

Attachment B7(f)

**Urban Design and Public Domain Study
Appendix 3 Public Domain – Waterloo
Estate (South) – Land and Housing
Corporation**

7.3

7.3 PUBLIC DOMAIN

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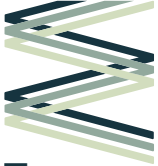


Fig. 7.31 Bath and Mo, Redfern

7.3.1 FRAMEWORK, STRATEGY AND KEY PLACES

The new and diverse public domain will invite the existing and future community of Waterloo to grow and experience a unique place where people are proud to live, work and play

Waterloo South, as the first stage of the renewal of Waterloo Estate, will set a new benchmark for urban renewal within Sydney and create a place for a growing community as part of Waterloo's transformation. The public domain strategy forms part of the project proposition to deliver the Vision and Project Objectives for the Estate. The public domain response provides a comprehensive vision and strategy for the public domain framework that will help define the Indicative Concept Proposal for Waterloo South.



PUBLIC DOMAIN RESPONSE

Creating a welcoming environment that will grow and change with the community over time, strengthening the existing community and creating new communities

The public domain and open space responses are guidelines that help achieve the project vision and objectives. The five over-arching responses help shape public domain and open space design considerations to create a public domain that will function as a binding agent for Waterloo South and the Estate, creating a network of legible, accessible and flexible spaces for people to interact and strengthen Waterloo's community.

PUBLIC DOMAIN AND OPEN SPACE AS AN INTEGRATED GREEN SYSTEM

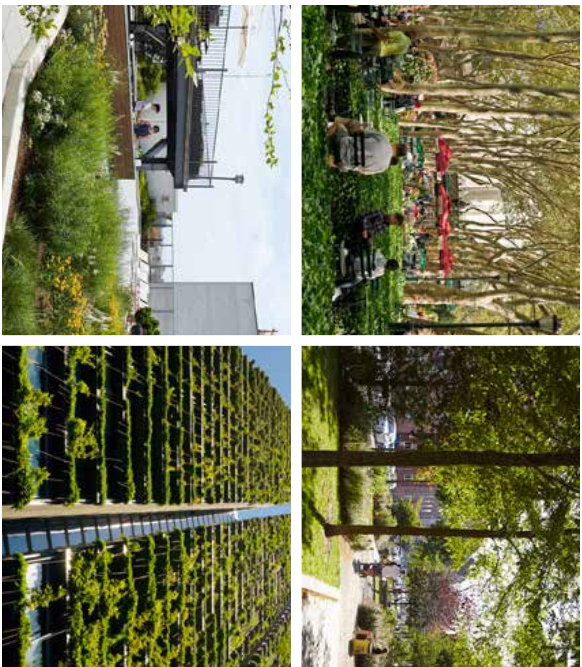


Fig. 7.3.2 TL: Bryant Park, NYC. TR: South Boulevard, Copenhagen, 2016
BL: Printing Press Communal Roof NYC. BR: Central Park, Sydney

Strengthening Waterloo's green grid, whilst enhancing the communities health and well being within an urban environment by providing connections to nature through public domain and open space

The public domain and open space will need to promote a sense of health and well-being across the diverse community by providing high quality and sustainable public domain that is safe, welcoming, accessible and connects people to nature. Waterloo South has the opportunity to create a series of integrated green systems by retaining key existing trees and canopy, maximising access to open space, reinforcing and strengthening district green grid connections, and incorporating biophilic design principles (by designing with an understanding of the need to connect with nature), to contribute to climate mitigation and create a healthy, liveable urban environment.

WALKABLE AND ACTIVATED PUBLIC DOMAIN AND OPEN SPACE

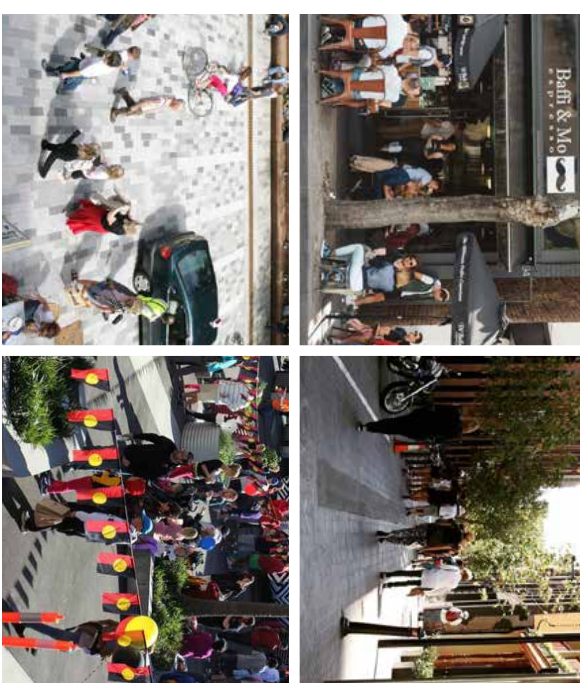


Fig. 7.3.3 TL: Cafe Breakout, Redfern TR: AEGGCAFF, Kensington Street, Sydney
BL: New Road, Brighton BR: NAIDOC Week, Redfern

Create better walking environments by activating the public domain and strengthening the community's connection with Waterloo at eye level whilst providing a safe environment for pedestrians and cyclists

Waterloo South will need to be a highly walkable place. The public domain will harness opportunities to create a linked and diverse network of spaces, and deliver a fine grained urban grid, to support and promote a highly walkable place. Opportunities for highly activated and diverse streets, laneways and pedestrian links will create an urban neighbourhood for people that is safe, walkable and connected.

CONNECTED BLUE GREEN INFRASTRUCTURE AND SUSTAINABILITY NETWORK

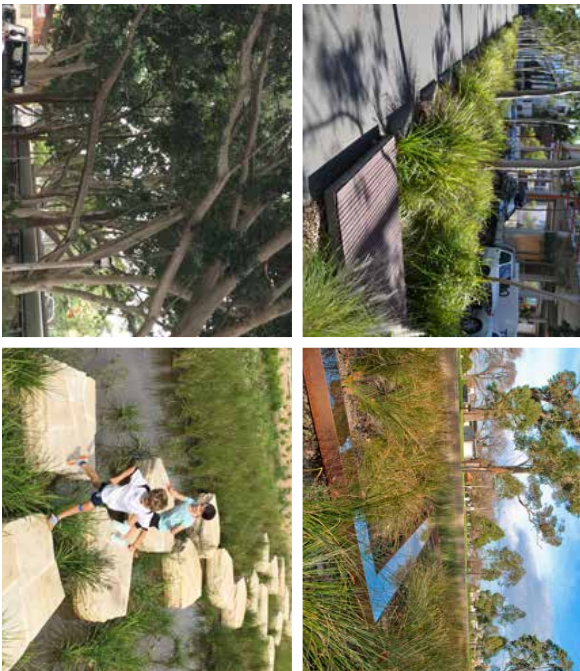


Fig. 73.4 TL: Victoria Park, Sydney, TR: Edinburgh Raingarden, Melbourne
BL: Waterloo, BR: Sydney Park, Sydney

Establish a public domain and open space network that enhances and mitigates existing Blue-Green systems whilst creating opportunities to encourage bio-diversity and contribute to a GreenStar community

With an increased global and community focus on environment and sustainability, ensuring Waterloo South adopts similar attitudes is primary. Blue-Green infrastructure includes an extensive approach to street tree planting, understory planting, bio-retention and tree pits. This network of infrastructure works to support and improve existing habitat arrangements and biodiversity. Integrating elements of play and exploration within the network promotes an awareness and presence of the network and infrastructure throughout the community.

CREATE AN ACCESSIBLE PLACE

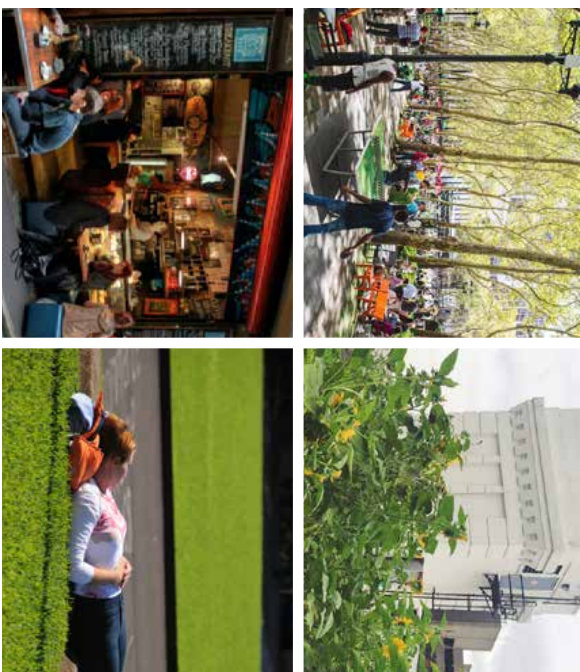


Fig. 73.5 TL: Bryant Park, NYC, TR: Brooklyn Grange, NYC
BL: Laneways, Melbourne, BR: Sydney University Library Lawn, Sydney

Provide an all ages place with a diverse range of activation types and create spaces that are adaptive to the needs of an evolving community

The public domain and open space network needs to support the diverse community by providing an adaptable and flexible public domain network. Waterloo South presents opportunities to create safe and pleasant connections between key destinations for people of all ages with a high level of amenity, activity and inclusiveness.

CULTURAL INTEGRATION AND INTERPRETATION

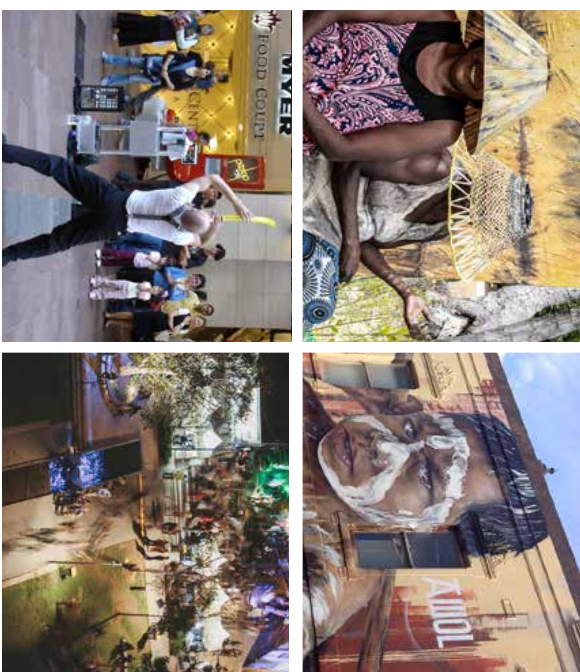
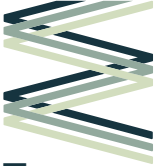


Fig. 73.6 TL: Bush Traders, Darwin, TR: Street Art Melbourne, Matt Adante
BL: Pitt Street Mall, Sydney, BR: Chippendale Green, Sydney

Provide an art and culture strategy that encourages and interprets culture and environment whilst integrating with the existing and future urban fabric

Cultural interpretation and integration will be present in numerous forms and styles including street art, temporary events, Indigenous programmes and street performance. The variety of large and more intimately scaled public spaces will serve to facilitate these activities by offering a spatial platform and occasional vertical canvas for the arts to manifest. Of particular importance is the capacity for Indigenous representation and engagement. Indigenous arts and sculpture will provide visual diversity and connect to the past, present and future Indigenous presence within Waterloo.



PUBLIC DOMAIN STRATEGY

Creating a welcoming environment that will grow and change with the community over time, strengthening existing and creating new communities

The renewal of Waterloo South will create an environment for people. The public domain will be inviting and set the foundation for a unique neighbourhood where the existing and future communities of the Estate can grow, and experience a place where people are proud to live, work and play.

The public domain aims to put the community first. By creating a pedestrian priority precinct, the public domain will provide an active, safe and adaptive environment that promotes community interaction through flexibility of uses, and a diverse hierarchy of spaces where people can gather, meet and relax. Streets will be places of social connectedness through the inclusion of activated street interfaces, and an energised ground plane where buildings contribute positively to the public domain.

Waterloo South will become a place that is inclusive, inviting and welcoming, engendering a strong sense of belonging within the community; a place to share, experience, engage and interact. The public domain will harness Waterloo's existing character of strength, integrity and resilience, creating a dynamic and vibrant neighbourhood, where residents and visitors experience an Estate that engages with the whole of Waterloo and is a welcoming place.

The public domain strategy demonstrates consideration and application of City of Sydney's public domain codes where appropriate. These include the Sydney Streets Technical Specification (2013) and other relevant City of Sydney design codes.

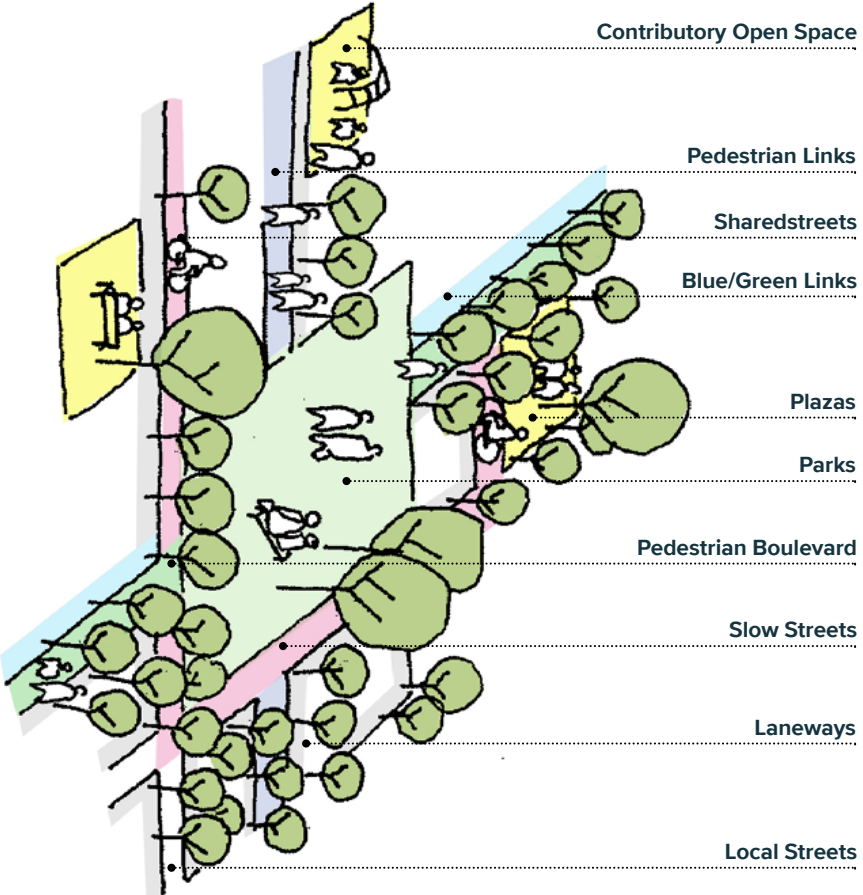


Fig. 7.3.7 Public Domain Strategy

PUBLIC DOMAIN MASTERPLAN

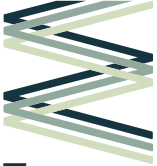
Strengthening community and connections

Waterloo South's public domain will create an active, safe, adaptive and resilient Estate. Promoting community interaction, the public domain will enable flexibility of use for the community, both residents and visitors. Developing unique place characteristics, through built form and public domain strategies, the public domain plan creates a hierarchy of movement systems and spaces catering to the diverse needs and lifestyles of the community.

- LEGEND**
- ① **VILLAGE GREEN**
Supports community gatherings, events, recreation, productive landscape and water management
 - ② **WATERLOO COMMON**
Provides open space for neighbourhood gathering, productive landscape, play and water management
 - ③ **GEORGE STREET**
20-25m wide, tree lined landscaped corridor connecting the community to key destinations
 - ④ **WATERLOO METRO STATION**
Sydney metro station
 - ⑤ **RETAIL AND SERVICES HUBS**
Provide a mix of local retail and services
 - ⑥ **COMMUNITY HUBS**
Provide community gathering space and community services
 - ⑦ **BLUE LINE**
A pedestrian connection between key destinations that reflects the local water story
 - ⑧ **COMMUNITY GARDENS**
Provide productive opportunities for the community to grow and harvest/produce
 - ⑨ **ACTIVITY PLAY ZONES**
Provide opportunities for active use including play space, picnic areas, fitness and youth zones
 - ⑩ **ACCESSIBLE LOCAL MOVEMENT ROUTE**
Provides a route that connects key spaces, destinations and amenities that is safe and accessible for all ages and abilities



Fig 7.3.8 Waterloo South indicative concept proposal



KEY PLACES

Waterloo South has a place for each and every person

Waterloo South’s public open space is defined by two key places. These places are the Village Green and Waterloo Common. These places are anchored by community amenity and are the heart of the public domain. Each key place is reflective of a particular character and uses, ensuring a variety of places for the diverse community living within Waterloo South.

A third key place envisioned for the overall Estate is the renewal of George Street into a Pedestrian Boulevard as the major north - south spine that connects the Estate to surrounding neighbourhoods. In the interim, George Street will retain its current use for vehicular movement but proposed to be modified into an ‘activity street’ that promotes pedestrian and cycle movement and provides enhanced amenity that includes café breakout spaces to support the proposed intensification of retail uses.

Responsive to the architectural character and community within its immediate surrounds, each key place aims to provide for the community’s needs, providing places to meet, gather and connect. The pocket parks located across Waterloo South increase the overall open space and diversity available and act as local places for leisure and social connection throughout the public domain.

The streets of Waterloo South connect the key places to the greater Waterloo community. George Street is the major north - south connection, embracing the northern and southern key places along its spine. The laneways that run east-west from George Street disperse pedestrian movements and filter the circulation towards the smaller pocket parks and active street edges beyond, connecting Waterloo South into its surrounds and to the future Waterloo Metro Station.

The streets are key places themselves, offering more than the typical transit. They are diverse in their typologies, ranging from pedestrian only laneways to shared zones and local streets. The streets are active places, with

ground floor retail and services, pocket parks, landscape setbacks and pedestrian breakout spaces activating their edges.

The activation of the public domain is heavily influenced by the arrangement of ground floor retail and services. Active building frontages, streetscape and public open space work together to form social corners. These corners are characterised by their northern orientation, adjacent to ground level activation and public open space, and their location at the intersection of two or more streets. The key places, be they social corners, streets or open spaces, are evenly distributed across Waterloo South and reflect the unique qualities and character of Waterloo.



Legend
 Retail
 Pocket Parks
 Key Places
 Social Corners

Fig. 7.3.9 Waterloo South key places

VILLAGE GREEN

The Village Green maximises its spatial opportunity by providing a central lawn for active recreation. Enclaves of activity zones flank its southern half providing opportunity for play space, sporting and youth zones, waterplay and community gardens. Ample shading is provided along the perimeter of the Village Green and within key areas. Directly opposite the main entry to the future Waterloo Metro Station, the Gadjigal Gardens reflect the rich tapestry of Indigenous heritage within Waterloo and is anchored by a feature community pavilion, the ‘Big Roof’.



Fig. 7.3.10 Bryant Park, NYC



Fig. 7.3.11 Ian Potter Wild Play, Centennial Park



Fig. 7.3.12 Campus Martius, Detroit



Fig. 7.3.13 Beacon Food Forest, Seattle

WATERLOO COMMON

Waterloo Common will provide local open space amenity for residents and users at the southern end of the Estate. These uses include a flexible urban plaza for community events and daily use, a neighbourhood play space and a youth activity space. A smaller productive landscape zone (community garden) and passive shaded lawn areas complete the programmable space.



Fig. 7.3.14 Edible Park, Medini, Malaysia



Fig. 7.3.15 Goyder Square, Palmerston



Fig. 7.3.16 Granary Square, London

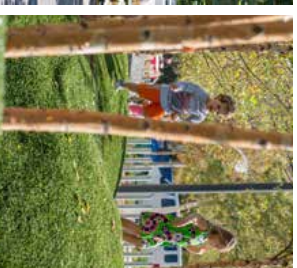


Fig. 7.3.17 Clyde Warren Park, Dallas

GEORGE STREET PEDESTRIAN BOULEVARD

The future vision for George Street is to reimagine and renew it as a tree lined Pedestrian Boulevard that provides opportunity for contributory open space with 'micro' spaces dedicated to uses that respond to building ground floor uses. Amenities include cafe breakout spaces, micro plazas, micro play spaces and food production, as well as rest and leisure. George Street will become the major north - south 'green' spine that connects the Estate to surrounding neighbourhoods.



Fig. 7.3.18 Sonder Boulevard, Copenhagen



Fig. 7.3.19 Passeig de Joan, Barcelona



Fig. 7.3.20 Passeig de Joan, Barcelona



Fig. 7.3.21 Edinbrough Rain Garden, Melbourne

GEORGE STREET ACTIVITY STREET

Recognising that the evolution of George Street into a future Pedestrian Boulevard will take time, an interim approach to George Street has been developed to transition it from a car focused street into a pedestrian focused 'activity street' with a mix of active ground floor retail and service uses, landscape setbacks and pedestrian breakout spaces activating the edges. The proposed changes to George Street supports the renewal of Waterloo South into a Pedestrian Priority Precinct that promotes pedestrian and cycle movement and active transport modes.



Fig. 7.3.22 Baffi and Mo, Redfern



Fig. 7.3.23 804 Congress Avenue



Fig. 7.3.24 Bourke Street Cycleway, Sydney



Fig. 7.3.25 Bourke Street Cycleway, Sydney

URBAN PLAZAS

Two new urban plazas provide activated public space that connects the Estate to the major transport hub. Within the plaza, a community building interfaces with both the Metro Quarter and Village Green, offering a common connection and visual locator for people. Seating groves and raised lawns will keep users comfortable, whilst temporary event space offers the community the opportunity to occupy the space and create a sense of ownership and place.



Fig. 7.3.26 Pitt Street Mall, Sydney



Fig. 7.3.27 'Edge of Trees' by Janet Lawrence, Sydney



Fig. 8.3.28 Clyde Warren Park, Dallas



Fig. 7.3.29 Macquarie University Courtyard

SOCIAL CORNERS AND POCKET PARKS

The social corners and pocket parks are the secondary public domain opportunities throughout Waterloo South. The pocket parks provide more intimate community places for residents within the immediate vicinity. Edible landscape opportunities, doorstep play and cafe breakout spaces respond to their location, size and flexibility of design. Social corners are characterised by their northern orientation, location at the intersection of two or more streets and their proximity to key public open spaces and retail or community uses.



Fig. 7.3.30 Rad Lab Pocket Park, Los Angeles



Fig. 7.3.31 Chipperidale Green, Sydney



Fig. 7.3.32 Sydney Laneways Art Program, Sydney



Fig. 7.3.33 Bakery Lane, Brisbane



VILLAGE GREEN

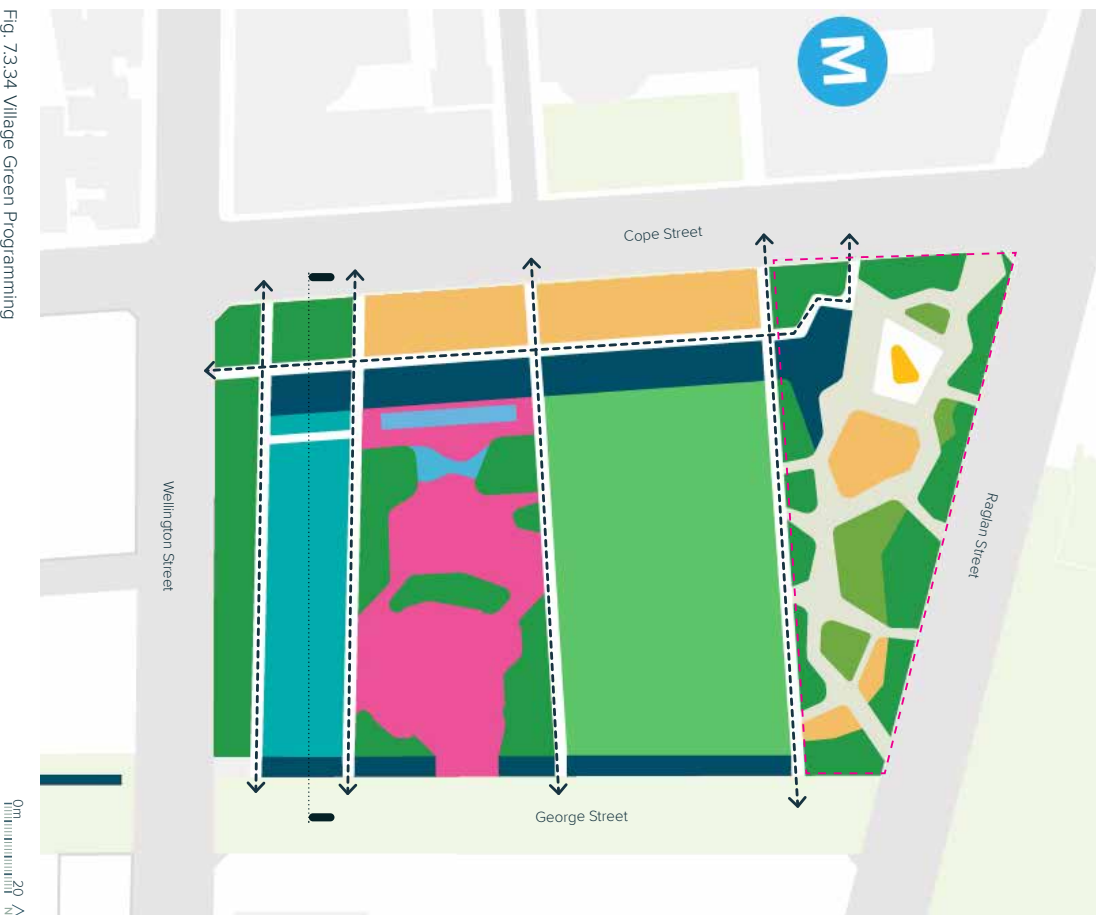


Fig. 7.3.34 Village Green Programming

KEY PRINCIPLES

- **Planted Edge:** productive landscape, tree retention, passive recreation and urban forest
- **Open Lawn:** possible recreation and activities.
- **Big Root:** ideal for community events and **gathering** (dayspots): Designed to service the community
- **Market and Amenity Zone:** Tree groves with flexible space for markets and amenity.
- **Community Garden:** The largest single edible landscape opportunity.
- **Godigital Garden:** A flexible recreation space, connecting to and expressive of the Indigenous narrative of Waterloo.
- **Pedestrian Connection:** Key through site link for pedestrian movement.
- **Bio-retention:** Planted swales contributing to the Water Story of Waterloo.
- **Waterplay:** Active water zone for play and exploration



Fig. 7.3.35 Joynton Park, Zetland

OBJECTIVES

- Create a central destination for the community, complimented by a nearby community building and public exhibition space for community/recreation
- Offer a variety of programmable spaces to cater to the needs of all community/members, offering both temporary and permanent activity options. These may range from local markets to fixed playgrounds and youth recreation.
- Deliver a clear and legible pedestrian connection, both along the Village Green's boundaries and within the space itself. Connections between programmed spaces are encouraged by numerous way finding measures, pavement treatments and amenity stations. Provide equal access to all members of the community.
- Use the programmed and unprogrammed spaces to express the cultural and creative identity of Waterloo through public art and installation.



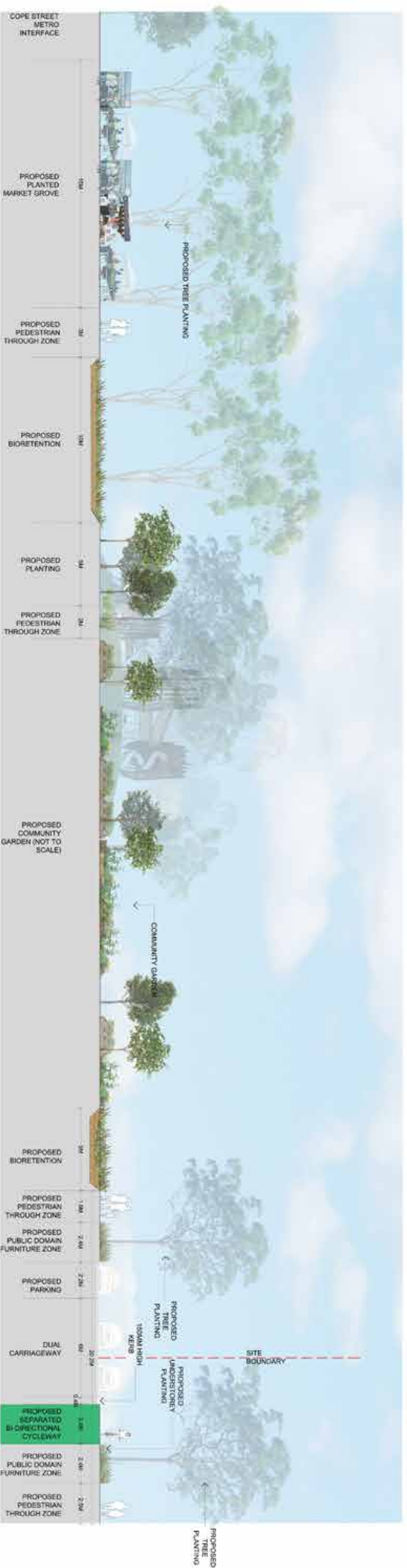
Fig. 7.3.36 Ian Potter Wild Play, Centennial Park

CONSIDERATIONS

- Improve ease of connection between the Village Green and the remaining Estate.
- Maximise programmable space to provide a safe and vibrant public domain.
- Use active breakout spaces to keep the edges of the park active and safe during night and day.
- Integrate and explore the possibilities of Water Sensitive Urban Design as an ecological, sustainable design initiative as well as a play space and aesthetic resolution for the space.
- Use urban elements and materiality to define the public domain and distinguish the unique characters within the greater Village Green featuring the characteristic of Waterloo.
- Push the boundaries of public art integration.



Fig. 7.3.37 Meridil Edible Park, Malaysia



KEY

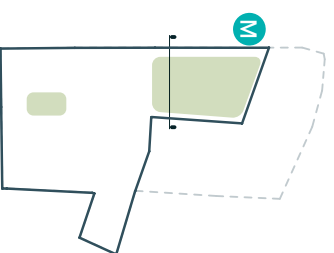


Fig. 7.3.38 Village Green Typical Section



WATERLOO COMMON



Fig. 7.3.39 Waterloo Common Programming



KEY PRINCIPLES

- Planting: productive landscape, tree retention, passive recreation and urban forest
- Urban plaza: Increasing the programmable community space. Inclusive of picnic and BBQ facilities and shelter.
- Playspace: Designed to service the southern neighbourhood.
- Community Gardens: Waterloo South's second largest single edible landscape opportunity.
- Bio-retention: Planted swales contributing to the Water Story of Waterloo.
- Lawn: Accomodate existing and proposed trees.
- ↔ Pedestrian Connection: Key through site link for pedestrian movement.
- Park Laneway: Laneways moving residents north-south along park.

OBJECTIVES

- Create a local park, reflective of and in response to the needs of the immediate surrounding community.
- Ensuring the resolution of public space meets a high design resolution and execution.
- Support the existing tree species in the area, but increasing the overall canopy cover, and using species to complement the present environment.
- Provide programmed spaces that will be diverse and collaborative, that allow the community to represent their identity and explore the possibilities and potential of their neighbourhood.
- Provide equal access to all members of the community.

CONSIDERATIONS

- Integrate Indigenous culture and heritage through edible landscapes, art and materiality.
- Explore the potential of smaller neighbourhood scale programmable space through innovative design and resolution.
- Continue the linear band of Water Sensitive Urban Design that integrates the Blue Line through the entire Estate.
- Provide and explore the possibilities of materiality, furniture, fixtures and lighting in distinguishing use and program in smaller spaces both day and night.



Fig. 7.3.40 Born Square, Oxford



Fig. 7.3.41 Wulaba Park, Waterloo



Fig. 7.3.42 Chippendale Green, Sydney



KEY

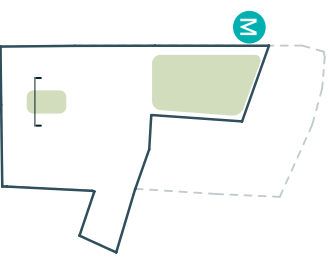


Fig. 7.3.43 Waterloo Common Typical Section



GEORGE STREET PEDESTRIAN BOULEVARD (FUTURE VISION)

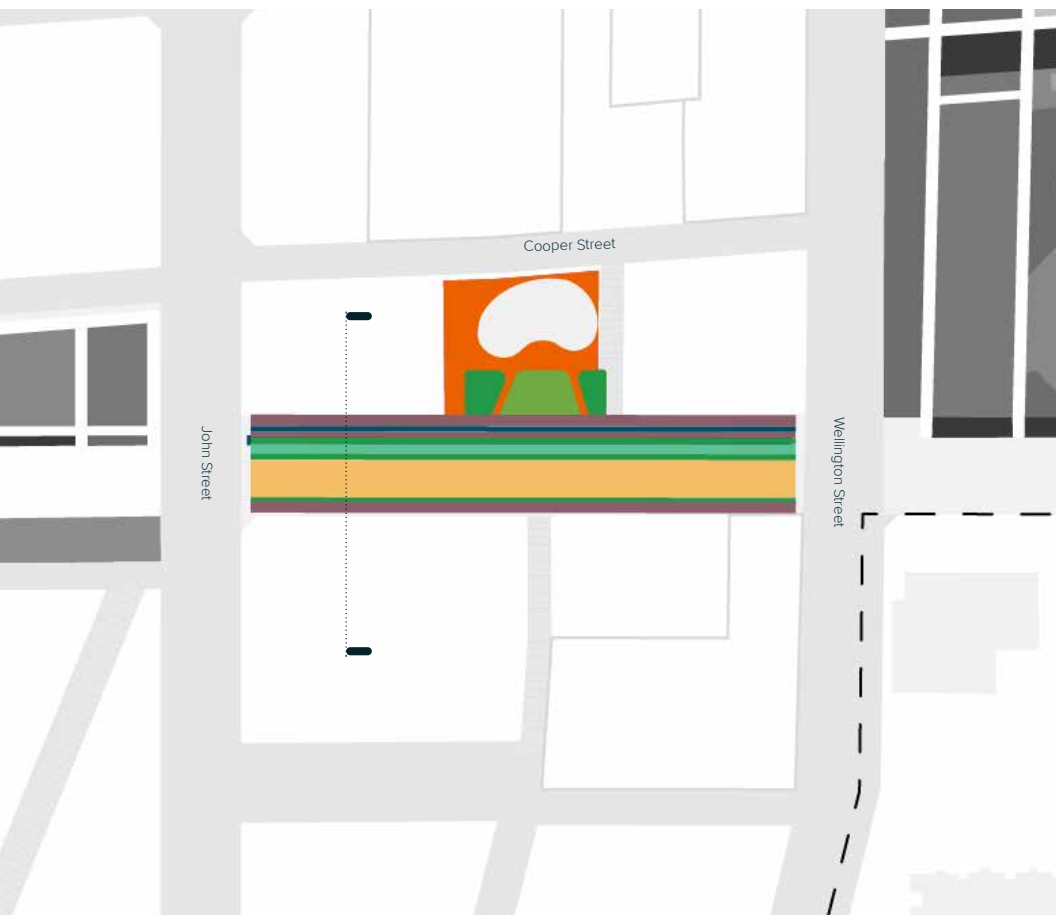


Fig. 7.3.44 Pedestrian Boulevard Programming

KEY PRINCIPLES

- Bushtucker garden: garden that features plants native to Waterloo and the Greater Sydney.
- Urban plaza: Complement community facilities, offering flexible space for mobile furniture and breakout.
- Pedestrian Movement: Dedicated pedestrian movement zone.
- Cycleway: Dedicated cycleway for George Street
- Bio-retention: Planted swales contributing to the Water Story of Waterloo.
- Lawn: Accommodate existing and proposed trees.
- Pedestrian Connection: Key through site link for pedestrian movement.
- Planted Verge / Public Domain Furniture Zone: Accommodating existing trees and providing public domain amenities.

OBJECTIVES

- Create a safe and inviting pedestrian passage for the community that will serve as a central spine for the Estate.
- Provide equal access to all members of the community.
- Remain active and populous during both day and night.
- Use the linear nature of the Pedestrian Boulevard to anchor the Blue-Green link that is expressed throughout the Estate.
- Achieve Water Sensitive Urban Design outcomes through rain gardens, water storage and selective planting.
- Ensure that the furniture, urban elements and materiality of the site are reflective of the interests and needs of the community.

CONSIDERATIONS

- Use activation, lighting and fixtures to ensure pedestrian safety day and night.
- Integrate Indigenous culture and heritage through edible landscapes, art and materiality.
- Express Water Sensitive Urban Design as a sustainable and aesthetically appropriate Blue-Green link for the Estate.
- Explore the possibilities of activities and programs for smaller spaces, breakout spaces and pocket parks.



Fig. 7.3.45 Baffi and Mo, Redfern

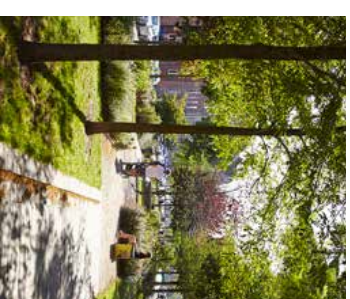
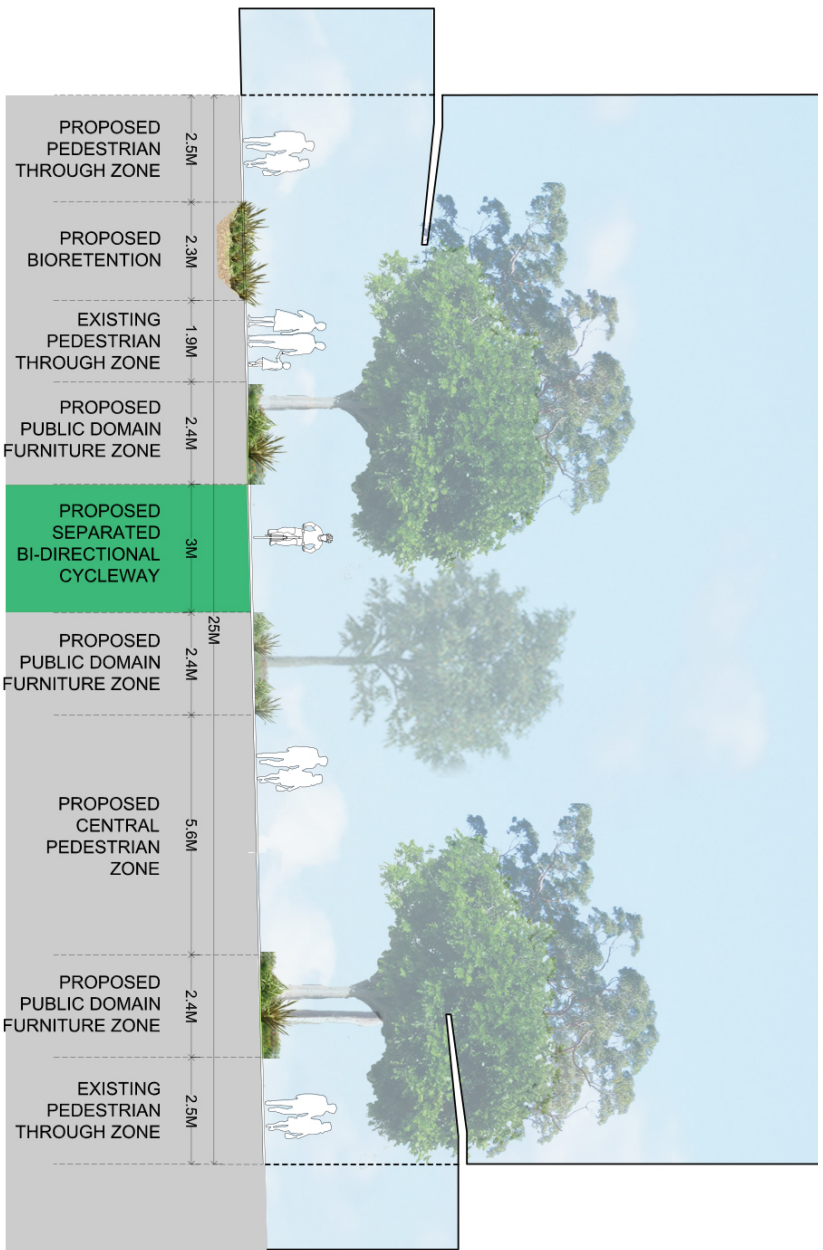


Fig. 7.3.46 Sonder Boulevard, Copenhagen



Fig. 7.3.47 Hammarby sjöstad, Stockholm



KEY

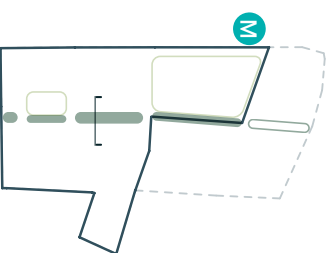


Fig. 7.3.48 George Street Pedestrian Boulevard Typical Section



GEORGE STREET ACTIVITY STREET (INTERIM APPROACH)

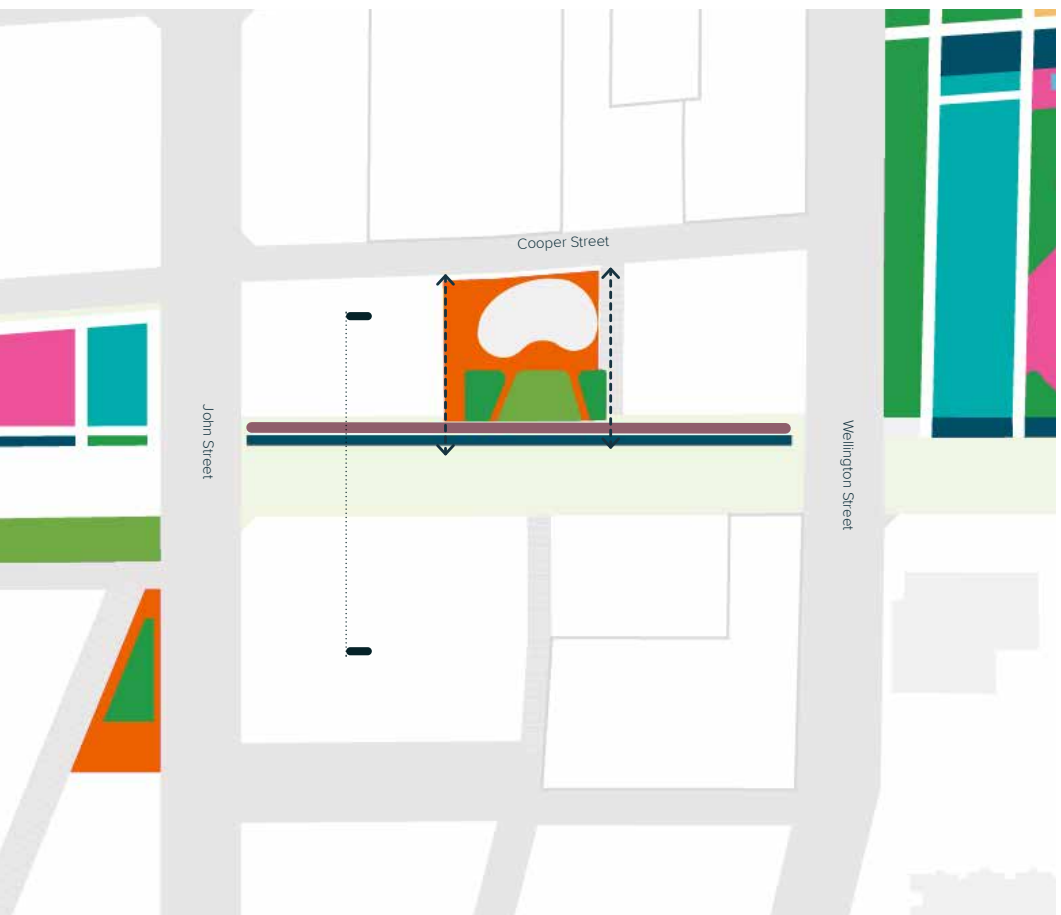


Fig. 73.49 George Street Activity Programming

KEY PRINCIPLES

- Bushucker garden: garden that features plants native to Waterloo and the Greater Sydney area which are used in traditional food and medicine resources.
- Urban Zone: Complement community facilities, offering flexible space for mobile furniture and breakout.
- Bio-retention: Planted swales contributing to the Water Story of Waterloo.
- ↔ Pedestrian Connection: Key through site link for pedestrian movement.
- Lawr: Accomodate existing and proposed trees
- Pedestrian movement zone: 2.5m pedestrian movement zone connecting the estate from north to south.

OBJECTIVES

- Create a safe and inviting pedestrian passage for the community that will serve as a central spine for Waterloo South.
- Provide equal access to all members of the community.
- Remain active day and night.
- Use the linear nature of George Street to anchor the Blue Line that is expressed through Waterloo South.
- Achieve Water Sensitive Urban Design outcomes through rain gardens, water storage and selective planting.
- Ensure that the furniture, urban elements and materiality of the site are reflective of the interests and needs of the community.

CONSIDERATIONS

- Use activation, lighting and fixtures to ensure pedestrian safety day and night.
- Integrate Indigenous culture and heritage through edible landscapes, art and materiality.
- Express Water Sensitive Urban Design as a sustainable and aesthetically appropriate Blue Line for Waterloo South.
- Explore the possibilities of activities and programs for smaller spaces, breakout spaces and pocket parks.



Fig. 73.50 Passeig de Joan, Barcelona

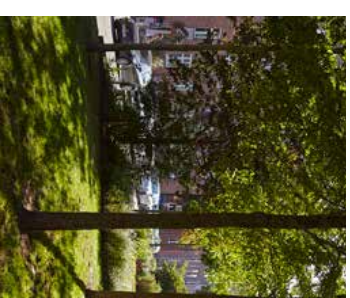
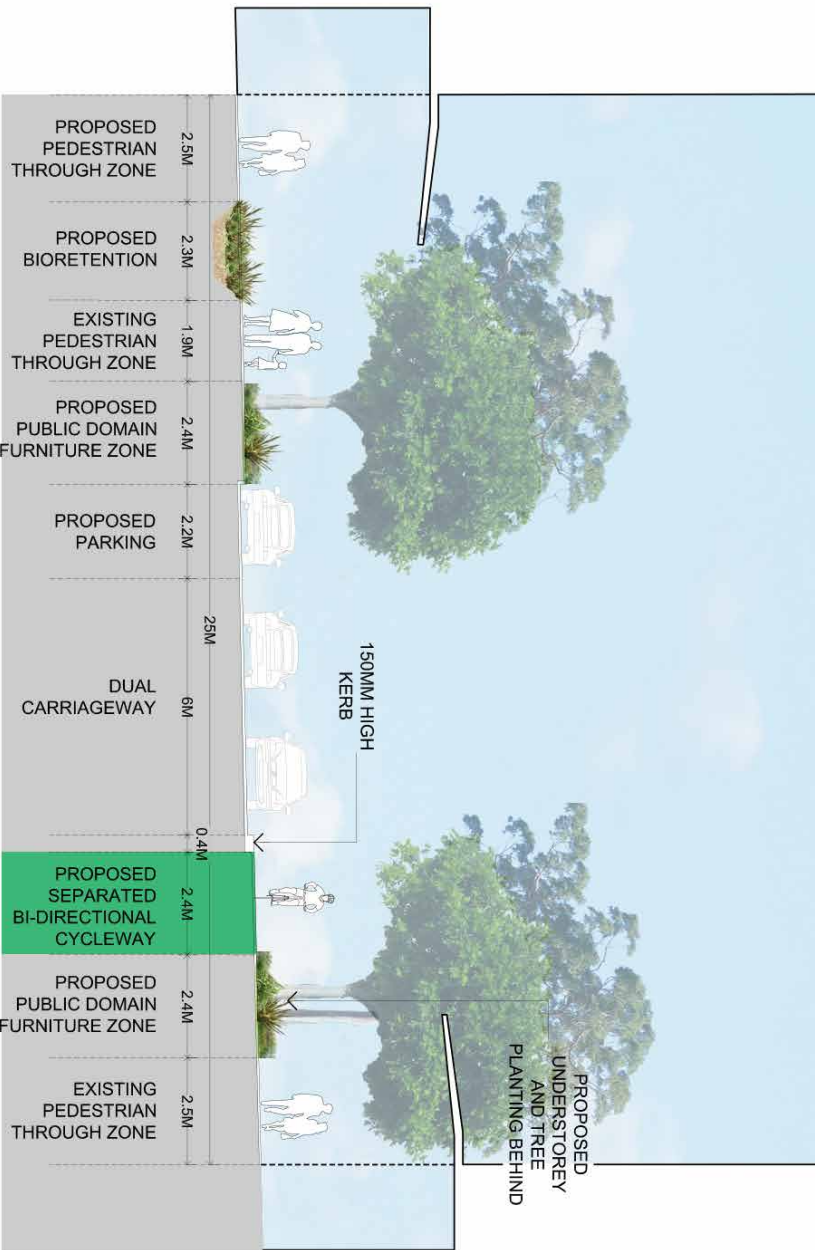


Fig. 73.51 Sonder Boulevard, Copenhagen



Fig. 73.52 Bourke Street Cycleway, Sydney



KEY

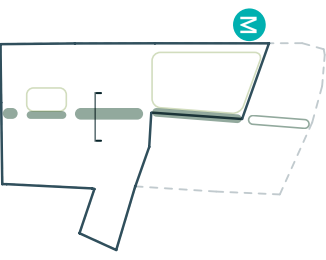


Fig. 7.3.53 George Street Activity Street Typical Section



Fig. 7.3.54 New Road, Brighton, UK, 2017
Source: Gehl Architects

7.3.2 ACCESS AND CIRCULATION, STREETS AND MATERIALITY

Developing an accessible and active public domain that reflects the unique character of the Estate

The Waterloo South public domain will connect the Estate as one community to its greater context and create a highly walkable environment that is seamless and celebrates Waterloo's unique characteristics. Within Waterloo South, the street geometry and arrangement will promote pedestrian priority. The streets will be supported by a selection of suitable materials and amenities that will provide ease of circulation, access and improve safety.

The public domain access and circulation, streets and materiality demonstrate consideration and application of the City of Sydney Public Domain Codes (2012), Sydney Street Technical Specifications (2013) and Cycle Strategy Action Plan (2007-2017, 2018) and relevant City of Sydney codes where appropriate.



Fig. 7.3.55 Indicative CGI: Waterloo Common and George Street
Source: Virtual Ideas, 2020

WATERLOO AS A PEDESTRIAN PRIORITY PRECINCT

SLOW STREET SYSTEM

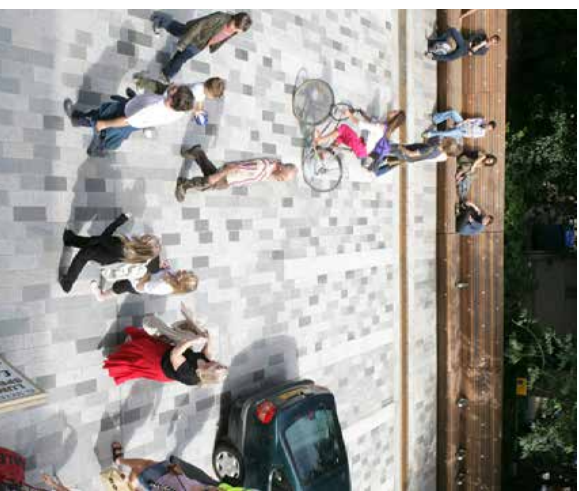


Fig. 7.3.56 New Road, Brighton

Creating a safer pedestrian environment

Slow streets throughout Waterloo South will prioritise active modes of transport such as walking and cycling. Waterloo's streets will be redefined, creating opportunities for new uses other than mobility. Streets will be designed for speed reduction to 40km/hr, creating an environment that is safe for pedestrians and cyclists. With widened footpaths, shared ways, through-site links and vehicle carriageways reduced to 6m, the Waterloo South's street network will be reimagined as multi-purpose social places for the community.

CONNECTED STREET NETWORK



Fig. 7.3.57 AECCLIFE, Kensington Street, Sydney

A safe, accessible and complete street grid will keep Waterloo South connected

Increased connectivity will come with the re-introduction of the historical fine grain street network. The laneways prioritise pedestrian movement, dispersing people into the residential areas of Waterloo South from the major parks and places. Street geometry such as intersections with enhanced pedestrian crossings at major east-west and north-south connections, ensure that pedestrian connectivity is not compromised as the street network transitions from the fine grain links to the primary vehicular and pedestrian connections.

PROMOTE ACTIVE TRANSPORT



Fig. 7.3.58 Copenhagen Cycle Strategy

Providing the community with a public domain which places cycling and pedestrian movement at the forefront of the transport grid

Waterloo South recognises the importance of active transport as the primary transport method, as recommended in City of Sydney's 202020 vision. Pedestrianised laneways, shared slow streets and widened footpaths provide ample space for pedestrian movement across the entirety of Waterloo South. There are numerous cycle paths leading into the Estate from surrounding suburbs, and these connections are maintained and improved through the inclusion of dedicated cycle routes, and shared cycle routes at the Metro Quarter.

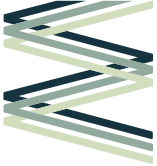
INCREASED ACCESSIBILITY



Fig. 7.3.59 Wayfinding, City of Sydney

Ensuring that the streets of Waterloo South are accessible to all people

As a pedestrian priority precinct, Waterloo South will be a place that is accessible to all people, including those with mobility issues or other impairments. An Accessible Local Movement Route (ALMR) will allow for easy connectivity to key destinations and services. Widened footpaths provide ample space for pedestrian movement and amenity, particularly to and from the Metro Quarter and future Waterloo Metro Station and the major public open spaces. Visual connections and sight lines that are revealed or enhanced by the new street network will provide improved safety and way-finding



A PEDESTRIAN PRIORITY PRECINCT

As the first stage in the renewal of the Estate, Waterloo South provides the opportunity to put in place strategies that will help the Estate to evolve over time into a pedestrian priority precinct

The re-configuration of the Estate's existing street grid will transform it into a vibrant, activated, safe and walkable place to live, work and visit. The new and diverse range of streets will support new shops, services and other businesses, contributing to an activated and more highly connected and integrated movement network.

Recognising that the evolution of the Estate into a future Pedestrian Priority Precinct will take time, the strategies for Waterloo South have been developed to support the evolution of the Estate over time. An staged approach to the street network has been developed. This includes:

- An interim approach for George Street to transition it from a car focused street into a pedestrian focused 'activity street', with a mix of active ground floor retail and service uses, landscape setbacks and pedestrian breakout spaces activating the edges.
- A holistic approach to the Local Accessible Movement Route (ALMR) to provide for connected accessible movement across Waterloo South and the Estate throughout the renewal.

PEDESTRIAN NETWORK

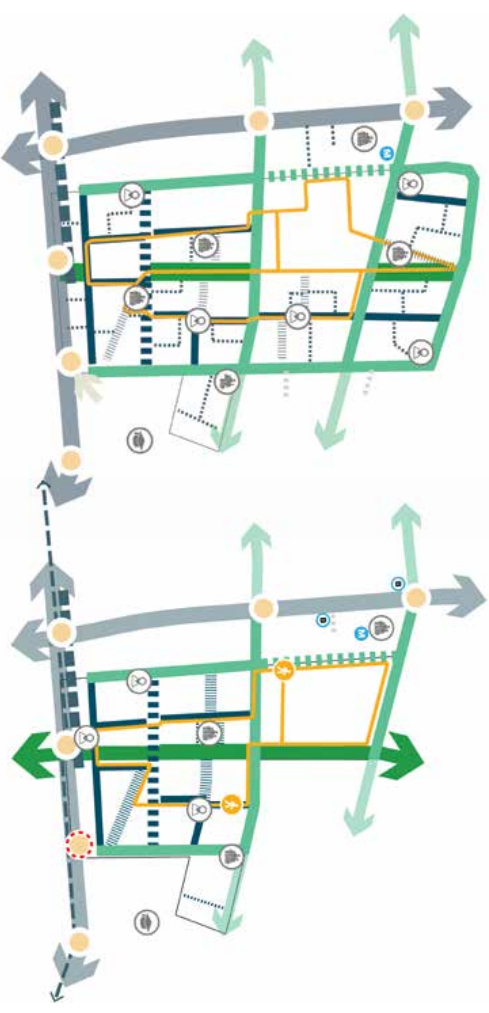


Fig. 73.60 Waterloo Estate Pedestrian Network

Fig. 73.61 Waterloo South Pedestrian Network

Pedestrian movement will be safe, accessible and available to all

As a pedestrian priority precinct, the Estate will introduce street speed reduction, designated pedestrian laneways and an Accessible Local Movement Route. The transformation of George Street into a Pedestrian Boulevard offers a direct and safe connection between the north and south of the Estate, connecting to the edges of major public open spaces. The Accessible Local Movement Route allows all people in the community to safely and comfortably access key community hubs, public spaces and major transport locations.

Waterloo South will introduce street speed reduction, designated pedestrian laneways, a modified George Street into an 'activity street' and an Accessible Local Movement Route. It will allow all people in the community to safely and comfortably access key community hubs, public spaces and major transport locations and will be extended in later stages through Waterloo North and Waterloo Central.

- Legend**
- Arterial Road
 - Local Street
 - Local Shared Slow Street
 - Meivoy Widening
 - ||||| Pedestrian Laneway
 - Shared Slow Street

SHARED SLOW STREET NETWORK

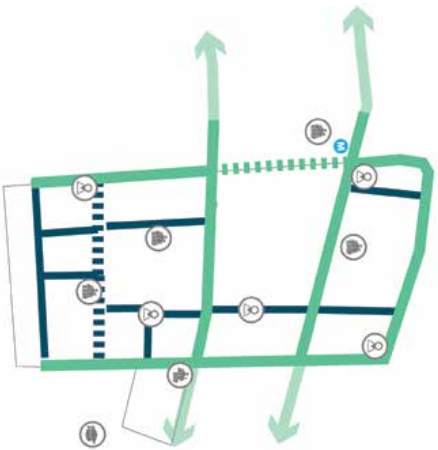


Fig. 7.3.62 Waterloo Estate Shared Slow Street Network

Establishing a connected street network that encourages active transport

Across the Estate, streets will be designed for speed reduction to 40km/hr for local streets and laneways, with pedestrian laneways removing cars entirely in favour of pedestrian only movement. The network of shared slow streets provides a safer movement corridor for cyclists and, along with widened footpaths, provides ample space for cyclists, pedestrians and vehicles to all move safely throughout the Estate.

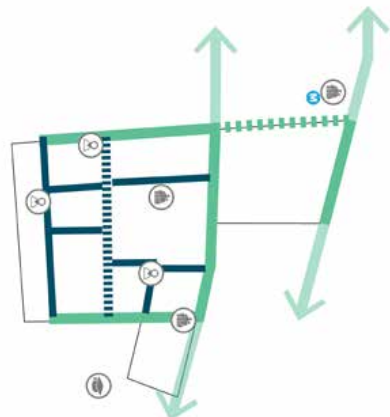


Fig. 7.3.63 Waterloo South Shared Slow Street Network

The evolution of the Estate into a Pedestrian Priority Precinct will begin with the renewal of Waterloo South. Waterloo South will deliver the majority of the new network of shared slow streets envisaged for the Estate. This will provide for safer movement corridors for cyclists and, along with widened footpaths, provides ample space for cyclists, pedestrians and vehicles to all move safely throughout Waterloo South.

GEORGE STREET PEDESTRIAN BOULEVARD

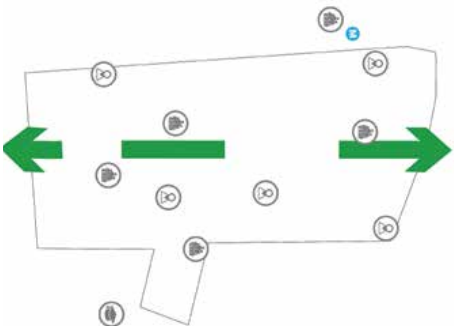


Fig. 7.3.64 Waterloo Estate Pedestrian Boulevard

Creating a green movement corridor that prioritises pedestrian movement

The future George Street Pedestrian Boulevard will transform George Street into a new 'green' movement corridor by giving priority to pedestrians. The Boulevard will serve as the north-south pedestrian spine, connecting the community to key public spaces and the finer grain street network. The edges of the Boulevard will be activated by ground floor retail and services, edible landscape initiatives and activation stations (cafe breakout, fitness, doorstep play). Bio-retention runs the length of the Boulevard, connecting green and blue infrastructure along its spine.

GEORGE STREET ACTIVITY STREET

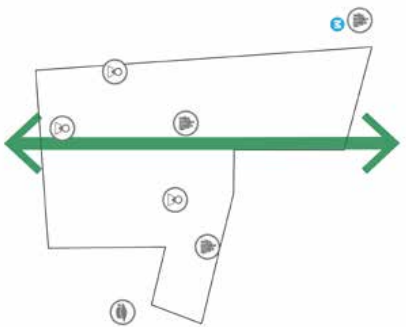


Fig. 7.3.65 Waterloo South George Street Activity Street

Creating an interim movement corridor that prioritises pedestrian movement

An interim approach to George Street will transition it from its current character as a car focused street into a pedestrian focused 'activity street', with a mix of active ground floor retail and service uses, landscape setbacks and pedestrian breakout spaces activating the edges. The proposed changes to George Street will prioritise pedestrian and cycle movement and active transport modes.

- Educational Building
- Community Hub
- Social Corner
- Metro

- Laneways
- New Crossing
- Accessible Local Movement Route
- Pedestrian Links
- Signalised Intersection
- Pedestrian Boulevard



COMPLETE STREETS

Waterloo's streets are for everyone

The approach to Waterloo South and the Estate adopts a 'Complete Streets' approach whereby streets are considered as social places beyond just their functional purposes. These places are developed holistically, integrating all aspects of public domain design, to create environments that are unique, engaging, hard working and high performing.

SAFE AND WALKABLE



Fig. 73.66
Source: New Road, Brighton

Creating an Estate that promotes walking as a safe, simple and efficient transport mode

Waterloo South and the Estate is to be a pedestrian priority precinct. The 'Complete Streets' approach implements a slow street network, increasing the safety for walking and cycling, through vehicular speed reduction. An Accessible Local Movement Route will provide universal access and amenity for children, the elderly and members of the community with mobility impairments, to access key community facilities and public open spaces throughout the Estate at all stages of the renewal.

HEALTHY AND GREEN



Fig. 73.67
Source: Passieg de St Joan, Barcelona

Delivering streets that are environmentally responsive and contribute to the community's health and wellbeing

Waterloo South and the Estate's 'Complete Streets' approach aims to improve community health and well-being through street 'greening' and cooling initiatives. An increased number of street trees, under storey planting and water sensitive urban design (WSUD) opportunities, will provide benefits such as improved air quality and lower ambient temperatures, shading roads and footpaths, to create a comfortable walkable environment. Street planting will strengthen biophilic connections and visually soften the streetscape, social spaces and key destinations, enhancing the everyday quality of life for residents, workers and visitors.

ACTIVATED AND ECONOMIC



Fig. 73.68 Baffi & Mo, Redfern

Creating activated and vibrant streets that contribute to community life

An interconnected and diverse network of streets will support social activity, encourage active ground floor uses and provide opportunities for activation and occupation of the public domain. Through increased social activity, public space programming, and active retail frontages, Waterloo South will be an attractive place to live, work, rest and play and encourage residents and visitors to shop, eat, socialise and meet all their daily needs within the area. This typically enhances retail spending, and increases the viability of business, leading towards economic growth and opportunities to encourage local retail that is unique to Waterloo.

PLACEMAKING CATALYSTS



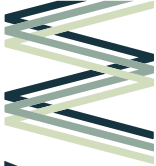
Fig. 73.69 Eats Beats Street, 2018, Kensington Street, Sydney

Providing a stage for placemaking to encourage retail, service and community activation opportunities throughout Waterloo South

The streets throughout Waterloo South are important placemaking catalysts, that contribute to the public open spaces they surround, and are the basic infrastructure required to establish a healthy and sustainable community. Their diversity are unique responses to their context and potential use, by the Estate's residents and visitors, throughout the year. The streets support the retail, service and other community activation opportunities at ground level as well as providing passive and active programmed spaces for all of the community that are uniquely Waterloo.



Fig. 73.70 Pitt Street Mall, Sydney



ACCESSIBLE LOCAL MOVEMENT ROUTE

PRECEDENTS

A community that is connected, informed and creative



Fig. 7.3.72 Van Gogh-Roosegaarde, Netherlands



Fig. 7.3.73 Southbank Crossing, London



Fig. 7.3.74 Nelson Street Cycleway, Auckland



Fig. 7.3.75 Greenman Plus Scheme, Singapore



Fig. 7.3.76 Passeig de St Joan, Barcelona

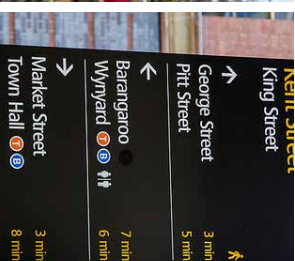


Fig. 7.3.77 Wayfinding, City of Sydney

The Accessible Local Movement Route (ALMR) includes a range of simple design initiatives that will help define its character, including:

DESTINATION WAYFINDING

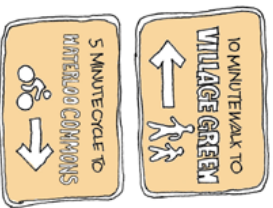
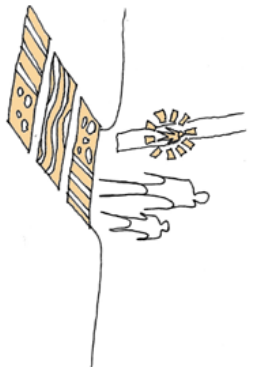


Fig. 7.3.71 Accessible Local Movement Route

Utilising way finding signage to measure distance and denote directions using walking distance in minutes, encouraging walking and cycling as a transport mode.

VISIBLE AND SAFE CROSSING DESTINATIONS



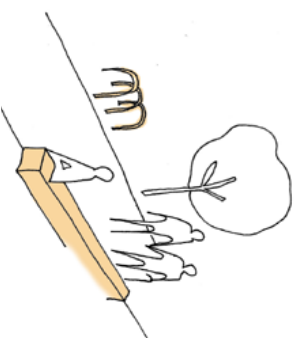
Clear and visible pedestrian crossings leading towards, from and between key places, which will be signified through signage and public art. Crossings will be accessible for all people, including the implementation of strategies to aid those with mobility impairments. Strategies recommended include increased colour contrast, braille on signage, aural signals and increased crossing times.

ACCESSIBLE AMENITY



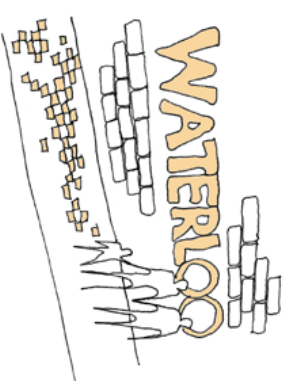
Enhanced public amenity for people of all ages and abilities. Water bubblers, bicycle parking, fitness stations, kids play and seating are just a small range of the possible inclusions.

AMENITY FOR ALL



Adjusting heights of amenities for children and adults, whilst offering accessible seating options, and providing adequate shade along the route will ensure an inclusive and comfortable experience for all.

PUBLIC ART AS IDENTITY AND PASSAGE



Public art is an important component of the Accessible Local Movement Route, adding local personality, character and identity. Public art is a method of way finding and locating, and also an opportunity to invite community participation in creating a place that reflects the Estate's unique cultural heritage, character and community.

ACCESSIBILITY

Celebrating the Estate's unique topography whilst providing universal access throughout the neighbourhood

To encourage pedestrian movement throughout Waterloo South, and provide equitable access to key facilities and public open spaces, an Accessible Local Movement Route (ALMR) has been incorporated. Waterloo South's topography poses some challenges for accessibility, particularly in the east, with a notable increase in grade. Pedestrian laneways off Pitt Street will include stairs and ramps, for a unique laneway character, distinct from other street typologies. The ALMR provides a universally accessible route, connecting the community to key destinations, in a safe environment for all ages. As a pedestrian priority precinct, the existing and new streets and laneways should incorporate geometries that maximise pedestrian comfort and accessibility wherever possible.

- Legend**
- Accessible Local Movement Route: Max grade 1:20
 - Laneways and Streets requiring stair/amp access for pedestrians: Grade $1:20$
 - Shared Streets / Laneways: Grade 1:20
 - Existing Street

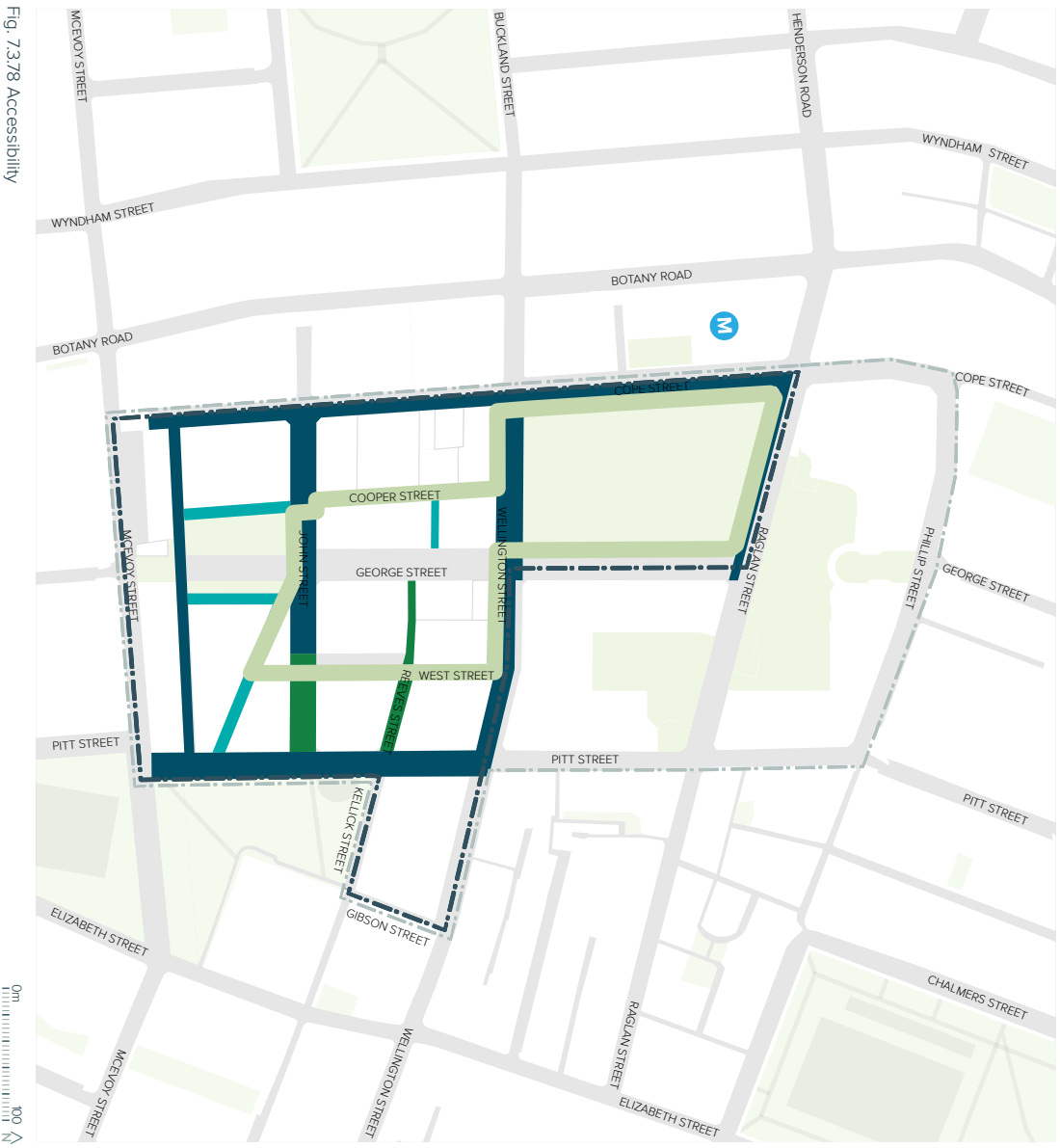
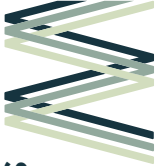


Fig. 7.3/78 Accessibility



SAFETY AND DESIGN

A safe and welcoming place to live and visit

Public safety for pedestrians, cyclists and motorists is important for the Estate to be a welcoming and safe place for people to live and visit. Throughout Waterloo South buildings define the public domain, reinforcing sight lines and strengthening views to and from key spaces, streets and laneways, for good passive surveillance.

Through a combination of co-locating community buildings with key public domain spaces, and a fine grain street network, activity is enhanced at these key places. This is strengthened by well programmed public domain spaces and the creation of parks as places for people to meet and spend time throughout the day.

By limiting blank facades, providing active retail and community edges, landscaped building setbacks, and active social corners, a safe and vibrant day to night economy will be encouraged, promoting pedestrian activity and active use of the public domain.

In line with the guidelines of the Sydney Streets Code, Waterloo South, as a pedestrian priority environment, will reduce and slow vehicle movements with a network of shared slow streets, laneways and pedestrian links, increasing the ground level permeability of the Estate.

Increased visibility and active edges at ground level through a mix of uses, with residential uses at both ground and upper levels addressing the streets and laneways, will maximise passive surveillance, creating a safe environment to live, work and visit.



Fig. 73.79 Active Edges: Melbourne Laneways



Fig. 73.80 Views: Bryant Park, NYC



Fig. 73.81 Active Edges: Mint Plaza, San Francisco



Fig. 73.82 Sightlines: Kyde Warren Park, Dallas, Texas



Fig. 73.83 Sightlines: Passeig de St Joan, Barcelona



Fig. 73.84 Street Speed Reduction / Slow Shared Streets: New Road, Brighton



Fig. 73.85 Passive Surveillance: Bonn Square.

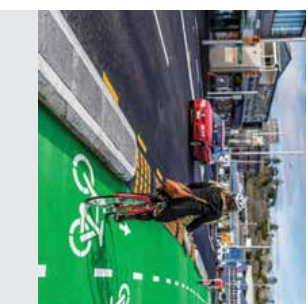


Fig. 73.86 Cycle and Pedestrian Strategy: Auckland

VIEWS

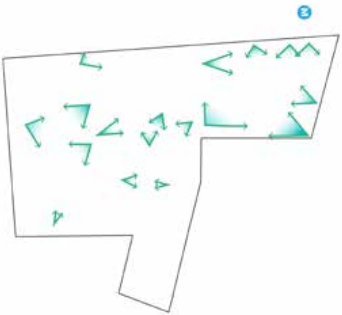


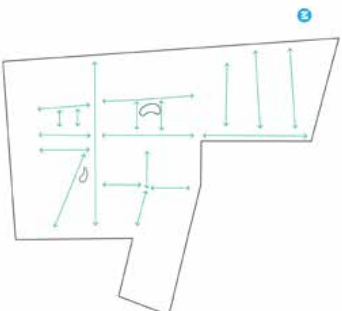
Fig. 7.3.87 Views

Clear and extensive views across and within all key places and space

The Village Green and Waterloo Common, along with all pocket parks and urban plazas, offer clear and ample view corridors across the spaces and along the adjacent streets. These views will be clear and well illuminated both night and day, for the safety of users at all times.

Views within key public spaces and social corners.

SIGHTLINES



0m, 100m

Fig. 7.3.88 Sightlines

Maintaining and improving visual connections throughout Waterloo South

Sight lines are provided along all major streets, park and plaza connections. Sight lines that are unobstructed, well lit and continuous, provide clarity in direction and destination, and can improve overall public safety. These sight lines will optimise visual connection between the community and all major transport and community hubs, promoting a safe movement route for all people at all times.

Sightlines

PASSIVE SURVEILLANCE



0m, 100m

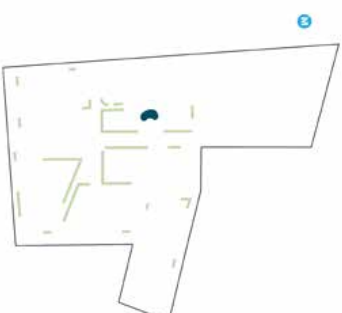
Fig. 7.3.89 Passive Surveillance

Providing passive surveillance opportunities to increase community safety

Passive surveillance is provided on all frontages by residential and commercial uses that address all orientations at the upper levels. Passive surveillance is important for community connection and safety, particularly within the Village Green and Waterloo Common, which are large spaces, but also along the pedestrianised laneways that comprise the fine grain street network of Waterloo South.

Passive Surveillance from upper levels.

ACTIVE EDGES



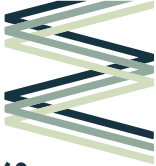
0m, 100m

Fig. 7.3.90 Active Edges

Keeping the street active and open at all times

Waterloo South encourages and facilitates active edges, particularly with ground floor retail, services and community facilities. Activation of the streetscape through non-residential uses can promote night time uses, increasing the community presence throughout the day. Additional activation is provided by the inclusion of pocket parks, social corners, George Street Activity Street, Village Green and Waterloo Common, that incorporate a range of meeting places and activity stations to encourage use day and night.

Active Edges: Ground floor retail and other activation typologies
Community Buildings



STREET GEOMETRY

Ensuring people are prioritised in the public domain

The streets within Waterloo South are a combination of existing and new, arranged to promote pedestrian permeability and safety, and contribute to the creation of a pedestrian priority precinct. The contribution of streets to the urban environment is enhanced by their design and are in accordance with the current relevant Australian Standards and Sydney Street Codes 2013. Along with meeting the requirements of these documents, the street network:

- References the historical context and present geography of the site,
- Prioritises pedestrian movement by ensuring wide clear thoroughfares and regular safe crossings between carriageways,
- Contributes to a balanced public domain by creating conditions that favour pedestrian and cycle movement, without compromising efficiency in vehicle movement and;
- Streets will be constructed to be robust, easily maintained and environmentally responsive.

Legend

Marked Pedestrian Crossing	Raised Threshold	Signalised Intersections
Intersection with Enhanced Pedestrian Provisions (kerb/ Pavement extensions, raised thresholds, footpath continuity treatment)	Separated Cyclepath	Existing Streets
	Shared Cycleway	New Streets
	Traffic Calmed Zones (Pedestrian only zones, shared zones or slow streets)	Pedestrian Only Zone
		Major Park

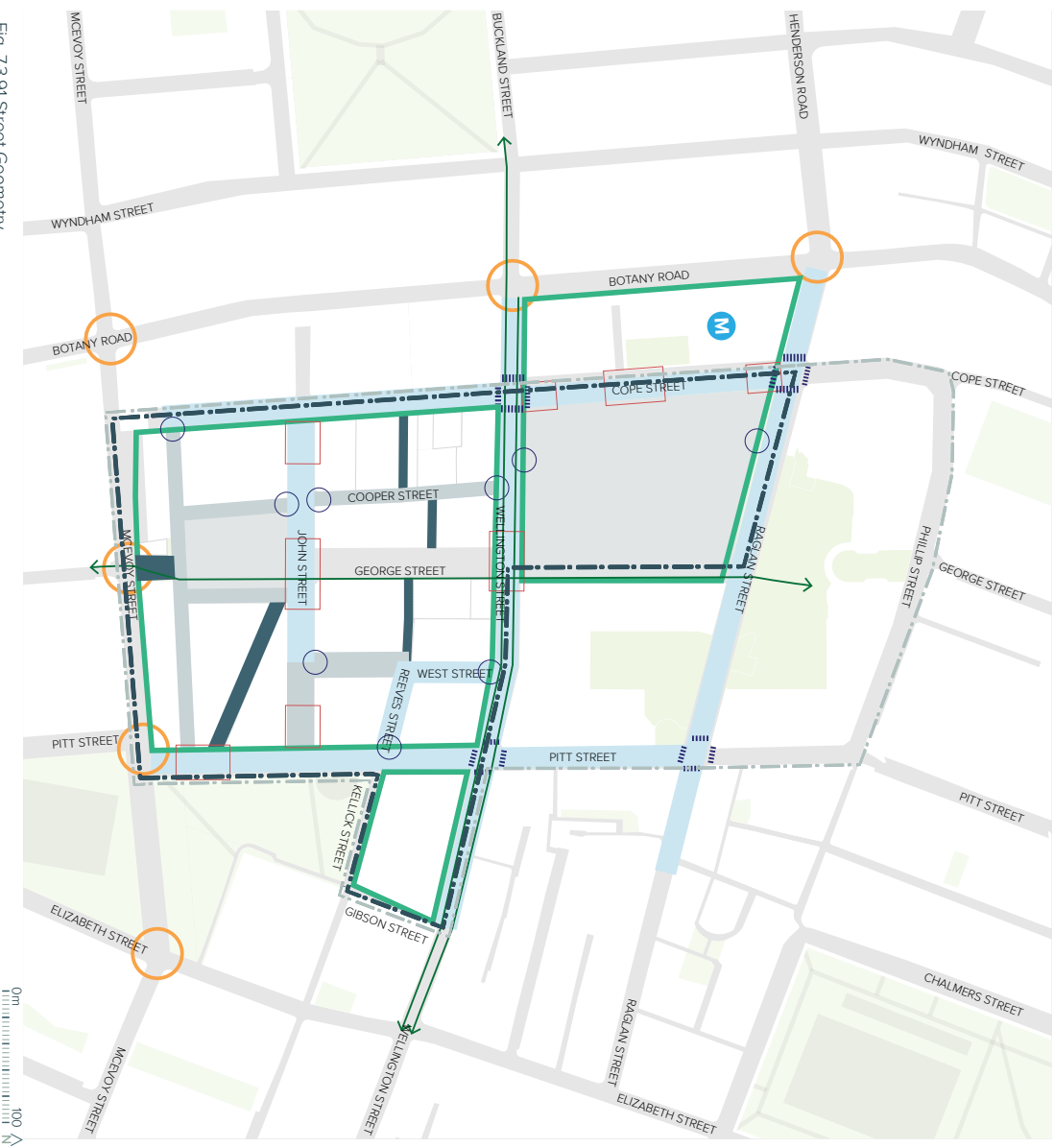


Fig. 7.3.91 Street Geometry

EMERGENCY AND MAINTENANCE VEHICLE ACCESS

Safety and security is considered through the inclusion of streets that are accessible for emergency and maintenance vehicles

Throughout Waterloo South there is a network of connected streets providing emergency and maintenance vehicle access. Six metre wide carriageways provide parking bays and/or dedicated loading and drop off zones for vehicles. Three metre carriageways are designed without kerbs, and also include dedicated loading and drop off zones for emergency and maintenance vehicles.

- Legend**
- Emergency and Maintenance Vehicle Access 6m carriageway
 - Emergency and Maintenance Vehicle Access 3m carriageway with allocated loading and drop-off zones

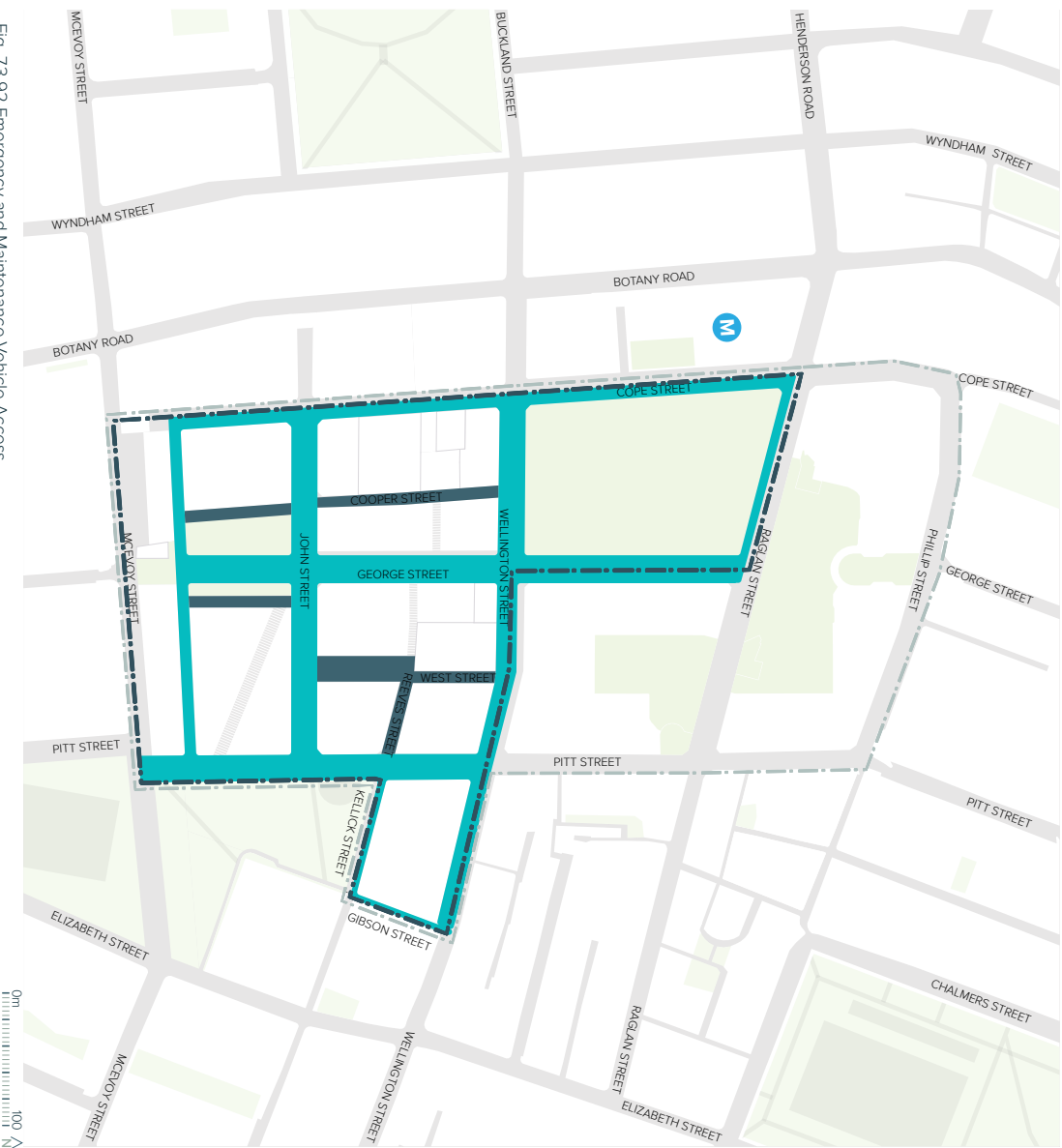
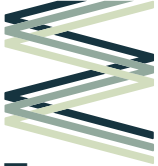


Fig. 73.92 Emergency and Maintenance Vehicle Access



KEY STREETS

Streets as social places, active spaces and community connectors

The streets of Waterloo South connect people to the numerous community, social, retail and services, and transport facilities available. Ranging from wider arterial roads to narrower laneway connections, these streets become social spaces in addition to their functional purpose. Increased building setbacks and widened footpaths, new and upgraded crossings, shared setbacks and reduced vehicle speeds, prioritise pedestrian and cycle movement.

The existing street tree canopy is increased by renewed planting palettes and tree replacement ratios, and with Water Sensitive Urban Design (WSUD) initiatives, presents a 'green' and environmentally sustainable street approach. Activity stations, adjoining major parks and urban plazas, complements the streetscapes and increases the activity along their edges.

The laneways are opportunities for pedestrians to move from the busier active areas of Waterloo South, around activity centres and public open spaces, into the quieter more residential zones, with complete ease through a dispersed range of routes and options.

The streets are also catalysts for community collaboration. They create opportunities for cultural and creative representation, in the diverse range of streets, as variable as they are possible, ranging from public and street art to cultural activity installations and edible landscapes.

- Legend**
- Pedestrian Boulevard 20 - 25m
 - Local Street 20.2m
 - Local Shared street 20.2m
 - Shared Slow Street 13m
 - Neighbourhood Laneways 9m
 - Park Laneways 9m
 - Pedestrian Access Laneway 9m
 - Pedestrian Laneway 9m
 - Open Space (Parks and Setbacks)
 - Social Corners
 - Community Buildings

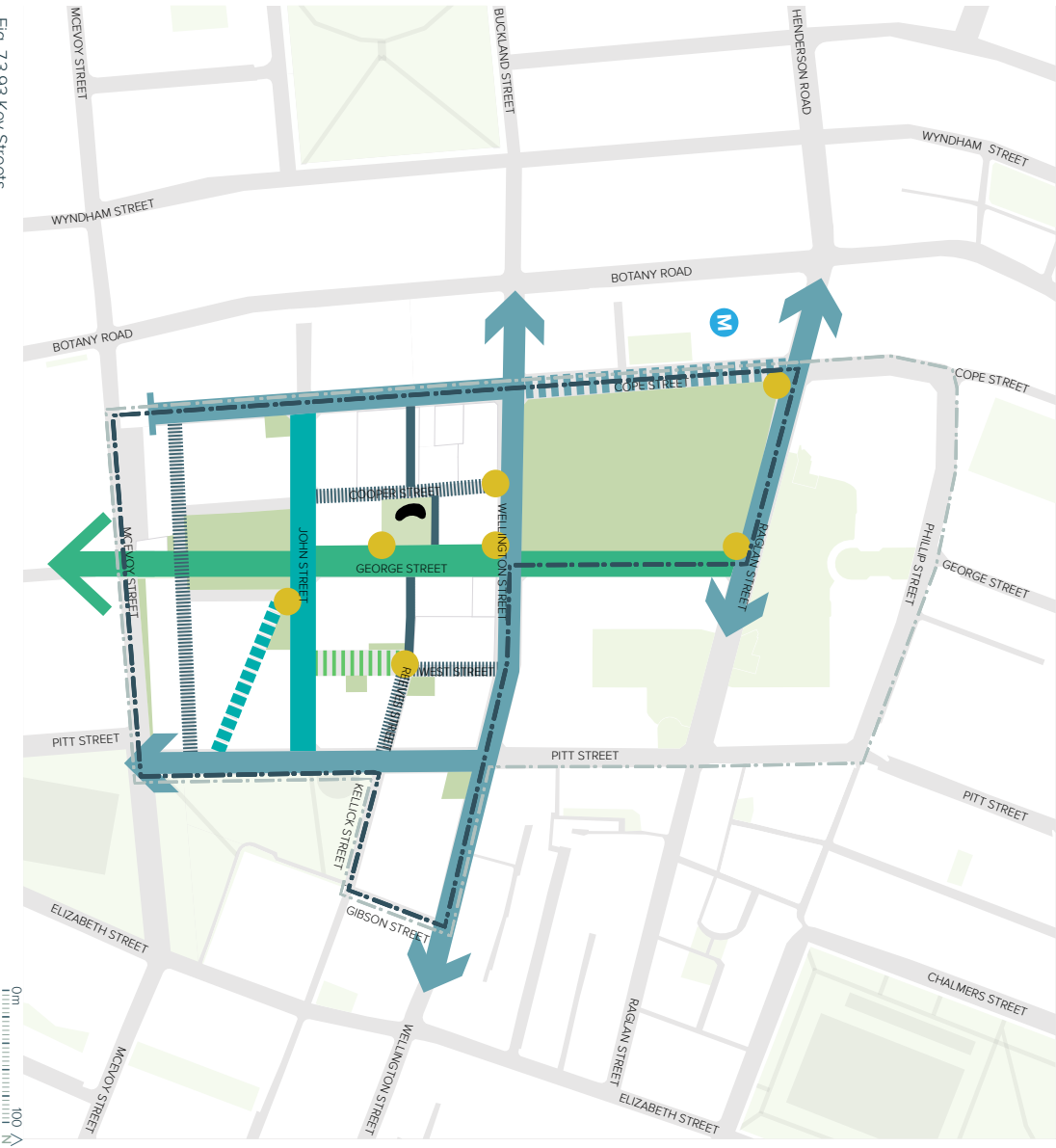


Fig. 7.3.93 Key Streets

GEORGE STREET

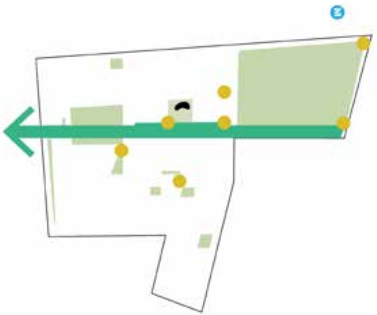


Fig. 7.3.94 George Street Activity Street



A renewed approach to connecting the Estate, through greening, activation and collaboration

George Street is modified into an 'activity street' that links the northern and southern areas of Waterloo South. Widened footpaths adjoining active building frontages, creates opportunities for retail and cafe breakout spaces. Connecting to the edges of both the major parks, the George Street Activity Street is the first stage of the renewal of George Street into a future Pedestrian Boulevard and 'Green Spine' of the Estate, and a primary component of the Accessible Local Movement Route.

- Legend**
- George Street Activity Street (20 - 25m)
 - Open Space (Parks and Seabacks)
 - Social Corners
 - Community Buildings

LOCAL AND CONNECTOR STREETS



Fig. 7.3.95 Hammarby Sjöstad, Stockholm



Fig. 7.3.96 Sønder Boulevard, Copenhagen

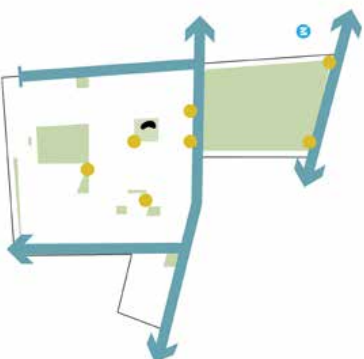


Fig. 7.3.97 Local and Connector Streets



Reinvigorating the Estate's primary connector streets as green spaces for people

The major east-west connectors through Waterloo South are the existing Raglan and Wellington streets. These streets border the Village Green and connect the Estate to the Greater Sydney area through dedicated cycle paths, bus routes and widened pedestrian thoroughfares. Wellington Street, Raglan Street and Pitt Street will become Waterloo South's 'green' corridors. The existing streetscape has a well established tree canopy, which will be maintained and increased over time, through building setbacks and tree replacement ratio strategies. Ground floor retail and services will be encouraged to spill into the wider and more pedestrian friendly sidewalks which will contribute to a more comfortable and enjoyable pedestrian experience. Pitt Street, which runs north-south along the eastern edge of Waterloo South, will have wider footpaths on the western side that will provide ease of pedestrian movements and a larger landscaped interface to the existing buildings on the opposite side of Pitt Street.

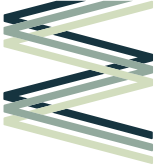
- Legend**
- Local Street 20.2m
 - Open Space (Parks and Seabacks)
 - Social Corners
 - Community Buildings



Fig. 7.3.98 Baptist Street, Redfern



Fig. 7.3.99 Stanley Street, Southbank Brisbane



COPE STREET METRO

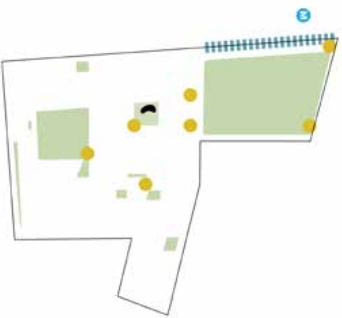


Fig. 7.3.100 Cope Street Metro



Fig. 7.3.102 George Street, Lightrail Station, Sydney



An active, shared street connecting the Metro Quarter to Waterloo South

Running adjacent and parallel to the Metro Quarter, Cope Street Metro will be a highly active streetscape. It is the interface between the Metro Quarter and Village Green to the east and offers multiple bicycle parking and seating options along its length. The Metro Quarter's ground level retail and community uses will activate the streetscape, whilst the reduced vehicular speeds of the shared slow-street will prioritise pedestrian and cyclist safety.

- Legend**
- Local shared street 20Zm
 - Open Space (Parks and Setbacks)
 - Social Corners
 - Community Buildings

GATEWAY PEDESTRIAN LINKS

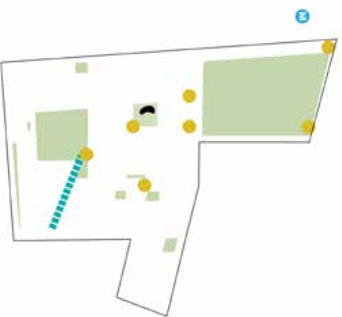


Fig. 7.3.103 Gateway Pedestrian Links



Fig. 7.3.105 Passeig de St Joan, Barcelona



Active entry streetscapes promoting the culture, creativity and community of the Estate, while connecting the community to the neighbouring suburbs of Redfern and Waterloo

The Gateway Pedestrian Link is located on the edge of Waterloo South, connecting the community to Waterloo (and in the future Redfern with a future northern Gateway Link proposed for Waterloo North), and drawing pedestrian movements towards George Street and the Metro Quarter. While the southern Gateway Pedestrian Link is a key thoroughfare, it contains a number of breakout spaces and activation stations to attract community use throughout the day and evening. The Link is anchored by community uses, and contributes to breakout spaces for these uses. A widened tree-lined path prioritises pedestrian and cyclist safety by eliminating or restricting vehicular traffic to service and emergency vehicles only at reduced speeds.

- Legend**
- Gateway Pedestrian Link (laneway 9m)
 - Open Space (Parks and Setbacks)
 - Social Corners
 - Community Buildings

LANEWAY CONNECTIONS



Fig. 7.3.106 North-South Neighbourhood Laneways 0m, 10m, 100m

Re-establishing the fine grain network of historic Waterloo, creating a connected Waterloo South and unique experiences

The Neighbourhood Laneways, referencing the finer grain streetscape of historic Waterloo, are key contributors to the Accessible Local Movement Route and opportunities to express culture and creativity through landscape and public art. The Park Laneways, adjoining the Village Green and Waterloo Common, create separate pedestrian zones and expand their overall public open space. These laneways are also key contributors to social corners, providing locations for important visual nodes to assist with wayfinding, such as significant trees and public art installations.

The smaller east - west Pedestrian Laneways, referencing the finer grain streetscape of historic Waterloo, are dispersed throughout Waterloo South, providing local connections between key places. These laneways are often steeper than existing streets, running north – south, as they traverse the steeper topography to the east with a series of stairways and ramps. Street and public art, and unique pavement treatments, will provide a unique identity differentiating their fine grain, pedestrian only character from the other streets, lanes and links. A single avenue of smaller street trees, where possible, will provide greenery and shade.

- Legend**
- ▬ Neighbourhood Laneways 9m
 - ▬ Park Laneways 5m
 - ▬ Pedestrian Laneways 6m
 - Open Space (Parks and Setbacks)
 - Social Corners
 - Community Buildings



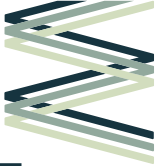
Fig. 7.3.107 Sydney Laneways



Fig. 7.3.108 Bakery Lane, Brisbane



Fig. 7.3.109 Pitt Street Mall, Sydney



INDICATIVE PAVEMENT AND KERB TYPES

Creating an interesting and dynamic ground plane which defines and unifies key areas within Waterloo South

Pavements and kerbs are crucial for defining key areas, creating a legible street hierarchy, wayfinding, and pedestrian and vehicular safety.

Street pavements and material pavements must be consistent with the design objectives and key principles of the City of Sydney (CoS) Streets Technical Specifications (2013) and Australian Standards. Paving selection is conscious of ongoing maintenance and aims to be robust, durable and easily maintained.

In major public spaces such as the Village Green & Waterloo Common a special paving treatment of concrete unit pavers with brick feature paving has been chosen to create a unique sense of place. Variations in size and finish of recurring paving elements, brick and concrete, provide rhythm and interest along major north-south & east-west streets & laneways while highlighting key destinations throughout Waterloo South.

Legend	
P1	CoS Concrete Unit Paver
P2	Hamlet Blue Brick Paving
P3	CoS Concrete Unit Paver with Concrete Setts, with Hamlet Blue Brick Banding
P4	In special areas: Hamlet Blue Brick with CoS Concrete Unit Paver
P5	Special areas: Hamlet Blue Brick with sandstone and metal inlay

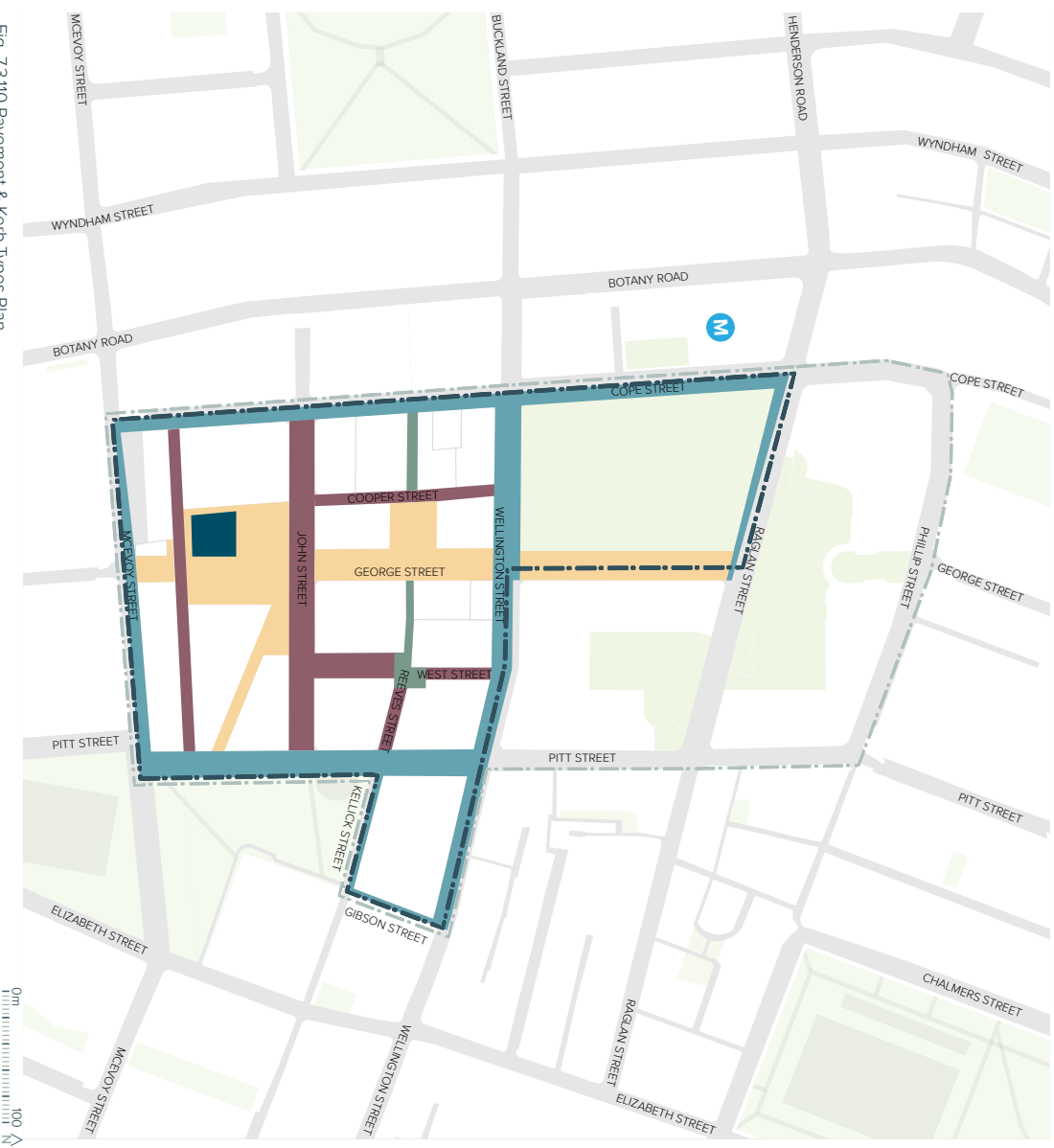


Fig. 7.3.110 Pavement & Kerb Types Plan

PAVING

DESIGN ELEMENTS TABLE

PAVEMENTS

- Along existing major local streets such as Pitt, Cope, Wellington & Raglan paving will be hard wearing to ensure durability in a high trafficked area.
- COS concrete unit pavers are used mixed throughout laneways & pocket parks amongst the Estate.
- Laneways within Waterloo South will have their own unique locale defined by brick paving.

KERB AND KERB RAMPS

- Along existing major local streets such as Pitt, Cope, Wellington & Raglan in-situ concrete kerbs & ramps will be necessary to match existing.
- Laneways will have flush kerbs for ease of movement.
- The slow shared street (John St) will require kerbs & raised threshold. These will be finished to match the selected unit paver.

PIT LIDS

- All streets, lanes and plazas:
- Infill lids with adjacent pavement type only.
 - Align service lids with pavement coursing and expansion joints.

DRIVEWAY CROSS OVERS

All driveway crossovers throughout Waterloo South must be treated with the adjacent pavement type to ensure pedestrian priority.

PARKING BAYS

Parking bays along existing Pitt Street and Cope Street must be treated in accordance with the COS standards, to ensure delineation between road & parking lanes.

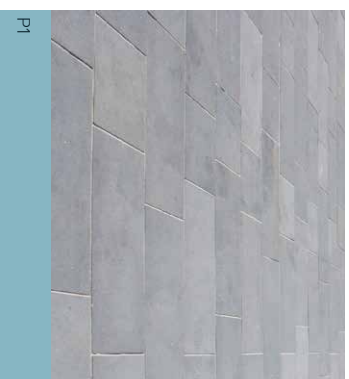


Fig. 7.3.111
COS Concrete Unit Paver

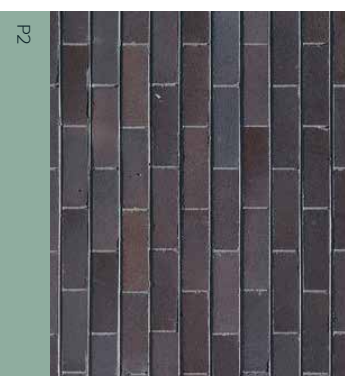


Fig. 7.3.112
Hamlet Blue Brick Paving

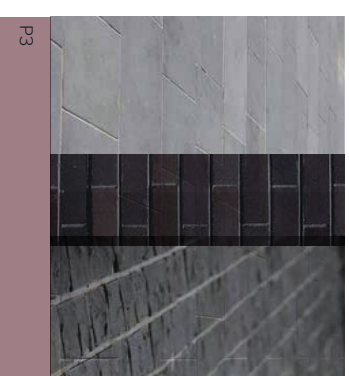


Fig. 7.3.113
COS Concrete Unit Paver with Concrete Setts, with Hamlet Blue Brick Banding



Fig. 7.3.114
Hamlet Blue Brick with COS Concrete Unit Paver

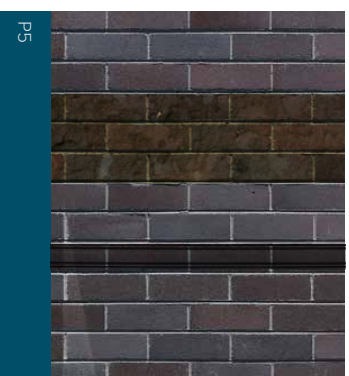
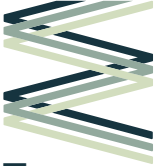


Fig. 7.3.115
Hamlet Blue Brick with sandstone inlay and metal inlay



INDICATIVE FURNITURE AND URBAN ELEMENTS

Providing a consistent suite of furniture & urban elements, complimentary to the built and natural surrounds whilst also sympathetic to the sites rich heritage

Furniture and urban elements within Waterloo South aim to be aesthetically pleasing, functional and robust for residents and the wider community. The amount and type of furniture in different areas will be determined by the expected rate of use and program identified for that specific area. Public Domain furniture is to be in accordance with City of Sydney palette (Sydney Street Codes 2013) as well as purpose built elements in special/key areas that help identify the sites characteristics and culture. Overall, the palette will improve the local aesthetic of the Estate and set a precedent for future development in the LGA.

Waterloo South will have a consistent palette or suite of furniture and urban elements, complimentary to the built and natural surrounds whilst also being sympathetic to the sites rich heritage.

Along most north-south, east-west streets and laneways standard City of Sydney furniture shall be utilised for functionality, to meet the everyday needs of a community made up of residents, commuters and visitors. Unique proposals for furniture & urban elements will be in key spaces such as the Village Green and Waterloo Common. This will create a sense of arrival and defined program within areas for the community.

- Legend**
- City of Sydney furniture palette
 - Special areas: Unique palette to key spaces

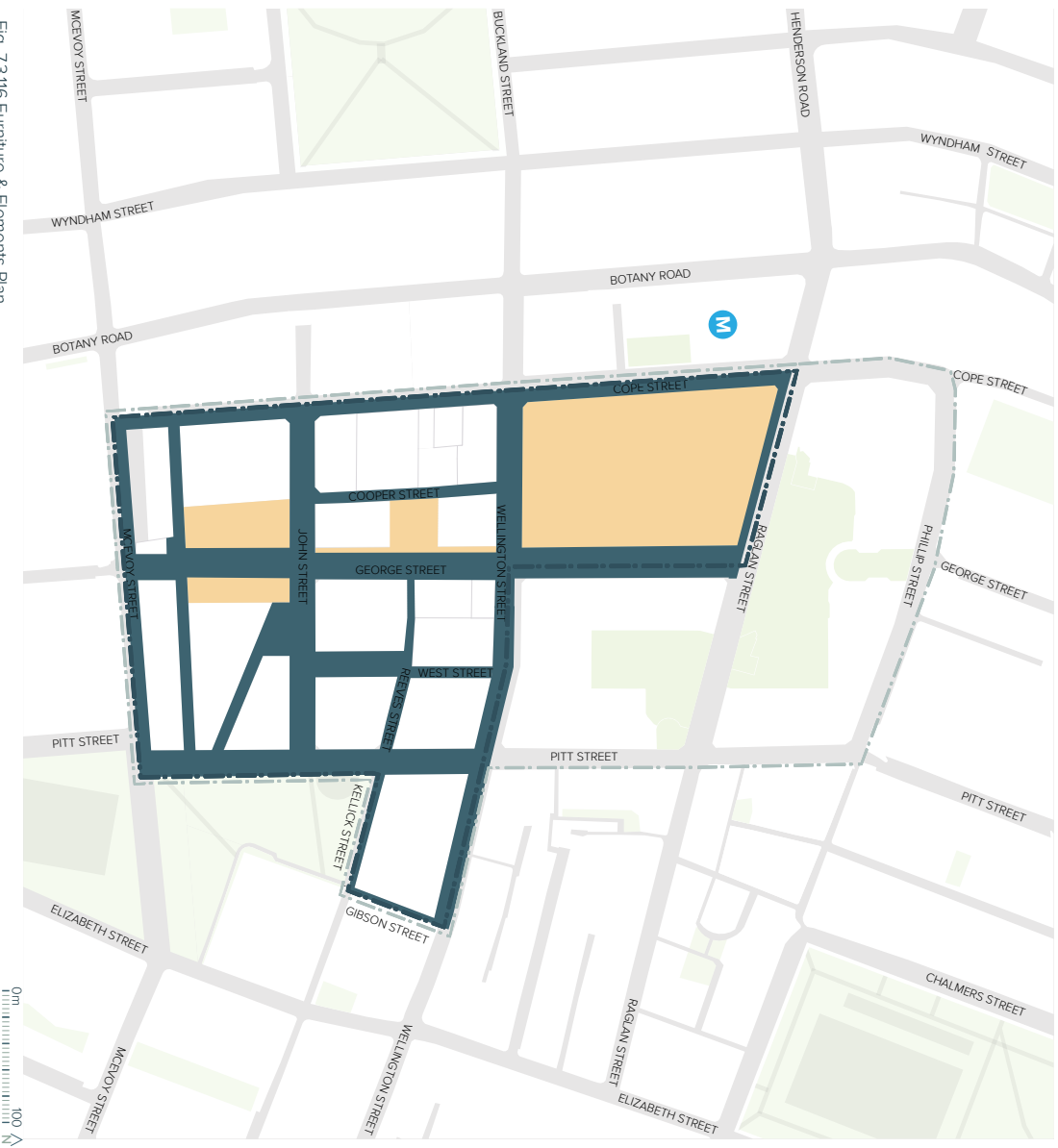


Fig. 7.3.116 Furniture & Elements Plan

DESIGN ELEMENTS TABLE

REQUIRED ELEMENTS

Waterloo South will need a variety of public domain elements which will fulfil different requirements across the Precinct. Elements required in the public domain will be dependant upon location, expected rate of use and program.

EXISTING STREETS

Along existing major local streets such as Pitt, Cope, Wellington & Raglan any upgrades to furniture and urban elements will be to the standard COS furniture palette.

Elements include:

- Seating
- Cycle Parking
- Bollards
- Bins
- Bus Shelters
- Bubbler
- Parking Meters
- Signage
- Tree Grates

LANEWAYS & SHARED STREETS

Laneways and shared streets will focus on pedestrian amenity through furniture and urban elements. These elements will also be utilised in traffic calming measures.

- Elements include:
- Seating
- Cycle Parking
- Bollards
- Bins
- Bubbler
- Signage specifically wayfinding
- Tree Grates

VILLAGE GREEN, WATERLOO COMMON & LANEWAYS

Public places & select laneways will require tailored amenity for the community and guests of Waterloo South. The urban elements will be unique and site specific to create a feeling of arrival and a sense of place.

- Elements include:
- Seating
- Bins
- Bubbler
- BBQs
- Shelters
- Signage specifically way finding & information
- Tree Grates

FURNITURE



Fig. 7.3.117 Seat: Bronze Powdercoated Steel frame + recycled composite seat



Fig. 7.3.118 Seat: Formed Concrete Steel frame + recycled composite seat



Fig. 7.3.119 Timber Bench Seating

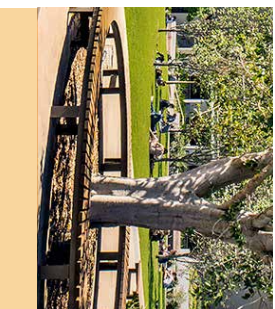


Fig. 7.3.120 Circular Seating

URBAN ELEMENTS



Fig. 7.3.121 Bollard: Bronze Powdercoated Aluminium



Fig. 7.3.122 Cycle Parking: Stainless Steel



Fig. 7.3.123 Bin: Recycled Aluminium & Powdercoated metropolis bronze & Polished Stainless Steel



Fig. 7.3.124 Tree Grate: Stainless Steel

SHELTERS



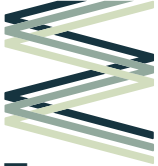
Fig. 7.3.125 Picnic Table Seating



Fig. 7.3.126 Dual Burner BBQ



Fig. 7.3.127 Bespoke Shelter: Powdercoated Aluminium



INDICATIVE LIGHTING

Creating safe, beautiful and vibrant places full of day and evening activity for residents and visitors

Lighting within Waterloo South must complement the streetscape and create safe, functional streets for pedestrians & vehicular traffic. Lighting type, size and function will vary across Waterloo South. A specific focus will be placed on creating safe, beautiful places for day and evening activity for residents and visitors. Lighting design must be conscious to tie into the existing condition and adhere to requirements outlined by the City of Sydney: Sydney Streets Code (2013), Sydney Lights Design Code (2015), Australian Standards, and the Sydney Streets Technical Specifications (2013).

Existing standard Energy Australia poles occur on Pitt, Cope, Wellington & Raglan streets. In areas such as the Village Green & Waterloo Common there will be distinctive street lighting features which complement the palette of these key areas. On north-south streets such as Cope Street and George Street, the City of Sydney Bronze Smart Pole will be utilised. This new technology will provide residents and guests a chance to connect to wifi and explore Waterloo South whilst also setting a quality precedent for future development in the LGA. Wall mounted or catenary lighting will be used along minor laneways to create a unique condition and sense of place whilst also improving safety at night.

- Legend**
- Existing Ausgrid Lighting Pole
 - City of Sydney Lighting
 - Wall mounted / Catenary lighting
 - Special areas: Unique palette to place

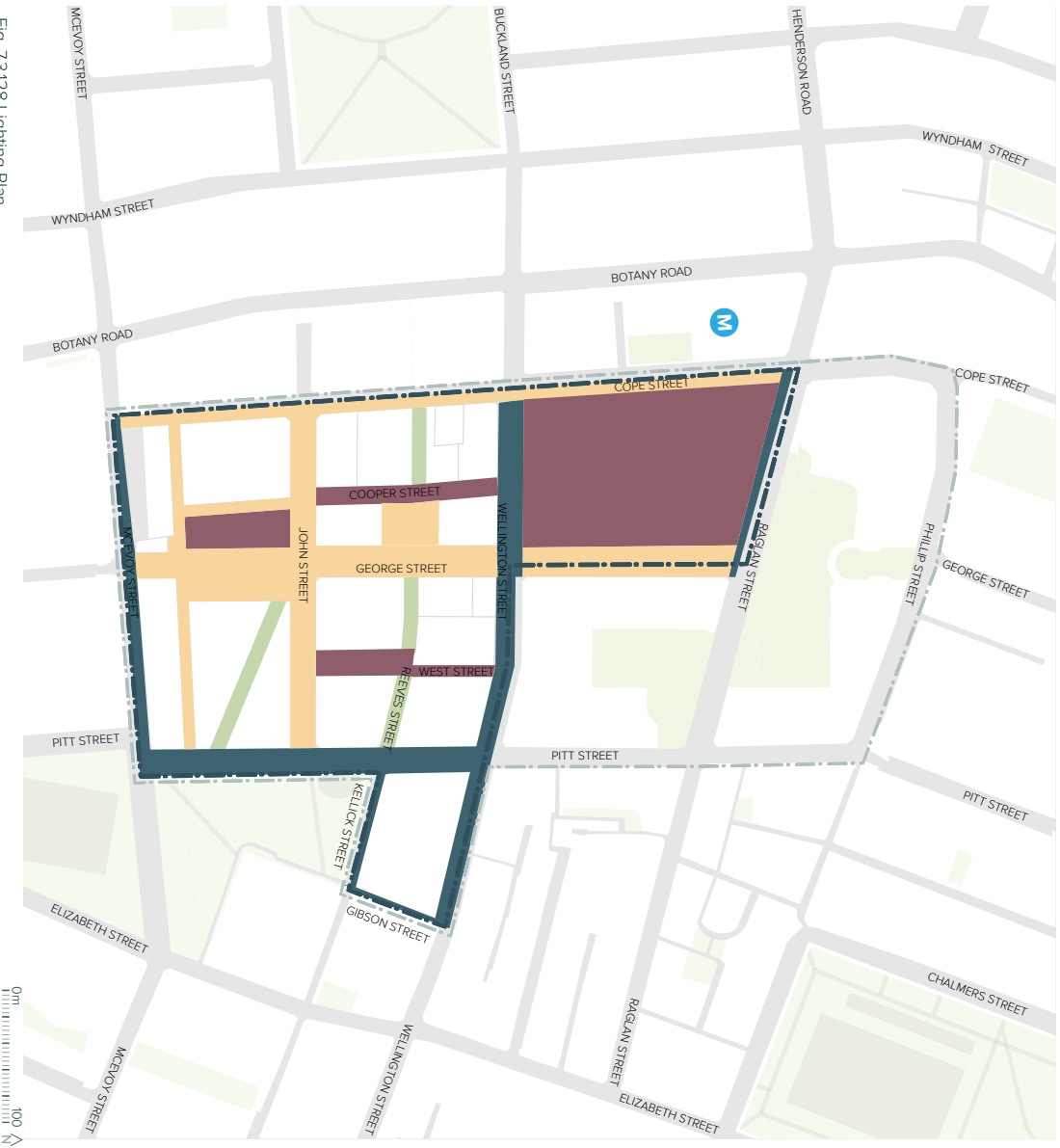


Fig. 7.3.128 Lighting Plan

DESIGN ELEMENTS TABLE

EXISTING LIGHTING

Along existing major local streets such as Pitt, Cope, Wellington & Raglan any upgrades to lighting will be to match existing.

- Lighting type:
- Ausgrid Lighting Pole

SMART ZONES

Smart zones have been identified on major north-south site links including George Street & Cope Street. As well as the southern east-west lane & shared slow street (John St.) also bounding each side of the major public spaces.

- Lighting type:
- City of Sydney Bronze Smart Pole

LANES

Laneways across Waterloo South are identified for inclusion of unique lighting elements to create character & improve surveillance at night.

- Lighting type:
- Catenary Lighting
 - Wall Mounted Lighting
 - Decorative Lighting

SPECIAL AREAS

These major public spaces are identified for special treatment in regards to lighting. Lighting in these places must facilitate safe night activation, contribute to the character of the space and be flexible to work with programming.

- Lighting type:
- Catenary Lighting
 - Wall Mounted Lighting
 - Decorative Lighting
 - City of Sydney Bronze Smart Pole
 - Public art / Lighting Installations

EXISTING LIGHTING



Fig. 7.3129 Ausgrid Lighting Pole

CITY OF SYDNEY LIGHTING

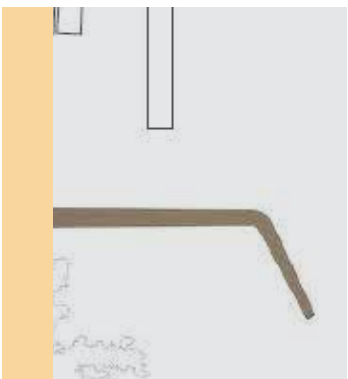


Fig. 7.3130 City of Sydney Bronze Smart Pole

SPECIAL AREA



Fig. 7.3131 Public Art / Lighting Installations with City of Sydney Lighting

LANES



Fig. 7.3132 Decorative Lighting



Fig. 7.3133 Catenary Lighting



Fig. 7.3134 Wall Mounted Lighting



Fig. 7.3.135 Waterloo Park

7.3.3 ECOLOGY AND BIODIVERSITY

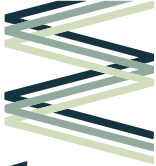
Delivering a Waterloo South that is a sustainable, regenerative and environmentally responsible landscape

Ensuring that ecology and biodiversity is thoughtfully integrated into all aspects of public domain design, informed by City of Sydney's (CoS) Sustainable Sydney 2030 Vision.

Waterloo South will weave into the existing Green Grid within Sydney, offering renewed possibilities and uses for open space and providing opportunities to improve existing biodiversity connections in the region. Support for a diverse landscape will be driven by the inclusion of extensive native and exotic planting throughout the public domain and water sensitive urban design (WSUD) opportunities. Water storage, recycling and filtration is integrated throughout the Estate, with WSUD along George Street anchoring the initiative and reflecting Waterloo's historical water story.

Creating a considered urban forest for Waterloo South is of high priority. Increasing the canopy cover across Waterloo South and selecting a variety of native, seasonal street planting will complete the urban forest palette. Waterloo South will also integrate productive landscape initiatives throughout the public and communal open space in the form of community gardens, edible landscapes and roof gardens. These initiatives are opportunities for the landscape to reference Indigenous history and natural heritage through planting.

The design and approach to ecology and biodiversity has been developed in alignment with the City of Sydney's codes. These include, City of Sydney Street Tree Masterplan (2011), Urban Forest Strategy (2013), Liveable Green Network (2011), Landscape Code (2016) and the Urban Ecology Strategy Action Plan (2014).



WATER SENSITIVE URBAN DESIGN

Waterloo South will be developed with consideration for the changing attitudes toward water preservation and reuse, in alignment with the CoS vision for a sustainable city

Waterloo South's water sensitive urban design (WSUD) strategy will efficiently utilise public space to treat and manage stormwater across the site. At present, the majority of Waterloo South is located within a flood plain and suffers from poor drainage during major rain events. Well considered approaches to water storage and bio-retention will work to mitigate flooding and offer cultural, environmental and aesthetic amenity for Waterloo South. Beneath the Village Green and Waterloo Common, a detention basin will assist in treating the overland flows and flood mitigation across the Estate. Planted tree pits throughout Waterloo South and along streetscapes will contribute to the filtration and treatment of stormwater before it enters other bio-retention and WSUD systems.

Refer to the separate report prepared by AECOM for more details.

- Legend**
- Detention Basin
 - Indicative Bypass
 - Water Sensitive Urban Design
 - Biofiltration Street Trees
 - Raingarden
 - Overland Flow

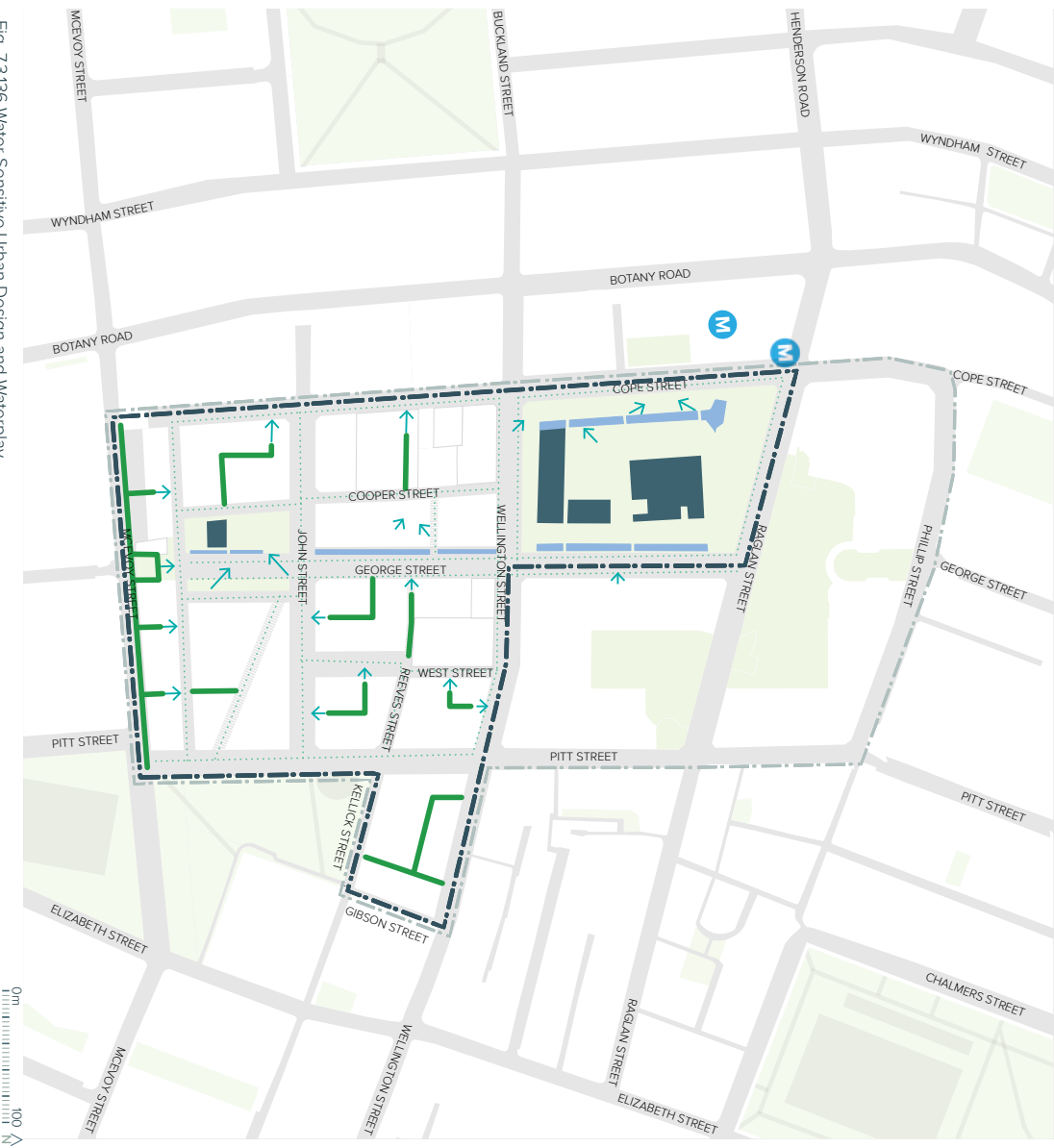


Fig. 7.3.136 Water Sensitive Urban Design and Waterplay

WATER SENSITIVE URBAN DESIGN/ BIO-RETENTION



Fig. 7.3.137 Edinbough Rain Gardens, Fitzroy, Melbourne



Fig. 7.3.138 Victoria Park, Sydney

Maximising opportunities to manage the water that enters Waterloo South using a range of Water Sensitive Urban Design Initiatives

Across Waterloo South, a number of measures have been introduced to treat and manage stormwater before it enters major water systems. Bio-retention pits run the entire length of George Street, contributing to not only water treatment, but serving as a spine to the water story of Waterloo. In the Village Green, the bio-retention bodies flank the eastern and western edges, ensuring better filtration and treatment of water that runs into the site. To further support the WSUD strategy throughout streetscapes, bio-retention tree pits have been incorporated to assist with treating runoff volumes along pedestrian pathways in rainfall events.

WATERPLAY / WATER SENSITIVE URBAN DESIGN INTERPRETIVE PLAY



Fig. 7.3.139 Sydney Park, Sydney



Fig. 7.3.140 Goyder Square, Palmerston Northern Territory

A robust and responsive water landscape that is considerate of the environment, and works to educate the next generation of Waterloo South's community through play

Traditional interpretations of waterplay will be plentiful and present within the public domain along with non traditional forms of WSUD as interpretive play. Along George Street, a linear stretch of bio-retention will run from the Village Green, to the edge of Waterloo Common in the south. This WSUD element will be complemented by a similar sized WSUD initiative throughout the Village Green, which will also be designed as informal play elements. Regular concrete crossing intervals will be integrated into the design of the WSUD, to allow for ease of access east-west across Waterloo South.

WATER SENSITIVE URBAN DESIGN PLANTING



Fig. 7.3.141
Juncus ustulatus



Fig. 7.3.142
Carex appressa



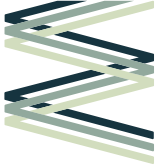
Fig. 7.3.143
Carex fascicularis



Fig. 7.3.144
Ficinia nodosa

Using planting to add texture, increase biodiversity and contribute to the filtration of water on site

The WSUD planting palette proposes integration of flood tolerant species within the under storey mix, to further assist with stormwater management and pollutant filtration, serving as a resilient landscape strategy surviving through both flood events and short periods of drought.



URBAN FOREST AND BIODIVERSITY

Waterloo South's urban forest and planting strategies will connect the existing network of green spaces and urban forest, strengthening biodiversity locally and regionally

Trees and their associated canopy are one of the most important natural components for a city. The urban forest scheme for Waterloo South will deliver aesthetic and functional benefits for the community. Where tree removal is necessary a targeted replenishment strategy of three to one will be implemented to recover and increase cover in the area.

Aligning with the City of Sydney's vision, the urban forest within Waterloo South will provide a canopy coverage target of 30 percent with the indicative concept masterplan giving the potential for 42 percent, increasing the existing coverage from 28.9 percent. Canopy coverage offers respite from the heat of the summer sun and shades the surfaces of passage and movement across Waterloo South. The environmental benefits of shaded hard scape is well documented as a key factor in combating the impacts of the urban heat island effect.

With reference to the Urban Ecology Strategic Action Plan produced by the CoS, the biodiversity scheme for Waterloo South intends to improve upon the existing network of flora and fauna. Waterloo South aims to deliver a resilient urban ecosystem, through considered planting, approaches to water management, edible landscape and the general arrangement of public open space.

To develop a liveable Estate, there will be an increased focus on creating areas of habitat and protection for the local fauna, particularly native birds, reptiles and mammals. Increasing the presence of native stingless bees will also be a priority. With the growing education on the decline of this critical species, providing an assortment of colourful, flowering native plants is vital. These may include a selection of Callistemons, Eucalyptus trees and Banksias.

- Legend**
- Proposed Tree
 - High Value Retained
 - Medium Value Retained
 - Fig

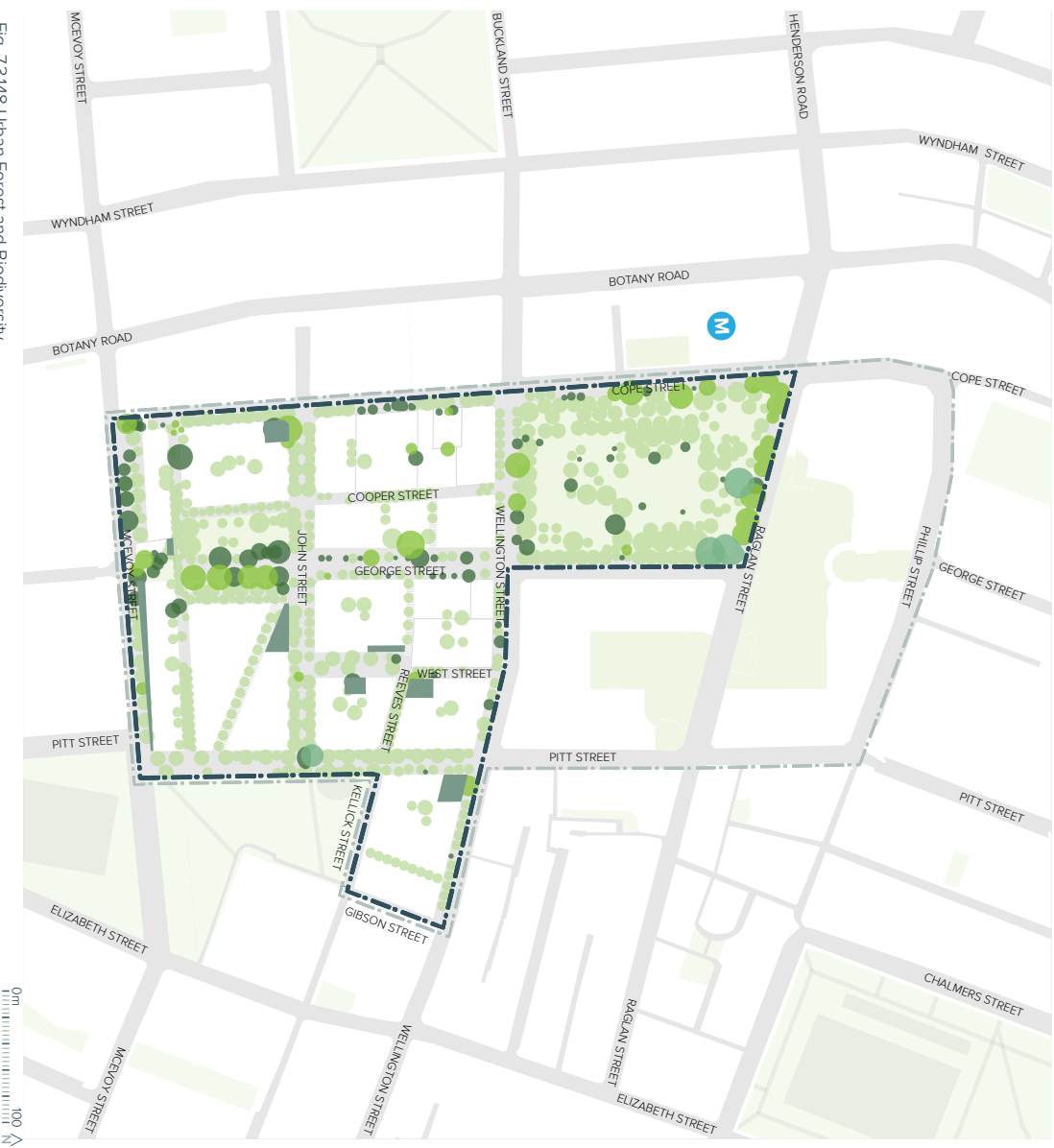


Fig. 7.3.148 Urban Forest and Biodiversity

EXISTING TREES

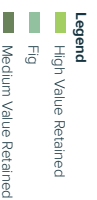


Fig. 7.3.149 Existing Trees Retained

Existing significant trees are an important asset and contribute to Waterloo South's existing character. It is important to maintain their presence while strengthening urban forest and biodiversity connections

Across Waterloo South, with a focus on high and moderate value trees, retention of significant trees such as signature figs (Ficus microcarpa and Ficus rubiginosa) and Eucalypts (Eucalyptus microcorys) have been prioritised to help shape the public domain while preserving and building upon the existing urban forest character of Waterloo South.

Significant street trees along existing local streets particularly on the corner of Pitt and Wellington have been prioritised to create public spaces. Other civic trees opposite the Metro Quarter and throughout Waterloo Common have also been retained, with the public domain complementing their retention. Building setbacks, pocket parks and the major parks, Village Green and Waterloo Common, have been specifically located to ensure that a large percentage of high value trees are retained where possible.



PROPOSED TREES



Fig. 7.3.150 Proposed Trees

The presence of existing valuable trees will be enhanced by the tree replantment scheme, with an increase in canopy coverage site wide

Waterloo South will increase its existing canopy coverage from 28.9% to a target of 30% and potential of 42 percent from the indicative concept masterplan, providing shade amenity to help reduce the urban heat island effect and strengthening Waterloo South's biodiversity. The tree replantment strategy ensures an increase in the existing canopy coverage and actual trees for both the public and private domain. Through tree replantment the streetscapes and public spaces will be shaped as green places, providing adequate shade coverage during summer months, improving amenity and creating comfortable spaces to live, work and play.



UNDERSTOREY

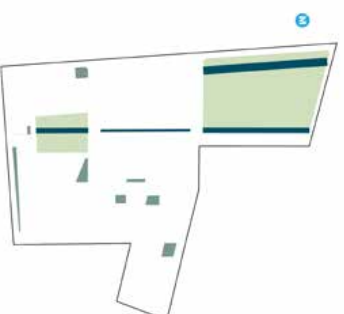
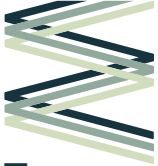


Fig. 7.3.151 Understorey

Using an assortment of understorey planting initiatives to bring the biodiversity grid to street level

Low growing under storey species have been selected to further define the streetscape and public spaces, provide habitat within an urban environment, increasing local biodiversity and avoiding obstruction of sight lines across Waterloo South, providing for a safe and healthy environment. Species include a variety of indigenous, native and exotics with consideration of WSUD and productive landscape strategies, where WSUD including flood tolerant species and elements of bush tucker. Seasonal planting will provide edible qualities such as flowers, roots and seeds.





INDICATIVE STREET TREE PLANTING

Diversifying the streetscape through a colourful, textural and seasonal street tree palette

Street tree species have been selected to provide a mix of species, native and exotic, evergreen and deciduous, to encourage diversity whilst providing adequate shade amenity and contributing to the target 30% canopy coverage.

Across Waterloo South tree planting will help characterise and define the streetscape typologies. Large trees will be specified along George Street, local streets and in major public spaces. Wellington and Raglan streets will become Waterloo South's green street corridors with new proposed trees set amongst signature existing trees retained within landscaped setbacks, pocket parks and social corners. These streets will harness Waterloo's existing urban forest characteristics while strengthening the Estate's biodiversity connections.

Large trees will mediate the scale of the built form, frame views along major pedestrian paths and provide much needed shade in open areas. A predominantly native evergreen palette will define Waterloo South with variations in colour and form. Occasional seasonal planting will diversify the street edges and aid way finding. Laneways across the site will be punctuated by a variety of small trees. These trees will boast a variety of seasonal colour, texture and form to compliment the fine grain of laneways in Waterloo South.

- Legend**
- Cope Street
 - Raglan Street
 - Pitt Street
 - Mcevoy Street
 - Wellington Street
 - Phillip Street
 - Laneways

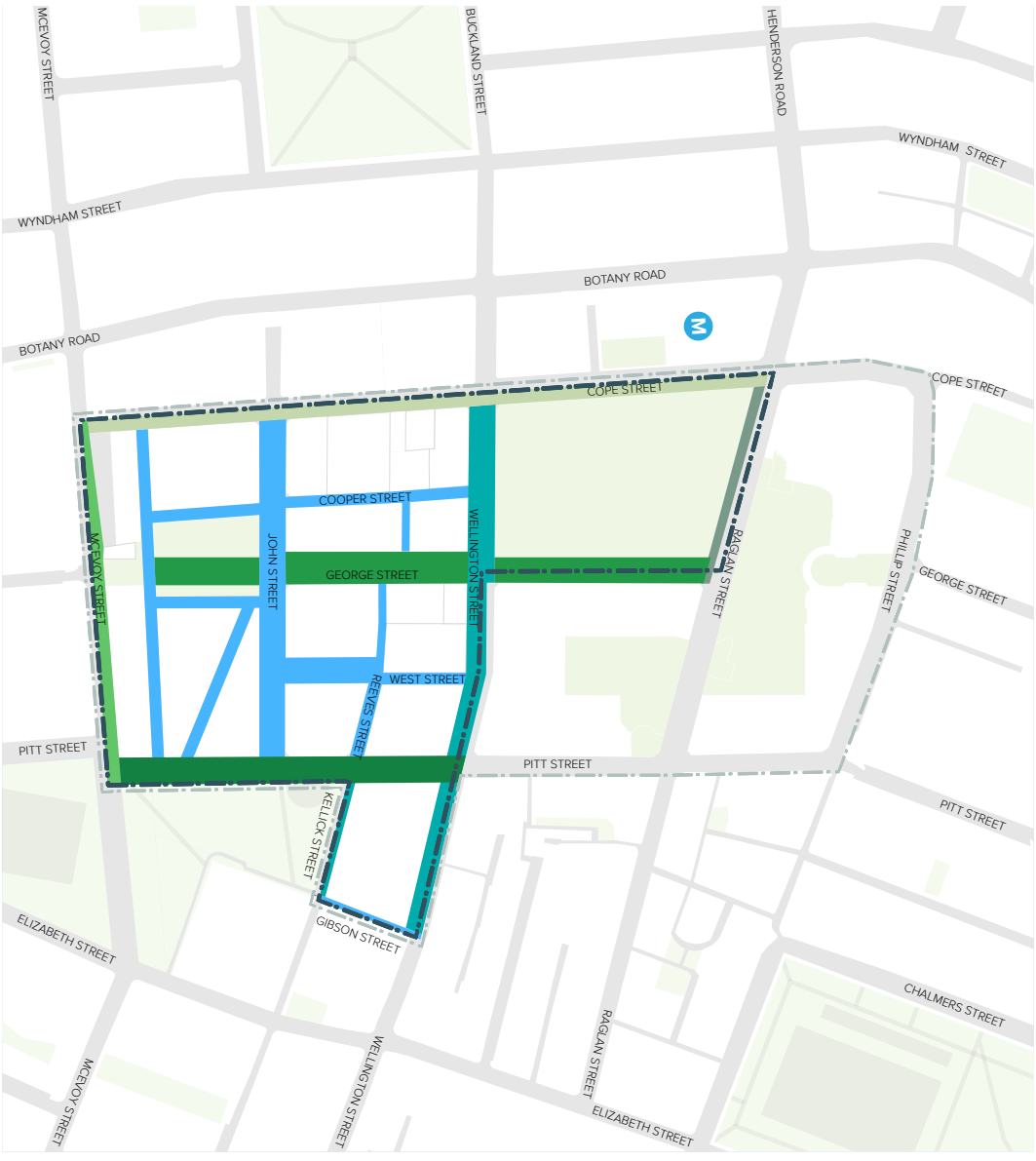


Fig. 7.3.152 Street Tree Diagram

GEORGE STREET



Fig. 7.3.153
Angophora costata



Fig. 7.3.154
Angophora floribunda



Fig. 7.3.155
Lophostemon confertus



Fig. 7.3.156
Harpullia pendula

RAGLAN STREET



Fig. 7.3.157
Argyrodendron actinophyllum



Fig. 7.3.158
Eucalyptus microcorys

COPE STREET

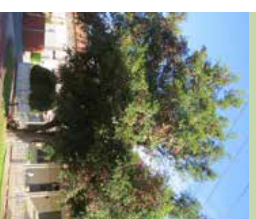


Fig. 7.3.159
Lophostemon confertus



Fig. 7.3.161
Banksia integrifolia

COPE STREET



Fig. 7.3.162
Corymbia eximia



Fig. 7.3.163
Corymbia maculata



Fig. 7.3.164
Liriodendron tulipifera



Fig. 7.3.165
Melaleuca quinquenervia

WELLINGTON STREET



Fig. 7.3.166
Africanus falcatus



Fig. 7.3.167
Eucalyptus haemastoma



Fig. 7.3.168
Fraxinus pennsylvanica



Fig. 7.3.169
Melaleuca quinquenervia

MCEVOY STREET

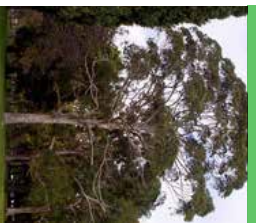


Fig. 7.3.170
Corymbia maculata



Fig. 7.3.171
Eucalyptus pilularis



Fig. 7.3.172
Eucalyptus saligna



Fig. 7.3.173
Corymbia eximia

PITT STREET

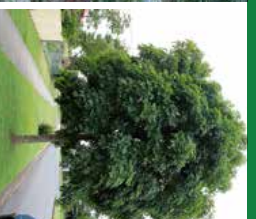


Fig. 7.3.174
Flindersia australis

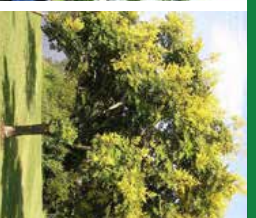


Fig. 7.3.175
Koeleruteria paniculata



Fig. 7.3.176
Backhousia citriodora



Fig. 7.3.177
Brachychiton acerifolius

LANEWAYS



Fig. 7.3.178
Diploglottis australis



Fig. 7.3.179
Elaeocarpus eumundi



Fig. 7.3.180
Flindersia australis



Fig. 7.3.181
Livistona australis



Fig. 7.3.182
Pyrus calleryana 'chanticeer'

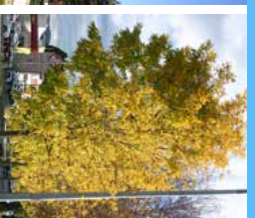


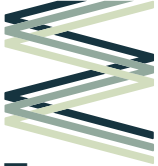
Fig. 7.3.183
Robinia pseudocacia 'frisla'



Fig. 7.3.184
Tristaniaopsis laurina luscious



Fig. 7.3.185
Waterhousea floribunda 'Green Avenue'



INDICATIVE PUBLIC SPACE PLANTING

Providing a rich palette of trees and understory planting to diversify and define Waterloo South's public spaces

Across Waterloo South there are four tree typologies that will be introduced to help define the public domain. Civic trees are considered icons for way finding and location within certain public areas. Many of the existing fig trees are considered civic, encompassing Waterloo's existing character and will be complemented by the seasonal colours of the Jacarandas and other seasonal planting.

Larger trees will outline the Village Green's edges and run the length of George Street. Medium size trees will be distributed across the majority of Waterloo South. Native species, such as the Melaleuca quinquenervia, will run alongside the seasonal colours of Pyrus and Robina. Smaller trees will be co-located with more intimate spaces and add colours and textures to their surrounds.

Understorey planting will be characterised by a predominantly native palette. Locations will include major open spaces, tree pits and in Water Sensitive Urban Design initiatives such as bio-retention basins. The understorey palette supports the intention to create edible landscapes. Plants include those native to the Sydney region and which have historically been used for bush tucker.

LEGEND

- Civic Trees (Extra Large)
 - Large Trees
 - Medium Trees
 - Small Trees
- Note: All Trees with outlines are existing specimens to be retained.

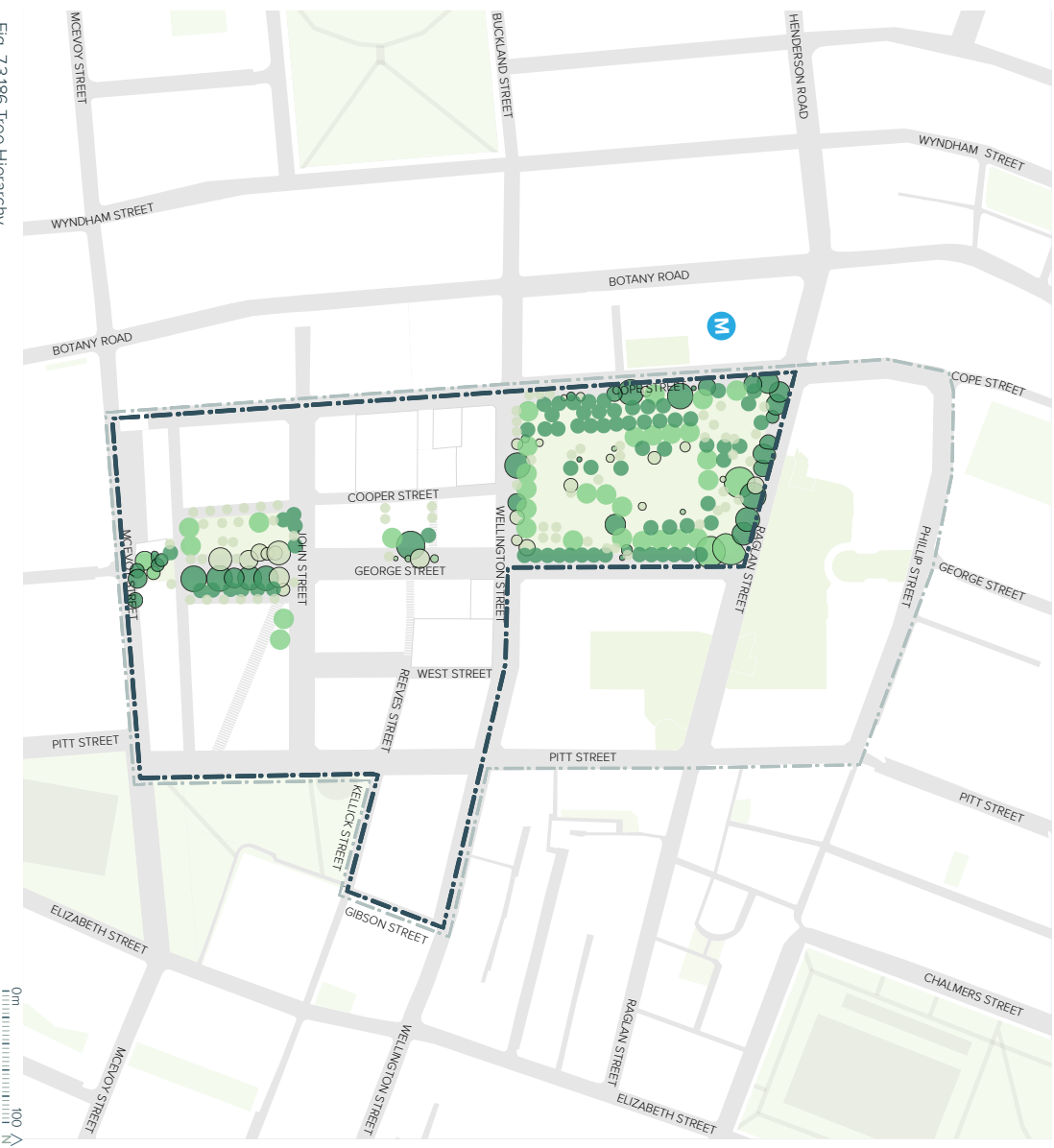


Fig. 7.3.186 Tree Hierarchy

CIVIC

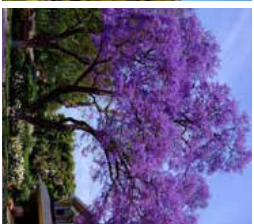
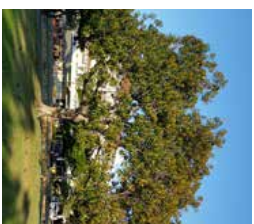


Fig. 7.3.187
Corymbia maculata
LARGE

Fig. 7.3.188
Eucalyptus grandis

Fig. 7.3.189
Ficus macrophylla

Fig. 7.3.190
Ficus rubiginosa

Fig. 7.3.191
Jacaranda mimosifolia

Fig. 7.3.192
Livistona australis

Fig. 7.3.193
Lophostemon confertus

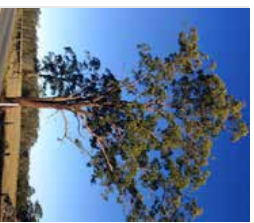
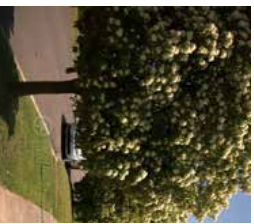


Fig. 7.3.194
Angophora costata

Fig. 7.3.195
Backhousia citriodora

Fig. 7.3.196
Eucalyptus microcorys

Fig. 7.3.197
Eucalyptus ptilularis

Fig. 7.3.198
Syncarpia glomulifera

MEDIUM



Fig. 7.3.199
Acmena smithii
SMALL

Fig. 7.3.200
Corymbia eximia

Fig. 7.3.201
Melaleuca quinquenervia

Fig. 7.3.202
Pyrus ussuriensis

Fig. 7.3.203 *Robinia pseudacacia* 'Frisia'

Fig. 7.3.204
Syzygium paniculatum

Fig. 7.3.205
Waterhousea floribunda
'Green Avenue'



Fig. 7.3.206
Banksia integrifolia

Fig. 7.3.207
Citrus lemon x reticulata

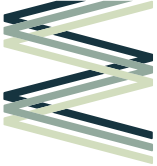
Fig. 7.3.208
Citrus x meyeri

Fig. 7.3.209
Citrus reticulata

Fig. 7.3.210
Citrus sinensis

Fig. 7.3.211 *Cupaniptosis anacardioides*

Fig. 7.3.212
Elaeocarpus eunundii



SMALL TREES



Fig. 7.3.213
Laurus nobilis



Fig. 7.3.214
Prunus domestica



Fig. 7.3.215
Prunus persica



Fig. 7.3.216
Prunus persica
var. 'Neckarine'



Fig. 7.3.217 *Pyrus*
calleryana 'Chanticleer'



Fig. 7.3.218 *Tristaniaopsis*
laurina 'Luscious'

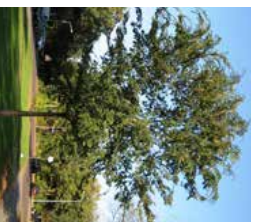


Fig. 7.3.219
Ulmus parvifolia 'Todd'

UNDERSTOREY SHRUBS



Fig. 7.3.220
Anigozanthos mangiesii



Fig. 7.3.221
Asplenium austrailasicum



Fig. 7.3.222
Aspidistra elatior



Fig. 7.3.223
Banksia ericifolia



Fig. 7.3.224 *Banksia*
integrifolia prostrate



Fig. 7.3.225
Banksia spinulosa



Fig. 7.3.226
Baumea articulata



Fig. 7.3.227 *Callistemon*
viminialis 'Little John'



Fig. 7.3.228
Callistemon 'White Anzac'



Fig. 7.3.229
Carpodrotus glaucescens



Fig. 7.3.230
Cymbopogon citratus



Fig. 7.3.231 *Cymbopogon*
obtectus



Fig. 7.3.232
Dianella caerulea



Fig. 7.3.233
Dietes robinsoniana



Fig. 7.3.234
Eleocharis sphaeacalata



Fig. 7.3.235
Elettaria cardamomum



Fig. 7.3.236 *Farfugium*
japonicum 'Giganteum'



Fig. 7.3.237
Goodenia ovata



Fig. 7.3.238
Hebe inspiration

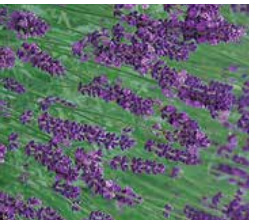


Fig. 7.3.239 *Lavender*
angustifolia 'Munstead'



Fig. 7.3.240
Lomandra longifolia

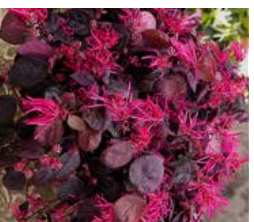


Fig. 7.3.241
Loropetalum chinense



Fig. 7.3.242
Philodendron 'Xanadu'

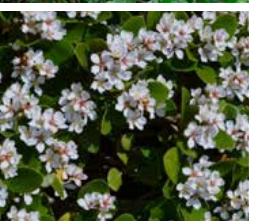


Fig. 7.3.243 *Raphiolepis*
indica 'Oriental Pearl'

**UNDERSTOREY
SHRUBS**

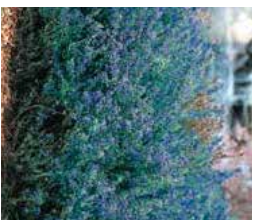


Fig. 7.3.244 *Rosemarinus officinalis* 'Blue Lagoon'



Fig. 7.3.245 *Thymus vulgaris*



Fig. 7.3.246 *Salvia officinalis*



Fig. 7.3.247 *Viola hederacea*



Fig. 7.3.2448 *Westringia fruticosa*



Fig. 7.3.249 *Xanthorrhoea* spp

GROUND COVERS



Fig. 7.3.250 *Liriope muscari*



Fig. 7.3.251 *Hardenbergia violacea*



Fig. 7.3.252 *Hibbertia scandens*



Fig. 7.3.253 *Melaleuca hypericifolia* 'Ulladulla Beacon'



Fig. 7.3.254 *Scaevola aemula*



Fig. 7.3.255 *Poa* spp.

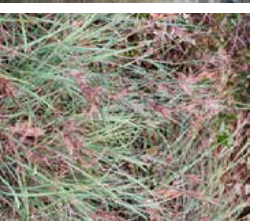


Fig. 7.3.256 *Themeda trandra*

GRASSES



PRODUCTIVE LANDSCAPE

Landscape use is maximised through the inclusion and distribution of production and initiatives

The principle of a productive landscape is to encourage design initiatives moving into the future of regenerative urban design. With a growing population, opportunities are maximised to localise food production. Beyond simple agricultural values, the productive landscape initiative has a variety of community benefits, all of which are highly valuable for the Estate's community.

Across Waterloo South, a number of opportunities have been integrated to strengthen productive landscape principles into the design. Three major ideas have been explored: communal courtyards / farms, edible landscapes and communal courtyards and rooftop gardens. All of these opportunities are a response to create community, reference and educate about culture and promote an awareness of ecology and sustainability. The productive landscape initiative is an opportunity to reflect Waterloo's Indigenous history using native flora especially planting associated with bush tucker.



Fig. 73.257 Beacons Food Forest, Washington



Fig. 73.258 Boston Rooftop Farms, Boston



Fig. 73.259 Brooklyn Grange, New York City

COMMUNITY GARDENS
PROPOSED LOCATIONS

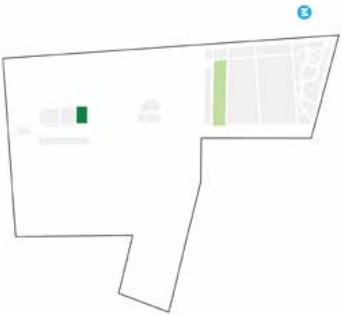


Fig. 7.3.260 Community Gardens

Promoting food security, climate change mitigation and the benefits of a healthy lifestyle, through community organised gardens and urban farms

Community gardens are encouraged and promoted by the CoS, with the Community Garden Guidelines developed to ensure a safe, educational and productive outcome of these initiatives. For Waterloo South, there is a focus on delivering two community gardens/farms that cater for all members of the community throughout the Estate's neighbourhoods.

The community gardens in the Village Green and Waterloo Common are the two major contributors to the productive landscape initiative. A portion of Waterloo South's productive landscape initiatives will be provided to the community as community gardens. The distribution of these parks also provides ease of access for residents living in all areas of the Estate.

- Legend**
- Community Garden Village Green
 - Community Garden Waterloo Commons

EDIBLE LANDSCAPES
PROPOSED LOCATIONS



Fig. 7.3.261 Edible Landscapes

Developing a tapestry of edible landscapes throughout Waterloo South to reference Indigenous bush tucker and educate the community on the possibilities of sustainable living

It is intended that a target of 30% of plants within the public domain provide edible qualities that contribute to the productive landscape initiatives. The integration of edible species into the selected planting palettes include integration of bush tucker species, such as *Syzygium* spp, *Backhousia citrifolia* and *Dianella* spp, which provide edible flowers, roots and seeds. Along with bush tucker species, many native blooming species, such as *Angophora costata* and *Banksia* spp., provide an excellent nectar source for honeybees.

- Legend**
- Water Sensitive Urban Design
 - Pedestrian Boulevard
 - Productive Laneways

ROOFTOP GARDENS
PROPOSED LOCATIONS

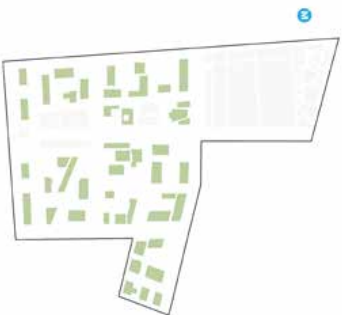
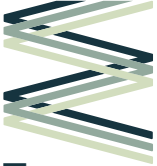


Fig. 7.3.262 Rooftop Gardens

Rooftop Gardens complete the productive landscape movement, contributing to the amenity of the vertical village

The productive landscape initiative will include a rooftop planting scheme across Waterloo South. From small private rooftop gardens, to large rooftop plots for harvesting produce, the potential of this movement is widespread. The rooftop gardens form part of the vertical villages that are encouraged for a range of building typologies to create smaller sub-communities in larger buildings or developments.

- Legend**
- Rooftop Gardens



INDICATIVE PRODUCTIVE LANDSCAPE PLANTING PALETTE

Including a wide variety of native and exotic edible plants into the landscape for productive purposes and to encourage community living

The productive landscape planting palette has been developed to reflect Indigenous and native planting that is endemic to the region. A palette has been created for trees, understorey and edible landscapes/ bush tucker, to ensure all aspects of the productive landscape initiative are met. Whilst some plants on the list are included because of their edible nature, others are plants commonly used for medicinal needs, or for structures such as woven baskets. Alongside this, there is a selection of non-Indigenous perennial herbs, fruiting trees and shrubs, and seasonal planting, that completes the palette throughout Waterloo South.

BUSH TUCKER: TREES

Fig. 7.3.263
Acmena smithii



Use: Small edible berries

Fig. 7.3.264
Angophora costata



Use: Flowers to support honey production

Fig. 7.3.265
Banksia citriodora



Use: Leaves for teas, fragrant oils, healing

Fig. 7.3.266
Banksia integrifolia



Use: Sugar nectar from Banksia blossoms

Fig. 7.3.267
Diploglottis australis



Use: Small, edible fruits

Fig. 7.3.268
Livistona australis



Use: Edible growing bud

Fig. 7.3.269
Melaleuca quinquenervia



Use: Flowers to support honey production

Fig. 7.3.270
Syzygium paniculatum



Use: Small, edible fruits

Fig. 7.3.271
Banksia ericifolia



Use: Sugar nectar from Banksia blossoms

Fig. 7.3.272
Banksia integrifolia prostrata



Use: Sugar nectar from Banksia blossoms

Fig. 7.3.273
Banksia spinulosa



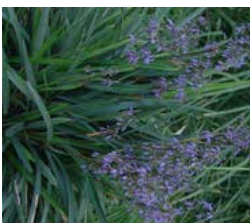
Use: Sugar nectar from Banksia blossoms

Fig. 7.3.274
Carpobrotus glaucenscens



Use: Small, edible fruits

Fig. 7.3.275
Dianella caerulea



Use: Fronds for basket weaving, edible berries

Fig. 7.3.276
Lomandra longifolia



Use: Fronds for weaving

Fig. 7.3.277
Viola hederacea



Use: Small, edible flowers

PRODUCTIVE LANDSCAPE PALETTE TABLE

TREES

Drawing from the palette of species typically found in the Eastern Banskia Scrub of the Waterloo area, the selected range offers a variety of productive landscape opportunities, with particular focus on Indigenous uses for native plants; for nectar, tea making or use of bark for structures and art-making.

UNDER STOREY

The suggested species draws on the plants commonly used by Indigenous people for weaving, structure or as a food source. All species are suitable for the area.

BUSH TUCKER / EDIBLE LANDSCAPES

Edible landscape and bush tucker opportunities will be integrated into all areas of the Estate. The species selected are endemic to the region and can tolerate both sun and shade conditions.

EDIBLE LANDSCAPES: TREES

					
Fig. 7.3.278 <i>Citrus lemon x reticulata</i>	Fig. 7.3.279 <i>Citrus x meyeri</i>	Fig. 7.3.280 <i>Citrus reticulata</i>	Fig. 7.3.281 <i>Citrus sinensis</i>	Fig. 7.3.282 <i>Laurus nobilis</i>	Fig. 7.3.283 <i>Prunus domestica</i>

Use: Edible Fruit

Use: Edible Fruit

Use: Edible Fruit

Use: Edible Fruit

Use: Edible Fruit

Use: Edible Fruit

Fig. 7.3.284
Prunus persica




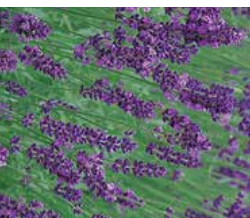



Fig. 7.3.285
Prunus persica var. *Nectarine*



Use: Edible Fruit

Use: Edible Fruit

EDIBLE LANDSCAPE: UNDER STOREY

						
Fig. 7.3.286 <i>Elettaria cardamomum</i>	Fig. 7.3.287 <i>Cymbopogon citratus</i>	Fig. 7.3.288 <i>Hebe</i> inspiration	Fig. 7.3.289 <i>Lavender</i> <i>angustifolia</i> 'Munstead'	Fig. 7.3.290 <i>Rosmarinus officinalis</i> 'Blue Lagoon'	Fig. 7.3.291 <i>Thyme vulgaris</i>	Fig. 7.3.292 <i>Salvia officinalis</i>

Use: Fragrant leaves, edible seedpods

Use: Fragrant, edible leaves

Use: Flowers to support honey production

Use: Fragrant flowers for teas

Use: Edible, fragrant leaves

Use: Edible, fragrant leaves

Use: Flowers to support honey production



Fig. 7.3.293 Beam Festival, Chippendale
Source: <https://www.timeout.com>

7.3.4 PUBLIC ART, SIGNAGE AND WAY FINDING

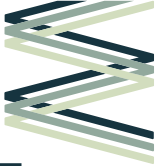
Public art is a creative, inclusive and empowering method of engaging and representing Waterloo's community

Public art is an essential component in developing the cultural and creative character of Waterloo South and the Estate. Public art provides the capacity to recognise the sites indigenous culture and heritage through cultural expression. Expressions of public art can take a variety of forms, from way finding methods, pavement treatments and decoration, installation, temporary works and events, street art and art as function (seating, lighting). Public art can diversify the landscape, promote a colourful and creative community and improve connections between the diverse community within the Estate.

Waterloo is a place rich in cultural history and heritage. Originally, the land was a series of swamps and marshes, with the Waterloo Swamp dominating much of the Waterloo and Zetland region. Post European settlement, the region began to evolve. Waterloo underwent mass changes in character, emerging as an industrial place for milling, tanning, fell mongering, wool washing, brewing and soap making. Eventually, the area transformed from being purely industrial to residential. By the 1980s, the Estate was one of the largest public housing precincts in New South Wales. Today, the community of Waterloo is culturally diverse, rich in Indigenous representation and transforming into the future. Whilst there is an obvious focus on using public art as a mechanism to represent the past, it is also a method of exploring the present and the transition towards the culture and character of Waterloo in the future.

The art for Waterloo South goes beyond being a placemaking, way finding and aesthetic initiative. Public art has the capacity to engage the community by allowing them to contribute to the visual landscape of the place.

The strategy for public art, signage and way finding has been developed in alignment with the following City of Sydney Codes: Creative City, Cultural Policy and Action Plan (2014 - 2024), Legible Sydney Way finding Strategy (2012) and the City Art Public Art Strategy (2016), as well as the Waterloo South Public Art Plan, Milne and Stonehouse (2020).



NARRATIVE

Public art provides the opportunity to recognise the Indigenous culture and heritage present within the Estate

The Estate's evolution from a wetland of diverse flora and fauna, to an industrial precinct and finally a key suburb on the outskirts of Central Sydney, has resulted in an area rich in heritage and culture.

The adaptability and resilience of Waterloo are key characteristics of defining the Estate's spirit of place, sense of belonging and celebration of cultural diversity.

Waterloo South's Public Art Plan is driven by Waterloo's sense of place and its defining characteristics, driving identity, a sense of belonging, a value for the land and a celebration of the cultural diversity of the community

Waterloo South's public art curatorial narrative will reinforce the sites past, present and future, whilst building upon the idea of public space as outdoor 'rooms' and connecting the community with their neighbourhood.

Public art will examine connections between community and the Estate alongside the use of public art as a method of way finding, community collaboration and the establishment of Waterloo South as a strong cultural domain within the Greater Sydney region.

Refer to the Waterloo South Public Art Plan prepared by Milne and Stonehouse for further information.



Fig. 7.3.294 Street Art, Redfern



Fig. 7.3.295 Lata 65, Portugal



Fig. 7.3.296 Kopupaka Reserve in Te Hauauru Park, Auckland

PRINCIPLES

SITE SPECIFICITY

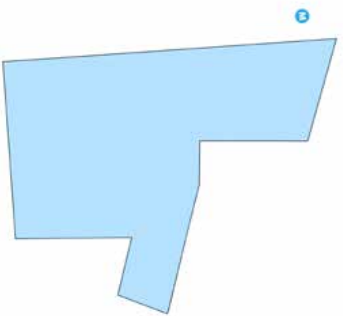


Fig. 7.3.297 Art and Site

Recognising the site's Aboriginal and 'making' history. Celebrating the stories of Waterloo through art

The Waterloo area is rich in heritage, including that of the Indigenous people. Much of the public art throughout the site will focus on representing the characteristic of Waterloo from an area rich in Indigenous culture, to an industrial hub for inner city Sydney to its eventual emergence as a home to many nationalities in the present day. But perhaps most importantly, the public art plan will look to the future, acknowledging the need for trans-generational thinking when expressing culture in art form giving a voice and opportunity to the local community and its artists.

Legend
Waterloo South

ACTIVATED PUBLIC DOMAIN AND STREETSCAPE

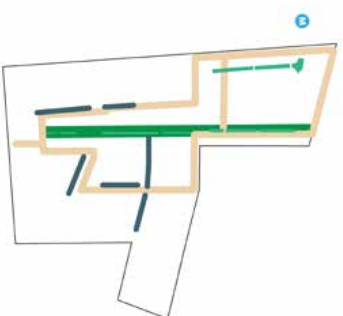


Fig. 7.3.298 Art and Community

Offering the streetscape and public domain as a canvas for interpretation and to enhance community social connections

Waterloo South's fine grain street grid and open space arrangement provides an opportunity to explore the possibilities of public art as a cultural presence and community builder. The public domain and streetscape will offer a canvas for interpretation, and enhance social connections, strengthening the communities' experience at eye level. Public art will contribute to bringing spaces to life and transforming them from day to night, creating vibrant spaces for people to live, work and play.

Legend
Accessible Local Movement Route
Art Lanes
Water Sensitive Urban Design

EXCELLENCE, INTEGRITY AND SUSTAINABILITY

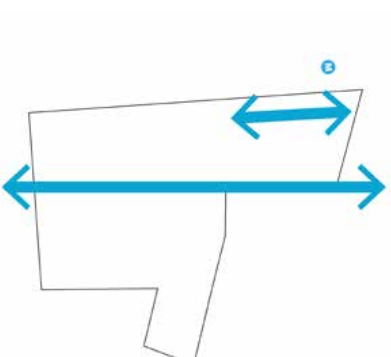


Fig. 7.3.299 Art and Environment

Creating an embedded approach through durable and ecologically sustainable public art

The public art plan for Waterloo South recognises and interprets Waterloo's environmental heritage, practices and possibilities. Public art will be robust, of high quality and ecologically sustainable whilst initiating conversation and education around sustainability particularly connected with Waterloo South's water story. Inclusion of numerous WSUD initiatives across Waterloo South, significantly along George Street is where art and environment will seek to express the connection between sustainability, nature and built environment.

Legend
Water Story
George Street / Pedestrian Boulevard

CULTURAL COMMUNITY

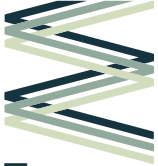


Fig. 7.3.300 Art and Environment

Integrated public art projects that recognise existing and future communities

The Estate community is culturally complex and multi-cultural. Through public art, a sense of place and community unique to the Estate will emerge providing opportunities to build knowledge and skills. The quality of this engagement will be apparent through the moments of interaction and participation between community members and the artworks. This diversity in form and subject will contribute to the creation of a supportive, equal and collaborative community.

Legend
1 Gateways
2 Major Parks
3 Waterloo Metro Hub
4 Community Spaces



PUBLIC ART OPPORTUNITIES

Ensuring all areas of Waterloo South explore the potential of public art as a mechanism for cultural expression, collaboration and wayfinding

Across Waterloo South, there are many opportunities for public art to work as an important component of the urban landscape. The primary locations for public art are all primary public spaces, streets, laneways and community hubs.

The opportunities for public art are also maximised by understanding the breadth of public art that is available. Sculpture, lighting, temporary and fixed art, street art, murals, performance or events, and pavement / facade art are just a small assortment of the categories of public art possibilities.

As a significant aspect and voice for the Estate, the Waterloo South Public Art Plan aims to explore the contribution of these art forms to the canvases of the Estate, reflecting culture and community life, whilst strengthening the community's connection to Waterloo at eye level, contributing to an activated public domain that engages the community and creates a welcoming and distinct place.

Refer to the Waterloo South Public Art Plan prepared by Milne and Stonehouse for further information.

- Legend**
- Accessible Local Movement Route
 - Art Lanes
 - Bio Retention
 - Gateways
 - Major Parks
 - Waterloo Metro Hub
 - Community Spaces

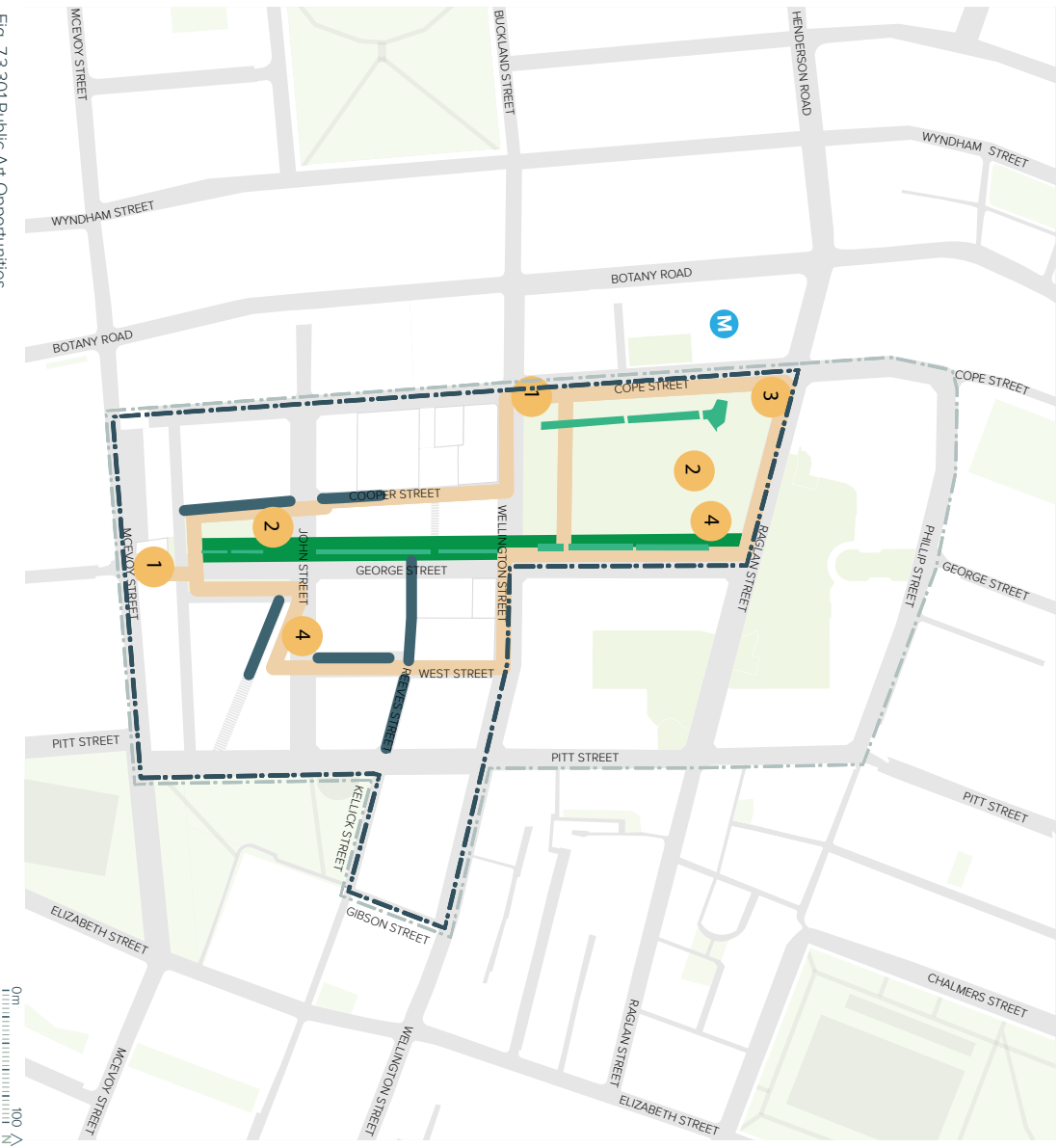


Fig. 73.301 Public Art Opportunities

PUBLIC ART AND WAYFINDING

Using public art as a public domain guidance tool that is informative and fun to encourage pedestrian movement throughout Waterloo South

Public art is often associated with way finding, as it delivers recognisable and unique elements to an otherwise typical public domain. Public art can be used as a mechanism for delivering unique visual modes, that can be translated and associated with particular locations. There is the potential to use pieces of public art in larger open spaces to make sub-spaces easily identifiable and communicable.

Public art as a way finding measure also includes the treatment of pavement and facades to define direction and destination. Having public art that responds to the conditions of both day and night, can encourage the use of spaces and provide a safe night environment. Using lighting systems as a component of public art can diversify the night time street scape and provide simple methods of direction.

EQUAL ACCESS AND PUBLIC ART



Fig. 7.3.302 Sydney Laneways Art Program, 2017

Integrating new technologies and using art and wayfinding diversity to deliver a public domain that is easy to navigate for all members of the community

Waterloo South will be home to people of varied nationality, ability and age. In considering this, all signage and way finding measures will work to improve accessibility for all groups. Traditional measures including tactile locations and signalised intersections could be improved with the introduction of digital and audible technologies. Public art has an important role in providing equitable access, with colour and sensory stimulations introduced to ease way finding for those who may experience difficulty moving through Waterloo South.



Fig. 7.3.303 Southbank Crossing, London

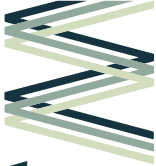


Fig. 7.3.305 Pink Street, Lisbon

Creating and improving community connections through public art

The Accessible Local Movement Route will provide an accessible route for all residents and will feature public art that is both aesthetically pleasing, engaging and responsive to the needs of the community. Along this route, public art plays the role of a way finding measure, visual locator and reflector of culture providing an inviting experience through Waterloo South while illuminating Waterloo's unique character and heritage.

Public art methods can be important in easy way finding, including selective treatments of pavement, lighting arrangements and street art or murals. The potential of public art and signage can also be explored. Public art can diversify the landscape, promote a colourful and creative community, and improve connections between the diverse communities within the Estate.



WAYFINDING AND SIGNAGE

Delivering a legible Waterloo South that encourages pedestrian movement, with comfort and ease

A holistic approach to future way finding and signage will aim to contribute to the development of an accessible and pedestrian friendly public domain through the implementation of contemporary strategies.

All wayfinding and signage will be consistent with the design objectives and key principles of the City of Sydney Legible Way finding Strategy (2012). The strategy will ensure that Waterloo South is easily navigated by locals and tourists alike, using clear and consistent way finding measures throughout.

Simplified and legible street scapes have economic benefits, with retailers benefiting from regular pedestrian traffic. Having a legible street scape extends to all people, with the strategies implemented reflecting the needs of all community members, including those with disabilities and impairments. Signage, defined pathways and crossing points are all important components of the public domain. Increased pedestrian participation is a positive contributing factor to a safe public domain.

Signage location and distribution will be balanced across Waterloo South, whilst also applying consistency in form and style for ease of legibility. Regulating the signage of commerce in the public domain will deliver a consistent dialogue between the community and Waterloo South's commercial operators.



Fig. 73.306 City of Sydney Legible Sydney



Fig. 73.307 City of Sydney Legible Sydney



Fig. 73.308 City of Sydney Legible Sydney



Fig. 7.3.309 Indicative CGI: Water of Common facing east
Source: Virtual Ideas, 2020

