

Part B

General Controls

Exhibition version – March 2019

Note:

Changes to the DCP are shown as:

- ~~Strike through~~ is deleted text.
- underlined is added text

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B1 Transport and Parking

This chapter applies to any new development, alterations and additions to existing buildings and applications for change of use of existing premises that require car parking, loading and bicycle facilities.

This chapter provides objectives and controls for the design and configuration of vehicle access, parking, loading bays and related facilities.

B1.1 General Objectives

- O1 To provide adequate car, bicycle and service vehicle facilities for the building users and visitors, depending on building type and proximity to public transport.
- O2 To ensure casual parking on streets is available in centres to support local business.
- O3 To minimise overflow parking and other traffic impacts in residential streets and neighbourhoods.
- O4 To ensure servicing by larger vehicles occurs off-street in such a way that reduces impacts on the pedestrian environment.
- O5 To ensure vehicle facilities are compliant, functional and safe.
- O6 To encourage reduced car dependency through encouraging alternative means of transport such as cycling, walking and public transport.
- O7 To ensure vehicle traffic is managed and roads do not inhibit the performance of business centres, presenting barriers to pedestrian movement, or segregating areas.
- O8 To minimise the visual impact of parking structures on the appearance of streetscapes.

B1.2 Transport and Parking Requirements

B1.2.1 Public Transport

Controls

- C1 Contribute to the upgrade of public transport facilities as identified by any relevant structure plan.

- C2 Provide for adequate bus parking facilities if the use of buses is expected.

B1.2.2 General Parking Provisions

Controls

- C1 Development must provide the number of car spaces, bicycle spaces and car wash bays as required by the rates in section B1.3.1 below.
- C2 If the parking calculation results in a fraction of a parking space, the number of spaces required is rounded ~~up~~ to the nearest whole number.
- C3 With a change of use of a building, the number of on-site parking spaces and facilities required may increase and Council will generally request the additional parking to be provided.
- C4 Centres in the Parking Rates Table in section B1.3.1 are defined as follows:
- (a) Large Local Centres include: Belmore, Campsie and Lakemba;
 - (b) Accessible Local Centres include: Earlwood, Hurlstone Park, Narwee, Punchbowl and Wiley Park; and
 - (c) Other Local Centres include: Belfield, Croydon Park, and New Canterbury Road (Hurlstone Park).
- C5 Developments comprising more than one (1) land use must provide the combined parking requirement based on the individual rates of parking for each land use identified in the parking rates table (Table B1.2 of this DCP).
- C6 Minor alterations and additions to existing buildings which will result in an increase of up to 25m² in floor area will not attract a requirement to provide additional car parking.
- C7 In identified circumstances, or where the specified parking rates in the Table in section B1.3.1 do not include a rate for a proposed land use, a parking assessment is required to determine the specific parking required for the development. The assessment must be undertaken by a suitably qualified transport consultant and analyse:
- (a) Parking needs of occupants, staff and visitors;
 - (b) Bicycle parking, storage and secure facilities;
 - (c) Service and delivery needs and facilities;
 - (d) Needs of people with disabilities; and
 - (e) Surveys of similar establishments in comparable locations (or demonstrate requirements by other appropriate means).
- C8 Variations to the parking rates must be justified through a Parking Assessment, which demonstrates that the proposal will produce a better planning outcome, and meet the relevant objectives of this DCP.
- C9 Refer to RTA Guide to Traffic Generating Developments 2002, particularly in relation to parking analysis and traffic study preparation.
- C10 Car parking (and associated space such as access aisles) in excess of the requirements under the parking rates table in section B1.3.1 will be counted as gross floor area.

B1.2.3 Traffic Impact Assessment

Council may require a traffic impact assessment, prepared by appropriately qualified transport consultants, if it considers there would be significant impacts on the surrounding road, parking or public transport system.

Controls

- C1 A traffic impact assessment report, prepared by appropriately qualified transport consultants, is required:
- (a) For the development listed in Table B1.1;
 - (b) For any development that would have a significant impact on the surrounding road, parking and/or the public transport system; and
 - (c) For any development where the site work will interrupt or have a significant impact on road and footpath activities.

Use	Traffic Impact Assessment
Internal change of existing premises	No
Extension to dwelling house	No
Dwelling house	No, unless requested.
Dual occupancy	No, unless requested.
Multi dwelling housing, boarding houses and residential flat buildings	If 10 or more dwellings proposed.
Industry	Yes
Business and retail premises	Yes
Tourist and visitor accommodation	Yes
Seniors housing	Yes
Child care centre	Yes
Heritage listed site	No, unless requested.
Transport links	Yes
Community facilities, recreation areas and recreation facilities	No, unless requested.

Table B1.1: Traffic Impact Assessment Submission Requirements

- C2 A Traffic Impact Assessment must assess the impacts the proposed development will have on traffic flow, cyclists, pedestrians, and local residents, businesses, parking facilities, schools, hospitals, public transport and emergency services.
- C3 Refer to the Guide to Traffic Generating Developments 2002 for issues to be covered by a Traffic Impact Assessment.

Note: A traffic impact assessment report may be required for a proposed development that falls under *State Environmental Planning Policy (Infrastructure) 2007* requirements, which would be referred to the Regional Traffic Committee.

B1.3 Parking Provision Rates

B1.3.1 General Parking Rates

Controls

C1 Parking and other vehicle facilities required for each type of development are detailed in the table below.

Note: Refer to Section B1.3.2 for accessible parking rates.

Land Use	Car Spaces	Servicing and Delivery	Bicycle Spaces
Residential			
Dwelling Houses	2 spaces per dwelling		Nil
Dual Occupancy & Semi-detached dwellings	1 bedroom: 1 space per dwelling 2 bedroom: 1 space per dwelling 3 bedroom or more: 2 spaces per dwelling		Nil
Multi Dwelling Housing, Attached Dwellings & Residential Flat Buildings	Studio or 1 bedroom: 1 space per dwelling 2 bedroom: 1.2 space per dwelling (the 0.2 space to remain as common property) 3 bedroom or more: 2 spaces per dwelling Visitor Parking: 1 space per 5 dwellings except where the site is located on a road less than 11m in width or a cul-de-sac, then 1 space per 3 dwellings. Minimum 1 space.	Any development comprising 10 or more dwellings must provide a minimum of one (1) car wash bay.	Residents: Minimum 1 space per 5 dwellings. Visitors: Minimum 1 space per 10 dwellings.
Shop Top Housing	The same rate for Residential Flat Buildings except in the following locations: B2 Zones – Large Local Centres Studio: 0.25 spaces per dwelling 1 bedroom: 0.8 spaces per dwelling 2 bedroom: 1 space per dwelling 3 bedroom or more: 1 space per dwelling Visitor Parking: Not required B2 Zones – Accessible Local Centres Studio: 0.5 spaces per dwelling 1 bedroom: 1 space per dwelling 2 bedroom: 1 space per dwelling 3 bedroom or more: 1 space per dwelling Visitor Parking: 0.15 spaces per dwelling B2 Zones – Other Local Centres Studio: 0.67 spaces per dwelling 1 bedroom: 1 space per dwelling 2 bedroom: 1.2 space per dwelling (the 0.2 space to remain as common property) 3 bedroom or more: 2 spaces per	Any development comprising 10 or more dwellings must provide a minimum of one (1) car wash bay.	Residents: Minimum 1 space per 5 dwellings. Visitors: Minimum 1 space per 10 dwellings.

Land Use	Car Spaces	Servicing and Delivery	Bicycle Spaces
	dwelling Visitor Parking: 0.2 spaces per dwelling.		
Home Business & Home Industry	The parking requirements for Dwelling Houses, Dual Occupancy, Attached Dwellings, Semi-detached dwellings, Multi dwelling housing, and Residential flat buildings are applicable.		
Tourist and Visitor Accommodation			
Hotel or Motel Accommodation & Serviced Apartments	1 space per room; and 1 space per 2 staff.	Provide adequate bus parking facilities if the use of buses is required.	Patrons / Staff: Minimum 1 space per 20 rooms. Staff / Patrons: Minimum 4 spaces per 100m2 public GFA.
Commercial Premises			
Office Premises	B2 Zone - Large Local Centres: 1 space per 60m ² GFA. B2 Zone – Accessible Local Centres: 1 space per 50m ² GFA. Other Locations: 1 space per 40m ² GFA. 10% of total required parking shall be allocated for visitor use.	Minimum 1 courier parking space to be provided in a convenient and sign-posted location (provision of additional parking spaces for courier motorcycles is desirable). Service requirements as specified in other parts of this DCP.	Staff: Minimum 1 space per 200m ² GFA. Visitors: Minimum 1 space per 750m2 GFA over 1,000m ² .
Shops, Business and Retail Premises	B2 Zones – Large Local Centres 1 space per 66.7m ² GFA (< 120m ²). 1 space per 33m ² GFA (120m ² – 1,000m ²). 1 space per 27m ² GFA (> 1,000m ²). B2 Zones – Accessible Centres 1 space per 50m ² GFA (< 120m ²) 1 space per 40m ² GFA (120m ² – 1,000m ²). 1 space per 27m ² GFA (> 1,000m ²). Other Locations 1 space per 40m ² GFA (< 120m ²). 1 space per 30m ² GFA (120m ² – 1,000m ²).	Provide adequate bus parking facilities if the use of buses is required. In larger retail developments containing a supermarket, areas are to be provided in the car park for storage of shopping trolleys.	Staff: Minimum 1 space per 300m ² GFA. Patrons: Minimum 1 space per 500m ² GFA over 1,000m ² .

Land Use	Car Spaces	Servicing and Delivery	Bicycle Spaces
	<p>1 space per 22m² GFA (> 1,000m²).</p> <p>Visitor parking for shops (excluding local shops) shall be provided at the following rate</p> <p>80% of parking rate to be allocated for visitors and short-stay parking.</p> <p>20% of the parking rate is to be allocated for staff and long-stay parking.</p>		
Neighbourhood Shops	For 1 space per 25m ² GFA.		
Trade Services, Hardware and Building Supplies	1 space per 50m ²		1 space per 10 employees.
Registered Clubs and Pubs	A Traffic and Parking Assessment Report is required.		Staff / Patrons: Minimum 4 spaces per 100m ² GFA.
Restaurants	<p>Less than 120m²: 1 space per 40m² GFA.</p> <p>120m² – 1,000m²: 1 space per 30m² GFA.</p> <p>Greater than 1,000m²: To be determined by a Traffic and Parking Assessment Report.</p>		<p>Staff: Minimum 1 space per 100m² GFA over 100m².</p> <p>Patrons: Minimum 2 spaces.</p>
Take Away Food and Drink Premises	<p>1 space per 3 seats (both internal and external).</p> <p>If required, an exclusive area for queuing of cars for a drive-through facility must be provided. Queue length must facilitate 5 to 12 cars measured from pick up point, and provide a minimum 4 car waiting bays for cars queued from ordering point.</p>		<p>Staff: Minimum 1 space per 100m² GFA.</p> <p>Visitors: Minimum 2 spaces.</p>
Shops, Business and Retail Premises	<p>B2 Zones – Large Local Centres</p> <p>1 space per 66.7m² GFA (< 120m²).</p> <p>1 space per 33m² GFA (120m² – 1,000m²).</p> <p>1 space per 27m² GFA (> 1,000m²).</p> <p>B2 Zones – Accessible Centres</p> <p>1 space per 50m² GFA (< 120m²)</p> <p>1 space per 40m² GFA (120m² – 1,000m²).</p> <p>1 space per 27m² GFA (> 1,000m²).</p> <p>Other Locations</p> <p>1 space per 40m² GFA (< 120m²).</p>	<p>Provide adequate bus parking facilities if the use of buses is required.</p> <p>In larger retail developments containing a supermarket, areas are to be provided in the car park for storage of</p>	<p>Staff: Minimum 1 space per 300m²GFA.</p> <p>Patrons: Minimum 1 space per 500m² GFA over 1,000m².</p>

Land Use	Car Spaces	Servicing and Delivery	Bicycle Spaces
	<p>1 space per 30m² GFA (120m² – 1,000m²).</p> <p>1 space per 22m² GFA (> 1,000m²).</p> <p>Visitor parking for shops (excluding local shops) shall be provided at the following rate</p> <p>80% of parking rate to be allocated for visitors and short-stay parking.</p> <p>20% of the parking rate is to be allocated for staff and long-stay parking.</p>	shopping trolleys.	
Other Uses			
Light Industry	1 space per 100m ² GFA or 1 space per 2 staff, whichever is the greater. Minimum 2 spaces for each industrial unit.		<p>Staff: Minimum 1 space per 20 staff.</p> <p>Visitors: Minimum 1 space per industrial unit.</p>
Warehouses or Distribution Centres	1 space per 300m ² GFA or 1 space per 2 staff, whichever is the greater.		Minimum 1 space per 20 staff.
Retail Plant Nursery, Garden Centres	0.75 spaces per 100m ² of site area.		Nil
Automotive Uses			
Service Stations	1 space per 20m ² retail GFA. If an ancillary food and drink premises is included, provide 15 spaces per 100m ² GFA or 1 space per 3 seats, whichever is the greater.		Staff: Minimum 1 space per 5 staff.
Transport Depots	1 space per 2 staff; and 1 space per transport vehicle present at the time of peak vehicle accumulation on site. Under no circumstances is the parking of vehicles on a public street acceptable.	Minimum 1 vehicle wash bay of a size that can accommodate the largest vehicle typically visiting the site.	Staff: Minimum 1 space per 5 staff.
Taxi Operations	1 parking space per taxi.	Minimum 1 vehicle wash bay of a size that can accommodate the largest vehicle typically visiting the site.	1 space per employee who is not a driver.
Vehicle Body Repair	6 spaces per work bay, to be split	Minimum 1 car	Staff: Minimum 1

Land Use	Car Spaces	Servicing and Delivery	Bicycle Spaces
Workshops and Vehicle Repair Stations	as follows: 1 space for staff; 1 space for visitors; 4 spaces for vehicles awaiting assessment or repairs; and 1 space per 20m ² retail GFA.	wash bay to be provided.	space per 5 staff.
Vehicle Sales and Hire Premises	Staff / Visitors: 0.75 space per 100m ² site area plus 6 spaces per work bay for vehicle repair services where provided, to be split as follows: 1 space for staff; 1 space for visitors; and 4 spaces for vehicles awaiting assessment or repairs.	Minimum 1 car wash bay to be provided. All loading and unloading of vehicles from car floats and transporters must be carried out on site.	Staff: Minimum 1 space per 5 staff.
Recreation and Entertainment			
Entertainment Facilities	<u>Amusement Centres</u> 1 space per 40m ² GFA (<120m ²). 1 space per 30m ² GFA (120m ² – 1,000m ²). 1 space per 22m ² GFA (>1,000m ²). Provide 1 off-street car space for every 60m ² GFA.		Amusement Centres Staff: Minimum 1 space per 200m ² GFA. Visitors: Minimum 1 space per 750m ² GFA over 1000m ² .
	<u>Other Facilities</u> A Traffic and Parking Assessment Report with a survey of similar facilities is required.		Staff / Patrons: Minimum 10% of the total number of car spaces required.
Recreation Facilities	A Traffic and Parking Assessment Report with a survey of similar facilities is required.		Staff: Minimum 1 space per 400m ² GFA. Visitors: Minimum 1 space per 200m ² GFA.
Recreation Facilities	<u>Squash / Tennis Courts</u> 3 spaces per court <u>Bowling Alleys</u> 3 spaces per lane		Staff/Patrons: Minimum 1 space per 4 courts. Staff/Patrons: Minimum 1 space per 4 lanes.

Land Use	Car Spaces	Servicing and Delivery	Bicycle Spaces
Sex Services Premises	1 space per 2 staff		Nil
Health, Education and Community Facilities			
Child Care Centres	1 space per 2 staff. Minimum 2 spaces per child care centre.		Staff: Minimum 1 space per 4 staff.
Educational Establishments	<p>Primary School 1 space per 2 staff Visitors: Adequate provision on-street for the dropping-off and picking-up of students.</p> <p>Secondary School/Other Educational Establishment A Traffic and Parking Assessment Report with a survey of similar establishments is required.</p>	Provide for adequate bus parking facilities.	<p>Staff: Minimum 1 space per 10 staff. Students: Adequate provision of bicycle parking for students.</p> <p>Staff: Minimum 1 space per 10 staff. Students: Adequate provision of bicycle parking for students.</p>
Places of Public Worship	A Traffic and Parking Assessment Report with a survey of similar developments is required.		Visitors: Minimum 1 space per 20.
Hospitals	A Traffic and Parking Assessment with a survey of similar developments is required.		<p>Staff: Minimum 1 space per 15 beds.</p> <p>Visitors: Minimum 1 space per 30 beds.</p>
Nursing Homes, Residential Care Facilities	<p>1 space per 2 staff. This is to take into account overlapping between shifts</p> <p><u>Visitors</u>: 1 space per 10 beds</p> <p><u>Ambulance</u>: Minimum 1 ambulance space</p>		<p>Staff: 1 space per 15 beds.</p> <p>Visitors: 1 space per 30 beds.</p>
Veterinary Hospitals	<p>1 space per 40m² GFA (<120m²).</p> <p>1 space per 30m² GFA (120m² – 1,000m²)</p> <p>1 space per 22m² GFA (>1,000m²).</p>		Staff: Minimum 1 space per 4 staff.
Health Consulting Rooms	<p>2 spaces per health consulting room.</p> <p>Where residential uses are accommodated on the same site, an additional 1 parking space shall be provided.</p>		Minimum 1 space per 2 employees.

Land Use	Car Spaces	Servicing and Delivery	Bicycle Spaces
Medical Centres	1 space per 25m ² GFA		
All Other Land Uses			
A Traffic and Parking Assessment Report with a survey of similar developments is required to determine the specific parking necessary to support the development.			

Table B1.2: Parking Rates

B1.3.2 Accessible Parking Rates

Controls

Residential Development

- C1 Provide 1 (one) accessible parking space per required adaptable dwelling designed and constructed in accordance with AS 2890.1.

Commercial and Industrial Premises (BCA Classes 5-8)

- C2 In a development containing 10 or more spaces, provide:
- (a) 1 (one) accessible parking space per 50 parking spaces for employees;
 - (b) 1 (one) accessible parking space for visitors per 50 parking spaces where a car park has less than 500 spaces;
 - (c) 1 (one) additional accessible parking space per 100 parking spaces above 500 spaces for visitors; and
 - (d) Be designed and constructed in accordance with AS 2890.1.

Places of Shared Accommodation (BCA Classes 1b and 3 including boarding houses, hostels, motels and the like)

- C3 In a development containing 10 or more spaces, provide 1 (one) accessible parking space per 10 beds designed in accordance with AS 2890.1.
- C4 Provide 1 (one) space per 50 spaces for accessible visitor parking and designed and constructed in accordance with AS 2890.1.

Publicly Accessible Buildings (BCA Class 9)

- C5 In a development containing more than 10 spaces, provide 1 (one) accessible parking space for every 25 spaces designed and constructed in accordance with AS 2890.1.

Recreation Areas and Facilities

- C6 In a development containing more than 10 spaces, provide 1 (one) accessible parking space for every 33 spaces designed and constructed in accordance with AS 2890.1.

B1.3.3 Loading & Service Bay Provision

Controls

- C1 The number of service bays required will be determined based on the merits of individual proposals.

B1.4 Design of Parking Facilities

B1.4.1 General Design Requirements

Controls

- C1 All parking, and associated infrastructure is to comply with Australian Standard 2890 Parking Facilities series, which includes:
- (a) AS 2890.1: Off-Street Car Parking;
 - (b) AS 2890.2: Off-Street Commercial Vehicle Facilities;
 - (c) AS 2890.3: Bicycle Parking Facilities; and
 - (d) AS 2890.6: Off-street Parking for People With Disabilities.

Location of Entries

- C2 Do not locate entries to car parking or delivery areas:
- (a) Close to intersections and signalised junctions;
 - (b) On crests or curves;
 - (c) Where adequate sight distance is not available;
 - (d) Opposite parking entries of other buildings that generate a large amount of traffic (unless separated by a median);
 - (e) Where right turning traffic entering may obstruct through traffic;
 - (f) Where vehicles entering might interfere with operations of bus stops, taxi ranks, loading zones or pedestrian crossings; or
 - (g) Where there are obstructions which may prevent drivers from having a clear view of pedestrians and vehicles.

Aisles and Manoeuvring

- C3 Design internal aisles and roadways for low-speed traffic – less than 10km/h if heavy pedestrian use is expected.
- C4 Avoid long, straight internal roadways that might encourage high traffic.
- C5 Coordinate the location of turning areas and passing bays.
- C6 Provide on-site manoeuvring so that all vehicles enter and leave the site in a forward direction.
- C7 Provide enough length of internal driveway at the entry to avoid on-street queuing of vehicles.

Pedestrians

- C8 Pedestrian access and circulation routes within car parks shall be clearly visible, well lit, and located to minimise conflict with vehicle movements.

- C9 Incorporate measures to reduce potential conflict at crossing points such as:
 - (a) Footpath / road markings;
 - (b) Designated pedestrian crossings;
 - (c) Traffic calming devices;
 - (d) Low speed limit signs; and/or
 - (e) Bollards.
- C10 Clearly identify and ground mark pedestrian routes to lifts, staircases entrances/exits.
- C11 Avoid solid blank walls and fences along pedestrian walkways.
- C12 Provide adequate separation between vehicle entries and street intersections.
- C13 Separate the entry points for pedestrians and vehicles.
- C14 One-way ramps and driveways may be acceptable if developments would not generate a large number of hourly vehicle movements.
- C15 If the size of a development or building would require two-way access to a basement, provide pairs of one-way ramps or driveways.

Stack Parking

- C16 Stack parking is permitted for single dwelling houses, dual occupancies and semi-detached dwellings where two parking spaces are required for one dwelling.
- C17 Stack parking may be permitted for multi-dwelling housing and attached dwellings where two parking spaces are required for one dwelling, subject to design merits.
- C18 Stack parking may be permitted for staff use in commercial, retail, industrial and mixed-use developments where no inconvenience is likely to arise from their use, subject to design merits.
- C19 Stack parking must not be used for visitor parking.

Mechanical Parking

- C20 Mechanical parking devices, including car lifts, will not be supported.

B1.4.2 Visitor Parking

Controls

- C1 Visitor spaces must not be located behind security grills and must be easily accessible.
- C2 Clearly mark and signpost visitor parking, and locate on the ground floor where possible, so that it is easy to find and access.
- C3 Visitor parking should be located near the main pedestrian entrance to the building and can be located in front of the building alignment, but not encroach upon the front setback areas.

B1.4.3 Bicycle Parking

Controls

- C1 Provide one (1) shower and change room per 10 staff bicycle parking spaces (over 5 spaces).
- C2 Provide a mix of bicycle storage facilities to cater for short and long stay parking.
- C3 Bicycle racks or stands placed in open public areas that provide only means to lock one wheel of a bicycle to a fixture is not an acceptable secure arrangement. Devices requiring a wheel to be removed are also not acceptable.
- C4 Incorporate the following into the design and location of bicycle parking:
 - (a) All facilities are clearly visible and as close as possible to the main entrances/exits to the street and within the building;
 - (b) Short-stay and visitor parking is at grade – floor and wall-mounted rails are acceptable;
 - (c) Long-stay and resident parking is on the uppermost level of a basement car park;
 - (d) A safe path of travel between bicycle parking and the main entrances/exits is clearly marked;
 - (e) Bicycle facilities are not to hinder vehicle and pedestrian movements, or contribute to the likelihood of injury to passing pedestrians;
 - (f) Access paths to bicycle parking are a minimum of 1.5m wide for one-way access path to allow the passage of a pedestrian pushing a bicycle; and
 - (g) Standardised information signs are to be used to give directions to bicycle parking areas.
- C5 Bicycle parking facilities are to be well lit to minimise theft, vandalism, reduce pedestrian hazard and to improve safety of the cyclists.

B1.4.4 Car Wash Bays

Controls

- C1 Car wash bays are to be provided in addition to visitor parking as identified in section B1.4.2.
- C2 The minimum dimension for car wash bays is 3.5m x 5.4m.
- C3 Car wash bays must be roofed and bunded to exclude rainwater.
- C4 All wastewater from car washing is to be discharged into the sewer (non-residential development requires a Trade Waste Agreement with Sydney Water Corporation).
- C5 Alternative water management and disposal options may be considered where water is recycled, minimised or re-used on site, subject to Council's merit assessment.

B1.4.5 Service Vehicles

Controls

- C1 The layout of service areas shall be designed to facilitate the specific loading and unloading operations of the development.
- C2 Access to and from the service area is to be convenient with a lift or ramp provided.
- C3 Service vehicles are to enter and leave a site in a forward direction.
- C4 The layout and dimensions of apron areas and circulation roadways is to allow manoeuvring into a service bay when all other bays are occupied.
- C5 Service areas are to be separated from passenger vehicle and pedestrian movements both within the site and on adjoining sites wherever possible.
- C6 Service areas must not be used for other purposes, such as the storage of goods and equipment.
- C7 Service areas are located to discourage on-street loading.
- C8 Provision is to be made to ensure that service vehicles entering a site do not queue across footpaths or onto external roads.
- C9 Garbage storage and collection areas are to be conveniently located and designed so as not to cause unacceptable on street conflicts

B1.4.6 Basement Parking Requirements

Controls

General

- C1 Provide basement parking and loading bays.
- C2 Provide ventilation to basement parking. Location and details of mechanical ventilation design must be outlined in applications to Council.
- C3 Design and integrate basement parking so as not to accentuate the scale or bulk of a building, or detract from the streetscape or front setback character.
- C4 Basement podiums shall protrude a maximum of 1m above existing ground level, except where it forms a barrier to 1:100 year flood events (in which case it may protrude to the 1:100 year flood level plus 0.5m).

Basement Access & Entrances

- C5 New vehicle access to shop-top housing is not permitted from Canterbury Road, Beamish Street (Campsie) or Homer Street (Undercliffe Precinct), and is limited in other business centres.
- C6 Maximum 6m width for access driveways.
- C7 Vehicular access should be via secondary streets, rear lanes or internal driveways where possible.
- C8 Locate the entrance to basement parking below a terrace or balcony. Alternatively, setback the entrance at least 1m from the building line.
- C9 Recess car park entries from the main building façade alignment.

- C10 Integrate car parking, vehicle ramps, driveways and entries, ventilation grills and screens into the overall facade and landscape design.
- C11 Avoid black holes in the façade by providing security doors or decorative grills to car park entry.
- C12 Return façade material into the car park entry recess for the extent visible from the street.
- C13 Use materials similar to the façade on any interior of the car park that is visible from the street.
- C14 Provide directions to areas of car parking that are not readily visible from the street.
- C15 Provide signposting in accordance with AS 2890.1.
- C16 Maintain pedestrian safety by minimising the potential for vehicular and pedestrian conflict, and in particular limit the number of vehicular access points:
 - (a) Provide clear sight lines at pedestrian and vehicular crossings,
 - (b) Separate and clearly distinguishing between pedestrian and vehicular entries,
 - (c) Use traffic calming devices where appropriate.
- C17 Basement car parking is not permitted for dual occupancy and semi-detached dwellings.

Basement Layout & Design

- C18 Construct and line mark all parking areas to the correct size and standard in compliance with AS 2890.1.
- C19 Covered car parking is required to have a floor to ceiling height in accordance to Australian Standard AS 2890.1.
- C20 Provide secure bicycle parking at basement level which is easily accessible from ground level, from apartments and other uses within the development.
- C21 Provide shared multi-use parking and shared access driveways where possible.
- C22 Where lifts are proposed, ensure safe and efficient lift access from all parking to the rest of the building.
- C23 Keep all loading docks, parking areas and driveways clear of goods and do not use for storage, including garbage storage, so that free movement is available at all times.
- C24 Locate and design so that impacts such as noise, exhaust fumes and headlight glare, are minimised on adjoining residential uses or residential zoned land.
- C25 Optimise opportunities for deep soil, active street frontages, and good streetscape design, and minimise loss of street parking.

Visitor & Commercial Parking

- C26 In shop-top housing development, separate long term (resident and employee) and short-term (shopper and visitor) car parking, separate

parking for residential and non-residential users, and provide secure access to long-term parking.

B1.4.7 Grade Parking

Controls

- C1 Where above ground parking is the only solution possible, locate to the rear of buildings.
- C2 Screen or enclose at grade parking with landscaping, structures or by wrapping the car park with retail or other active uses.
- C3 Avoid car parking areas and access driveways characterised by large expanse of bare concrete.
- C4 Use a combination of different surface materials to delineate pedestrian thoroughfares, vehicular access and parking areas.
- C5 Use perforated paving materials (for example, paving units with wide bands of gravel aggregates) that allow infiltration of stormwater

B1.4.8 Parking Requirements for Specific Land Uses

Controls

- C1 Dwelling houses are to provide a maximum width of kerb-crossings 3.5m for single dwellings - splay driveway to double garages or carports.
- C2 All residential developments are to locate driveways to the side of the site, and within the side setback.
- C3 Provide parking structures as required as per the following table.

Development	Maximum internal widths for garage door or opening to basement car park	Percentage of combined width of garage doors, not to occupy, the overall width of any façade
Dwelling houses and semi-detached dwellings greater than 12.5m. For sites less than 12.5m refer to C7 below)	6m	N/A
Dual occupancy	N/A	50%
Multi dwelling housing and attached dwellings	3m	N/A
Residential Flat Buildings(2-3 storeys)	6m	N/A
Residential Flat Buildings (4 or more storeys)	6m	N/A

Table B1.3: Garage Door Width Requirements

- C4 Where two car spaces are required for a dwelling house, dual occupancy and semi-detached dwelling, one may be provided on the driveway in front of a carport or garage (not applicable with basement car parking).

- C5 For a dwelling house, dual occupancy or semi-detached dwelling, carports should have minimal scale or bulk if outdoor parking needs to be covered.
- C6 If driveway access for a dwelling house, dual occupancy and semi-detached dwelling, is provided from the street to the rear yard, the minimum dimension from the wall of the dwelling to the side boundary is 2.7m.
- C7 On a site that is less than 12.5m wide, provide parking in a carport, or a single-width garage and add a carport if additional covered parking is necessary. Parking for a dwelling house, dual occupancy, semi-detached dwelling, multi dwelling housing and attached dwellings, is to be provided in a single width carport or garage.
- C8 For a dwelling house, dual occupancy, semi-detached dwelling, multi dwelling housing and attached dwellings, garages and carports must be setback at least 1m behind the outermost alignment of external walls, verandas or balconies, ~~any garage or carport facing an internal driveway.~~ On sites that rise from the street frontage, one garage that is not wider than 6m and no higher than 3m above street level.
- C9 For a dwelling house, dual occupancy, semi-detached dwelling, multi dwelling housing and attached dwellings, maximum of one double garage or carport per dwelling.
- C10 Basement parking for residential development (excluding dual occupancy and semi-detached dwelling) is to:
 - (a) Maximise the amount of deep soil for canopy planting.
 - (b) Give ground floor dwellings access to ground level courtyards.
 - (c) Allow ground floor dwellings to address the street.

B1.5 Parking Engineering & Technical Requirements

B1.5.1 General Engineering Design Requirements

Controls

- C1 Design proposals to utilise and integrate with the existing infrastructure, and minimise any potential adverse effects on public assets.
- C2 Take into account the following in the design of a proposed development:
 - (a) Existing road and footpath levels;
 - (b) Location of proposed vehicular access with respect to drainage structures, traffic facilities, street trees, signs, power poles and other infrastructure;
 - (c) Existing drainage infrastructure;
 - (d) Overland flow path of stormwater; and

- (e) Any traffic requirements generated by a proposal.

B1.5.2 Street Alignment Levels

It is recommended that street alignment levels are obtained from Council prior to lodgement of a development application.

Controls

- C1 Site levels at the street boundary must be compatible with footpath and driveway levels.
- C2 Undertake the design of any proposed vehicular access and internal pavements with consideration to the street alignment levels.

B1.5.3 Vehicular Cross-Overs

Controls

- C1 Undertake the design of any proposed vehicular access and internal pavements with consideration to the street alignment levels.
- C2 The design and construction of the internal pavements shall be in accordance with NatSpec and the relevant Australian Standards.
- C3 Concrete vehicular crossings must be provided across the full width of Council's footway.
- C4 Where a basement is proposed as part of the development, adequate manoeuvring area must be provided to allow vehicles exiting the site in a forward direction, reversing onto public roads is prohibited.
- C5 Where the proposed vehicular crossing in the road reserve is in conflict with existing utilities and civil infrastructure, any cost incurred in adjusting /removing/reinstating such structures will be borne by the applicant.
- C6 When determining the position and width of vehicular crossings:
 - (a) Ensure adequate sight distances are provided between vehicles on a driveway and pedestrians; and
 - (b) Ensure that conflict with existing street trees is avoided.
- C7 Vehicular crossings, which do not comply with RTA guidelines, or those located in positions that require special assessment/consideration, will need specific approval from Council's Traffic Committee.
- C8 Second driveways will not be supported unless the site has more than one frontage and it can be demonstrated that:
 - (a) The proposal will not affect on-street parking demand;
 - (b) The area of paving within the property is minimised;
 - (c) There is sufficient landscaping being provided to compensate for the additional paved area; and
 - (d) The proposal has merit on road safety grounds.

- C9 Vehicular driveway profiles are to comply with AS 2890.1.

B1.5.4 Road, Kerb and Gutter and Footpath Design

Controls

- C1 The development may be conditioned to include the reconstruction of the kerb and gutter, and or footpath paving along the frontage of the site.
- C2 The applicant shall arrange for a practicing Civil Engineer with suitable experience to prepare the design in accordance with this document, NatSpec and Council's Standard Drawings and specifications. See appendices for Council's standard construction details.
- C3 The design shall be drawn to a scale of either 1:100 or 1:200 on A1 sheets.
- C4 Long-sections of works shall be drawn at a 10x exaggerated vertical scale.
- C5 The design shall indicate the following:
- (a) Existing and proposed road;
 - (b) Existing and proposed kerb and gutter;
 - (c) Existing and proposed footpath and boundary levels;
 - (d) Location of all services; and
 - (e) Location of existing and proposed drainage structures.

B1.5.5 Traffic Manoeuvrability

Controls

- C1 A traffic manoeuvrability report, prepared by appropriately qualified transport consultants, is required:
- (a) For developments listed in Table B1.4; and
 - (b) For any proposed development where Council requires an applicant to demonstrate that the turning movements of vehicles proposed to enter and leave a site are in accordance with Australian Standard - AS 2890.1.

Use	Traffic Manoeuvrability Report
Internal change of existing premises	No
Extension to dwelling house	No
Dwelling house	No, unless requested.
Dual occupancy	No, unless requested.
Multi dwelling housing, boarding houses and residential flat buildings	If 10 or more dwellings proposed.
Industry	Yes
Business and retail premises	Yes

Use	Traffic Manoeuvrability Report
Tourist and visitor accommodation	Yes
Seniors housing	Yes
Child care centre	Yes
Heritage listed site	No, unless requested.
Transport links	Yes
Community facilities, recreation areas and recreation facilities	No, unless requested.

Table B1.4: Traffic Manoeuvrability Report Submission Requirements

- C2 A traffic manoeuvrability report should describe and illustrate how the site is accessed from the road reserve as well as how specific locations within the site are accessed. A traffic manoeuvrability report should illustrate that the proposal:
- (a) Has been undertaken in accordance with Australian Standard - AS 2890.1; and
 - (b) Adopts a design that reflects vehicles that are appropriate for the proposed development.
- C3 For commercial and industrial development, the traffic manoeuvrability report is to illustrate the largest vehicle proposed to enter the site.

B2 Landscaping

This chapter applies to any new development, alterations and additions to existing buildings and applications for change of use of existing premises where landscaping is a requirement for the proposal. The chapter comprises objectives and controls for the design and configuration of landscaping.

B2.1 General Objectives

- O1 To ensure attractive settings for development, streetscapes and public domain.
- O2 To encourage retention and planting of large and medium size trees, and the healthy growth of trees in urban areas.
- O3 To contribute to the quality and amenity of communal open space on rooftops, podiums and courtyards.
- O4 To assist with the management of the water table and water quality.
- O5 To ensure that the principles of Ecologically Sustainable Development (ESD) and the protection of biodiversity and ecological processes are incorporated into landscape design and maintenance.

B2.2 Landscape Plan

Controls

- C1 A landscape plan is required for proposed development as identified in the following table:

Development Type	DA Lodgement Requirement
Dwelling Houses / Swimming Pools	No requirement
Dual occupancy / Semi-detached Dwellings / Attached Dwellings	Landscape Plan
Multi Dwelling Housing / Residential Flat Buildings / Shop Top housing	Landscape Plan
Industry	Landscape Plan
Business, Office and Retail Premises	Landscape Plan
Tourist and Visitor Accommodation	Landscape Plan
Seniors Housing	Landscape Plan
Child Care Centre	Landscape Plan
Heritage Items	Landscape Plan
Recreation Areas and Recreation Facilities	Landscape Plan

Table B2.1: Submission Requirements

Note: A landscape plan may be required for other types of development not listed in the table and it is recommended that applicants seek the advice of Council's landscape officer prior to submitting an application.

- C2 A site analysis undertaken as part of the DA preparation is to inform the preparation of the landscape plan.
- C3 A landscape plan should be prepared by a qualified landscape architect or consultant.
- C4 A landscape plan must demonstrate an understanding of the site and its context.
- C5 Landscape plans should comprise the details and specifications as described by Council's DA Guide.

B2.3 Landscape Design

Landscaping can minimise the visual impact of a building or development through screening the bulk and scale, screening unsightly service areas, improving privacy and directing passive surveillance. Landscaping can also affect the microclimate, such as reducing summer heat load and absorbing stormwater. A good understanding of the site and its surrounds is essential for a successful landscape design.

B2.3.1 Existing Vegetation and Features

Controls

- C1 New landscaping is to complement the existing street landscaping and improve the quality of the streetscape.
- C2 All development, including alterations and additions, is to minimise earthworks (cut and fill) in order to conserve site soil. Where excavation is necessary, the reuse of excavated soil on site is encouraged.
- C3 An erosion and sediment control plan is required to ensure that soil erosion (and potential sedimentation of waterways) is minimised and managed.

B2.3.2 Design and Location of Landscaping

Controls

General

- C1 The design of proposed landscaping is to contribute to and take advantage of the site's characteristics.
- C2 Integrate landscape design with the overall design of the development.
- C3 Setback buildings to create landscaped public plaza areas where required (Refer to Part D of the DCP – Business Centres).

- C4 Use landscaping to integrate the built form with the existing streetscape and surrounding area.
- C5 New landscaping is to complement the existing street landscaping and improve the quality of the streetscape.
- C6 Improve the amenity of private and communal open space with landscape design which:
 - (a) Provides appropriate shade from trees or structures;
 - (b) Defines accessible and attractive routes through the communal open space and between buildings;
 - (c) Provides screens and buffers that contribute to privacy, casual surveillance, urban design and environmental protection, where relevant;
 - (d) Incorporates public art; and
 - (e) Improves the energy efficiency and solar efficiency of buildings, and the microclimate of private open spaces and hard paved areas.
- C7 Locate plants appropriately in relation to their size including mature size.
- C8 Soften the visual and physical impact of hard paved areas and building mass with landscaping that is appropriate in scale.
- C9 Include suitably sized trees, shrubs and groundcovers to aid climate control by providing shade in summer and sunlight in winter.
- C10 Choose appropriate plant selection for planting in front of large windows and display areas so that visibility is maintained.
- C11 Consider the mature size and maintenance requirements of the species in making an appropriate planting selection – particularly so that entries and windows are not obscured.
- C12 Integrate and screen utility areas with appropriate planting.
- C13 Provide appropriate lighting, signs, outdoor furniture and weather protection.
- C14 Integrate fencing into the landscape design and use materials and height that complements the height, texture and colour of plants.
- C15 Use recycled and biodegradable products in landscape design where possible such as recycled soils, mulches made from waste, and paving made from recycled materials.

Landscaping of Setbacks

- C16 Provide planted setbacks adjacent to driveways and paths.
- C17 Landscaping of deep soil areas and setbacks shall:
 - (a) Provide sufficient depth of soil to enable growth of mature trees;

- (b) Use a combination of groundcovers, shrubs and trees;
- (c) Use shrubs that do not obstruct sightlines between the site and the public domain; and
- ~~(d) Plant canopy trees that are capable of achieving a mature height of greater than 5m.~~

C18 Where buffer or screen planting is required, use continuous evergreen planting consisting of shrubs and trees to screen the structure, maintain privacy and function as an environmental buffer.

C19 Screen planting on boundaries is to have a minimum mature height of 2m.

B2.3.3 Trees and Canopy Coverage

Controls

General

- C1 Provide canopy tree planting, particularly in remaining and required deep soil areas and surround new buildings with canopy trees.
- C2 Provide street trees that will contribute to the canopy where possible.
- C3 Use planter boxes on podiums and roof terraces.
- C4 Plant new trees in garden beds rather than turfed areas.
- C5 ~~Feature eC~~ Canopy trees are to be of a minimum 75 litre pot size.
- C6 Front and rear setbacks are to have at least one (1) major canopy tree for every 12m of front and rear boundary width.
- C7 Side boundaries are to have one (1) major tree for the first 45m plus one (1) additional tree for every additional 20m.
- C8 Trees should be located near building corners in order to minimise the interpretation of scale and bulk of new structures.
- C9 Plant deciduous trees for shading low-angle sun on the northern, eastern and western sides in summer. Use varying heights of different species of trees and shrubs to shade walls and windows.
- C10 Use deciduous trees in small open spaces, such as courtyards, to improve solar access and control of microclimate.
- C11 Place evergreen trees well away from the building to allow the winter sun access.
- C12 Place trees where they will not cast a shadow over solar collectors at any time of the year.
- C13 Locate vegetation to direct breezes and cool air as it flows across the site and select planting or trees that do not inhibit airflow.

- C14 Provide shade to large hard paved areas using tree species that are tolerant of compacted/deoxygenated soils.

Retention of Existing Trees

- C15 The removal of trees or other vegetation requires development consent in accordance with Clause 5.9 of the LEP 2012 and Part B3 of this DCP.
- C16 Existing trees should be retained by appropriate siting and construction of buildings and consideration of existing trees in the building design.
- C17 Applicants may be required to replace any removed trees with other suitable tree(s).
- C18 Variation of the required setbacks to allow for the retention of existing trees, may be acceptable if the resulting building would not be incompatible with existing streetscape character, or adversely affect the amenity of any neighbouring property.
- C19 Special design and construction may be necessary to conserve existing trees, including:
- (a) Retain existing ground levels across the structural root zone of any tree, and maintain these areas as soft landscape;
 - (b) Set footings, exterior walls and pavements back to avoid impacting root zones or canopy which an arborist has identified as critical to a tree's long-term survival;
 - (c) Do not excavate within a critical root zone, and any footings constructed across these zones shall be pier-and-beam;
 - (d) Coordinate landscaping and service location to avoid conflict between trees and service lines, trenches and excavation; and
 - (e) Install a protection barrier around the base of the tree during construction.

Street Trees

- C20 If a proposal has the potential to impact existing street trees, an Arborist Report must be prepared by an approved registered arborist by Arboriculture Australia and be submitted with the application.
- C21 Council's Street Tree Management Plan may require certain species to be retained, and proposed developments must incorporate existing trees of these protected species into the final design.
- C22 Installation of suitable protection measures should be undertaken to protect street trees from damage during construction.
- C23 Removal of street trees will only be approved in accordance with Part B3 – Preservation of Trees and Vegetation of this DCP. Applicants may be required to replace any removed trees with other suitable tree(s).

Tree Protection Measures

- C24 If a tree or vegetation is proposed, or required, to be retained as part of a development this vegetation must be protected during demolition, excavation and construction stages to ensure that it remains healthy and survives. The following measures are to be taken:
- (a) The natural ground levels at the base of existing trees and shrubs should be preserved to ensure the long-term health of the plants.
 - (b) Protective fencing must be installed to the edge of the drip line of the tree.
 - (c) No materials are to be stored within the fenced area.
 - (d) All Council approved pruning must be undertaken in accordance with AS 4373-2007 (Australian Standard: Pruning of Amenity Trees).

B2.3.4 Water Efficiency

Controls

- C1 Use plants that have low water requirements, are drought tolerant and reduce lawn areas to minimise water use.
- C2 Use drip irrigation systems in preference to spray watering.
- C3 Use measures to limit stormwater run-off from the development so that the pre-development stormwater pattern and flows are maintained.
- C4 Integrate landscape design with water and stormwater management - use landscaped detention basins where appropriate.
- C5 Provide for water cycle management in streetscape and hard landscape design.
- C6 Limit impervious surfaces to reduce run-off and increase stormwater absorption on site.

B2.3.5 Landscape Structures and Maintenance

Controls

Landscape Structures

- C1 Provide appropriate lighting, signs, outdoor furniture and weather protection.
- C2 Provide brick or timber edges to all garden bed areas to prevent lawn encroaching onto garden planting.
- C3 Separate landscaped areas from driveway and car parking by a suitable barrier such as bollards or concrete wheel stops to prevent vehicular movement damaging the landscaping.

- C4 Design planters to support the appropriate soil depth and plant selection by:
- (a) Ensuring planter proportions can accommodate the largest volume of soil possible and have minimum soil depths according to plant size;
 - (b) Providing regular shaped planting areas whenever possible;
 - (c) Providing appropriate soil conditions, irrigation methods and drainage; and
 - (d) Increase minimum soil depths in accordance with:
 - i. The mix of plants in a planter;
 - ii. The level of landscape management, particularly the frequency of irrigation;
 - iii. Anchorage requirements of large and medium trees; and
 - iv. Soil type and quality.
- C5 Recommended minimum standards for a range of plant sizes, excluding drainage requirements, are:
- (a) Large trees such as figs (up to 16m diameter):
 - i. Minimum soil volume 150m³
 - ii. Minimum soil depth 1.3m
 - iii. Minimum soil area 10m x 10m area or equivalent.
 - (b) Medium trees (8m canopy diameter at maturity):
 - i. Minimum soil volume 35m³
 - ii. Minimum soil depth 1m
 - iii. Approximate soil area 6m x 6m or equivalent.
 - (c) Small trees (4m canopy diameter at maturity):
 - i. Minimum soil volume 9m³
 - ii. Minimum soil depth 800mm
 - iii. Approximate soil area 3.5m x 3.5m or equivalent.
 - (d) Shrubs: minimum soil depths 500-600mm.
 - (e) Ground cover: minimum soil depths 300-450mm.
 - (f) Turf: minimum soil depths 100-300mm.
- C6 Planter Boxes:
- (a) Minimum soil depth for planter boxes:
 - i) 300 – 450mm for turf and groundcovers
 - ii) 450 – 600mm for small shrubs
 - iii) 600 – 750mm for medium shrubs
 - iv) 750 – 900mm for small trees.
 - (b) Use brick or masonry construction with a minimum thickness of 230mm.

- (c) Provide drainage for each planter box, and coordinate drainage details with hydraulics plan.
 - (d) Waterproofing is to be provided to each planter box.
- C7 Design fences to be consistent with the architectural quality of buildings and to be compatible with the desired green character of streetscapes. Integrate fencing into the landscape design and use materials and height that complements the height, texture and colour of plants.
- C8 Colours and materials of fences should be compatible with the proposed building, but not be identical to those buildings.

Maintenance

- C9 Design landscape, including plant selection, maintenance features and structures so that all landscape works can be maintained at all times.
- C10 Undertake initial maintenance of all landscape works to enable establishment of all plants (for at least ~~six~~ 12 months after installation).
- C11 Include 12 month a maintenance schedule of works with all landscape plans.
- C12 Consider the size, shape and growth cycle of the planted material, in the short and long term, in determining the maintenance of landscaping.
- C13 Provide an appropriate irrigation system, dependent on species selection and maintenance plan.
- C14 Use robust landscape elements that will not die or deteriorate easily, or require regular attention.
- C15 Use recycled and biodegradable products in landscape design where possible such as recycled soils, mulches made from waste, and paving made from recycled materials.
- C16 Allow space for composting, mulching and worm farms on site.

B2.4 Environment and Biodiversity

Controls

Environment

- C1 Maximise the retention of existing trees, bushland and natural site features.
- C2 Choose plants that will not spread and become weeds in natural bushland, appropriate landscaping species are identified under Section B2.5 – Native Planting Guides.
- C3 Create a buffer zone between the development and adjoining bushland and use indigenous planting in the buffer.
- C4 Remove all weeds and make provision for further control on the site – use mulch to inhibit weed growth and lessen herbicide use.

C5 Do not remove or import bush rock for edging or for use in the landscaping.

Biodiversity

A number of indigenous ecological communities remain in Canterbury in remnant vegetation and bushland, and in many cases this vegetation is listed as threatened under the ~~Threatened Species Conservation Act 1995~~ **Biodiversity Conservation Act 2016**. The communities include, but are not limited to:

- Sydney Turpentine Ironbark Forest (STIF);
- Cumberland Plain Woodland; and
- Cooks River/Castlereagh Ironbark Forest.

C6 Retain, protect and enhance indigenous and other native vegetation, and incorporate it into the landscape design.

C7 For sites containing species from an identified threatened ecological community, the proponent must demonstrate whether the proposal is likely to significantly affect threatened species, ecological communities or their habitat. A proposal is likely to significantly affect threatened species, ecological communities or their habitat if:

- (a) The proposal is to be carried out in an Area of Outstanding Biodiversity Value; or
- (b) The proposal exceeds the Biodiversity Offsets Scheme threshold; or
- (c) A Test of Significance 'Seven Part Test' as set out in ~~Section 5A of the Environmental Planning and Assessment Act 1979 (EP&A Act);~~ Section 7.3 of the *Biodiversity Conservation Act 2016* ~~will be required to determine whether there is significant adverse effect on threatened species, populations or ecological communities~~ indicates that the proposal is likely to significantly affect threatened species or ecological communities, or their habitats.

C8 For proposals likely to significantly affect threatened species, ecological communities or their habitat, a Biodiversity Development Assessment Report is required.

~~A number of indigenous ecological communities remain in Canterbury in remnant vegetation and bushland, and in many cases this vegetation is listed as endangered under the *Threatened Species Conservation Act 1995*. The communities include, but are not limited to:~~

- ~~• Sydney Turpentine Ironbark Forest (STIF);~~
- ~~• Cumberland Plain Woodland; and~~
- ~~• Cooks River/Castlereagh Ironbark Forest.~~

~~C6 Retain, protect and enhance indigenous and other native vegetation, and incorporate it into the landscape design.~~

~~C7 For sites containing species from an identified endangered ecological community:~~

- ~~(a) A 'Seven-Part Test' as set out in Section 5A of the *Environmental Planning and Assessment Act 1979* (EP&A Act), will be required to determine whether there is significant adverse effect on threatened species, populations or ecological communities. The test is to be prepared by a qualified Environmental Consultant; and~~
- ~~(b) A Species Impact Statement is required where it is determined through the seven part test that the development will result in the destruction of threatened species, populations or ecological communities.~~

C9 Manage identified habitats to reinforce biodiversity links (refer to NSW Office of Environment and Heritage for information relating to biodiversity management) and incorporate design strategies into proposal.

~~C8~~

C9C10 Consider using the following features that may be included into landscaped areas to encourage native wildlife (see Figure B2.1 below):

1. Trees and shrubs native to the area can provide nectar and seeds –an important food for native birds.
2. Prickly shrubs and dense hedges protect bird nests from predators such as cats.
3. Leaf litter and bark provide feeding areas for small animals such as frogs and lizards.
5. Hollow logs provide shelter for small marsupials and lizards.
6. Small caves and crevices serve as burrows and nesting sites for small animals.
7. Where structurally sound, tree hollows provide nesting holes essential for birds and possums.
8. Strong, healthy tree limbs provide habitat for tree dwellers and allow safe movement through the canopy.
9. Tree branches provide safe perching places for birds.
10. Rocks provide shelter, shade and sun bathing opportunities for small animals.

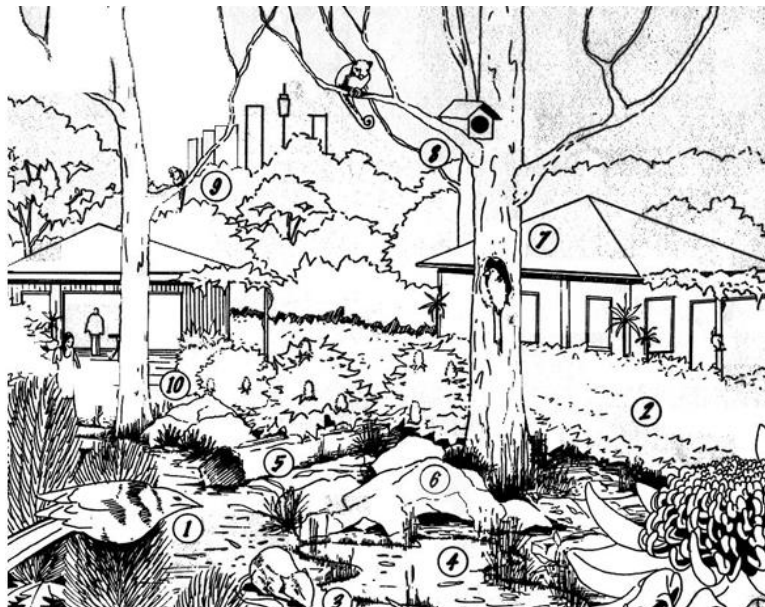


Figure B2.1: Features to encourage native wildlife.

B2.5 Native Planting Guides

B2.5.1 Recommended Native Planting Guide

Botanical Name	Common Name
Trees	
<i>Acacia glaucescens</i>	Coast Myall
<i>Aegiceras corniculatum</i>	River Mangrove
<i>Allocasuarina littoralis</i>	Black She Oak
<i>Allocasuarina torulosa</i>	Forest Oak
<i>Angophora costata</i>	Smooth Barked Apple
<i>Angophora floribunda</i>	Rough Barked Apple
<i>Avicennia marina</i>	Grey Mangrove
<i>Banksia integrifolia</i>	Coastal Banksia
<i>Banksia serrata</i>	Old Man Banksia
<i>Brachychiton populneum</i>	Kurrajong
<i>Casuarina cunninghamiana</i>	River Oak
<i>Casuarina glauca</i>	Swamp Oak
<i>Corymbia gummifera</i>	Red Bloodwood
<i>Eucalyptus acmenoides</i>	White Mahogany
<i>Eucalyptus amplifolia</i>	Cabbage Gum
<i>Eucalyptus botryoides</i>	Bangalay
<i>Eucalyptus capitellata</i>	Brown Stringybark
<i>Eucalyptus eugenoides</i>	Thin-leaved Stringybark
<i>Eucalyptus fibrosa</i>	Broad-leaved Ironbark
<i>Eucalyptus globoides</i>	White Stringybark
<i>Eucalyptus gummifera</i>	Red Bloodwood
<i>Eucalyptus haemastoma</i>	Scribbly Gum
<i>Eucalyptus maculata</i>	Spotted Gum
<i>Eucalyptus moluccana</i>	Grey Box
<i>Eucalyptus oblonga</i>	Narrow-leaved Stringybark
<i>Eucalyptus paniculata</i>	Grey Ironbark
<i>Eucalyptus pilularis</i>	Blackbutt
<i>Eucalyptus piperita</i>	Sydney Peppermint
<i>Eucalyptus punctata</i>	Grey Gum
<i>Eucalyptus racemosa</i>	Snappy Gum
<i>Eucalyptus resinifera</i>	Red Mahogany
<i>Eucalyptus robusta</i>	Swamp Mahogany
<i>Eucalyptus saligna</i>	Sydney Blue Gum
<i>Eucalyptus siderophloia</i>	Northern Grey Ironbark
<i>Eucalyptus tereticornis</i>	Forest Red Gum
<i>Eucalyptus umbra</i>	Bastard Mahogany
<i>Glochidion ferdinandii</i>	Cheese Tree
<i>Melaleuca decora</i>	White Feather Honeymyrtle
<i>Melaleuca nodosa</i>	Ball Honeymyrtle
<i>Melaleuca stypheloides</i>	Prickly-leaved Paperbark
<i>Syncarpia glomulifera</i>	Turpentine
Shrubs	
<i>Acacia falcata</i>	
<i>Acacia floribunda</i>	White Shallow Wattle
<i>Bursaria spinosa</i>	Blackthorn
<i>Daviesia ulicifolia</i>	
<i>Dilwynia parvifolia</i>	
<i>Dodonaea triquetra</i>	Common Hop Bush
<i>Kunzea ambigua</i>	Tick Bush
<i>Lasiopetalum parviflorum</i>	
<i>Ozothamnus diosmifolius</i>	Everlasting
<i>Pultenaea villosa</i>	
<i>Rapanea variabilis</i>	Mutton Wood
Ground Covers	

Botanical Name	Common Name
<i>Centella asiatica</i>	
<i>Commelina cyanea</i>	Creeping Christian
<i>Dichondra repens</i>	Kidney Weed
<i>Hardenbergia violacea</i>	False Sarsaparilla
<i>Pratia purpurascens</i>	
<i>Pseuderanthemum variabile</i>	Pastel Flower
Ferns	
<i>Adiantum aethiopicum</i>	Maidenhair Fern
<i>Cheilanthes sieberi</i> spp.	Mulga Fern
<i>Gleichenia dicarpa</i>	Pouched Coral Fern
Grasses / Tufted Plants	
<i>Dianella caerulea</i>	Blue Flax Lily
<i>Dianella longifolia</i>	
<i>Dianella revoluta</i>	Mauve Flax Lily
<i>Echinopogon caespitosus</i>	Tufted hedgehog Grass
<i>Echinopogon ovatus</i>	
<i>Juncus usitatus</i>	Common Rush
<i>Lomandra longifolia</i>	Spiny Mat Rush
<i>Oplismenus aemulus</i>	Basket Grass

Table B2.1: Recommended Native Planting Guide

B2.5.2 Recommended Child Care Centre Planting Guide

Botanical name	Common Name	Other Features
Screening and Infill Plants		
<i>Murraya paniculata</i>	Mock Orange	Fragrant flowers
<i>Gardenia augusta</i> 'Florida'	Gardenia	Fragrant flowers
<i>Camellia sasanqua</i>	Camellia	Colourful flowers, screening, hedging
Deciduous Trees		
<i>Acer negundo</i> & cvs	Box Elder	Fast growing
<i>Acer palmatum</i>	Japanese Maple	Interesting leaf form
<i>Acer buergerianum</i>	Trident Maple	Interesting leaf form
<i>Lagerstroemia indica</i>	Crepe Myrtle	Autumn/summer colour, form
Evergreen Trees		
<i>Backhousia citrifolia</i>	Lemon Scented Myrtle	Fragrant leaves, native plant
Butterfly Attracting		
<i>Buddleia x davidii</i> var. <i>veitchiana</i>	Butterfly Bush	Screening
Feature Flowers		
<i>Fuchsia x hybrida</i>	Fuchsia	Shade tolerant
<i>Abutilon</i> spp	Chinese Lantern	Screening function
<i>Viburnum opulus</i> 'Sterile'	Snowball Tree	Deciduous
<i>Banksia spinulosa</i>	Hairpin Banksia	Bird attracting, fast growing
Fragrant Flowers/Foliage		
<i>Michelia figo</i>	Port Wine Magnolia	Screening function
<i>Lavandula</i> spp	Lavender	Fragrant foliage and flowers
<i>Viola cornuta</i>	Violet	Shade tolerant
Forming a Room		
<i>Pittosporum undulatum</i>	Sweet Pittosporum	Fragrant, native plant
<i>Leptospermum petersonii</i>	Lemon Scented Tree	Native plant, bird attracting
<i>Alnus jorullensis</i>	Evergreen Alder	Attractive dark foliage

Botanical name	Common Name	Other Features
Ground Covers		
<i>Ophiopogon japonicus</i>	Mondo Grass	Soft, dark green foliage
<i>Erigeron mucronatus</i>	Erigeron	Attractive flowers

Table B2.2: Recommended Child Care Centre Planting Guide

B3 Tree Preservation

Trees and vegetation are an important part of the natural and built environment. Native trees contribute to biodiversity and provide habitat for native birds and animals. Trees provide shade and assist in the regulation of climate. Trees provide visual amenity, help to reduce the visual impact of buildings and create the green streetscapes and canopy that are characteristic of the LGA.

This chapter of the DCP comprises and controls for development that involves the pruning, lopping or removal of trees, and applies to all trees in the LGA. This chapter should be read in conjunction with Clause 5.9 (Preservation of Trees or Vegetation) of the LEP. The LEP identifies consent requirements for the ring barking, cutting down, topping, lopping or the removal of vegetation. In response to Clause 5.9, this Chapter specifies the tree works as requiring Council approval in the form of development consent, to ensure the appropriate preservation and maintenance of trees or vegetation.

Any person(s) who contravenes or causes or permits Clause 5.9 of the LEP to be contravened shall be guilty of an offence and liable to prosecution.

'Tree works' are works affecting the form, structure or foliage of a tree including root cutting, crown lifting, reduction pruning, selective pruning, crown thinning, remedial or restorative pruning or complete tree removal.

B3.1 General Objectives

- O1 To prevent the indiscriminate and inappropriate lopping or removal of trees on all land within the LGA.
- O2 To maintain the physical and visual appeal and amenity of the local area by preserving a healthy urban tree canopy.
- O3 To encourage the preservation and management of suitable existing trees, and the planting and management of suitable replacement trees, in a safe and healthy condition.
- O4 To facilitate the management and/or removal of dangerous and unsuitable trees.
- O5 To minimise the negative impacts of construction on trees on and near development sites.

B3.2 Tree Works Requiring Council Approval

B3.2.1 General

Controls

- C1 A person must not ring bark, lop, prune, remove, injure or deliberately destroy any trees 5m in height or greater and/or with a trunk diameter of 150mm or greater measured at 1.4m above ground level without a permit or development consent granted by the Council, except as otherwise stated in Clause 5.9 Preservation of Trees or Vegetation of the LEP or this chapter of the DCP.
- C2 If a tree or other vegetation is, or forms part of, a Heritage Item, or is within a heritage conservation area, then development consent for any tree works is required.

B3.2.2 Exceptions

Controls

- C1 Existing trees may be removed if:
 - (a) They are defined in Section B3.3 of this DCP under the list of undesirable tree species; or
 - (b) An approved registered arborist by Arboriculture Australia has identified physical defects that would severely shorten the tree(s) safe useful life expectancy (SULE) or be an unacceptable hazard to people or property. A qualified arborist report must be forwarded to Council's Tree Preservation Officer a minimum of seven (7) working days prior to the proposed commencement of works.
- C2 Where a tree is deemed inherently hazardous and is in imminent danger of causing harm, particularly during inclement weather conditions, the owner can remove the tree without a formal assessment on the condition that photographic evidence is provided and forwarded to the Tree Preservation Officer after the event.
- C3 Where a resident is concerned about a hazardous tree on a neighbouring property, the resident should first discuss the issue with the tree's owner. If the owner fails to address the matter once it has been brought to his/her attention, the neighbour can make an application to the New South Wales Land and Environment Court to have the tree removed. The Court may then order the removal of the tree under the *Trees (Disputes between Neighbours) Act 2006*.
- C4 The controls of this section do not apply with respect to the following works:
 - (a) Emergency Works – any works carried out by Council, the State Emergency Services, the Rural Fire Service of NSW, or a public authority in response to an emergency;

- (b) Works carried out by State and Federal Government departments or Authorities under current legislative requirements; or
- (c) Tree works carried out by Council or its agents on land owned or under the care and control of Council provided that assessment of the tree work has been carried out in accordance with the DCP.

Note: A structural, plumbing and/or pest report may be required to support the qualified arborist report. Council's Tree Preservation Officer can provide information as to when additional reports are necessary to support an arborist report.

B3.3 List of Undesirable Tree Species

Controls

- C1 The following species do not require Council approval for removal or tree works (provided that the tree is not listed as a Heritage Item under the LEP):

Botanical Name	Common Name
<i>Ailanthus altissima</i>	Tree of Heaven
<i>Bamboo</i>	All species
<i>Citrus sp.</i>	Grapefruit, lemon, mandarin, orange
<i>Cotoneaster sp.</i>	All species
<i>Eriobotrya japonica</i>	Loquat
<i>Erythrina x sykesii</i>	Common Coral Tree
<i>Ficus elastica</i>	Rubber Tree
<i>Ligustrum spp.</i>	Privet
<i>Mangifera indica</i>	Mango Tree
<i>Morus nigra</i>	Mulberry
<i>Musa sp</i>	Banana
<i>Olea europaea var. africana</i>	African Olive
<i>Populus nigra 'Italica'</i>	Lombardy Poplar
<i>Prunus sp.</i>	Apricots, cherries, peaches & plums
<i>Robina pseudoacacia & cvs.</i>	Black Locust
<i>Salix babylonica</i>	Weeping Willow
<i>Schefflera actinophylla</i>	Umbrella Tree
<i>Syagrus romanzoffianum</i>	Cocos Palm

Table B3.1: List of Undesirable Tree Species

B3.4 Information Required with Applications

Controls

- C1 In some circumstances it may be necessary for the applicants to supply an independent arborist, structural, plumbing and/or pest report. The Tree Preservation Officer will determine if such reports are necessary.

- C2 Arborist/Horticultural Assessment Reports must be undertaken by an approved registered arborist by Arboriculture Australia and be in accordance with the specifications outlined in section B3.6.
- C3 An Arborist's Report is necessary to provide information on the likely development conditions to be set with regard to trees both within the property, and/or adjacent to the property.

Note: Please refer to Council's website for further guidelines and information relating to the preservation of trees and vegetation.

B3.5 Matters for Consideration

Controls

- C1 When assessing proposed works to a tree, consideration includes (but is not limited to) the following matters:
- (a) The health and structure of the tree;
 - (b) Defects of trunk and canopy;
 - (c) What damage is likely should the tree or part of it fail;
 - (d) Its contribution to the streetscape;
 - (e) Its habitat value;
 - (f) How, on the balance of probabilities, the tree may impact in the future on major structures, land and neighbouring properties;
 - (g) The number of existing established trees on the property;
 - (h) Its prominence in the landscape
 - (i) Whether the tree is protected under the *Threatened Species Conservation Act 1995*; and
 - (j) Australian Standard for the protection of trees on development sites AS 4970-2009 (Provides guidance on how to decide which trees are appropriate for retention and the means of protecting those trees during the construction process).

B3.6 Arborist Assessment Report Guidelines

Controls

- C1 If required, an approved registered arborist by Arboriculture Australia must carry out a tree assessment. A comprehensive guideline for Arborist Reports can be found on Council's website. However, the following aspects must be considered in relation to each tree in a tree assessment:

Health:	Refers to the tree's vigour as exhibited by the crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion and the degree of dieback.
Condition:	Refers to the tree's form and growth habit, as modified by its environment (aspect, suppression by other trees, soils) and the state of the scaffold (i.e. trunk and major branches). This includes structural defects such as cavities, crooked trunk or weak trunk / branch junctions. These are not directly connected with health and it is possible for a tree to be healthy but in poor condition.
Decay:	Is the result of invasion by fungal diseases through a wound.
Decline:	Is the response of the tree to a reduction of energy levels resulting from stress. Recovery from decline is difficult and slow, is usually irreversible.
Dieback:	Refers to the withdrawal of energy by the tree from some areas of the crown. Symptoms are leaf drop, bare twigs, dead branches and tree death, in order of progression. This can be caused by root damage, root disease, severe bark damage, intensive grazing by insects, abrupt changes in growth conditions, drought, waterlogging or over-maturity. Dieback often implies stress or decline.
Epicormic Shoots:	Are sprouts produced from dormant buds in the bark. Production can be triggered by fire, pruning or root damage but may also be as a result of stress or decline.
Sparse Crown:	Refers to reduced leaf density, often a precursor to dieback and may imply stress or decline. Also possibly a response to drought or root damage.
Weak Junctions:	Are points of possible failure in the scaffold usually caused by the trunk or branch bark being squeezed within the junction so that the necessary interlocking of the wood fibres does not occur and the junction is forced open by the annual increments in growth. This is a genetic problem.
Wounds:	Are areas where the bark has been damaged by branch breakage, impact or insect attack. Some wounds decay and cause structural defects or weakness. Healthy trees are able to resist and contain infection by walling off areas within the wood. Tree wounds are often eventually covered over by new bark but the walled off or infected areas still remain internally and may lead to weakness of the heartwood.
Safe Useful Life Expectancy (SULE):	In a planning context, the time a tree can expect to be usefully retained is the most important long-term consideration. SULE is a system designed to classify

trees into a number of defined categories so that information regarding tree retention can be concisely communicated in a non-technical manner. SULE categories are easily verifiable by experienced personnel without great disparity.

A tree's SULE category in the life expectancy of the tree modified first by its age, health, condition, safety and location (to give safe life expectancy), then by economics (such as cost of maintenance). The effects on other trees and sustained amenity such as establishing a range of age classes within a local population are also considered. Refer to SULE Categories in Table B3.2 below.

	1	2	3	4
	Long Appears to be retainable for over 40 years with an acceptable degree of risk, with reasonable maintenance	Medium Appears to be retainable for 15 to 40 years with an acceptable degree of risk, with reasonable maintenance	Short Appears to be retainable for 5 to 15 years with an acceptable degree of risk, with reasonable maintenance	Removal Trees which should be removed within the next 5 years
A	Structurally sound trees located in positions that can accommodate future growth	Trees which may only live between 15 and 40 years	Trees which may only live between 5 and 15 years	Dead, dying, suppressed or declining trees
B	Trees which could be made suitable for long term retention by remedial care	Trees which may live for more than 40 years but would be removed for safety reasons	Trees which may live for more than 15 years but would be removed for safety reasons	Dangerous trees through damage, structural defect, instability or recent loss of adjacent trees. Urgent removal may be required if near assets
C	Trees of special significance which would warrant extraordinary efforts to secure their long term retention.	Trees which could be made suitable for retention in the medium term by remedial care.	Trees which may live for more than 15 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting	Trees which may live for more than 5 years but should be removed to prevent interference with more suitable individuals or to provide space for new planting
D			Trees which require substantial remediation and are only suitable for retention in the short term	Trees which are damaging or may cause damage to existing structures within the next 5 years

Table B3.2: SULE Categories (after Barrel 1996)

B4 Accessible and Adaptable Design

The introduction of the *Disability Discrimination Act in 1992* has made it unlawful to discriminate on the grounds of a person's disability, particularly in access to premises. Council has a key role in requiring and promoting access for people with disabilities through the regulation of building and as a provider of public facilities.

The Disability (Access to Premises) Standards 2010 were introduced under Section 31 of the *Disability Discrimination Act 1992* and incorporated into the Building Code of Australia. The standards apply to publicly accessible buildings and compliance with these standards is mandatory.

This chapter applies to any new developments, changes to existing buildings and applications for change of use of existing premises, that are publicly accessible and where development consent is required. This includes (but not limited to) the following:

- Business, retail and office premises;
- Restaurants and food and drink premises;
- Industry (including warehouses, bulky goods premises, vehicle repair stations);
- Recreation areas and facilities (including aquatic centres and swimming pools);
- Residential accommodation that contains multiple dwellings, including shop top housing, boarding houses and residential flat buildings;
- Child care centres, education establishments, entertainment facilities, hospitals, hotel or motel accommodation, health services facility and places of public worship;
- Community facilities (whether publicly or privately operated); and
- Bus stops, interchanges, railway stations and public conveniences.

Note: Controls for accessible and adaptable dwellings in development that will accommodate multiple dwellings are also specified in Part C of the DCP. Access requirements for seniors housing are also provided in *State Environmental Planning Policy (Housing for Seniors and People with a Disability) 2004*.

B4.1 General Objectives

- O1 To ensure that appropriate access is provided in new development in accordance with mandatory requirements and genuine consideration of the needs of people with a disability.

- O2 To require that development includes the upgrade in access to existing buildings, communal areas, internal fit out and public open space areas, where possible.
- O3 To ensure that an awareness of the requirements and responsibilities of the *Disability Discrimination Act 1992* is demonstrated in the design, construction and operation of development.

B4.2 General Controls

Controls

- C1 All development must comply with the following:
 - (a) All Australian Standards relevant to accessibility;
 - (b) The Building Code of Australia access requirements; and
 - (c) *The Disability Discrimination Act 1992*.
- C2 The provision of equitable access is to have minimal impact on the setting of heritage items and of contributory buildings within heritage conservation areas, and be reversible.
- C3 Submit a statement of consistency with the *Disability Discrimination Act 1992* with the development application. A person qualified to comment on access and mobility issues, and accredited by the Association of Consultants in Access Australia (or an equivalent accreditation authority) must prepare and sign the statement. The statement must be signed by the person who prepared it, and must refer to the plans that were assessed.
- C4 Accessible car parking requirements are set out in the BCA Part D3.5, and Australian Standard 2890.6 - Parking facilities Part 6 - Off street parking for people with disabilities.
- C5 Provide and maintain a continuous accessible path of travel as part of the internal fit out of a building. A continuous accessible path of travel is a barrier-free path of travel, for all users of a premises, that provides access to all public spaces and facilities (such as toilets, service counters, meeting rooms that would be available to a person who does not have a disability). (Refer to the BCA Part D3: Access for People with Disabilities and AS 1428.1).
- C6 When designing layouts consider the following:
 - (a) Avoid layouts where boxes, packaging materials and merchandise display stands may be placed in access ways and common space areas;
 - (b) Avoid a fit out that results in merchandise being located out of the reach of a person in a wheelchair;
 - (c) Avoid signage that is too small, at the wrong height, or does not provide adequate colour contrast to enable it to be read by a person with vision impairment; and

- (d) Avoid counters that are too high for ease of access by a person who uses a wheelchair.

Note: Refer to Chapter B1 Transport and Parking for accessible parking rates required for specific land uses (Section B1.3.2).

B5 Stormwater and Flood Management

Council must ensure that all stormwater and flood infrastructure provided with development meets appropriate design and environmental standards and be complementary to its public infrastructure.

This chapter of the DCP provides objectives and controls for stormwater and flood management and applies to all development.

The objectives and controls of the DCP are intended to prevent or reduce the impact of development through:

- Requiring integrated stormwater design between development and Council's assets and the use of on-site detention of stormwater; and
- Managing the potential impact of flood to development on flood liable land.

B5.1 General Objectives

- O1 To ensure infrastructure design and construction is appropriate to each site.
- O2 To ensure drainage systems are designed to collect and convey stormwater runoff from the site and into receiving systems with minimal nuisance, danger or damage to the site, adjoining properties or Council's property.
- O3 To produce quality engineering works for all developments.
- O4 To encourage the consideration of possible engineering constraints to the development at the first stage of the design of the development.
- O5 To ensure public infrastructure managed by Council is not compromised by development.

B5.2 Submission Requirements

Controls

- C1 A detailed stormwater drainage plan is to be lodged with all DA's (except change of use applications) to illustrate how stormwater runoff from the site will be managed.
- C2 The stormwater drainage plan is to be prepared by a practicing civil engineer with suitable experience in accordance with the AS/NZS 3500.3 Plumbing and Drainage – Part 3 and the relevant Australian Standards.

C3 The stormwater drainage plan is to address all the issues outlined in the On-Site Stormwater Detention Checklist contained Appendix 1 – Engineering Specifications.

C4 On developments w~~A~~ where a drainage easement is required, details of approval of the drainage easement are to be submitted with the development application to demonstrate the consent of respective downstream owners.

~~Note: — A genuine attempt to obtain an easement must include monetary offer of compensation, based on a valuation report prepared by a registered land valuer.~~

C5 If a required drainage easement has not been obtained, and the development is of the type where Council permits the use of alternative drainage disposal system, the following documentation ~~to~~ is to be provided to demonstrate a genuine attempt to obtain an easement has occurred and all avenues have been exhausted:

- (a) A land valuation report prepared by a registered land valuer, with an estimate of the land value of the easement (excluding construction/installation cost);
- (b) A letter of request from the applicant to owners of all possible downstream properties, requesting permission to create a private drainage easement through their property – including a concept plan illustrating the proposed location of the drainage easement, an offer of compensation (as estimated in the valuation report) and a commitment to pay all relevant expenses and reinstate disturbed areas; and
- (c) A signed letter of correspondence from the downstream property owners ~~either accepting or~~ rejecting the offer.

B5.3 Off-Site Engineering Details

Controls

C1 A development may require the installation of street trunk drainage where the conditions for alternative stormwater disposal in Section B5.7 Disposal of Property Runoff cannot be met.

C2 Extension of the Council trunk drainage system will be required where the proposed drainage system from the development cannot connect to the kerb and gutter within 15m of the site or as required by Council's engineers. In this case the applicant will be required to extend the Council system to the site. The applicant shall arrange for a practicing Civil Engineer with suitable experience to prepare the drainage design.

B5.4 Property Drainage

B5.4.1 Surface runoff

Controls

- C1 All surface runoff must be appropriately collected into suitable drainage components and connected into a piped network. The design of the drainage systems shall be in accordance with AS/NZS 3500.3 and the requirements outlined in Appendix 1 – Engineering Specifications.
- C2 Design development to utilise and integrate with the existing infrastructure, and minimise any potential adverse effects on public assets and neighbouring lands.
- C3 Take into account the following in the design of proposed development:
 - (a) Finished road and footway levels;
 - (b) Location of proposed vehicular access with respect to drainage structures/infrastructure, traffic facilities, street trees, signs, power poles, utilities and other infrastructure;
 - (c) Existing drainage infrastructure;
 - (d) Overland flow path of stormwater; and

B5.4.2 Piped drainage system

Controls

- C1 Incorporate a piped drainage system and an OSD storage system where applicable.
- C2 Design the piped drainage system to cater for 1 in 20 year ARI storm rainfalls.
- C3 In addition to the 20 year ARI event, design the piped drainage system to ensure that any potential overflows generated from system blockage, or overloads in storm events with an ARI of 100 years, do not present a hazard to people or cause significant damage to property (surface runoff or overland flow paths must be indicated on the design plans).
- C4 Pipes that are laid within a public roadway, or which drain public areas such as a road or public park, are to be in accordance to AS/NZS 3725.2007 Design for installation of buried concrete pipes. Minimum pipe size is not to be less than 375mm in diameter.
- C5 Piped systems shall meet the minimum pipe diameter, cover and gradient criteria specified in AS/NZS 3500.3:2015 Plumbing and Drainage - Stormwater Drainage. Such systems shall be arranged within the property so that any potential overflows will not pond against or enter into buildings.

B5.4.3 Basement pump system**Controls**

- C1 Pump out systems for basements are permitted when the system is limited to the driveway – 50m² maximum allowable driveway area draining to a pump system.
- C2 Design basement pump systems in accordance with AS/NZS 3500.3 and as follows:
 - (a) Grade the basement car parking area to fall to the sump and pump system;
 - (b) Limit the contributing catchment area to the pump out system to the basement access ramps only - all other surface flows are diverted away from the basement;
 - (c) Design the two pumps to work in tandem to ensure that both pumps receive equal usage and neither pump remains continuously idle;
 - (d) Design the pump out pit to have sufficient volume for a 10 year ARI rainfall event for two hours duration so that a minimum volume of water can be retained in the sump when the pumps are in the off position; and
 - (e) Minimum pump-out pit size 3m³.
- C3 Submit engineering details and manufacturers specifications for the pumps, switching system and sump for approval prior to the issuing of the construction certificate; and
- C4 Indicate clearly the sequence and order of operation of the system, and associated alarm and light signal warning, on the plans.

B5.4.4 Sub-soil drainage system**Controls**

- C1 Design and construct subsoil drainage systems in accordance with Section 6 in AS/NZS 3500.3.
- C2 Subsoil drains are not to connect directly to kerb and gutter.
- C3 Where proposed development will have substructures (such as a basement) in areas adjacent to a watercourse, or where a high water table is anticipated, tank/seal the substructure from underground water.

B5.5 On-Site Detention (Requirements by Type of Development)

B5.5.1 Dwelling Houses and Dual Occupancy

Controls

C1 Provide on-site detention (OSD) with all dwelling houses (including alterations and additions), and all dual occupancies, where the proposed impervious area is greater than or equal to 70% of the total site area (impervious area includes roof, concrete driveways, concrete paths, paved and hard surface areas ~~and swimming pools~~). Swimming pools are considered as porous landscaping and calculated similar to grass.

C2 OSD is not required when the proposed impervious area is less than 70% of the site. In this case the drainage system can be designed, without OSD, using gravity fed pipes and a silt arrestor pit, before the stormwater is discharged into the receiving system. Minor additional impervious areas, up to 5% increase, will not incur an OSD requirement.

Note: Driveways, courtyards and pathways constructed with gravel, grasscrete or pervious pavers are considered to be impervious for drainage calculation purposes.

C2C3 Submit an OSD checklist (Appendix 1 – Engineering Specifications) with the development application.

C3C4 Where a dual occupancy development is proposed on a site sloping away from the street frontage, and a gravity pipe system to the street cannot be used, the developer must acquire provide a drainage easement through a downstream property, in accordance with Section B5.2 C4. Should the developer be unsuccessful in acquiring an easement over a downstream property, a Applicants must provide relevant documentation, in accordance with Section B5.2 – C2, to demonstrate to Council why an alternative drainage method ~~(such as a pump system)~~ should be considered.

Note: — Driveways constructed with gravel, grasscrete or pervious pavers are considered to be impervious for drainage calculation purposes. Courtyards and pathways paved with pervious pavers will be considered to be 25% impervious.

B5.5.2 Multi Dwelling Housing and Residential Flat Buildings

Controls

C1 Provide OSD with all development consisting of multi dwelling housing and residential flat buildings (where three units or more are proposed), regardless of the impervious area before and after the development, and regardless of whether the site falls toward or to the street.

C2 Create a drainage easement if one does not exist already, through respective downstream properties - where the site falls away from the street, only gravity fed system will be supported.

B5.5.3 Commercial Premises, Industry and Other Non-Residential development

Controls

- C1 Provide OSD with all new commercial premises, industry and other non-residential development. Minor additional impervious areas, up to 5% increase, will not incur an OSD requirement.
- C2 Create a drainage easement if one does not exist already, through respective downstream properties - where the site falls away from the street, only gravity fed system will be supported.
- ~~C3 Where additions/alteration are proposed on sites with an existing impervious area equal to 70% or more, a maximum of 5% of additional impervious area will be permitted before OSD is required (hence the maximum impervious area in this instance is 75%).~~
- ~~C4~~C3 Collect stormwater from roofed and large paved areas within the property in a system of gutters, pits, grated drains and pipe lines, and then discharged into the street gutter or stormwater system approved by Council.
- ~~C5 Where discharge of stormwater to the street gutter, common drainage lines, other authority's drainage system or Council stormwater system is not possible, and an easement through downstream property could not be established by way of negotiation, Council may consider the use of alternative drainage methods such as charged line or absorption system subject to certain conditions.~~

B5.6 On-Site Detention System Details

B5.6.1 Above ground Systems

Controls

- C1 Use the following criteria in for OSD systems in landscaped areas:
 - (a) Minimum slope for surfaces draining to an outlet 1:5 (2%) and absolute minimum slope 1:100 (1%);
 - (b) Maximum ponding depth under design conditions is 300mm;
 - (c) Increase required storage volumes in landscape areas by 20% to allow for vegetation growth;
 - (d) Provide subsoil drains around outlets to prevent the ground from becoming saturated during prolonged wet weather;
 - (e) Minimum freeboard required above the top water level is 300 mm for a habitable room and 100mm for a garage; and
 - (f) Brick and mortar is the only material to use where retaining walls are used along the perimeter of the basin.

- C2 Use the following criteria for OSD systems In-driveway and car park storages:
- (a) Depth of ponding not to exceed 150mm under design conditions;
 - (b) Transverse paving slopes within storages not less than 1:50; and
 - (c) Where the storage is located in commonly used areas where ponding would cause inconvenience, provide part of the storage required in an area that will not cause a nuisance.

B5.6.2 Below ground systems

Controls

- C1 Use the following criteria for OSD systems located in underground tanks:
- (a) Fix the hydraulic control for the storage, usually an orifice plate on an outlet pipe, firmly in place to prevent removal or tampering;
 - (b) Grade floor of tanks at a minimum slope of 1:140, towards the outlet, to minimise ponding and depositing of debris;
 - (c) Provide an inspection/access opening above the location of the outlet with dimensions at least 600mm x 600mm or 600mm Ø for storages up to 800mm deep; and 600mm x 900mm for deeper storages. Ensure there will be no impediment to the removal of debris through this opening and inspection will be possible without residents or owners having to remove heavy access covers;
 - (d) When storages are not sufficiently deep to work in (less than 1.5m), provide access at intervals of approximately 10m to allow the system to be flushed to the storage outlet, and adequate access at the outlet;
 - (e) Provide a sump (with the base level set below that of the main storage) at the outlet point to collect debris. Where a discharge control pit is included in the storage, this also contains a sump set at a minimum of 1.5 times the diameter of the orifice of the outlet below the centre of the orifice. Equip sumps with adequate weepholes to drain out to the surrounding soil - they shall be founded on a compacted granular base;
 - (f) Underground storage tanks must be constructed of concrete or rendered brickwork or other approved materials in accordance with AS/NZS 3500.3 - VERSITANK MODULARS will not be permitted; and
 - (g) In addition to the required design storage a 20% buffer storage for pump out OSD is to be provided.
 - (h) The minimum tank depth to allow access is 700mm.

B5.6.3 All systems

Controls

- C1 In addition to the above use the following criteria for all OSD systems:

- (a) Provide for the harmless escape of overflows in the event that an outlet becomes blocked and the storage is completely filled. Any ponding of water resulting from a blockage shall occur at a visible location, so that the fault can be noticed and corrected,
- (b) Ponding and overflow levels shall not be less than 300mm below any habitable floor levels of building and not less than 150mm below non-habitable floor level.

Note: Ensuring that peak flow-rates, at any point within the receiving downstream drainage system, do not increase as a result of the development, during storms, is achieved by providing sufficient storage (OSD) on sites.

B5.6.4 Location

Controls

- C1 Locate the OSD system at the lowest point of the site, with all paved areas and pipes draining into it - the use of driveways, parking areas and/or landscaped areas for an above ground OSD system is encouraged.
- C2 Do not position an OSD system in overland flow paths that convey the local catchment flows through the site - typically a drainage easement through a site would attract overland flow path for the local catchment.
- C3 Locate storages in common areas in multiple unit development.

Note: The main and most important factor in determining the magnitude and hydraulic capacity for any stormwater system is design flow; this is derived from rainfall statistics using a rainfall-runoff model for rainfall Intensity in the Canterbury area.

B5.6.5 Calculating Peak Flow Rates

Controls

- C1 Use Council's standard method below for relatively small catchments (< 7500m²), and for larger sites use the Rational Formula from Australian/New Zealand Standard Plumbing and Drainage Part 3: Stormwater Drainage AS/NZS 3500:

$$Q = C I A / 3600$$

Where:

Q = design flow of stormwater (L/s)

C = runoff coefficient (see Appendix 1 – Engineering Specifications)

I = design rainfall intensity (mm/h, see Appendix 1 – Engineering Specifications)

A = catchment area (m²)

B5.6.6 Permissible site discharge (PSD)

Controls

- C1 The permissible site discharge (PSD) is limited to 150 litres per second per hectare for a 1 in 10 ARI year storm event.

B5.6.7 Site storage requirements (SSR)

Controls

- C1 A stage-storage routing model is the preferred method of calculating the required storage volume.
- C2 Methods that assume a constant discharge, such as the Mass Curve Analysis, require a factor to be applied to the constant discharge to determine the detention volumes - the adjustment factor for aboveground storage is 0.75 and for belowground storage is 0.6.
- C3 Ensure a minimum of 75% of the entire site area will drain through the storage area and that all the roof area, and as much of the paved area as possible, will drain through the detention system.
- C4 Incorporate provision for on-site storage resulting from a storm with an ARI of:
- (a) 10 years where overland flow paths are not through private property. Design and provide a weir to direct the 100 year discharge to the street drainage system; and
 - (b) 100 years where overland paths are through private property and/or known flooding problems occur.

B5.7 Disposal of Runoff from Property

B5.7.1 General Controls

Controls

- C1 Discharge stormwater runoff to kerb and gutter, street drainage, pipe in an easement, pipe in an inter-allotment drainage system, ~~Transport~~ Roads and Maritime Services drainage system ~~and~~ Sydney Water channel or river all subject to the relevant Authority's approval.
- ~~C2 If one does not already exist, development proposed on a site that slopes away from the street frontage will require a drainage easement through downstream properties.~~
- ~~C3~~ C2 Dispose stormwater runoff by an in ground gravity system. Elevated pipelines are not favoured although pipelines contained within buildings or low-level garden beds may be considered.
- C3 Land is not to be filled by more than 150mm in order to get an in ground pipeline to drain to the street (Refer to Appendix 1 – Engineering Specifications for methods that are satisfactory to drain various types of development).

- C4 Refer to Appendix 1 – Engineering Specifications for methods that are satisfactory to drain various types of development.

B5.7.2 Connection to kerb and gutter

Controls

- C1 Discharge stormwater runoff directly into the kerb and gutter at a point ~~no greater than 15m downstream from the boundary of the site between the boundary extensions of the property.~~ The Council may consider the extension of the discharge into the kerb in front of the
- C2 The maximum total discharge rate for both single and multiple points of discharge to Council's kerb and gutter is a maximum of 55 l/sec, or the PSD, whichever is the lesser.
- C3 Where more than one outlet is required, outlets are to be separated by a minimum distance of ~~500mm~~ 300mm.
- C4 Stormwater conduits laid in the footpath area are to be sewer grade PVC or galvanised steel (i.e. RHS) and not greater than 100mm in height. The pipe or conduit is to discharge into the kerb and gutter. ~~at an angle of 45 degrees to the flow in the gutter.~~

B5.7.3 Control of seepage

Controls

- C1 Adequate subsoil drainage is to be provided and connected to the piped drainage system. Subsoil drains are not to be installed below the water table. Should the water table be encountered within the depth of the excavation the structure is to be tanked and sealed.

B5.7.4 Connection to Council's street pipe system or inter-allotment drainage system

Controls

- C1 The connection into Council's pipe is to be within the top third of Council's pipe and in accordance with the Council's standards drawings. ~~at an angle of 45 degrees to the flow in the pipe.~~ No pipe protrusion is permitted into Council's pipeline.

B5.7.5 Connection to Sydney Water Corporation drainage system

Controls

- C1 Documentation that Sydney Water Corporation has approved the proposed connection into the channel is required before Council approves the hydraulic details.

B5.7.6 Disposal to natural watercourse**Controls**

- C1 Documentation that the relevant authority has approved the proposed connection into the watercourse is required before Council approves the hydraulic details.

Note: The applicant will have to identify the responsible authority for the watercourse and satisfy the requirements of the authority.

B5.7.7 Submerged outlet**Controls**

- C1 For drainage proposals that require connection directly to Council's stormwater pit or drainage pipe, the designer is to consider the effects of a drowned outlet.
- C2 Council will permit connection directly to its stormwater pit or pipe providing the outlet invert level from the property is at or above the top of kerb level at the connection point.
- C3 Outlet pipes less than Ø150mm can be connected directly to a council pipe. Outlet pipes Ø225mm or greater will require the construction of a standard council pit at the point of connection.

B5.7.8 Charged line**Controls**

- C1 Charged lines will be only be permitted for proposed additions/alterations, outbuildings, ~~and single dwellings~~ and dual occupancy development.
- C2 For a new ~~detached dwelling developments~~, where rainwater tanks are included, the pipes ~~are must be~~ completely sealed, from the tank overflow to the point of discharge.

Note: Typically a charged system will only work for the roof of buildings.

- C3 Use the following criteria for charged lines:
- (a) Will only be permitted if there are no drainage problems downstream in the catchment where the drainage is being directed.
 - (b) A full hydraulic analysis of the system including a hydraulic grade line and calculations must be submitted with the Development Application.
 - (c) Adequate height within the system must be provided (minimum of 0.9 m) between the roof gutter and the higher of the top of the kerb OR the overflow level from the rainwater tank.
 - (d) All gutters and pipes in the system MUST be designed for a 1 in 50 year ARI storm event (1 in 100 years for box gutters) without overflowing.

- (e) All pipes and downpipes are to be sealed to a minimum of 0.5 m above the top water level within the system, in accordance with the relevant Australian Standards for solvent welded pipes. ~~The system shall be pressure tested prior to backfilling.~~
- (f) There must be a gravity flow across the footpath from an isolating pit within the property boundary into the kerb. If the footpath falls towards the property; then the pipeline must remain sealed to the kerb outlet, with a sealed cleaning eye installed within the property boundary.
- (g) All services within the footpath must be identified and located prior to submitting the plans and the details must be shown on the plans.
- (h) A flush point must be provided at the lowest point of the system within an inspection pit (350 x 350 mm) with a sump for cleaning. There must be a minimum of 1 m long pipe from the last downpipe to the inspection pit. The connection to the pit is to have a sealed screw cap to allow for periodic cleaning, the cap shall have a 5 mm dribble hole to allow for a slow release of trapped water. The pit shall be appropriately located within the property so that runoff or surcharge during maintenance will not affect downstream or adjoining properties.
- (i) The charged pipeline must be protected in such a way as to minimise ~~Gutter guards must be installed on all gutters to minimize debris from entering the system.~~
- ~~(i)~~ (i) Where a charged system is proposed for the disposal of roof runoff, the Engineer may propose a "Transpiration Bed for Small Paved Areas" (Council Standard Drawing S-125) at the rear of the development site for the disposal of surface runoff from the front of a development site which slopes to the rear. The transpiration bed must not be located between habitable buildings on a site.

B5.7.9 Pump Out Systems

Controls

- C1 Council may consider the use of pump out system as a last option, for sites sloping away from the street, in the event that a drainage easement can't be created or the use of an alternative drainage method (such as charged line or ~~absorption-transpiration~~ system) is determined to be unachievable.
- C2 Any approval of a pump out system will be assessed against the following criteria:
 - (a) Applicants must provide easement documentation, in accordance with Section B5.2 – C5 and relevant information regarding alternative drainage methods to demonstrate why these methods cannot be installed or achieved;
 - (b) The maximum pump rate must be limited to PSD 150 litres/second/hectare, at the outlet point of discharge;
 - (c) Dual submersible pumps must be provided with all connections and configuration complying with Section 8 of AS/NZS 3500.3;

- (d) The underground storage tanks must be constructed using pre-cast or cast in situ reinforced concrete subject to structural engineers design;
- (e) The required storage volume shall be designed to be entirely underground;
- (f) The underground pump system must be located at the lowest part of the site; insofar as practicable;
- (g) Design storage volumes for the pump system must comply with Appendix 1 – Engineering Specifications; and AS 3500.
- ~~(h) A positive covenant must be created and registered over the pump system to ensure long-term maintenance.~~

B5.8 Absorption Systems

B5.8.1 Design and Construction of Absorption Systems

Controls

- C1 Subterranean a Absorption systems are generally discouraged, however, may be permitted for paved areas (such as driveway, pathway and hard surfaces) associated with additions/alterations, outbuildings and single dwellings only, subject to a supporting geotechnical percolation.-

Note: Most of Canterbury consists of clay subsoil and the absorption (rubble pit) system is generally ineffective. Therefore, it is the least preferred drainage method.

- C2 Use the following criteria in the design and construction of an absorption system:
- (a) The absorption pit is to be designed to cater for all surface runoff generated from the impervious areas for the 1 in 50 year ARI storm event;
 - (b) A detailed design and supporting calculations, prepared by suitably qualified and experienced engineer must be submitted with the development application;
 - (c) A geotechnical report in support of the above design and an assessment of the infiltration (absorption rate) of the soil profile must be submitted with the development application;
 - (d) The absorption rate in litres/square metre/second must be determined with a recognised falling head or constant head test. The test shall be repeated until there is less than 5% difference in results. Full details of all test results are to be submitted with the development application. At least one test hole at each proposed pit location is to be drilled to a minimum depth of 1.5 m below surface level;

- (e) When calculating storage volume allow for 20% voids in the base aggregate. The standard pipes network shall not be considered as storage volume;
- (f) The absorption system shall be installed as far as practicable from downstream property boundaries (minimum 5.0m) and a minimum 3.0 m from any buildings. The system should not be placed under any paved surfaces and must be at least 1.0m from pavements subject to vehicular traffic;
- (g) A silt arrestor pit shall be constructed immediately upstream of the underground absorption system; and
- (h) On-site absorption will not permitted in areas where the nominal absorption rate is less than 0.01 l/m²/sec and there is clearly identified soil salinity problem.

B5.8.2 Methods of Sizing Absorption Pits

Controls

- C1 Apply a reduction factor to the Nominal Absorption Rate (AR_N) determined in the above geotechnical report to cater for clogging of filters, variability of soils and likelihood of multiple storms in accordance with the following.

Nominal Absorption Rate (AR_N)	Reduction Factor (F_R)
$0.1 \geq AR_N \leq 1.0$	0.75
$AR_N < 0.1$	0.50
Then $AR_D = AR_N \cdot F_R$ where AR_D = design absorption rate.	

Table B5.1: Nominal Absorption Rates

B5.8.3 Storage method with average rainfall intensity

Controls

- C1 Determine a preliminary pit dimension and proceed through a process of trial and error:
Base area (BA) = Width x Length
- C2 Calculate the rate of discharge to the sand using $ARD \cdot BA$ in litres/second, then calculate the required storage for a number of storms by calculating the difference between the generated runoff volumes and the absorption volumes. Compare the required storage to the available storage in the proposed system. Where the available storage is greater than the required storage for all time steps the proposed system is feasible.

Note: It is suggested that the designer create a spreadsheet so multiple sizes and configurations can be readily tested (refer to Appendix 1 – Engineering Specifications).

B5.9 Rainwater Tanks

Rainwater tanks and the use of stored rainwater for non-potable uses (such as watering gardens, washing, flushing of toilets) is encouraged, and a rainwater tank is required for all new residential development as part of BASIX certificate requirements.

Controls

- C1 Where OSD, ~~or absorption, are~~ is part of the proposed stormwater system, up to 25% of the required volume for the above systems can be offset into a rainwater tank.

Note: If water in rainwater tanks is intended for human consumption, the tank should be maintained to ensure that the water is fit for human consumption-see the Rainwater Tanks brochure produced by NSW Health and the publication titled 'Guidance on the use of rainwater tanks' published by the Environmental Health Committee (part of the Australian Health Protection Committee). For more information about rainwater tanks and other water-wise options, visit www.sydneywater.com.au.

B5.10 Surface Pits

B5.10.1 Surface Levels

Controls

- C1 Design all surface pits in accordance with AS/NZS 3500.3 6.5.4 with the finished surface level of the grates consistent with the surrounding levels - the grates of any stormwater component must not protrude above ground level.

Depth (mm)	Minimum Pit Size (mm)
< 300	300 x 300
300 - 600	450 x 450
600 - 1200	900 x 600
> 1200	900 x 900

Table B5.2: Minimum Internal Dimensions of Surface Inlet Pit

- C2 Provide step irons in pits deeper than 1200mm.

B5.10.2 Inlet pit locations

Controls

- C1 Position inlet pits, or grated drains, systematically at locations within the developed site to capture the majority of surface runoffs, while also fitting neatly into the layout of the site stormwater system.

- C2 Size on-grade pits, or grated drains that are located on sloping surfaces, or in channels or gutters, to intercept a large proportion of the flow - place so that any bypass flows, under minor storm event conditions, will not cause a nuisance and so that widths of such concentrated flow is negotiable by pedestrians.
- C3 Inlet pits in locations subject to potential mosquito borne disease shall be designed without a sump and be self-draining.

Note: Care should be taken by positioning and specifying details (e.g. type of product) of grated pits in areas subject to pedestrian or vehicular traffic to avoid possible damage to pits and danger to pedestrians.

Site stormwater drains should be laid in straight lines to avoid conflict with other services, and to minimise overall length and number of changes in direction.

B5.10.3 Silt Arrestor Pits

Controls

- C1 Install an approved silt arrestor pit at the lowest part of any developed site to eliminate contamination (generally silt, oil, or both) from stormwater runoff prior to discharge into the stormwater drainage network - in the case of car wash bays, the silt arrestor shall be also designed to retain oil.
- C2 Locate the arrestor within the subject property and install upstream of the discharge point (connection to kerb and gutter or Council pipeline).
- C3 Wherever practicable, grade the area adjacent to a silt arrestor so as to drain to the silt arrestor.
- C4 A silt arrestor may receive the discharge from an upstream pit or sump, which has been installed to receive surface water only, provided that the silt arrestor is of sufficient capacity to receive the additional discharge.

B5.10.4 Design of silt arrestor pit

Controls

- C1 Determine the capacity of the arrestor from the estimated peak discharge to the arrestor. Design and dimension rectangular or square silt arrestors in accordance with the following table.

Nominal size of inlet pipe (mm)	Minimum nominal size of outlet pipe (mm)	Width (mm)	Depth from invert of outlet pipe to base of pit (mm)	Length (mm)
150	100	600	300	600
150	150	600	300	1000
225	225	700	300	1000
300	300	800	300	1000
450	450	1000	300	1200

600	600	1000	300	1500
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Table B5.3: Minimum internal dimension for silt arrestor pit

- C2 Determine the inlet capacity of on grade and sag inlet pits using equations given in Chapter 14 of Australian Rainfall & Runoff (1987) - the arrestor shall be constructed of concrete or other approved materials.
- C3 Locate the invert of any inlet pipe at least 50mm above the nominal water level in the arrestor subject to normal flow conditions.
- C4 Place the outlet pipe at a height of not less than 300mm above the pit base, depending on the nominal size of the outlet pipe.
- C5 Except where otherwise permitted, provide a removable cover for the silt arrestor – use heavy-duty cast iron or fabricated galvanised steel grates on all surface inlet pits in areas with vehicular traffic.
- C6 Construct covers with galvanised steel, cast iron or other approved material that is capable of withstanding any load likely to be imposed on the cover - perforated with wholes of not less than 15 mm diameter and spaced at 40mm centres, or use open bar grill design, or another approved design.
- C7 Use appropriate cover designs and products where pits are located in high pedestrian traffic areas, or in playground areas.
- C8 Provide weep-holes at the base of silt arrestor pit - either 4 x 20mm diameter hole or 1 x 40mm diameter hole.
- C9 Cut all inlet and outlet pipes entering or exiting a pit flush with the inside wall of the pit.
- C10 Provide a sump at the base of all discharge control pits, to prevent silt and debris from blocking the orifice or outlet pipe - the sump is a minimum 200mm below the invert level of the downstream pipe – provide minimum of two 50mm weep holes at the base of the sump.
- C11 Construct the control pit on an aggregate base wrapped in geotextile fabric.
- C12 Construct all pits in reinforced concrete - bricks cement rendered, or precast concrete and plastic pits will not be permitted.
- C13 Provide large paved areas and driveways falling towards Council's footpath with a heavy duty grated drain across the whole driveway width, the outlet from the grated drain shall be connected to the internal drainage system before being discharged into the receiving system.

B5.11 Drainage Easements

B5.11.1 Creation of Private Drainage Easement

Controls

- C1 Where a drainage easement is required, details of approval of the drainage easement are to be submitted with the development application to demonstrate the consent of respective downstream owners.

Note: A genuine attempt to obtain an easement must include monetary offer of compensation, based on a valuation report prepared by a registered land valuer.

- C2 If a required drainage easement has not been obtained, the following documentation to is to be provided to demonstrate all avenues have been exhausted:
- (a) A land valuation report prepared by a registered land valuer, with an estimate of the land value of the easement (excluding construction/installation cost);
 - (b) A letter of request from the applicant to owners of all possible downstream properties, requesting permission to create a private drainage easement through their property – including a concept plan illustrating the proposed location of the drainage easement, an offer of compensation (as estimated in the valuation report) and a commitment to pay all relevant expenses and reinstate disturbed areas; and
 - (c) A signed letter of correspondence from the downstream property owners either accepting or rejecting the offer.
- C3 The applicant will bear all costs associated with the creation of the drainage easement.
- C4 For sites that have existing Council pipelines through them that are not covered by an easement, or where an existing pipeline is not within the easement, Council will require the creation of an easement in favour of itself, or relocation of the easement over the existing pipeline. Relevant documents shall be submitted with the development application to demonstrate easement registration with the Land and Property Information Division of the Department of Lands has been established.
- C5 The minimum easement widths required over various pipe sizes are shown in the table below.

Pipe Diameter (mm)	Drainage Easement Width (m)
150 minimum pipe size in easement	0.9 – 1.0
225	1.0 – 1.2
300	1.2 – 1.5
375 , 450	1.5 – 2.0
525 , 675	2.0 – 2.5
750 , 900	2.5 – 3.0
1050 , 1200	3.0 – 3.5
1350 , 1500	3.5 – 4.0
1650 , 1800	4.0 – 4.5
Floodway	Full width of nominated floodway

Table B5.4: Drainage easement widths for common drainage lines and council pipelines

B5.11.2 Existing Private Drainage Easement

Controls

- C1 Where it is proposed to discharge collected runoff into an existing pipeline that passes through an adjoining lot, or to lay a new pipe within an existing inter-allotment drainage easement, submit confirmation from NSW Land and Property Information to indicate that the subject property enjoys rights to use the drainage system with the development application.

B5.11.3 Council's Stormwater System and Easement

- C1 Generally buildings over and under Council drainage easements and stormwater infrastructure will not be permitted. However, subject to the approval of Council, lightweight structures such as carports and pergolas may be permitted.
- C2 Where the location of the common drainage pipeline is in conflict with proposed building, relocate the drainage clear of the building in accordance with a hydraulic analysis, undertaken by a practising civil engineer that demonstrates the hydraulic capacity of the system is not compromised due to the relocation.
- C3 Where an approval is given for the construction of a carport or other light structure over a drainage easement, the structure will be easily demountable and be removed, at the owner's expense, if requested by Council (for any necessary work within the easement).

B5.11.4 Sydney Water Requirements

- C1 Provide written evidence of compliance with Sydney Water requirements where proposing to drain into a Sydney Water asset.

B5.12 Overland Flow Path

Surface overland flow paths are an integral part of the drainage system and must be considered at the design stage of the stormwater system. They are to be preserved and maintained unobstructed throughout the developed site and adjoining properties.

Controls

- C1 Do not obstruct any overland flow path. Council will enforce the removal of any obstruction to overland flow within private properties, and recover from the owners the cost of carrying out such work.
- C2 Do not obstruct existing runoff, entering the site from upstream properties or sub-catchments, from flowing into the subject site, or redirect it so as to increase the quantity or concentration of surface runoff entering adjoining properties.

Note: During periods of heavy rainfall it is anticipated that there will be potential runoff, across boundaries of some properties, which will enter downstream sites from upstream properties due to the local contours of the area.

- C3 Consider potential runoff at the design stage and design so it will not have any adverse impact on adjoining properties. Overland flow should not be obstructed from flowing naturally and is not to pond or concentrate along boundaries of adjoining properties. Suitable channels, open dish drains, walls or any other measures may be necessary to accommodate the existing and potential overland flow paths throughout the subject site.
- C4 Care must be exercised to ensure that provision of any of the above remedial measures will not result in diverting runoff into the OSD system, if this is unattainable, then the OSD system must be designed to cater for the additional stormwater runoff anticipated from upstream catchment area(s).
- C5 Council may require that the design specify the extent of the overland flow path through the site, and that the development be located/ modified clear of the overland flow path, or set at an appropriate freeboard.

B5.13 Areas Subject to Possible Flooding

Controls

- C1 OSD is not required on sites affected by 1 in 100 year flooding (main stream flooding not overland flow).

Note: Council has a record of the flood levels for properties adjacent to the Cooks River and the Salt Pan Creek. Council will issue flood levels on written request, subject to a fee. Flood levels will be issued to Australian Height Datum to the nearest 100mm. Levels for the 1 in 20 year flood, 1 in 50 year flood and 1 in 100 year flood can also be provided. Approximate ground levels can also be given, however; it is the applicant's responsibility to engage a surveyor to determine the actual ground and floor levels.
- C2 Council may require a flood study be undertaken and submitted with the development application, where flood studies have not previously been undertaken for areas adjacent to water courses.
- C3 Habitable floor levels of all residential and institutional buildings are to be a minimum of 500mm above the 1 – 100 year flood level.
- C4 All garages or parking areas are to be at least 150mm above the 1 – 100 year flood level (Refer to Appendix 1 – Engineering Specifications in order to address all relevant issues prior to submitting a development application).

B5.14 Flood Management

This section applies to development on land potentially affected by a one in 100 year Flood Standard for Salt Pan Creek and the Cooks River, as well as sites within close proximity to this flood plain within the LGA.

Council will issue flood levels on written request. Flood levels will be issued to Australian Height Datum to the nearest 100mm. Levels can be provided for the 1

in 20 year flood, 1 in 50 year flood and 1 in 100 year flood. Approximate ground levels can also be given but it is the applicant's responsibility to engage a surveyor to establish the actual ground and floor levels.

This section should be read in conjunction with the NSW Floodplain Development Manual – the development of flood liable land, 2005.

Objectives

- O1 To ensure development in flood liable areas is designed and constructed to withstand the stresses of the highest probable flood.
- O2 To ensure development will not increase the flood hazard or flood damage to other properties or adversely affect them in any way during times of flooding.

Controls

- C1 Submit a survey plan to Council showing the relative levels to AHD, prepared by a registered practicing surveyor.
- C2 Flood levels of all habitable rooms should be 0.5m or more above the standard flood level. A certificate by a registered practicing surveyor certifying the level of the completed building will be required.
- C3 Where Council considers flooding could damage a proposed development, no work should be commenced until a qualified structural/civil engineer has submitted a certificate of structural adequacy with regard to stability as a result of flooding.
- C4 Where the development relates to an existing building, a certificate is to be provided from a qualified practicing structural or civil engineer stating that the existing building is capable of withstanding the likely floodwaters and impact from debris in those waters without sustaining structural damage.
- C5 Developments such as sporting grounds and open air car parks will be considered on flood liable land. Any consent for such development will require certificates from surveyors and engineers as referred to above.
- C6 Habitable rooms include bedrooms, bathrooms, living rooms, study, lounge rooms, dining rooms, games rooms, kitchens, halls, garages offices, laundries, utility rooms, manufacturing rooms / areas, class rooms, storage areas.
- C7 Non habitable floor space includes decking, sports grounds and car parks.

Note: The above habitable room and non-habitable floor space lists are not exhaustive and may include other forms of accommodation, storage and space use.

B6 Energy and Water Conservation

This chapter provides objectives and controls for achieving efficient use of resources and passive climate control in the design, construction and use of buildings. It applies to the design, construction and operation of all development within the LGA.

Energy efficient buildings through their design, construction, choice of appliances and heating/cooling systems can have a significant influence on energy consumption and performance. A well designed building can reduce the level of greenhouse gas emissions into the atmosphere, whilst being economically efficient and improving occupant comfort.

State Environmental Planning Policy (Building Sustainable Index: BASIX) 2004 applies to residential developments and aims to ensure homes or apartments are designed to minimise potable water usage and energy usage. An applicant is required to lodge a BASIX certificate with their development application with Council for:

- New residential buildings;
- Alterations and additions to existing residential buildings where the estimated construction cost of the work is more than \$50,000 and where development approval is required; and
- New swimming pool (or pool and spa) with a capacity of 40,000 litres or more.

More information on BASIX is available at the following link: www.basix.nsw.gov.au.

B6.1 General Objectives

- O1 To encourage a more sustainable urban environment where energy efficiency is incorporated into the design, construction and use of buildings.
- O2 To reduce consumption of energy from non-renewable sources, and reduced greenhouse gas emissions.

B6.2 Passive Energy Design

B6.2.1 Shading and Glare

The orientation, size and shading of windows provides control over the amount of sunlight entering a building, and this can be manipulated throughout the year to maximise the benefits of winter sun and minimise the effects of summer sun. The aim is to achieve thermal comfort for occupants and reduce the demand for artificial heating and cooling.

Controls

- C1 Windows and openings shall be appropriately located and shaded to reduce summer heat load and maximise sunlight in winter.
- C2 Use shading devices to allow direct sunlight to enter and heat a building in winter and prevent direct sunlight entering and heating the building in summer. Devices include eaves, awnings, shutters, louvres, pergolas, balconies, colonnades or external planting.
- C3 Provide horizontal shading to north facing windows and vertical shading to east or west windows.
- C4 Use moveable shading devices on large windows facing east and west that are capable of covering 100% of glazed areas. Eaves shall be a minimum of 350mm wide and allow for an overhang of approximately 65 degrees above the horizontal.
- C5 Avoid reducing internal natural daylight or interrupting views with shading devices.
- C6 Use double-glazing, solar coated windows, curtains, or internal shutters to prevent heat loss and provide extra summer protection.
- C7 Use high performance glass with a reflectivity below 20%.
- C8 Minimise external glare by avoiding reflective films and use of tint glass.

B6.2.2 Insulation and Thermal Mass

Thermal insulation alters the rate at which a building gains or loses heat. In summer, insulation reduces the flow of heat entering through walls and roofs, thereby improving thermal comfort in the building. In winter, insulation reduces the rate at which heat is lost, and hence retains any heat gain achieved.

Controls

- C1 Maximise thermal mass in floor and walls in northern rooms of the building.
- C2 Provide insulation in the roof, ceiling, walls and floors in accordance with the following table:

	Other Development	Industry
Roof	Minimum 2.0 R-value	Minimum 2.5 R-value
Walls	Minimum 1.0 R-value	Minimum 1.5 R-value
Floor	Minimum 1.0 R-value	Minimum 1.0 R-value

Table B6.1: Insulation

Note: R-value indicates how effective insulation is in blocking the transmission of heat. Insulation with an R-value of 3 is three times as effective as insulation with an R-value of 1. Thermal mass means a material's capacity to store heat.

B6.2.3 Ventilation

Natural ventilation and drying areas can save significant amounts of fossil fuel-based energy by relying on natural air movements and hence reducing the need for mechanical ventilation, heating, cooling and drying.

Refer to Part C of the DCP for natural ventilation requirements (building depth) for residential flat buildings and shop top housing.

Objectives

- O1 To ensure that work spaces have direct access to fresh air that assists in promoting thermal comfort for occupants.
- O2 To ensure that all habitable rooms have natural ventilation, and non-habitable rooms have natural ventilation where possible.
- O3 To ensure mechanical space heating and cooling, water heating and appliances are as energy efficient as possible.

Controls

- C1 Incorporate features to facilitate natural ventilation and convective currents such as opening windows, high vents and grills, high level ventilation (ridge and roof vents) in conjunction with low-level air intake (windows or vents).
- C2 Where natural ventilation is not possible, energy efficient ventilation devices such as ceiling fans should be considered as an alternative to air conditioning. Explore innovative technologies to naturally ventilate internal building areas or rooms.

B6.3 Water and Energy Efficiency

Efficient water heating, water saving devices and efficient appliances can significantly affect energy consumption.

B6.3.1 Water Conservation**Controls**

- C1 Use 3 and 4 star rated devices in the bathroom and kitchen respectively.
- C2 Install water-saving devices, such as flow regulators.

B6.3.2 Energy Conservation**Controls**Hot Water Systems

- C1 Installation of solar hot water systems boosted by gas is encouraged.
- C2 Electric hot water systems that are not as efficient as gas or gas-solar heaters are discouraged. Heat exchange excepted. Hot water piping should be insulated.
- C3 For industrial development hot water systems must have a minimum energy rating of 4 stars and be located close to the main areas of use.
- C4 For all other development, hot water systems must have a Greenhouse Rating of 3.5 or greater and should meet the needs of the development.

Fittings and Appliances

- C5 Maximise the efficiency of appliances by selecting an energy source with minimum greenhouse emissions.
- C6 Use washing machines, clothes driers and dishwashers that have a Greenhouse Energy Star Rating of no less than 3.5 stars.
- C7 Use a range of low energy lighting such as L.E.D (of electronic ballast/compact fuourescent) lamps, ballasts and fittings.
- C8 Use lower energy lightings such as:
 - (a) Compact fluorescent or tubular fluorescent lamps;
 - (b) Electronic ballast instead of magnetic ballast in fluorescent lights;
 - (c) Compact fluorescent or low voltage tungsten halogen lights instead of tungsten spotlights; or L.E.D lights instead of halogen.
 - (d) Solar powered or low watt L.E.D lamps, metal halide or sodium discharge lamps for outdoor areas, such as car parks; and
 - (e) Energy efficient starters.
- C9 Use automatic control systems that turn lights on and off when needed.
- C10 Use motion detectors for common areas, lighting doorways and entrances, outdoor security lighting and car parks.

B6.4 Active Energy

Active solar energy systems combine the sun's energy with local climatic conditions to achieve thermal comfort inside buildings with the use of mechanical devices.

Controls

- C1 Provide heating/cooling systems to target only those spaces that need heating or cooling – use zone system and isolate those areas that are difficult to heat.
- C2 Consider the installation of active solar energy systems.
- C3 In residential and mixed use buildings:
 - (a) Allow entries to open into lobbies or vestibules that are isolated from areas within the apartment;
 - (b) Provide gas bayonets to living areas;
 - (c) Provide reversible-ceiling fans for improving air movement in summer and for distributing heated air in winter; and
 - (d) Provide or plan for future installation of solar collectors and photovoltaic panels.

B7 Crime Prevention and Safety

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

CPTED provides a range of strategies to assist communities in playing an active role in local crime prevention. These strategies relate to the design and management of the physical environment to ensure that:

- There is more chance of being seen, challenged or caught;
- Greater effort is required;
- The actual or perceived rewards are less; and
- Opportunities for criminal activity are minimised.

In addition, CPTED is about the design of spaces that make people feel safe. The four (4) principles central to CPTED are:

- Surveillance;
- Access Control;
- Territorial Reinforcement; and
- Space Management.

This chapter provides guidelines for making buildings and places safe through the CPTED principles and includes objectives and controls for new development, alterations and additions to existing buildings, and change of use of existing premises where building work will be undertaken.

This chapter of the DCP should be read in conjunction with 'Crime Prevention and the Assessment of Development Applications (2001)' guideline prepared by the NSW Department of Urban Affairs and Planning.

B7.1 General Objectives

- O1 To reduce the potential for crime through creating safer urban environments.
- O2 To contribute to the safety and liveliness of the street by allowing for natural overlooking of the street.

- O3 To raise community awareness and promote design as a genuine crime prevention strategy and identify the community's role in the crime prevention process.

B7.2 All Development Types

B7.2.1 CPTED Principle: Surveillance

Controls

- C1 Avoid blind corners in pathways, stairwells, hallways and car parks through:
- (a) Designing and locating pathways so they are direct, with permeable features, such as landscaping and fencing;
 - (b) Considering the installation of mirrors to allow users to see ahead of them and around corners; and
 - (c) Installing glass panels in stairwells where appropriate.
- C2 Provide natural surveillance for communal and public areas, including:
- (a) Position active uses or habitable rooms with windows adjacent to main communal/public areas (playgrounds, swimming pools, gardens, car parks);
 - (b) Design and locate communal areas and utilities (laundries and garbage bays) where they are easily seen;
 - (c) Use open style or transparent materials on doors and walls of elevators and stairwells;
 - (d) Locate waiting areas and entries to elevators and stairwells close to areas of active uses, and to be visible from the building entry; and
 - (e) Locate seating in areas of active uses.
- C3 Provide clearly visible entries, through:
- (a) Locating entrances in prominent positions.
 - (b) Designing entrances to allow users to see in before entering.
- C4 Design the fence to maximise natural surveillance from the street to the building, and from the building to the street, and minimise opportunities for intruders to hide. Consider:
- (a) Using front fences that are predominantly open in design (such as pickets and wrought iron) or low in height;

- (b) Light coloured fencing that can increase a sense of privacy; and
 - (c) Any high solid front fence has open elements above 1m.
- C5 Avoid landscaping that obstructs natural surveillance, including:
- (a) Avoid medium height vegetation with concentrated top to bottom foliage. Plants such as low hedges and shrubs (1 - 1.2m high). Creepers, ground covers or high-canopied trees are good for natural surveillance;
 - (b) Space trees that have dense low growth foliage or have the crown raised to avoid a continuous barrier;
 - (c) Use low ground cover or high-canopied trees, clean trunked to a height of 2m around children's play areas, car parks and along pedestrian pathways;
 - (d) Minimise possible places for intruders to hide;
 - (e) Avoid vegetation that conceals the building entrance from the street; and
 - (f) When planting is provided within 5m of a pedestrian pathway, it is to be lower than 1m or thin trunked with high canopy.
- C6 Ensure lighting does not produce glare or dark shadows.
- C7 Entrances, exits, service areas, pathways, car parks are to be well-lit after dark when they are likely to be used. Design considerations include:
- (a) Use diffused floodlights and/or movement sensitive lights. Direct these lights towards access/egress routes to illuminate potential offenders, rather than towards buildings or resident observation points;
 - (b) Use lighting that has a wide beam of illumination, which reaches to the beam of the next light, or the perimeter of the site or area being traversed. As a guide, the areas are lit to enable users to identify a face 15m away; and
 - (c) Avoid lighting spillage onto neighbouring properties as this can cause nuisance and reduce opportunities for natural surveillance.
- C8 Where permitted, provide appropriate mixed uses within buildings to increase opportunities for natural surveillance. Design considerations include:
- (a) Locate shops and businesses on lower floors and residences on upper floors. In this way, residents can observe the businesses after hours while the residences can be observed by the businesses during business hours and
 - (b) Incorporate car wash services, taxi ranks and shop kiosks within car parks. Include kiosks and restaurants in parks.

- C9 Security measures allow for natural observation and are sympathetic to the style of the building. Design considerations include:
- (a) Security grilles and security doors should be visually permeable. Avoid solid shutters on front windows and doors.

B7.2.2 CPTED Principle: Access Control

Controls

- C1 Ensure buildings, dwellings and other premises are clearly identified by street numbers which:
- (a) Are at least 7cm high, and positioned between 0.6m and 1.5m above ground level on the street frontage;
 - (b) Are made of durable materials, preferably reflective or luminous, and unobstructed (by foliage); and
 - (c) Provide location maps and directional signage for larger development.
- C2 Provide clear entry points, including:
- (a) Entrances that are easily recognisable through design features and directional signage; and
 - (b) Minimise the number of entry points.
- C3 Use vegetation as barriers to deter unauthorised access.
- C4 Avoid large trees/shrubs and building works that could enable an intruder to access a dwelling, or a neighbouring dwelling. Include landscaping that:
- (a) Uses prickly plants as effective barriers. Species include bougainvillea, rose, succulents, and berries; and
 - (b) Avoids large trees, carports, skillion extensions, fences, and downpipes in locations that could provide a means of access to second storey windows or balconies.
- C5 Use security hardware and/or human measures only where required to reduce opportunities for unauthorised access, including:
- (a) Install quality locks on external windows and doors;
 - (b) Install viewers on entry doors;
 - (c) If security grilles are used on windows ensure they can be opened from inside in case of emergencies;
 - (d) Ensure skylights and/or roof tiles cannot be readily removed or opened from outside;
 - (e) Consider monitored alarm systems;

- (f) Provide lockable gates on side and rear access ways; and
- (g) Consider building supervisors or security guards.

B7.2.3 CPTED Principle: Territorial Reinforcement

Controls

- C1 Create a 'cared for' image through:
 - (a) Ensuring the speedy repair or cleaning of damaged or vandalised property;
 - (b) Providing for the swift removal of graffiti; and
 - (c) Providing information advising where to go for help and how to report maintenance or vandalism problems.
- C2 Use materials that reduce the opportunity for vandalism, including:
 - (a) Strong, wear resistant laminate, impervious glazed ceramics, treated masonry products, stainless steel materials, anti-graffiti paints and clear over sprays will reduce the opportunity for vandalism. Avoid flat or porous finishes in areas where graffiti is likely to be a problem.
 - (b) Where large walls are unavoidable, consider the use of vegetation or anti-graffiti paint. Alternatively, modulate the wall, or use dark colours to discourage graffiti.
 - (c) Use external lighting that is vandal resistant. High mounted and/or protected lights that are less susceptible to vandalism.
 - (d) Use communal/street furniture that is made of hardwearing, vandal resistant materials and secured by sturdy anchor points, or removed after hours.
- C3 Clearly define spaces to express a sense of ownership and reduce illegitimate use/entry by including:
 - (a) Physical and/or psychological barriers (fences, gardens, lawn strips, varying textured surfaces) can be used to define different spaces.
- C4 Encourage design that promotes pride and a sense of place for community, through:
 - (a) Encouraging community involvement in design;
 - (b) Encouraging volunteer management and maintenance of areas; and
 - (c) Encouraging wide community use of areas.

B7.3 Additional Provisions for Residential Development

B7.3.1 CPTED Principle: Surveillance

Controls

- C1 Allow natural observation from the street to the dwelling, from the dwelling to the street, and between dwellings, through:
- (a) For single dwellings and dual occupancies, orientate the main entrance towards the street, or both streets and corners;
 - (b) Orientate secondary dwellings towards the main dwelling so that visibility is maintained between both dwellings;
 - (c) For multi dwelling housing, orientate some of the dwellings to address the street, or both streets and corners;
 - (d) Position habitable rooms with windows at the front of the dwelling;
 - (e) Do not allow garages and/or carports to dominate the front facade of the dwelling;
 - (f) Do not provide access to dwellings or other uses above commercial/retail development from a rear lane; and
 - (g) Offset windows, doorways and balconies to allow for natural observation while protecting privacy.

B7.3.2 CPTED Principle: Access Control

Controls

- C1 Provide an appropriate level of security for individual dwellings and communal areas, including:
- (a) Installing intercom, code or card locks or similar for main entries to buildings, including car parks;
 - (b) Ensuring main entry doors for buildings are self-closing and signs are displayed requesting residents not to leave doors wedged open; and
 - (c) Consider installing user/sensor electronic security gates at car park entrances, garbage areas and laundry areas, or alternatively provide access controls.

B7.3.3 CPTED Principle: Territorial Reinforcement

Controls

- C1 Design dwellings and communal areas to provide a sense of ownership, through:

- (a) Distinguishing dwellings or groups of dwellings using design features (such as colouring, vegetation, paving, artworks, fencing or furniture); and
- (b) Where possible, design so that no more than 6 to 8 dwellings share a common building entry.

B7.4 Additional Provisions for Commercial Premises, Industry and Community Facilities

B7.4.1 CPTED Principle: Surveillance

Controls

- C1 Locate public services in areas of high activity, including:
 - (a) Locating facilities in highly visible locations that are well lit.
 - (b) Locating facilities away from possible places to hide, such as fire exits and recesses in the building;
 - (c) Design ATM's to incorporate mirrors or reflective materials so that users can observe people behind; and
 - (d) Consider conflicting uses when designing public space (for example do not put a public phone or seat near an ATM as this provides a potential thief with an opportunity to loiter).
- C2 Design shop frontages to allow for natural surveillance and a suitable streetscape appearance.
- C3 Provide entries that are clearly visible from the street, including:
 - (a) Locate main entrances/exits at the front of the site and in view of the street. If staff entrances must be separated from the main entrance, locate so that opportunities for natural surveillance from the street are maximised.
- C4 Maximise the access and visibility of facilities, including:
 - (a) Avoid blank walls fronting the street. In industrial developments, locate administration/offices at the front of the building; and
 - (b) Locate toilets and parents' rooms close to areas of active uses or regularly staffed areas.

B7.4.2 CPTED Principle: Access Control

Controls

- C1 Use building materials that reduce the opportunity for intruder access.
- C2 Use toughened or laminated glass at ground floor.

- C3 Consider security issues in premises operating with extended hours (such as office buildings, pubs and restaurants), through:
- (a) Providing adequate lighting in areas surrounding entry/exit points;
 - (b) Providing adequate lighting surrounding all amenities (such as car park area and toilets); and
 - (c) Where necessary, allocate security guards to patrol the surrounding areas of the building.

B7.5 Additional Provisions for Car Parks

B7.5.1 CPTED Principle: Surveillance

Controls

- C1 Provide adequate lighting within and around the car park including:
- (a) Illuminate all external edges and access points to car parks during opening hours of the car park;
 - (b) Allow for the adjustment of driver and pedestrian vision, lighting intensity to covered or underground car parks is graded. Brighter light is used at entrance and pedestrian access ways, and dimmer light is used elsewhere; and
 - (c) Lighting is sufficiently bright to enable a car park user to see into the rear seat of a parked car before they enter the car.
- C2 Use materials that enhance natural surveillance within the car park, including:
- (a) Use transparent materials for walls and doors. Paint the ceilings and walls of the car park in light colours to enhance brightness; and
 - (b) Reflective film can be used on windows overlooking car parks. Potential intruders will not know if they are being observed.
- C3 Allow natural observation through:
- (a) Use of open style security grilles to individual parking spaces if they need to be enclosed.
- C4 Ensure clear sight lines throughout the parking area.
- C5 Design car parks to allow for natural surveillance, through:
- (a) Avoiding large expanses of car parks. Where large expanses of car parks are proposed, provide surveillance such as security cameras;
 - (b) Access to lifts, stairwells and pedestrian pathways are to be clearly visible, avoid hidden recesses;

- (c) Locate disabled parking spaces in highly visible and convenient areas; and
- (d) Locate car parks in areas that can be observed by adjoining uses.

B7.5.2 CPTED Principle: Access Control

Controls

- C1 Provide security to monitor access to areas.
- C2 Use security devices (such as intercom or remote lock facility) where appropriate.
- C3 For large development, locate a help point on each parking level and/or allocate security staff.
- C4 Ensure ease of access and safety within the car park, through:
 - (a) Minimising the number of entry and exit points;
 - (b) Creating pedestrian corridors for large development; and
 - (c) Where possible, locate entry/exit points in close proximity, and close to, the car park operator or shops, cafes and other active uses.
- C5 Separate and secure staff car parking.
- C6 Clearly distinguish between private and public space.
- C7 Ensure that parking areas are clearly identified by signage to prevent unintended access, and to assist persons trying to find their car, through:
 - (a) Providing signage that is clearly visible, easy to read and simple to understand;
 - (b) Using strong colours, standard symbols and simple graphics for signs;
 - (c) Providing both pedestrians and drivers with a clear understanding of the direction to stairs, lifts and exits;
 - (d) Using creative signage to distinguish between floors to enable users to easily locate their cars;
 - (e) Advising users of security measures that are in place and where to find them, for example intercom system;
 - (f) Providing signs advising users to lock their cars; and
 - (g) Where exits are closed after hours, ensure this information is indicated at the car park entrance.

B7.6 Additional Provisions for Open Space

Controls

- C1 Illuminate access points to open spaces and pathways.
- C2 Locate brighter lights in highly used areas.
- C3 Encourage activity and allow natural surveillance.
- C4 Design and locate open space so it is clearly designated and situated at locations easily observed by people. Locate parks and playgrounds in front of buildings or facing streets rather than back lanes.
- C5 Provide seating, play equipment and BBQ areas to encourage use of open space.
- C6 Locate seating so that it is convenient and easily seen.
- C7 Locate facilities (such as toilets and telephones) close to areas of active use.
- C8 Design and locate access to facilities so that it is direct and free of obstruction.
- C9 Ensure that signage is clearly visible, easy to read and simple to understand.
- C10 Provide both directional and behavioural signage at entrances to parks.
- C11 Offer a choice of clearly defined pathways.
- C12 Design and locate pathways so they are direct and follow pedestrian desire lines.

B8 Heritage

This chapter provides objectives and controls for development on land that is:

- Identified as a Heritage Item, Archaeological Site or Aboriginal Heritage, or within a Heritage Conservation Area identified in Schedule 5 - Environmental Heritage in the LEP; or
- On land that is in the vicinity of a Heritage Item or a Heritage Conservation Area.

It may also apply to buildings or sites that are not identified in LEP but are recognised as having heritage value.

This chapter contains additional information relating to requirements that apply to applications that require consent under the conservation incentives in the LEP.

Separate controls for the Ashbury Conservation Area are provided in Section B8.4 of this chapter.

Heritage Conservation

A place of heritage significance is important for one or more of the following reasons:

- Significance to the history of the area;
- Association with significant people or events;
- Value for aesthetic reasons;
- Technical or archaeological evidence of past activity;
- Valued by a particular group in the community for social, cultural or spiritual reasons;
- Representative example of its type; or
- A rare example of its type.

While similar places may share similar heritage significance, each place is uniquely important for its contribution to the heritage of the local area. Demolition of a heritage item should only be considered as a last resort and after all options for retention have been investigated and assessed.

Heritage Conservation Process

Any change will be managed by the conservation process which is outlined in the Burra Charter, the NSW Heritage Manual and Local Government Heritage Guidelines and consists of three steps:

Investigate significance

Investigation involves finding out about the historical development and examining the physical fabric of the place, including its originality and its condition. The knowledge gained forms the basis for assessing the significance of the place.

Assess significance

Assessing significance involves an assessment of the overall significance of the place as well as the relative contribution that individual components make towards that significance. For example, an original component in good condition will contribute strongly to the significance of the place and should be conserved. On the other hand, a much later intrusive component may detract from the significance of the place and may be altered or removed. The relative significance of individual components will therefore guide the nature and the extent of new work.

Manage significance

The final stage, manage significance, should result in a plan for using and adapting the place in such a way that the owner's requirements can be met whilst conserving the heritage significance of the place.

B8.1 General Objectives

- O1 To conserve the environmental heritage of Canterbury.
- O2 To ensure changes to places of heritage significance are in accordance with the conservation process and design principles.
- O3 To ensure the significant fabric, materials and finishes, visual setting, landscape elements and fencing of places of heritage significance are conserved.
- O4 To ensure that new fabric, materials and finishes, visual setting, landscape elements and fencing are complementary to places of heritage significance.
- O5 To ensure that the location of garages and carports does not detract from heritage significance.
- O6 Require that development on land in the vicinity of a place of heritage significance is designed in accordance with the conservation process.

B8.2 Analysis and Documentation

B8.2.1 Application Requirements

Controls

- C1 A heritage impact statement is required to be submitted with development applications that affect any of the following:

- (a) Heritage item;
 - (b) Land within a Heritage Conservation Area;
 - (c) Items on the State Heritage Register;
 - (d) Items subject to an Interim Heritage Order;
 - (e) Items on a Section 170 Heritage and Conservation Register;
 - (f) An building or place of potential heritage significance; and
 - (g) Land in the vicinity of a heritage item or a Heritage Conservation Area.
- C2 A structural condition report is required for an application that proposes the demolition of a heritage item or a building within a conservation area.
- C3 A heritage conservation management plan or archaeological assessment may also be required.
- C4 Where relevant, demonstration in the statement of environmental effects submitted with a development application that the proposed development meets the conservation incentives clause of the LEP.

Notes: Please contact Council's heritage officer to confirm application requirements before lodgement of any application to Council.

B8.2.2 Heritage Impact Statement

A heritage impact statement provides an assessment of the impact a proposed development is likely to have on a heritage item or heritage conservation area. This assessment can only be made if there is a clear understanding of why the heritage item or building in a heritage conservation area is significant and what needs to be conserved to maintain this significance. The *Heritage Act 1977* defines "item" as "a place, building, work, relic, moveable object or precinct".

Controls

- C1 The heritage impact statement is structured according to the three stages of the conservation process: investigate, assess, and then manage significance.
- C2 A heritage impact statement is to address the following matters:
- (a) Identify the location of the heritage item or building in a heritage conservation area;
 - (b) Describe the heritage item or building in a heritage conservation area; and its setting;
 - (c) Summarise the historical development of the heritage item or building in a heritage conservation area and its setting;
 - (d) Assess the condition and integrity of the fabric of the item or building in a heritage conservation area;

- (e) State the heritage significance of the item or building in a heritage conservation area (a statement of significance);
- (f) Describe the proposed development;
- (g) Describe how the proposed development does or does not comply with other development controls in this DCP;
- (h) State what the impact of the development would be on the heritage significance of the item or building in a heritage conservation area including both positive and negative impacts;
- (i) Describe any other development options that were considered and the reasons for choosing the preferred option; and
- (j) If applicable, describe measures intended to mitigate any non-compliances or negative impacts.

Note: A heritage impact statement may be prepared by the applicant if the proposed development is minor work and likely to have little or no impact on the heritage significance of the item or heritage conservation area.

If Council is of the opinion that a heritage impact statement prepared by an applicant has not satisfied the provisions of this Part, Council may request in writing a revised heritage impact statement, prepared by a conservation architect or other heritage consultant.

Council's Heritage Advisor can provide guidance on whether the applicant or a professional consultant should prepare the heritage impact statement.

B8.2.3 Heritage Conservation Management Plan

A heritage conservation management plan documents the heritage significance of an item or heritage conservation area and identifies conservation policies and management mechanisms that are appropriate to enable that significance to be retained.

Controls

- C1 A conservation management plan is to be prepared in accordance with the three stages of the conservation process: investigate, assess and then manage significance.
- C2 A heritage conservation management plan is required to be lodged with development applications that affect the following:
 - (a) Place entered on the State Heritage Register; and
 - (b) Heritage item or building in a heritage conservation area, if requested in writing by Council.
- C3 The following matters are to be addressed in the heritage conservation management plan:
 - (a) All matters specified above for a heritage impact statement but in greater detail;

- (b) An assessment of the relative significance of individual components of the item;
 - (c) The opportunities and constraints which are relevant to the item;
 - (d) A statement of conservation policy which addresses the following:
 - i. Fabric and setting;
 - ii. Use;
 - iii. Interpretation;
 - iv. Management;
 - v. Control of intervention in the fabric;
 - vi. Constraints on investigation;
 - vii. Future developments; and
 - viii. Adoption and review of the heritage conservation management plan.
- C4 Where a heritage conservation management plan exists or is required, a proposed development is to be consistent with its conservation policies.
- C5 A conservation architect or other heritage consultant must prepare the heritage conservation management plan.

Note: Council's Heritage Advisor can provide advice as to whether a heritage conservation management plan is required.

Guidance for preparing a conservation management plan can be found in the NSW Office of Environment, Heritage website and in the Burra Charter available from Australia ICOMOS.

Council may waive the requirement for a heritage conservation management plan, if requested by the applicant in writing, if Council agrees that the proposed development is minor work and has little or no detrimental impact on the heritage significance of the place.

B8.2.4 Archaeological Assessment

In NSW, non-Aboriginal archaeological relics are protected under the *Heritage Act 1977* and Aboriginal objects are protected under the *National Parks and Wildlife Act 1974*. The disturbance of archaeological relics requires an excavation permit issued by the Heritage Branch of the NSW Office of Environment and Heritage. The disturbance of Aboriginal objects requires an aboriginal heritage impact permit issued also by the NSW Office of Environment and Heritage. Archaeological sites or sites of Aboriginal heritage are listed in the LEP.

Council is required to consider the impact of a proposed development on any archaeological relics or Aboriginal objects known or likely to be present as part of any development application.

The purpose of an Archaeological Assessment is to assess the archaeological potential of a place, the heritage significance of any archaeological relics or Aboriginal objects known or likely to be present, and the impact of the proposed

development on any such relics or objects. It will also recommend an appropriate management strategy and identify whether an excavation permit or aboriginal heritage impact permit is required.

Controls

- C1 An archaeological assessment is required to be lodged with development applications that affect any of the following:
- (a) Archaeological site;
 - (b) Aboriginal heritage site;
 - (c) Potential archaeological site if requested in writing by Council; and
 - (d) Potential Aboriginal heritage site if requested in writing by Council.
- C2 The following matters are required to be addressed in an archaeological assessment:
- (a) Identify the location of the item;
 - (b) Describe the item and its setting;
 - (c) Summarise the historical development of the item and its setting;
 - (d) Assess the archaeological potential of the item;
 - (e) State the heritage significance of the item (a statement of significance);
 - (f) Describe the proposed development;
 - (g) State what the impact of the development would be on the archaeological potential of the place including both positive and negative impacts;
 - (h) State what the impact of the development would be on the heritage significance of the place including both positive and negative impacts;
 - (i) Describe any other development options which were considered and the reasons for choosing the preferred option;
 - (j) If applicable, describe measures intended to mitigate any negative impacts that have been identified; and
 - (k) State whether or not an excavation permit or an Aboriginal Heritage Impact Permit is required.
- C3 A qualified archaeologist must prepare the archaeological significance assessment.
- C4 In cases where development consent is required for development on a property which is not listed as a heritage item but which is considered to be a potential archaeological site or a potential Aboriginal site, then Council will also take into consideration the potential impact on archaeological relics or Aboriginal objects.

Note: Council's Heritage Advisor can provide further advice as to whether an Archaeological Significance Assessment is required.

Guidelines for preparing a non-Aboriginal Archaeological Assessment and related sources of information are available from the NSW Office of Environment and Heritage. Information relating to Aboriginal archaeology, including the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, is available from the NSW Office of Environment and Heritage website.

B8.2.5 Structural Condition and Pest Inspection Report

In order to adequately assess development applications that propose demolition on the basis of poor condition, Council requires information that describes the present condition of the item, explains the reasons for this condition, and describes the works that would reasonably be required to conserve the item. This information must be provided in a structural condition report. If the poor condition of the place is due to termite damage, then a pest inspection report must also be included.

Controls

C1 The following matters must be addressed in a structural condition report:

- (a) Describe the manner of construction and the materials present in the structure.
- (b) Identify any components of the place which were not inspected and the reasons why.
- (c) Identify defects including:
 - i. Existing structural defects;
 - ii. Conditions conducive to structural defects; and
 - iii. Defects in secondary elements and finishes.
- (d) Assess the overall condition of the place according to the following categories:
 - i. Above average condition;
 - ii. Average condition; or
 - iii. Below average condition.
- (e) Assess the potential for undetected defects according to the following categories:
 - i. High potential;
 - ii. Moderate potential; or
 - iii. Low potential.

- (f) Assess the proportion of significant fabric that would require replacement in order to rectify any defects identified above or in order to reduce the potential for any undetected defects identified.

Note: These matters are consistent with the requirements of Australian Standard AS4349.3 that regulates building inspection reports by licensed building contractors.

- C2 A pest inspection report must be included in a structural condition report if the poor condition of the place is wholly or substantially due to termite activity.
- C3 The following matters are to be addressed in the pest inspection report:
 - (a) Describe the manner of construction and the materials present in the structure.
 - (b) Identify any elements of the place which were not inspected and the reasons why.
 - (c) Identify evidence of termite damage according to whether it is:
 - i. Caused by present termite activity; and
 - ii. Caused by prior termite activity.
 - (d) Identify any evidence of previous termite treatment and assess its effectiveness.
 - (e) Provide treatment recommendations.
 - (f) Assess the proportion of significant fabric, if any, which would require replacement in order to implement the treatment recommendations identified in (e) above.

Note: These matters are consistent with the requirements of Australian Standard AS4349.1 that regulates pest inspection reports by licensed building contractors.

- C4 A licensed building contractor must prepare a structural condition report or pest inspection report.

B8.2.6 Information Requirements for Conservation Incentives

Provided certain criteria are met, the conservation incentives clause of the LEP may be used in situations where the permitted uses within the applicable land use zone do not provide sufficient incentive or reward to result in the conservation of a heritage item.

Controls

- C1 Where an application proposes to use the conservation incentives clause of the LEP, the clause is to be addressed in the statement of environmental effects submitted with the development application.

- C2 In addition to addressing the incentives clause of the LEP, the following must be demonstrated in the statement of environmental effects in order for consent under the conservation incentives clause to be considered:
- (a) The heritage item is a building that requires a substantial amount of conservation work to make it habitable or commercially viable.
 - (b) Conservation work required is not routine maintenance and repair.
 - (c) Current land use zoning is preventing a use that would deliver the financial return necessary to conserve the heritage item.
 - (d) The following matters are to be addressed in order to demonstrate that the above controls in (a), (b) and (c) can be met:
 - i. Identify the works necessary to conserve the heritage item and estimate their cost;
 - ii. Estimate the financial return from a permissible development;
 - iii. Estimate the financial return from the proposed development under the conservation incentives clause; and
 - iv. On the basis of a cost comparison between the above scenarios, demonstrate how the applicable land use zone adversely affects the conservation of the heritage item.

B8.3 Design Principles

The LEP and this DCP contain provisions and development controls that regulate land use, floor space, building height, setbacks, parking and other matters. These apply to items of heritage significance as much as they do to any other site in the LGA. However, a development may not be able to meet these provisions or controls, or maximise the development potential of a site, if this would have a detrimental impact on a place of heritage significance.

Each item of heritage significance is unique and therefore the success or otherwise of new development can only be judged in relation to the specific circumstances of the item, including its significance, the constraints and opportunities of the site, and the requirements of users.

The following requirements supplement the development controls that apply under the DCP.

B8.3.1 Alterations and Additions

Alterations and additions are the most common form of development affecting places of heritage significance in the LGA. Irrespective of the scope of alterations and additions, there are fundamental design principles that should be followed based on the three stages of the conservation process, i.e. investigate significance, assess significance, and manage significance.

Controls

- C1 Alterations to an item of heritage significance are to comply with the following design principles:
- (a) Retain or make minimal change to those elements that make a significant contribution to the heritage significance of the item;
 - (b) Adapt or make greater change to those elements that detract from or contribute little to the heritage significance of an item;
 - (c) Match external materials and finishes to the materials and finishes of the significant fabric of the item, or to similar item of the same period and style; and
 - (d) Refer to Chapter F1 for signage controls in relation to heritage items.

Notes: Alterations can include repairs to elements such as roofs, windows, or masonry. Significant elements are not confined to the physical fabric, but may include elements of the setting of the item, such as views, setbacks, and landscaping.

Where additions are designed in a traditional style it should still be possible to distinguish new from old fabric. The additions should be sympathetic but not an imitation.

A pavilion addition, typically situated at the rear, is a largely separate addition but still attached (usually at ground level) to the existing building. Pavilion additions usually have the least physical and visual impact.

Pavilion and attic additions can sometimes be combined in the one development

B8.3.2 Materials and Finishes

The selection of materials and finishes is critical to achieving development outcomes appropriate to an item of heritage significance. As in all matters affecting an item of heritage significance, the conservation process should be followed. It is important to first analyse and understand the materials and finishes found in the significant fabric of a place before selecting new or, in the case of repairs, replacement materials.

Controls

- C1 Conserve materials and finishes that comprise the significant fabric of the item.
- C2 Use authentic materials and finishes that match, or are similar to, the materials and finishes of the significant fabric of the item or similar items of the same period and style.
- C3 Do not use materials that imitate authentic materials, including (but not limited to):
- (a) Concrete roof tiles in place of terracotta or slate roof tiles;

- (b) Plastic or fibre cement weatherboards in place of timber weatherboards;
 - (c) Coloured concrete blocks or reconstituted stone in place of stone masonry; and
 - (d) Aluminium palisade fencing in place of wrought iron fencing.
 - C4 Do not use aluminium framed windows with the exception of:
 - (a) Rear additions in a contemporary architectural style; or
 - (b) Shop fronts on commercial buildings if the existing shop front is not significant fabric.
 - C5 Do not paint or render surfaces that have never been painted or rendered, especially face brickwork or stone masonry.
 - C6 Choose paint colours according to one or more of the following principles:
 - (a) Match the existing colour scheme;
 - (b) Match a previous colour scheme determined from physical or photographic evidence; or
 - (c) Create a new colour scheme using a palette of colours that match or are similar to those used on similar buildings of the same period of construction.
 - C7 Use contrasting colours only to highlight painted architectural details.
- Note: Council's Heritage Advisor can provide further advice relating to materials and finishes.

B8.3.3 Parking (Garages and Carports)

Key considerations for garages and carports include their location so as to minimise their visual and physical impact, their form (shape, height and proportions), and the choice of materials and finishes.

If a garage or carport cannot be accommodated without having a detrimental impact on the heritage significance of an item of heritage, then it may not be possible to achieve the on-site parking that would otherwise be permitted.

Controls

- C1 Conserve original or early garages that contribute to the heritage significance of a place.
- C2 Do not place carports and garages within the front setback area.
- C3 Use detached garages and place to the side or rear of significant buildings.
- C4 Use detached or attached carports and place to the side or rear of significant buildings.

- C5 Provide a separate roof to attached carports and attach below the ground floor eaves level of the significant building.
- C6 Comply with the following principles in the design of garages and carports:
 - (a) Locate garages and carports so that they do not visually dominate the significant building and are subservient to it;
 - (b) Use authentic materials and finishes that either match those of the significant building at the place or that were typical of similar buildings of the same period and style; and
 - (c) Respond to the proportions and architectural detail of the significant building but in a simplified manner befitting a secondary structure.

B8.3.4 Landscaping and Fences

If the setting of an item of heritage is poorly landscaped, then it may be difficult to appreciate its heritage significance. The selection and placement of plantings, paths, garden beds and edging should proceed on the basis of understanding what is appropriate to the period and style of the place and use, where possible, authentic plantings and materials.

A poorly designed and built fence can detract considerably from the visual amenity of a place. It is important to design fences that are appropriate to the period and style of the place.

Controls

- C1 Retain landscape elements that contribute to the significance of an item, especially early or original plantings.
- C2 Where early or original plantings cannot be retained due to age or disease, replace with the same or similar plant species.
- C3 Use authentic materials for landscaping, including paths and driveway surfaces, garden walls and edging, and that are appropriate to the period and style of the item.
- C4 Do not use materials and finishes for landscaping that imitate authentic materials and finishes, including (but not limited to):
 - (a) Stencilled concrete paths and driveways; and
 - (b) Coloured concrete block or reconstituted stone in place of brick or stone masonry.
- C5 Conserve original or early fences where they survive.
- C6 Comply with the following design principles when designing new fences:
 - (a) Use a design that is appropriate to the period and style of the place; and
 - (b) Use authentic materials and finishes that match or are similar to the significant fabric of the place.

- C7 Do not use materials that imitate authentic materials, including (but not limited to):
- (a) Aluminium palisade fencing; and
 - (b) Coloured concrete block or reconstituted stone.
- C8 Limit the height of fences to retain important views towards the heritage item from the public domain.

B8.3.5 Development in the Vicinity of a Place of Heritage Significance

Development in the vicinity of a heritage item or heritage conservation area can have an impact almost as great as development on the same site as an item of heritage significance.

New development on adjoining land should not imitate a place of heritage significance, but be respectful in the way it is situated, its scale, its proportions, the materials and finishes used, and the manner in which the site is landscaped. In certain situations it may not be possible to achieve the maximum development potential on adjoining land if this would have a detrimental impact on the visual setting of the significant place.

Development on land in the vicinity of a heritage item or heritage conservation area should be designed in accordance with the conservation process.

Controls

- C1 Applications for development in the vicinity of a heritage item or heritage conservation area are required to have a heritage impact statement lodged with them.
- C2 The following design principles are to be complied with in the design of development in the vicinity of a heritage item or heritage conservation area:
- (a) Development is to be sympathetic in scale to the heritage item;
 - (b) Set back new development adequately from site boundaries so that it does not visually dominate the heritage item;
 - (c) Development is to respond to the form and proportions of the heritage item;
 - (d) Development is to respond to the size, placement and proportions of window and door openings of the heritage item;
 - (e) Use materials and finishes that complement those of the heritage item; and
 - (f) Design landscaping, including the location of plantings and the choice of materials and finishes for fencing and hard surfaces that are typical for the period and style of the heritage item.
- C3 Locate and design development in the vicinity of a heritage item so that it does not interrupt any important views towards the heritage item from the public domain. This includes both buildings and landscape elements.

B8.3.6 Demolition

Controls

- C1 Development applications that propose the complete or substantial demolition of a heritage item or structure within a heritage conservation area will be refused unless the applicant can demonstrate the following to the satisfaction of Council:
- (a) The item does not contribute to the heritage significance of the local area; and/or
 - (b) The item is in such poor condition that the amount of significant fabric that requires replacing would result in the place losing its heritage significance.
- C2 Compliance with the above criteria is to be demonstrated via documentation required with the application.
- C3 Notwithstanding compliance with the above, Council may make a request in writing for additional information or seek its own professional advice in order to enable an independent assessment of the development application.
- Note: On some occasions these development controls may be applied to an unlisted building or site that has potential heritage significance. See the controls relating to heritage impact statement and structural condition and pest inspection reports.

B8.4 Ashbury Heritage Conservation Area

This section applies to the Ashbury Heritage Conservation Area (referred to as Ashbury in this section). The heritage conservation area comprises the whole suburb of Ashbury and part of Croydon Park. The boundaries are identified in the Heritage Map in the LEP (refer to Figure B8.1). This section provides guidance for the design of development in Ashbury so that it will be consistent with the heritage character of the area. The guidelines and controls in this part provide more detailed and specialised controls and are to be read in conjunction with other parts of the DCP.

While the controls focus on dwelling houses, the principles and controls (where appropriate) also apply to all other types of development ensure the retention of the heritage character of Ashbury.

The controls in this section supersede all other controls if there is an inconsistency and the latter controls would result in uncharacteristic or incompatible development in Ashbury.

Background and Historical Relevance of Ashbury HCA

Ashbury is a predominantly residential area that was largely developed between 1912 and 1940, with most development occurring during the Inter-War period and particularly during the building boom of the 1920s. Ashbury developed as part of the

overall suburban expansion of Sydney that occurred along train lines and major roads.

The area has a consistent subdivision pattern, building form and streetscape; largely because its development occurred over a relatively short period of time. A high standard of design and residential amenity was also achieved, and housing in this area has become increasingly sought after.

Ashbury is experiencing significant development pressures, particularly by residents seeking to expand and/or adapt older houses to meet modern living requirements, or to build replacement houses. Some developments have been out of place with the special character of this area. At the same time there has also been a demonstrable move towards adapting and restoring existing houses in a sympathetic manner.

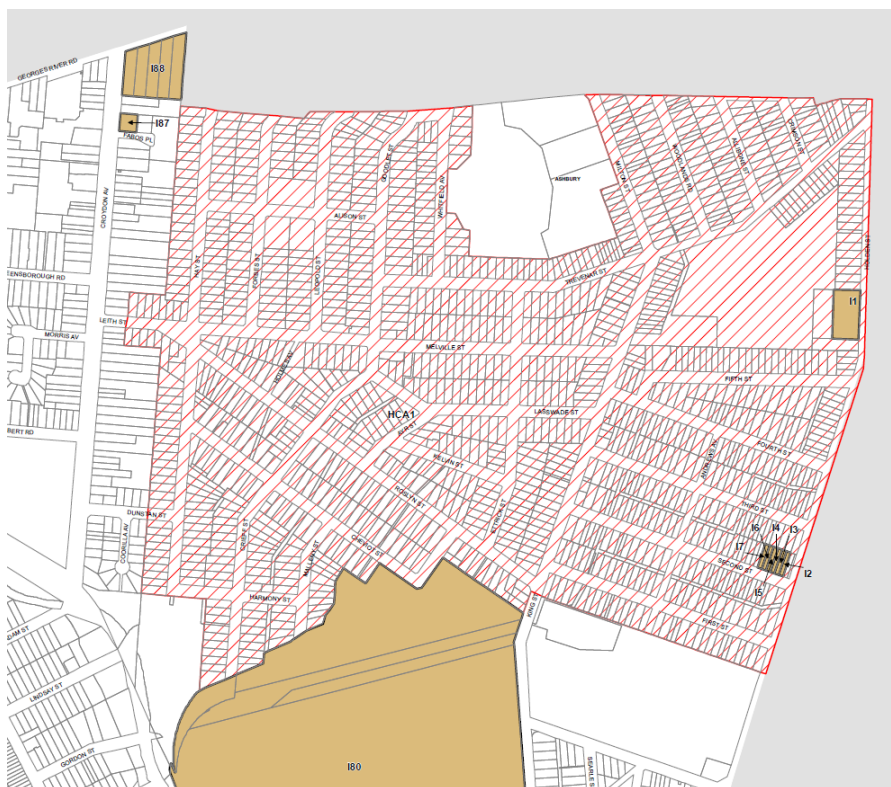


Figure B8.1: Ashbury Heritage Conservation Area shown hatched (extract from LEP Heritage Map)

Elements of Ashbury's character

Elements of Ashbury's character include:

- Street and subdivision pattern of small to medium sized, predominantly rectangular shaped allotments reflecting each phase of early twentieth century subdivision.
- Generally consistent built form, mostly comprising single storey detached houses in Federation, California Bungalow, and other Inter-War housing styles.

- Predominance of California Bungalow type houses resulting in many street façades composed of the following architectural elements:
 - Double or triple fronted gables facing the street;
 - Semi-enclosed front porch or veranda;
 - Bay windows;
 - Asymmetrical façade composition; and
 - Architectural expression of the base (rendered brick or roughly hewn stone base course), middle (face brick) and top (battening and barge boards).
- Houses in a landscaped setting. Gardens have extensive shrub and tree planting with low garden walls and fences, and are generally well maintained.
- Extensive street tree planting often typical of the Federation and Inter-War period.



Figure B8.2: A typical streetscape in Ashbury comprising consistent single storey cottages in the California Bungalow style

Development that has eroded Ashbury's Character

The following types of development have had an impact on, and eroded Ashbury's character:

- Replacement houses being out of character with the surrounding houses and streetscape because of their size, bulk, scale, materials, building style and roof forms.
- The garages of such houses being in the form of basement or large double garages that either dominate and/or are out of character with the existing streetscape.
- Two storey additions to existing houses that:
 - Are not subservient to existing houses;
 - Dominate and often erode their character; and
 - Are also out of scale and character with the surrounding houses and streetscape through excessive increases in building heights and ridge lines.
- Other alterations and additions to existing houses that are either not subservient and/or are unsympathetic to their form, materials and style. In

particular full rendering or re-skinning, replacement of original features, such as windows, and infilling verandas has had a detrimental impact.

- Unsympathetically designed or overly dominating carports and garages in front of the predominant building line.
- Large areas of hard paving in the front yard area.



Figure B8.3: Substantial two storey additions that dominate existing houses and the street and erode the special character of Ashbury



Figure B8.4: New two storey houses with double garages on the street façade are likely to erode the special character of Ashbury

B8.4.1 General Objectives for Ashbury Heritage Conservation Area

- O1 To ensure that development maintains the traditional Federation and Inter-War building character of Ashbury.
- O2 To ensure that new development respects the traditional character of Ashbury, while facilitating the healthy renewal of the area.
- O3 To encourage the retention and adaption of housing that contributes to the character of Ashbury.
- O4 To discourage the demolition of buildings that contribute to the character of Ashbury.
- O5 To encourage the reversal of previous unsympathetic development and the reinstatement of previous decorative features and materials.

B8.4.2 Location

- C1 A Streetscape Character Analysis is to be submitted as part of any development application for:

- (a) New dwellings; and
- (b) Alterations to the front elevation and/or a second storey addition to existing dwellings.

Note: For details of the requirements for a Streetscape Character Analysis refer to Council's DA guides.

B8.4.3 Building Height

In Ashbury most characteristic houses are single storey, and contribute to a consistent streetscape. The additional building height of newer two storey houses or additions, if not sympathetically designed, can erode streetscape character by interrupting the pattern of the original building heights.

Note: The maximum building height is identified in the LEP Height of Buildings Map.

Objectives

- O1 To ensure that new dwellings and additions to existing dwellings are compatible in scale with nearby characteristic dwellings as well as the immediate properties.
- O2 To ensure that the scale of buildings relates to the topography and requires minimal cut and fill.

Controls

- C1 The maximum height is identified in the LEP Height of Buildings Map and is 8.5m. A maximum of two (2) storeys applies to the Ashbury area.
- C2 The maximum height is only appropriate on the part of the building that has the required setbacks of 1m from one side boundary and 3m from the other side boundary.
- C3 The setbacks for the maximum building height may be varied on allotments having a width of 12.2m or less, or where the original dwelling is located within 3m of the side setback. The overall minimum side setback is to be 1m.
- C4 Minimise the height and bulk of first floor extensions – a minimum floor to ceiling height of 2.4m applies on the first floor to achieve this. In some circumstances, it may be appropriate to introduce a raked ceiling.
- C5 All or part of a first floor extension is to be accommodated within the roof space (if possible).
- C6 On sites where the land slopes downhill away from the street, use the slope of the land and place floors at a lower level to minimise building bulk.
- C7 The maximum height of fill is 300mm above existing ground level, at any point.
- C8 A foundation area of up to 1m in height is acceptable.

Note: The height of buildings is dependent on how far the building is set back from the boundary and predominant building line. The height controls should be read in conjunction with the setback controls in section B8.4.4 below.

B8.4.4 Setback

Front Setback

In Ashbury, each street has a predominant front setback that contributes to a consistent streetscape. Gardens located in the front setback are also an important element of characteristic streetscapes.

Objectives

- O1 To ensure that characteristic streetscapes are maintained and enhanced, by reinforcing the established streetscape pattern of consistent front setbacks and front gardens.
- O2 To maintain the predominant and characteristic front setback along the street.

Controls

- C1 In the street elevation of new dwellings, a minimum of 50% of the building is to be built to the predominant building line, and the remainder of the dwelling may be behind the predominant building line. If a street has no predominant building line, build to a building line established by nearby buildings.
- C2 On streets with a staggered building alignment, the streetscape pattern is to be reinforced by maintaining the typical angle and distance from the front boundary.
- C3 The front façade is to be oriented towards the street boundary.
- C4 Any additions are to be located on or behind the predominant building line.
- C5 Any carports are to be located a minimum of 1 m behind the predominant building line.

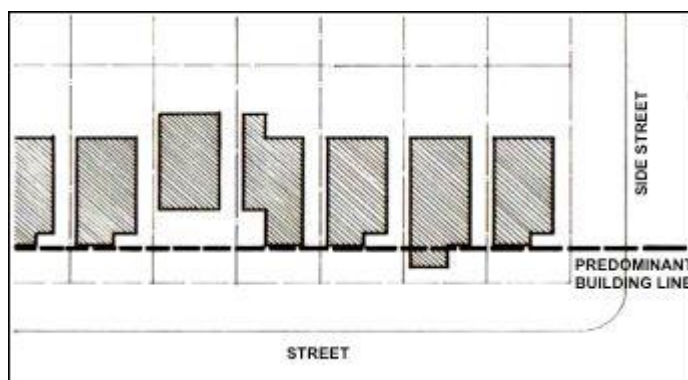


Figure B8.5: Predominant building line (frontage parallel to the street)



Figure B8.6: 50% of the front elevation must be built to the predominant building line

Side Setback

Side setbacks influence streetscape and residential amenity. In Ashbury the pattern is a narrow side setback of 1 m on one side, and a wider side setback of 3 m on the other, with a regular rhythm of driveways and street tree planting.

Objectives

- O1 To ensure that new development maintains the typical pattern of side setbacks and overall consistency in the heritage streetscape.

Controls

- C1 The established characteristic pattern of side setbacks in the street is to be maintained through providing a narrow side setback of 1m minimum and a wider side setback of 3m minimum.
- C2 The wider side setback for a minimum distance of 6.5m from the predominant front building line is to be maintained, after this the side setback for a single storey may be reduced to 1m.
- C3 On sites with a street frontage less than 12.2m, buildings are to follow the predominant pattern of side setbacks for that street.
- C4 Side setbacks are to be free of structures, except for minor encroachments that may include pergolas and carports.

B8.4.5 Building Expression and Streetscape

Consistency of building style, materials and envelope (form, bulk, and proportions of buildings) all contribute to the consistent streetscape. While not replicating these features, new buildings should reflect them in their design and construction.

Objectives

- O1 To ensure that new buildings, and alterations and additions, are to make a positive contribution to characteristic streetscapes.

- O2 To ensure that the appearance of alterations and additions are secondary to the existing building.

Controls

- C1 Alterations and additions to the existing building are to maintain the appearance of a single storey house from the street.
- C2 The design of any alteration and additions visible from the street are to maintain the front or main section of buildings (this is below the main roof form). ~~existing street façade of the house.~~
- C3 Acceptable two storey development can be achieved through:
- (a) Locating rooms within the roof space and using dormers and skylights that are subservient to the main roof form (where visible from the street) to provide natural light and ventilation;
 - (b) Locating the first level to the rear of the building;
 - (c) Locating the first level behind the hipped or gabled roof area of the single storey part of the house and not interrupting the front and side roof planes. ~~(the part of the house facing the street) and not interrupting the roof plane facing the street (up to the central ridge line);~~
 - (d) Minimising the visibility of two storey walls from the street, by locating them at the rear; and
 - (e) Using transitional roofing to disguise the second storey (transitional roofing is roofing at an intermediate pitch between old and new roof pitches).
- C5 Architectural details are not to be replicated but use of similar materials and colour, and continuation of the horizontal and vertical lines and proportions of the characteristic architectural houses and their elements, is encouraged.
- C6 New buildings should reflect the consistent horizontal lines of elements of houses along the street, such as:
- (a) ground level;
 - (b) base course - the architectural expression of the base of the house, often in different materials or finishes such as rendered brick or rough-cast stone;
 - (c) veranda and balustrade heights;
 - (d) window sill and head heights;
 - (e) door heights;
 - (f) eave lines; and

- (g) ridgelines.
- C7 Design facades that are horizontal in proportions and asymmetrical, and use vertical proportions for features such as windows.
- C8 Provide a break in long side walls and roofs (see pavilion controls in Part C of this DCP).
- C9 The design of facades is to pay particular attention to the:
 - (a) Mass, the arrangement and articulation of the various elements and parts of the building;
 - (b) Roof form and pitch; and
 - (c) The use of architectural elements such as bay windows, porches, verandas and balconies.
- C10 New roofing should be compatible with the existing roof.

B8.4.6 Ground Floor Additions

Ground floor additions at the rear of dwellings are encouraged as they are most compatible with the existing building form in Ashbury.

Controls

- C1 The following types of ground floor rear additions are to be examined for their suitability prior to the consideration of other ground floor additions.
 - (a) Lean-to additions are the most traditional form of additions to existing buildings. Lean to additions are usually sited to the rear, a skillion or flat roof. The total area of a lean-to addition is generally dependent on achieving adequate ceiling height;
 - (b) Wing additions are located to the rear of an existing building and provide the opportunity for larger floor areas and higher ceiling heights than lean-to additions. The roof pitch of wing additions is to match that of the existing building; and
 - (c) Pavilion additions are located to the rear and are suitable when the existing building is of heritage significance or has had little or no alteration. A pavilion addition allows greater design flexibility as the addition is read as a separate building from the existing house. If the roof of the pavilion addition can be seen from the street, the roof pitch is to match the roof pitch of the existing house. Skillion, flat or low-pitched roofs are permitted for the linking section.

B8.4.7 Roofs and Dormers

The roof and ridgeline is often the most visible part of the house from the street and is the only part of the building that is read against the sky. Typically, houses in Ashbury have gabled and/or hipped roofs with each street displaying a consistent roof form, pitch and ridgeline.

Objectives

- O1 To ensure that alterations and additions and new development maintains the predominant roof form pitch and ridgeline of houses along the street.
- O2 To ensure that dormer windows, and alterations and additions, are compatible with the main roof form on the street elevation.

Controls

- C1 Roofs that are visible from the street must be hipped or gabled.
- C2 New development is to follow the roof pitch that is predominant on the characteristic houses in the street.
- C3 The minimum distance between eave/gutter and the side boundary is 675mm. This can be reduced, based on merit, only where the existing eave/gutter is less than 675mm.
- C4 A maximum of one single dormer window in the roof on the street elevation may be included, provided that:
 - (a) The window does not occupy in total more than 25% of the width of the house; and
 - (b) The ridgeline of the dormer is lower than the ridgeline of the main roof form.
- C5 The design of dormer windows is to be compatible with the architectural period and style of the building and may be traditional in material and finish or may with agreement from Council be of a more contemporary form.

B8.4.8 Verandas, Porches and Balconies

An important characteristic of housing in Ashbury, especially on California Bungalows, is the distinctive veranda and porch elements.

Objectives

- O1 To ensure that original porch and verandas are retained.
- O2 To ensure that new development incorporates verandas and porches, where appropriate.
- O3 To ensure that balconies are compatible with the appearance of existing houses and streetscapes.

Controls

Porch and Veranda Design

- C1 Original porches or verandas are to be reinstated or restored when undertaking alterations or additions.
- C2 Existing porches or verandas are not to be filled in.
- C3 Where a porch or veranda that has been reopened – additional floor space may be appropriate elsewhere in the house.

- C4 New dwellings should incorporate porches with similar proportions as those of characteristic houses in the street.
- C5 Verandas and porches are to be:
 - (a) Asymmetrical;
 - (b) Cover more than 50% of the street façade;
 - (c) Minimum 2m deep;
 - (d) Recessed;
 - (e) Predominantly masonry (use timber only for architectural details); and
 - (f) Roofed – use a secondary roof form that is lower in pitch or a flat.

Balconies

- C6 Balconies are not to be introduced on elevations facing the street.
- C7 Where balconies are proposed, a privacy plan is to be submitted which illustrates sight lines to adjoining properties.

B8.4.9 Windows and Doors

The proportions, materials and style of windows and doors form an important component of buildings that contribute to the character of Ashbury.

Objectives

- O1 To ensure that the characteristic windows and doors that contribute positively to original houses and the streetscape are retained.
- O2 To ensure that new windows and doors are compatible with the original character of the area.
- O3 To reduce the visual impact of security devices such as bars, grills, roller shutters and blinds.

Controls

- C1 Provide a greater proportion of wall to windows (solid to void) in street facades.
- C2 Use timber framed windows and doors that are visible from the street.
- C3 Reflect the windowsill and head heights of windows in the characteristic houses along the street by continuing the horizontal lines.
- C4 Original windows and doors on front facades are to be retained.
- C5 The proportion of new windows and doors is to be in keeping with the existing house - generally bungalow windows have horizontal proportions, composed of three or four windows with vertical proportions. Federation dwellings have more vertically or squarely proportioned window openings.

- C6 Do not replicate leadlight windows, but reinstate traditional windows where they have been replaced by aluminium windows out of character with the existing house.
- C7 Mount security devices internally (for example internal security louvres).
- C8 Do not use roller shutters and externally mounted metal security bars on elevations visible from the street (except facades facing rear laneways).

B8.4.10 Materials, Finishes and Colour

Sympathetic materials, finishes and colours help new dwellings, and alterations and additions, fit in with existing streetscapes. Unsympathetic materials, finishes and colours draw attention to individual houses and detract from the character of the street.

Objectives

- O1 To ensure that similar materials, finishes and colours to existing characteristic houses along the street are used in new houses and in alterations and additions.

Controls

- C1 Use external building materials, finishes and colours, in particular for street facades and roofs that are compatible with those of characteristic houses and the street.
- C2 Add variety and visual interest with the type, colour and design of building materials and fenestration.
- C3 Where there is consistency in materials used in the street or adjoining houses, use similar materials to reduce the impact of the new house, or alterations and additions.
- C4 Recommended external materials and finishes include face brick, stone, timber, and fibre cement (for gable ends and infill panels).
- C5 Do not render existing buildings or paint existing brickwork.
- C6 Partial rendering of new buildings may be acceptable, particularly if it is offset with face brickwork, and is compatible with the character of the area.
- C7 Use roof tiles that are similar to the colour of roof tiles that are predominant in the street. Do not use black or grey roof tiles.
- C8 Preferred roof materials include terracotta and concrete tiles.
- C9 Lightweight roofing materials such as corrugated iron are suitable for garages and carports and lean-to additions to the rear.
- C10 Use bricks that are uniform in colour and not mottled. Red and darker coloured bricks (dark brown and liver colours) are preferred. Face concrete block work is not acceptable.
- C11 Do not express concrete slabs on the external face of the building.

- C12 Avoid bright colours, including white or off-white and grey, for large surface areas. Brighter and lighter colours are generally only appropriate for architectural details and elements.
- C13 Use colours to enhance architectural elements and detail and do not obscure them.

B8.4.11 Driveways, Garages and Carports

In Ashbury, garages and carports were traditionally built separate to dwellings. However, newer house designs often incorporate the garage within the main dwelling structure, adding to the bulk and scale. Careful consideration needs to be given to the effect of garages on the overall appearance of the building and the streetscape. In almost every instance, garages have a negative impact when constructed level with, or forward, of the predominant building line.

Objectives

- O1 To ensure that garages and carports are designed sympathetically, and are secondary structures to the house.
- O2 To minimise the visual impact of driveway crossings.

Controls

- C1 The location of the existing driveway is to be reinstated into the design of all new houses - except if it departs from the predominant pattern of the street, and is located anywhere other than within the side setback.
- C2 A maximum of one driveway crossing per building allotment or property is to be provided.
- C3 A maximum width for driveways is 2.7m at the allotment boundary.
- C4 Garages and carports are to be located at the side or rear of the house.
- C5 Basement garages and stacked car spaces are not permitted.
- C6 Garages and carports, including garages within the building envelope, are to be located a minimum of 1m behind the predominant building line.
- C7 The height (to the eaves) of garages and carports, that are not internal to the house, is to be below the ground level eaves line of the dwelling.
- C8 Carports visible from the street are to have two or more sides open and are not to have solid doors.
- C9 Single garages are acceptable within the building envelope provided that the maximum width of the garage is 3m, or no more than 30% of the building width.
- C10 Garages that are visible from the street are to use panel lift garage doors, which have less visual impact than roller doors, and are to be painted in sympathetic colours.

- C11 The roof pitch and form of detached garages and carports should complement that of the dwelling. Flat roofed carports are acceptable if they adopt a pergola style, or a contemporary style using high quality materials and detailing to provide a discrete appearance.
- C12 Preferred materials for garages include darker coloured face brick for walls and piers, timber posts for carports, and tiles or lightweight materials such as corrugated sheeting for roofs. Excessive period detailing should be avoided.
- C13 For driveways, preferred materials include dry laid unit paving such as bricks or terracotta, stone and concrete pavers.
- C14 An uncovered paved area in the front setback is preferred for car parking.
- C15 A single carport of maximum 3m width will be considered within the front setback of existing houses where side or rear access is not available. The carport is to be designed to minimise its impact on the existing dwelling.
- C16 No part of an existing building, wholly or in part, are to be demolished or altered in order to accommodate a carport or car space within the front or side setbacks.
- C17 For new houses, locate any garage or carport behind the predominant building line, unless it can be demonstrated that the only possible location is within the front setback.

B8.4.12 Walls and Fences

Typically in Ashbury, houses have low garden walls and fences, which allow houses and landscaping to be visible to the street.

Objectives

- O1 To retain and conserve original or early front fencing.
- O2 To ensure that front garden walls and fences maintain and enhance characteristic streetscapes.
- O3 To ensure that materials, finishes and colours are sympathetic to the house and other front garden walls and fences along the street.
- O4 To ensure new or replacement fences are consistent with characteristic elements of the building or the heritage conservation area.

Controls

- C1 In general, front garden walls and fences are to:
 - (a) Be of a design and height that is appropriate to the style and period of the building or characteristic of the conservation area. Where the street has a variety of wall and fence types and forms then new walls and fences should complement and contribute to an acceptable streetscape; and
 - (b) Use good quality materials that are compatible with the house.

- C2 Front garden walls and fences on the street boundary are to be no higher than 1.2m.
- C3 Step garden walls and fences on sloping sites to follow the levels of the land.
- C4 Design garden walls and fences on corner sites to:
 - (a) Maintain the streetscape character of the side (secondary) street;
 - (b) Define and provide privacy of open space areas between the house and the street; and
 - (c) Be consistent with the established pattern of walls and fences.
- C5 Side fences may be 1.8m high to the predominant building line. Forward of the predominant building line, side fences are to taper down to the height of the front garden wall or fence.
- C6 On corner sites where the façade of the dwelling presents to two street frontages, fencing is to be no higher than 1.2m for the front yard area on both frontages.
- C7 Acceptable materials for front garden walls and fences include darker coloured face brick, timber pickets, horizontal rail and brick pier, stone, and timber post and rail with wire. Low shrubs or hedges may also be acceptable.
- C8 Unacceptable materials for fencing and walls include galvanised or aluminium sheeting, cement or concrete block, and fibro.
- C9 Timber fences are preferred for side fences facing streets.
- C10 Do not use metal fencing facing a street.
- C11 A modest lych-gate or entrance structure may be acceptable, provided it is in keeping with the architectural style of the building to which it relates, and to the streetscape as a whole.

B8.4.13 Open Space and Landscaping

In Ashbury, private open space is in backyards that are predominantly grassed and often feature substantial trees at the rear. This pattern of mature and substantial tree planting to the rear of houses results in the mid-block planting that is characteristic of suburbs throughout Sydney.

Landscaping of the front garden assists new houses to fit in with the surrounding neighbourhood. Front gardens are characteristically grassed, with significant tree and shrub planting.

Objectives

- O1 To ensure that existing mature, well established trees and characteristic plantings are maintained.
- O2 To ensure that the pattern of mid-block plantings is maintained.

Controls

- C1 A minimum 35% of the site area, at natural ground level, is to be maintained for open space.
- C2 A minimum 25% of the site area is to be maintained as soft landscaping.
- C3 All front setbacks are to consist predominantly of soft landscaping. The only paved areas in the front setback are the driveway and pathways to and around the house.

B8.4.14 Outbuildings

Outbuildings are ancillary structures that are usually located in backyards. These are secondary structures to the house and are not for the purpose of providing additional living or bedroom accommodation, rather they provide an area for functions that are not usually included in the house such as workshops, studios and the like.

Objectives

- O1 To ensure that outbuildings are secondary structures, and are located to the rear or side of the house or property and have no impact when viewed from the street.

Controls

- C1 Locate outbuildings only to the rear or attached to the rear or side of the house.
- C2 The maximum floor to ceiling height of outbuildings is 3.0m, and one storey.
- C3 The roof form of an outbuilding is to be minimised to reduce bulk.
- C4 Prefabricated structures may be acceptable provided they do not have an adverse impact on the streetscape.

B8.4.15 Demolition

Buildings in Ashbury are graded into one of the following three categories:

- Contributory building
- Neutral building; or
- Non-contributory building.

Control of demolition relates to this grading with the intention of retaining those buildings that relate positively to the cultural heritage of Ashbury. Refer to Part G of the DCP for definitions of these buildings.

Objectives

- O1 To ensure that buildings that contribute positively to the heritage significance of Ashbury are retained.

Controls

Contributory Buildings

- C1 The demolition of contributory buildings will not be supported unless the following is demonstrated to the satisfaction of Council:
- (a) The building does not contribute to the heritage significance of the area;
 - (b) The building is in such poor condition that the amount of significant fabric that would be required to be replaced would result in the building losing its heritage significance;
 - (c) Compliance with the above criteria is to be demonstrated in the documentation required with the development application; and
 - (d) Notwithstanding compliance with the last point Council may make a written request for additional information or seek independent professional assessment of the development application.

Neutral Buildings

- C1 The demolition of a neutral building will not be supported unless it can be demonstrated that retention of the whole of the building is unreasonable based on:
- (a) The heritage significance of the building; and
 - (b) The extent of existing fabric that would be required to be replaced in order to practically restore the building.

Non-contributory Buildings

- C1 The demolition of a non-contributory (intrusive) building will generally be permitted. Any new building will need to comply with the controls of this DCP.
- C2 Demolition of extensions and outbuildings will generally be permitted, and encouraged for structures that do not contribute to the character of Ashbury.

B8.4.16 Other Development

The original built form in Ashbury comprises predominantly single dwelling houses. However, other forms of residential development, such as dual occupancies, and some non-residential uses are permitted within the area. To maintain the character of Ashbury such development is also subject to the controls contained in the DCP where appropriate.

Objectives

- O1 To ensure that dual occupancies, semi-detached dwellings, attached dwellings and non-residential development is designed to complement the predominantly detached single dwelling character of Ashbury.

Controls

- C1 Extensions to existing buildings should be compatible with the existing building form and streetscape.
- C2 The side setback controls may be varied in order to provide a symmetrical appearance for dual occupancies. The side setback for first floor levels on attached dual occupancies is therefore a minimum of 1m (same as ground floor level).
- C3 Because of the diverse forms other development can take (schools, child care centres, churches, shops and the like) it is not possible to prescribe specific controls. New buildings are to comply with the DCP where appropriate.

B9 Waste Management

This chapter provides objectives and controls to guide the management of waste in the demolition, construction and operational phases of development, and applies to all development requiring consent.

Local government has responsibilities in relation to waste management due to its role as:

- A regulator of building and land development;
- A provider of waste collection services; and
- A provider of community education programs about waste management.

The quantity of waste being generated in day to day living, and the rapidly diminishing availability of landfill capacity, mean that waste management is of growing importance. This, coupled with the fact that waste materials will be generated by occupiers through the entire life of a development, necessitates that careful consideration be given to waste management when planning development.

Council is committed to reducing the generation of waste and the amount of material that is disposed of to landfill, as part of its overall aim to improve the quality of the environment and encourage sustainable practices.

B9.1 General Objectives

- O1 To ensure that facilities for handling, storage, collection and disposal of waste are incorporated into all development and are compatible with the design of the development.
- O2 To encourage the reduction in the generation of waste and maximise reuse and recycling of building/construction materials, household generated waste and industrial/commercial waste through:
 - (a) Practical building designs and construction techniques,
 - (b) Design and location of waste facilities, that will assist waste and recycling collection and management services offered by Council and private contractors; and
 - (c) Waste facilities that are easy to use for occupants.

B9.2 Waste Management Plan (Demolition and Construction Phases)

Controls

- C1 Submit a waste management plan in relation to the waste that will be generated in the demolition and construction phase. The plan identifies how the generation of waste will be minimised, and how recycling and reuse of those wastes will be maximised. (Refer to Appendix 2 for details).

- C2 Project management that is focussed on minimising the generation of waste and maximising re-use and recycling of materials should form the basis of the waste management plan. The expected types and quantities of re-useable and recyclable material should be described here as well as the intentions for disposal.
- C3 The following is addressed in the demolition and construction phases:
- (a) Expected waste materials and estimated quantities;
 - (b) Site separation and storage arrangements. The following details will need to be included:
 - i. Location of containers, or areas on site, for separated recyclables and waste materials.
 - ii. Location for potentially windblown litter, such as cardboard and plastic, on site within a suitable receptacle with a secure lid.
 - iii. Where site conditions do not allow the separation and storage of waste on-site, details of the intention to make, an application for "Placing Waste Storage Containers in a Public Place".
 - (c) Nomination of the place of disposal for the various materials, including the intended method of keeping verifiable records of all waste materials leaving the site and their destination until the Occupation Certificate (final inspection) is issued.
 - (d) Acknowledgement that all demolition and construction activities are to be managed so that waste that cannot be avoided will be re-used or recycled.
- C4 A copy of the Waste Management Plan is to be provided to the builder so that it can be kept on site during the construction phase.
- C5 During the demolition and construction phase, provide clearly marked containers, or areas on site, for separated recyclables and waste materials.
- C6 Place potentially windblown litter, such as cardboard and plastic, on site within a suitable receptacle with a secure lid.
- C7 Where site conditions do not allow the separation and storage of waste on-site, make an application to Council for "Placing Waste Storage Containers in a Public Place".
- C8 Keep verifiable records of all waste materials leaving the site and their destination until the Occupation Certificate (final inspection) is issued.

B9.3 Waste Management Plan (Ongoing Use)

Controls

- C1 Submit a waste management plan for the ongoing use of the development once completed. Appendix 2 contains the relevant form that needs to be completed. The following matters are addressed in the waste management plan:

- (a) The quantity and type of waste generated by the ongoing use of the development;
- (b) How the generation of waste will be minimised and how recycling/reuse will be maximised;
- (c) How waste and the reusable and recyclable components are to be separated and stored;
- (d) The accessibility and use of bin storage areas by the occupants;
- (e) The collection/servicing of waste containers;
- (f) The ongoing use, maintenance and general management of the waste facilities;
- (g) The size of waste bin storage areas, indicating the number of bins to be accommodated, means of ventilation and cleaning, and paths of travel for waste collection points (Refer to B9.4); and
- (h) Details on any chute systems, service rooms and/or compactors (see Appendix 2 – Waste Requirements).

B9.4 Waste Storage and requirements for Residential Accommodation

Controls

- C1 Facilities for the handling, storage, collection and disposal of waste are to form an integral part of the design process for every development. A waste bin storage area is to be provided for each dwelling. The waste bin storage area is to be of adequate size to accommodate all allocated bins.
- C2 Council's contractor services all residential premises. There are no exceptions to this arrangement. Waste bin storage areas and bin presentation areas are to be designed in accordance to the services provided by Council and bin allocations (Refer to control C5 below).
- C3 Dwelling houses, dual occupancy and semi-detached dwellings are required to provide a waste bin storage area behind the building line and out of sight from the street. This area should be also located away from windows to reduce noise and odour nuisances.
- C4 An on-site bin presentation area is to be provided (excluding dwelling houses, dual occupancy and semi-detached dwellings). The bin presentation area must be located within 15m of the street kerb. If the bin storage area is within 15m of the street kerb, it can be considered to be the presentation area and a separate presentation area is not required. Refer to section B9.6 for detailed design for the waste bin storage area and bin presentation areas.
- C5 All waste bin storage areas and bin presentation areas are to be designed in accordance to the following bin service allocations:
 - (a) Dwelling Houses, Dual Occupancies & Semi-Detached Dwellings:
 - i. Waste allocation is one x 140 litre bin per dwelling;
 - ii. Recycling allocation is one x 240 litre bin per dwelling; and

- iii. Garden waste allocation is one x 240 litre garden bin per dwelling.
- (b) Multi Dwelling Housing, Seniors Housing and Attached Dwellings:
- i. Waste allocation is one x 140 litre bin per dwelling;
 - ii. Recycling allocation is one 240 litre bin per dwelling; and
 - iii. Garden vegetation allocation is one 240 litre bin per dwelling.
- (c) Boarding Houses:
- i. Rubbish allocation is one x 240 litre bin per 4 rooms;
 - ii. Recycling allocation is one x 240 litre bin per 8 rooms; and
 - iii. Garden vegetation allocation is one 240 litre bin per property.
- (d) Residential Flat Buildings and Shop-top Housing:
- i. For 25 units and under, the following bin allocations apply:
 - Rubbish bin allocation is one x 240 litre bin per two units, plus one bin for any one unit over;
 - Recycling bin allocation is one x 240 litre bin per three units plus one bin for any one/two units over;
 - Garden vegetation allocation for is one x 240 litre bin per five units, plus one for any 1-4 units over; and
 - Council's Waste Officer will need to be consulted for the allocation of bins for garden vegetation for shop-top housing developments.
 - ii. For 26 units and over, the following bin allocations apply:
 - Rubbish bin allocation is one x 660 litre bin per six units, plus one bin for any three units over;
 - Recycling bin allocation is one x 660 litre bin per eight units plus one bin for any four units over;
 - Garden vegetation allocation for is one x 240 litre bin per five units, plus one for any 1-4 units over with a maximum of 12 bins; and
 - Council's Waste Officer will need to be consulted for the allocation of bins for garden vegetation for shop-top housing developments.

Note: Service Frequency:

Single dwellings, dual occupancy, attached dwellings, semi-detached dwellings, multi dwelling housing, group homes and senior housing:

- Weekly service for rubbish bins
- Fortnightly service (alternated) for recycling and garden vegetation bins

Boarding houses, residential flat buildings and shop top housing (1-99 units):

- Weekly service for rubbish and recycling bins
- Fortnightly service for garden vegetation bins

Residential flat buildings and shop top housing (100+ units):

- Twice a week service for rubbish and recycling bins
- Fortnightly service for garden vegetation bins

B9.5 Waste Storage for Non-Residential Development

Controls

C1 Council provides waste and recycling collection for separately titled properties (including strata titles) to non-residential development as per the following (see rates in B9.4 for the residential components of developments):

- (a) Rubbish allocation is one x 240 litre rubbish bin per property;
- (b) Recycling allocation is one x 240 litre recycling bin per property; and
- (c) Council's Waste Officer will need to be consulted for the allocation of bins for garden vegetation.

Note: Non-residential development has a weekly service for rubbish and recycling bins

C2 Provide waste bin storage area and bin presentation areas that are designed in accordance to the bin service allocations. The presentation area must be located within 15m of the street kerb. Presentation areas are the collection areas where Council's contractor will service rubbish and recycling bins and return the bins to that location after collection (wheel out/wheel back service). If the waste storage area is within 15m of the street kerb, it can be considered to be the presentation area and a separate presentation area is not required. Refer to section B9.6 for detailed design for the waste bin storage area and bin presentation areas.

C3 Service capacity required over and above Council's standard service is to be supplied by a private contractor.

C4 Private commercial contractors are permitted to service commercial or industrial premises, where Council's standard bin allocation is insufficient for the volume of waste generated.

C5 Design and construct the waste bin storage area to meet anticipated waste generation rates and required construction standards. Refer to Appendix 2 Waste Requirements for guidance. The size and layout should be flexible to allow for future changes of use.

- C6 Make provision for the separation, storage and collection of recyclables. Particular attention should be given to paper and cardboard from offices and commercial premises along with crates and pallets from industrial premises.
- C7 Communal waste facilities may be appropriate for larger multi-occupancy developments such as shops, offices and the like (for waste only and excluding recycling and garden waste).
- C8 The use of volume reduction equipment may be appropriate and is encouraged. In certain circumstances, there may be an allowance given for a smaller waste storage and recycling area based on the use of this equipment. Waste storage and recycling area requirements are to allow for changes to on-site management practices.
- C9 Provide specialised containment and consider frequency of service for food scrap generation from restaurants and staff kitchens. Refrigeration may be necessary under certain circumstances.
- C9 The generation of medical, special and hazardous wastes will require specific arrangements for storage and collection.
- C10 In business centres, wherever possible, the access to garbage collection should be from a rear laneway or side street in order to maintain on street parking.
- C11 Any waste storage in a public place must first obtain approval under Council's Policy "Waste Storage Containers - Placement in Public Places" and comply with all requirements under that Policy.

Note: It is recommended that applicants determine the waste storage requirements for non-residential development with Council's Waste Officer during the design phase of a proposed development.

B9.6 Design and Access Waste Bin Storage Areas

B9.6.1 Specifications and Design

Controls

- C1 Waste bin storage areas and bin presentation areas are to be capable of accommodating the allocated number of standard waste containers for residential premises, or sufficient containers for commercial premises as provided in sections B9.4, B9.5 and Appendix 2 – Waste Requirements of this DCP.
- C2 Provide separated storage areas for waste and recycling bins to facilitate use and collection – separate by at least 1.2 m and ensure bins will not be placed one in front of another, or in such a way as to restrict access to the bins for use – ensure bins are easily accessible both for use by occupants and movement by collectors.
- C3 Clearly signpost all waste and recycling areas to identify the location for each type of bin and use (to differentiate between waste and recycling bins for residential and non-residential use).
- C4 Where the presentation area is separate to the garbage and recycling room/storage area, define it to ensure it is dedicated to that purpose only,

and provide landscaping to screen the bins while the presentation area is in use.

- C5 Provide an area in residential flat buildings and shop top housing, that is a minimum 4m², for the storage of bulky rubbish awaiting collection (clean up, white goods, mattresses and the like), and provide screening so that this area is not visible from any street frontage. Where there are multiple buildings, provide a separate 4m² area for each building.
- C6 Separate bin storage rooms/areas for commercial and residential occupants. Each should not have access to the others to prevent misuse.
- C7 Design and locate waste and recycling storage and areas are so they do not have any adverse amenity impacts on residents (including future residents) – for example from noise and odours.
- C8 Design outdoor garbage storage so that it is consistent with the architectural quality of new buildings, and does not detract from the desired green character of streetscapes.
- C9 Provide landscape planting to screen the bin storage areas and ensure they fit into the design and landscaping of the development to minimise visual impact.
- C10 In the case of residential flat buildings with basement level(s), the waste bin storage area may be required to be located within the basement.

Note: Standard sizes of Council's mobile garbage bins are specified in the following table:

	Height	Depth	Width
140 Litre	1065	540	500
240 Litre	1080	735	580
660 Litre	1300	780	1260

Table B9.1: Standard Sizes of Council's Mobile Garbage Bins

B9.6.2 Construction

Controls

- C1 Use masonry construction for waste storage and recycling structures external to a building and ensure they are compatible with other buildings on the site.
- C2 Use concrete or similar hardstand impervious surface, with defined borders to prevent the parking of vehicles, on bin presentation areas – use masonry walls (if walls are provided) to complement other structures on the site.
- C3 Provide access openings minimum 1.2 m wide for collection. In the case of commercial collections, sufficient space to accommodate the containers proposed in the waste management plan.

- C4 Provide a clear travel path, minimum 1.2 m wide and maximum gradient of 1:8, between the street and the waste collection point, and ensure there are no steps or obstructions in the travel path.
- C5 Provide adequate light and ventilation to bin storage/presentation areas.
- C6 Provide a water supply to the bin storage/presentation area to facilitate the washing of bins and cleaning of the area – grade internal waste storage and recycling areas to drain to a sump connected to the sewer to the requirements of Sydney Water Corporation – the intersection of floors and walls shall be coved with a minimum radius of 50 mm.

B9.6.3 On Site Access for Collection Vehicles

Controls

- C1 In special circumstances, and by negotiation with Council in the individual case, approval may be granted for a site to be serviced by Council's contractor's vehicles entering the site. In such cases the following will apply:
 - (a) Collection vehicles shall have access to a point within 15 m of the waste storage and recycling area;
 - (b) Access shall be designed and constructed to accommodate service vehicles (Heavy Rigid Vehicle) as follows:
 - i. Vehicle height clearance: 3.8m;
 - ii. Vehicle width: 3.3m; and
 - iii. Vehicle length: 11m.
 - (c) Collections shall be capable of being performed from either the left hand side or the rear of collection vehicles depending on the category of premises and the type of service required;
 - (d) Work zones adjacent to the side and rear of the collection vehicles of a minimum of 2 metres width in addition to the waste storage container widths shall be provided;
 - (e) Area is designed to accommodate a vehicle gross weight up to 25 tonnes;
 - (f) Vehicles are to enter and leave the premises in a forward direction. An on-site turning area to accommodate vehicles up to 11 m in length must be provided; and
 - (g) Gradients giving access to collection vehicles shall comply with AS 2890.2 - Off Street Commercial Vehicle Facilities.

B10 Use of Footpaths (Repealed)

11 Bushfire Risk

There are a few locations within the LGA that adjoin areas of urban bushland that if ignited would present the risk of bushfire attack to adjoining properties. This chapter provides objectives and controls to reduce the likelihood of such an occurrence.

B11.1 General Objectives

- O1 To reduce the likelihood of ignition of a building when subjected to bush fire attack.

B11.2 Controls

- C1 On land adjoining bushland, Council may request a bush fire assessment report demonstrating compliance with the aim and objectives of Planning for Bushfire Protection 2006 (published by the Rural Fire Service) and the specific objectives and performance criteria for the land use proposed.

