

ATTACHMENT B

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**DRAFT SYDNEY DEVELOPMENT CONTROL
PLAN 2012 – SOUTHERN EMPLOYMENT
LANDS AMENDMENT**

Draft Amendment to Sydney Development Control Plan 2012

Southern Employment Lands

June 2014



Sydney 2030 / Green / Global / Connected

Explanatory note

This draft amendment to the Sydney Development Control Plan 2012 (draft DCP), in the main, applies to lands within the Southern Employment Lands.

The draft DCP is to be read in conjunction with the *Draft Planning Proposal: City of Sydney Employment Lands* (draft planning proposal).

The draft planning proposal and draft DCP is to implement the *City of Sydney Employment Lands Strategy*.

The following amendments are proposed to the Sydney Development Control Plan 2012 (Sydney DCP 2012).

[1] General

- a. Where affected by this draft DCP, amend numbering of Sections, Objectives and Provisions.

[2] Table of contents

- a. Amend the Table of Contents as follows:

...

2.9	Paddington/Centennial Park
2.10	Southern Employment Lands Industrial Area
2.11	Surry Hills
...	

[3] Section 1 Introduction

- a. Replace Figure 1.1 - Land covered by this DCP Map with the Figure 1.1 shown at Attachment A.
- b. Replace Figure 1.2 - Contributions plans within the City of Sydney Local Government Area Map with the Figure 1.2 shown at Attachment A.

[4] Section 2 Locality Statements

- a. Amend the Table of Contents as follows:

...

2.5.12	McEvoy East
...	
2.10	Southern Employment Lands Industrial Area
2.10.1	Botany Road Alexandra Canal
2.10.2	Rosebery West Enterprise Corridor
2.10.3	Alexandra Canal McEvoy East

2.10.4 Sydney Park East Alexandria

2.10.5 O'Riordan Rosebery West

2.10.6 Perry Park

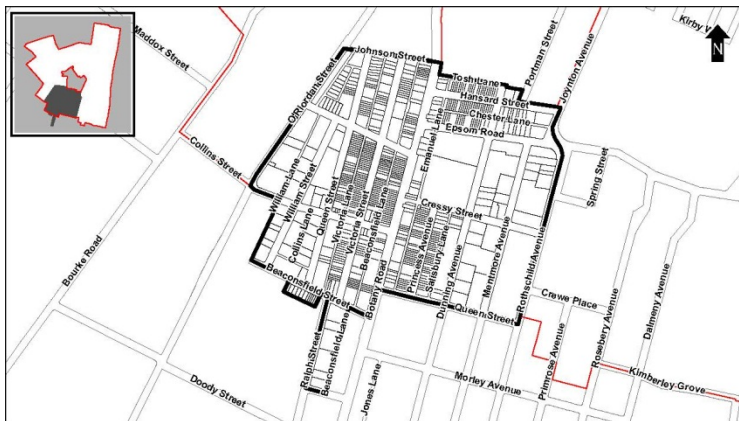
2.10.7 Canal South

...

- b. Replace Figure - City locality areas map, shown at the beginning of Section 2 with the Figure 2.1 shown at Attachment A.

[5] Section 2.5 Green Square

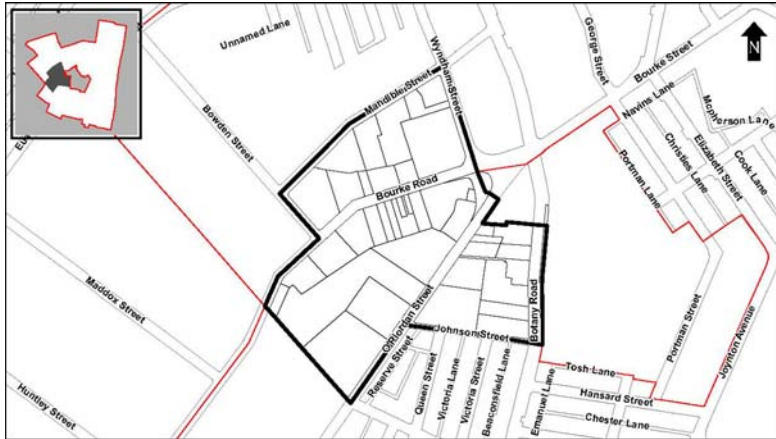
- a. Amend Section 2.5.2 – Beaconsfield as follows:



Principles

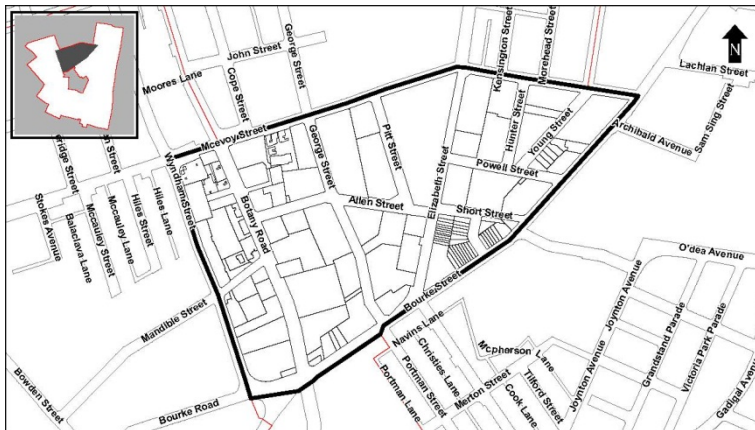
...

- (l) Improve the streetscape of Cressy Street with development on the north side that addresses the street.
- (m) Encourage the consolidation of the small village at the junction of Queen Street and Botany Road with a mix of active uses and a supermarket.
- b. Delete the entirety of the text in Section 2.5.4 – East Alexandria and replace it with the following:



This locality is within both the Green Square Urban Renewal Area and the Southern Employment Lands. See Section 2.10.4 for locality principles.

- c. Amend Section 2.5.11 – Waterloo Park as follows:

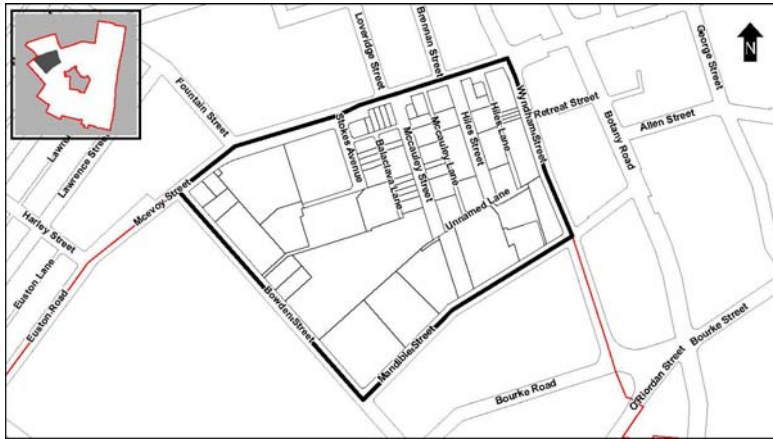


This locality is bound by McEvoy Street to the north, Bourke Street to the east and south and ~~Botany Road~~ Wyndham Street to the west.

...

- d. Add Section 2.5.12 – McEvoy East as follows:

2.5.12 McEvoy East



This locality is within both the Green Square Urban Renewal Area and the Southern Employment Lands. See Section 2.10.3 for locality principles.

[6] Section 2.7 Erskineville, Alexandria (west) and Newtown (south)

- a. Amend Section 2.7.10 - Euston Road and McEvoy Street as follows:

...

Euston Road and McEvoy Street are to be revitalised. Improved presentation of buildings, a greater mix of uses, and better functionality of the street and path network for pedestrians are to enliven this neighbourhood. North of Sydney Park Road the focus is on a mix of retail, commercial, community and residential uses, while south of Sydney Park Road **the existing industrial character of the area will continue.** ~~there is to be a mix of commercial and light industrial in the short to medium term transitioning to mixed use in the longer term. Mixed use buildings in this area will be higher density and overlook and actively edge Sydney Park providing a greater level of safety and security.~~

...

Principles

...

(e) Enable higher built form **north of Sydney Park** but constrain the street wall height to three storeys to maintain a pedestrian scale.

~~(f) Introduce a range of building heights for development edging Sydney Park.~~

~~(g) Enable the transition from large industrial sites to higher density mixed uses.~~

~~(h)~~ (f) Encourage the progressive conversion of existing industrial/commercial uses at the northern end of Euston Road/ McEvoy Street into mixed use development with ground floor retail uses and commercial and residential uses above.

~~(i)~~ (g) Strengthen bike links to Sydney Park and the Alexandra Canal area.

[7] Section 2.10 Southern Industrial Area

a. Amend the title of Section 2.10 as follows:

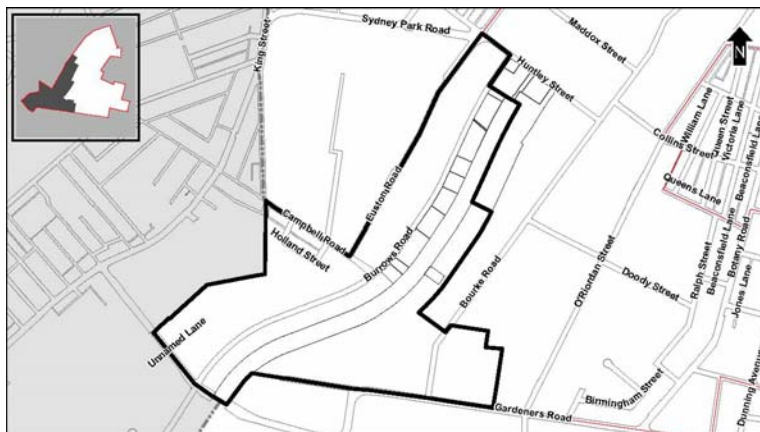
Southern **Employment Lands Industrial Area**

b. Delete the entirety of the following sections:

- i. Section 2.10.1 – Botany Road
- ii. Section 2.10.2 – Rosebery West
- iii. Section 2.10.3 – Alexandra Canal
- iv. Section 2.10.4 – Sydney Park
- v. Section 2.10.5 – O’Riordan
- vi. Section 2.10.6 – Perry Park
- vii. Section 2.10.7 – Canal South

c. Add a new Section 2.10.1 – Alexandra Canal as follows:

2.10.1 Alexandra Canal



This locality surrounds the Alexandra Canal and is generally bound by Huntley Street, Gardeners Road, Canal Road and Euston Road.

It will accommodate industrial uses, including population serving industrial businesses essential to the efficient functioning of a growing inner-city residential population, as well as strategic industrial uses to support Sydney Airport. Limited ancillary uses may also be appropriate to support the industrial uses and working population in the area.

The area is located close to the NSW Government proposed WestConnex motorway that will facilitate more efficient movement of freight into and out of the area.

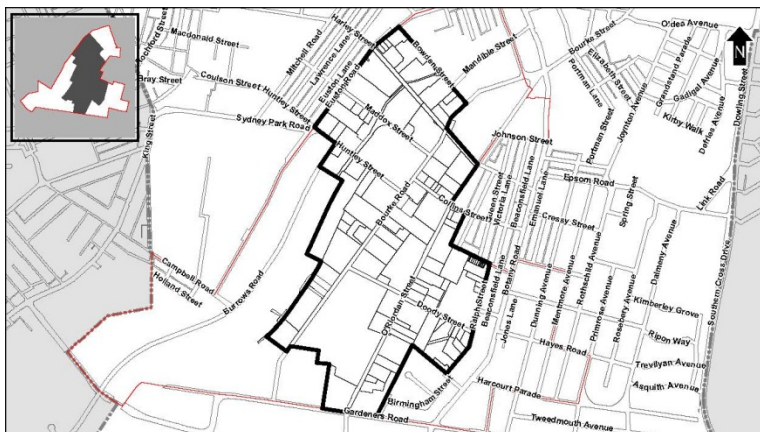
The Liveable Green Network, a substantial part of which stretches along both sides of the Canal, forms part of the City’s pedestrian and cycling network that connects people to the City Centre, village centres and neighbourhoods, public transport, education and cultural precincts and major parks and recreation facilities. The network extends from the Alexandra Canal, along its tributaries and throughout the City.

Future development is to present a more inviting edge to the canal, creating opportunities for future crossing points, casual surveillance and an active interface between the public and private domain.

Principles

- (a) Development must achieve and satisfy the outcomes expressed in the character statement and supporting principles.
 - (b) New streets will deliver additional local connections, providing alternative routes within the area and connecting with the main roads.
 - (c) Investigate opportunities for crossing points over the canal for pedestrians and cyclists to link into the wider movement network and enjoy the proximity of Sydney Park.
 - (d) Promote pedestrian and bike links between the Liveable Green Network and the surrounding street network via through-site links to allow greater enjoyment of the linear open space and offer enhanced movement choices.
 - (e) Introduce pocket parks and small areas for passive recreation along the Liveable Green Network.
 - (f) Maximise views along the Canal with the location of through-site links and new streets.
 - (g) Integrate the industrial history of the area into the public domain.
 - (h) Ensure new development addresses streets, through-site links and the Canal, provides activation and exhibits high quality design.
 - (i) Encourage a high quality built form and public domain along the Euston Road frontage to create a more attractive edge to Sydney Park and provide for casual surveillance.
 - (j) Allow for some ancillary uses that support the working population of the locality, such as kiosks, which are limited in scale so as not to compromise the operations of existing and future industrial uses.
- d. Add a new Section 2.10.2 – Enterprise Corridor as follows:

2.10.2 Enterprise Corridor



This locality is generally bound by Bowden Street, Ralph Street, Gardeners Road and Euston Road and is traversed by two major north-south transport routes along Bourke Road and O’Riordan Street.

Currently, the predominant use in this area is warehousing and lighter industrial activities. Over recent years, there has been a marked change from the traditional industrial uses that may have located in this area to a more evolved industrial uses, including high tech industrial, design warehouses and some retail.

While this locality will continue to accommodate industrial activities, it will accommodate a wider variety of economic activities. Building on the strength of existing logistics and lighter industrial uses that benefit from good access to the airport and Central Sydney, this area will also facilitate a range of higher value employment, such as high tech and offices where appropriate, to realise a thriving, innovative mixed business economy supporting Sydney's growth.

The north of the locality will become greener, based around Perry Park and a new linear public space following the Shea's Creek channel and forming part of the city-wide Liveable Green Network. It will support new business uses, achieving a transition between the higher-order economic activities around Green Square Town Centre and rail station and the more intense industrial uses around the Alexandra Canal.

A bulky goods area is to be maintained in the south of the locality along O'Riordan Street, providing support to the growing residential population in the wider vicinity. The area will continue to capitalise on connections to freight and logistics associated with the airport and port. A pedestrian and cycling connection and green link along the alignment of the Sydney Water channel will form part of the Liveable Green Network, linking Alexandra Canal and a new open space on Doody Street.

New streets throughout the locality will provide greater permeability to encourage walking and cycling whilst breaking up larger industrial land parcels to facilitate access for the evolving uses and maximise street frontages.

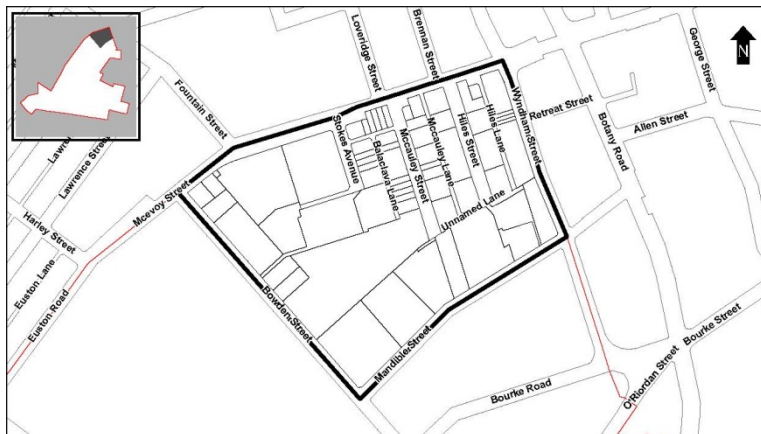
Principles

- (a) Development must achieve and satisfy the outcomes expressed in the locality statement and supporting principles.
- (b) Establish landscaped pedestrian and cycle links as part of the Liveable Green Network along the Shea's Creek channel connecting Alexandra Canal to Green Square.
- (c) A new public open space is to be provided on Doody Street, at the corner of Ralph Street, adding to the public open space network that extends from Turruwul Park to Alexandra Canal and Sydney Park.
- (d) Public open spaces, through-site links and streets should be edged by active uses to increase the sense of safety and security.
- (e) Reinforce and extend street tree plantings along major roads and proposed streets.
- (f) Introduce new bike and pedestrian friendly streets and improve current streets to provide more street frontage for businesses and create route choice and ease of movement for pedestrians and cyclists.
- (g) Encourage land uses including high-tech industries, research and development, freight handling and other airport related industries in addition to the existing more traditional employment uses.

- (h) Encourage the planned subdivision of large blocks to create opportunities for a range of businesses and building types. Discourage fragmented subdivision and strata titling of large lots to retain the flexibility for comprehensive and integrated development of the area.
- (i) Celebrate the area's history by retaining and adaptively re-using early industrial buildings.
- (j) Encourage high quality buildings of bold, contemporary design along O'Riordan Street to create more attractive streetscapes for pedestrians.
- (k) Retail is to be limited in scale to support nearby planned centres.
- (l) Allow for non-residential uses which support employment activity and/or service the local working population, such as entertainment facilities and markets, ensuring that they are of limited scale so they support planned centres and do not compromise the operations of industrial and employment generating uses.
- (m) Support small activity nodes where they are currently located at the intersection of Bourke and Huntley Streets and at Doody and Bourke Streets.

e. Add a new Section 2.10.3 – McEvoy East as follows:

2.10.3 McEvoy East



This locality is bound by McEvoy Street, Wyndham Street, Mandible Street and Bowden Street.

It will accommodate a wide variety of business uses that are integral to the operation of the wider Sydney economy and support the growing business and residential communities of the wider area.

As the transition from more traditional industrial uses occurs over time, improvements to the street network and public domain will also attract new industries, supporting a range of employment opportunities, including 'creative' industries, the 'knowledge economy', flexible office space and retail uses, including factory outlets currently located in the area.

Two new public open spaces will provide recreation opportunities and increased amenity, whilst a network of new publicly-accessible through-site links will encourage walking and cycling. The leafy character of the area will be enhanced with more street trees and landscaped setbacks.

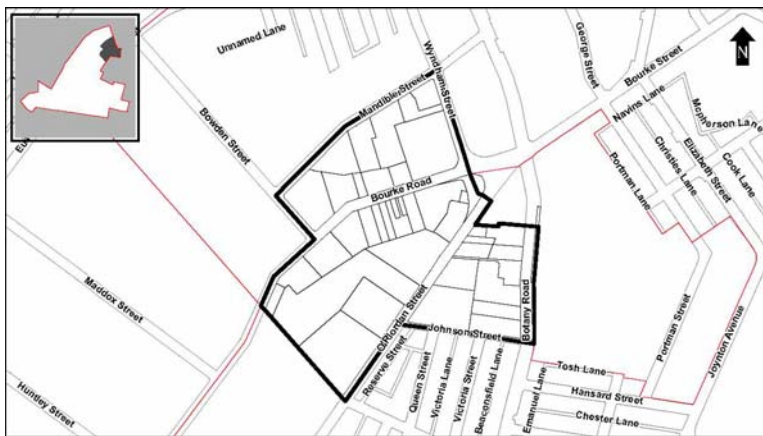
To take advantage of this existing and new local infrastructure, and proximity of transport options and facilities in Green Square Town Centre, the area will also support the provision of affordable rental housing may be considered in appropriate locations.

The attractive built environment, architectural character and fine grain pattern in Hiles Street, McCauley Street and Stokes Avenue is to be retained through adaptive re-use. New development will support and respect the precinct's industrial past.

Principles

- (a) Development must achieve and satisfy the outcomes expressed in the character statement and supporting principles.
 - (b) Introduce new streets and through-site links to increase permeability and connectivity and to improve the operation of the street network.
 - (c) Increase amenity by introducing two new public open spaces between an extended Stokes Avenue and McCauley Street and at the corner of Mandible and Bowden Streets.
 - (d) Retain, protect and enhance tree lined streets with street tree planting along new streets.
 - (e) Preserve the architectural character and grain of Hiles Street, McCauley Street and Stokes Avenue and their lanes, by retaining and adaptively re-using the early industrial buildings.
- f. Add a new Section 2.10.4 – East Alexandria as follows:

2.10.4 East Alexandria



This locality is generally bound by Mandible Street, Wyndham Street, Botany Road, Johnson Street, O'Riordan Street and the Sydney Water easement between O'Riordan Street and Bourke Road.

It will be a thriving, evolving employment neighbourhood in transition between traditional industrial land uses and higher density commercial and business support services development. These uses will support the function of the Green Square Town Centre as the Planned Major Centre for the southern part of the City.

The character of the existing industrial buildings is likely to change over time and the extended street network and improved public domain will make the locality an attractive location for new businesses.

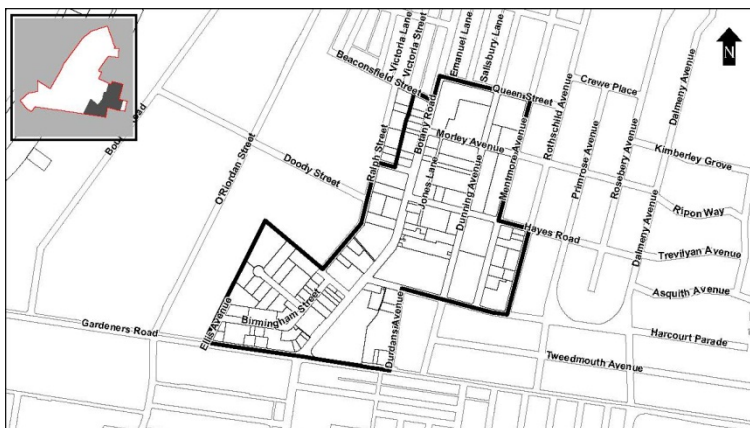
Landscaping along the water channel, linking to the Liveable Green Network, will provide new bike and pedestrian links. New east-west streets will also provide improved connectivity and street frontages.

Within walking distance of the facilities and public transport options of the Green Square Town Centre, the area will also support the provision of affordable rental housing may be considered in appropriate locations.

Principles

- (a) Development must achieve and satisfy the outcomes expressed in the character statement and supporting principles.
 - (b) Improve pedestrian amenity on O’Riordan Street, Bourke Road and Botany Road through widened footpaths and public domain improvements.
 - (c) Retain, protect and enhance existing landscape character by providing street tree planting along new streets and water channels.
 - (d) Ensure development does not preclude the introduction of an east-west street linking Bowden Street and the Green Square Town Centre.
 - (e) Increase amenity by introducing open space connections along the water channels which provide for pedestrians and cyclists as part of the Liveable Green Network from Alexandra Canal to the Green Square rail station.
 - (f) New buildings are to address the water channel open space network.
 - (g) Encourage higher density flexible office space and hi-tech industries that adopt best practice environmental standards and contribute positively to the public domain.
 - (h) Introduce hotel and motel accommodation in the street block adjoining the Green Square Town Centre to support the employment uses in the vicinity and capitalise on the proximity to the Airport Link Line at Green Square rail station.
 - (i) Retail is to be limited in scale to ensure the primacy of the Green Square Town Centre.
- g. Add a new Section 2.10.5 – Rosebery West as follows:

2.10.5 Rosebery West



This locality is generally bound by Queen Street, Rothschild Avenue, Gardeners Road and Ralph Street.

Botany Road is an important route connecting Central Sydney with Botany Bay and is to continue its role as a commercial and industrial hub with a strong employment focus.

The area around Birmingham and Bradford Streets, as well as Dunning Avenue and Hayes Road are current destinations for a diverse mix of uses including small scale retail, cafes, shopping and commercial activity. An activity hub around Hayes Road will act as a small centre to support the surrounding residential, commercial and industrial uses.

Built form is to respond to the finer grain lot pattern and legible well-connected street and block system of the adjoining Rosebery Estate to the east and to the architectural character and tree lined streets around Birmingham Street in the west. Built form along Botany Road is to incorporate non-residential uses at lower levels and be designed to ameliorate the impact on residential uses associated with the heavy traffic use of this route.

Given the locality's proximity to local infrastructure, transport and the adjoining residential area of Rosebery, the provision of affordable rental housing may be considered in appropriate locations.

Principles

- (a) Development must achieve and satisfy the outcomes expressed in the character statement and supporting principles.
- (b) Capitalise on the architectural character and amenable public domain around Hayes Road and Birmingham Street by retaining and adaptively re-using early industrial buildings. Encourage sensitive re-use by 'creative' industries.
- (c) Development is to complement the adjoining Rosebery Estate and respond to the street layout and subdivision of this area.
- (d) Introduce new pedestrian and cycle links to Turruwul Park and the landscaped water channels which are part of the Liveable Green Network.
- (e) Retain existing and introduce new street tree planting along streets and pedestrian links.
- (f) Extend the large canopy of existing trees on Mentmore Avenue to strengthen the 'green' character of the street and support the transition to the existing low-scale Rosebery Estate by creating a buffer to new development.
- (g) Introduce a landscaped setback along the west side of Mentmore Avenue (north of Hayes Road) to complement the landscaped setbacks within the Rosebery Estate.
- (h) Encourage a diverse mix of land uses and active street frontages along Botany Road.
- (i) Capitalise on the future widening of Botany Road to upgrade the pedestrian environment to allow for tree planting, footpath widening and bike links.
- (j) Ensure large setbacks along Botany Road are integrated into, and form an extension of, the public domain.
- (k) Provide residential development along the Botany Road frontage as part of commercial and mixed use developments which incorporate non-residential uses at lower levels to ensure satisfactory residential amenity.

[8] Section 3 General Provisions

- a. Replace Figure 3.12 Hierarchy for Centres, City South Map with the Figure 3.12 shown at Attachment A.

[9] Section 3.1.2

- a. Amend the introductory paragraphs as follows:

....

Refer to Section 5.2 Green Square, ~~and~~ 5.3 Epsom Park **and 5.8 Southern Employment Lands** for additional provisions and supporting maps which show the preferred bike network proposed along new streets. These bike networks have been subject to investigation and master planning work.

[10] Section 3.4 Hierarchy of Centres, City South

- a. Amend Section 3.4 Hierarchy of Centres, City South as follows:

...

Clause 7.23 of the Sydney LEP 2012 complements this strategy by limiting the gross floor area for shops and markets outside of planned centres to 1000sqm. Clause 7.23 seeks to limit the size of individual tenancies and not the total amount of retail floor space on a ~~property~~ **site**.

Objectives

...

- (c) Ensure that major retail development is located within the planned centres where it will have maximum community benefit, **result in fewer trips by private vehicle and create competitive, sustainable environments for local business.**

...

[11] Section 3.7 Water and Flood Management

- a. Amend Section 3.7 Water and Flood Management as follows:

Objectives

...

- (f) **Ensure that flood risk management addresses public safety and protection from flooding.**

- b. Amend Section 3.7.1 Site Specific Flood Study as follows:

- (1) When required by Clause ~~7.157~~ of *Sydney LEP 2012* ...

[12] Section 4.2.5.3 Development on busy roads and active frontages

- a. Amend section 4.2.5.3 Development on busy roads and active frontages as follows:

The following provisions apply to ~~areas that predominantly have non-residential uses at ground level,~~ **sensitive uses** on sites that are to have an active frontage as shown on the Active frontages map, or sites with a frontage to a busy road that carries more than 20,000 vehicles a day. **Sensitive uses include:**

- **buildings for residential use (including mixed use buildings);**
- **places of public worship;**
- **hospitals; and**
- **educational establishments or childcare centres**

Noise mitigation measures are required for new developments along road corridors carrying more than 20,000 Annual Average Daily Traffic. A copy of the 'Traffic volume maps on noise assessment for buildings on land adjacent to busy roads' can be accessed on the Roads and Maritime Services website www.rta.nsw.gov.au.

These provisions also provide a design solutions to achieve acceptable amenity for residential uses that may be affected by noise from busy roads and active uses.

Applicants proposing development on busy roads should also refer to State Environment Planning Policy (Infrastructure) 2007 **and the NSW Government's *Development near Rail Corridors and Busy Roads – Interim Guidelines*** which includes ~~controls~~ **design guidelines and requirements to manage the about** impacts from road **and rail** noise and vibration.

Objectives

- (a) Mitigate the impacts of noise for **sensitive uses** ~~buildings~~ located along busy road corridors.
- ~~(b) Require non-residential uses for the ground floor and flexibility of use for the first floor of buildings facing road corridors carrying more than 20,000 vehicles per day.~~
- ~~(c) Require non-residential uses for the ground and first floors of buildings facing road corridors carrying more than 40,000 vehicles per day.~~
- ~~(d)~~ **(b) Ensure** Provide visual privacy for residential dwellings when viewed from the adjacent public domain.
- ~~(e)~~ **(c) Ensure** Provide acoustic amenity for **sensitive uses** ~~residential dwellings~~ by attenuating noise from external sources.
- ~~(f)~~ **(d) Ensure** Provide reasonable internal daylight levels within **sensitive uses** ~~residential dwellings~~.

Provisions

- (1) **Where sensitive uses are proposed, council may require an Acoustic Assessment prepared with reference to NSW Government's *Development near Rail Corridors and Busy Roads – Interim Guidelines*.**
- (2) **Where sensitive uses are proposed, development is to be appropriately designed to minimise the impact of road noise and vibration.**

- (3) Where development fronts roads with more than 40,000 vehicles per day, non-residential uses are required on the ground floor and first floor.
- (4) Where development fronts roads with more than 20,000 vehicles per day, non-residential uses are required on the ground floor.
- (5) Non-residential uses require a minimum ceiling height of:
 - (a) 3.6m where located on the ground floor; and
 - (b) 3.3m where located on the first floor or above.
- (6) Non-residential uses on the ground floor and first floor require a minimum internal depth from the street frontage of 10m measured from the glass line.
- ~~(7) Buildings facing road corridors with more than 40,000 vehicles per day are to locate commercial or retail uses on the ground floor with a minimum floor to ceiling height of 3.6m and commercial or retail use on the first floor with a minimum floor to ceiling height of 3.3m.~~
- ~~(8)~~ (7) Where a development has residential uses with habitable rooms that:
 - ...

[13] Section 4.3 Industrial Developments

- a. Delete the contents of Section 4.3 Industrial Developments in its entirety.
- b. Add new Section 4.3.1 General Requirements as follows:

4.3.1 General Requirements

Objectives

- (a) Provide general requirements for industrial development outside of the Southern Employment Lands.

Provisions

- (1) Industrial development is to have regard to the objectives and provisions of Section 5.7.2 Development.

[14] Section 5 Introduction

- a. Amend the Introduction as follows:

...

This Section establishes additional provisions for specific areas in the local government area including Central Sydney, Green Square, Epsom Park, and the **Ashmore Neighbourhood**, Rosebery Estate and the **Southern Employment Lands**.

...

[15] Section 5 Specific Areas

- a. Replace Figure 5.1 Specific Areas Map with the Figure 5.1 shown at Attachment A.
- b. Replace Figure 5.34 Green Square – Structure Plan Map with the Figure 5.34 shown at Attachment A.
- c. Replace Figure 5.36 Green Square – Street Hierarchy and Layout Map with the Figure 5.36 shown at Attachment A.
- d. Replace Figure 5.39 Green Square – Public Open Spaces Map with the Figure 5.39 shown at Attachment A.
- e. Replace Figure 5.43 Green Square – Setbacks and Public Domain Improvement Map with the Figure 5.43 shown at Attachment A.

[16] Section 5.8 Southern Employment Lands

- a. Add Section 5.8 Southern Employment Lands as follows:

5.8

Southern Employment Lands

This Section applies to the land identified in Figure 5.1 *Specific Areas* as the Southern Employment Lands.

Where land is located in the Green Square Urban Renewal Area and the Southern Employment Lands, both Section 5.2 Green Square and this Section of the DCP apply. Where there is an inconsistency between Section 5.2 Green Square and this Section, this Section applies to the extent of the inconsistency.

The Southern Employment Lands are strategically important employment lands located between Sydney Airport, Port Botany, the new residential and commercial centres at Green Square and Mascot Town Centres and the Sydney CBD.

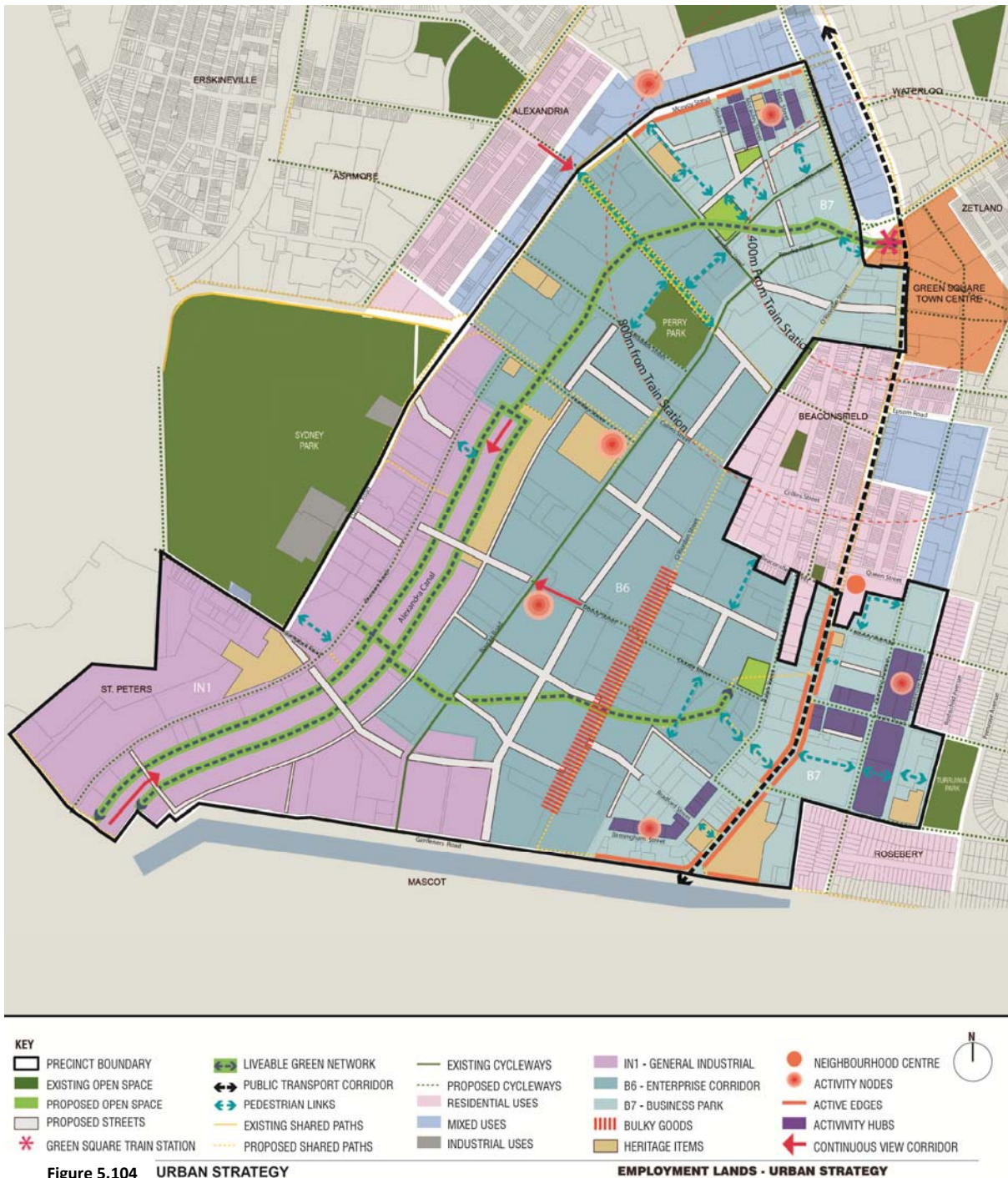
The area forms the historic base of manufacturing in the Sydney region, and today remains characterised by mostly industrial land uses, with some commercial and bulky goods retailing along O’Riordan Street. Over time the area will accommodate more intense forms of employment generating activities.

5.8.1 General

The Southern Employment Lands Urban Strategy shows the strategic context within which development in the Southern Employment Lands is to take place, providing a framework for urban renewal.

Provisions

- (1) Development is to support the realisation of the Southern Employment Lands Urban Strategy shown at Figure 5.104.
- (2) Development is to be in accordance with Section 2 Locality Statements and supporting principles for the individual neighbourhoods in the Southern Employment Lands.



5.8.2 Development

This section should be read in conjunction with Section 4 Development Types of this DCP. In the event of any inconsistency, this Section applies to the extent of the inconsistency.

5.8.2.1 Subdivision (including strata subdivision)

The Southern Employment Lands include land zoned for pure industrial purposes as well as land zoned for more flexible employment generating uses including light industrial, commercial and retail uses. It is important that the subdivision of land, including strata subdivision, continues to support the objectives of the employment zones and does not inhibit the delivery of new essential infrastructure.

Objectives

- (a) Ensure lot sizes and street frontages can support the desired building types and uses and achieve internal spaces appropriate to their function.
- (b) Ensure the subdivision of land does not inhibit the provision of new streets, through-site links, open spaces or the Liveable Green Network.
- (c) Ensure the subdivision of land zoned for industrial purposes does not inhibit the efficient operation of the industrial zone that is essential to the operation of the City.
- (d) Ensure that the subdivision of land does not inhibit the future conservation and adaptive reuse of heritage items identified in the Sydney LEP 2012.

Provisions

- (1) Subdivision is not to impede setbacks, new streets, pedestrian and cycling routes or through site links where identified on the *Streets and lanes map*, the *Building setback and alignment map*, *Proposed open space map* or the *Through-site link map*.
- (2) Where located in the IN1 General Industrial zone, the minimum lot size for a Torrens title subdivision is 2,500sqm and the minimum street frontage of lots is to be 35m.
- (3) Battle-axe subdivisions are not permitted.
- (4) The minimum allotment size permitted for a strata title subdivision of a single industrial development, a single industrial unit, or the gross floor area of any industrial unit forming part of a multi tenanted development, is 150sqm.
- (5) Where identified on the *Streets and lanes map*, the *Building setback and alignment map*, *Proposed open space map* or the *Through-site link map*, setbacks, new streets, liveable green network connections, through-site links or open space is to be provided as part of any subdivision or strata subdivision of a lot.

5.8.2.2 Building setbacks

This section should be read in conjunction with Section 5.8.3.3 Liveable Green Network of this DCP.

Objectives

- (a) Ensure development provides an appropriate presentation to the public domain through landscaping and setbacks.

- (b) Ensure setbacks to all lot boundaries provide a high quality frontage and relationships to adjoining properties and public domain.

Provisions

- (1) Front setbacks and building alignments are to be consistent with the *Building setback and alignment map* and Table 5.9 Building setbacks in the Southern Employment Lands.
- (2) Setback areas are to form a visual extension of the public domain and include landscaping to enhance the appearance and bulk of industrial buildings.
- (3) Where a front setback is not identified on the *Building setback and alignment map*, a landscape setback of 6m is generally required unless a smaller setback would:
 - (a) provide a more consistent relationship to the predominant alignment of existing buildings along the street;
 - (b) not be aligned to the street boundary, where the development is located on a main street or adjacent to a centre; or
 - (c) where it is identified on the *Active frontages map*.
- (4) The front setback area is to be landscaped to complement the streetscape and clear of built obstructions including storage areas, signage, parking and building overhangs, including sun control devices.
- (5) Fences are not permitted along street frontages.
- (6) Front setback areas are not to be predominantly turfed.
- (7) Where a building is located on a corner, the front setback is to be 6m on each frontage or consistent with the predominant setback on each street.
- (8) Provide side and rear setbacks that:
 - (a) Ensure overland flow paths are not blocked or diverted;
 - (b) Locate contiguous areas of soft landscaping and tree planting with vegetation on neighbouring properties;
 - (c) are generally level with adjoining properties and public domain;
 - (d) create active and high quality frontages with streets, the Liveable Green Network connections, through site links and open spaces; and
 - (e) create high quality frontages to adjoining properties.

Table 5.9: Building setbacks in the Southern Employment Lands

Setback type	Description
Footpath widening setbacks	Land to be dedicated to Council for the purpose of footpath widening. Additional setback may be required from new site boundary. The setback is to be provided clear to the sky.
Landscape setbacks	Development to be setback from the site boundary. Setback is to be landscaped. Dedication of landscape setbacks is generally not required. The setback is to be provided clear to the sky. Incursion of the built form elements into the setback is generally not acceptable.
Liveable Green Network setback	Development to be setback in accordance with Section 5.8.3.3 Liveable Green Network, of this

	DCP.
Street setbacks	Where land is proposed to be dedicated to Council for the purpose of a providing a street (see Clause 6.22 in Sydney LEP 2012) additional setbacks may be required from the new site boundary.



Figure 5.105: An example of a landscaped setback that presents well to the street and softens the appearance of the building

5.8.2.3 Building height

Objectives

- (a) Ensure the height in storeys and street frontage height in storeys reinforces the existing or future neighbourhood character.
- (a) Ensure appropriate floor to ceiling heights that promote daylight access into buildings and contribute to the flexible use of buildings.

Definitions

A storey is the space between a floor and the next floor level above. It does not include an attic, a mezzanine or a space that contains only a lift shaft, stairway or meter room.

Street frontage height in storeys is the vertical height of the primary façade.

Provisions

- (1) Development must not exceed the maximum number of storeys as shown in the *Building height in storeys map* and *Building street frontage height in storeys map*.
- (2) The maximum may only be achieved where it can be demonstrated that the proposed development reinforces the neighbourhood character.
- (3) Where the *Street frontage height of buildings map* does not indicate a maximum height, the maximum street frontage height must be consistent with the street frontage height in storeys of adjacent buildings, or the predominant street frontage height in storeys in the vicinity of the proposed building.

- (4) Height of buildings and the street frontage height in storeys should not match anomalous tall neighbouring buildings that are inconsistent with the neighbourhood.
- (5) Buildings that are primarily for an industrial purpose are to have a minimum floor to ceiling height of 5m on the ground floor and a minimum of 3.3m on all other floors.

5.8.2.4 Building layout and design

Objectives

- (a) Encourage flexible building design to ensure buildings can be converted for a range of uses.
- (b) Encourage new development to respond to design elements of traditional industrial and commercial development.
- (c) Ensure appropriate landscaping, external break out spaces, drainage and parking.
- (d) Ensure site planning results in high quality, safe and legible spaces that have a positive address to adjoining properties and the public domain.

Provisions

- (1) Development involving perpendicular orientation of buildings to the street (gun-barrel development) is not permitted. Narrow lots less than 20m in width are, as far as practicable, to be consolidated to enable the orientation of buildings parallel to the primary street frontage.
- (2) Building design is to maximise the use of natural lighting and ventilation. Internal courtyards are to be incorporated where floor plates are greater than 2,500sqm.
- (3) Buildings are to be consistent with the *Activate frontages map*.
- (4) Building on a proposed street are to provide an appropriate frontage to that street.
- (5) All building frontages are to comprise:
 - (a) building entries and large windows to offices and showrooms at least every 20m; and
 - (b) a minimum of 50% of the length of a frontage to a local street.
- (6) Loading docks and roller doors must not be visible from the primary street frontage.
- (7) Industrial and warehouse components of mixed developments are to be screened behind active uses or a commercial component of the development.
- (8) Ensure building foyers are oriented to the street and are appropriately scaled to allow sufficient ground floor space for fine grain active frontages and retail uses as appropriate.
- (9) Provide awnings over building entrances.
- (10) Blank walls must be screened with landscaping or treated as sculptural elements incorporating public art, variation in materials and other methods reflecting contemporary architectural design.
- (11) The facade of the development is to:
 - (a) be articulated using architectural elements and a variety of design languages for functional zones within building groups;
 - (b) use a variety of materials and finishes; and
 - (c) use a proportion of solid surfaces, preferably masonry material.

- (12) Buildings located on corner sites must reinforce the corner by massing and facade orientation.
- (13) Rooftop structures such as plant rooms, solar panels, air conditioning and ventilation systems are to be incorporated into the design of the building and concealed within the roof form or located within a well-designed, integrated roof top element.
- (14) Above ground water tanks are to be located behind the front facade and screened from the public domain. Details, including elevations showing the location and screening method are to be submitted with the development application.
- (15) Where appropriate, buildings are to incorporate a non-potable recycled water reticulation system to connect to an available non-potable water source. Non-potable recycled water is to be provided for certain uses including toilet flushing, air conditioning cooling towers and irrigation.

5.8.2.5 Landscape and fencing

Objective

- (a) Enhance visual amenity by providing high quality landscaped setbacks and private communal open space.
- (b) Provide spaces for workers to socialise and recreate outdoors.

Provisions

5.8.2.5.1 Landscaping

- (1) Deep soil planting is to be provided for a:
 - (a) minimum of 15% of a site where it is located in the B6 Enterprise Corridor or the IN1 General Industrial zones; or
 - (b) minimum of 10% of a site for other areas.
- (2) Deep soil planting is to be provided in the front building setback and external breakout spaces.
- (3) The minimum dimension for deep soil planting is 3m in any direction.
- (4) Landscape design is to be generally consistent with Section 4.2.3.5 of this DCP and:
 - (a) include plant species local to the Sydney region;
 - (b) be compatible with the flood risk for example, dense planting is not to be located in a flow path;
 - (c) have water permeable paving for low traffic and pedestrian areas;
 - (d) include water efficient irrigation systems installed below mulch level;
 - (e) enhance the appearance of the building and car parking areas without creating opportunities for concealment;
 - (f) clearly delineate paved surfaces of different uses including pedestrian areas, car parking spaces and driveways; and
 - (g) create attractive views to and from the public domain, and help reduce the visual bulk and scale of the development.

5.8.2.5.2 Landscaping in car parks

- (1) Where parking is provided at grade and not covered, native trees endemic to the locality are to be provided at a minimum rate of one tree for every 4 car spaces.
- (2) Trees are to be planted in line with parking bays with a minimum dimension of 2m and a minimum 1m soil depth, protected by a raised kerb barrier and native ground cover planting.
- (3) Parking areas and hardstand areas are to be designed to include:
 - (a) pavements to drain to bio-retention areas and/or permeable pavements for infiltration; and
 - (b) materials which minimise heat island effect.
- (4) Parking is not to be provided in the landscape setback.

5.8.2.5.3 Fences

- (1) Fences are not permitted between the building and the primary street frontage. Where front fencing is required for security purposes, it is to be integrated into the overall design of the development and screened by the landscaped setback.
- (2) Solid fences are not permitted. Palisade fences are preferred.
- (3) The maximum height of side and rear fences is 1.8m.
- (4) Fences are to be constructed in a dark colour to reduce visual impact.

5.8.2.5.4 Private communal open space

- (1) Where development is located in the B6 Enterprise Corridor or the IN1 General Industrial zones, and where the site area is greater than 5000sqm, it is to provide at least one area of private communal open space unless located within 200m of existing public open space.
- (2) Private communal open space is to:
 - (a) be directly accessible from the main office component of the development;
 - (b) include appropriate landscaping, shading, paving and a place for tables and chairs;
 - (c) where provided at grade, be one area of level, visible open space outside the front setback area; and
 - (d) have a minimum contiguous area of 100sqm and a minimum dimension of 8m in any direction.
- (3) Private communal open space may be accommodated on a green roof, provided that space is accessible to all building users.
- (4) Front setback areas are not to be included as part of the calculation of private open space.

5.8.2.6 Parking, access and loading and servicing

Objectives

- (a) Minimise visual impact of parking and loading areas on the public domain.
- (b) Encourage parking, vehicle access, loading and servicing areas that are:
 - i. integrated with the use, form and arrangement of buildings on the site;

- ii. safe, functional, accessible and easy to maintain; and
 - iii. landscaped to minimise large expanses of hard paving and provide an area of high amenity.
- (c) Maximise pedestrian and cyclist safety by either slowing vehicles and/or by separating areas for pedestrians, cyclists and vehicles.

Provisions

- (1) No parking is permitted in the landscape setback.
- (2) All vehicles are to enter and leave the site in a forward direction.
- (3) The design of parking and servicing areas is to:
 - (a) enable uninterrupted two way vehicle movements to and from the site where required by Australian Standards *Parking Facilities: Off-street Parking*;
 - (b) slow vehicles to <30 km/hr;
 - (c) separate parking and loading areas;
 - (d) provide for all loading to occur within the site;
 - (e) provide for all servicing, including garbage collection to be carried out wholly within the site with suitable collection points at convenient locations;
 - (f) provide separated pedestrian access routes to the main entries to the building both from the public domain and within the site from parking areas;
 - (g) provide a separated pedestrian walkway for the main pedestrian flows from customer carparks with greater than 50 car spaces; and
 - (h) locate parking access ramps within the building footprint.
- (4) Where shared access and turning areas are proposed, a single development application is required for all development which will use the shared arrangements, and it is to address how the land is to be subdivided and resulting easements.
- (5) Design all major vehicular circulation, including strata industrial circulation, generally to be 'street like' in appearance and include a carriageway, kerbs, footpaths and tree planting.
- (6) Minimise the visual impact of vehicular access and servicing areas on the public domain by:
 - (a) minimising the size of the vehicular access (width and height);
 - (b) setting roller shutters back from the street frontage of the building; and
 - (c) providing landscaping to screen views to the roller shutter.
- (7) Locate vehicular access points away from active pedestrian areas on secondary streets or lanes.
- (8) Minimise the width of driveway footpath crossings and maximise the width of pedestrian clear paths of travel.

5.8.2.7 Storage areas

Objective

- (a) Mitigate the visual and environmental impact of storage areas.

Provisions

- (1) Locate storage within the primary building.
- (2) Open storage areas that are visible from the public domain are not permissible.
- (3) Where materials are to be stored outside the primary building, storage areas are to be located next to the primary building and fully enclosed with solid fencing, surrounded by mature vegetation.
- (4) Open storage areas must not compromise truck or vehicle manoeuvring and car parking areas.
- (5) Ancillary buildings and storage sheds are to be located behind setback and front building lines, and must be consistent with the design of the main building and the design of the entire development.
- (6) Details of proposed ancillary buildings, open storage, service areas, solid and liquid waste storage and collection areas are to be provided with the development application.

5.8.2.8 Ancillary uses in the IN1 General Industrial zone

This Section relates only to development in the IN1 General Industrial zone

Objectives

- (a) Allow for appropriate ancillary uses in association with industrial development.
- (b) Encourage active frontages that contribute to the amenity of the streetscape.

Provisions

- (1) Ancillary office use is to be:
 - (a) directly associated with the industrial use;
 - (b) no larger than 15% of the gross floor area of the development; and
 - (c) located at the street frontage of the development site to provide an active frontage.

5.8.2.9 Industrial retail outlets

- (1) Industrial retail outlets are to be:
 - (a) the only retail activity on site;
 - (b) integrated into the design and layout of the industrial building; and
 - (c) located at the street frontage of the development site to provide an active frontage.

5.8.2.10 Affordable Housing in the B7 Business Development zone

In the Southern Employment Lands, 'affordable housing' is permitted on land zoned B7 Business Development. In some cases, affordable housing may be proposed on land close to busy employment environments. It is important that affordable housing is designed to mitigate the impacts from surrounding existing and future employment uses on residents.

This Section is to be read in conjunction with Section 4.2 Residential Flat, Commercial and Mixed Use Developments of this DCP.

Objectives

- (a) Ensure that affordable housing does not hinder the primary employment functions of the Southern Employment Lands.
- (b) Ensure affordable housing provides high levels of amenity for its residents and only occurs in appropriate locations.
- (c) Provide a balance of employment and residential uses and maximise the commercial benefits of locations on busy roads.

Provisions

- (1) Where affordable housing is provided, non-residential uses are required on the ground floor to preserve the employment functions at street level.
- (2) In addition to any other setbacks required by this DCP the minimum setbacks from side and rear development site boundaries (excluding new streets, open spaces, through-site links and the like) are to be:
 - (a) habitable rooms – 12m
 - (b) habitable rooms with windows perpendicular to the boundary – 9m
 - (c) non-habitable rooms – 6m
 - (d) non-habitable rooms with windows perpendicular to the boundary – 4m
- (3) Side and rear setbacks should be landscaped and provide a high quality visual buffer from adjacent development.
- (4) All balconies facing boundaries are to be screened and acoustically sealed in the form of winter gardens to provide visual and acoustic privacy from adjacent uses and roads.
- (5) Communal and private open spaces should be located away from busy roads.
- (6) Residential entries are to be located on local streets away from busy roads where possible.
- (7) Residential and commercial/retail entries are to be separated and clearly distinguishable.

5.8.2.11 Sensitive uses on busy roads – Air quality

The Southern Employment Lands contain industrial uses and are traversed and bordered by roads with highly traffic volumes. These roads can have significant noise and/or air quality impacts on sensitive land uses.

The following provisions apply to sensitive uses on sites with a frontage to busy roads or sites located in, or in close proximity to, the IN1 General Industrial zone. Sensitive uses include:

- buildings for residential use (including mixed use buildings);
- places of public worship;
- hospitals; and
- educational establishments or childcare centres.

Applicants proposing sensitive development on busy roads or close to industrial sources of air pollution should refer to *State Environment Planning Policy (Infrastructure) 2007* and the *NSW Government's Development near Rail Corridors and Busy Roads – Interim Guidelines* which include requirements and best practice guidance to manage the impacts from road noise and air quality.

This section should be read in conjunction with Section 4 Development Types, in particular Section 4.2.5.3 Development on busy roads and active frontages and Section 4.2 Fine grain, architectural diversity and articulation of this DCP.

Objectives

- (a) Minimise the exposure of sensitive uses to air pollution from busy roads and industrial sources.

Provisions

- (1) Where sensitive uses are proposed, Council may require an Air Quality Assessment report to be prepared by suitably qualified consultants to be submitted with development applications. The Air Quality Assessment report is to demonstrate that air quality is within acceptable limits and/or impacts can be mitigated.
- (2) Where mechanical ventilation is provided for dwellings and sensitive land uses on busy roads, air inlets must be located at the rear of the building where possible, away from vehicle emissions.
- (3) Where sensitive uses are proposed, development is to be appropriately designed to minimise any impact of air pollution. Design considerations provided in the *NSW Government's Development near Rail Corridors and Busy Roads – Interim Guidelines* are to be addressed.
- (4) For all development types, to reduce canyon effects and improve air circulation on busy roads, architectural treatments including variations in wall heights are required to disperse air pollutants. Refer to Figure 5.1061.

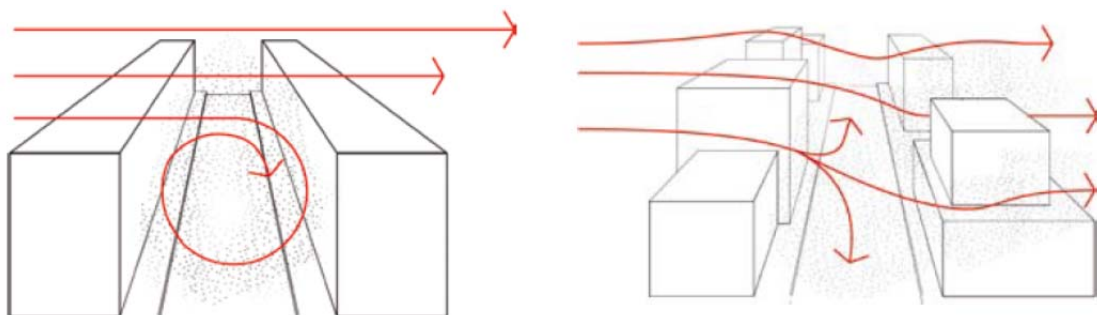


Figure 5.106: Roadway canyons and their effect on winds and air pollutants

Source: Department of Planning and Infrastructure 2008: *Development near Rail Corridors and Busy Roads – Interim Guideline*

5.8.3 Public domain

This section should be read in conjunction with section 3.1 Public Domain Elements of this DCP.

5.8.3.1 Public open space

This section should be read in conjunction with section 3.1.4 Public Open Space of this DCP.

Public open space is relatively scarce in the Southern Employment Lands and new open space is needed to support the transition of the area from mostly 'low demand' industrial activity to more intensive land uses.

Public open space is to support a range of recreational and cultural activities, both active and passive.

Objectives

- (a) Increase the amount of publically accessible open space in the Southern Employment Lands.
- (b) Provide a network of high quality, publicly accessible and safe open spaces that meet the active and passive recreational needs of both workers and residents in and around the Southern Employment Lands and encourage a sense of community.
- (c) Maximise opportunities for increasing the amount of public open space by enabling a flexible approach to its required locations, configurations and elements.
- (d) Ensure that the location and size of open spaces assist with stormwater management.

Provisions

- (1) Public open space is to be provided and designed in accordance with:
 - (a) the *Public Open Space Map*;
 - (b) Schedule 5 - Public open space dedication and design criteria; and
 - (c) Table 5.10 – Provisions for open space by locality in the southern employment lands.
- (2) Landscaping and public domain design is to be of high quality and include indigenous species, landscape sculptural elements and reference to the area's industrial heritage.
- (3) Public open spaces should have good solar access and protection from wind and noise.
- (4) Public open space should provide shade and seating for passive recreation.
- (5) Small pocket parks are to function as small break out parks linked to linear spaces. Pocket parks may incorporate:
 - (a) outdoor gym equipment; and
 - (b) landscaping using indigenous species.
- (6) Linear parks are to function as open space corridors that link larger open spaces. Linear parks may incorporate:
 - (a) pedestrian and cycle paths;
 - (b) facilities for dog walking;
 - (c) outdoor gym equipment; and
 - (d) where appropriate, a minimum of 1.5 metres of continuous landscaping using indigenous species.
- (7) Local parks are to function as larger recreation spaces for workers and residents. Local parks may incorporate:

- (a) play equipment and free play areas for informal activities; and
 - (b) continuous landscaping using indigenous species.
- (8) Active parks are to provide spaces for physical and recreational activity. Active parks may incorporate:
- (a) spaces for ball sports, including multi use sports fields, half sports fields or multi-purpose courts; and
 - (b) play equipment and free play areas for informal activities.
- (9) Where open space performs a dual recreation and stormwater detention function, the design of the detention basin is to:
- (a) include appropriate stormwater management measures to restrict gross pollutants from entering the basin;
 - (b) allow the release of detained water within 24 hours of the end of the stormwater event to protect the soft landscaping within the basin;
 - (c) have one or more embankment batters of not more than a 1 in 6 gradient to allow for the safe exit of persons from the basin after a stormwater event; and
 - (d) provide an appropriate balance between the stormwater management and recreation functions.

Table 5.10: Provisions for open space by locality in the Southern Employment Lands

Locality	Requirements	Guidelines
McEvoy East & East Alexandria (note localities overlap with Area A of Section 5.2.6)	One active park with an area not less than 8,000 sqm at corner of Bowden and Mandible Streets.	To include one half-sized sports field, subject to flooding/stormwater management restrictions.
	One local park adjoining Balaclava Lane with an area not less than 2,500sqm.	
	The Liveable Green Network will operate as a Linear Park with an area of about 1,200 sqm being in the McEvoy East and East Alexandria locality.	Refer to provisions for Liveable Green Network in Section 5.8.3.3.
Rosebery West	One local park located at the corner of Ralph and Doody Streets with an area not less than 5,500sqm.	Where possible it is to be located adjacent to the Liveable Green Network via Alexandria Canal. To include landscaping for habitat enhancement.
	One local park with an area not less than 4,000 sqm, or two parks, with the size of one park no less than 3,000sqm.	Ideally to be located west of Botany Road. Location and configuration of open space to be determined by Council.
Enterprise Corridor and Perry Park	At least 3 pocket parks, ideally connected to the Liveable Green Network, totalling no less than 600sqm.	Location and configuration to be determined by Council.

	Sydney Pipes Park (10,000sqm) a 20 metre wide linear park or ecological reserve located in the existing location of Sydney water pipeline, or alternative linear park of minimum width 15m.	Location and configuration to be determined by Council.
	One active park of at least 6,000sqm, incorporating a half-sized sports field.	Location and configuration to be determined by Council.
	The Liveable Green Network will operate as a Linear Park with an area of about 11,500 sqm in the Enterprise Corridor locality.	Refer to provisions for Liveable Green Network in Section 5.7.3.3.
Alexandra Canal	At least 3 pocket parks connected to the Alexandra Canal, totalling no less than 600sqm.	Location and configuration to be determined by Council.
	The Liveable Green Network will operate as a Linear Park with an area of about 30,000 sqm in the Alexandra Canal locality.	Refer to provisions for Liveable Green Network in Section 5.7.3.3.
Outdoor courts in all localities	Multiple outdoor courts, including rooftop courts	Location and configuration to be determined as opportunities arise. Courts should generally be 31x 18m to allow for multiple uses. Courts can be co-located with community hubs and/or sports fields. They may also be accommodated on rooftops in some circumstances.

5.8.3.2 Proposed streets and through-site links

The Southern Employment Lands are near a number of Australia’s major trip generators such as the airport, port and Sydney CBD. The area is divided by the major transport and economic corridor between the airport and port and the Sydney CBD with thousands of people passing through every day. This corridor also contains two new planned centres, including the Green Square Town Centre and Mascot Town Centre precinct, which will also generate substantial demand for road space, public transport seats and pedestrian and cycling infrastructure.

As the area grows, new streets and pedestrian and cycling routes are essential to increase permeability and connectivity within and through the area, providing for greater and more direct route choices and the opportunity for additional future public transport connections.

Where development is located in the B6 Enterprise Corridor zone, this Section is to be read in conjunction with Clause 6.22 of the Sydney LEP.

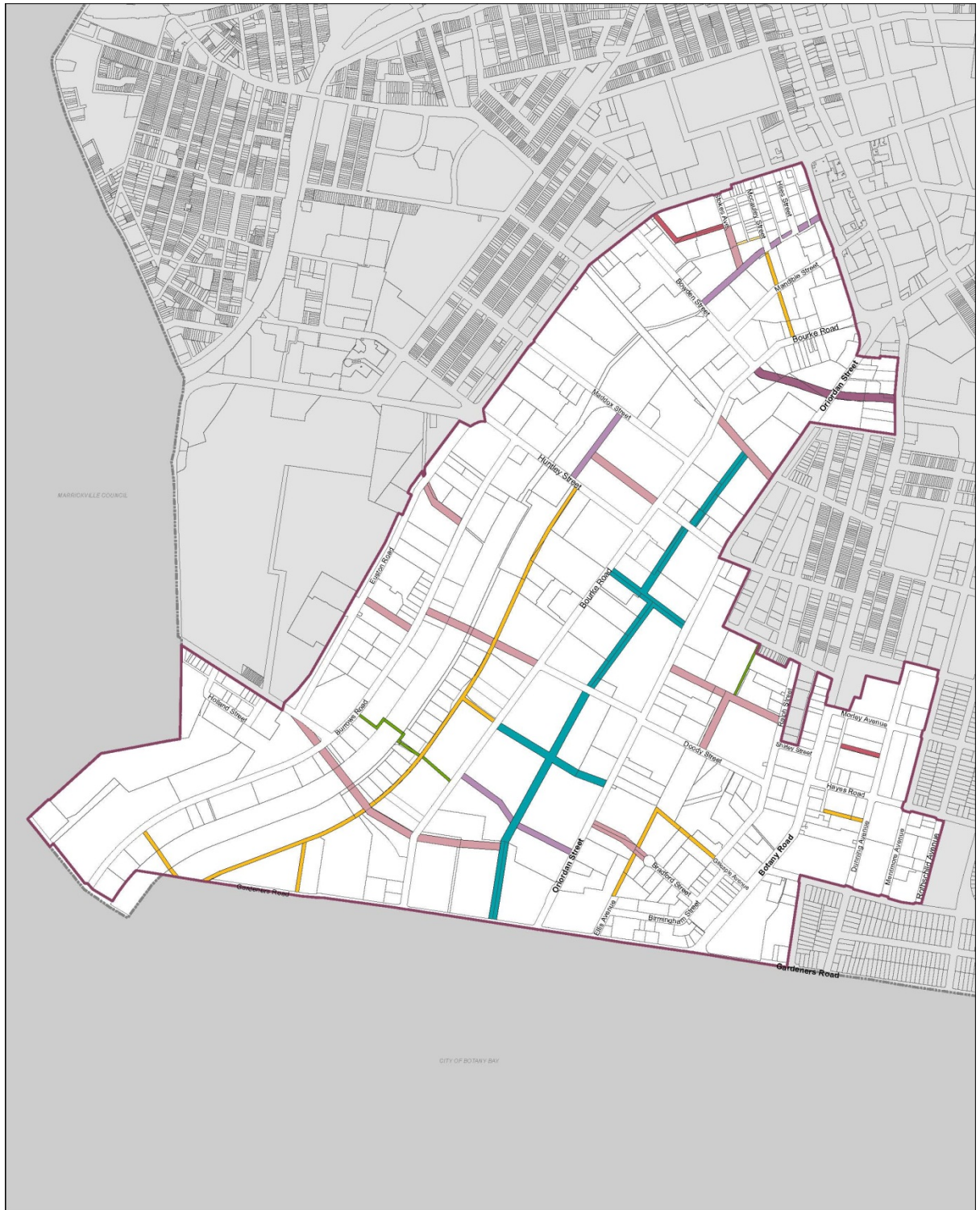
Objectives

- (a) Ensure new streets, pedestrian and cycling routes and through site-links are provided to support the growing worker population.
- (b) Ensure that new streets, pedestrian and cycling routes and through-site links respond to key connections within and adjacent to the southern employment lands.
- (c) Ensure new development does not impede the delivery of proposed roads, pedestrian and cycling routes and through-site links.

Provisions

- (1) Where required by Council, proposed streets, pedestrian and cycling routes and/or through-site links are to be provided in accordance with:
 - (a) *Streets and lanes Map, Through-site links Map and Building setback and alignment Map*; and
 - (b) Figure 5.107 Southern employment lands street hierarchy and layout;
- (2) Where development is located in the B6 Enterprise Corridor zone under the Sydney LEP 2012, and where the site is also affected by a proposed street identified on the *Streets and lanes Map*, development may exceed the maximum height and FSR controls in accordance with 6.22 of the Sydney LEP 2012.
- (3) Where a site is not affected by a proposed street on the *Streets and lanes Map*, then Clause 6.22 of the Sydney LEP 2012 does not apply.
- (4) New development is not to be located where a new street, pedestrian and cycling route and/or through-site link is proposed unless it is of a temporary nature.
- (5) Streets are to:
 - (a) be provided generally in accordance with Figures 5.108 – 5.113 Indicative street sections;
 - (b) where practicable include bio-retention swales or rain gardens, either centrally located or to the side of the roadway, to filter polluted low flow water run-off prior to entering the stormwater system;
 - (c) provide landscaping along both sides of the street to enhance the pedestrian environment;
 - (d) where practicable, provide street tree pits for passive irrigation via stormwater run-off and harvest;
 - (e) where appropriate, design tree pits soil specs and tree selections for enhanced bio-retention capacity and tree performance;
 - (f) utilise strata cell systems or similar to expand harvest opportunity and treatment within available planting areas; and
 - (g) provide grassed/ planted verges where practicable to reduce extent of hard stand within footways.
- (6) Where only part of a collector road can be achieved, it is to be provided generally in accordance with Figures 5.108 Indicative half local street section.
- (7) Proposed streets are generally to be dedicated to Council at the time of development, however an alternate approach may be agreed where Council does not intend to provide the road in the short to medium term.

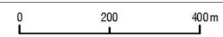
- (8) Where a site comprises three or more buildings, staged delivery of streets may be considered to allow for partial or staged redevelopment of the site or retention/refurbishment of existing buildings.
- (9) Staged delivery of streets may only be supported where an access staging plan is provided that demonstrates a long term strategy for delivering vehicular, pedestrian and cycle movement on and connections through the site. An access staging plan is to demonstrate:
 - (a) layout of all buildings showing locations of primary and secondary entries and extent of active frontages;
 - (b) provision of all existing and future streets, Liveable Green Network connections, through-site links and open spaces including setbacks from existing and future boundaries;
 - (c) vehicular, servicing and pedestrian circulation systems within and through the site;
 - (d) site grading strategy; and
 - (e) indicative development staging.
- (10) An alternative street arrangement may be considered by the Consent Authority to that shown in Figure 5.107 for 138 -196 Bourke Road, Alexandria, provided that satisfactory north-south and east-west connectivity is still achieved across the site.
- (11) Through-site links are to be designed:
 - (a) with a minimum width of 6m, or 8m where bike access is provided;
 - (b) to be open to the sky; and
 - (c) to be level with the adjoining footpath and fully accessible.



KEY					
	EMPLOYMENT LANDS STRATEGY BOUNDARY		LOCAL STREET 12.6M WIDE		COLLECTOR ROAD 22M WIDE
	CITY OF SYDNEY LGA		LOCAL STREET 16M WIDE		PEDESTRIAN AND CYCLE LANE
	LANE 6M WIDE		LOCAL STREET 20M WIDE		COLLECTOR ROAD 21M WIDE
	LOCAL STREET 10M WIDE				



Figure 5.107 **EMPLOYMENT LANDS STREET HIERARCHY AND LAYOUT**



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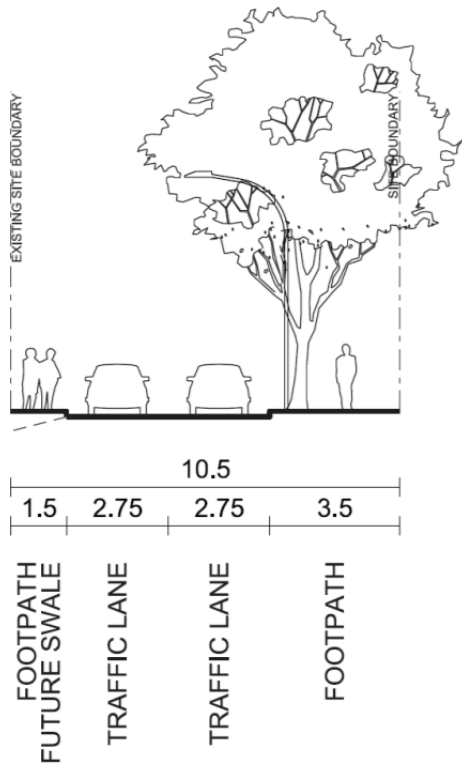


Figure 5.108: Indicative street section – Half local street (10.5m)

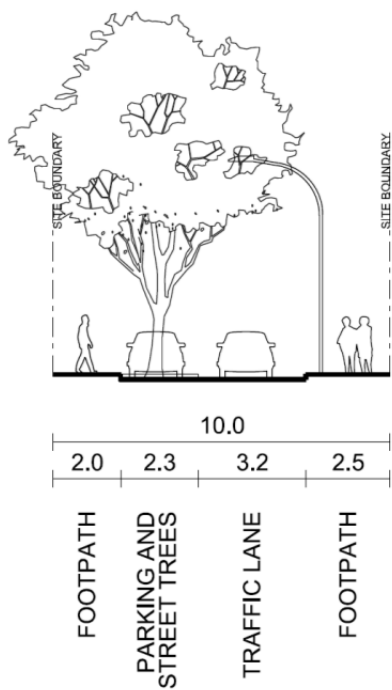


Figure 5.109: Indicative street section – Local street (10m)

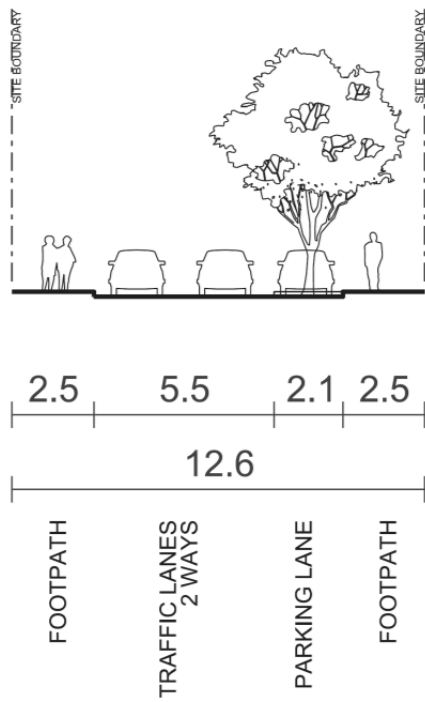


Figure 5.110: Indicative street section – Local street (12.6m)

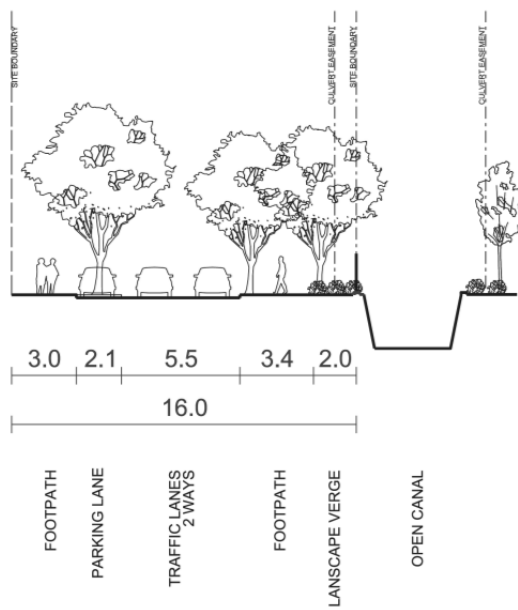


Figure 5.111: Indicative street section – Local street along canal (16m)

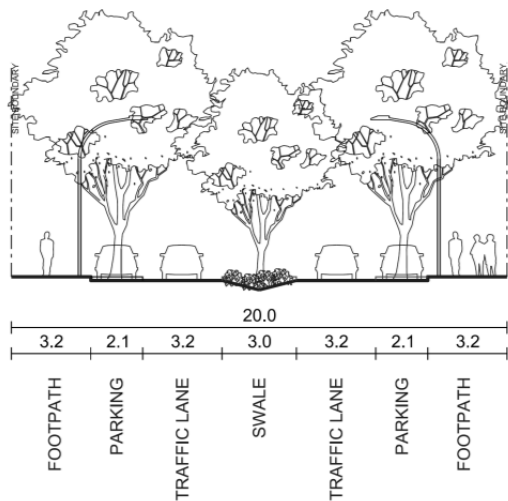


Figure 5.112: Indicative street section – Collector Road (20m)

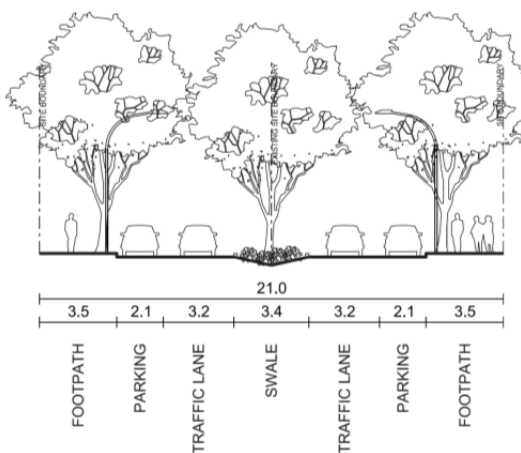


Figure 5.113: Indicative street section – Collector Road (21m)

5.8.3.3 Liveable Green Network

The Liveable Green Network forms part of the City’s pedestrian and cycling network that connects people to the City Centre, village centres and neighbourhoods, public transport, education and cultural precincts and major parks and recreation facilities. The network extends from the Alexandra Canal, along its tributaries and throughout the City.

This Section relates to development along the Liveable Green Network that is within the Southern Employment Lands. This section should be read in conjunction with Clause 7.10 of the Sydney LEP 2012 and the various sections of this DCP that relate to public domain, pedestrian and cycle links, built form and urban ecology.

Objectives

- (a) Facilitate a Liveable Green Network along the Alexandra Canal and its tributaries that provides opportunities for walking, cycling and active and passive recreation.
- (b) Ensure future development positively addresses the Liveable Green Network.

- (c) Improve and increase pedestrian and cycle connections to centres, public transport nodes, open spaces, facilities and services both in and around the southern employment lands.
- (d) Ensure the Liveable Green Network is legible and safe.
- (e) Ensure the Liveable Green Network includes landscaped spaces that provide habitat.
- (f) Increase the proportion of trips made by walking and cycling in and through the Southern Employment Lands.

Provisions

- (1) New development along the Liveable Green Network is to:
 - (a) maximise opportunities for surveillance;
 - (b) provide interest and minimise blank walls and incorporate building entries and large windows at least every 20m;
 - (c) provide a minimum of 25% of active frontage to the Liveable Green Network;
 - (d) provide direct access locating entries to the building along the Liveable Green Network.
- (2) Setbacks and building alignments are to be consistent with the *Building setback and alignment map*, *Through-site links map* and Table 5.11 Landscape setbacks for the Liveable Green Network.
- (3) Setbacks to facilitate the Liveable Green Network are generally required to be dedicated to Council with new development being built to the new site boundary.
- (4) Landscaping should incorporate locally indigenous species and features such as rockeries to provide habitat.

Table 5.11: Landscape setbacks for the Liveable Green Network

Condition	Setback
Where located along the Alexandra Canal i.e. Gardeners Road to south of Huntley Street (for indicative section see Figure 5.114: Alexandra Canal section)	10 metres measured from the edge of the canal.
Where located in the Liveable Green Network length between Mandible Street and Bourke Street (for indicative section, see Figure 5.115: Mandible Street to Bourke Road section)	6m on the north side of the canal and 1m setback on south side. Setback to be measured from the edge of the open channel.
Where the located in the Liveable Green Network length between Bourke Road and Doody Street (for indicative section see Figure 5.116: Bourke Road and Doody Street section)	10 metres measured from the edge of the open channel on both sides of the channel.
Where not detailed above, and where the existing water channel (pipe) is closed (for indicative section see Figure 5.117: Closed channel section)	5 metres measured both sides of the centreline of the pipe.
Where not detailed above, and where the existing water channel is open (for indicative section see Figure 5.118: Open channel section)	6 metre measured from the edge of the open channel on both sides of the channel.

Figure 5.114: Alexandra Canal section

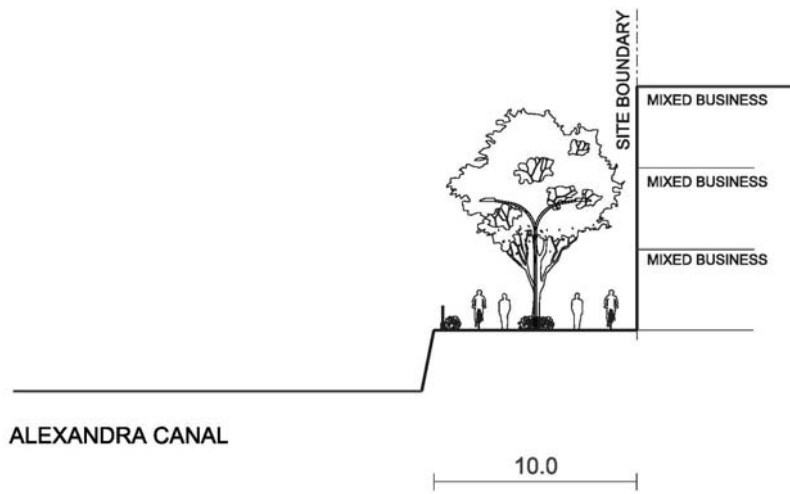


Figure 5.115: Mandible Street to Bourke Road section

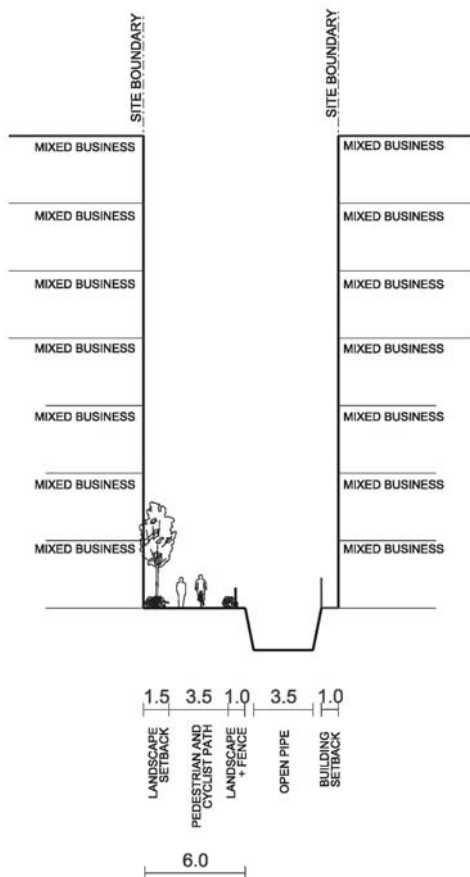


Figure 5.116: Bourke Road to Doody Street section

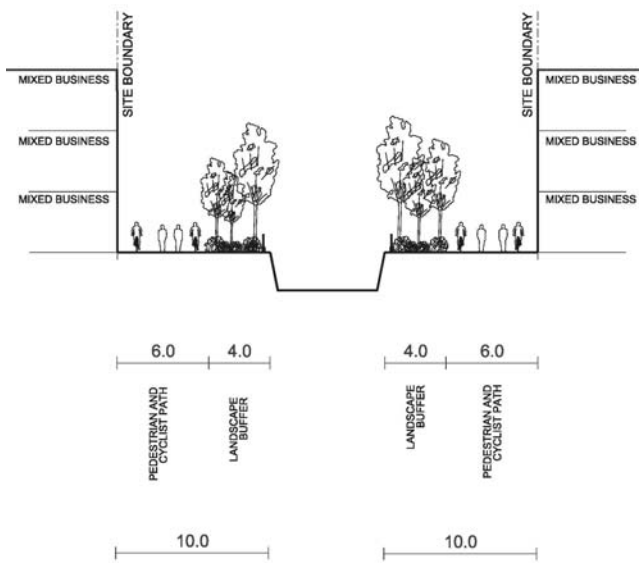


Figure 5.117: Closed channel section

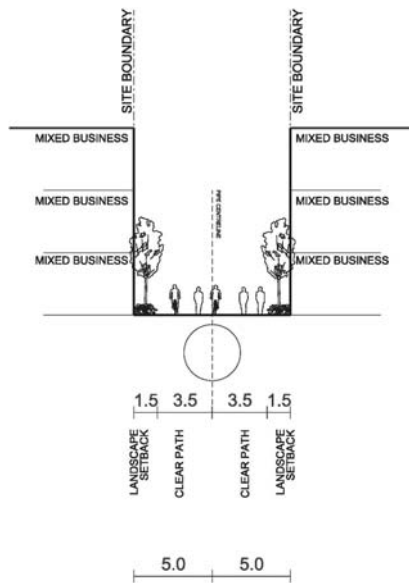
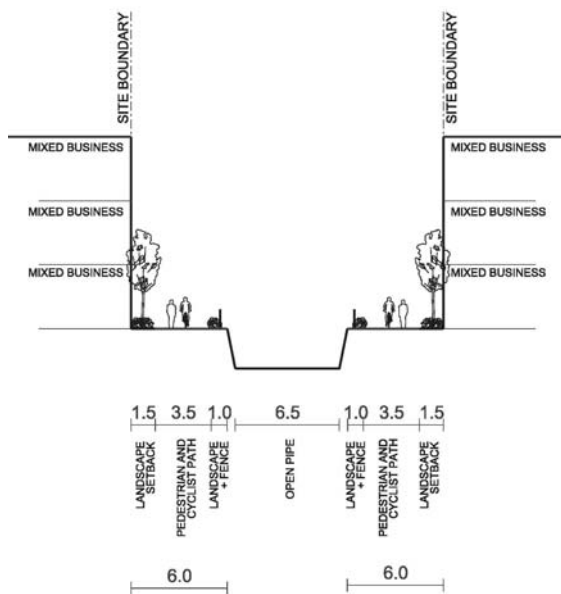


Figure 5.118: Open channel section



5.8.4 Adaptable Parking

This Section is to be read in conjunction with Part 7, Local Provisions – General, Division 1 ‘Car parking ancillary to other development’ under Sydney LEP 2012 and with the provisions of Section 3.11 Transport and Parking of this DCP.

Objectives

- (a) Allow for flexibility in the provision of car parking spaces where below ground car parking is significantly constrained by a high water table or contamination.
- (b) Ensure the design of above ground car parking spaces and associated vehicular circulation areas are easily adaptable to other future uses, for example retail, commercial or residential.

Provisions

- (1) Where the water table is high or where site remediation is environmentally unsustainable, and where supported by a Flood Study, up to 50% of the proposed car parking spaces may be above ground, subject to the provisions within this Section.
- (2) Where the Probable Maximum Flood is greater than 1.25 metres above the finished ground level, and where supported by a Flood Study, up to 100% of the proposed car parking spaces may be above ground, subject to the provisions within this Section.
- (3) Above ground car parking must be screened along the street frontages.
- (4) The minimum proportion of above ground car parking spaces that are to be designed and laid out to be easily adaptable for other uses in the future is to be consistent with Table 5.12 Adaptable Parking.

Table 5.12: Adaptable parking

Category of land shown on the Public Transport Accessibility Level (PTAL) Map and the Land Use Transport Integration Map (LUTI) in Sydney LEP 2012:	Percentage of above ground car parking spaces to be designed for future adaptation:
A or D	100%
B or E	80%
C or F	65%

Note: As an example, a development proposes 150 car parking spaces. Due to the high water table 50% or 75 car spaces can be located above ground. The site is shown as Category E on the PTAL map, therefore, at least 80%, or 60, of the above ground car parking spaces must be designed so they can be adapted to another use. For the purpose of this provision the PTAL Map applies to development and the LUTI Map applies to residential development.

- (5) Adaptable car parking spaces must remain on common title, and not be strata titled and have a minimum clear height of 3.3m.
- (6) Adaptable car parking spaces are to be designed so that once adapted the space will:
 - (a) be accessible from lift lobbies, the street or public domain;
 - (b) have access to sunlight and ventilation; and
 - (c) be provided with appropriate services.
- (7) The applicant must designate which consolidated group of spaces and including associated vehicular circulation are the adaptable spaces and provide an indicative plan showing the proposed alternative use layout.
- (8) Council may deem above ground spaces to be 'required' for the purposes of calculating GFA where it is satisfied that the development meets other provisions of this DCP.

5.8.5 Managing Transport Demand

To address high levels of traffic congestion in the Southern Employment Lands it is essential that sustainable transport use is actively promoted.

This Section should be read in conjunction with Clause 7.26 under Sydney LEP 2012 and the requirements of Section 3.11 Transport and Parking and Schedule 7, of this DCP.

The requirements of Section 3.11.1 are superseded by this Section.

Objectives

- (a) Promote sustainable transport use to reduce traffic congestion on local and regional roads in and around the Southern Employment Lands.
- (b) Achieve a mode share target of people arriving at work by sustainable transport modes of:
 - (i) 45% of workers in the B7 Business Park zone in the north of the Southern Employment Lands are to arrive at work by public transport or active transport;
 - (ii) 40% of workers in the B7 Business Park zone in the south-east of the Southern Employment Lands are to arrive at work by public transport or active transport;

- (iii) 35% of workers in the B6 Enterprise Corridor zone are to arrive at work by public transport or active transport.

Provisions

- (1) Where required by Sydney LEP 2012 to actively promote sustainable transport modes, the proposed development is to:
 - (a) provide a Transport Impact Study to address the potential impact of the development on surrounding movement systems;
 - (b) provide a Green Travel Plan which includes initiatives to promote sustainable transport modes. Green Travel Plans are to be prepared in accordance with Schedule 7 and demonstrate how initiatives to promote sustainable transport options are to be implemented and maintained over time; and
 - (c) prepare a Transport Access Guide and a strategy for the availability of employees and visitors.

5.8.6 Storm water management and waterways

This Section should be read in conjunction with provisions of Section 3.7 Water and Flood Management of this DCP.

Provisions

- (1) Development applications are to be prepared in accordance, and be compatible with, the assumptions and flood information documented in the Alexandra Canal Catchment Floodplain Risk Management Study and Floodplain Risk Management Plan available from the Council as it applies to the Southern Employment Lands.
- (2) Development is to comply with the *Interim Floodplain Management Policy* available from the Council as it applies to the Southern Employment Lands, unless the application demonstrates to the satisfaction of the consent authority that the development will comply with all other relevant objectives and provisions of this DCP.
- (3) Any portion of the building or structure lower than the 1% AEP + .50 metre freeboard is to be built from flood compatible materials (i.e. materials that will not experience any significant damage as a result of the ingress or passage of floodwaters, including debris).
- (4) All services associated with the development are to be flood proofed to the 1% AEP + .50 metre freeboard or, where associated with critical services, the Probable Maximum Flood (PMF). Flood proofing is to be undertaken using a combination of measures sufficient to ensure that the structure and building contents are able to withstand the forces due to the ingress or passage of floodwaters, including debris.
- (5) A suitably qualified engineer is to certify that the structure can withstand the forces of floodwater, debris and buoyancy for the 1% AEP + .50 metre freeboard or the PMF in cases with significant safety or evacuation issues.
- (6) Overland flowpaths and other stormwater management systems must be designed such that personal safety is not compromised and damage to property is minimised. In designing for the PMF flood vertical evacuation procedures must be considered.
- (7) All buildings that are accessible to the public, and where the depth of the PMF at the site access is greater than 0.8m, are to provide temporary refuge for persons escaping floodwaters.

5.8.7 Environment

5.8.7.1 Noise management

The Southern Employment Lands contain a high proportion of industrial activities whose operations can be adversely affected when sensitive land uses locate nearby. Sensitive land uses include:

- buildings for residential use (including mixed use buildings with a component of affordable housing);
- places of public worship;
- hospitals; and
- educational establishments or childcare centres

It is important that as development occurs in the area it does not undermine the efficient functioning of existing uses.

It is equally important that as the area changes new development remains cognisant that more sensitive uses may seek to locate in the area in the future and that noise must be managed to allow this transition.

This section should be read in conjunction with section 4.2.3.11 Acoustic Privacy of this DCP 2012.

Objectives

- (a) Minimise land use conflict as the Southern Employment Lands transition overtime by encouraging new development to mitigate existing noise impacts.
- (b) Ensure the operational efficiency of existing industrial uses in the Southern Employment Lands is not diminished by sensitive uses locating close to them.
- (c) Ensure sensitive uses appropriately mitigate the potential impacts of noise from main roads and other non-residential land uses currently operating in the vicinity.
- (d) Ensure new noise generating activities appropriately mitigate the impacts of noise on surrounding activities.
- (e) Encourage design solutions that minimise the impact of noise pollution.

Provisions

- (1) A Noise Impact Assessment, prepared by a suitably qualified acoustic consultant is to be provided when submitting a development application for sensitive land uses located in close proximity to existing industrial activities. The Noise Impact Assessment should include mitigation strategies, which must be implemented, that manage noise at the new development. Mitigation strategies may include, for example, landscape buffers, screened and acoustically sealed balconies, green walls, and the use of specific building materials or sound walls.
- (2) Sensitive uses are not to locate where the noise generated by an established industrial activity cannot be appropriately mitigated at the new development.

- (3) A development application for a new building or a for a change of use of an existing building, for a land use that is likely to generate external noise, must be accompanied by a Noise Impact Assessment, prepared by a suitably qualified acoustic consultant. The Noise Impact Assessment is to include mitigation strategies, which must be implemented, to mitigate the impacts of noise generated by the new development on other activities in the vicinity. Mitigation strategies may include, for example, landscape buffers, sound locks, the use of specific building materials or sound walls.

5.8.7.2 Urban ecology

This section should be read in conjunction with the provisions of Section 3.5 Urban Ecology of this DCP.

The large industrial sites, warehouses and generally less intensely used sites that characterise much of the Southern Employment Lands can provide habitat for a range of plant and animal species, including birds, bats and reptiles. This is particularly the case where sites have remained vacant or unused for an extended period of time.

Landscaping associated with new development will serve many purposes including enhancement of amenity and air quality, managing stormwater runoff and protecting and enhancing the urban ecology.

Objectives

- (a) Protect and enhance existing habitat and create new areas of habitat in the Southern Employment Lands, contributing to the wider urban biodiversity of the City.
- (b) Ensure landscaping improves, protects and enhances urban biodiversity.
- (c) Protect and promote the recovery of priority species and groups of fauna and flora and reinstate original locally indigenous vegetation.

Provisions

- (1) New development is to retain and enhance existing habitat and create opportunities for new areas of habitat.
- (2) Buildings and structures should be sited to protect existing areas of vegetation and habitat.
- (3) Landscaped areas are to be designed and located to create a buffer between potential habitat and development, for example along property boundaries.
- (4) Where development is proposed on sites with substantial vegetation and/or sites and buildings that have remained undisturbed for 1 or more years, Council may require an ecological assessment of priority species or groups as identified in the *City of Sydney Draft Urban Ecology Action Plan*. In the Southern Employment Lands, relevant species include the:
 - (a) long-nosed bandicoot;
 - (b) small birds such as the Superb Fairy Wren, New Holland Honeyeaters;
 - (c) reptile species; and
 - (d) microbat species.
- (5) Where development is in close proximity to known sightings of a threatened or endangered species, population or community, an assessment of significance is required.

- (6) Where a priority species or habitat is identified, Council may require protection or species relocation measures to be undertaken.
- (7) When undertaking stormwater works along the Alexandra Canal, any impacts on habitats must be assessed and appropriately mitigated.

5.8.7.3 Contamination

Given the industrial history of the Southern Employment Lands, there is high potential of contamination on some sites.

Potential contamination sources include the past widespread use of imported materials that were used below some premises. Historically, imported fill was often the by-product of power stations or other industrial processes and consequently contaminated. Other sources of potential contamination in the area are the widespread use of lead paint, lead fallout from the power stations and historical use of now banned pesticides or herbicides.

An additional consideration is potential contamination of the ground water below large areas of South Sydney, which may allow for contamination to migrate from adjacent sites and other sources of pollution of the Botany Aquifer.

Objective

- (a) Inform current and future landowners about potential sources of contamination on land in the southern employment lands.
- (b) Ensure development applications appropriately address contamination issues that may be present on a site.

Provision

- (1) Development applications are to comply with the requirements of *State Environmental Planning Policy No 55 – Remediation of Land*.

5.8.7.4 Green roofs and walls

Given the limited amount of green open space in the Southern Employment Lands, it is essential that opportunity for softening of hard surfaces through the landscaping of roofs (green roofs), podium levels and vertical surfaces (green walls and green facades) be encouraged.

Green roofs, walls and facades can improve urban amenity and provide the green space necessary for human health and wellbeing. They can provide noise attenuation, improve local air quality, minimise the urban heat island effect, slow and clean stormwater, create habitat for flora and fauna and establish opportunities for community interaction and recreational spaces.

Schedule 9 – Green roofs and walls, of this DCP provides guidance for the design, development application requirements and ongoing management of green roofs and walls.

Objectives

- (a) Encourage the installation of green roofs, walls and facades to improve urban amenity, air quality, ambient air temperature, building insulation, noise attenuation, biodiversity habitat, recreational opportunities and support human health and wellbeing.

- (b) Ensure green roofs, walls and facades are fit for purpose and designed to maximise benefits and longevity.
- (c) Encourage the passive and active enjoyment of green roofs, walls and façades by the residential and working population.

Provisions

- (1) On all buildings, green roofs, walls and facades are encouraged.
- (2) Any green roof, wall or façade is to be planted with drought tolerant Australian native plants (preferable endemic to the Sydney region) wherever appropriate.
- (3) The following minimum substrate depths are required for green roofs:
 - (a) 150mm for grasses and ground covers;
 - (b) 450mm for shrubs; and
 - (c) 800mm for trees.
- (4) Where a green roof contributes to a development's communal open space requirements it is to:
 - (a) be located in an accessible, serviceable and visible part of the roof;
 - (b) be of high standard of finish and design;
 - (c) be safe;
 - (d) be placed and designed to minimise the impact of noise;
 - (e) be placed and designed to maximise visual privacy;
 - (f) use sustainable water sources for irrigation such as harvested rainwater;
 - (g) be easily maintained for the life of the building; and
 - (h) ensure all furniture and shade structures are designed to withstand windy conditions.

5.8.8 Social infrastructure

Demand for social infrastructure in the Southern Employment Lands will increase as the area grows. Higher value jobs and increased job density will see increased need for childcare, open space to play sport and meet, affordable housing to accommodate a growing workforce and a finer grain road network to move people around the area more efficiently. Better pedestrian and cycling linkages will be required between jobs, surrounding residential areas, centres, public transport nodes, open space and social infrastructure for mobility in a sustainable and safe way.

This Section is to be read in conjunction with Section 3.13 Social and Environmental Responsibilities provisions of this DCP.

Objectives

- (a) Ensure growth in the Southern Employment Lands is safe, equitable and socially sustainable.
- (b) Encourage the provision of social infrastructure to service the needs of current and future workers.

Provisions

- (1) Development that contributes to the social sustainability requirements for the Southern Employment Lands in Table 5.13 is encouraged.

Table 5.13: Social Sustainability Requirements for the Southern Employment Lands

Requirement	Social principle or goal	Guidelines
Improved public domain	<ul style="list-style-type: none"> • Equity • Access • Healthy living • Building community • Sustainability • Child friendly 	<ul style="list-style-type: none"> • Provide additional open space where opportunities arise that caters for a diverse range of users and activities. • Provide green roofs and walls where opportunities arise. • Provide child-friendly and active play elements. • Provide a variety of different spaces that provide amenity and opportunities for social interaction, and sense of community. • Design for safety.
Affordable Housing	<ul style="list-style-type: none"> • Equity • Socio-economic diversity • Economic activation 	<ul style="list-style-type: none"> • Provide affordable housing close to public transport and services. • Collocate affordable housing with social enterprise spaces.
Local Employment	<ul style="list-style-type: none"> • Building community • Sustainability • Economic activation 	<ul style="list-style-type: none"> • Provide for vocational training/skills development as part of development construction program. • Provide jobs for people living locally.
Sustainable transport	<ul style="list-style-type: none"> • Equity • Access • Healthy living • Sustainability 	<ul style="list-style-type: none"> • Provide pedestrian and cycling facilities, public open space and recreation facilities and public domain areas. • Pedestrian and cycling facilities are to improve connections to regional open space, public transport, centres and key destinations outside of the southern employment lands, also to improve movement within the Southern Employment Lands.
Arts/Cultural Development	<ul style="list-style-type: none"> • Culture • Building community 	<ul style="list-style-type: none"> • Provide public art in the public and private domain which recognises the area's heritage and former industrial past.
Childcare	<ul style="list-style-type: none"> • Child friendly • Access to essential services • Economic activation 	<ul style="list-style-type: none"> • Provide commercial spaces for childcare facilities.
Temporary spaces	<ul style="list-style-type: none"> • Safety and amenity • Economic activation 	<ul style="list-style-type: none"> • Allow temporary uses to activate commercial spaces yet to be tenanted. • Provide temporary facilities for the uses workers and residents while more permanent facilities are being planned.
Fresh Food Access	<ul style="list-style-type: none"> • Economic activation • Healthy living • Building community • Sustainability 	<ul style="list-style-type: none"> • Provide fresh food opportunities such as community gardens and markets that support local access to fresh food and encourage home gardening.

[17] Section 6 Specific sites

- a. Replace Figure 6.1 Specific Sites Map with the Figure 5.34 shown at Attachment A.

[18] Section 6.1 Sites identified in previous DCPs, masterplans or development consents

- a. Delete Section 6.1.1 Alexandra Canal, Alexandria, in its entirety.
- b. Delete Section 6.1.2 The Shea’s Creek Woolsheds, in its entirety.

[19] Section 6.2 Sites identified through Urban Design Studies

- a. Delete Section 6.2.1, 55-63 Bourke Road, Alexandria, in its entirety.
- b. Delete Section 6.1.2, 69-71 Bourke Road, Alexandria, in its entirety.
- c. Delete Section 6.1.3, Nos. 6A, 6-8, 10, 48 and 92 Huntley Street, Alexandria, in its entirety.
- d. Delete Section 6.1.5, 8a and 10-24 Ralph Street, Alexandria, in its entirety.

[20] Schedule 7 – Transport, Parking and Access

- a. Amend Schedule 7.6.1 Green Travel Plan requirements as follows:

...

(h) car (as driver); ~~and~~

(i) shuttle bus (private and/or public service); and

~~(i)~~(j) other (including services associated with any Transport Management Association).

...

[21] Schedule 9 – Green roofs, walls and facades

- b. Add Schedule 9 Green roofs, walls and facades, as follows:

Schedule 9

Green roofs and walls

9.1 Introduction

Green roofs and walls have been used throughout the world as a remedy to increasing urban density and a lack of access to green and open space. In April 2014 Council adopted the *Green Roofs and Walls Policy* which supports increasing the installation of quality green roofs and walls in the local government area.

If you are installing greenery on your building, the technology and designs exist to provide a well-functioning, beautiful addition to your building.

Plants can be:



Integrated into the walls



used as a standalone feature



provide significant open space



or a small private area

Whatever your site constraint – greenery can be integrated into your building design in a way that creates a more beautiful space and adds value to your building and to the environment.

The City of Sydney encourages the inclusion of green roofs and walls into the urban fabric. Green roofs and walls are not only beautiful, but also provide many benefits to the City including:

- creating additional space for urban greening, food production and private open space;
- slowing and cleaning stormwater;
- reducing the impacts of the urban heat island effect;
- improving air quality;
- improving amenity and liveability;
- increasing the absorption of carbon dioxide;
- increasing habitat to support biodiversity;
- improving building efficiency through heating, cooling and sound insulation;

- providing places for passive and active recreation and social interaction;
- improving the efficiency of solar panels; and
- extending roof life.

The integration of plants into building design is essential to improve the City’s resilience to increasing population density and to a changing climate.

9.2 Definitions

Green roof means a roof where vegetation covers at least 30% of available rooftop space, that is, space which is not occupied by structures housing plant, equipment or stairway accesses. A green roof should provide measurable environmental benefits to the City of Sydney. The green roof includes a vegetated layer, growing medium, drainage layer and a waterproof membrane. Plants grown in sectioned lots are acceptable, however, potted plants/planter boxes which cover less than 30% of available rooftop space are not considered as a green roof. Additional to the minimum 30% vegetation cover, a green roof can include facilities for renewable energy, water collection infrastructure, walkways, furnishings and the like.

Green wall means walls that are either free-standing or part of a building that is partially or completely covered with vegetation. The wall may incorporate soil and/or inorganic material as the growing medium. There are two main types of green wall, including:

- green façades, that are made up of climbing plants either growing directly on a wall or on specially designed supporting structures. The plant’s shoot system grows up the side of the building while being rooted in the ground; and
- living walls, with modular panels are affixed to the wall and geo-textiles, irrigation and a growing medium combine to support a dense network of plants.

9.3 Design considerations

This section is to provide general guidance on a number of design factors that require consideration when incorporating a green roof and/or wall into a development. Professional advice should be sought when considering the specific design, installation and maintenance requirements for your green roof or wall.

Access Consider access to the green roof or wall for installation and maintenance purposes. Considering access early will determine how the green roof or wall is to be installed and maintained over time and can potentially reduce ongoing costs.

Accessibility If a green roof is to be accessible to all, consideration will need to be given to pathway widths and planter box depths in order to ensure the design is free of trip hazards and can be readily accessible to residents in wheelchairs or with low mobility.

Biodiversity	Where possible, your green roof or wall design should incorporate plants from the immediate Sydney area. This is particularly important to support biodiversity. For green roofs, the inclusion of ponds or water features will also encourage bird and invertebrates to use the space. Insect hotels, rockeries and designs that provide hiding spaces for invertebrates will also support local biodiversity. Including plants that flower at different times of the year will also encourage bees and support a healthy garden.
Drainage	A drainage layer will be required to ensure water drains away from the roof adequately. For shallow (extensive) profile green roofs it is recommended that a cup style drainage layer be employed to help keep moisture in the system and prevent plants from drying out. For a deeper (intensive) soil profile a more free flowing drainage layer is more appropriate to minimise weight on the roof. Additional layers of coarse sand can be employed above the drainage and filter fabric layers to further improve drainage.
Food	Residents are increasingly looking to grow their own food and roof and wall spaces can provide opportunities for urban food production. Growing food on your building reduces food miles, provides a source of fresh food as well as opportunities to socialise and gain skills. If you are considering growing food the minimum soil media depth should be 450mm to ensure good growth. Irrigation is essential to integrate into the garden beds or green walls. If you are growing food on a wall, then plants with shallow rooting systems are preferable (herbs, lettuces, strawberries, spinach etc).
Noise pollution	Where green roofs are going to be used regularly as outdoor space it should be designed to minimise noise impact on neighbours. Screening plants and layered plantings will help to minimise noise.
Privacy	Whilst supporting green roofs, the City is also mindful of not impinging on the privacy of others. Roof tops that overlook other private spaces may require the installation of privacy screens and plantings.
Safety	Where a green roof is to be used as open space, the Building Code of Australia (BCA) requires adequate safety measures be employed to ensure the safe use of the space. If the green roof is not trafficable or used as open space it will still require a system to allow maintenance personnel to safely access the roof. If the green roof is to be used as an open space, a parapet or guarding to BCA standards is required to all edges.

Slope	A green roof requires a slope of at least 2° to ensure proper drainage. If the roof is completely flat, drainage layers can be added to improve drainage on the roof. Green roofs can be installed on roofs of pitches of 40° or more, however pitches of less than 30° are preferable to minimise soil erosion. Green roofs over 10-15° may require added support to keep soil and plants evenly distributed on the roof.
Soil media	<p>The soil used for green roofs and walls needs to be specialist mixes that are both light weight and provide sufficient structure to allow plants to grow and drain water effectively. This DCP requires minimum soil media depths to ensure plant growth is maintained. <i>Lower soil depths may be acceptable if Council is satisfied it is appropriate to the location and use.</i></p> <p>Once soil is installed on your roof or wall it should be watered in to allow the soil to settle. Once planted out, a thick layer of mulch (75mm) should be added to prevent soil erosion and to reduce watering requirements. Over time soil and fertilisers will need to be added to your roof garden or green wall to ensure the soil media and plants are kept healthy.</p>
Solar access	In order for your green roof or wall to flourish, consideration needs to be given to the site aspect. Plants should be selected that thrive in the particular sun and wind conditions of your site. If you are intending to grow food on your green roof or wall, maximising daily sun exposure is essential.
Sound insulation	Soil in green roofs dampens low frequency noise and the plants dampen high frequency noise. Research has shown that a 200mm layer of substrate on a green roof can reduce sound by 46-50 decibels. For best effects the soil media and plants should cover the maximum surface area of the roof.
Solar panels	Green roofs improve the efficiency of solar panels and can be integrated into solar PV systems. Evapotranspiration from plants helps to keep temperatures cooler and at an optimal level for solar panels to function efficiently.
Species selection	Plants should be selected that are appropriate and can thrive in the local conditions. Consider sun access and the potentially higher wind impacts of plants on roofs or on busy road corridors. The City encourages the use of local and drought tolerant species. Species lists are available from the City and include plants that are known to do well on green roofs and walls.

Water / irrigation	Irrigation is important to maintain the health of plants. It will not need to be used consistently once plants are established, however it is an important design feature to ensure plants are kept alive during extremely hot days. Keeping moisture up to the plants also provides additional cooling of the building through evapotranspiration. Sub-surface drip irrigators are preferred as they direct moisture to the plant roots without wastage. Above ground irrigation or spray irrigation can lead to water spray drift into public areas and should be avoided. Irrigation from rainwater harvesting, or from treated grey or black water is encouraged.
Waterproofing	Green roofs are able to extend the life of waterproofing by more than 20 years. The inclusion of soil and plants limits direct sun and wind exposure to the water proofing membrane, and keeps temperatures more consistent – thus preventing expansion and contraction of water proofing as the roof heats and cools. It is recommended that testing of the integrity of the water proofing be carried out before the green roof is installed. Additional leak detection systems can be installed with the green roof, which allow even small penetrations in the water proofing to be located.
Weight	All green roofs and walls must be assessed to ensure the weight of the structure is suitable for the building. The saturated weight of a green roof can vary from 90Kg per square metre for a shallow profile up to 200 – 500Kg per square metre for deeper or more intensive planting. A structural engineer will need to assess your green roof or wall design to ensure your building can tolerate the additional load.
Wind	Plants, furniture and other objects installed on a roof space are subject to much higher wind conditions than at ground level. When designing and installing a green roof, safety measures against wind uplift need to be considered. Furniture, shade structures, planters and soil all need to be designed to withstand windy conditions.

9.4 Information required to be submitted with a development application

Where a development application is required, the following information should be submitted for the consideration of Council:

- (1) A detailed plan of the green roof, drawn to scale, by a qualified landscape architect or landscape designer. The plan must include:
 - (i) A statement that includes details of proposed use of the green roof, general accessibility, any noise and privacy treatments.
 - (ii) Location of existing and proposed structures, services and hard landscaping on the rooftop, retaining walls, and roof fixings and other structural elements that may interrupt waterproofing, including cross-sectional details of all components.

- (iv) Details of the location, sizes and numbers of plants used with reference to NATSPEC (if applicable), with preference for drought resistant local species.
- (iv) Details of substrate type and depth.
- (v) Details of installation methodology e.g. safety considerations for working at height, transport of materials etc.
- (vi) Details of accessible and inaccessible areas on the Green Roof. Where proposed to be inaccessible, Green Roofs are required to remain such during occupation of the property.
- (vii) Details of drainage and irrigation systems, including overflow provisions.

(2) Prior to the issue of a Construction Certificate, a Maintenance Manual is also to be submitted.

[22] Maps

- a. Amend the *Streets and lanes map* as shown as Maps 1A (current) and 1B (proposed) at Appendix A.
- b. Amend the *Through site link map* as shown as Maps 2A (current) and 2B (proposed) at Appendix A.
- c. Amend the *Proposed open space map* as shown as Maps 3A (current) and 3B (proposed) at Appendix A.
- d. Amend the *Active frontages map* as shown as Maps 4A (current) and 4B (proposed) at Appendix A.
- e. Amend the *Footpath awning and colonnades map* as shown as Maps 5A (current) and 5B (proposed) at Appendix A.
- f. Amend the *Stormwater management map* as Maps 6A (current) and 6B (proposed) at Appendix A.
- g. Amend the *Building contributions map* as Maps 7A (current) and 7B (proposed) at Appendix A.
- h. Amend the *Pedestrian priority map* as Maps 8A (current) and 8B (proposed) at Appendix A.
- i. Amend the *Late night trading areas map* as Maps 9A (current) and 9B (proposed) at Appendix A.
- j. Amend the *Height in storeys map* as Maps 10A (current) and 10B (proposed) at Attachment A.

- k. Amend the *Building street frontage height in storeys map* as Maps 11A (current) and 11B (proposed) at Appendix A.

- l. Amend the *Building setback and alignment map* as shown at as Maps 12A (current) and 12B (proposed) at Appendix A.

