activate streets and provide natural surveillance of the public domain.

The development will be a sustainable built environment. Contemporary sustainability features will be integrated into buildings and the public domain, including commitments to a tree canopy target and management of water in the landscape to mitigate against the effects of climate change and urban heat.

## 2.2 Project Objectives

### Objectives

1

To deliver the sustainable renewal of the Riverwood Estate, transforming it into a more safe, attractive, and connected neighbourhood with a strong connection to its past.

4

To provide a high-quality public domain where it is enjoyable to move around the precinct, play and relax.

2

To increase housing supply, diversity, and affordability in a mixed tenure development that meets the needs of current and future residents.

5

To provide welcoming community spaces and facilities that support people to connect with others.

3

To integrate development with the natural environment, surrounding neighbourhood and Riverwood centre.

6

To achieve high environmental performance that addresses the effects of climate change and urban heat through management of water in the landscape, tree retention and planting, and sustainable buildings.

## 2.3 Structure Plan

### Objectives

1. The structure plan provides the broader framework for the development of the Riverwood Estate, including however not limited to, the proposed road network, the location of buildings, areas of open space, through site links, infrastructure upgrades and key connections to surrounding areas of open space.

### Controls

- A. All development within the Riverwood Estate is to be generally in accordance with the structure plan at Figure 2 below and the relevant provisions contained within this DCP.

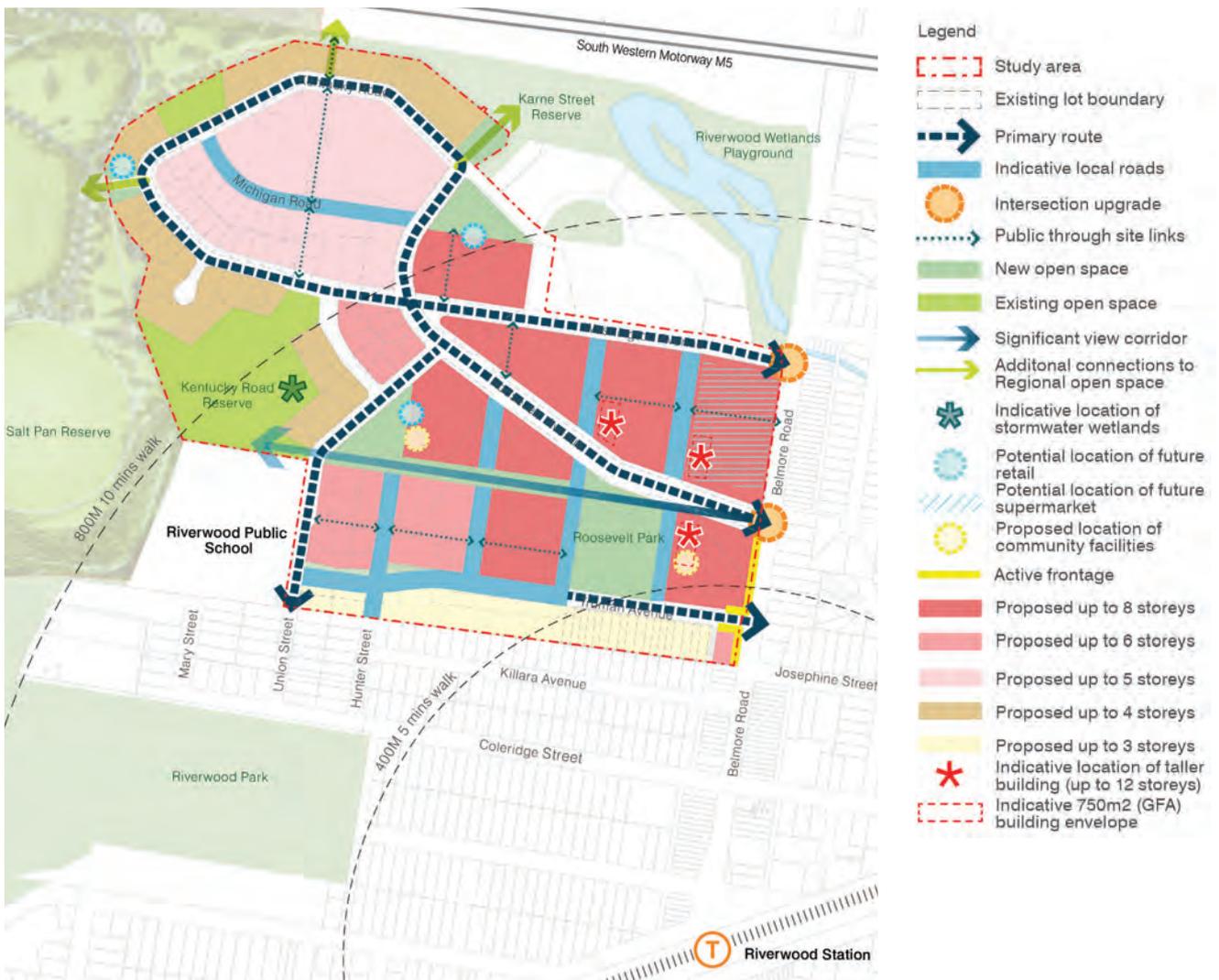


Figure 2. Riverwood Estate Structure Plan

## 2.4 Key Design Moves

The design moves provide guidance for future development in the Riverwood Estate.

Future development applications (including public domain works) are to demonstrate consistency with these principles.

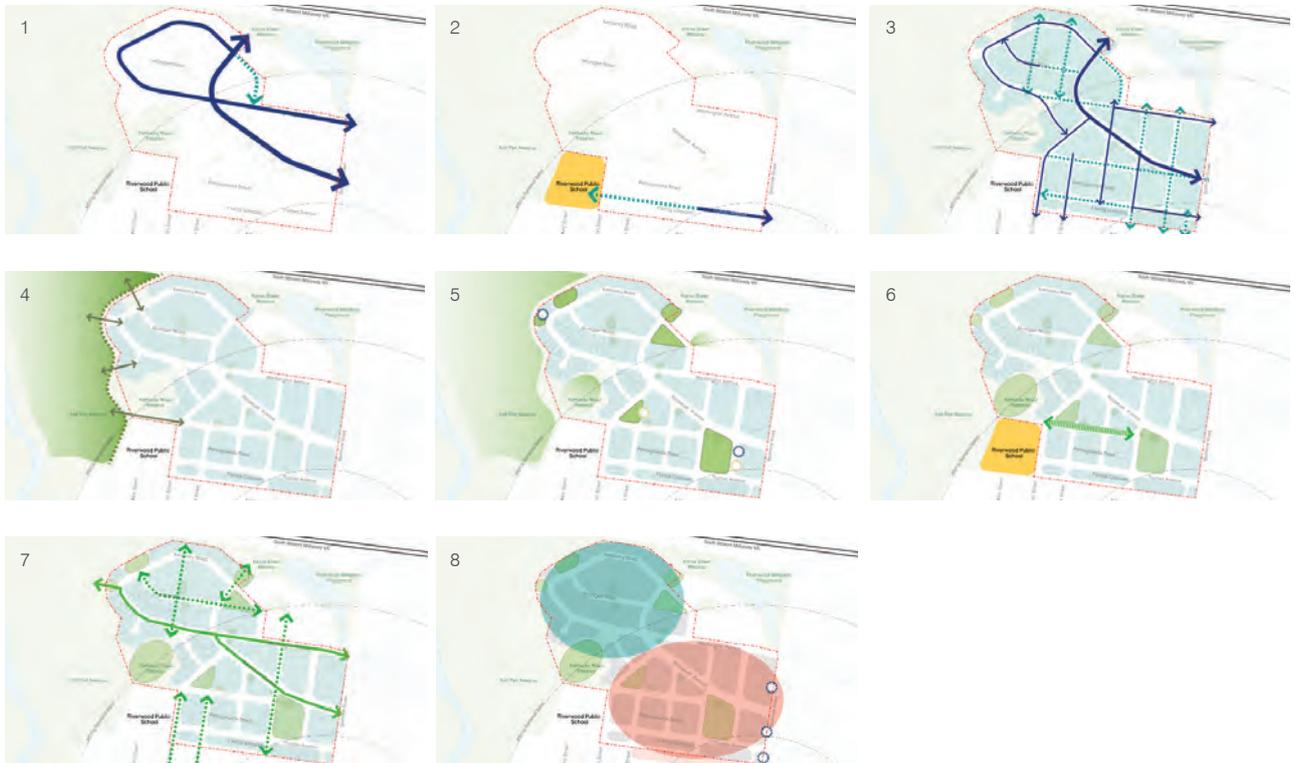
### Principles

1. Retain Roosevelt Avenue and complete the Kentucky Road loop.
2. Reconnect Riverwood Public School back to the broader community.
3. Retain as much of the existing street network to optimise tree retention whilst creating a legible street grid.
4. Create a permeable edge to Salt Pan Creek Reserve to provide better connections and clear views of this regional open space.

5. Create new accessible local parks and playgrounds within neighbourhoods to complement existing green open spaces.
6. Create a pedestrianised 'Community Greenway' connecting Riverwood Public School with new local open space.
7. Create new active transport links between Belmore Road and Salt Pan Creek Reserve and new green streets linking open spaces together.
8. Create distinct neighbourhoods that respond to their local context.

### Control

- A. Development Application (DAs) for any development, including public domain works, are to demonstrate consistency with the design moves, where relevant.



## 2.5 Desired Future Character

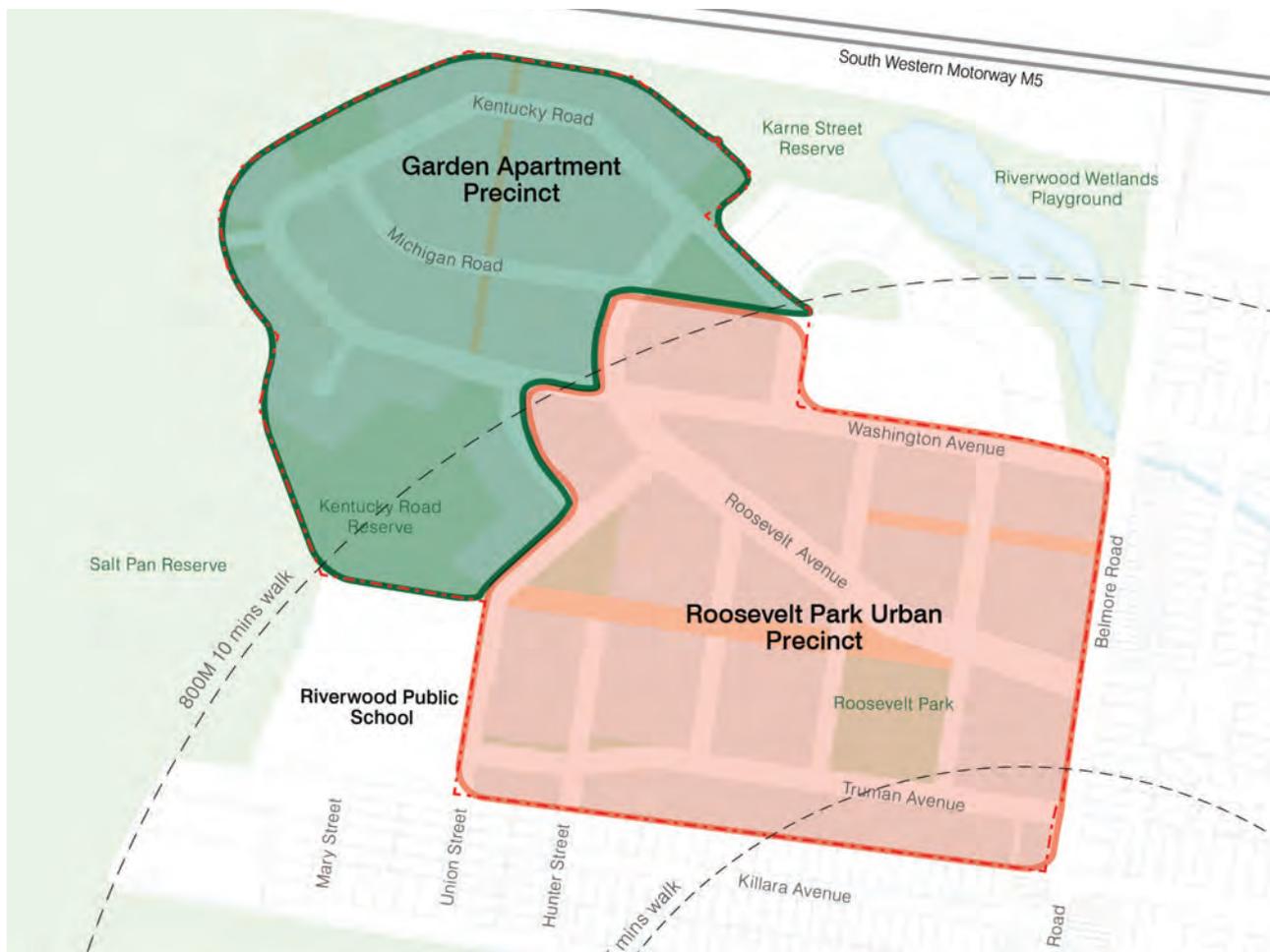
The desired future character statements express the intended character and design outcomes sought for the two residential neighbourhoods in the Riverwood Estate, being:

- The Roosevelt Park Urban Neighbourhood; and
- The Garden Apartment Neighbourhood.

Character Statements for each neighbourhood, including identification of key features, is contained in Sections 2.5.1 and 2.5.2 of this DCP respectively. These character statements provide place-based directions and provide the framework to the site specific design criteria for each character area, contained in Section 7 of this DCP.

### Control

- A. Development in the Riverwood Estate is to demonstrate how the proposal contributes to the desired future character.





## 2.5.1 Roosevelt Park Urban Neighbourhood

### Neighbourhood Character Statement

The Roosevelt Park Urban Neighbourhood comprises a distinct urban character and should be considered as an extension of the Riverwood Local Centre. New parks and streets will be of the highest quality, and combined with diverse housing types, it will be an active and exciting place to live.

Building heights are to respond to their street type and character, to create local neighbourhoods and the feeling of a place that has evolved over time.

New parks and a pedestrianised 'Community Greenway' will create a sequence of places that draw people to Riverwood Public School and the new Roosevelt Park.

The retention of Roosevelt Avenue continues the memory of the site and provides a strong connection to open space.

### Principles

The Roosevelt Park Urban Precinct should be characterised by:

1. A range of built form typologies, that achieves a high level and quality of architecture, promoting diversity across the precinct and a sense of local identity;
2. Wide, landscaped tree-lined streets, promote walking, cycling and other forms of active transport;
3. Residential and mixed-use buildings with a predominantly 6 storey street wall height; up to 12 storeys on identified sites, to ensure streets have good solar access, pedestrian amenity and provide an urban feel that acts as an extension of the Riverwood Local Centre;
4. Taller buildings are slender and well-spaced, to create a sense of openness, enhance views, and minimise overshadowing and visual impacts;
5. Lower building heights of between 4 to 6 storeys along the Community Greenway and Truman Avenue to minimising overshadowing;
6. Ground floor retail and non-residential uses fronting Belmore Road to meet the day to day needs of residents;
7. Ground floor dwellings on the majority of streets and fronting open space to provide an 'address' or 'front door' clearly visible and directly accessible from the public domain; and
8. High quality streetscapes and the establishment of the Community Greenway will provide key connections between Riverwood Public School and the new local open space (Roosevelt Park).



## 2.5.2 Garden Apartments Neighbourhood

### Neighbourhood Character Statement

The Garden Apartments Neighbourhood comprises a lower scale, green precinct that re-imagines old fashioned residential neighbourhoods, with children playing in the street, front gardens and areas for socialising that help neighbours get to know each other.

Communal open spaces open to the street re-visit the existing character of the neighbourhood to promote interaction, and continue the Riverwood resident's love of gardening.

Much of the neighbourhood's character is established through view lines along key streets to open space. The Garden Apartments Neighbourhood is also the link between the Riverwood Estate and the Salt Pan Creek Green Grid Corridor. It should be welcoming to visitors, and provide places for people to relax and enjoy the park.

Providing new links north to the Washington Park Community Gardens and Karne Street Reserve, in the form of new open space, it reconnects those existing community facilities back into the broader community.

### Principles

The Garden Apartment Precinct responds to its park side location. The Garden Apartment Precinct neighbourhood should be characterised by:

1. Low rise building typologies (between 3-5 storeys) that provide a high level of residential amenity;
2. A fine grain street network with narrow streets, laneways and through site links, to create an intimate neighbourhood, that prioritises pedestrians;
3. Articulated building facades that are distinctive, and promote a sense of local identity;
4. Active ground floor dwellings adjacent to public open space that have an 'address' or 'front door' clearly visible and directly accessible from the public domain;
5. Where possible, ground floor maisonette apartments fronting laneways and through site links, are encouraged to promote activity, accessibility, and surveillance;
6. Communal open spaces that open onto the street to promote social interaction, surveillance, and contribute to a strong a garden character;
7. Buildings with rooftop gardens that promote views over Salt Pan Creek Reserve and communal gardens on lower levels; and
8. Breaks in buildings at the end of streets to create connected soil networks, views and strong sight lines to Salt Pan Creek Reserve.

# 3 Infrastructure, Open Space And Public Domain

## 3.1 Street Network, Public and Active Transport

### Objectives

1. To reinstate Roosevelt Avenue as the primary access to the site.
2. To retain part of the existing street network and street trees, wherever possible.
3. To enhance the street network to ensure high amenity, safety and permeability for all users.
4. To ensure new streets can accommodate increased pedestrian, cyclist and vehicular movements and on-street car parking.
5. To improve walking and cycling connections throughout the site including open space, and Salt Pan Creek Reserve Green Grid Corridor and to enhance connectivity to the broader suburb of Riverwood.
6. To prioritise pedestrian amenity, safety and permeability throughout the Riverwood Estate.

7. To provide access for people of all abilities to open space and all parts of the Riverwood Estate.
8. To ensure new streets are accessible and footpaths will be important to support opportunities for walking for older people and people with a disability.

### Controls

- A. The street network is to be designed in accordance with:
- The Street Hierarchy Plan at Figure 3;
  - The Indicative Street Specifications at Table 1;
  - The Indicative Street Section Diagrams at Figures 5 through 13; and
  - Part B of the DCP 2012/Chapter 3 of the Draft DCP.

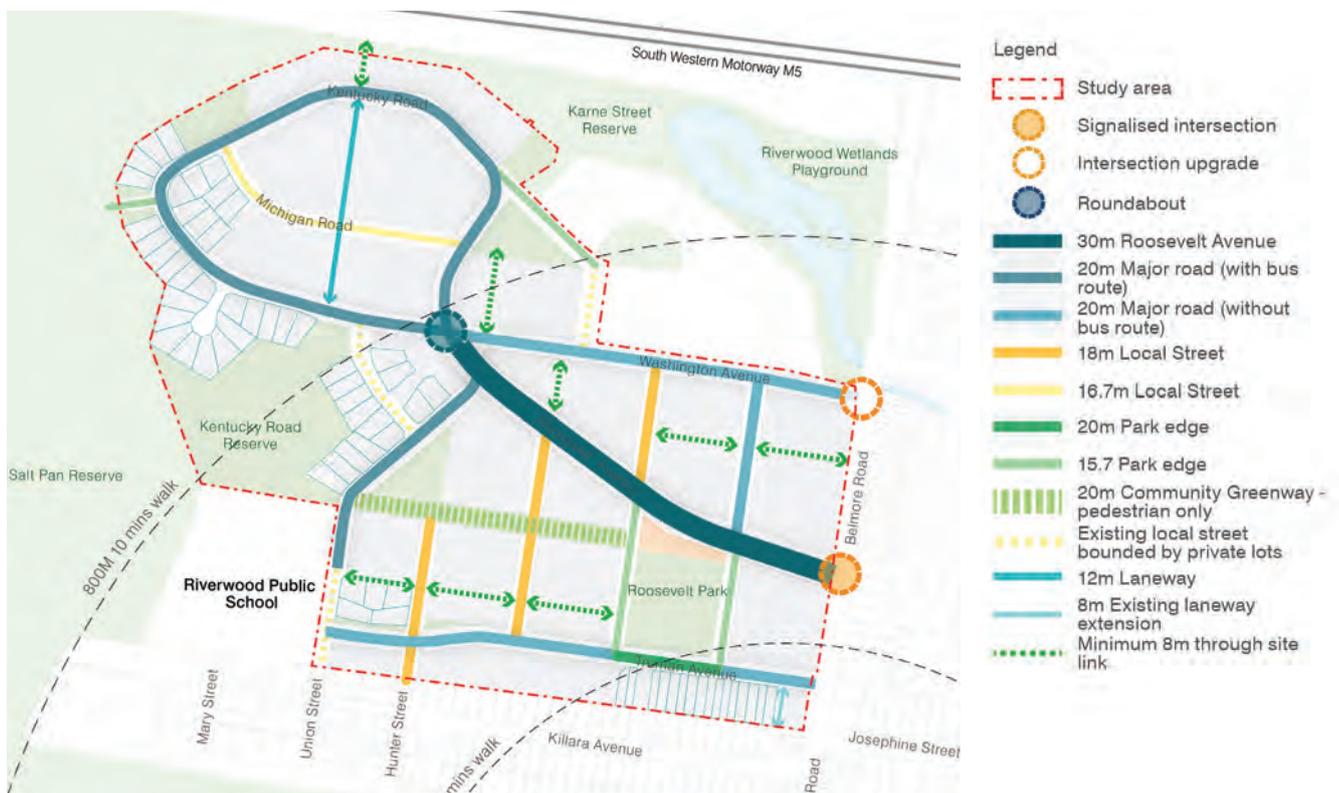


Figure 3. Street Hierarchy Plan

## Infrastructure, Open Space And Public Domain

- A.** New streets and road widenings are to be dedicated to Council.
- B.** Through site links are to be provided:
  - Within development blocks deeper than 90m.
  - Between Kentucky Road Reserve and Karne Street Reserve, including between Kentucky Road and Michigan Road, maintaining a consistent alignment for this extent (with through site link(s) generally in a north-south arrangement).
  - Between Washington Avenue and Roosevelt Avenue, generally in alignment with New Hampshire Street (with through site link(s) generally in a north-south arrangement).
  - Between Washington Avenue and the proposed Civic Park to the north (with through site link(s) generally in a north-south arrangement).
  - Within development blocks west of Belmore Road, bound by Roosevelt Avenue and Washington Avenue (with through site link(s) generally in an east-west arrangement).
  - Within development blocks south of the Community Greenway, through site links should be provided in an east-west arrangement, maintaining a consistent alignment, to connect Roosevelt Park to Riverwood Public School.
- C.** Through site links are to:
  - Be open to the sky.
  - Be accessible to pedestrians 24 hours a day.
  - Be designed to be accessible for people of all abilities.
  - Be designed to ensure pedestrian safety through the limiting of vehicular access (other than temporary maintenance or emergency vehicles).
  - Provide a safe environment, including appropriate lighting and clear straight sightlines.
- D.** Provide accessible pedestrian infrastructure along streets to promote accessibility, including wide footpaths and comfortable and accessible seating in parks and along streets.
- E.** Provide shared paths and off-road cycle paths in accordance with the Active Network Plan at Figure 4, Indicative Street Specifications at Table 1 and Indicative Street Section Diagrams at Figures 5 through 13.
- F.** Ensure pedestrian areas, including public plazas and pathways, are designed to be universally accessible to support access for people with disability.
- G.** Consideration is to be given to the provision of a cycle lane along Belmore Road, in consultation with Council.
- H.** A Green Travel Plan (GTP) is to be prepared and submitted with any State Significant Development Application (SSDA) for Stages 1-4, outlining measures to promote sustainable travel, connections to existing walking and cycling networks, measures to minimise car reliance and parking provision, measures to encourage use of car share programs and public transport, as well as provision of adequate bicycle lighting and clear straight sightlines.
  - Provide a legible, unobstructed pedestrian footway for their entire length without fencing or gates that restrict pedestrian access.
  - Be paved in materials which are consistent with the Indicative Public Domain Palette at Figure 16.
  - Through site links are to be provided as an easement on title for public right of way.

# Infrastructure, Open Space And Public Domain



Figure 4. Active Network Map

# Infrastructure, Open Space And Public Domain

parking.

Table 1. Indicative Street Specifications

Street	Reservation Width	Median planted swale	Vehicle Lane Widths	Footpath (pedestrian)	Parking / planting	Planting /Turf / Seating	Shared path scenario (cycle and pedestrian)	Planting /Turf / Seating (shared path scenario)	Verge	Building setback
Roosevelt Avenue	30m	6m	6.6m	3.5m shared path on both sides of the street	2.3m on both sides of the street	2.3m on both sides of the street	N/A	N/A	0.6m on both sides of the street	3m
Local Street with bus route	20m	N/A	6.6m	2.0m on both sides of the street	2.3 on both sides of the street	1.8m on both sides of the street	2.5m and 2m on either side of the street	1.8m and 1.3m on either side of the street	0.6m on both sides of the street	3m
Local Street no bus route	20m	N/A	5.5m	2.5m on both sides of the street	2.3 on both sides of the street	2.35m on both sides of the street	2.5m and 2m on either side of the street	2m and 1.85m on either side of the street	0.6m on both sides of the street	3m
Park Edge Local Street	20m	N/A	5.5m	2.5m shared path on both sides of the street	2.3 on both sides of the street	1.85m on both sides of the street	N/A	N/A	0.6m on both sides of the street	3m
Local Street (18m)	18m	2m	6.6m	2.0m on both sides of the street	2.1m on both sides of the street		2.5m and 1.5m on either side of the street	N/A	0.6m on both sides of the street	2m
Local Street (16.7m)	16.7m	N/A	6.5m	2.2m on both sides of the street	2.3 on both sides of the street		2.5m and 1.9m on either side of the street	N/A	0.6m on both sides of the street	2.5m
Park Edge Local Street (15.7m)	16.7m	N/A	6.5m	2.2m on both sides of the street	2.3 on both sides of the street		2.5m and 1.9m on either side of the street	N/A	0.6m on both sides of the street	2.5m
Laneway (12m)	12m	N/A	6m		3m on either side		N/A	N/A	N/A	N/A
Through site link 'shared path'	8m	N/A	N/A				4.2m	2.5m and 1.3m on either side of the through site link		N/A

# Infrastructure, Open Space And Public Domain



Figure 5. Indicative Street Section (Roosevelt Avenue, 30m wide)

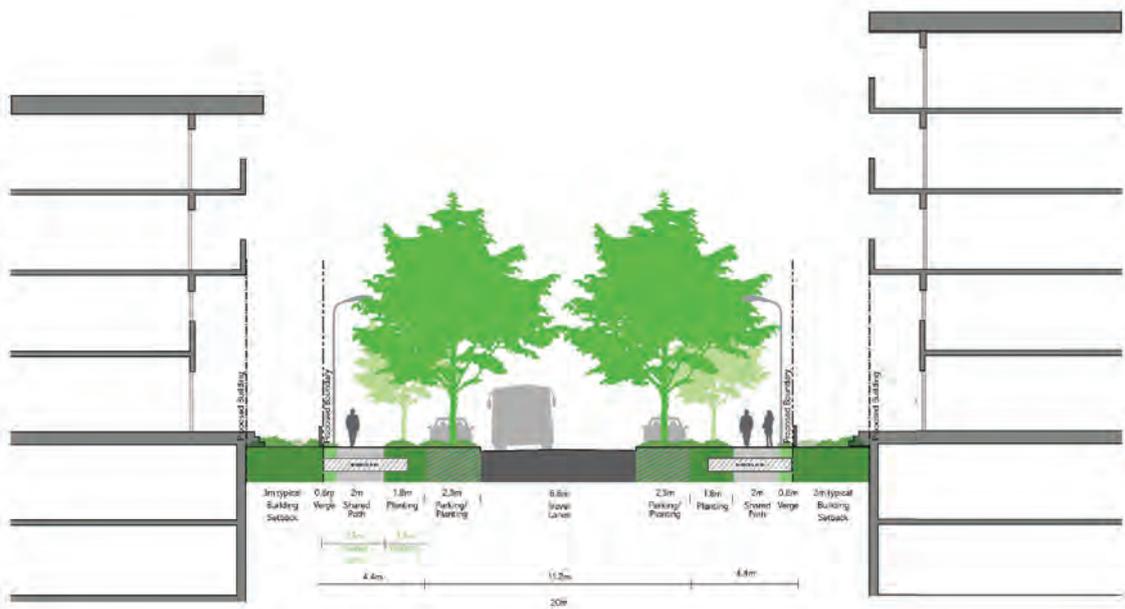


Figure 6. Indicative Street Section (Local Street with Bus Route, 20m)

# Infrastructure, Open Space And Public Domain

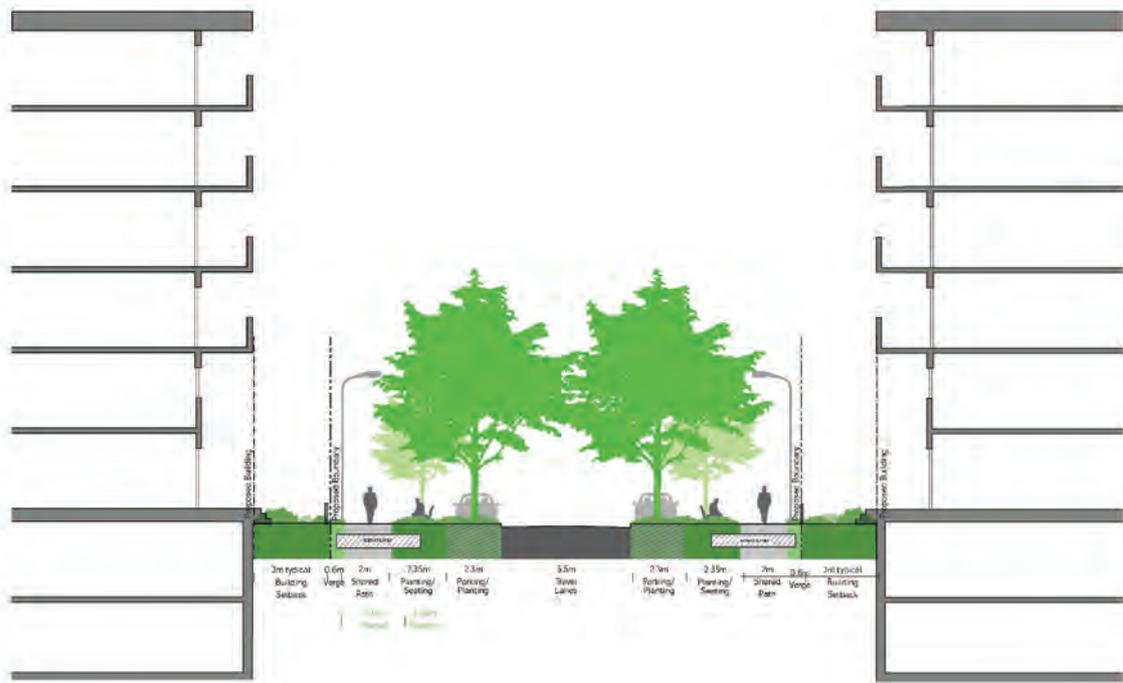


Figure 7. Indicative Street Section (Local Street without Bus Route 20m)

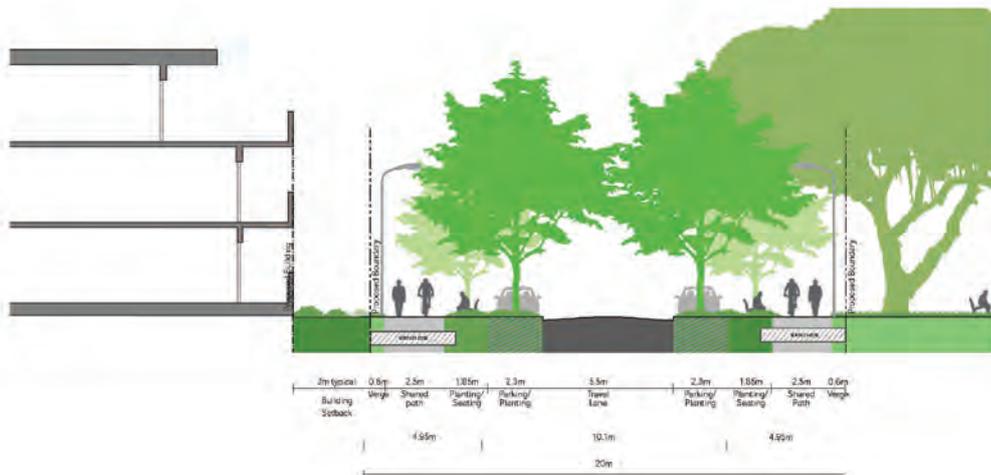


Figure 8. Indicative Street Section (Park Edge)

# Infrastructure, Open Space And Public Domain

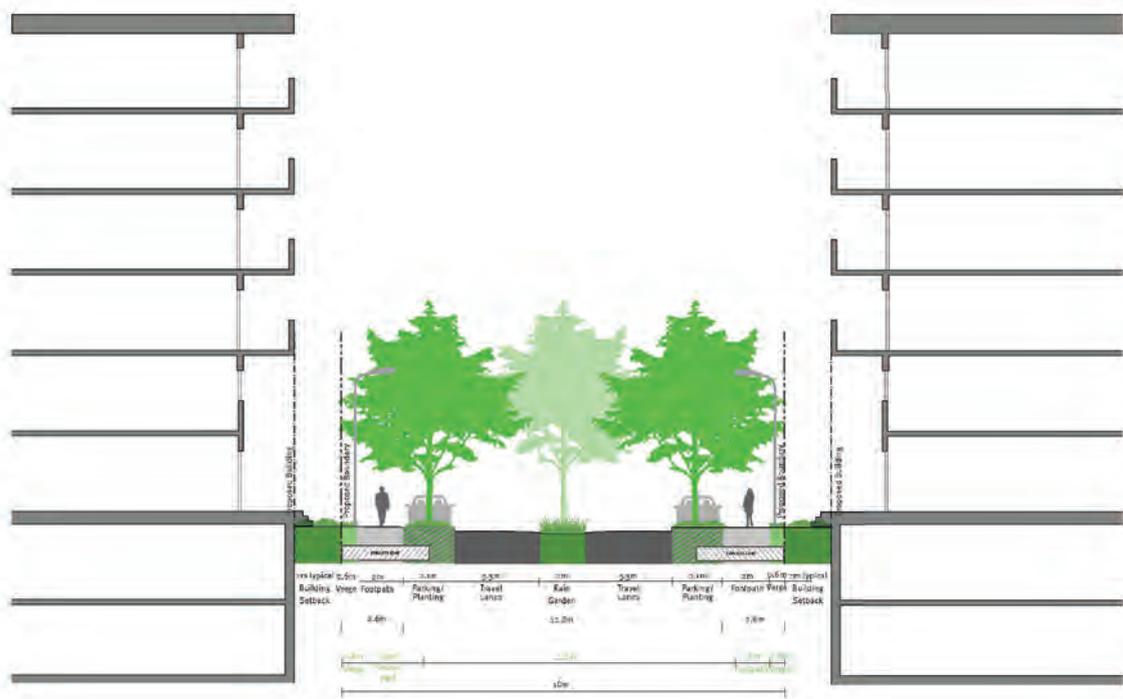


Figure 9. Indicative Street Section (Service Street and Local Street, 18m)

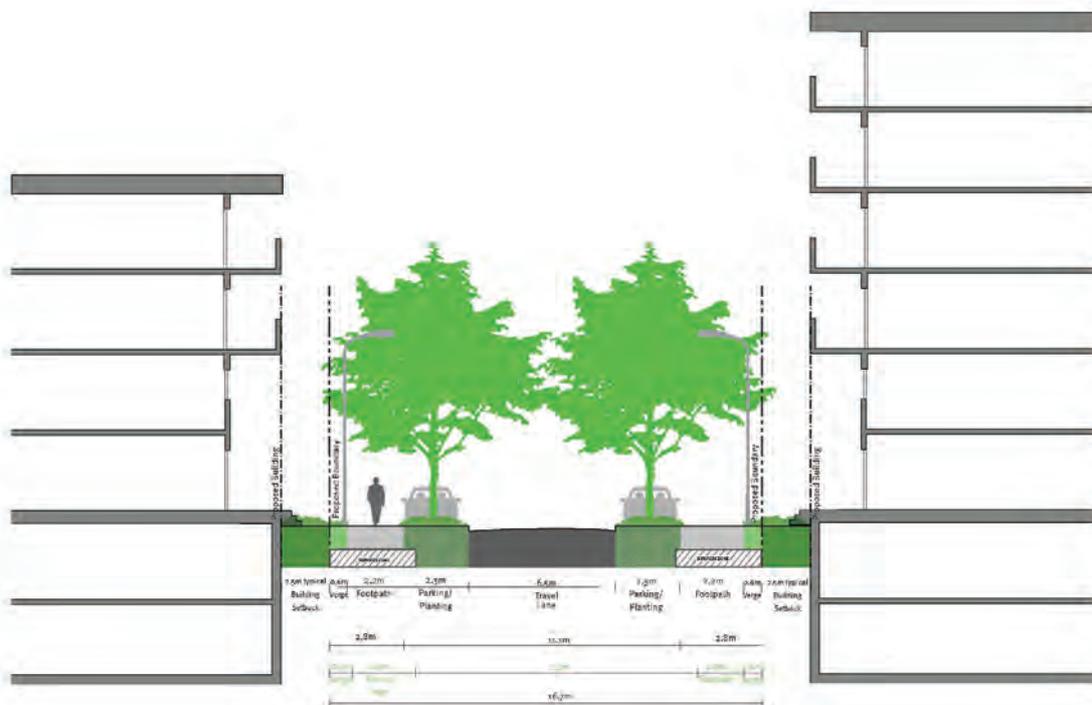


Figure 10. Indicative Street Section (Service Street and Local Street 16.7m)

# Infrastructure, Open Space And Public Domain



Figure 11. Indicative Street Section (Park Edge 15.7m)

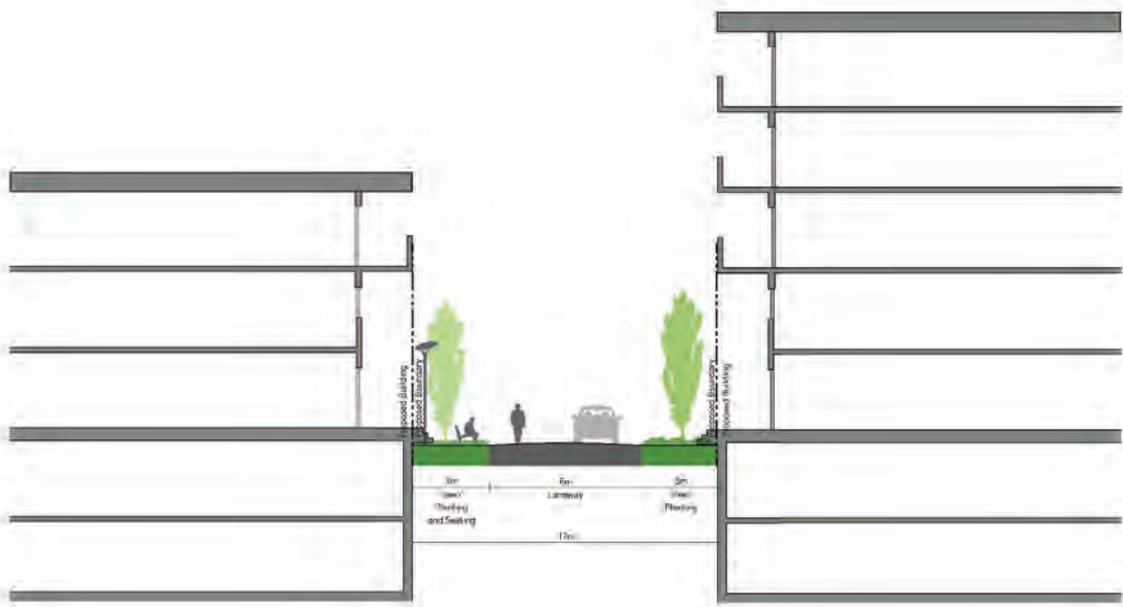


Figure 12. Indicative Street Section (Through site Link, min. 8m)

# Infrastructure, Open Space And Public Domain



Figure 13. Indicative Street Section (Through site Link, min. 8m)

### 3.2 Road Widening

#### Objectives

1. To allow for future widening along Roosevelt Avenue, Kentucky Road and Truman Avenue by providing an adequate front setback.
2. To improve the standard of Kentucky Road and Truman Avenue.

#### Controls

- A. In order to accommodate future widening, all development shall be setback from existing front boundaries by the distance which is referenced in Figure 14.
- B. DAs for redevelopment of the subject land shown in Figure 14 will be conditional upon a road widening and dedication requirement for the affected development.

### 3.3 Public Open Space

#### Objectives

1. To provide a hierarchy of high quality and accessible open spaces.
2. To ensure the design of open space provides a variety of uses, appropriate to its location and responsive of community needs.
3. Ensure public spaces are universally accessible and designed to be inclusive for a range of community members (such as elderly, youth, multicultural groups).
4. To ensure open space integrates with the broader regional open space network and promotes views and access to Salt Pan Creek Reserve.
5. To capture and reuse stormwater in public open space.

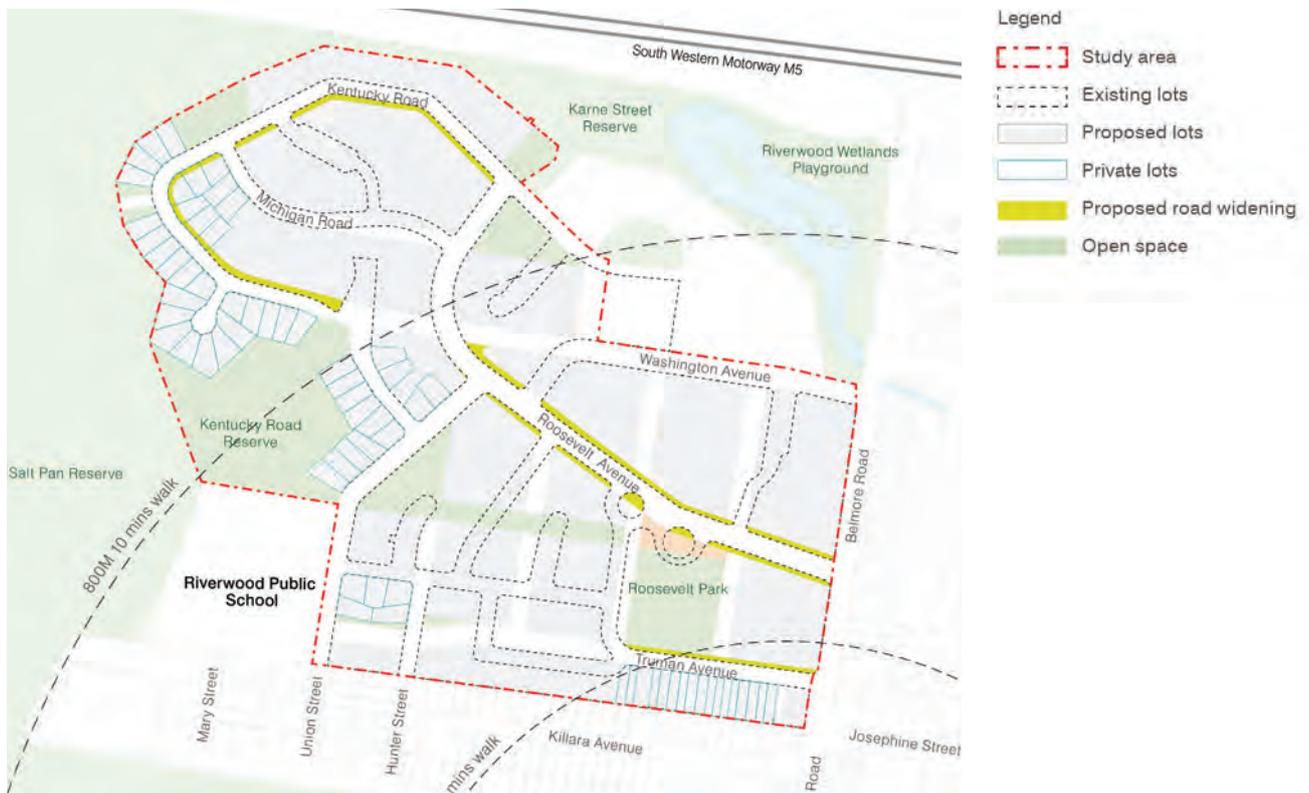


Figure 14. Road Widening

# Infrastructure, Open Space And Public Domain

## Controls

**A.** For development which includes new (or upgrades to) areas of open space, and/or public domain upgrades, a landscape/public domain plan is to be submitted with any DA, addressing matters below.

**B.** New open space is to be designed in accordance with:

- The Open Space Hierarchy Plan at Figure 15.
- Indicative Open Space Concept Plans and Requirements at Table 2.
- Part B of the DCP 2012/Chapter 3 of the Draft DCP.

Note. New public open space is to be dedicated to Council.

**C.** Public open space is to:

- Be activated and include flexible open spaces that support a range of community activities including passive and active recreation uses.
- Retain significant trees and provide new tree plantings and landscaping elements for shading and cooling.
- Provide a diversity of plant species, aiming for

- 12-month flowering succession, focusing on species known to be more resilient to the effects of climate change including native plant species that have lower fire risks and are drought tolerant.
- Incorporate street furniture and facilities including public seating, tables, drinking fountain and garbage bins, in accordance with the Indicative Public Domain Palette at Figure 16.
- Lighting should be welcoming and designed to minimise impacts to nocturnal and diurnal fauna.
- Incorporate exercise equipment stations in parks, where possible.
- Incorporate light coloured pavements and road surfaces to avoid heat absorption and retention.
- Integrate Water Sensitive Urban Design in accordance with Chapter 10 of this DCP.
- Be designed with consideration to Connection to Country, as detailed at Section 6.3 of this DCP.



Figure 15. Open Space Hierarchy

# Infrastructure, Open Space And Public Domain

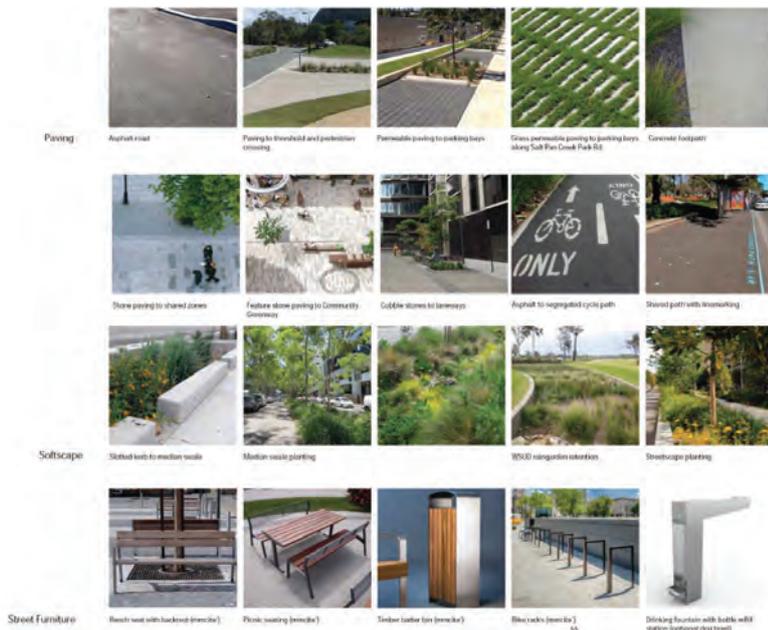


Figure 16. Public Domain Palette

Table 2. Indicative Open Space Concept Plans and Requirements

Public Open Space	Size	Provision
Local – Large Park	1.01ha	<ul style="list-style-type: none"> <li>– Roosevelt Park is to be one contiguous open space with a minimum area of 9,500 square metres, excluding streets.</li> <li>– It should be designed to provide opportunities for passive and active recreation and feature a paved plaza capable of supporting a small café.</li> <li>– Roosevelt Park is to be of a high-quality design that creates visual interest, offers a welcoming relaxing green space, as well as flexible spaces for community activities.</li> </ul>
Local – Small Park	0.28ha	<ul style="list-style-type: none"> <li>– The Community Park is to be a minimum of 3,000 square metres, excluding streets, and co-located with the preferred location for a community facility in close proximity to Riverwood Public School.</li> <li>– The design of the Community Park should provide an important spill out area for activities within the community facility. It should also include an additional community garden area for individual plots.</li> </ul>
Local – Small Park	0.35ha	<ul style="list-style-type: none"> <li>– The Civic Plaza is to be located to the intersection of Roosevelt Avenue and Kentucky Road, in accordance with Figure 15.</li> <li>– The design of the Civic Plaza should provide a passive and accessible focussed space with informal seating and play areas for organised sports.</li> </ul>
Local – Pedestrianised Street	0.52ha	<ul style="list-style-type: none"> <li>– Community Greenway should be a pedestrian promenade designed with children and play in mind, connecting local residents to the existing Riverwood Public School.</li> <li>– The design of the Community Greenway should generally reflect the desired future character shown in Figure 16.</li> </ul>
Local – Neighbourhood Park	0.16ha	<ul style="list-style-type: none"> <li>– The Community Garden Park should be designed to provide both passive and recreational forms of open space.</li> <li>– New community gardens should be provided as part of this space.</li> </ul>

### 3.4 View Corridors and Outlook

#### Objectives

1. To provide view corridors and visual connections to areas of open space throughout the Riverwood Estate.
2. To minimise impacts on key view corridors.
3. To establish a visual connection between distinctive locations that provide orientation and memorable points for navigation to open space throughout the Riverwood Estate.

#### Controls

- A. Development is to be located and designed to minimise impacts on views corridors, as shown at Figure 17.
- B. Key internal views to be protected include:
  - View corridors from public open space to Salt Pan Creek Reserve;
  - East-west view line between Belmore Road and Kentucky Road Reserve;
  - North-south view line along new through site link between Kentucky Road Reserve and Karne Street Reserve; and
  - East-west view line from Belmore Road, along Washington Avenue to the centre of the Precinct.
  - Views along Roosevelt Avenue towards Roosevelt Park.

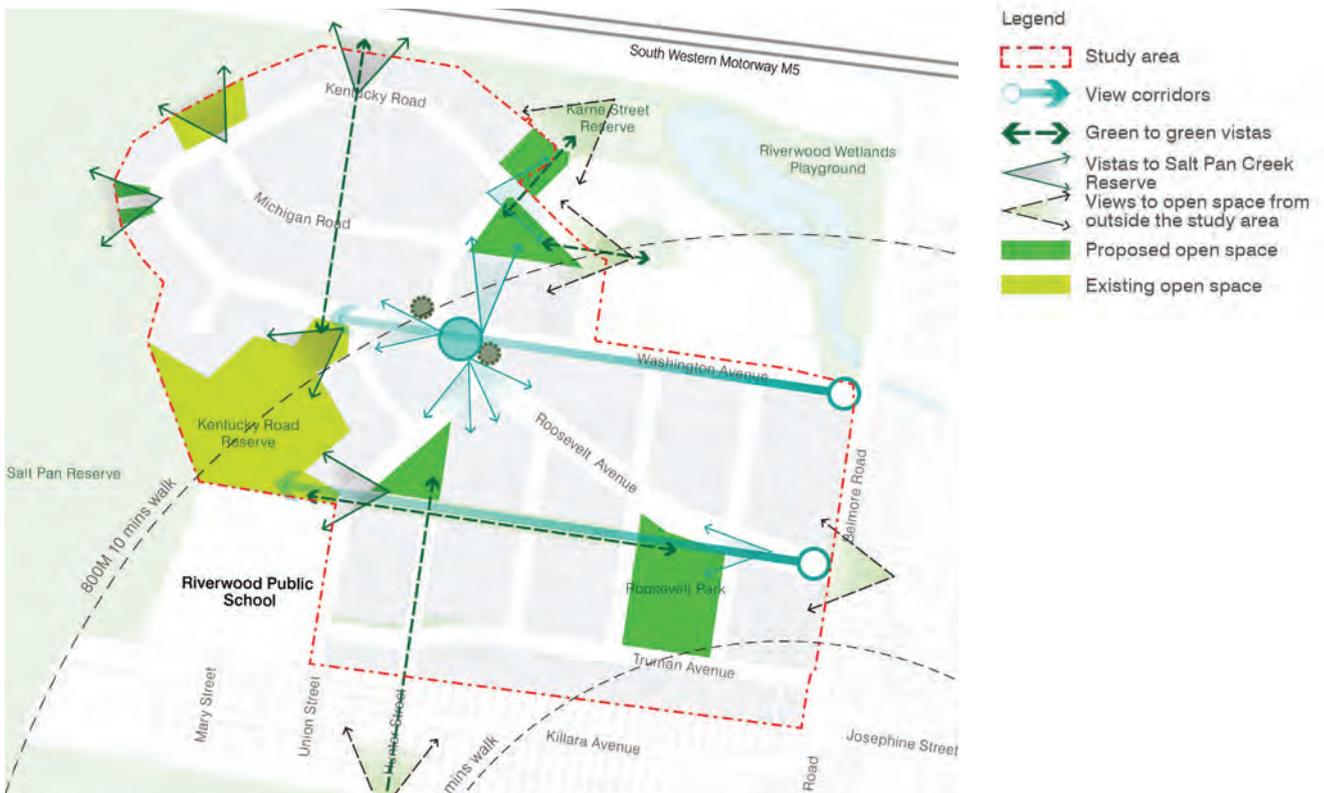


Figure 17. View Corridors

## 3.5 Street Trees and Landscaping

### Objectives

1. To prioritise the retention of street trees, where possible.
2. To enable and promote green corridors that provide continuous landscaping connections to areas of open space.
3. To contribute to an overall 30 per cent tree canopy target for Riverwood Estate.
4. To aim for continuous canopy cover, to reduce urban heating and improving health outcomes for the community.
5. To provide shade and shelter for pedestrians.
6. To ensure the ongoing health of street trees by capturing and retaining stormwater within verges and tree pits.
7. To provide a seamless integration of trees, landscaping, stormwater and water sensitive urban design, combined with the needs of pedestrians, cyclists and vehicles.

### Controls

- A. Existing street trees should be retained where practicable, including with suitable protection measures during construction.
- B. Street tree planting should be provided in accordance with Figure 18.
- C. The existing high value tree located on the corner of Kentucky Road and Roosevelt Avenue is to be retained to provide a prominent visual landscape feature and enhance views and park vistas along Roosevelt Avenue. Refer to Figure 19.
- D. Street trees are to be planted along the street frontage, located at least 900mm from the street kerb. Refer to Figure 18.
8. Street trees are to be planted in an 'unobstructed root zone' containing a minimum width of 1.8m and at least 1m deep to allow for deep soil planting. Refer to Figure 18.
9. Street tree planting and landscaping should:
  - Provide an attractive and interesting landscape character and increase active transport amenity.
  - Be provided on both sides of every street.
  - Have adequate soil volume and connected soil networks, with all street trees containing a minimum 100 litre container size.

- Give preference to species with low water needs, including native plant species, and trees and shrubs in accordance with the Indicative Street Tree Palette at Figures 29 and 30.
  - Be planted as early as possible at each stage of development.
  - Incorporate passive irrigation for all street trees; where possible.
  - Integrate Water Sensitive Urban Design (Chapter 10 of this DCP).
- E. In addition to the above, Council's street tree planting standards must also be addressed. These can be found on Council's website under 'Council's Standard Drawings'.
  - F. New utility services should be located underground, away from street trees and associated deep soil zones. Services should be co-located to mitigate the potential for any impacts to street trees.
  - G. All dead trees are structurally compromised and will need to be removed prior to the redevelopment.
  - H. Street tree planting and retention in accordance with the above provisions is to be detailed within a public domain landscaping plan, submitted with each DA for the site, as required.
  - I. The public domain landscape design is to include extensive ground cover plants to enhance habitat diversity.

## 3.6 Crime Prevention through Environmental Design

### Objectives

1. Crime Prevention through Environmental Design (CPTED) is a practical crime prevention technique that uses the design of the physical environment to reduce the potential for crime.

### Controls

- A. CPTED is to be considered in accordance with Chapter B7 of the DCP 2012/Chapter 10 of the Draft DCP.

# Infrastructure, Open Space And Public Domain

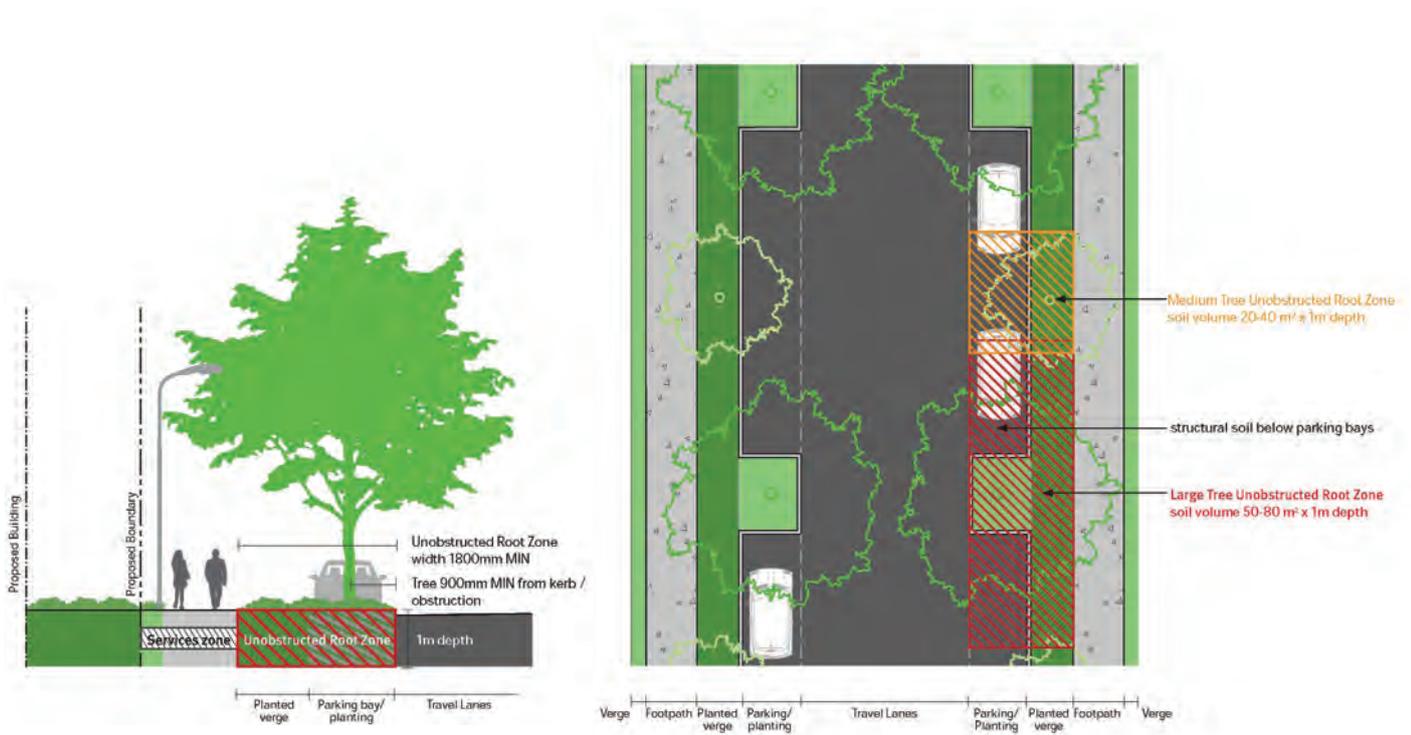


Figure 18. Street Tree Planting Specifications



Figure 19. Existing High Value Trees for retention (subject to detailed design development)

# 4 Parking

## Objectives

1. To provide an appropriate level of on-site parking to cater for a mix of development and vehicle types, including cars, motorcycles and bicycles.
2. To support the reduction of car trips and encourage the use of sustainable transport.

## Controls

- A.** For market housing located within 800m of the train station, car parking rates are in accordance with the ADG and DCP 2012/Draft DCP.
- B.** For areas further than 800m from Riverwood train station, car parking rates set out in Section B1.3.1 of the DCP 2012/Chapter 3 of the Draft DCP are applied.
- C.** Notwithstanding the above, car parking rates for certain residential accommodation including social and affordable housing, seniors housing, build-to-rent housing, co-living student housing and boarding houses is to be provided in accordance with the State Environmental Planning Policy (Housing) 2021.
- D.** Car parking rates for non-residential uses is to be provided in accordance with the DCP 2012/Draft DCP.
- E.** Accessible car parking for residential and non-residential development is to be provided in accordance with the DCP 2012/Draft DCP.
- F.** Provision of car parking for car sharing schemes is encouraged.
- G.** Bicycle parking is to be provided for all developments in accordance with the rates outlined in the DCP 2012/Draft DCP.
- H.** Bicycle parking and cycling facilities must be clearly signposted and located in an area that is convenient to access from within the building and from the street.
- I.** Off-street car parking facilities should be designed in accordance with AS2890.1:2004 (Parking Facilities – Off-Street Parking) and Council’s relevant design standards.
- J.** On-street parking spaces are to be provided based on the requirements set out in AS2890.5:2020 (Parking Facilities – On-Street Parking) and Council standards.
- K.** Note: Additional provisions relating to vehicular access and basement entries are provided at Section 7 of this DCP.

# 5 Staging and Implementation

At this early phase in the delivery process, the staging plan is indicative only and the planning framework allows flexibility in staging to respond to further detailed design and engagement with Council, Government agencies, specialist technical consultants, existing tenants, residents and the broader community. The primary purpose of the staging plan is to show how the various stages can be delivered in an orderly manner consistent with overall targets and infrastructure requirements. Land areas for infrastructure such as open space and the arterial road network will be given certainty through a planning agreement with Council. As the proposal is expected to be delivered over a 15-20 year period, flexibility is required to undertake ongoing engagement with key stakeholders, and respond to changing market demands and infrastructure requirements over time.

A staging plan will be submitted with each application for residential subdivision and public domain in each of the stages (or combination of stages) outlining the program for delivery as well as how the key precinct wide commitments can be achieved. There will be some stages that result in more than the requirements outlined and some that result in less, however will ensure that overall requirements will be achieved on a precinct wide level. This includes items such as tree canopy cover, environmental sustainability initiatives, community infrastructure, etc. There are many opportunities identified to improve sustainability, including waste management, car share and similar initiatives, and these will be assessed on a cost benefit basis. As mentioned above key items such as open space will be either zoned appropriately or subject to a planning agreement dealing with land area and standard of embellishment.

## Objectives

To ensure the orderly development of the Riverwood Estate.

1. To assist in the coordinated programming and provision of necessary infrastructure and development sequencing.
2. To ensure that essential works, such as services provision or stormwater and flood management works are planned and implemented prior to works for the construction of new buildings so that land is made suitable for its intended use.
3. To ensure that essential public infrastructure, including, however not limited to, utilities, parks, streets and community facilities are carried out and delivered in an orderly manner, in logical and related stages, as the Riverwood Estate is developed and as its population increases.
4. To ensure that the development of sites can occur independently to the greatest extent possible.
5. To ensure that an appropriate level of detail is provided within DAs for each stage.
6. Provide ongoing opportunities for residents to participate meaningfully in design making and planning for future development across the Riverwood Estate.

# Staging and Implementation

## Controls

- A.** With the DA for any subdivision or detailed SSDAs within Stages 1-4 of Figure 20, a staging plan is to be submitted which considers the following:
  - Utility and other civil infrastructure requirements to service the precinct and each stage.
  - A breakdown of open space and active transport links to be delivered across each stage of the project.
  - Traffic/transport infrastructure upgrades and/or improvements that will need to be delivered to accommodate the growth of population across the precinct to minimise potential impacts to local/regional network.
  - A breakdown of tree canopy cover to be delivered across each stage of the precinct to ensure the 30% tree canopy target for the precinct is achieved.
  - The delivery of social infrastructure to accommodate the growth of population across the precinct and within each stage, and/or as required to maintain support to residents remaining in the study area during construction.
- Infrastructure that will need to be delivered at the precinct level to achieve the target 5-star Green Star Communities certification
- Precinct scale solutions to achieve environmental sustainability outcomes, such as coordinated waste management solutions, a microgrid system, and a precinct wide water recycling system. Environmental sustainability solutions are to consider the cost-benefit impacts and particularly the impact on social housing delivery.
- B.** Indicative stages are shown in Figure 20 and may be updated through the preparation of the staging plans as required in 5.0(1) above. Staging may be varied where it can be demonstrated the objectives are addressed.
- C.** Details relating to the provision of infrastructure required are to be provided as part of the DA(s).
- D.** Utility infrastructure that is essential for the proposed development is to be made available or demonstrated that adequate arrangements have been made to make that infrastructure available when required.

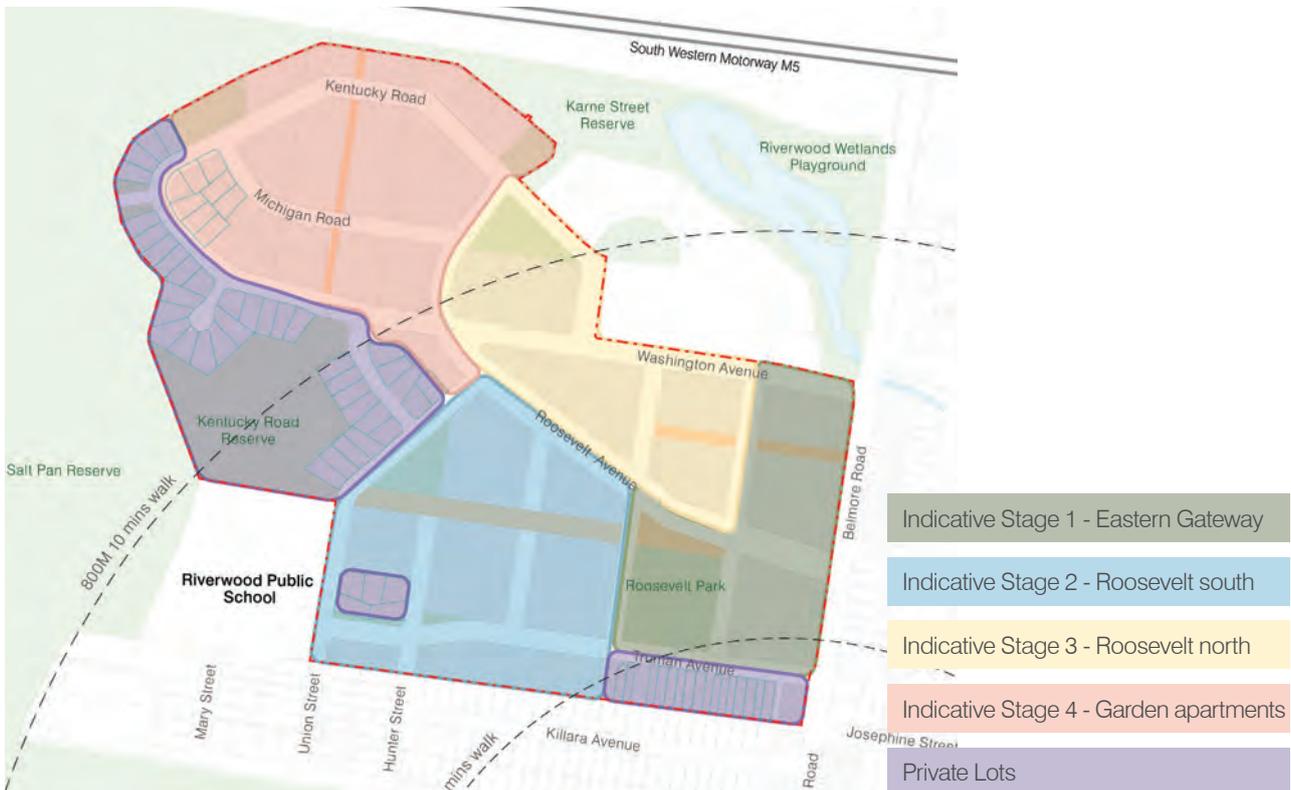


Figure 20. Indicative Staging

# 6 Heritage

## 6.1 European Heritage

### Objectives

1. To promote consideration of the heritage values of the Riverwood Estate.
2. To ensure that heritage values in the Riverwood Estate are investigated, identified, conserved, and appropriately managed in the context of new development.

### Controls

- A.** Prior to the submission of any SSDA a qualified community historian should be engaged to investigate and document the social history of the Herne Bay and Riverwood Estates to inform the preparation of a Heritage Interpretation Strategy.
- B.** Prior to the submission of any SSDA, a precinct wide Archaeological Research Design (ARD) should be prepared, to:
  - Identify any sites requiring archaeological investigation (focusing on significant areas within the former hospital, such as nurse's quarters or surgical facilities).
  - Set out a methodology for an archaeological excavation program for any identified sites.
  - Inform the preparation of a Heritage Interpretation Strategy.
- C.** Prior to the submission of any SSDA, a precinct wide investigation and Heritage Interpretation Strategy should be prepared that reflects the varied and significant social history of the site.

## 6.2 Aboriginal Heritage

### Objectives

1. To acknowledge, respect and celebrate Aboriginal heritage as an integral part of development and placemaking.

### Controls

- A.** In accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011), impacts to Aboriginal archaeological sites, areas of archaeological potential and Aboriginal cultural sites should be avoided or minimised as a priority.
- B.** The area highlighted in orange (PAD01) shown in Figure 21 is known to likely contain potential Aboriginal archaeology deposits.
- C.** Any future development or any works within 200m of the boundaries of PAD01 should be undertaken in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011), the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH, 2010) and other relevant legislation, as applicable.
- D.** Any Aboriginal heritage investigations in the Riverwood Estate should include an updated extensive search of the AHIMS database in order to determine if new sites have been registered in the precinct or its immediate surrounds. AHIMS searches should include a buffer of at least 200 metres in order to account for known errors in the AHIMS data.



Figure 21. Location of PAD01

## 6.3 Connecting with Country

### Objectives

1. To ensure development acknowledges and embeds Country.
2. To ensure locally connected First Nations people community voices are embedded into the Riverwood Precinct.
3. To provide opportunities for collaboration and co-designing with First Nations people for development within the site.
4. To celebrate Aboriginal culture and language through opportunities to name locations and streets in local traditional language or implement dual naming in collaboration with the locally connected community and a community endorsed language expert.

### Controls

- A. A Connecting with Country Framework for the site is to be prepared to inform any future DAs for new buildings and/or public open spaces.
- B. Development is to revive and enliven pre-development landscapes and traditional uses of Country and language through:
  - Encouraging locally indigenous vegetation that enhances environmental quality and optimises opportunities for habitat for native flora and fauna species;
  - Acknowledging Indigenous knowledge systems and how they can contribute to informing future building design and landscaping outcomes as an expression of Connecting with Country;
  - Acknowledging and celebrating First Nations people living cultures and site-specific stories of place through art, performance, and other creative expression involving the engagement of suitably qualified Indigenous practitioners;
  - Considering First Nations people inclusion, comfort and access in the design and operation of any proposed public spaces, including public open space, streets and community facilities; and
  - Identifying opportunities to name streets, public places, and community facilities and provide wayfinding signage in local traditional language or implement dual naming.
  - Where First Nations people naming is adopted, consider providing physical material that outlines the pronunciation and history behind the name, where appropriate and agreed to by relevant First Nations people stakeholders.

Note: for First Nations people naming and dual naming, the proponent is to consult with the NSW Geographical Names Board, local language subject matter experts and with Aboriginal stakeholder groups.

- C. Development is to contribute to strengthening the sense of the First Nations people community in the Precinct, and where possible create spaces for the First Nations people community to meet and connect.
- D. Prior to the submission of any SSDA, consultation should be undertaken with relevant Aboriginal persons and bodies (such as obtaining further oral histories from Aboriginal stakeholders and knowledge holders) to establish and further expand any Aboriginal social and cultural values and connections to the Riverwood Estate and surrounds.

This consultation should be carried out separate to general project community consultation and must be carried out by individuals who are accepted by the Aboriginal community as appropriate for the task.

- E. Targeted engagement with the First Nations people community is required to be undertaken prior to any DA to seek views:
  - On whether the proposed development impacts on existing or recent spaces or activities on the site, or on surrounding properties, that are important for First Nations people communities;
  - On whether consider the proposed development impacts on the wider context of the site being a place;
  - On how the development may best maximise the presence, visibility and celebration of First Nations peoples, organisations, businesses and living cultures.
  - Engagement activities are to be designed and led by Aboriginal-owned consultation advisories to ensure culturally secure practices.
- F. DA for new buildings and alterations, or that propose or include parts of the public domain are to include an First Nations people consultation report, and details:
  - Pre-lodgement consultation activities;
  - The outcomes of consultation;
  - How these have informed planning and design of the proposed development; and
  - What mitigation measures are proposed to reduce any impacts to the areas of Aboriginal cultural value.

# 7 Design And Built Form

## 7.1 Land Use

### 7.1.1 Overview

#### Objectives

1. To create a predominately residential neighbourhood with supporting commercial, retail, community and recreational uses to support the future population of the site.
2. To ensure a mix of dwelling types are provided, and that housing is flexible, encourages diversity, and caters for the needs of the existing and future resident population.
3. To encourage non-residential uses in key locations to provide activation to key streets and open space.
4. To support local employment while ensuring retail floorspace provision aligns with demand and supports the Riverwood Local Centre.

### 7.1.2 Residential Development

#### Controls

- A. Residential development is to provide for a mix of dwellings to meet future housing demand.

### 7.1.3 Non-Residential Development

#### Controls

- A. Any retail or non-residential uses should generally be located along Belmore Road and/or adjacent to open space in accordance with shown at Figure 2.
- B. Non-residential development is to provide a range of retail, commercial, and community uses that meets the needs day to day needs of the existing and future population.

### 7.1.4 Community Facilities

#### Controls

- A. Subject to consultation with Council, community facilities may be delivered on-site, or by way of contribution to a facility off-site. Consultation should be undertaken with Council to identify needs for community facilities.

- B. If required to be delivered on site, community uses should generally:

- Be located in the ground and/or lower floors of mixed use buildings and co-located with open space, in accordance with Figure 2;
- Have direct access to the public domain;
- Be designed for universal access; and
- Have a highly visible and positive presence in the community.

## 7.2 Building Heights

#### Objectives

1. To ensure a range of building heights that respond to the Desired Future Character and reinforce the vision of Riverwood Estate.
2. To ensure building heights respond to the hierarchy of streets and open spaces and provide a high level of residential amenity and solar access.
3. To allow flexibility for non-residential land uses.
4. To provide an appropriate transition and minimise impacts to adjoining residential development to the south.
5. To maximise views while minimising impacts to open space.

#### Controls

- A. Building heights in the must not exceed the maximum height in storeys as shown in Figure 22.

## 7.3 Street Wall Heights

#### Objectives

1. To establish a street wall height and built form edge that frames the public domain.
2. To ensure a comfortable street wall height that enhances pedestrian and residential amenity.
3. To reduce overshadowing, bulk and visual impacts of buildings to streets and the public domain.

#### Controls

Street wall heights are to be in accordance with the street wall height plan shown in Figure 23.

# Design And Built Form

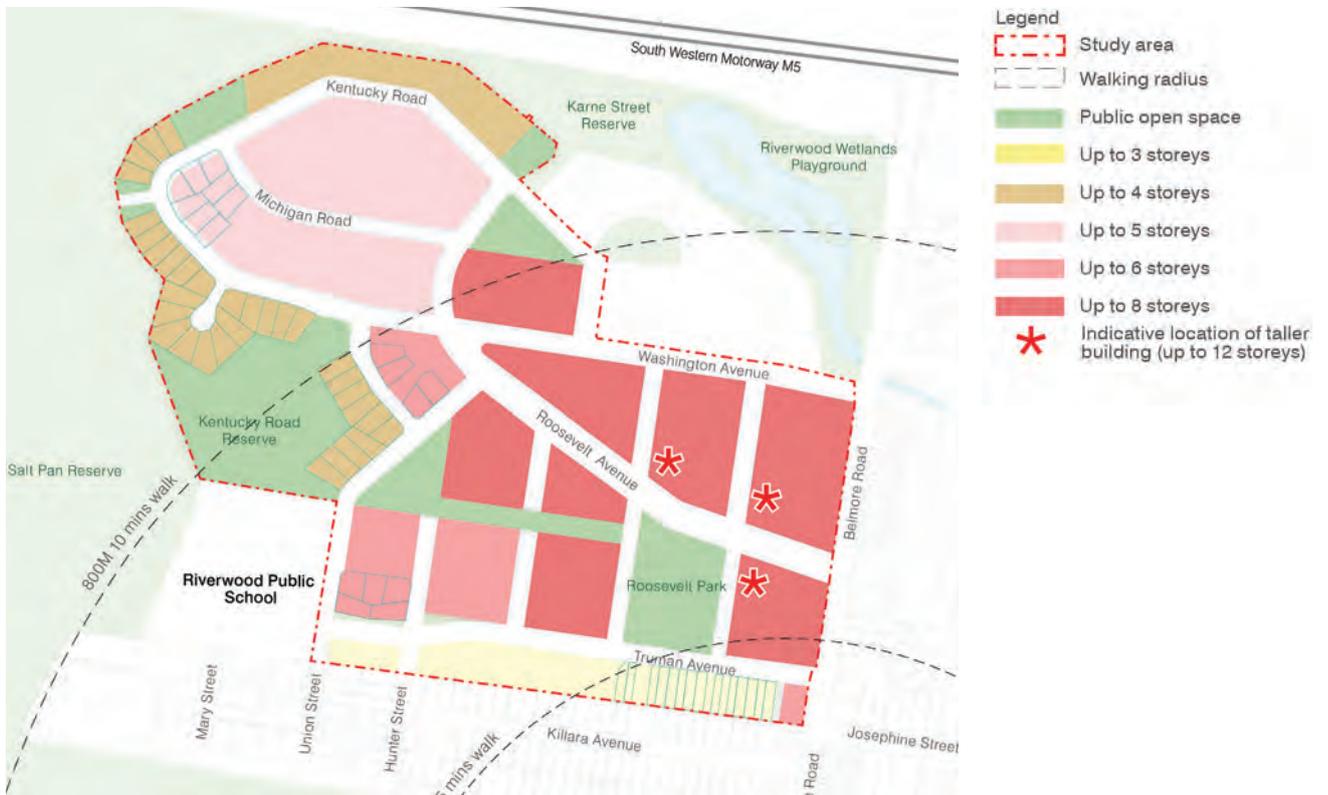


Figure 22. Building Heights in Storeys

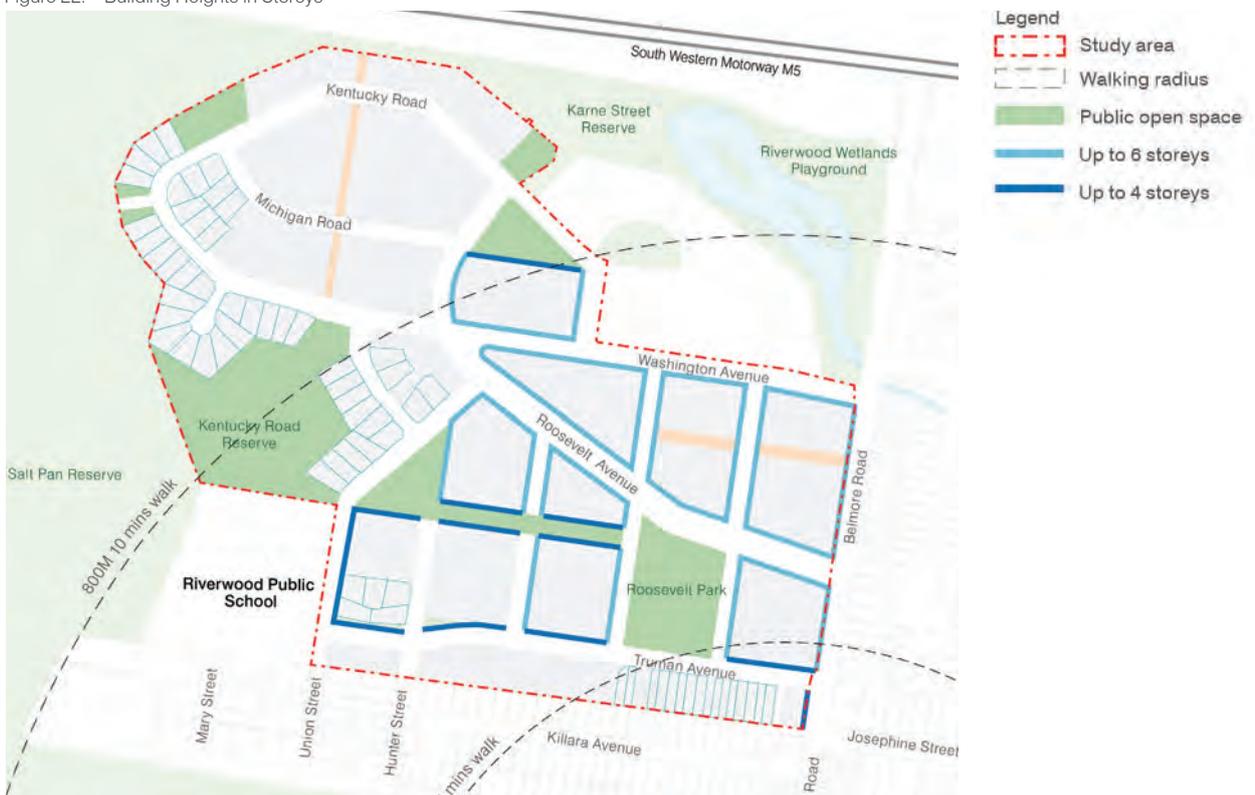


Figure 23. Street Wall Heights

## 7.4 Setbacks

### Objectives

1. To define the street edge and provide definition between the public domain and private open space.
2. To establish a view corridor and direct line of sight between Belmore Road and Kentucky Road Reserve.
3. To establish a view line along Washington Avenue to promote legibility and wayfinding.
4. To provide opportunities for deep soil, front gardens and landscaping.
5. To ensure buildings are appropriately set back to achieve a suitable built form transition and maintain amenity to adjoining residential development.

### 7.4.1 Ground Level Setbacks

#### Controls

- A. Minimum ground level setbacks are to be provided in accordance with Figure 24.

### 7.4.2 Upper Level Setbacks

#### Controls

- A. Any built form above the street wall height is to be setback from the building edge by a minimum of 3m.
- B. Setbacks above the street wall height are to be emphasised through a change in architectural expression, material selection and design elements.

### 7.4.3 Side and Rear Setbacks

#### Controls

- A. A minimum side setback of 1.5m is to be provided for all terrace development (attached and semi-detached dwellings). Where dwellings abut secondary street, a side set back of 3m is required.

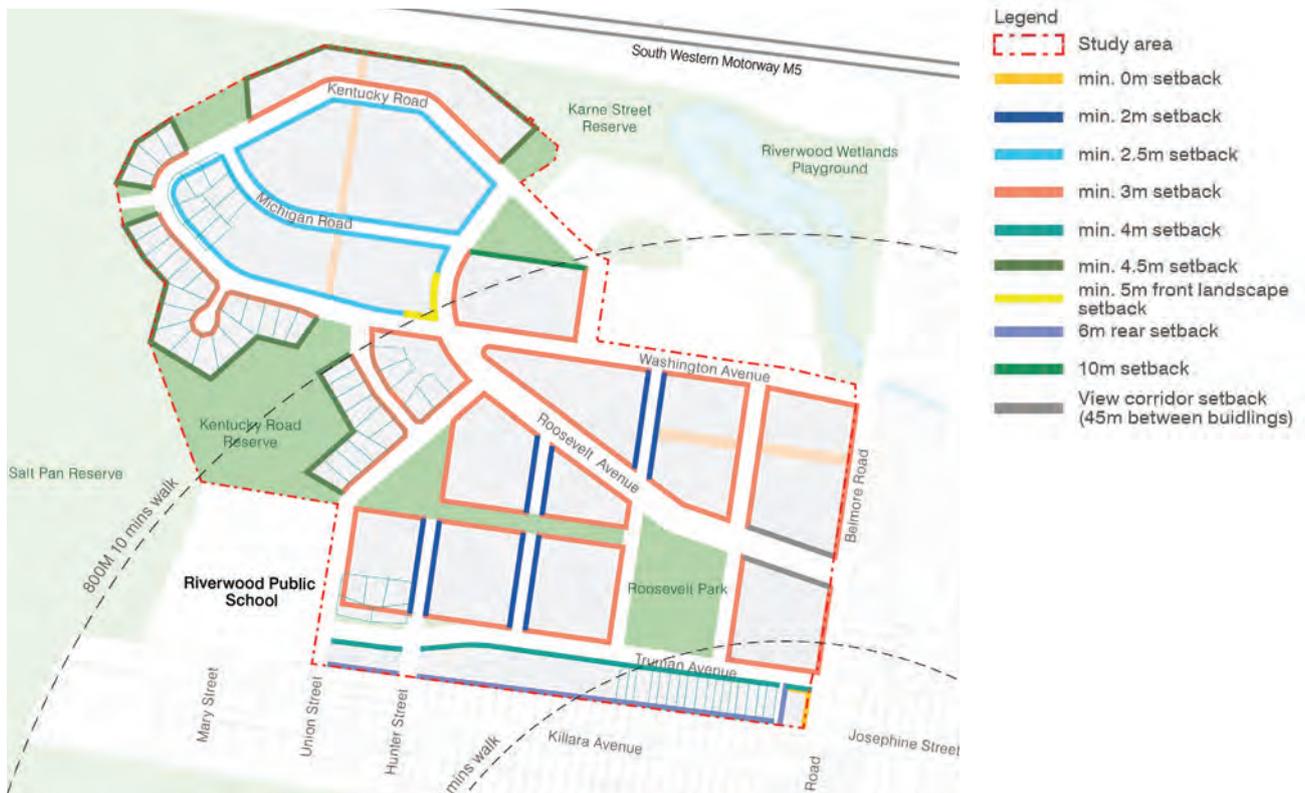


Figure 24. Ground Level Setbacks

# Design And Built Form

## 7.4.4 Building Design

### Objectives

1. To ensure that new development achieves the Desired Future Character of the Riverwood Estate.
2. To introduce a fine grain built form and varied architectural character.
3. To ensure buildings are well articulated and provide regular vertical breaks in the building to reduce overall building mass.
4. To provide regular breaks in buildings to enable air flow and visual connections between the street and open space.
5. To enhance the amenity of occupants in buildings in terms of daylight, outlook, view sharing, ventilation, wind mitigation, and privacy.
6. To encourage a diversity of fine grain residential and non-residential ground floor uses to promote street activation.
7. To provide high quality architecture and contribute positively to the streetscape.
8. To ensure that the size of new allotments caters for a variety of dwelling and household types and permits adequate solar access, areas for private open space and landscaping.
9. Encourage adaptable and accessible housing standards to ensure health and wellbeing and aging in place for older people and people with disability.

## 7.4.5 General

### Controls

- A.** Buildings are to be designed to face the street and/or open space, and to enhance the public domain through building entrances, active uses at ground level, good quality finishes and well resolved architectural design. On corner lots, the building shall be positioned to frame both streets.
- B.** Regular building breaks are to be provided for all buildings along the street frontage.
- C.** Building facades within the Roosevelt Precinct shall be articulated if the wall has a continuous length of over 60m.
- D.** Building facades within the Garden Apartment Precinct shall be articulated if the wall has a continuous length of over 45m.
- E.** Building façades are to be articulated into smaller elements or distinctive treatments, at a scale or grain that reflects:
  - Different uses and/or components of the building.
  - 2 storey maisonette typology.
  - The residential entries and/or lobby.
  - The ground floor, lower floors, top floor, and roof.
- F.** Blank solid walls at ground level, facing the street and public domain are to be avoided.
- G.** For attached dwellings and multi dwelling housing (terraces) a landscaped break of 1.5m is to be provided after six (6) dwellings in a row.
- H.** In the event where other dwelling types are proposed, development must:
  - Be oriented to address the street.
  - Minimise impacts to neighbours amenity including access to sunlight, daylight, privacy and views.
  - Provide usable outdoor private open space.
  - Provide convenient pedestrian, bicycle and motor vehicle access and parking.
  - Demonstrate consistency with the ADG and the DCP 2012/Draft DCP.
- I.** Buildings adjacent to Salt Pan Creek Reserve should be designed to be dual frontage, facing both the street and open space with residential entries, balconies and windows to be provided along both the street and park frontage.
- J.** Any windows or balconies facing the M5 Motorway are to provide appropriate noise protection treatment.
- K.** Ensure social housing is designed to be indistinguishable from other forms of housing.
- L.** Internal dwelling design is to consider flexibility and adaptability of floor layouts to support people working from home.

# Design And Built Form

## 7.4.6 Residential Entries

### Objectives

1. Maisonette apartment typologies are encouraged at the ground floor of all residential apartment development. Refer to Figures and 26 for examples of maisonette apartment typologies.
2. Ground floor dwellings are to be located facing the street and are to have individual entries from the street and / or communal open space.
3. Where ground floor dwellings have individual main entries directly from a communal or semi-public open space, entrances are to provide a clearly defined transitional space (such as a private front garden / courtyards, landscaping and circulation) to differentiate between public and private areas.
4. Entrances to dwellings from communal open space should be raised and the associated transitional spaces is to be designed to encourage personalisation of the space.
5. Ground floor dwellings should also face laneways / through site links to provide activation and passive surveillance.
6. Residential entries and lobbies are to be clearly visible, unobstructed, and easily identifiable from the street and public domain.



Figure 25. Maisonette Apartment Typology 1



Figure 26. Maisonette Apartment Typology 2.

## 7.4.7 Development Along Belmore Road

### Controls

- A.** Development along Belmore Road is to be designed as a perimeter building along the Belmore Road frontage that reads as separate parcels, defined through varying architecture and articulation. Refer to Figure 27 for examples.
- B.** Non-residential development along Belmore Road must:
- Provide a suitable proportion of clear glazing to all non-residential ground floor frontages to promote passive surveillance and contribute to street activity.
  - Be designed to address the street. Blank walls should be avoided.
  - Be designed with the ground floor level at the same level as the footpath. Where at-grade entrances are not possible, suitable alternatives are to be explored which maximise activation and pedestrian activity.
- C.** Where permitted, residential development at ground level along Belmore Road should be designed in a manner that maximises street activation and pedestrian activity, and protects people from noise by:
- Providing frequent individual dwelling entries and lobbies with direct pedestrian access to the street.
  - Providing secure front court yards, set back from the street.
  - Limit the number of apartments with single aspect fronting Belmore Road.
  - Any windows or balconies facing Belmore Road are to provide appropriate noise protection treatment.



Figure 27. Precedent perimeter building as separate parcels with varying architecture, articulation and façade treatment

## 7.4.8 Buildings Over 8 Storeys

### Controls

- A.** Buildings over 8 storeys in height are to be located on identified sites adjacent to Roosevelt Park, away from Belmore Road.
- B.** All buildings over 8 storeys must have a maximum street wall height of 6 storeys.
- C.** Any building component that is above 8 storeys high should:
  - Be of a slender form to reduce visual impacts and have a maximum gross floor area of 750 square metres.
  - Have a maximum building length of no greater than 45m.
  - Be setback by a minimum of 3 metres above the podium level.
  - Be aligned north-south to maximise solar access to the public domain.
- D.** Where the above cannot be achieved, the applicant must demonstrate that a variation will achieve a similar or better outcome when measured against the Building Design objectives.

## 7.5 Landscaped Area and Deep Soil

### Objectives

- 1.** To ensure that new development achieves the desired future character outlined in Section 2 of this DCP.
- 2.** To contribute to the overall 30 per cent tree canopy target for Riverwood Estate.

### Controls

- A.** Landscape design and minimum landscaped areas are to be provided in accordance with the relevant provisions of the DCP 2012/Draft DCP.
- B.** For all development, the minimum amount of deep soil is to be 15% of the site area and is to have a minimum dimension of 6m.
- C.** Where site conditions allow, deep soil areas should be consolidated to one location on site for effective planting, derived from local parent geology, unobstructed by structures and services and connected to the local groundwater to assist with detention of stormwater.

## 7.6 Communal Open Space

### Objectives

- 1.** To provide residents with usable quality open space.
- 2.** To provide communal open space areas for residents that facilitates social and recreational activities, shared facilities, and high amenity.
- 3.** To ensure communal open space provides sufficient area for landscaping deep soil planting and adequate soil volumes.
- 4.** To ensure communal open space is equally and easily accessible to all residents.

### Controls

- A.** Communal open space is to be designed in accordance with the provisions of Part C of the DCP 2012/Chapter 5 of the Draft DCP and the ADG.
- B.** Communal open space is to be located at ground level wherever possible.
- C.** Communal open space may be located on elevated gardens or roof tops, as long as the area and overall design is useful for the recreation and amenity needs of residents.
- D.** Fencing for communal open space is to be in accordance with Part C of the DCP 2012/Chapter 5 of the Draft DCP.

## 7.7 Private Open Space

### Objectives

- 1.** To ensure private open space is of adequate size for outdoor living to enhance resident's quality of life.
- 2.** To ensure private open space maximises use, and is designed to provide passive surveillance, amenity, privacy, and sun light access.
- 3.** To ensure private open space, including balconies and front garden courtyards, are integrated into the overall architectural form and façade of buildings and provide a positive contribution to the character of the street.
- 4.** To allow for secure court yards and direct pedestrian access to the street.

# Design And Built Form

## Controls

- A.** For dual occupancies, attached dwellings and multi dwelling housing the minimum amount of private open space per dwelling is to be provided in accordance with Part C of the DCP 2012/Section 5 Residential Accommodation of the Draft DCP.
- B.** For residential flat apartment buildings and shop top housing the design of private open space is to be provided in accordance with the provisions of the ADG.
- C.** All fencing is to be in accordance with Part C of the DCP 2012/Chapter 5 of the Draft DCP.

## 7.8 Solar Access

### Objectives

- 1.** To ensure new developments do not result in a deterioration of direct sunlight access to open space, the public domain or neighbouring properties.
- 2.** To ensure apartments provide a high level of residential amenity in terms of solar access.

### Controls

- A.** A minimum of 4 hours of solar access must be provided to at least 60% of all areas of public open space (except the Community Greenway) between 9.00am and 3.00pm on 21st June.
- B.** A minimum of 2 hours of solar access must be provided to at least 50% of the proposed pedestrian promenade 'Community Greenway' between 9.00am and 3.00pm on 21st June.
- C.** Solar access to neighbouring development must demonstrate compliance with solar access provisions as contained with Part C of the DCP 2012/Section 5 of the Draft DCP or ADG (where applicable) to the neighbouring development.
- D.** For any other residential development including dwellings, dual occupancies, attached dwellings and multi dwelling housing, must demonstrate compliance with solar access provisions as contained within Part C of the DCP 2012/Section 5 of Draft DCP.

## 7.9 Vehicular Access and Basement Entries

### Objectives

- 1.** To minimise pedestrian, cyclist and vehicular conflict.
- 2.** To ensure vehicle entries, servicing and loading areas are not located on primary streets.
- 3.** To ensure that the location and design of basement entries are efficient, safe, and integrated into the design of the development to minimise their visual impact.
- 4.** To maximise the site area available for deep soil planting.
- 5.** To ensure garages do not dominate or detract from the appearance of the dwelling and the streetscape.
- 6.** To limit the width and number of garages and driveways along the street frontage.

### Controls

- A.** Basement entries should be located on local streets (except where a development block only has a single street frontage).
- B.** No basement entries are to be located on Roosevelt Avenue, Washington Avenue or Community Greenway (unless there is no alternative access).
- C.** Vehicle access along the Community Greenway should be limited to emergency vehicles only. General vehicular access is not permitted along the Community Greenway. Service vehicle access along the Community Greenway is discouraged and should only be provided where it is demonstrated there is no other reasonable alternative.
- D.** Basement car parking and servicing areas are to not to extend beyond the building footprint.
- E.** All basement entry ramps are to be located above the flood planning level.

# Design And Built Form

## 7.10 Design Excellence

### Objectives

1. To achieve high quality design and ensure maximum amenity outcomes.

### Controls

- A. For local DAs, all buildings higher than 3 storeys are to be reviewed by Council's Design Review Panel (DRP), both prior to submission and during assessment of any DA.
- B. For SSDAs, development should be reviewed by the State Design Review Panel (SDRP) and will be guided by any Secretary's Environmental Assessment Requirements (SEARs).

## 7.11 Public Art

### Objectives

1. To include public art to better integrate development into the environmental and cultural aspects of a locality.
2. To celebrate the history of the Riverwood Estate through public art.

### Controls

- A. For each stage of development which includes construction of a new park or area of public open space, a Public Art Strategy is to be developed in consultation with Council to support a sense of place and to contribute to local heritage significance. This Public Art Strategy is to be submitted with the DA for that stage of works.
- B. Any Public Art Strategy is to be informed by the Government Architect NSW Connecting with Country Framework and Heritage Interpretation Strategy as outlined in Section 6 of this DCP.

# 8 Trees And Biodiversity

## 8.1 Introduction

### Objectives

1. To prioritise tree retention to ensure significant trees are retained and conserved as much as possible.
2. To ensure that all development considers and maximises the protection of existing high value trees in the site planning, design, development, construction and operation of the development. With the exception of Figure 19, specific high value trees are not nominated for retention within this DCP. It is anticipated that that the retention of trees will be determined through subsequent detailed design processes in accordance with the controls at Section 8.3 of this DCP.
3. To ensure the provision of useable and sustainable green space at ground level, with any roof top gardens or areas of green roof to be integrated within the overall building design.
4. To ensure landscaping improves, protects and enhances urban biodiversity and delivers urban green infrastructure for habitat and ecological health.
5. To reduce urban heat load and increase canopy coverage and ground absorption of water.

## 8.2 Tree Canopy

Tree canopy is a component of green infrastructure network providing shade and shelter for walkable neighbourhoods. Tree canopies assist in reduction of ambient temperatures and mitigating the heat island effect, providing cooler, greener, cleaner neighbourhoods.

Canopy cover is the layer formed by the interlaced branches and leaves of trees or plants. The cover can be continuous, or discontinuous, depending on the location or nature of planting and relationship with the public and private domain.

### How to measure tree canopy

In accordance with the Greener Places Design Guide, prepared by Government Architects NSW 2020, tree canopy refers to the extent of an individual tree crown (including branches and leaves) or the combined canopy area of a group of trees.

**Existing Tree Canopy** can be measured by calculating the area of existing canopy as a percentage of total land area.

**Proposed Tree Canopy** can be measured by calculating the area of proposed canopy as a percentage of total land area. Proposed tree canopy calculation is to assume type of proposed tree species and eventual canopy size of all trees at maturity.

### Objectives

1. To ensure a cool, green neighbourhood and maximise tree canopy coverage throughout Riverwood Estate.

### Controls

- A. The overall tree canopy target for Riverwood Estate is 30%.
- B. Landscape design is to consider the design of streets, parks and private residential lots to meet the canopy cover targets for each landscape setting, outlined in Table 3.
- C. Notwithstanding Table 3, If the canopy cover targets cannot be met for each of the landscape settings, it should be demonstrated how compliance with the overall canopy target of minimum 30% in 30 years (from the date of this DCP) will be achieved.

Table 3. Tree Canopy Targets by Landscape Setting

Landscape Setting	Proposed Canopy Cover in 30 Years (% of landscape setting)
Streets	60%
Parks	40%
Private/Residential Lots	20%

## 8.3 Soil Volume

### Objectives

1. To optimise tree health and provide adequate soil volumes to support healthy tree growth.
2. Prioritise connected soil networks between trees.

### Controls

- A. Soil volumes are to be provided in accordance with the Crown Method - for every square metre of canopy at maturity allow 0.6m<sup>3</sup> volume of soil.
- B. Soil depth should be a minimum of 1m or 0.8m minimum, if located on structure.

## 8.4 Tree Retention

### Objectives

1. To retain significant trees and canopy trees across the site.
2. To site and design buildings to maximise tree and canopy retention.
3. To provide a framework for compensatory planting to replace the loss of trees removed for development.

### Controls

- A. All Endangered Ecological Communities (EECs), including Cumberland Plain Woodland must be retained.
- B. Existing trees identified as high value (and/or hollow bearing) are to be retained, as much as possible and protected during construction phases.
- C. Development should target a minimum 50% retention of High Value Trees across the Riverwood Estate.
- D. Consultation should be undertaken with Council to identify opportunities for retention of significant trees, as well as those identified for removal. Provisions relating to tree removal in Part 3 of the DCP 2012/ Chapter 5 of the Draft DCP must also be addressed.
- E. For removal of trees of high retention value, compensatory tree planting is to be provided at a minimum replacement ratio of 5:1. For any other trees that are proposed to be removed, compensatory planting should be provided at a minimum replacement ratio of 1:1.
- F. For removal of hollow-bearing trees, compensatory nesting boxes are to be installed on site. The size of the nesting box is to reflect the size and dimension of the hollow removed.
- G. No temporary construction facilities (e.g. site offices, toilets or soil stockpiling) is to occur within a tree protection zone.

# 9 Ecologically Sustainable Development

## Objectives

1. To establish benchmarks to achieve ecologically sustainable development.
  2. To ensure the efficient use of resources in building design, construction and operation and reduce overall environmental impact.
  3. To ensure that development is resilient against the effects of climate change.
  4. To ensure that the development allow for more open space and less hardened surface area for cooling purposes.
  5. Consider opportunities to mitigate the impacts of urban heat for more vulnerable residents including older people, people with a disability, children and social housing residents.
  6. To encourage the use of materials to minimise reliance on mechanical systems.
  7. To ensure building materials are resilient to changes in climate and temperature increases.
- E. Consider strategies to incorporate renewable energy design features, such as solar panels.
  - F. Consider strategies to remove the requirement for gas appliances in new buildings.
  - G. Consider the provision of roof overhangs (eaves) and incorporating additional shading to balconies/verandas, where possible.
  - H. In selecting materials and finishes, consideration should be given to lighter colours and thermally efficient materials to reduce the heat island effect.
  - I. Green roofs are encouraged, wherever practical.
  - J. Any green roof is to be planted using locally native plants including a variety of plant sizes and layers of planting. Refer to the Indicative Plant Species at Figures 29 and 30.
  - K. Where a green roof contributes to communal open space within a development, the design of the green roof must:
    - Be safe and accessible for residents.
    - Address the street and public open space.
    - Be placed and designed to minimise the impact of noise.
    - Be placed and designed to maximise visual privacy.
    - Use sustainable water sources for irrigation such as harvested water.
    - Ensure all furniture and shade structures are designed to withstand windy conditions.

## Controls

- A. Development should aim to achieve a 5-star rating under the Green Star – Communities v1.1 tool (or the equivalent rating as this tool is updated over time).
- B. Development should aim to achieve a 5-star rating under the Green Star - Buildings v1 tool for residential towers and townhouses (or the equivalent rating as this tool is updated over time).
- C. NABERS for Apartment ratings to be managed by strata or building management for all eligible buildings in the redevelopment.
- D. Development is to consider the use of hard-wearing materials that can withstand climatic extremes, including, wind, rain and temperature extremes (each of which may cause warping, bending, blistering, fading or melting) through:
  - Minimising applied finishes where possible.
  - Specifying durable materials, to ensure longevity and withstand the extremes of weather and climate.
  - Specify materials and finishes which patina, weather or age favourably over time, rather than deteriorate.
  - Selection of materials with longer design life.
  - Selection of materials with better performance in hot temperatures.

# Ecologically Sustainable Development



Figure 28. Indicative Plant Species 1

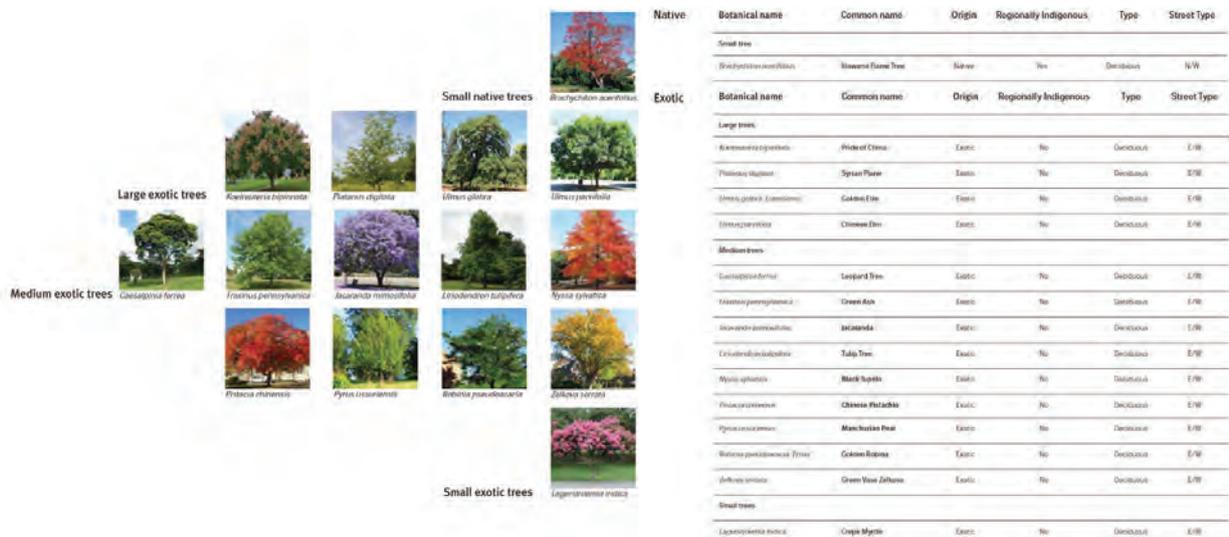


Figure 29. Indicative Plant Species 2

# 10 Water Management

## 10.1 Water Sensitive Urban Design and Stormwater Management

### Objectives

1. To minimise energy use, water use, waste generation and urban heat effects.
2. To ensure an integrated approach to water cycle management through the use of water sensitive urban design principles.
3. To minimise discharge of stormwater from site.
4. To reduce water demand over time and protect the downstream environment.
5. To minimise the impact of new development on the existing stormwater system.

### Controls

- A. Stormwater from roofs, streets, pavements and lawns are to be captured and re-used, wherever possible.
- B. Where possible, integrate Water Sensitive Urban Design to treat water where it falls including street tree pits and central swale rain gardens.
- C. Porous paving for on street parking is encouraged.
- D. Rainwater harvesting should be included for buildings without a green roof, to minimise stormwater runoff generated by the development and to achieve BASIX requirements.
- E. Where possible, incorporate wicking beds for water storage in soil zones to help irrigate plants during dry periods.
- F. Soil and erosion measures such as sediment fencing, clean water diversion must be in place prior the commencement of the construction work and must be regularly inspected and maintained throughout the development of the site.
- G. Where possible, use ground moisture and irrigated lawns to reduce urban heat.
- H. Stormwater drainage and on-site detention is to be designed in accordance with Part B of the DCP 2012/ Chapter 3 of the Draft DCP.

## 10.2 Flood Management

### Objectives

1. To minimise the risk of injury to people and damage to private and public property.

### Controls

- A. The applicable flood planning level for residential, mixed use and commercial developments is the 100 year Flood Planning Level + 15% climate change flood event with 0.5m freeboard.
- B. Provisions relating to flood planning and flood management in the Canterbury Bankstown DCP also apply.

# 11 Glossary

For the purposes of this DCP the following definitions apply:

- **Low rise buildings** are buildings up to four (4) storeys.
- **Medium rise buildings** are buildings from five (5) to eight (8) storeys.
- **Tall buildings** are buildings over eight (8) storeys.
- **Maisonette apartment** means a two-storey, terrace style apartment setback from the street, allowing for secure front gardens, and direct pedestrian access to the street.
- **On-site detention (OSD)** is the temporary storage of stormwater, traditionally within a development footprint, to ensure that peak runoff from a development site does not incur adverse impacts to downstream properties.
- **Tree canopy** refers to the extent of an individual tree crown (including branches and leaves) or the combined canopy area of a group of trees. Tree canopy is measured by calculating the area of canopy as a percentage of total land area.



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