

Attachment C

Revised draft design guide

Waterloo Estate (South): Design Guide 2022 (Draft)



(Hassell 2022)

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1. Introduction

1.1. Citation and commencement

This guide is the Waterloo Estate (South) Design Guide (abbreviated from this point forward as 'Design Guide').

This Design Guide was adopted by the Department on XX XX 20XX and came into force on XX XX 20XX when the new local environmental plan for Waterloo Estate (South) came into effect.

1.2. The purpose of the Design Guide

The purpose of this Design Guide is to provide detailed flexible provisions for the redevelopment of Waterloo Estate (South).

1.3. Relationship to the Sydney LEP 2012, Sydney DCP 2012 and other policies

This Design Guide adopts the provisions of Sydney Development Control Plan 2012 (Sydney DCP 2012) in accordance with 3.43(3) of the Act. If there is an inconsistency between this Design Guide and the provisions of Sydney DCP 2012, this Design Guide prevails to the extent of the inconsistency.

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

- the *Sydney Local Environmental Plan 2012* (Sydney LEP 2012).
- any Waterloo Estate (South) Public Domain Plan prepared for the site; and
- any relevant policy adopted by the City of Sydney Council.

References in this Design Guide to Sydney LEP 2012 or Sydney DCP 2012 are also references to any replacement of those plans.

1.4. Relationship of the Waterloo Estate (South) to Waterloo Estate (Central) and Waterloo Estate (North)

Waterloo Estate (South) is the first of three precincts in the Waterloo Estate planned for redevelopment. It is envisaged the redevelopment of Waterloo Estate (South) will take place over a period of 10 years (up to 2032).

It is expected additional proposals to change the planning controls that apply to Waterloo Estate (Central) and Waterloo Estate (North) will be prepared at a later time.

1.5. Land to which this Design Guide applies

This Design Guide applies to all land in Waterloo Estate (South), referred to in this Design Guide as 'the site' or 'the precinct', shown at Figure 1 – Site identification map.

1.6. Interpretation

Where this Design Guide uses terms that are defined in Sydney LEP 2012, the definitions

in the LEP are adopted. Other terms used throughout this Design Guide are defined either in this DesignGuide or in Schedule 3 Glossary of Terms in Sydney DCP 2012.

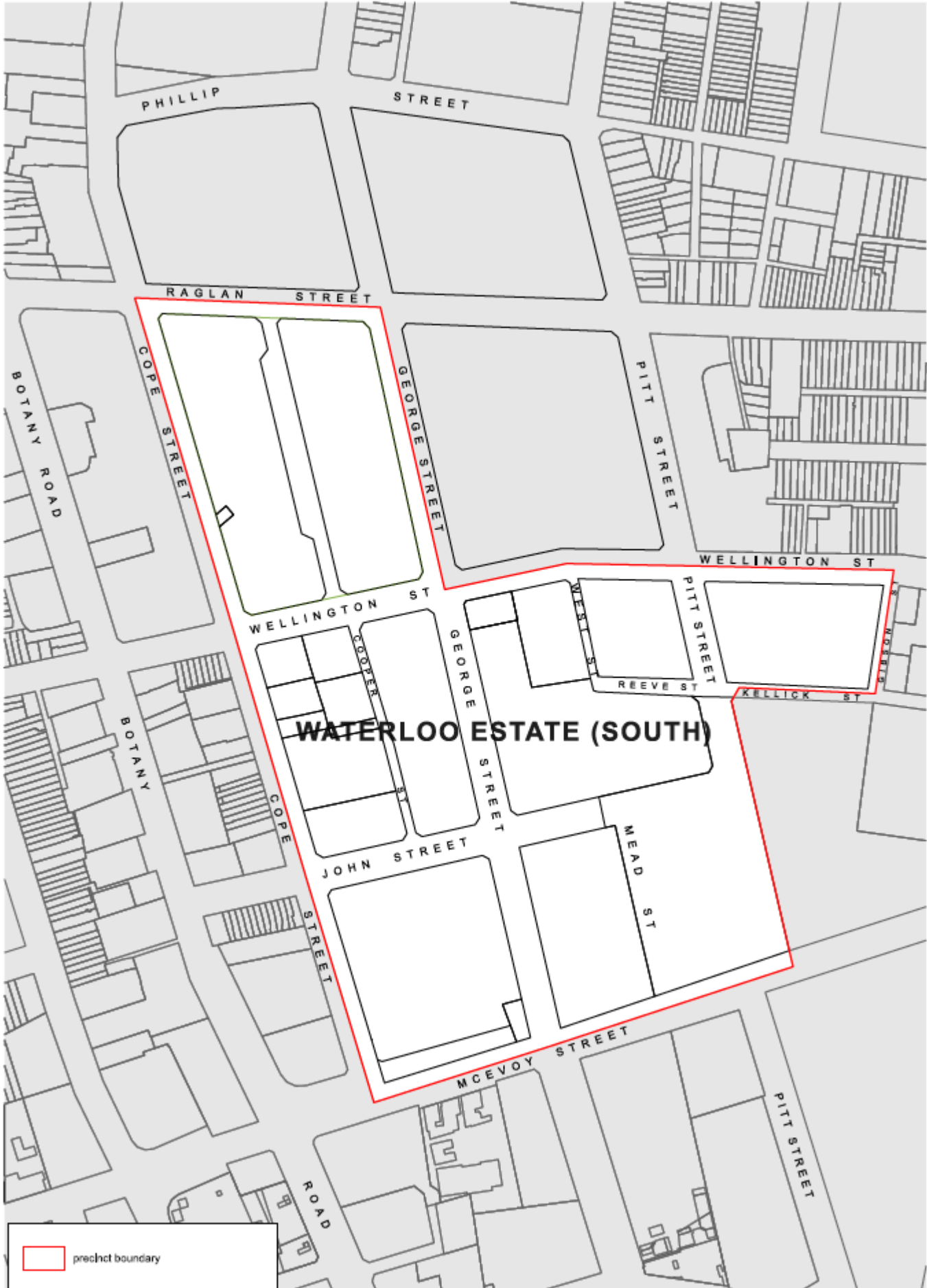
A reference in this Design Guide to any Australian Standard, legislation or policy includes areference to any amendment or replacement as made.

1.7. How to use this Guide

This Design Guide provides a hierarchy of objectives, design guidance and other provisions toguide future development in Waterloo Estate (South).

Any application for development is to demonstrate how it meets the objectives and guidance. The guidance sets clear and measurable benchmarks for how the objectives can be practically achieved. If it is not possible to satisfy the guidance, applications must demonstrate what other responses are used to achieve the objectives.

Figure 1: Site identification map



2. Locality statement

Waterloo's Traditional Custodians are the Gadigal of the Eora Nation. Aboriginal and Torres Strait Islander peoples have always lived in Waterloo. Redfern/Waterloo remains a place of cultural, social, economic and political significance for Aboriginal people and there is a strong and resilient Aboriginal and Torres Strait Islander community living in the Waterloo Estate today. It has become an entry point for people coming into the city for work opportunities, shelter and connections with community and family.

Through the 20th century the area housed working-class people of many backgrounds, and today the resident population is characterised by an ethnically diverse mix of low-income residents and ageing citizens, a high proportion of whom are long-term residents and have long-standing bonds to the area and community.

The early fine grain Victorian linear housing plots have been cleared and replaced over time, most notably during the 1960s and 1970s with large block amalgamation and major tower housing projects. This has resulted in an area distinct in form, scale and street pattern from the neighbouring areas.

The Estate plays an important role in the provision of social housing in the Sydney local government area and is home to a large existing community living in social housing.

A comprehensive redevelopment of the Waterloo Estate by the NSW Government is envisaged in response to the new transport hub at Waterloo Metro station. Waterloo Estate (South) is the first area within the Estate planned for redevelopment. Other areas, including Waterloo Estate (Central) and Waterloo Estate (North) are expected to be planned for redevelopment at a later stage.

The redevelopment will establish a local centre to capitalise on the increased density and connectivity of the locality and create a vibrant mixed-use neighbourhood with diverse housing choices, employment opportunities, local-serving commercial premises including retail, food and beverage, affordable amenities and space for community activities and cultural events.

Key changes in Waterloo Estate (South) and focal points for the neighbourhood include the creation of two public parks, new community facilities and the transformation of George Street into the neighbourhood's main street with local retail activity, including a supermarket to serve the local community.

An improved street network will be introduced to maximise legibility, permeability and accessibility for all. There will be an emphasis on making streets pedestrian and cycle friendly and street widths will accommodate multiple users and needs. Planned regional cycle paths will be completed through the locality.

A fine-grain lot pattern will be re-introduced, with flexible and varied lot sizes, allowing for a variety of separate apartment buildings in each block and a flexible approach to staging the redevelopment. The variety and quality of the architectural design and housing choices will cater to the diverse community of existing and future residents, providing a vibrant, attractive, environmentally sustainable and safe neighbourhood.

Waterloo Estate (South) will continue to play an important role in the provision of housing for people on low incomes in the local government area but will also include an equal amount of private market housing. A range of dwelling types are to be provided, including culturally appropriate housing, to support evolving family situations and structures.

Buildings will be generally arranged to form continuous street frontages around courtyards to achieve a clear delineation between public and private space.

The layout of new development will create high quality public spaces and its height and form will ensure good levels of amenity in the public domain, including comfortable wind conditions and

optimised solar access. Building height and form will respond to the hierarchy of streets and open spaces and to key view corridors both over and within the locality. New development will also respond appropriately to the form and setting of heritage items in the neighbourhood.

Future development, street layout and design will respond to the topography of the locality, which is distinctly different on either side of George Street. The steeply sloping topography to the eastern side requires careful layout of streets and walkways to ensure equitable access across the site.

Overall greening of this locality will provide benefits for sustainability, health and the management of urban heat. The majority of established and significant trees which define key streets and open spaces will be protected during redevelopment and integrated into the design of each development to ensure their longevity.

The public domain will be reinforced and celebrated through public art and cultural heritage interpretation.

Principles

- (1) Development shall achieve and satisfy the outcomes expressed in the locality statement and supporting principles.
- (2) The significant Aboriginal and Torres Strait culture and heritage of the area is to be acknowledged, respected and celebrated as an integral part of the development and placemaking.
- (3) A legible and permeable pattern of new streets, public open space and pedestrian and cycle connections is to be provided which responds to key connections within and surrounding the locality, stormwater management considerations, local traffic and access requirements and urban design principles.
- (4) George Street is to become the main street of the community, with continuous ground floor active frontage and awnings. It is to have a generous 10 metre setback on its eastern side to receive the afternoon sunlight.
- (5) Meet the community's recreation and wellbeing needs by providing one large park (over 2 hectares) adjacent to Waterloo Metro station, as the focus of community activity and containing a wide range of uses for the community's diverse needs, and one smaller park in the south of the locality for passive recreation.
- (6) Community facilities and uses are to be provided in appropriate locations containing a variety of uses and to be open day and night to contribute towards safety and activation.
- (7) High quality streetscapes, including new footpaths, tree planting and street furniture are to be provided. Sunlight is to be maximised to promote healthy street tree growth, for water infiltration and urban heat management.
- (8) Streets are designed to maximise safety of vulnerable road users, including pedestrians and people on bicycles.
- (9) The regional east-west and north-south cycle paths which cross at Wellington and George Streets are to continue through the locality, connecting the area to the city in the north; Green Square Town Centre in the south; Alexandria and Sydney parks in the west and Moore Park in the east.
- (10) Retail opportunities are to be provided on George Street, Wellington Street and Cooper Street near the large park; and along McEvoy Street.
- (11) The heights of buildings are to respond to the streets and parks on which they are located. Tower forms are to be limited to the southern part of the area near McEvoy Street, and to the corner of Kellick and Gibson Streets.
- (12) Heights of buildings are to minimise overshadowing in both the public and private spaces and are not to generate uncomfortable wind effects at street level. Awnings and colonnades are to be incorporated along retail frontages to increase pedestrian amenity and help to minimise sunlight, rainfall and wind impacts.

- (13) The impacts of noise and pollution along McEvoy Street are to be carefully addressed through careful design of buildings.
- (14) Existing views of the sky and how comfortably any proposed built form sits within the existing skyline is to be considered from key public vantage points in the surrounding area, including Redfern, Alexandria, and Waterloo parks; and the new large park.
- (15) A range of dwelling typologies and a diverse housing and tenure mix is to be provided to support a range of housing needs and living choices including evolving family structures and culturally appropriate housing.
- (16) Varied, innovative and high-quality design is to be delivered to ensure an environmentally sustainable, attractive and diverse neighbourhood. A flexible and varied lot pattern is to support this outcome.
- (17) Development is to be accompanied by high quality landscaping which delivers trees, greening and urban biodiversity and is supported by areas of deep soil.
- (18) Trees are to be retained where ever possible throughout the precinct, particularly significant trees, including those along McEvoy Street, George Street, and at the corners of the north eastern street block bound by Wellington, Kellick, Gibson and Pitt Streets.
- (19) Excellent ecologically sustainable development outcomes are to be achieved to enable a low-carbon precinct which is resilient against the impacts of climate change (including flooding and urban heat) and enables efficient use of resources by future residents.
- (20) A sense of belonging and community is to be fostered, where both long-term residents and new generations can see themselves and feel they belong.
- (21) Private spaces, including communal open space, will be designed to supplement the public domain with each apartment building having its principal usable communal open space on the roof. Each group of buildings will share communal courtyard space.

3. Urban strategy

Objectives

- (a) Provide a cohesive urban strategy for the redevelopment of Waterloo Estate (South).

Provisions

3.1. Urban Strategy

- (1) Development in Waterloo Estate (South) is to be in accordance with Figure 2: Waterloo Estate (South) Urban Strategy and the Urban Principles described below.

3.1.1. Principle 1 – Diverse land uses to support a diverse community

- (1) Capitalise on the proximity of Waterloo Metro station by creating a vibrant mixed-use neighbourhood that blends residential, retail, commercial, community and recreational uses.
- (2) Provide a range of dwelling types and housing choices to accommodate mixed tenure development that support a range of households and living choices.
- (3) Development will respond to the existing surrounding local character and its history, particularly its significance as an urban meeting place for Aboriginal and Torres Strait Islander peoples.
- (4) Design non-residential spaces to accommodate a range of commercial and retail activities, that may change over time in response to community needs.
- (5) Meet the objectives of the City of Sydney Local Strategic Planning Statement and Housing Strategy by ensuring appropriate amounts of residential floor space are allocated as affordable housing dwellings.
- (6) Ensure alignment with the NSW Government's Communities Plus policy.
- (7) Retail spaces and local services need to be provided which can meet the local daily shopping needs of a dense residential population.
- (8) George Street is to become the focal point of pedestrian and commercial activity, and will have continuous ground level retail, commercial and community uses. This facilitates a main retail street environment that contributes to the identity, activation and vibrancy of the area.
- (9) Provide additional retail opportunities in a continuous retail frontage along McEvoy Street with retail ground floor to tower buildings.

3.1.2. Principle 2 - The right type, height and scale of buildings for Waterloo

- (1) Building heights will respond to the hierarchy of streets and open spaces with taller buildings facing parks and George Street.
- (2) Building forms, their separation, and orientation will promote sunlight into streets, open sky views from the streets, and will minimise wind effects.
- (3) Tower forms are limited to the southern part of the precinct near McEvoy Street, and the corner of Kellick and Gibson streets, to minimise overshadowing impacts to open space and surrounding residential properties.
- (4) To ensure an appropriate setting for heritage items on Cope Street, heights are limited to two storeys between Cope and Cooper streets closer to these items.
- (5) Multiple buildings along each street block will promote architectural diversity.

- (6) The built forms and land uses will be located to manage noise, pollution (particularly along McEvoy Street) and other potential land use conflicts as best as possible.
- (7) Development intensity will be spread evenly across the precinct to eliminate very high peaks of development and provide equity between sites.
- (8) All residential development, irrespective of tenure, will be of high quality.

3.1.3. Principle 3 - Streets prioritise pedestrians and cyclists.

- (1) Existing large street blocks will be reduced to form a finer grained street network
- (2) The precinct includes a permeable network of streets, pedestrian links, public open space and cycle connections that:
 - (a) respond to key connections within and surrounding the locality;
 - (b) accommodate multiple users and needs;
 - (c) are accessible for people of all abilities;
 - (d) maximise opportunities for walking and cycling;
 - (e) maximise the safety of vulnerable users;
 - (f) require slow traffic speeds;
 - (g) respond to stormwater management considerations; and
 - (h) respond to local traffic and access requirements.
- (3) George Street is the main street of the community, with continuous ground floor retail frontage and awnings and is to provide opportunity for a large supermarket.
- (4) Maintain and expand the City's regional bike network by maintaining the regional north-south connection along George Street and implementing a new regional east-west connection along Wellington Street.
- (5) Street orientation and width is to maximise sunlight at street level.
- (6) Streets are to provide high quality streetscapes, new footpaths, tree planting and street furniture.

3.1.4. Principle 4 - Public parks and community facilities will provide for the community's diverse needs

- (1) A large main park of over 2 hectares, adjacent to the new Waterloo Metro Station, will be the focus of community recreational activity.
- (2) The main park will be relatively flat; open and welcoming; provide opportunity for a range of recreational opportunities; active day and night and highly accessible to public transport, cyclists and pedestrians.
- (3) A smaller park is to be provided in the south of the precinct on flat land, will form a square and be a place for smaller scale but similarly diverse activity.
- (4) Community facilities will be provided close to active public space.

3.1.5. Principle 5 – A green, low-carbon precinct that is responsive to climate change

- (1) Retain and protect established trees, and plant new trees to provide shade and good amenity.
- (2) Landscaping is to assist in the management of stormwater quality.
- (3) Create a strong and consistent landscape character throughout the precinct.
- (4) To ensure that buildings are resilient and sustainable, their width and floorplates are sized to fit the lots and are ideal for natural cross ventilation and daylight.

Figure 2: Waterloo Estate (South) Urban Strategy



4. Staging and implementation

Waterloo Estate (South) is the first of three precincts in the Waterloo Estate planned for redevelopment. It is envisaged the redevelopment of Waterloo Estate (South) will take place over a period of around 10 years or longer (up to about 2032).

While the Estate will continue to provide an important source of social housing in the local government area, some sites that are currently owned by the Land and Housing Corporation may be sold or leased to developers to build private market housing and to community housing providers to provide social and/or affordable housing.

The redevelopment will result in a substantial increase in the number of people living on the Estate and a careful approach to staging is required to ensure it is coordinated and delivered in an orderly manner. It is essential the required public infrastructure, facilities and services that are needed to support the population are provided as the site is developed.

Clause 4.4 and associated maps in Sydney LEP 2012 facilitate up to approximately 265,000 square meters of floor area across sites owned by the Land and Housing Corporation (including both residential and non-residential land uses). This is inclusive of any design excellence process, where a 10% for floor space bonus may be granted for design excellence, with the design excellence process paying particular attention to:

- tree retention
- solar accessibility, both to the public realm, and to apartments
- wind amelioration, particularly at tower sites, but across the project area generally
- variation in form, and particularly street wall height, in order to create diversity of character
- the impacts of external noise and pollution are minimised through careful siting and layout of building including apartment layout, acoustic treatment to ensure indoor comfort and amenity for buildings along McEvoy Street:

Sydney LEP 2012 requires a Stage 1 (concept) development application to resolve the following matters prior to proceeding to detailed development applications:

- the provision of infrastructure, including roads, open space, through-site links and community facilities;
- the subdivision of land into new street blocks;
- flood mitigation measures;
- the distribution of floor space and land uses across the site having regard to amenity, and particularly to tree retention and solar accessibility;
- the staging of development;
- achieving design excellence;
- addressing of wind and acoustic impacts;
- achieving ecologically sustainable development; and
- other matters which in the opinion of the consent authority should be addressed to meet the requirements of any design guidelines that apply to the land.

This Section is to guide the allocation of floor area in the Stage 1 development application, based on the building envelopes in this Design Guide. A Stage 1 development application is required for the whole area.

Objectives

- (a) Ensure the redevelopment of Waterloo Estate (South) is planned and delivered in an orderly manner.
- (b) Ensure the delivery of public infrastructure, including utilities, parks, streets, public art and community facilities as the population increases.
- (c) Ensure stormwater and flood management works are planned and implemented prior to works for the construction of new buildings so that land is made suitable for its intended use and adjacent areas are not adversely affected.
- (d) Ensure that the development of sites can occur independently to the greatest extent possible.
- (e) Establish new street blocks that promote permeability.
- (f) Ensure a generally even distribution of floor area across the site, and with towers located along McEvoy Street and at the corner of Kellick and Gibson Streets.
- (g) Ensure floor space and land uses are allocated across development lots to deliver social and affordable housing, non-residential development and community facilities within the locality.

Provisions

4.1. General

- (1) New street blocks are to be established generally in accordance with *Figure 3: Street blocks and building lots*.
- (2) New building lots are to be established generally in accordance with *Figure 3: Street blocks and building lots*, with each street block to be generally no less than:
 - (a) 8 building lots on street block 2;
 - (b) 6 building lots on street block 3;
 - (c) 7 building lots on street block 4;
 - (d) 2 building lots on street block 5;
 - (e) 2 building lots on street block 6;
 - (f) 4 building lots on street block 7;
 - (g) 9 building lots on street block 8;
 - (h) 5 building lots on street block 9;
 - (i) 5 building lots on street block 10.
- (3) Building lots are to facilitate:
 - (a) variety in street wall height to promote solar access to adjacent apartment buildings;
 - (b) generally consistent street setbacks clearly define the public realm and street interface;
 - (c) diversity in architectural character and building facades;
 - (d) multiple entries from buildings onto streets;
 - (e) a regular and continuous building rhythm (with each half block being divided into 2 or 3 lots); and
 - (f) the sharing of basement car parking.
- (4) All building lots are to have frontage to, and be accessible from, a public road.
- (5) Flood and stormwater management solutions and required decontamination and remediation works are to be co-ordinated across each stage of development so that:
 - (a) land is suitable for its intended use prior to works commencing; and
 - (b) development of a building lot does not unreasonably impact on the ability of other proximate building lots to develop.
- (6) New streets and street widenings are to be dedicated to Council, as identified in Figure 4: Land dedication and easements, and any required street upgrades are to be provided in conjunction with adjacent development.
- (7) Public open space is to be embellished and dedicated to Council, as identified in Figure 4: Land dedication and easements.

- (8) Through-site links are to be provided as an easement on title.
- (9) Temporary community facility options are to be provided for the development stages to meet community needs while permanent facilities are being developed. Temporary facilities are not to remain as permanent facilities unless designed appropriately.

Figure 3: Street blocks and building lots



Figure 4: Land dedications and easements



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4.2. Stage 1 development application

- (1) A Stage 1 (concept) development application is required for land that is owned or managed by the Land and Housing Corporation within Waterloo Estate (South) as of 1 January 2021.
- (2) A Stage 1 (concept) development application is to:
 - (a) be informed by a detailed survey;
 - (b) subdivide existing landholdings to establish:
 - i. streets, through-site links and parks, in accordance with Figure 4: Land dedication and easements; and
 - ii. street blocks and building lots, in accordance with Figure 3: Street blocks and building lots;
 - (c) identify how the floor area is to be distributed across street blocks and building lots, including any floor space allocated for social housing, affordable housing, community facilities, childcare facilities, health care facilities and other non-residential uses. This allocation is to be generally in accordance with Table 1: Indicative floor area distribution on LAHC owned land, by street block, which provides an indicative allocation of floor space available under Sydney LEP 2012 across Waterloo Estate (South);
 - (d) resolve any flooding and contamination issues on the site, identifying any necessary flood and stormwater management works and remediation works and required contamination works to ensure flood and contamination risks are appropriately managed for new development, adjacent sites within the Estate, and in adjoining localities;
 - (e) provide an indicative staging plan and delivery sequence for development and the provision of public space, local infrastructure, flood and stormwater management works and remediation works;
 - (f) provide an updated Design Excellence Strategy if needed, that is, if the proposed pattern of subdivision, staging or built form distribution does not follow that provided by this Design Guide;
 - (g) provide a Preliminary Public Art Strategy to coordinate public art across the precinct;
 - (h) include a landscape plan that:
 - i. allocates the total quantum of deep soil required for each street block amongst the building lots;
 - ii. identifies significant trees that are required to be conserved and those that are proposed to be removed;
 - (i) address any other matters, including wind and acoustic matters, required to be resolved in a Stage 1 development application by this Design Guide, by Sydney DCP 2012 or Sydney LEP 2012.

Table 1. Indicative floor area* distribution on LAHC owned land, by street block

Streetblock		Estimated street block area**	Indicative residential floor area	Indicative non-residential floor area
1		20,013sqm***	None	None
2****	2B	1,225sqm	None	None
	2D	1,691sqm	6,068sqm	None
3	3A	2,955sqm	15,193sqm	2,262sqm
	3B	2,945sqm	13,391	2,257sqm
4	4B	1,315sqm	3,437sqm	661sqm
	4C	4,927sqm	17,390sqm	3,090sqm
5	5A	3,470sqm	16,235sqm	None
6	6A	3,322sqm	15,167sqm	None
7	7A	3,266sqm	20,588sqm	None
	7B	3,400sqm	11,598sqm	None
8	8A	4,450sqm	34,961sqm	2,450sqm
	8B	1,928sqm	7,193sqm	None
	8C	1,789sqm	7,975sqm	510sqm
	8D	996sqm	None	947sqm
9	9A	3,623sqm	26,821sqm	1,548sqm
	9B	3,653sqm	13,092sqm	1,994sqm
10	10A	3,557sqm	26,420sqm	1,264sqm
	10B	2,947sqm	10,628sqm	None
Total		71,472sqm	246,157sqm	16,983sqm

* Floor area estimates provided assume all floor space available under Clause X.X of the Sydney LEP 2012 is being utilised but does not include additional floor area that may be achieved where the development demonstrates design excellence under Clause 6.21 of the Sydney LEP 2012

** Street block areas are indicative and ultimately determined by a detailed survey (to be provided with a Stage 1 (concept) development application) showing minimum dimensions for public space are being achieved.

*** Includes land for open space and amenities

**** Includes approximately 370sqm of floor area for the retention of the heritage listed terraces at 229-231 Cope Street

5. Land use

Objectives

- (a) Contribute to the health, wellbeing and quality of life of residents.
- (b) Capitalise on the proximity of the precinct to the Waterloo Metro station by establishing a new local centre in the City's hierarchy of centres.
- (c) Ensure a mix of uses is provided in the precinct, incorporating residential uses, recreational spaces, as well as a range of retail, commercial, creative, enterprise and community spaces, and local services.
- (d) Ensure continuous ground level retail, employment and community uses on George Street to facilitate a main street environment that will contribute to the identity, activation and vibrancy of the area and create a place that is a focus for the local community.
- (e) Protect residential development from noise and pollution generated by busy streets with non-residential uses on ground levels.
- (f) Ensure a mix of dwelling sizes and tenures are provided, and that housing is flexible, encourages diversity, and caters for the needs of the existing and future resident population.
- (g) Ensure all residential development, irrespective of tenure, is of similar high quality.

Provisions

5.1. Location of land uses

- (1) The distribution of land uses in Waterloo Estate (South) is to be generally consistent with Figure 5:Land use.

5.2. Residential and mixed-use development

Definitions

Social housing has the same meaning as in the *Residential Tenancies Act 2010*.

Affordable housing has the same meaning as the *Environmental Planning and Assessment Act 1979*.

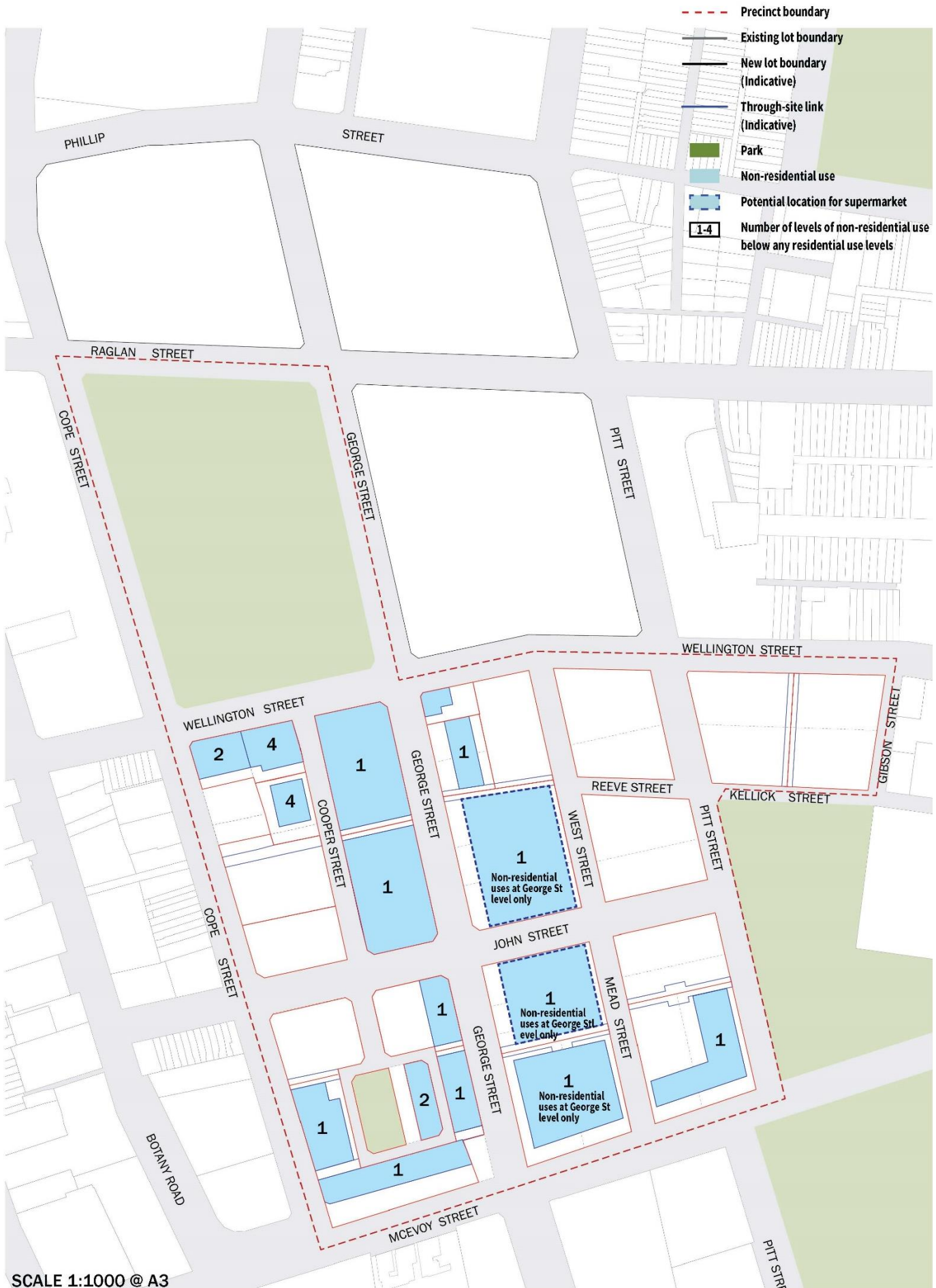
Aboriginal and Torres Strait Islander housing is housing occupied by an Aboriginal or Torres Strait Islander households.

Culturally appropriate housing is housing that is designed in consultation with the occupier/s so that it is suited to their specific needs.

5.2.1. Tenure and dwelling mix

- (1) This Section is to be read in conjunction with the 'Flexible housing' and 'Dwelling mix' requirements in the Sydney DCP 2012.

Figure 5: Land use



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5.2.2. Social and affordable housing

- (1) Social and affordable housing is to be provided in accordance with the following principles:
 - (a) social and affordable housing is to be provided so that a socially diverse residential population, representative of all income groups, is created;
 - (b) affordable housing is to be made available to a mix of households on very low to moderate incomes and rented at no more than 30% of gross household income;
 - (c) affordable housing is to be used for affordable rental housing in perpetuity;
 - (d) social and affordable housing is to be constructed to a standard which, in the opinion of the Consent Authority, is consistent with or better than other dwellings in Waterloo Estate (South); and
 - (e) affordable housing is to be owned and/or managed by government or a Tier 1 or Tier 2 community housing provider.
- (2) Where built by a developer, other than that which will be the end owner and/or manager of the social or affordable housing, the end owner and/or manager is to be consulted in the design of the building and preparation of any development application.
- (3) Where required by any end owner and/or manager of social and affordable housing, the following is to be incorporated:
 - (a) communal space for resident meetings, training and events and the like;
 - (b) office space for the housing provider; and
 - (c) any other non-residential space that may be required.

5.2.3. Housing for Aboriginal and Torres Strait Islander peoples

- (1) 10% or more of the total number of affordable housing dwellings provided in Waterloo Estate (South) is to be provided for Aboriginal and Torres Strait Islander housing.
- (2) The proportion of Aboriginal and Torres Strait Islander housing dwellings in social housing in Waterloo Estate (South) as of 1 January 2021 is to be maintained or increased.
- (3) Aboriginal and Torres Strait Islander housing is to be culturally appropriate housing.
- (4) The design of Aboriginal and Torres Strait Islander housing is to be informed by an Aboriginal or Torres Strait Islander architect with experience in designing culturally appropriate housing.

5.3. Retail, commercial and other non-residential uses

5.3.1. General

- (1) Non-residential uses may be provided in locations not identified for non-residential uses, however residential uses are not to replace non-residential uses in locations identified for non-residential uses.

5.3.2. Hierarchy of centres, City South

- (1) This Section is to be read in conjunction with the provisions relating to the 'Hierarchy of centres and retail in City South' in the Sydney DCP 2012.
- (2) George Street, Waterloo, that traverses Waterloo Estate (South), is to be established as a local centre in the 'Hierarchy of centres and retail in City South'.

5.3.3. George Street

- (1) George Street is to be established as the main retail street in Waterloo Estate (South) and a focal point for the community. A range of retail, commercial, creative, enterprise and community spaces, and local services are to be provided to meet the local daily shopping needs of a dense residential population.
- (2) George Street is to:

- (a) comprise diverse uses and spaces to encourage activity and social interaction;
 - (b) provide a broad retail offering that services the need of the local community;
 - (c) have ground floor premises to suit a diverse range of retail, community, cultural, commercial and light industrial uses; and
 - (d) have a generous footpath which includes areas of shade, sun, deep soil trees, street planting and outdoor dining.
- (3) A minimum of one supermarket, of no less than 2,000 sqm, is required to front George Street in one of the locations identified on Figure 5: Land use.
 - (4) The supermarket is to activate the street so that it provides co-location benefits for smaller retailers.
 - (5) A wide range of other retail uses are to be provided to support the local area, including, but not limited to specialty stores, homewares, convenience retailers, fresh food, cafes, restaurants and bars.

5.3.4. Active frontages

- (1) Active frontages are to be provided generally in accordance with Figure 6: Active frontages.
- (2) Provisions relating to 'Active frontages' in Sydney DCP 2012 apply in Waterloo Estate (South).
- (3) Retail premises and food and drink premises are to open on to public space and/or through-site links.

Figure 6: Active frontages



6. Community facilities and services

Sydney LEP 2012 provides incentives to provide floor space for 'community facilities' in Waterloo Estate (South). While the land use definition in the LEP is broad, this Section is provided to describe some of the community facilities and services that have been identified as being required to support the future residents of Waterloo Estate (South).

Many of the community facilities and services will operate as commercial, not-for-profit or state government led operations, for example childcare or healthcare facilities. These facilities or services may be accommodated in residential or mixed-use buildings, and others may be provided in purpose-built buildings in the precinct.

Objectives

- (a) Ensure community facilities and services are provided within the precinct, commensurate with the population.
- (b) Ensure flexibility in the design and use of space for community facilities and services at full build out, so they can be adapted as needs change over time.
- (c) Ensure non-residential space in the precinct is suitable for a range of purposes, including community facilities and services.
- (d) Contribute to the identity, equity, activation and accessibility of the precinct, by locating community facilities and services on George Street.
- (e) Ensure purpose-built community facilities provided in the precinct are designed in close consultation with the community and future operators.

Provisions

6.1.1. Community facilities and services – identified need

- (1) Floor space identified in Sydney LEP 2012 for 'community facilities', 'health facilities' or 'centre-based child-care facilities' is to be provided in the following way, or in accordance with any other community facilities and services need analysis that is provided by the landowner, to the satisfaction of the Consent Authority:
 - (a) 2,000 – 2,500 sqm of multipurpose community facility space in one or more buildings that may include multipurpose space, meeting rooms, library link, recreational space and creative spaces and that subject to agreement may be owned and operated by Council;
 - (b) Approximately 600 sqm childcare centre providing for about 45 places, including subsidised spaces, and to be owned and operated by an organisation other than Council; and
 - (c) Approximately 2,000 sqm healthcare facility for the purposes of a Health One or similar service and to be owned and operated by an organisation other than Council.
- (2) Where a community facilities and services needs analysis is provided, it must:
 - (a) consider community facilities or services otherwise provided or planned in the area;
 - (b) consider the suitability and the capacity of other community facilities or services otherwise provided or planned in the immediate area to accommodate the needs of the existing and planned community in Waterloo Estate (South); and
 - (c) provide justification the proposed community facilities and services provide a public benefit, and not being proposed at the expense of another higher priority facility or service.

- (3) The provision of additional community facilities and services is encouraged where need is identified and where there is opportunity to accommodate additional floor area.

7. Public space

Objectives

- (a) Ensure a variety of public space that is safe, accessible for all people, and encourages the development of social connections and community.
- (b) Ensure public space seamlessly integrates trees, landscaping, stormwater and water sensitive urban design (WSUD) with the needs of pedestrians, cyclists and vehicles.
- (c) Ensure a legible, open and permeable street layout and pedestrian and cycle network that provides connections within the precinct, to the adjacent Metro station, parks and other neighbouring areas.
- (d) Maximise opportunities to expand the urban canopy in public space.
- (e) Ensure the health and longevity of trees and other plants and prioritise high and moderate value trees for retention.
- (f) Ensure public space provides a pleasant, comfortable and welcoming environment, with sunlight, greenery, places to sit, and where noise from traffic is minimised.
- (g) Ensure a consistent and high-quality design approach for public space to promote a sense of place.
- (h) Ensure a consistent and integrated approach to public art in public space to establish a sense of place unique to Waterloo Estate (South).
- (i) Establish a large park to accommodate a broad range of uses, events, experiences and activities, both active and passive and cater to the community's needs.
- (j) Establish a small park for passive recreation, social interaction opportunities and small-scale community events.
- (k) Establish a street layout which supports sustainable travel behaviours, prioritising safety for pedestrians and cyclists with low traffic speeds and traffic calming.
- (l) Establish a street layout which is oriented to maximise solar access to parks, streets and building frontages.
- (m) Continue the regional active transport links along George and Wellington Streets.
- (n) Establish an active and level main street on George Street as the social and retail of the precinct.
- (o) Mitigate the impacts of heat in the urban environment and reduce energy costs through lowering the ambient temperature.
- (p) Assist in climate change mitigation and adaptation, carbon dioxide absorption, air quality improvements and stormwater management and flood mitigation.
- (q) Protect existing and new trees through the careful design and siting of overhead cabling and other utilities (above and below ground).

Provisions

7.1. General

- (1) Public space, including public open space and the street, pedestrian and cycle network, is to be designed in accordance with the City of Sydney Waterloo Estate (South) Public Domain Concept Plans.
- (2) Where required by Council, public space is to be provided and dedicated to Council in the locations identified in Figure 4: Land dedications and easements.
- (3) Public space is to be designed in accordance with Crime Prevention Through Environmental Design (CPTED) requirements.
- (4) Development in public space is to be consistent with any adopted Plan of Management or

- policy of Council.
- (5) Any building or installation within public space is to consider and limit potential land use conflicts with surrounding future development and minimise impacts on the amenity of surrounding buildings and the public domain including:
 - (a) solar amenity;
 - (b) the function of the place;
 - (c) pedestrian and cyclist movements; and
 - (d) visual connections.
 - (6) Public space is to:
 - (a) be activated or have passive surveillance to create interest and ensure safety of users;
 - (b) incorporate water sensitive urban design features;
 - (c) provide a variety of spaces including exposed, sheltered, sunny, shaded, intimate and expansive;
 - (d) retain existing significant trees and incorporate opportunities for new planting and tree canopy;
 - (e) locate utilities services underground, away from street trees and associated deep soil;
 - (f) locate any above ground utility service requirements in the furniture zone to not obstruct the safe and easy movement of people on footpaths;
 - (g) incorporate street furniture and facilities including public seating, lighting, water bubblers and garbage bins in furniture zones;
 - (h) meet the wind criteria requirements specified elsewhere in this Design Guide;
 - (i) incorporate visual links and signage to the Metro station;
 - (j) address in the design and execution any significant changes in level caused by the natural topography to ensure accessibility is maximised; and
 - (k) be finished in accordance with Reduced Levels, cross and longitudinal sections and construction specifications to be supplied by the Consent Authority at development application stage.
 - (7) Overhead power lines, communication cables and utility services are to be undergrounded within all streets servicing the precinct. All services are to be designed and installed in a manner that does not restrict future tree planting.

7.2. Public open space (parks)

- (1) Provisions relating to 'Public open space' in the Sydney DCP 2012 apply to public open space in Waterloo Estate (South).
- (2) Where required by Council, public open space is to be designed in accordance with:
 - (a) the standards set out in *Table 2: Public open space requirements*;
 - (b) the City of Sydney Public Domain Manual (or any replacement of that document); and
 - (c) any other relevant City of Sydney Design Codes and Technical Specifications as they apply from time to time.
- (3) Landscaping and design of public open space is to be of high quality, creating interest, consistency and character through thoughtful site planning, adaptable spaces, generous amenities, extensive canopy tree planting, biodiverse planting and habitat provision, well integrated public art, and quality materials and furniture.
- (4) Development is to ensure that for each park at least 50% of the area receives a minimum 4 hours of sunlight at the winter solstice between 9am and 3pm.

Table 2. Public open space requirements

Public open Space	Size	Provision
<p>Local Park – Large park</p>	<p>No less than 20,000 sqm (excluding the land currently identified as Cooper Street and the adjoining City-owned car parking area)</p>	<p>The large local park, bound by George, Wellington, Cope and Raglan streets, is to:</p> <ul style="list-style-type: none"> (a) close and incorporate Cooper Street and its adjoining car parking area; (b) provide pedestrian access paths towards the two entries of the adjacent new metro station; (c) include predominantly level land for access for all people; (d) accommodate a range of active and passive activities attractive to a range of ages; (e) incorporate a variety of seating and gathering zones; (f) conserve existing significant trees; (g) include predominantly deep soil for substantial planting and shade; (h) integrate incidental play opportunities throughout; (i) recognise and celebrate the Aboriginal and Torres Strait Islander cultural values of the area; (j) include amenities and space needed for park maintenance; (k) provide opportunity for large scale community gatherings; and (l) be designed in consultation with the community.
<p>Local Park – Small park</p>	<p>No less than 1,000 sqm</p>	<p>The local park, located at the centre of the block bound by Cope, John, George and McEvoy Streets, is to:</p> <ul style="list-style-type: none"> (a) be used predominantly for passive recreation; (b) provide an area of respite from traffic noise and activity; (c) include predominantly level land for access for all people; (d) incorporate seating and gathering zones, with opportunities for impromptu interaction; (e) include deep soil planting and conserve existing significant trees; (f) relate to the adjoining community building and provide opportunities for small-scale community gatherings; (g) be designed in consultation with the community; and (h) be located and orientated to ensure 50% of its area receives four hours sunlight in mid-winter, over and above the requirements of Sydney DCP 2012.

7.3. Street, pedestrian and cycle network

7.3.1. General

- (1) Provisions relating to ‘Streets’ and ‘Pedestrian and bike networks’ in the Sydney DCP 2012 apply in Waterloo Estate (South).

7.3.2. Street network

- (2) The street is to be designed generally in accordance with:
- (a) the standards set out in Table 3: Indicative street specifications,
 - (b) Figure 7: Street network and Figure 9: Access and circulation.
 - (c) the indicative street cross-sections at Figures 8(a) – 8(h);
 - (d) the City of Sydney Public Domain Manual (or any replacement of that document); and
 - (e) the City of Sydney Streets Design Code and Technical Specifications as they apply from time to time.

Table 3. Indicative street specifications

Street	Reservation Width	Vehicle Lane Widths	Cycle Paths	Footpath and furniture zone widths
George Street Two way	As existing - approximately 20m	As existing	As existing separated dual direction cycleway	As existing
Wellington Street Two way	As existing - approximately 20m	As existing - adjusted to accommodate cycleways	Separated one direction cycleways on each side of the traffic lanes	As existing
Raglan Street, Cope and Pitt Street (existing part of Pitt Street) Two way	As existing - approximately 20m	As existing	n/a	As existing
Pitt Street extension (south of Kellick Street) Two way	15m	Travel lanes: 2 x 2.9m Parking lane: 2.2m on the east side.	n/a	3m west side and 2m east side adjacent to Waterloo Park with 1m furniture zones between the footpaths and roadway
John Street Two way	As existing	As existing	n/a	As existing
John Street – pedestrian only	Approximately 20m to match the	n/a	n/a	A series of switchback ramps

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(between Mead/West and Pitt streets) No vehicular traffic	width of the existing John Street			accessible to people of all abilities and with integrated landscaping
Reeve, Kellick and Gibson streets Existing one way	As existing	As existing	n/a	As existing
Cooper Street north (between John and Wellington streets) One way	12m	Travel lane of 2.9m Parking lane of 2.1m (west side), including tree planting	n/a	2 x 3m with 1m furniture zone on the east side between the footpath and roadway
West Street (widened and new) One way	14m	Travel lane of 3m Parking lane of 2.1m (west side)	n/a	2 x 3m with 1.45m furniture zones between the footpaths and roadway
Mead Street Two way yield street	14m	Travel lane of 3.2m Parking lane of 2.1m (east side)	n/a	2 x 3m with 1.35m furniture zones between the footpaths and roadway
Cooper Street South (south of John Street) Shared Zone (two way traffic)	12m, including 9m shared zone with 1.5m landscape zone on both sides	Shared two way traffic, car parking, pedestrian area, landscaping and furniture	n/a	Pedestrian and cycle movement prioritised
Cooper Place (extension of Cooper Street encircling the small park and adjoining community lot) Shared Zone (one way traffic)	6m shared zone	Shared one way traffic, car parking, pedestrian area, landscaping and furniture	n/a	Pedestrian and cycle movement prioritised

Figure 7: Street network



SCALE 1:1000 @ A3

Figure 8(a): STREET CROSS SECTION – George Street

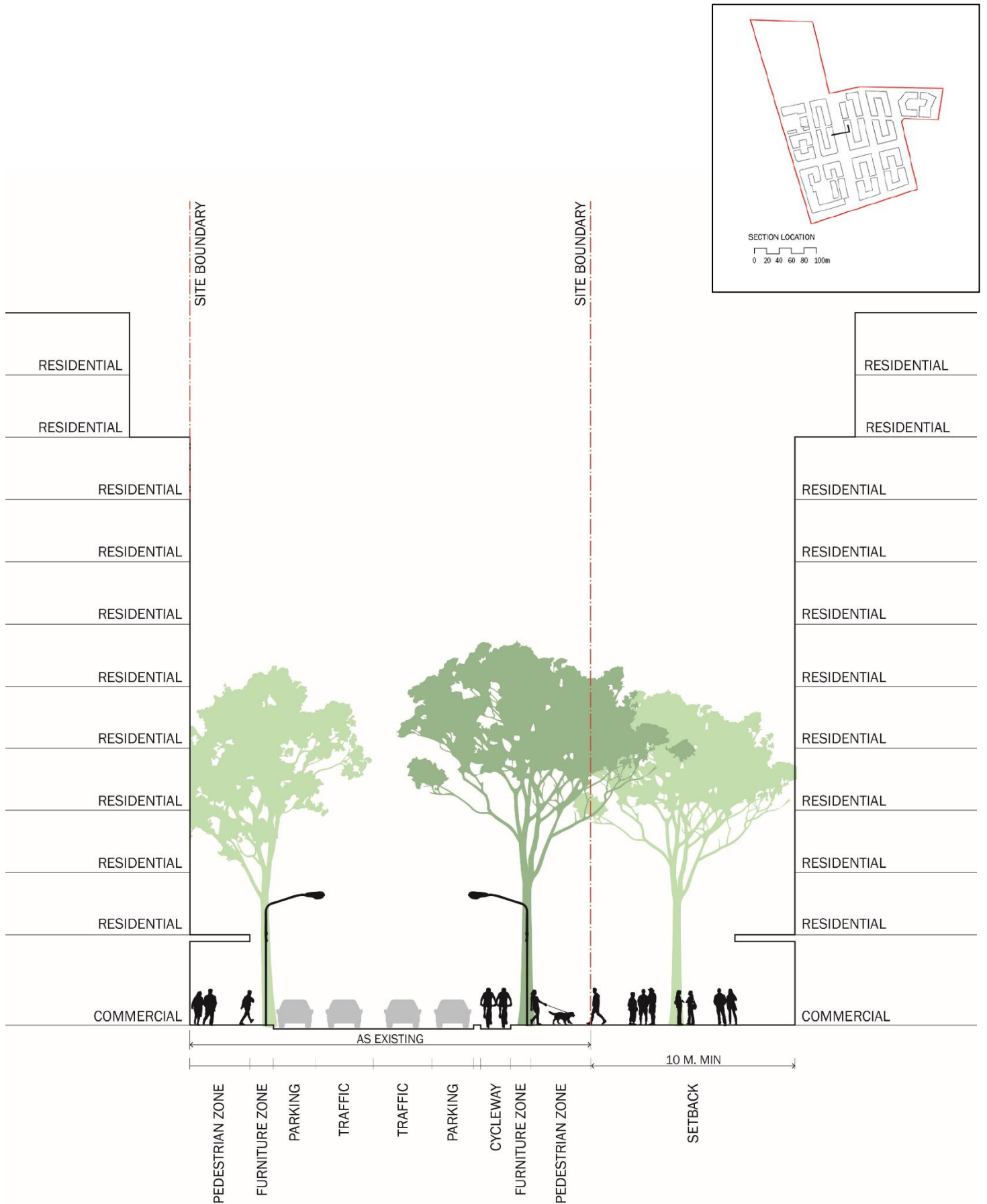


Figure 8(d): STREET CROSS SECTION – Cooper Street north

STREET CROSS SECTION - COOPER STREET NORTH

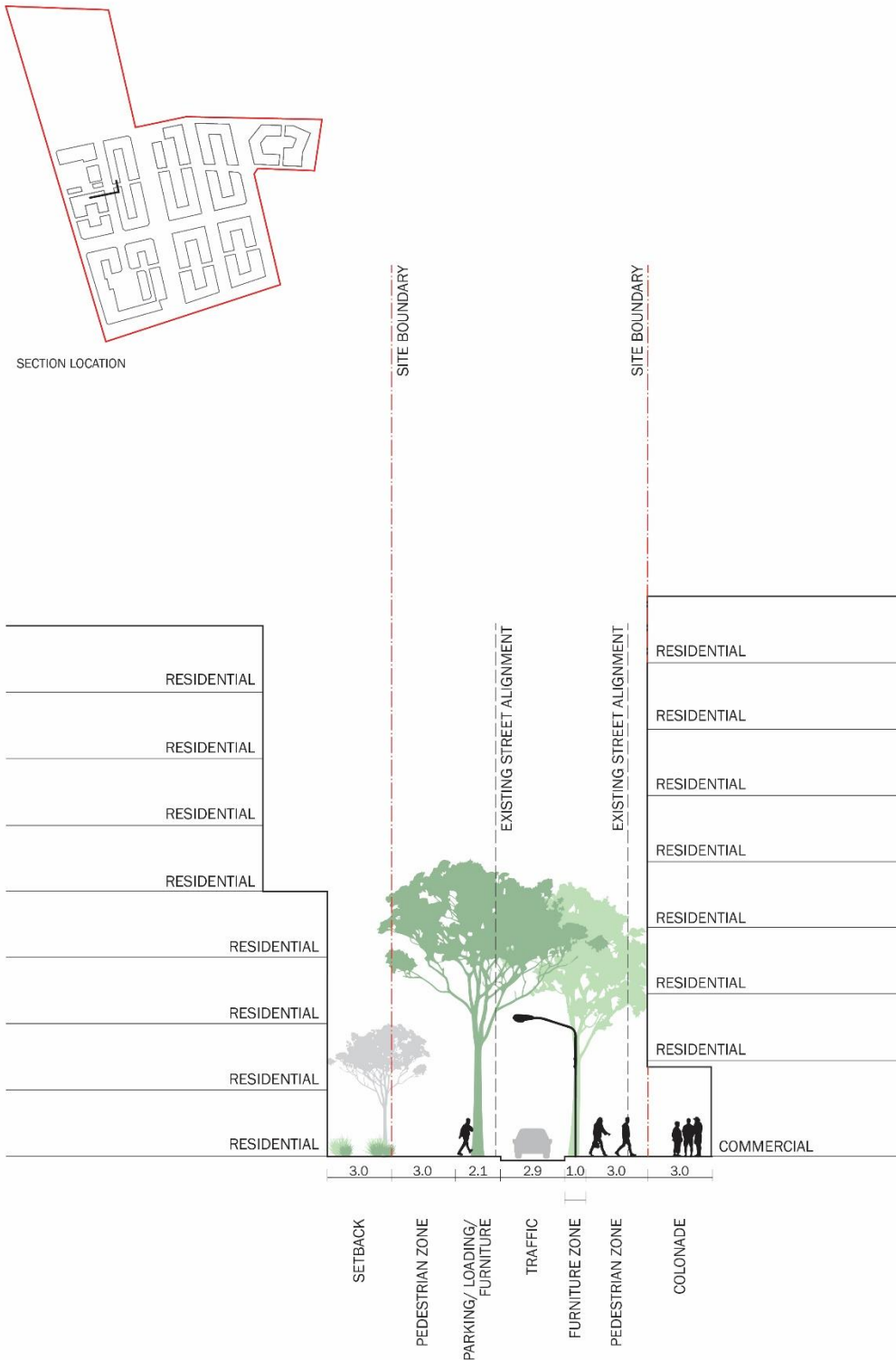
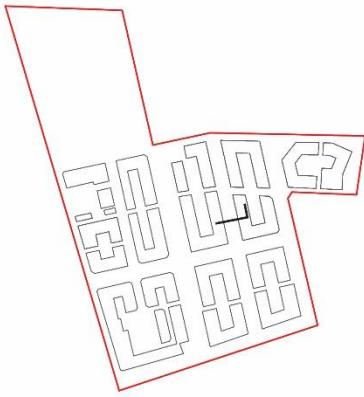


Figure 8(e): STREET CROSS SECTION – West Street

STREET CROSS SECTION - WEST STREET



SECTION LOCATION

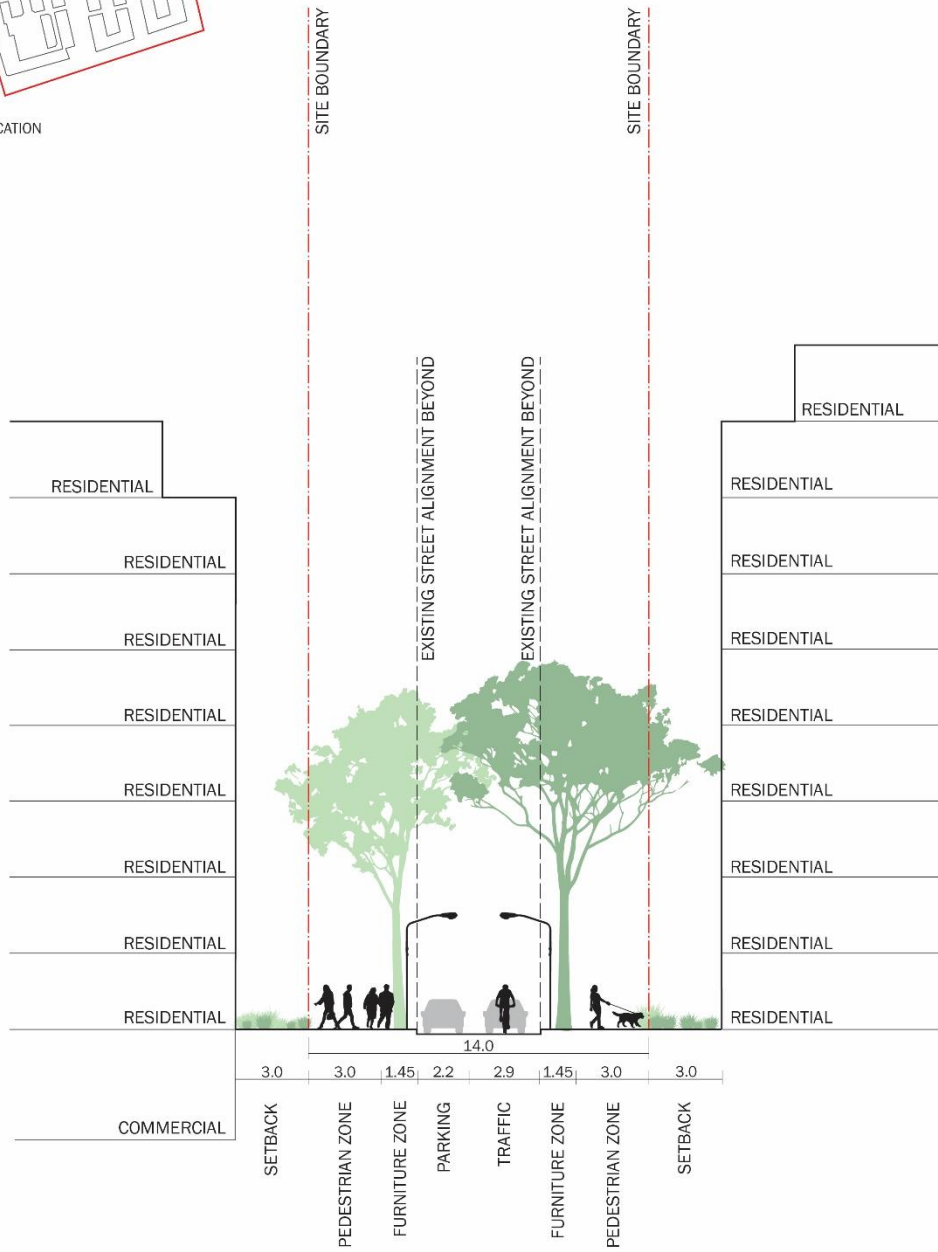
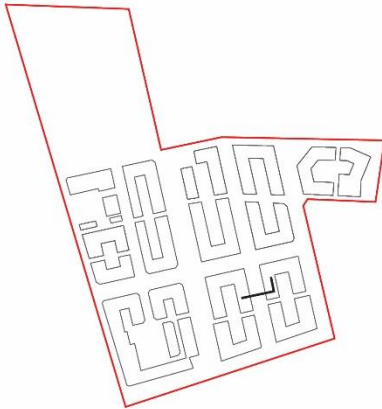


Figure 8(f): STREET CROSS SECTION – Mead Street

STREET CROSS SECTION - MEAD STREET



SECTION LOCATION

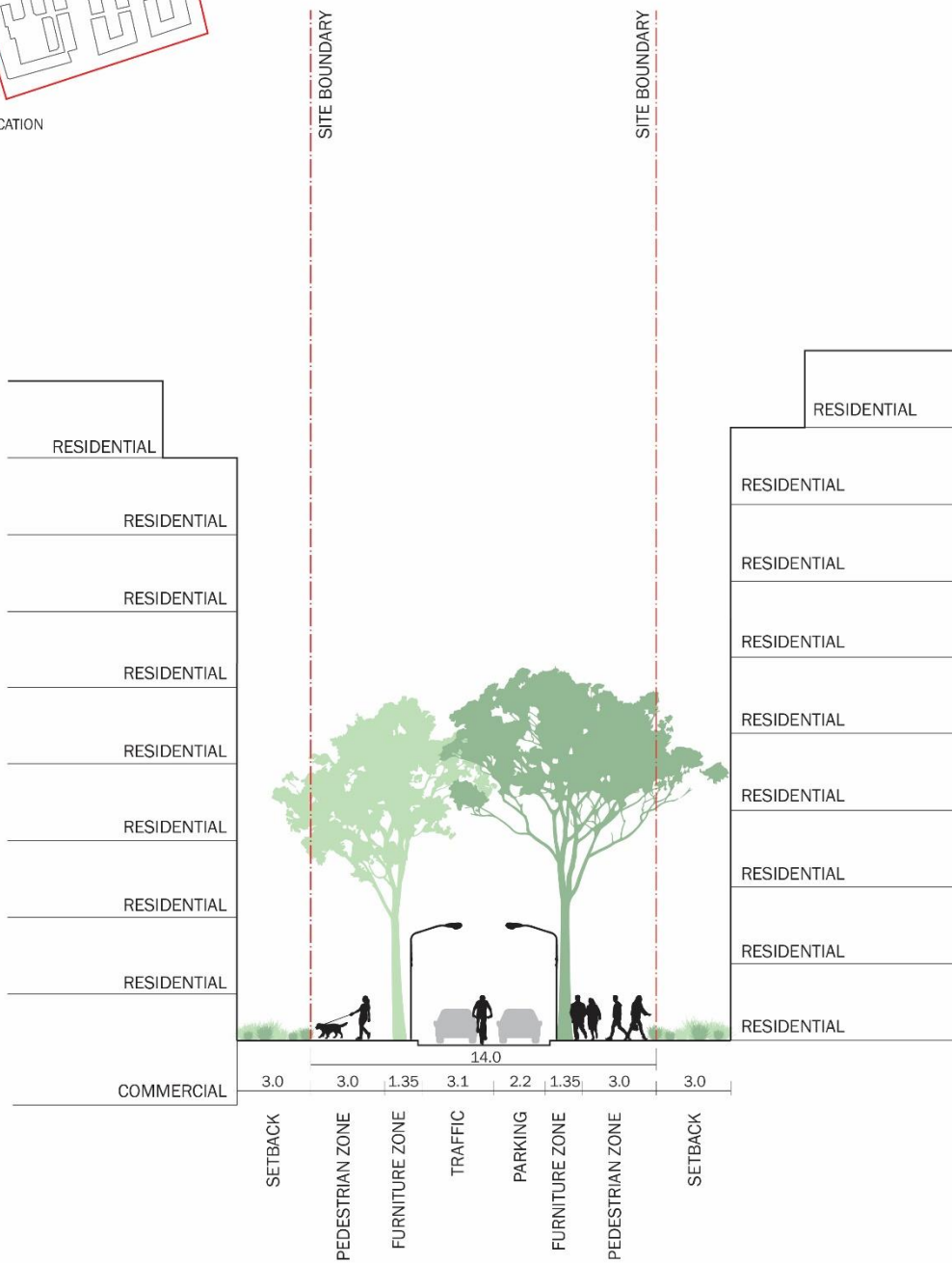


Figure 8(g): STREET CROSS SECTION – Cooper Street south

STREET CROSS SECTION - COOPER STREET SOUTH

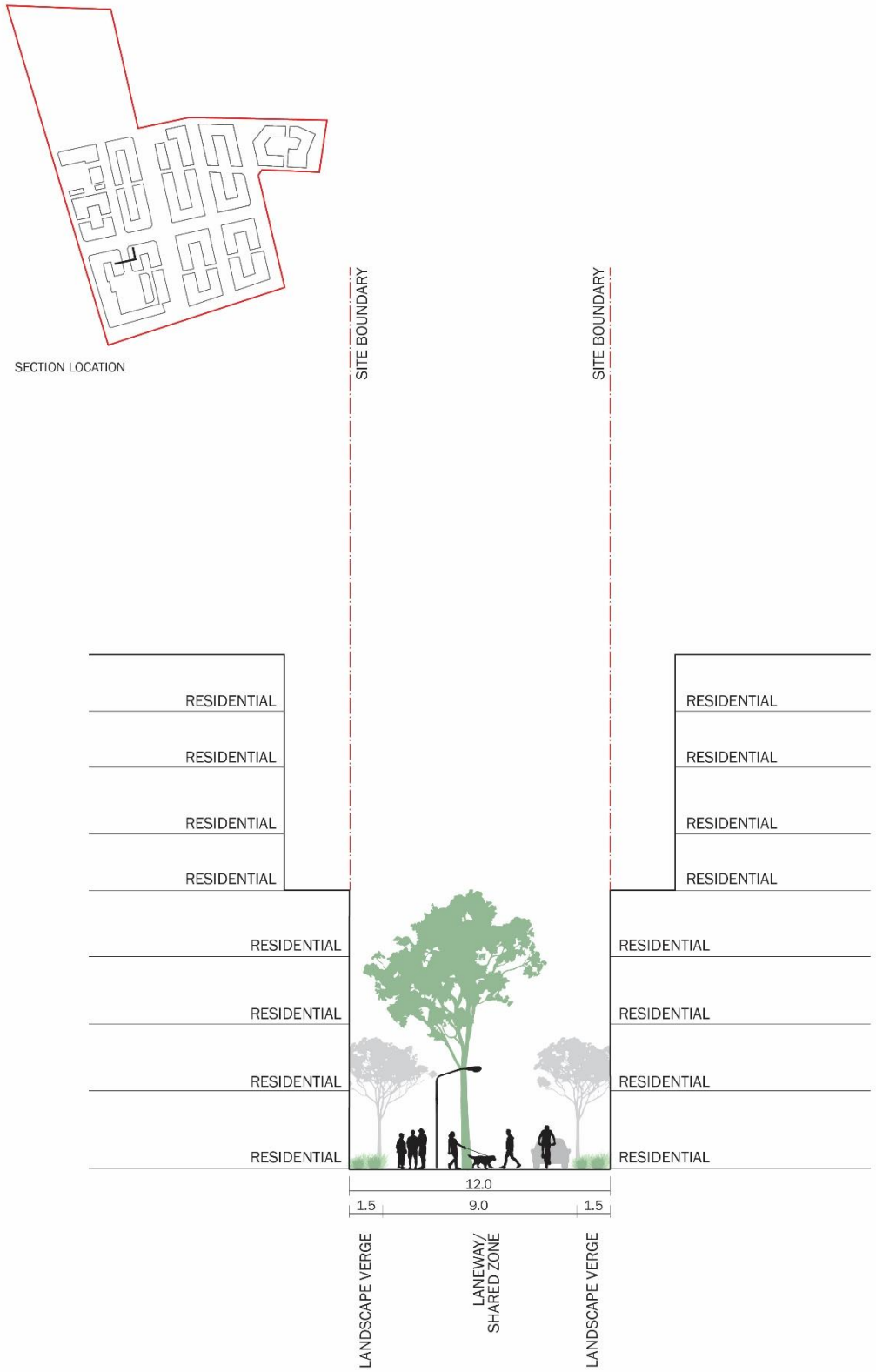


Figure 8(h): STREET CROSS SECTION – Cooper Place

STREET CROSS SECTION - COOPER PLACE

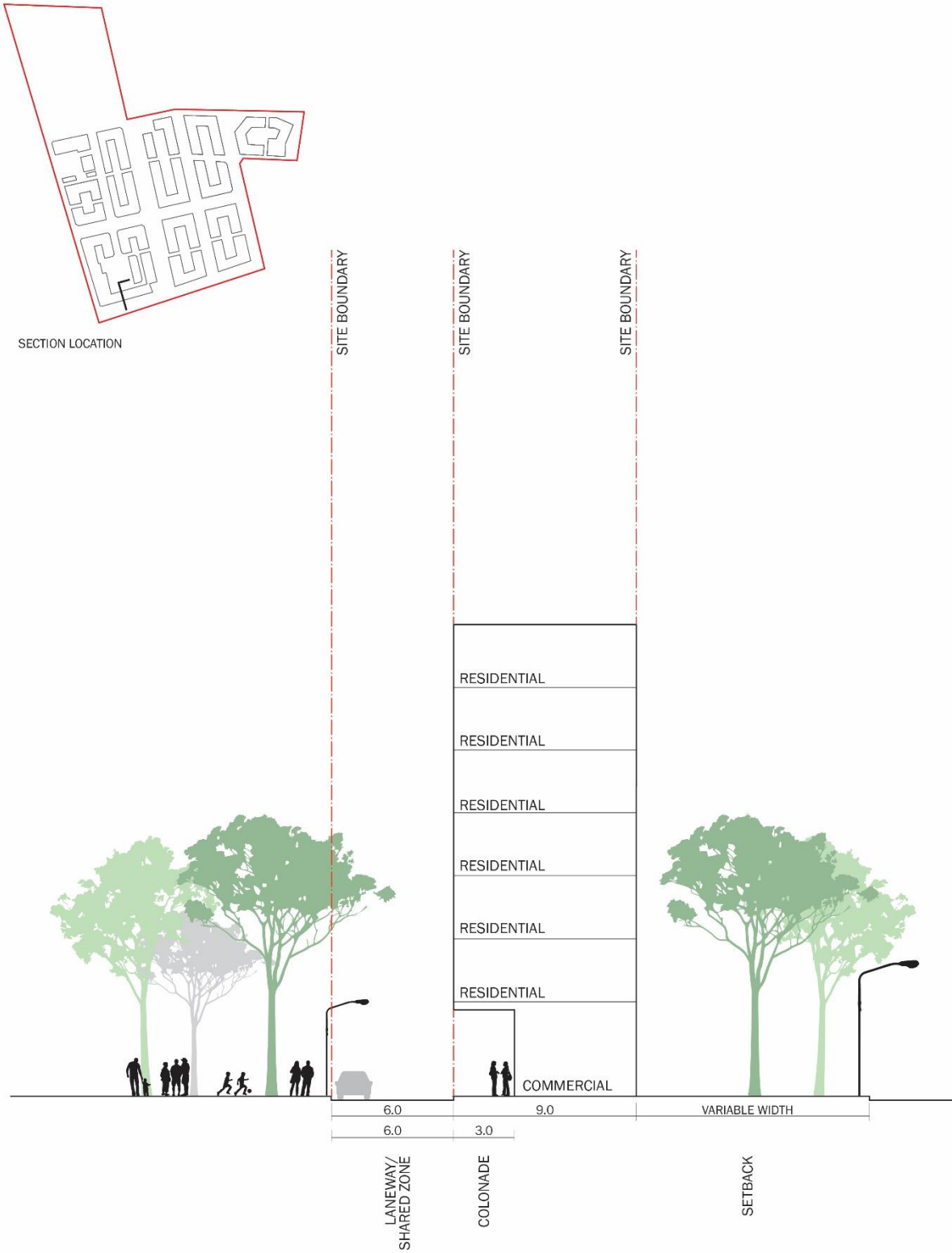


Figure 9: Access and circulation



SCALE 1:1000 @ A3

7.3.3. Pedestrian and cycle network

- (1) Crossing points for pedestrians and cyclists, prioritising safe and continuous pedestrian movement, are to be provided at the following locations:
 - (a) on all sides of existing and new intersections;
 - (b) on streets adjacent to through-site links; and
 - (c) on Cope Street to access the southern entry to the Metro.
- (2) The regional separated cycleway is to be retained along George Street and a new regional cycleway with supporting facilities is to be integrated along Wellington Street, in accordance with Figure 9: Access and circulation.
- (5) Cycleways are to be designed as an integral part of the public domain in accordance with:
 - (a) the standards set out in Table 3: Indicative street specifications;
 - (b) the City of Sydney Public Domain Manual (and any replacement of that document); and
 - (c) relevant design codes as they apply from time to time.
- (6) Cycleways are to align with the priorities and actions in the City of Sydney Cycling Strategy and Action Plan 2018-2030, or any document that replaces that Plan.
- (7) Design of the public domain is to provide sufficient space for cyclists and pedestrians to move around each other and is to be consistent with the City of Sydney Street Design Code requirements for Village Centres and Activity Strips.

7.3.4. Through-site links

- (1) Through-site links are to be provided as an easement for public right of way as per Figure 4: Dedications and Easements and designed and provided in accordance with the provisions set out in Table 4: Through-site links.
- (2) Through-site links are generally to:
 - (a) be accessible to pedestrians 24 hours a day;
 - (b) be designed to ensure pedestrian safety through the limiting of vehicular access (other than temporary maintenance or emergency vehicles) and by bollards (which may be retractable) at intersections with public roads;
 - (c) provide a safe environment, including appropriate lighting and clear straight sightlines;
 - (d) provide a legible, unobstructed pedestrian footway for their entire length without fencing or gates that restrict pedestrian access;
 - (e) allow sufficient space for users to move around each other comfortably and safely, with a minimum pathway width of at least 3 metres;
 - (f) be activated and surveyed through the design of the ground floor and upper levels of adjoining buildings. This can be achieved through active uses, retail frontages and entries, communal courtyards and apartment entries, egress paths that draw people through the through site link, and windows and balconies overlooking the through site link;
 - (g) provide a minimum 1.5 metre wide deep-soil-zone along the length of the through site link;
 - (h) be paved in materials which are consistent with the City of Sydney public domain palette;
 - (i) widen into a central square of minimum dimensions specified in Table 4: Through-site links and Figure 4: Land dedications and easements.
 - (j) provide street furniture including seats, water bubbler, lighting and tree planting at the central square of the through site link;
 - (k) be designed to be accessible for people of all abilities;
 - (l) integrate levels with the adjacent lands to be dedicated to Council; and
 - (m) be open to the sky.

Table 4. Through-site links

Location	Purpose	Provision
From Wellington to Kellick Street directly opposite Park Lane on the north side of Wellington Street	To provide additional connection through large site to improve permeability and access to Waterloo Park.	<ol style="list-style-type: none"> (1) 6m wide minimum (2) Provision shared over lot boundary. (3) Accessible design may not be necessary while Wellington and Kellick streets continue not to meet accessibility standards
From George to West Street (continuation of Reeve Street)	To provide access for people of all abilities to all parts of the precinct, the new parks and to Waterloo metro station.	<ol style="list-style-type: none"> (1) 6m wide min. with 12m x 12m central square with provision of stairs. (2) Provision shared over lot boundary. (3) Provide access to a publicly accessible lift in the adjacent retail 24 hours a day.
From Cooper to George Street	To provide additional connection through large site to improve permeability.	<ol style="list-style-type: none"> (1) 6m wide min. with 12m x 7.5m central square. (2) Provision shared over lot boundary.
From Cope to Cooper Street	To provide additional connection through large block to improve permeability	<ol style="list-style-type: none"> (1) 6m wide min.
From Cope to Cooper Streets at the small park – 2 links, each aligned with east west parts of Cooper Street north and south of the park	To provide connections to the smaller park from adjacent streets.	<ol style="list-style-type: none"> (1) 6m wide min. (2) Provision shared over lot boundary (3) To incorporate a glazed roof/awning over the link from Cope Street to Cooper Place for wind protection.
From Cooper to George Streets near the small park – 2 links, each aligned with the east-west parts of Cooper Street north and south of the park	To provide connections to the smaller park from adjacent streets	<ol style="list-style-type: none"> (1) 6m wide min. (2) Provision shared over lot boundary
From George to Mead Street	To provide additional connection through the large site to improve permeability and access for people of all abilities to all parts of the precinct, the new parks and to Waterloo metro station	<ol style="list-style-type: none"> (1) 6m wide min. with 12m x 12m central square. (2) Provision shared over lot boundary.

<p>From Mead to Pitt Street</p>	<p>To provide additional connection through the large site to improve permeability and access for people of all abilities to all parts of the precinct, the new parks and to Waterloo metro station</p>	<p>(1) 6m wide min. with 12m x 12m central square. (2) Provide accessible ramps including switch back ramps in the central square, in addition to publicly accessible lift contained within the adjacent building. (3) Provision shared over lot boundary.</p>
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7.4. Trees

Definitions

High value trees means existing trees that are typically large and visually prominent, historically or environmentally important, in good or very good condition. They may also be part of an important group of trees.

Moderate value trees means existing trees that are in good to reasonable condition or lesser trees that are part of a relatively good grouping of trees and therefore may warrant retention based on the overall group's value.

General

- (1) Provisions relating to trees, urban ecology, deep soil and landscaping in the Sydney DCP 2012 apply to Waterloo Estate (South).

7.4.1. Retention of exiting trees

- (1) A minimum of 50% of high value trees and a minimum of 50% of moderate value trees are to be retained, in accordance with Figure 10: Significant trees.
- (2) Investigations into the retention of additional high and moderate value trees (above minimums specified in (1)) are to be conducted and a report justifying their removal submitted with any development application.
- (3) A qualified Arborist (AQF Level 5), with experience managing similar projects of this type and scale, is to be engaged to provide tree management advice throughout the design and construction phase of development.
- (4) Tree management must be in accordance with requirements outlined in the Australian Standard 4970 – Protection of Trees on Development Sites and the City's *Tree guidelines for pruning, reporting and using an arborist*.
- (5) Any development application and public space domain upgrade is to:
 - (a) be guided by an arboricultural impact assessment;
 - (b) comply with site-specific tree protection measures;
 - (c) include commitment to monitoring the site works to ensure the health and structural stability of existing trees; and
 - (d) provide tree protection certification.

7.4.2. Tree diversity

- (1) Tree species to be used in public space are provided at Appendix 1: Schedule of proposed tree species for public spaces.
- (2) Deciduous species in both the private and public domain are to be included in areas with high canopy cover (over 65%) to ensure winter solar access.

Figure 10: Significant trees



8. Building layout, form and design

This Section creates neighbourhood character. It identifies the location of buildings on their defined street blocks, their height and overall shape, and the way buildings interact with public space. They also ensure sufficient sunlight to adjoining buildings and open spaces, privacy and overlooking, the quality and amenity of spaces inside the building, the amenity and use of private open spaces, and the pedestrian environment and amenity in nearby streets.

Objectives

- (a) Consistently, logically and equitably apply the Urban Design Principles of this Design Guide to development in Waterloo Estate (South).
- (b) Ensure that building form and scale contribute to the success of public space.
- (c) Encourage multiple buildings on each street block to facilitate variety, provide articulation in the built form, and promote activity on streets.
- (d) Ensure a range of building types each suited to their location and surrounds.
- (e) Provide certainty the amenity standards of the Apartment Design Guide will be met.
- (f) Ensure a generally even distribution of floor space across Waterloo Estate (South).
- (g) Arrange building height so that it provides for urban amenity in the form of solar access to adjacent buildings so that the Apartment Design Guide requirements can be met, and that there is variation in the street wall height to promote diversity of building character.
- (h) Ensure that tower buildings are located, designed, and separated from each other, and generally located along McEvoy Street in the southern part of Waterloo Estate (South) and near the corner of Kellick and Gibson Streets to limit impacts on the amenity of public space.
- (i) Ensure that buildings can respond to the diverse and changing demographics of Waterloo Estate (South), provide accommodation choice and be adaptable to the needs of different users.
- (j) Ensure excellent and varied design, with competitive design processes where appropriate.
- (k) Ensure new development can appropriately respond to noise and wind impacts.
- (l) Ensure building form maximises the opportunity for passive environmental performance.
- (m) Locate retail frontages where they encourage social interaction and provide a focus for the community.
- (n) Ensure building design can facilitate high-quality communal open space that is equally and easily accessible to all residents.
- (o) Prioritise high and moderate value trees for retention and maximise opportunities to expand the urban canopy.
- (p) Enhance outlook and liveability through high quality landscaping and well-considered planting design in private and common open space.
- (q) Ensure landscaping improves, protects and enhances urban biodiversity and delivers urban green infrastructure for habitat and ecological health.
- (r) Mitigate the impacts of heat in the urban environment and reduce energy costs through lowering the ambient temperature.
- (s) Assist in climate change mitigation and adaptation, carbon dioxide absorption, air quality improvements and stormwater management and flood mitigation.

Provisions

8.1. Street blocks and building lots

Objectives

- (a) Provide flexibility for the staging and construction of development.
- (b) Ensure lot sizes support desired building types and uses with internal spaces appropriate to their function.
- (c) Ensure lot sizes promote different building characters and more street activity.
- (d) Ensure the location of new buildings respond to existing significant trees.

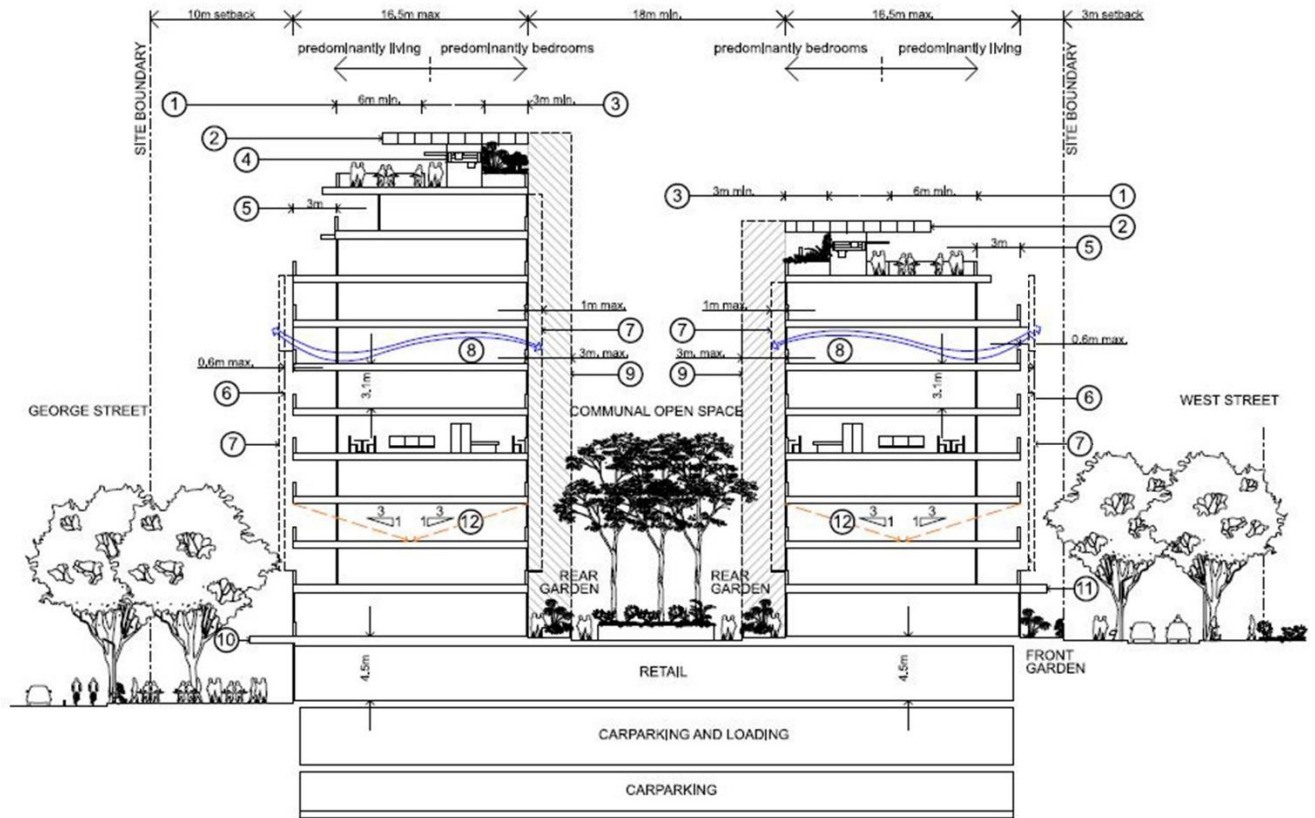
Provisions

- (1) All buildings are to be located within the building lots identified in Figure 3: Street blocks and building lots.
- (2) Building layout is to be generally consistent with that shown in Figure 2: Waterloo Estate (South) Urban Strategy. Alterations to the layout may be considered within each street block provided they respond to the Urban Strategy and demonstrate an improved public benefit and design excellence.
- (3) Buildings are to address the street and align with streets to form continuous perimeters to the blocks, broken by walkways.
- (4) Each street frontage of each building lot is to provide a building entry.
- (5) Lot boundaries are to generally:
 - (a) ensure the design criteria of the of the Apartment Design Guide (ADG) can be met;
 - (b) are simple, straight with no bends and perpendicular to the street frontage;
 - (c) minimise easements for support but allow shared services;
 - (d) not introduce unnecessary fire source features to building;
 - (e) extend through the roofs so that each building has its own roof space; and
 - (f) be generally placed on the centreline of through-site links, as shown on Figure 4: Land dedications and easements.
- (6) All street blocks and building lots are to be based on a current land survey, accurate topographic survey and tree survey, clearly showing existing trees to be retained and their associated protection zones.

8.2. Typical Building Sections

Building arrangement throughout the site is to be predominantly perimeter block with internal courtyards. Figure 11: Perimeter block building typology –section below supports the controls contained in this Section and are intended to show how setbacks, passive and active sustainability measures, the courtyard and private open space interrelate for a perimeter block building and for a noise barrier type of building.

Figure 11: Perimeter block building typology - section



LEGEND

- ① principal usable part of communal open space
- ② maximise solar panels
- ③ green roofs and shared gardens
- ④ shared clothes lines
- ⑤ upper level setback
- ⑥ shading zone
- ⑦ projecting windows zone
- ⑧ cross ventilation
- ⑨ vertical circulation zone
- ⑩ continuous awning
- ⑪ entry awning
- ⑫ daylight

8.3. Building heights

Definitions

Low rise buildings are buildings of two to five storeys.

Medium rise includes:

- **Lower medium rise buildings**, being buildings of six to 10 storeys; and
- **Higher medium rise buildings**, being buildings of 11 to 13 storeys.

Tall buildings are buildings greater than 50 metres (15 storeys) in height.

Objectives

- (a) Ensure buildings are predominantly low to medium rise across the precinct, with tall buildings located in the south along McEvoy Street and to the corner of Kellick and Gibson Streets.
- (b) Ensure higher medium rise buildings are placed along George Street and overlooking the parks on Pitt, Kellick and Wellington streets (between Cope and George) to add emphasis to it as the main street and the larger parks as the primary public places of Waterloo south.
- (c) Ensure low rise buildings are placed alongside the narrow Cooper Place and at the north end of courtyards to improve solar access into courtyards and at the south ends of courtyards to provide more light into John Street
- (d) Ensure heights and distribution of buildings on McEvoy Street minimise overshadowing of neighbouring properties to the south.
- (e) Ensure heritage items maintain an appropriate setting.
- (f) Ensure a high level of amenity at street level, enabling good sunlight to streets and a comfortable and safe wind environment.

Provisions

- (1) Maximum height in storeys are to be generally in accordance with Figure 12: Height in storeys.
- (2) Storeys (which include attics and mezzanines) are counted where the floor level is above the finished street level or up to 1.5 metres below the finished street level.
- (3) Storey and floor to ceiling heights are to be in accordance with Table 5: Storey and floor to ceiling heights (mixed use and residential buildings).
- (4) Maximum buildings heights in Sydney LEP 2012 includes communal open space, including shade structures and lift access.
- (5) For the purpose of applying design criteria 4C-1 – Ceiling heights of the Apartment Design Guide, areas not identified in Figure 5: Land Use for non-residential are expected to be wholly residential buildings and therefore are not required to accommodate the ceilings heights of a mixed-use area. However, if a non-residential use is located on the ground floor, design criteria 4C-1 – Ceiling heights will apply.

Table 5. Storey and floor to ceiling heights (mixed use and residential buildings)

Use	Minimum Storey height (floor to floor)	Minimum floor to ceiling height
Ground floor commercial or retail in mixed use areas (active frontages)	4.5m	3.3m
Ground floor residential in residential areas (non-active frontages)	3.1m	2.7m
Residential floors above ground floor	3.1m	2.7m

- (6) Except where required to achieve a minimum freeboard above a Flood Planning Level (FPL), the ground floor level above the ground level of the adjacent public domain is to be:
 - (a) a maximum of 1 metre for residential uses;
 - (b) a minimum of 0.5 metres for residential uses where there is a setback of less than 3 metres; and
 - (c) a maximum of 0.15 metres for retail and commercial uses.
- (7) Where part of a commercial or retail tenancy adjacent to the public domain is designed with flood resistant construction and there is no risk to life, then that part of the tenancy may be below the 1% Annual Exceedance Probability (AEP) and Probable Maximum Flood (PMF).
- (8) Variation to the location and distribution of building heights for each block may be considered, provided that alternative layouts demonstrate that:
 - (a) mid-winter sun access to public space is improved between 9am and 3pm;
 - (b) mid-winter sun access to neighbouring residential properties is improved between 9am and 3pm;
 - (c) the objectives and design criteria of the ADG can be achieved and are not diminished for the building, subject to the variation in height and any surrounding residential building;
 - (d) building height does not exceed the maximum building height in Sydney LEP 2012; and
 - (e) the layout responds to the Waterloo Estate (South) Urban Design Study and Urban Strategy.

Figure 12: Height in Storeys



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8.4. Building alignment and setbacks

Definitions

Ground level setback means the distance by which the ground floor of a building is to be set back from the street, side or rear boundary. It is expressed as a setback in metres and is measured from the alignment of the building lot following subdivision and dedication. Ground level setbacks can be required along street frontages (primary ground level setbacks) or at the side or rear of buildings (side or rear ground level setbacks).

Upper level setback means the distance by which the upper levels of a building are to be set back from the alignment of the building below. It is expressed as a setback in metres required above a nominated street frontage height. It is measured from the predominant building alignment of the outer face of the floor level below and includes all built elements except balustrades and balcony separation screens.

Objectives

- (a) Ensure building alignment and ground level setbacks create a physically and visually cohesive relationship with the adjoining public space.
- (b) Ensure buildings facilitate adequate sunlight to public space.
- (c) Reduce the apparent height of buildings and increase the view of the sky from public space.
- (d) Ensure that primary ground level setbacks create a space between the public domain and buildings that:
 - i. provides for the retention of existing trees and new planting;
 - ii. provides deep soil;
 - iii. softens the visual environment that would otherwise be created by the combination of paved surfaces and building frontage;
 - iv. enables private gardens and individual entries to ground floor apartments;
 - v. provides for common entries to apartment buildings; and
 - vi. enables an active retail frontage and outdoor dining on the eastern side of George Street.
- (e) Ensure side and rear ground level setbacks are provided where they are necessary to:
 - i. ensure development does not impede development on adjoining sites' access to light, ventilation and privacy;
 - ii. ensure development can achieve fire separation requirements;
 - iii. provide for vehicle entries and through-site links;
 - iv. create overland flow paths for stormwater; and
 - v. conserve significant trees.
- (f) Ensure awnings and colonnades are located to maximise pedestrian amenity.
- (g) Ensure colonnades provide for continuous unrestricted pedestrian access alongside Cooper Street and Cooper Place where there is ground floor non-residential frontage;

Provisions

- (1) Primary ground level setbacks are to be provided generally in accordance with Figure 13: Ground level setbacks.
- (2) Upper level setbacks are to be provided generally in accordance with Figure 14: Upper level setbacks.
- (3) Primary ground level setbacks are to enable a clear line of sight between the building entrance, any façade window and the adjoining public domain.
- (4) Substations and other service structures are not to be provided in the setbacks fronting the street.
- (5) The side ground level setbacks that are required as a continuous connection between Cope

and Cooper Streets are to provide access for car parking and an overland flow path as required.

- (6) No built structures (other than landscape elements) are permitted to encroach on the ground level setback for the full height of the building.
- (7) In some circumstances, balconies, porches, awnings, windows and shade structure projections may be permitted as outlined in this Design Guide.
- (8) All ground level setbacks are to provide deep soil and landscaping, except for those provided in (5) above.
- (9) Awnings and colonnades are to be provided generally in accordance with Figure 15: Awnings and colonnades for pedestrian amenity, including shade, rain and wind impacts. In addition to those shown in the figure, awnings and porches are to be provided at common building entries to protect people at front doors from rain.
- (10) The positioning of awnings is to be carefully considered with regard to the health and longevity of street trees.

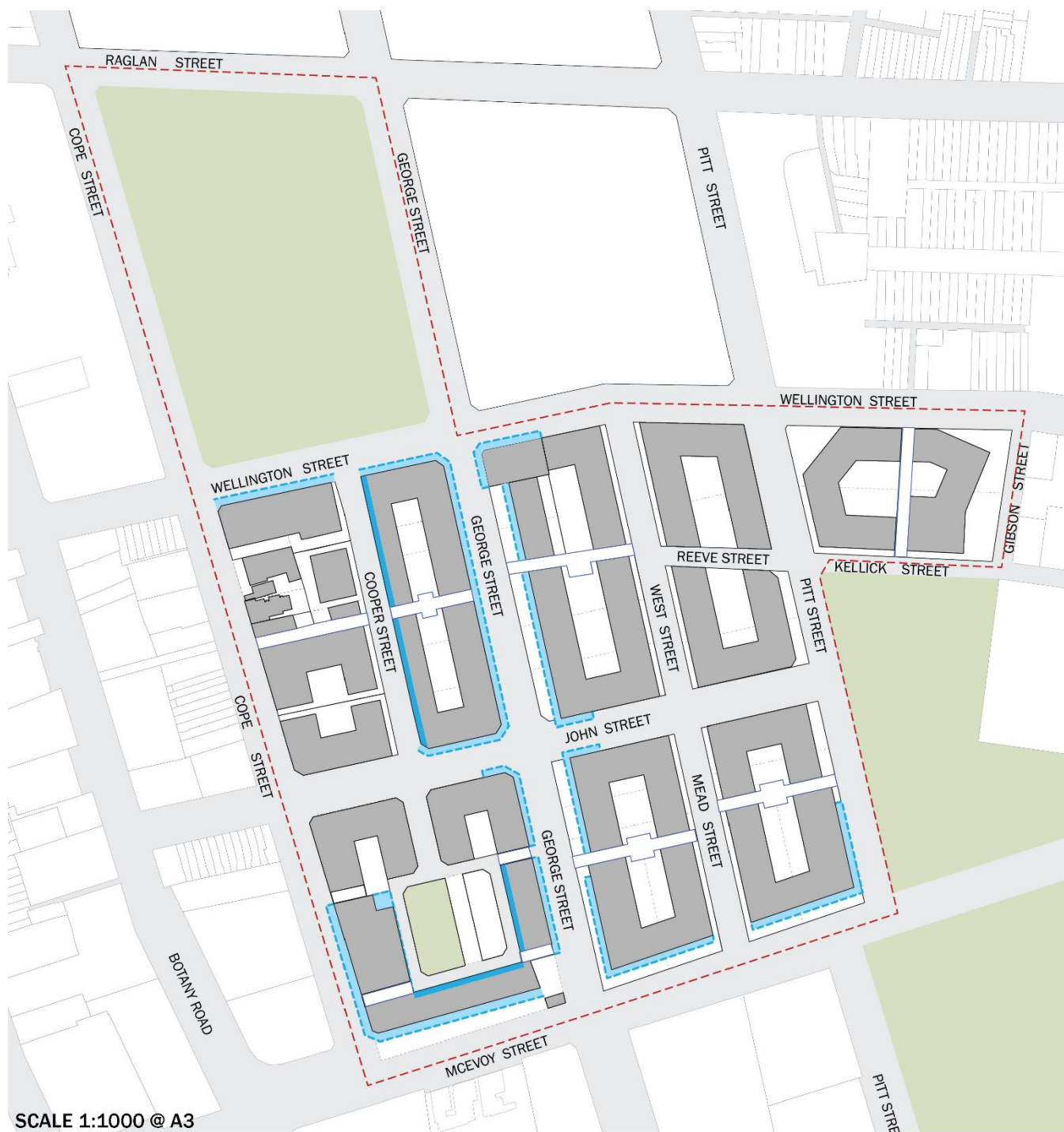
Figure 13: Ground level setbacks



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Figure 15: Awnings and colonnades

- Street awning min. 3m width
- Street colonnade min. 3m deep



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8.5. Development types

Objectives

- (a) Ensure new development minimises wind impacts on public spaces.
- (b) Protect the health and well-being of people in the southern part of the precinct from the effects of noise and pollution from McEvoy Street – a busy road.
- (c) Protect people living in apartments fronting McEvoy Street from noise.
- (d) Provide a noise barrier for people living in apartments further to the north of the apartments fronting McEvoy Street.

8.5.1. General

- (1) Provisions relating to 'Development types' in Sydney DCP 2012 apply to Waterloo Estate (South).

8.5.2. Tall buildings

- (1) Tall buildings are to be located in accordance with Figure 12: Height in storeys to minimise overshadowing to existing and future planned public open space, communal openspace and residential dwellings.
- (2) Tall buildings are to be separated by a minimum distance of 60 metres in all directions.
- (3) Residential apartments are not to be located at ground level where identified on Figure 5 Land Use.
- (4) Awnings are to be located at ground level along the street frontage to protect pedestrians from wind downdraft and provide shelter for pedestrians in front of active frontages.
- (5) Building corners are to be curved and the profile shaped, including additional setbacks, to minimise wind downdraft.
- (6) On roofs, glazed screens of sufficient height are to be provided to ensure the principal usable part of the communal open space meets the Wind Comfort Standard for Sitting.
- (7) Above the height of 15 storeys, the floorplate of tall buildings is to be a maximum of 720 sqm.

Figure 16:

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8.5.3. Development fronting McEvoy Street

- (1) Three continuous, unbroken buildings are to be provided along the McEvoy Street frontage, between Cope and George, George and Mead and Mead and Pitt. These buildings are to carefully lay out apartments so that windows to habitable rooms face away from the noise source where possible and be acoustically treated in order to mitigate the impact of noise from vehicles on McEvoy Street Figure 17: Buildings fronting McEvoy Street - typical section shows a typical section for buildings fronting McEvoy Street. These buildings do not include tall buildings.
- (2) The depth of buildings fronting McEvoy Street are to be no more than 15 metres inclusive of all built elements.
- (3) Habitable rooms are to be located so, where ever possible, windows required for ventilation face north away from McEvoy Street.
- (4) Non-habitable rooms, vertical circulation and common access corridors may be located on the southern, McEvoy Street side of the building.
- (5) Any windows facing McEvoy Street are to provide appropriate noise protection.
- (6) Windows to habitable rooms on the east and west ends of the building are to be minimised. Windows to habitable rooms in these locations are to have external projecting noise shields with a projection of 0.6-1 m that may extend into the primary ground level setback and the street reservation.
- (7) Communal open space is to be provided on the northern side of rooftops where they overlook streets, primary setbacks or courtyards with a minimum width of 6 metres.
- (8) Plant, equipment and landscaping is to be located on the southern 3 metres of the rooftop.
- (9) No apartments are to be located at ground level on McEvoy Street or the southern parts of the adjoining Cope, George and Pitt Streets.
- (10) Heavy, non-porous facade materials should be used to minimise noise intrusion to sensitive noise sources, such as residential apartments.

Figure 17: Buildings fronting McEvoy Street - typical section

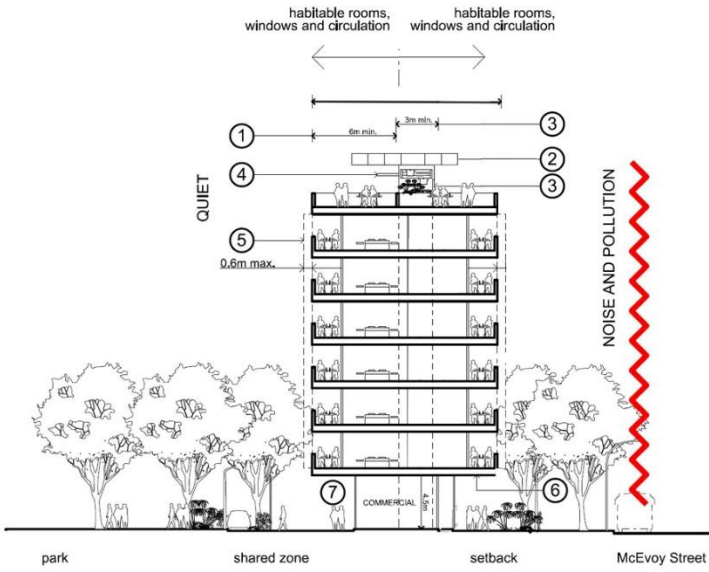


Figure 17a: Buildings fronting Cooper Park and McEvoy Street

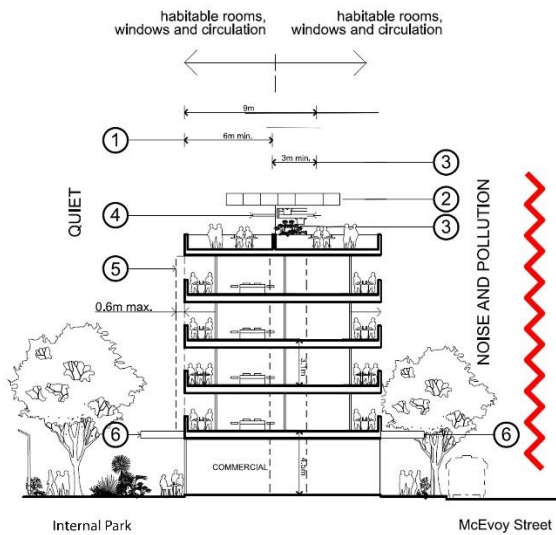


Figure 17b: Buildings fronting Mead Street and McEvoy Street

Figure 17b: Buildings McEvoy Street east of Mead Street

LEGEND

- ① principal usable part of communal open space
- ② maximise solar panels
- ③ green roofs and shared gardens
- ④ shared clothes lines
- ⑤ shading zone
- ⑥ awning
- ⑦ colonnade

8.6. Private and communal open space and landscaping

For most development in the site, the principal usable communal open space requirements will be met through space on the roofs. The principal function of courtyards within development sites is for the provision of deep soil, planting on structure and private gardens.

Definitions

Extensive green roof is a lightweight roof system with a shallow layer of growing substrate less than 200 mm deep, requiring minimal maintenance. It generally has lower water requirements and uses small, low-growing plant species, particularly succulents, moss or grasses.

Planting on structure means a landscaped area that is impeded by, or relies upon, any building or structure. Planting on structure is typically located over basements, on podiums and roof tops, and on walls. Planting on structure is beneficial to supplement any required deep soil planting but does not contribute to minimum requirements for it.

Deep soil means a landscaped area that is unimpeded by any building or structure above or below ground with the exception of minor structures. Deep soil zones allow for the retention of existing trees and sufficient space for the planting and healthy growth of new trees that provide canopy cover and assist with urban cooling and infiltration of rainwater to the water table.

Small tree means a tree with an expected minimum mature height of 5 metres and a canopy spread of 5 to 6.5 m.

Medium tree means a tree with a canopy spread of 8 m to 12 m.

Large tree means a tree with a canopy spread greater than 12 m.

8.6.1. Trees and landscaping

- (1) The provisions relating to 'Trees' in 'Section 7: Public Space' of this Design Guide, also apply to building lots.
- (2) Landscape areas are to be generally located within the areas shown in Figure 18: Roof level communal open space and green roofs and Figure 19: Ground level deep soil and planting locations, and to be consistent with the Apartment Design Guide requirements.
- (3) A landscape plan prepared by a suitably qualified landscape architect in accordance with the City of Sydney Landscape code must accompany any development application. It must:
 - (a) incorporate the recommendations of the required Ecological Assessment report;
 - (b) be consistent with the provisions of this Design Guide; and
 - (c) be prepared in accordance with the City of Sydney Landscape code.

Figure 18: Roof level communal open space and green roofs



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Figure 19: Ground level deep soil and planting locations



8.6.2. Roofs

- (1) The principal usable part of communal open space is to be located on the roofs of buildings generally in accordance with Figure 18: Roof level communal open space and green roofs.
- (2) Communal open space on roofs is generally to:
 - (a) face the surrounding streets and/or through-site links; and
 - (b) have a minimum depth from the building edge of 6 m.
- (3) A comfortable acoustic environment is to be created for the quiet enjoyment of roof level communal open space with noise protection from plant and equipment.
- (4) Each roof level communal open space is to be directly accessible from every lift core that serves apartments that are to use it.
- (5) The principal usable part of communal open space is to meet the wind criteria for 'Sitting' provided elsewhere in this Design Guide.
- (6) An 'extensive green roof' is to be provided on the side of the roof adjoining the courtyards with a minimum of 3 m depth from the edge of the building.
- (7) Where possible, plant and equipment on roofs are not to be placed within the 6 m of the street side or 3 m of the courtyard side of roof areas and is to be separated from communal open space by screening.
- (8) Areas of the roof with exposure to sunlight and wind are to be provided for passive clothes drying.
- (9) The siting of solar panels on roofs for energy production and shading is to be maximised, including above communal open space, plant, lift and stairs and extensive green roofs.

8.6.3. Deep soil and 'planting on structure'

- (1) Deep soil is to be provided in landscape setbacks, around existing trees and to central courtyards in accordance with Figure 19: Ground level deep soil and planting locations.
- (2) A minimum area of deep soil and 'planting on structure' is to be provided on LAHC-owned sites as per Table 6: Minimum provision of deep soil and planting on structure. The provision of planting on structure is in addition to the deep soil requirements.
- (3) For the purpose of calculating the deep soil area, the following minor structures may be included in the deep soil area where they have at least 1.2 m clear width of deep soil to either side:
 - (a) essential services infrastructure provided underground (such as a stormwater pipe) with a maximum diameter up to 300 mm; and
 - (b) landscape structures (such as a lightweight fence, light pole or seating) with a maximum footing size of 300 mm x 300 mm in cross section
- (4) At least one medium tree (or larger) is to be planted in the deep soil area for every 30 m² of deep soil area per street block. Any tree species planted in courtyards is to be selected according to its tolerance to resultant wind and sunlight conditions.
- (5) At least one small tree (or larger) is to be planted in planting on structure area for every 12 m² of planting on structure area per street block.
- (6) Planting on structure can be substituted with additional deep soil area where possible, however planting on structure cannot replace minimum deep soil requirements.
- (7) Where trees are existing and are to be retained, these can be surveyed, categorised by tree size and counted towards the requirements for new trees to be planted.

Table 6. Minimum provision of deep soil and planting on structure

Street block	Minimum provision of deep soil required	Minimum provision of planting on structure required
2*	20%	0%
3	1%	9%
4*	10%	10%
5	20%	0%
6	20%	0%
7	30%	0%
8**	20%	0%
9	10%	10%
10	20%	0%

* Refers only to land that is owned or managed by the Land and Housing Corporation within Waterloo Estate (South) as of 1 January 2021

** Excludes Cooper Street and the small park

8.6.4. Courtyards

- (1) Courtyards are to be provided for landscaping and tree canopy and may include a combination of private gardens and communal open space.
- (2) Courtyards are to be provided as deep soil, generally as per Figure 19: Ground level deep soil and planting locations and Figure 11: Perimeter block building – typical section.
- (3) Courtyards are to be densely planted throughout to contribute to tree canopy and visual amenity. Any tree species planted in courtyards is to be selected according to its tolerance to resultant wind and sunlight conditions.
- (4) Courtyards between adjoining building lots are to be shared and have a cohesive character.
- (5) Direct, equitable access is to be provided to courtyards at courtyard level from every common circulation area.
- (6) Courtyard communal open space is to be fully open to the sky and a minimum of 18 m wide except:
 - (a) in the blocks bounded by Wellington, George, John and Cooper streets where it is to be a minimum of 13.5 m wide; and
 - (b) in the blocks bounded by Cope, John, George and McEvoy streets where it is to be a minimum of 12 m wide.
- (7) The following elements may be permitted to project into courtyards:
 - (a) common lifts and stairs, by a maximum of 3 m on each side for no more than 25% of the courtyard façade length; and

- (b) window projections to provide north facing windows, by a maximum of 1 metre on each side for no more than 25% of the courtyard façade length.
- (8) Private gardens (inclusive of terrace / seating space), generally a maximum of 3 m wide and the full width of each apartment fronting the courtyard, are to be provided within the courtyard communal open space, to separate courtyard communal open space from courtyard level apartments, for amenity, safety and privacy of these apartments.
- (9) Private gardens communal open space and through site links are to be separated with planting/fencing inside the private garden. Any privacy screens or fencing is to be in accordance with the City of Sydney Landscape Code.
- (10) Courtyards are to connect to through-site links for maintenance access and other access/egress needs.
- (11) Any courtyard communal open space is to meet the Wind Comfort Standard for 'Standing' as defined elsewhere in this Design Guide.

8.7. Local climate sensitive design

Objectives

- (a) Ensure the health, safety and comfort of people in streets and buildings by minimising heat that is reflected and radiated from buildings

Provisions

- (1) Design buildings to minimise the reflection and radiation of heat.
- (2) On northern, western or eastern facades, minimise the reflection and radiation of heat from surfaces and materials exposed to sunlight, through measures such as:
 - (a) moderating the extent of glazing on any northern, western or eastern façade,
 - (b) minimise the extent of glazing up to 1 m above the floor level,
 - (c) shading glazing that is exposed to sunlight on any northern, western or eastern façade.
- (3) Heat rejection units must be located on the roof where wind can most effectively carry heat away and avoid heat being trapped in streets.
- (4) Where roof terraces are provided, pergolas are to be incorporated for summer shading that also allow winter sunlight ingress.
- (5) Any roof glazing is to be vertically orientated through a clerestory with a northerly orientation for the glazing, together with an overhang for protection against rain.
- (6) Allow shading devices to project beyond building facades in accordance with Table 7: Projecting balconies and windows and shading devices.
- (7) Where shading devices are provided to projecting windows, the total projection is to be no greater than the maximum allowed for projecting windows.

Table 7. Projecting balconies and windows and shading devices

Elevation	Projecting balconies	Projecting windows	Shading devices to glazing
North facing facades	Not permissible	Not permissible, except where overlooking through-site links (see below)	Fixed or moveable horizontal shading devices to project a maximum of 0.6 m beyond the building line or street reservation
South facing facades	Project a maximum of 0.6 m beyond the façade for a maximum of 25% of the façade length	Project a maximum of 1 m beyond the façade for a maximum of 25% of the façade length and face east to capture morning sunlight	Not required
East facing facades	Not permissible	Not permissible	Fixed or moveable vertical blades to project a maximum of 0.6 m beyond the building line or street reservation
West facing facades	Project a maximum of 0.6 m beyond the façade for a maximum of 25% of the façade length. Ensure they do not limit midwinter sun access to neighbouring buildings	Project a maximum of 1 m beyond the façade for a maximum of 25% of the façade length. Ensure they do not limit midwinter sun access to neighbouring buildings	Fixed or moveable vertical blades to project a maximum of 0.6 m beyond the building line or street reservation
Facades overlooking through-site links	Not permissible	Project a maximum of 0.6 m beyond the façade to face parallel to, not across the through site link, for a maximum of 25% of the façade length.	Not required
Courtyards	Not permissible	Project a maximum of 1 m beyond the façade for a maximum of 25% of the façade length.	Not required

8.8. Internal apartment layout and amenity

Objectives

- (a) Ensure appropriate privacy, daylight, natural ventilation and comfort for people living in apartments.
- (b) Ensure appropriate facade design to maximise internal amenity in apartments.

Provisions

- (1) Façades facing through-site links are to contain windows to provide passive surveillance of the through site link and allow for natural cross ventilation of apartments.
- (2) Windows facing or overlooking through-site links are to be either indented or limited in projection to face along (parallel to, not across) the through site link, in accordance with Table 7: Projecting balconies and windows and shading devices.
- (3) Living rooms are to be located where more sunlight and outlook is available (generally the street frontage).
- (4) Bedrooms are to be located where external noise levels are lower and visual privacy is better (generally the courtyard frontage).
- (5) The number of bathrooms and kitchens with openable external windows is to be maximised.
- (6) Design buildings with long life, low embodied energy, low maintenance materials.
- (7) Direct lines of sight are to be avoided between rooms across internal corners of courtyards by careful placement and design of windows with indents or projections. Any window projections are to be a maximum of 1 m into the courtyard and are to be designed to increase privacy without the need for fixed privacy screens or opaque glass which limit natural light, ventilation and outlook.
- (8) Balconies and windows may be provided generally in accordance with Table 7: Projecting balconies and windows and shading devices.

8.9. Adaptable design

- (1) Provisions relating to 'Adaptable design' in Sydney DCP 2012 apply to Waterloo Estate (South).
- (2) Residential and mixed-use buildings are to meet the following accessibility and adaptability standards of the Liveable Housing Design Guidelines:
 - (a) 100 per cent of new Class 1a dwellings (houses) to silver standard;
 - (b) 85 per cent of dwellings in each new Class 2 (apartment) building to silver standard; and
 - (c) 15 per cent of dwellings in each new Class 2 (apartment) building to gold standard.

8.10. Managing wind impacts

8.10.1. General

- (1) Provisions relating to wind in Sydney DCP 2012 apply to Waterloo Estate (South).

8.10.2. Wind testing

- (1) Development is to provide wind tunnel testing that demonstrates that streets comply with the following wind standard:
 - (a) Wind Safety Standard, being an annual maximum peak 0.5 second gust wind speed in one hour measured between 6am and 10pm Eastern Standard Time of 24 metres per second.

- (b) Wind Comfort Standard for Walking, being an hourly mean wind speed, or gust equivalent mean wind speed, whichever is greater for each wind direction, for no more than 292 hours per annum measured between 6 am and 10 pm Eastern Standard Time (i.e. 5% of those hours) of 8 metres per second.
 - (c) Wind Comfort Standard for Standing, being an hourly mean wind speed, or gust equivalent mean wind speed, whichever is greater for each wind direction, for no more than 292 hours per annum measured between 6 am and 10 pm Eastern Standard Time (i.e. 5% of those hours) of 6 metres per second at areas of short-duration stationary activities, including pedestrian crossing points, building entries via footpaths and window shopping along footpaths.
 - (d) Wind Comfort Standard for Sitting, being an hourly mean wind speed, or gust equivalent mean wind speed, whichever is greater for each wind direction, for no more than 292 hours per annum measured between 6 am and 10 pm Eastern Standard Time (i.e. 5% of those hours) of 4 metres per second at areas of outdoor dining.
- (2) Development is to provide wind tunnel testing that demonstrates that parks comply with the following wind standard:
 - (a) Wind Comfort Standard for Walking as defined in 1(b) above for any active use areas; and
 - (b) Wind Comfort Standard for Sitting, as defined in provision 1(d) above for all other areas.
 - (3) Development is to provide wind tunnel testing that demonstrates that through-site links comply with the Wind Comfort Standard for Walking as defined in 1(b) above.
 - (4) Building design is to reduce wind impact at street level without reliance on the introduction of new trees. This may be through inclusion of additional setbacks within the building envelope, providing breaks in the towers to allow wind flows to be dissipated, rounding the corners of buildings, and tapering towers at upper levels.

8.11. Noise and ventilation

Waterloo Estate (South) is impacted by noise associated with surrounding busy roads. There are also potential noise conflicts which may arise between the activities associated with future public open space, community facilities and local services on the George Street main street and adjacent future residential development.

This Section must be read in conjunction with the NSW Apartment Design Guide objectives for noise and ventilation.

Provisions

- (1) Residential apartment buildings are to respond to both noise criteria in this Design Guide, the Sydney DCP 2012 and natural ventilation criteria in the ADG. Maximum noise levels, in a naturally ventilated state, must not exceed the following levels:
 - (a) LAeq 1 hour 35dB for bedrooms between 10pm and 7am;
 - (b) LAeq 40dB at any time for all other habitable space; and
 - (c) LAeq 1 hour 45dB at any time for all other habitable space in development in all other locations.
- (2) A noise study is to be provided with any development application for development on the following sites to establish the level of noise pollution affecting them:
 - (a) sites fronting McEvoy Street;
 - (b) sites adjacent to the small park;
 - (c) sites adjacent to the large park;
 - (d) tall building sites; and
 - (e) any other sites as required by the Consent Authority.

If the noise study indicates the likelihood of a noise issue the impacts of external noise and

pollution are in the first instance to be minimised, while achieving natural ventilation, through careful siting and layout of buildings. Where it is proposed to address noise and natural ventilation through the siting and layout of apartments, alternative approaches to the following design criteria of the NSW Apartment Design Guide are permitted for noise-affected apartments, including:

- (a) solar and daylight access;
 - (b) private open space and balconies; and
 - (c) natural cross ventilation.
- (3) Buildings with ground floor non-residential premises are to provide for appropriate exhaust ventilation to accommodate food and beverage services that avoid noise and air quality impacts to residential premises.
- (4) Buildings are to be designed generally in accordance with the City of Sydney's 'Alternative natural ventilation of apartments in noisy environments: performance pathway guideline'.

8.12. Design Excellence

Definitions

Australian based architect is a person, corporation or firm registered in Australia and which has an Australian Business Number and is registered in accordance with the *NSW Architects Act 2003* or, in the case of interstate, registered with the equivalent legislation.

Objectives

- (a) Ensure a range of building heights, types and architectural styles to create architectural diversity and visual interest, whilst also achieving a cohesive character in the precinct.
- (b) Achieve building design that is culturally appropriate and suitable for a range of housing needs, reflecting local cultural diversity, including housing for Aboriginal and Torres Strait Islander people.
- (c) Achieve variety in architectural design and character across blocks to enrich and enliven the public realm.
- (d) Ensure the use of high quality façade design and finishes throughout the precinct, with particular attention to tall buildings and buildings located on corners or fronting parks.
- (e) Ensure equally excellent design of each building, irrespective of building tenure.
- (f) Ensure an integrated approach to landscape and building design to achieve a diversity of spaces and experiences.
- (g) Ensure excellent outcomes with regard to solar access, comfort and protection from wind, tree retention, noise and internal acoustic amenity.

Provisions

8.12.1. Competitive design processes

- (1) Provisions relating to 'Design excellence and competitive design processes' in Sydney DCP 2012 (or any replacement version of that Plan) apply to Waterloo Estate (South).
- (2) A competitive design process is to be undertaken for each competitive design process site shown in Figure 20: Competitive design process sites.
- (3) Only additional floor area (not building height) may be awarded as a result of a competitivedesign process and must be accommodated within building heights shown in the Sydney LEP 2012 and generally in Figure 12: Height in storeys.
- (4) Additional floor area awarded as a result of a competitive design process is not to be transferred across competitive design process sites, except for where it can be demonstrated that it improves solar access to apartments and parks across the precinct.

- (5) Additional floor area will only be awarded where it can be demonstrated that there are no adverse impacts arising from the additional floor area.
- (6) To achieve architectural diversity within a street block, an architectural practice which is selected the winner of a competitive design process may not be invited to participate in any other competitive design process on that same street block.
- (7) Buildings that are located adjacent to or on the opposite side of the street from one another are not to be of the same or similar design.
- (8) Large development sites which have multiple buildings or building cores are to be designed to provide individual character so that each building is defined by its separate core and is recognisably different from the street (including variations in materials and different architectural design for elements such as building entrances, balconies and balustrades, planters, pergolas, boundary walls and fences).
- (9) Notwithstanding provisions (6) and (7) above, building design is to give regard to any patterns of scale, rhythm, materiality and fenestration which emerge as the precinct redevelops to ensure a coherent sense of place within Waterloo Estate (South).
- (10) Landscape design is to be undertaken concurrently with building design and a preliminary landscaping strategy is to be submitted as part of each competitive process.
- (11) Designs must address the relevant required considerations in Figure 20a.

8.12.2. Design excellence strategy

In addition to the above provisions, the following Design Excellence Strategy applies to all competitive design process sites. The Design Excellence Strategy may only be varied for any competitive design process site via a Stage 1 development application process. If the proposed subdivision, staging or built form does not correspond with that envisaged in this Design Guide, an updated Design Excellence Strategy is required to accompany an associated Stage 1 development application.

- (1) Separate invited Competitive Design 'Alternatives' Processes are to be undertaken for each competitive design process site, except for competitive design process sites 'G', 'L', 'O' and 'P', shown in Figure 20: Competitive design process sites, which are required to undertake an 'invited' Architectural Design Competition owing to the impact of tower buildings.
- (2) Each 'invited' Architectural Design Competition is to be undertaken in accordance with the relevant provisions of the City of Sydney Competitive Design Policy. A minimum of five competing design consortiums are required to participate.
- (3) Each Competitive Design Alternatives Process is to be undertaken in accordance with the relevant provisions of the City of Sydney Competitive Design Policy. A minimum of three competing design consortiums are required to participate.
- (4) Where buildings are to be used partly or wholly for Aboriginal, social or affordable housing, the competition brief is to address the design of those housing types and be prepared with the advice of an expert who has demonstrated knowledge and expertise in those types of housing.
- (5) Ecologically sustainable development benchmarks and outcomes are to be targeted by each competitive design process as prescribed in Sydney LEP 2012 and in this Design Guide.

Figure 20: Competitive design process sites



Figure 20a: Required considerations for the competitive design process

- Solar Access
- Tree Retention
- Wind
- Noise / acoustics



9. Transport, movement and parking

Objectives

- (a) Prioritise the safe and comfortable access and movement of people.
- (b) Minimise through traffic and the impact of vehicular access and servicing in public space.
- (c) Promote a walkable urban environment and ensure access for people with all abilities.
- (d) Encourage access by public transport, walking and cycling to reduce car dependence.
- (e) Support direct, safe and comfortable pedestrian access to the Metro Station from within and through Waterloo Estate (South).
- (f) Provide integrated, safe and comfortable bike routes that connect with the wider regional network to encourage cycling and provide for the needs of both commuter cyclists and recreational cyclists.
- (g) Ensure car parking allows for the planting of trees to promote the greening and biodiversity in the precinct.
- (h) Ensure the demand for loading and servicing of development is accommodated within development and does not rely on on-street loading and servicing.

Provisions

9.1. General

- (1) Provisions relating to 'Transport and parking' in Sydney DCP 2012 apply to Waterloo Estate (South).
- (2) Street circulation, street speeds and intersections are to be designed generally in accordance with Figure 9: Access and Circulation.

9.2. Carparking

- (1) Vehicular access and egress points are to be generally located on the street frontages identified in Figure 21: Carpark locations and entries.
- (2) No vehicle access or egress points to carparks are permitted from:
 - (a) George Street;
 - (b) Wellington Streets
 - (c) Cope Street;
 - (d) Cooper Street;
 - (e) Mead Street;
 - (f) Kellick Street;
 - (g) McEvoy Street; and
 - (h) the shared zone around the small park.
- (3) At grade or above ground car parking is not permissible.
- (4) Car parks are to consolidate street access points and minimise site coverage generally in accordance with Figure 21: Carpark locations and entries.
- (5) Where required, lots are to provide neighbouring lots with positive covenants to allow access to and from required vehicular access and egress points.
- (6) Consolidated access car parks are not to be built under public space.

- (7) The provision of car parking (including driveways and ramps) is not to result in the underachievement of deep soil requirements.
- (8) Cut throughs under through-site links may be permitted to facilitate the consolidation of basement car parks at the discretion of the Consent Authority.
- (9) Temporary carpark entries may be approved for staging purposes and must be permanently closed when no longer necessary.
- (10) Additional permanent vehicular access points may be considered where necessary for commercial and retail servicing requirements only, providing that:
 - (a) the access can be designed to be restricted to non-residential users;
 - (b) there is no access to any car parking connected with the residential component of the development;
 - (c) it can be demonstrated that the surrounding network can still operate safely; and
 - (d) there is no negative impact on pedestrian comfort or safety.
- (11) Preference is to be given to docks located in basement car parks to provide opportunity for consolidated loading facilities between lots and buildings.
- (12) Notwithstanding maximum car parking rates in Sydney LEP 2012 and Sydney DCP 2012, minimised provision of parking for all land uses is encouraged to capitalise on the proximity of Waterloo Estate (South) to the Metro Station.
- (13) Vehicle driveway widths are to be minimised and be designed to give priority to pedestrians and cyclists by continuing the type of footpath material and grade (i.e. continuous footpath pavement at all car park basement entry points).
- (14) Carpark entries are not to cross existing and planned regional bicycle paths.
- (15) On-street loading is to be permitted for small retail uses (not supermarkets).

Figure 21: Carpark locations and entries



SCALE 1:1000 @ A3

10. Urban ecology

Objectives

- (a) Ensure landscaping improves, protects and enhances urban biodiversity and delivers urbangreen infrastructure for habitat and ecological health.

Provisions

- (1) New habitat features are to be incorporated into the landscaping of new developments to support any species of particular conservation significance, as identified through an Ecological Assessment report. Habitat features may include, but not limited to, a diverse selection of suitable flowering plants, biodiverse roofs and walls, nest boxes, log piles and rock piles.
- (2) Native shrubs (up to 4 m) and grasses, herbs, and groundcovers are to be given precedence. If non-native species are used in planting, they should have a benefit for local biodiversity.
- (3) An Ecological Assessment report, prepared by a qualified and appropriately experienced ecologist, is to be submitted with any development application and is to:
 - (a) document the species present on and adjoining the development site;
 - (b) identify any species that are of particular conservation significance, including threatened species and locally-significant species identified in the relevant Urban Ecology Strategy;
 - (c) determine the nature and extent of impacts to flora and fauna, particularly those of conservation significance, that are likely to result from each stage of the development;
 - (d) outline the mitigation measures that will be employed to avoid or minimise such impacts, including:
 - i. clearance and relocation of any onsite indigenous flora and fauna prior to works commencing;
 - ii. protection of any significant habitat features;
 - iii. Tree sensitive construction methodologies for trees identified for retention, which may include fencing, underground services installation techniques, consideration of bulk earthworks impacts and associated mitigation, and other items as necessary.
 - iv. restoration/creation of compensatory habitat for any important habitat features removed or disturbed as a result of the development; and
 - v. incorporation of suitable locally-indigenous species in site landscaping, consistent with the relevant Urban Ecology Strategy.

11. Environmentally sustainable development

Objectives

- (a) Minimise energy use, water use, waste generation and urban heat effects.
- (b) Maximise on-site renewable energy generation, water re-use and waste recycling.
- (c) Ensure the efficient use of resources in building design, construction and operation.
- (d) Ensure that development is resilient against the effects of climate change.

Provisions

11.1. Sustainability ratings

- (1) Development is to achieve the following minimum sustainability ratings:
 - (a) all development is to achieve 6-star Green Star communities rating
 - (b) any commercial component of buildings:
 - i. NABERS Energy Commitment Agreement of 5.5 stars for the base building of commercial office buildings with a net lettable area of 1,000 square metres or more. A base building rating covers the performance of the building's central services and common areas, which can be influenced by building design and the building services.
 - ii. NABERS Water rating of 4.5 stars for commercial office buildings with a net lettable area of 1,000 square metres or more
- (2) Plans submitted with development applications and construction certificate applications are to ensure all BASIX commitments are shown.

11.2. Green infrastructure

11.2.1. Recycled water

- (1) Where there is a commitment to provide a recycled water network, all buildings are to be constructed to be capable of providing a dual reticulation water system for water services and be capable of fully connecting to a non-potable recycled water network and configured to supply all toilets, washing machine taps, car wash bays, cooling towers and irrigation usage.

11.2.2. Operational Waste

- (1) Provisions relating to waste management in the Sydney DCP 2012 apply to Waterloo Estate (South).

11.2.3. Vehicle Charging

- (1) Buildings are to be equipped with sufficient electricity supply to enable future electric vehicle charging for all vehicle parking in the development.

11.3. Resource use

- (1) Buildings are to reduce the environmental impact of new building materials by maximising the use of reused or recycled materials through:
 - (a) substituting industrial waste products or oversized aggregate for Portland cement;
 - (b) reusing steel or substituting post-consumer recycled content in steel;
 - (c) reusing timber or substituting post-consumer recycled timber; and
 - (d) replacing any other materials with reused or recycled material.

12. Stormwater and flood management

Objectives

- (a) Ensure integrated water management is incorporated throughout Waterloo Estate (South).
- (b) Ensure private development sites, the public domain and adjacent areas to Waterloo Estate (South) are not adversely affected by stormwater.

Provisions

12.1. General

- (1) Stormwater is to be generally managed within Waterloo Estate (South) in accordance with the *City of Sydney Interim Floodplain Management Policy* (or any replacement of that document) and Figure 22: Stormwater.
- (2) A Water Quality, Flooding and Stormwater Study is to be submitted with development applications that includes:
 - (a) a site-specific flood study prepared in accordance with the requirements of Sydney DCP 2012;
 - (b) a local drainage management plan prepared in accordance with the requirements of the Sydney DCP 2012; and
 - (c) a stormwater quality assessment prepared in accordance with the Sydney DCP 2012.

Figure 22: Stormwater



13. Public art

Objectives

- (a) Ensure that public art is an integrated and cohesive part of new development.
- (b) Recognise the history and cultural significance of the site through interpretive public art.

Provisions

- (1) As part of the Stage 1 development application, a Preliminary Public Art Strategy is to be submitted which:
 - (a) considers the City of Sydney's policies and plans for public art.
 - (b) considers any existing public art within the site
 - (c) addresses themes based on history of the site;
 - (d) is informed by consultation with the local community, including Aboriginal and Torres Strait Islander People;
 - (e) provides examples of relevant public art types;
 - (f) provides information on who will deliver artworks, and how many across each development block;
 - (g) describes how temporary projects will be delivered during or after construction; and
 - (h) details ownership of property and public art assets, maintenance implications for owners and budgets and funding expectations.
- (2) A Public Art Plan to be submitted for development applications that respond to the Preliminary Public Art Strategy and is prepared in accordance City of Sydney guidance for the development of detailed public art plans.

Appendix 1: Schedule of proposed tree species for public spaces

Family	Genus	Species	Common Name	Evergreen/ Deciduous
Podocarpaceae	<i>Afrocarpus</i>	<i>falcatus</i>	Outeniqua Yellow Wood	Evergreen
Araucariaceae	<i>Agathis</i>	<i>robusta</i>	Queensland Kauri	Evergreen
Araucariaceae	<i>Araucaria</i>	<i>columnaris</i>	Cook Pine	Evergreen
Araucariaceae	<i>Araucaria</i>	<i>cunninghamii</i>	Hoop Pine	Evergreen
Araucariaceae	<i>Araucaria</i>	<i>heterophylla</i>	Norfolk Island Pine	Evergreen
Myrtaceae	<i>Corymbia</i>	<i>citriodora</i>	Lemon-Scented Gum	Evergreen
Myrtaceae	<i>Eucalyptus</i>	<i>pilularis</i>	Blackbutt	Evergreen
Myrtaceae	<i>Eucalyptus</i>	<i>saligna</i>	Sydney Bluegum	Evergreen
Moraceae	<i>Ficus</i>	<i>macrophylla</i>	Morton Bay Fig	Evergreen
Moraceae	<i>Ficus</i>	<i>microcarpa</i> var. <i>hillii</i>	Hills Weeping Fig	Evergreen
Myrtaceae	<i>Angophora</i>	<i>costata</i>	Smooth-barked Apple	Evergreen
Myrtaceae	<i>Angophora</i>	<i>floribunda</i>	Rough-barked Apple	Evergreen
Myrtaceae	<i>Corymbia</i>	<i>maculata</i>	Spotted Gum	Evergreen
Myrtaceae	<i>Eucalyptus</i>	<i>microcorys</i>	Tallowood	Evergreen
Moraceae	<i>Ficus</i>	<i>rubiginosa</i>	Port Jackson Fig	Evergreen
Hamamelidaceae	<i>Liquidambar</i>	<i>styraciflua</i>	Liquidambar	Deciduous
Platanaceae	<i>Platanus</i>	<i>x acerifolia</i> 'Bloodgood'	London Plane	Deciduous
Ulmaceae	<i>Ulmus</i>	<i>parvifolia</i> 'Todd'	Chinese Elm	Deciduous
Aceraceae	<i>Acer</i>	<i>negundo</i> 'Sensation'	Box Elder	Deciduous
Myrtaceae	<i>Acmena</i>	<i>smithii</i>	Creek Lilly-Pilly	Evergreen
Sapindaceae	<i>Alectryon</i>	<i>tomentosus</i>	Woolly Rambutan	Evergreen
Malvaceae	<i>Brachychiton</i>	<i>acerifolius</i>	Illawarra Flame Tree	Deciduous
Malvaceae	<i>Brachychiton</i>	<i>discolor</i>	Queensland Lacebark	Deciduous
Fabaceae	<i>Caesalpinia</i>	<i>ferrea</i>	Leopardwood	Deciduous
Ulmaceae	<i>Celtis</i>	<i>australis</i>	European Nettle Tree	Deciduous
Myrtaceae	<i>Corymbia</i>	<i>eximia</i>	Yellow Bloodwood	Evergreen
Myrtaceae	<i>Corymbia</i>	<i>gummifera</i>	Red Bloodwood	Evergreen
Myrtaceae	<i>Eucalyptus</i>	<i>botryoides</i>	Bangalay	Evergreen
Myrtaceae	<i>Eucalyptus</i>	<i>haemastoma</i>	Scribbly Gum	Evergreen
Myrtaceae	<i>Eucalyptus</i>	<i>punctata</i>	Grey Gum	Evergreen
Myrtaceae	<i>Eucalyptus</i>	<i>robusta</i>	Swamp Mahogany	Evergreen
Myrtaceae	<i>Eucalyptus</i>	<i>sideroxylon</i>	Red Ironbark	Evergreen
Rutaceae	<i>Flindersia</i>	<i>australis</i>	Crows Ash	Evergreen
Oleaceae	<i>Fraxinus</i>	<i>pennsylvanica</i>	Red Ash	Deciduous
Ginkgoaceae	<i>Ginkgo</i>	<i>biloba</i>	Maidenhair Tree	Deciduous
Caesalpinaceae	<i>Gleditsia</i>	<i>triacanthos</i> 'Sunburst'	Honey Locust	Deciduous
Euphorbiaceae	<i>Glochidion</i>	<i>ferdinandi</i>	Cheese Tree	Evergreen
Sapindaceae	<i>Harpullia</i>	<i>pendula</i>	Tulipwood	Evergreen
Bignoniaceae	<i>Jacaranda</i>	<i>mimosifolia</i>	Jacaranda	Deciduous
Sapindaceae	<i>Koelreutaria</i>	<i>bipinnata</i>	Chinese Rain Tree	Deciduous
Magnoliaceae	<i>Liriodendron</i>	<i>tulipifera</i>	Tulip Tree	Deciduous

Family	Genus	Species	Common Name	Evergreen/ Deciduous
Myrtaceae	<i>Lophostemon</i>	<i>confertus</i>	Brush Box	Evergreen
Myrtaceae	<i>Melaleuca</i>	<i>leucadendra</i>	Weeping Paperbark	Evergreen
Myrtaceae	<i>Melaleuca</i>	<i>quinquineria</i>	Broad-Leaf Paperbark	Evergreen
Anacardiaceae	<i>Pistacia</i>	<i>chinensis</i>	Chinese Pistachio	Deciduous
Salicaceae	<i>Populus</i>	<i>simonii</i>	Simons Poplar	Deciduous
Rosaceae	<i>Pyrus</i>	<i>ussuriensis</i>	Machurian Pear	Deciduous
Fagaceae	<i>Quercus</i>	<i>ilex</i>	Holm Oak	Evergreen
Fabaceae	<i>Robinia</i>	<i>pseudoacacia 'Frisia'</i>	Black Locust	Deciduous
Euphorbiaceae	<i>Sapium</i>	<i>sebiferum</i>	Chinese Tallow Tree	Deciduous
Anacardiaceae	<i>Schinus</i>	<i>areira</i>	Peppercorn Tree	Evergreen
Myrtaceae	<i>Syzygium</i>	<i>paniculatum</i>	Brush Cherry	Evergreen
Myrtaceae	<i>Waterhousea</i>	<i>floribunda 'Green Avenue'</i>	Weeping Lilly Pilly	Evergreen
Ulmaceae	<i>Zelkova</i>	<i>serrata 'Green Vase'</i>	Japanese Zelkova	Deciduous
Fabaceae	<i>Acacia</i>	<i>binervia</i>	Coastal Myall	Evergreen
Aceraceae	<i>Acer</i>	<i>buergeranum</i>	Trident Maple	Deciduous
Myrtaceae	<i>Angophora</i>	<i>hispida</i>	Dwarf Apple	Evergreen
Myrtaceae	<i>Backhousia</i>	<i>citriodora</i>	Lemon-scented Myrtle	Evergreen
Proteaceae	<i>Banksia</i>	<i>integrifolia</i>	Coast Banksia	Evergreen
Myrtaceae	<i>Callistemon</i>	<i>salignus</i>	Willow Bottlebrush	Evergreen
Myrtaceae	<i>Callistemon</i>	<i>viminalis cv.</i>	Bottlebrush	Evergreen
Sapindaceae	<i>Cupaniopsis</i>	<i>anacardioides</i>	Tuckeroo	Evergreen
Elaeocarpaceae	<i>Elaeocarpus</i>	<i>eumundi</i>	Eumundi Quondong	Evergreen
Elaeocarpaceae	<i>Elaeocarpus</i>	<i>reticulatus</i>	Blue Berry Ash	Evergreen
Oleaceae	<i>Fraxinus</i>	<i>griffithii</i>	Evergreen Ash	Deciduous
Oleaceae	<i>Fraxinus</i>	<i>oxycarpa 'Raywood'</i>	Claret Ash	Deciduous
Theaceae	<i>Gordonia</i>	<i>axillaris</i>	Gordonia	Evergreen
Malvaceae	<i>Hibiscus</i>	<i>tiliaceous</i>	Coast Cottonwood	Evergreen
Sapindaceae	<i>Koelreutaria</i>	<i>paniculata</i>	Golden Rain Tree	Deciduous
Lythraceae	<i>Lagerstroemia</i>	<i>indica cv.</i>	Crepe Myrtle	Deciduous
Arecaceae	<i>Livistona</i>	<i>australis</i>	Cabbage Tree Palm	Evergreen
Magnoliaceae	<i>Magnolia</i>	<i>grandiflora 'Exmouth'</i>	Bull-bay Magnolia	Evergreen
Myrtaceae	<i>Melaleuca</i>	<i>stiphelioides</i>	Prickly Paperbark	Evergreen
Arecaceae	<i>Phoenix</i>	<i>dactylifera</i>	Date Palm	Evergreen
Rosaceae	<i>Prunus</i>	<i>cerasifera 'Nigra'</i>	Purple-leaf Cherry Plum	Deciduous
Rosaceae	<i>Pyrus</i>	<i>calleryana 'Chanticleer'</i>	Callery Pear	Deciduous
Proteaceae	<i>Stenocarpus</i>	<i>sinuatus</i>	Firewheel Tree	Evergreen
Myrtaceae	<i>Syzygium</i>	<i>leuhmannii</i>	Riberry	Evergreen
Myrtaceae	<i>Tristaniopsis</i>	<i>laurina</i>	Water Gum	Evergreen
Myrtaceae	<i>Tristaniopsis</i>	<i>laurina 'Luscious'</i>	Glossy-Leaved Water Gum	Evergreen
Arecaceae	<i>Washingtonia</i>	<i>robusta</i>	Mexican Fan Palm	Evergreen
Salicaceae	Xylosma	senticosum	Xylosma	Evergreen