PART 6

MULTI-DWELLING HOUSING

INTRODUCTION

The objectives and controls in this Part guide the medium density residential development in meeting the aims and objectives within the KLEP.

Multi-dwelling housing, as defined in the KLEP, is to be located in the R3 Medium Density Residential zone. It includes all residential developments with 3 or more dwellings on one lot in the form of detached or attached town houses or villas.

Where a multi-dwelling housing development involves refurbishment works or alterations/additions to existing buildings, new elements are to meet the requirements of this Part.

All multi dwelling developments are to achieve the following nine Design Quality Principles detailed in Part 6R Design Quality Principles at the end of this Part:

i) Principle 1: Context and neighbourhood character

ii) Principle 2: Built form and scale

iii) Principle 3: Density

iv) Principle 4: Sustainability

v) Principle 5: Landscape

vi) Principle 6: Amenity

vii) Principle 7: Safety

viii) Principle 8: Housing diversity and social interaction

ix) Principle 9: Aesthetics

INTRODUCTION (continued)

The aims of this Part are to:

i) Ensure that development is in keeping with the garden character of Ku-ring-gai where the tree canopy dominates the landscape by making provision for quality deep soil landscaping, including: tall trees to the streetscape; in-between and to all elevations of buildings on the development site; inbetween buildings on the development site and on adjacent sites.

ii) Encourage development which does not dominate, but harmonises with and contributes to the treed landscape and is sympathetic to the street and locality in which it is proposed.

iii) Ensure that with each development sufficient landscaping is provided to contribute to the conservation and replenishment of the tree canopy of Ku-ring-gai, including locally occurring native tree species suited to the site.

iv) Protect and minimise the impact of development on adjoining properties

v) Protect and minimise the impact of development on the natural environment

vi) Ensure development that minimises the depletion of raw materials and non-renewable resources

vii) Ensure that development meets the needs of the present without compromising the ability of future generations to meet their own need.

viii) Encourage housing of the highest possible architectural, environmental and amenity standards.

ix) Manage residential development in a way that embraces innovative design and contemporary lifestyles

x) Ensure that there are more certain outcomes for applicants and the community.

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6A Site Design

READ WITH
SECTION A **PART 2 -** Site Analysis
SECTION C **PART 21 -** General Site Design 21.2: Landscape Design

REFER TO
LIVABLE HOUSING DESIGN GUIDELINES

6A.1 LOCAL CHARACTER AND STREETSCAPE

Further controls that may apply:		
SECTION A **PART 2 –** Site Analysis		**SECTION C** **PART 21 –** General Site Design

Objectives

1 *To improve the design quality of multi-dwelling housing.*

2 *To provide a sucessful transition between higher and lower density development.*

3 *To ensure that the development contributes to the greater Ku-ring-gai landscaped character of buildings within a landscaped garden setting and surrounded by tall trees.*

4 *To provide developments that are sensitive to, conserves and enhances the built environment, landscape setting, environmental conditions and established character of the street and locality with particular reference to integration of:*

i) *architectural themes;*

ii) *building scale and setbacks; and*

iii) *landscape themes.*

5 *To ensure development provides a positive contribution to the public domain and all areas shared by the community.*

6 *To maintain the visual, scenic and environmental qualities on visually prominent sites.*

Controls

1 All multi dwelling housing developments are to be designed by an architect registered with the NSW Architects Registration Board.

2 All multi dwelling housing developments are to demonstrate how they provide:

i) a garden setting with buildings surrounded by landscaped gardens, including tall trees, on all sides;

ii) a transition in built form between single dwelling residential buildings and high density apartment buildings.

3 Design components of new development are to be based on the existing predominant and high quality characteristics of the local neighbourhood.

4 The appearance of the development is to maintain the local visual character by considering the following elements:

i) visibility of on-site development when viewed from the street, public reserves and adjacent properties; and

ii) relationship to the scale, layout and character of the tree dominated streetscape of Ku-ring-gai.

5 The predominant and high quality characteristics of the local neighbourhood are to be identified and considered as part of the site analysis at Part 2 of the DCP.

Note: Local character and streetscape is created by many features including, but not limited to: kerbs, setbacks, footpath treatment, building separation and spaces between buildings, access arrangements, street tree planting, tall tree canopy backdrop to the horizon, native vegetation and gardens, topography, site and street geometry, as well the architecture.

6 Development is to integrate with surrounding sites by:

i) being of an appropriate scale retaining consistency with the surrounds when viewed from the street, public domain or adjoining development;

ii) minimising overshadowing; and

iii) integrating built form and soft landscaping (gardens and trees) within the tree canopy that links the public and private domain throughout Ku-ring-gai.

6A.1 LOCAL CHARACTER AND STREETSCAPE (continued)

Controls

Visually Prominent Sites

7 Development on visually prominent sites is to:

i) be of high architectural and aesthetic quality;

ii) be integrated into the existing landscape through the site planning process and avoid tall and bulky structures;

iii) have a selection of external colours and finishes that are sensitive to the site and locality;

iv) retain significant landscape and vegetation elements;

v) consider views to the site as well as those from the site; and

vi) soften visual impact by extensive landscaping including larger trees and shrubs.

Note: Refer to Part 1B Dictionary for definition of Visually Prominent Site.

8 Colours of materials used in sites adjoining or in close proximity to bushland areas and Heritage Conservation Areas are to be in harmony with the built and natural landscape elements of the area.

Figure 6A.1-1:
Townhouse development

6A.2 SITE LAYOUT

Further controls that may apply		
SECTION A **PART 2 -** Site Analysis	**SECTION B** **PART 20 -** Development Near Road or Rail Noise	**SECTION C** **PART 21 -** General Site Design **PART 23.8 -** General Acoustic Privacy

Objectives

1 *To ensure fundamental design decisions are appropriate to the site.*

2 *To ensure detailed design decisions are founded on an appropriate site strategy determined through site analysis.*

3 *To ensure that site planning for multi-dwelling housing responds to site attributes such as streetscape character, existing vegetation and topography, and addresses associated opportunities and constraints.*

4 *To ensure high impact elements such as noise sources are considered early in the design stage.*

5 *To ensure provision of a clear and legible address for the development.*

6 *To soften built form with soft landscaping.*

7 *To achieve a high standard of amenity for future residents.*

8 *To minimise impacts on the amenity of neighbouring sites.*

9 *To reduce the appearance of building mass and scale.*

10 *To ensure driveways are not a dominant feature of the development.*

Controls

1 The site layout is to demonstrate a clear and appropriate design strategy and arrangement of building mass in response to the Site Analysis in Part 2 Site Analysis of this DCP. Demonstration of design strategies to address opportunities and constraints based on a Site Analysis are to include:

   i) building location and orientation on the site optimising northern aspect; relationship with neighbouring developments; geographical aspect; views; access etc;

   ii) response of building development in maintaining site characteristics within the subject site, such as topography, vegetation, significant trees, any special features, etc;

   iii) building separations and internal layouts of buildings that respond to (i) above and be consistent with the requirements of the DCP.

2 A drawing and supporting written information is to demonstrate how the building and its layout has applied and responded to the site analysis conducted in Part 2 of this DCP.

3 For requirements on development near noise sources refer to Part 20 Development Near Rail Corridors and Busy Roads in this DCP.

4 Any dwelling with a frontage to the street is to address that street with entry doors, windows, verandas and such like.

5 Where a site has two or more frontages, the buildings are to address and provide dwelling door entry points from all street frontages.

6 Soft landscaping, including tall trees, is to be provided between onsite buildings, fences and courtyard walls.

7 Hard landscaping is to be minimised to maximise opportunities for landscape planting.

8 Long straight driveways are not permitted except where necessary for battle-axe sites. Driveways are to be designed to be of minimal visual impact.

9 Provide a single pedestrian entry point into the development from the street. Other entries may be permitted where several dwellings address the street along an extended street or dual frontage sites.

10 Layouts for multi-dwelling housing development are shown in *Figures 6A.2-1 to 6A.2-3*.

6A.2 SITE LAYOUT (continued)

Objectives

11 To provide a safe and continuous pathway from the street to the entry point of each dwelling.

12 To ensure buildings address the public domain and give direct access from both primary and secondary streets and any other street on the property boundary.

13 To maintain the alignment and rhythm of the built form on the street.

14 To ensure high quality site design with integrated methods of pedestrian and vehicular access that support the visual character of the streetscape and locality.

15 To ensure visual and acoustic amenity is preserved to neighbouring developments.

Good Examples of Site Layout

Figure 6A.2-1.
Site layout with <25m frontage

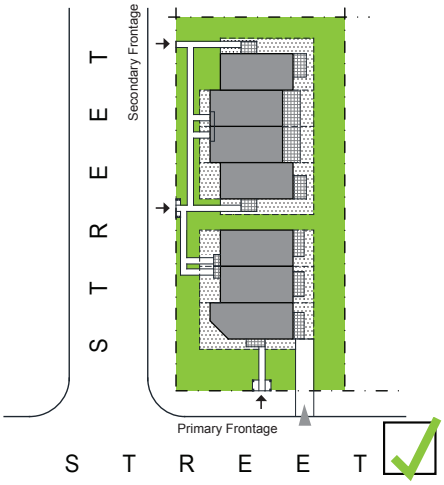


Figure 6A.2-2.
Site layout with dual frontages

Figure 6A.2-3:
Site layout with >25m frontage.

Bad Examples of Site Layout

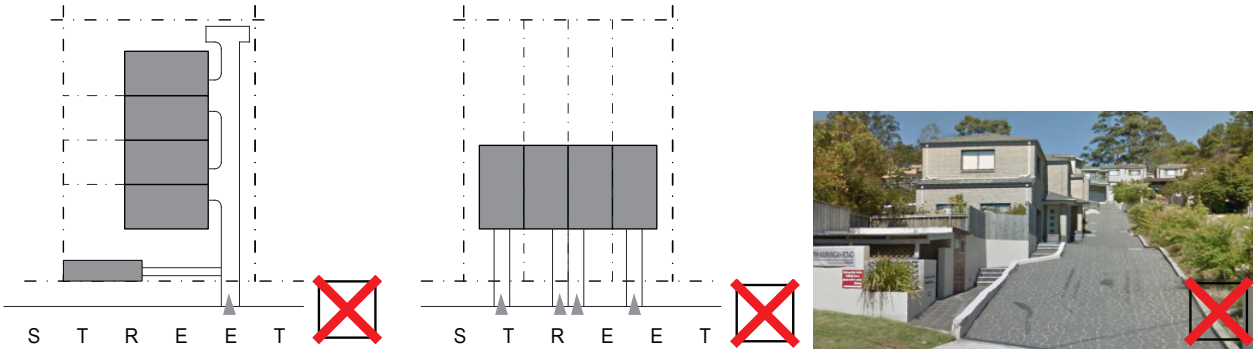


Figure 6A.2-4:
Layouts not permitted

6A.2 SITE LAYOUT (continued)

Objectives

Controls

11 All development is to have a building alignment parallel to the street, or in alignment with existing setback patterns where the pattern is not likely to change, as in *Figure 6A.2-5*.

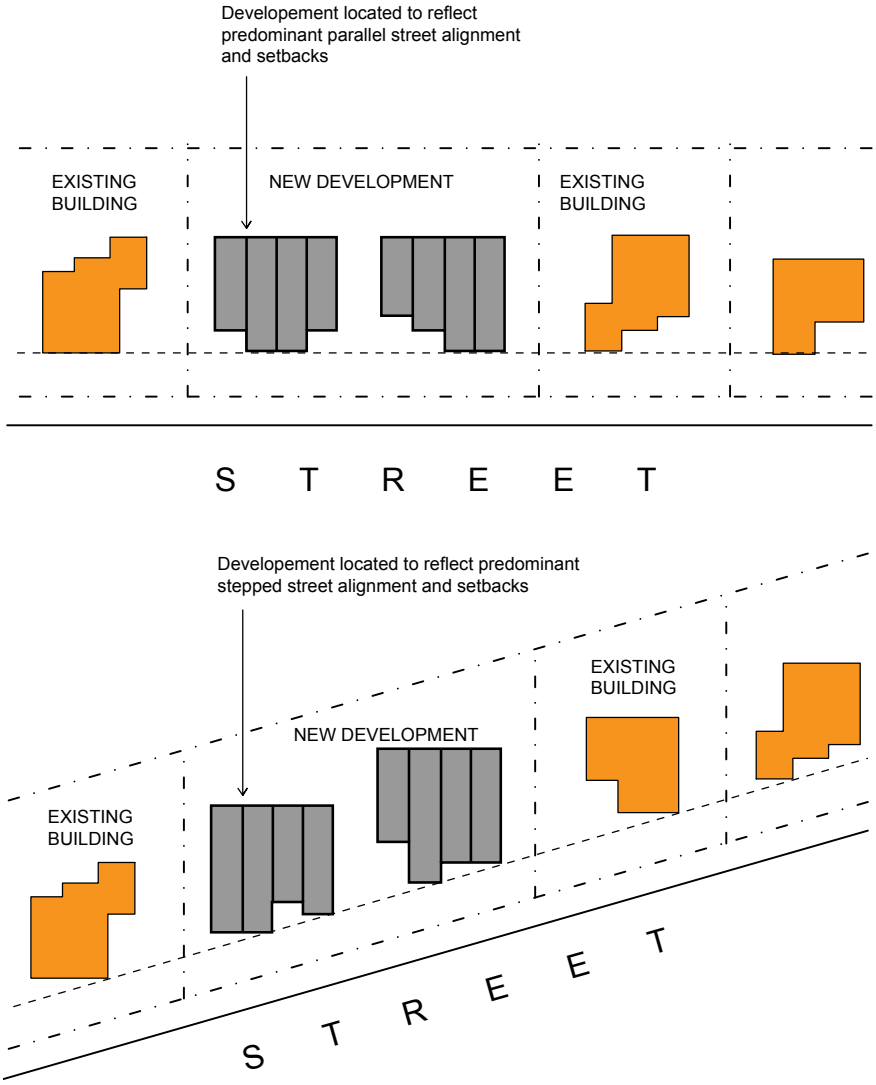


Figure 6A.2-5:
New development sited parallel to prevailing building line.

12 Stair lifts and inclinators are not permitted in any setback area and are not to be visible to any street frontage or public domain area.

Note: Such devices will not be permitted even if screening devices are provided.

6A.3 BUILDING SETBACK

Objectives

1 *To ensure buildings are situated within a garden setting dominated by tall trees.*

2 *To soften the built form and maintain the garden character of Ku-ring-gai.*

3 *To ensure deep soil areas within setbacks areas are clear of elements that compromise planting and growth of tall trees.*

4 *To ensure adequate space between buildings to enable effective landscaping and to soften the built form.*

5 *To protect existing trees and provide areas for the planting of tall trees, especially at the front and rear of the development.*

Controls

Street setback

1 Multi-dwelling housing developments are to meet the following street setback requirements, as in *Figure 6A.3-1*:

i) a minimum of 10.0m from the Primary street boundary;

ii) on corner sites a minimum of 8.0m from the Secondary street boundary with a 6.0-8.0m articulation zone. No more than 40% of the articulation zone is to be occupied by the building.

Side and rear setbacks

2 A minimum setback of 3.0m is to be provided from any side boundary where the side elevation has non-habitable rooms only. Where a pedestrian pathway is located within this type of side setback, the minimum side setbacks are to be increased by the width of that path.

3 Where the dwellings are oriented towards side boundaries and/ or have openings to habitable rooms towards side boundaries, the setback is to be a minimum of 6.0m.

4 A minimum setback of 6.0m is to be provided from the rear boundary. For corner sites one boundary is to be nominated as a rear boundary.

Figure 6A.3-1:
Building setbacks and private open space setbacks

6A.3 BUILDING SETBACK (continued)

Objectives

6 *To provide adequate amenity including visual and acoustic privacy, solar access and natural ventilation.*

7 *To reduce the visual bulk of buildings from the street.*

8 *To maintain the rhythm of the built form to the streetscape.*

9 *To ensure access pathways do not compromise the privacy of onsite or adjacent dwellings.*

Controls

Setbacks to parking

5 Basement areas are to be consolidated under the building footprint and meet the same building setback.

6 No driveways are to be located in side or rear setback areas including within the side setback areas in front of the building line.

Battle axe blocks

7 Sites with no clear street frontage are to nominate front, side and rear boundaries and comply with the associated setbacks.

Encroachments

8 Ground floor private terraces/courtyards may encroach into the required street, side and rear setback areas only where deep soil landscaping requirements are met. The encroachments are to retain a minimum setback to the courtyard wall of:

i) 8.0m from the Primary street boundary;

ii) 4.0m from the Secondary street boundary;

iii) 3.0m from any side boundary; and

iv) 4.0m from the rear boundary;

Note: The requirements for deep soil planting along side boundaries are outlined in 6A.5 of this Part.

9 Balconies may encroach only into front and rear setbacks provided they project no more than 1.5m from the building line.

10 The following elements may encroach into the setback areas only where they do not increase the apparent bulk of the building:

i) eaves;

ii) open pergolas;

iii) blades, fins, columns.

6A.4 BUILDING SEPARATION

Objectives

1 *To ensure buildings are set within a garden setting dominated by tall trees which soften the built form and maintain the garden character of Ku-ring-gai, particularly to the street frontage.*

2 *To provide effective deep soil areas that enable a garden setting, including tall trees and canopy, to all sides of the building within the site.*

3 *To reduce the visual bulk of buildings within the site when viewed from the street.*

4 *To provide residential amenity including visual and acoustic privacy, natural ventilation, solar access, daylight and outlook.*

5 *To provide suitable areas for communal open spaces, private open spaces and deep soil zones.*

Controls

1 The minimum separation between residential buildings on the same development site is to comply with the following controls, as in *Figure 6A.4-1*:

i) 12.0m between habitable rooms/balconies;

ii) 9.0m between habitable room/balcony and non-habitable room;

iii) 6.0m between a habitable room and a blank wall;

iv) 6.0m between non-habitable rooms;

v) 6.0m between a blank wall and a non-habitable room;

vi) 4.0m between blank walls.

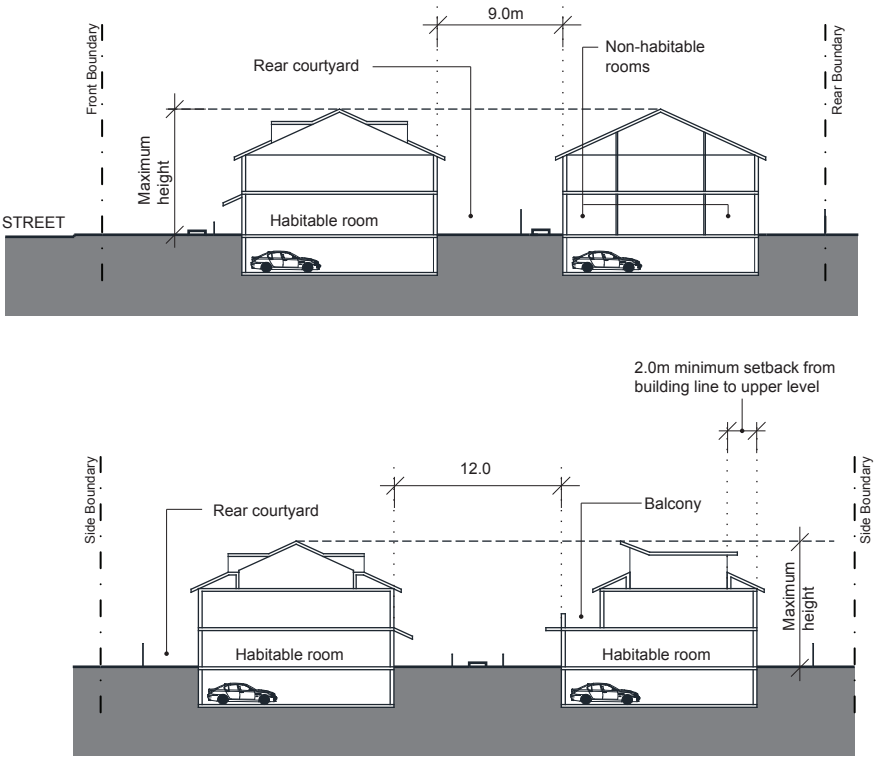


Figure 6A.4-1:
Minimum building separation controls for multi-dwelling housing development up to 3 storeys.

6A.5 SITE COVERAGE

Objectives

1 *To ensure development is consistent with the landscape character of the area.*

2 *To protect and improve the tree canopy within Ku-ring-gai.*

3 *To provide adequate space for the planting of tall trees and other landscaping.*

4 *To provide a balance of built form and soft landscaped area.*

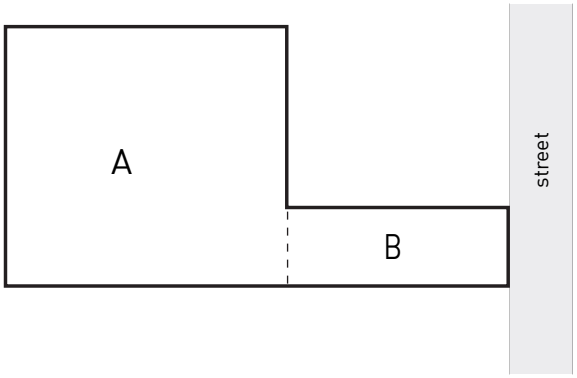
5 *To minimise impervious surfaces that generate storm water runoff.*

Controls

1 The site coverage for multi dwelling housing may be up to a maximum site coverage as outlined in *Figure 6A.5-1* and *6A.5-2*, provided that the deep soil landscaping requirements in Part 6A.5 can be met.

Basement Parking	
Maximum site coverage for standard site	Maximum site coverage for site with access handle
40%	40% less 40% of any access handle

Figure 6A.5-1:
Maximum site coverage controls.



Maximum site coverage for townhouses
= [(A+B) x 40%]m^2 - (B x 40%)m^2

Figure 6A.5-2:
Maximum site coverage controls.

2 When a site comprises land in an R3 Meduim Density Residential and/or R4 High Density Residential zone and land in another zone, only the R3 and/or R4 zone land is to be included in calculating site area.

Note: Site coverage is not the inverse of deep soil landscaping. Refer to Part 1B Dictionary for clarification of site coverage.

6A.6 DEEP SOIL LANDSCAPING

Further controls that may apply		
		SECTION C **PART 21.2 -** Landscape Design

Objectives

1 *To provide quality landscaping that contributes to the garden character and tree canopy of Ku-ring-gai.*

2 *To provide consolidated deep soil zones of adequate dimensions in all residential development sites especially in the front and rear setbacks.*

3 *To ensure deep soil landscaping is located within common areas that surround the building to provide effective landscape screening between the development and neighbouring properties.*

4 *To provide viable deep soil landscaped areas for the retention and/or planting of tall and medium sized trees:*

- *to provide shade and amenity;*
- *to soften the built form;*
- *to capture carbon;*
- *for the sustainable maintenance and enhancement of the Ku-ring-gai tree canopy.*

5 *To provide landscaping that provides habitat for native indigenous plants and animals and contributes to biodiversity in the area.*

Controls

Design

1 Multi-dwelling housing development is to have a minimum deep soil landscaping area of 40% of the site area provided within common areas only.

2 For the purposes of calculating deep soil landscaping and landscaped areas, any access handle on battle axe sites is excluded.

3 Deep soil zones are to be configured to retain healthy and significant trees on the site and adjoining sites.

4 Deep soil areas for tree and screen planting are to be as follows:

i) provided within setback areas to all side and front boundaries;

ii) be a minimum width of 4m along the rear boundary. This is to be within the common area if it is located at the rear of the development.

5 Deep soil landscaping is to support the planting of tall trees to the streetscape.

6 Screen planting is to soften and reduce dominance of walls and fences.

7 Driveways are not to dominate the street setback area. Deep soil landscaping areas in the street setback are to be maximised.

8 Where the site has an access handle, deep soil calculation are to exclude that access handle.

Tree Replenishment and planting

9 Lots are to support a minimum number of tall trees capable of attaining a mature height of at least 13m on shale, transitional soils or 10m on sandstone derived soils, as detailed in *Figure 6A.6-1*:

Lot Size	Number of Tall Trees
1,200m^2	1 per 400m^2 of site area or part thereof
1,201m^2 - 1,800m^2	1 per 350m^2 of site area or part thereof
1,801m^2 +	1 per 300m^2 of site area or part thereof

Figure 6A.6-1:
Lot size and numbers of tall trees

6A.6 DEEP SOIL LANDSCAPING (continued)

Objectives

6 *To ensure that deep soil is provided to allow infiltration of rain water to the water table and to reduce stormwater runoff.*

Controls

10 In addition to the tall trees, a range of medium trees, small trees and shrubs are to be selected to ensure:

i) that the streetscape presents as buildings within a tall tree canopy setting;

ii) that vegetation creates a garden setting and can be viewed from the buildings onsite.

11 On sites within areas mapped under Council's Green web categories, the percentage of all tree planting is to be as per the biodiversity controls in Part 19 of this DCP. On all other sites, at least 30% of all tree planting are to be locally occurring species.

Figure 6A.6-2:
Deep soil landscaping

6B Access and Parking

READ WITH

SECTION A
PART 6 - Multi Dwelling Housing
6A.1: Site Layout

SECTION C
PART 22 - General Access and Parking
22.1: Equitable Access
22.2: General Vehicle Access
22.3: Basement Parking
22.4: Visitor Parking
22.6: Pedestrian Movement within Car Parks
22.7: Bicycle Parking and Facilities
22R.1: Car Parking Rates
PART 23 - General Building Design and Sustainability
23.4: Waste Management
23.6: Visual Privacy
23.9: Roof Terraces and Podiums
23.8: Materials, Finishes and Colours

REFER TO

LIVABLE HOUSING DESIGN GUIDELINES

6B.1 VEHICLE ACCESS

Further controls that may apply		
SECTION A **PART 6A.1 -** Site Layout		**SECTION C** **PART 22.2 -** General Vehicle Access **PART 23.7 -** Waste Management

Objectives

1 *To ensure landscaping adequately separates driveways from neighbouring properties.*

2 *To provide well located and designed vehicle entrances.*

3 *To facilitate pedestrian amenity and safety.*

4 *To ensure that driveways do not dominate the streetscape.*

5 *To ensure vehicular and service access do not detract from the visual character of the streetscape.*

6 *To minimise hard surfaces on the site.*

7 *To provide convenient and safe vehicular movements onsite.*

8 *To conceal waste storage and collection areas to improve the streetscape.*

Controls

1 Driveways are to be located at least 3m from any side boundary and be separated from the boundary by a continuous landscaped verge and screen planting to the neighbouring development.

2 Not more than one driveway is to be established on any property.

3 On sites with dual street frontage, one additional driveway may be considered.

4 Driveways are to be designed to avoid a straight, gun barrel appearance by using appropriate landscaping and variations in alignment.

5 On-site vehicle turning areas are to be located within the basement.

6 On-site vehicle turning areas are to be designed to permit turning in a single reversing movement.

7 Waste and recycling rooms are to be provided within the basement, with a minimum finished ceiling height of 2.6m along the path of travel from the street to the residential waste collection and manoeuvring area. This clearance is to be kept free of any overhead ducts, services or other obstructions.

8 The floor of any waste and recycling room must be graded and drained to a floor waste drain which is connected to the sewer. Hot and cold water taps are to be provided for cleaning of bins in the bin room.

Note: Refer to Part 23.7 for construction of waste and recycling rooms.

6B.2 CAR PARKING PROVISION

Further controls that may apply		
		SECTION C **PART 22.3-** Basement Car Parking **PART 22.4-** Visitor Parking **PART 22.6-** Pedestrian Movement within Car Parks **PART 22.7-** Bicycle Parking and Facilities **PART 22R.1-** Car Parking Rates

Objectives

1 *To locate and design car parking which is integrated with the site and building design and which does not increase the bulk and scale of the building.*

2 *To provide adequate car parking for the development's residents and visitors.*

3 *To ensure pedestrian access, from dwellings to parking areas is direct and convenient.*

4 *To ensure car parking does not compromise deep soil landscaping provisions.*

5 *To ensure safety and convenience for all vehicle users within car parks.*

6 *To ensure car parking achieves a high quality streetscape and does not detract from the landscape character of Ku-ring-gai.*

7 *To provide adequate accessible car parking.*

Controls

Car parking design

1 All multi dwelling housing development is to provide on-site parking within the basement.

2 Basement car park areas are to be consolidated under building footprints. See *Figure 6B.2-1.*

Note: Basements may be permitted to extend under the space between buildings on the site provided deep soil requirements have been met.

3 The basement car park is not to project more than 1.0m above existing ground level.

Note: Basements greater than 1.0m above the natural existing ground level are counted as a storey for the purposes of this DCP and will be included in the floor space ratio calculation as well as any control based on the number of storeys.

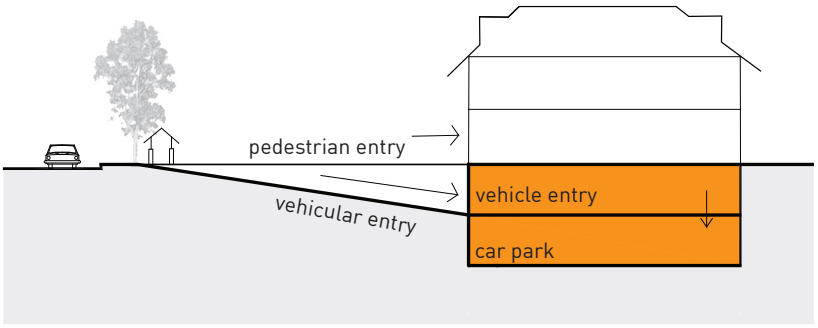


Figure 6B.2-1:
Car park is housed within the building basement

4 The use of single lane tunnels and single lane spiral ramps is not permitted. Double lane spiral ramps may be allowed where there are no other options, but can only link a maximum of 2 basement levels.

5 Single lane aisles, straight ramps and tunnels are to be a maximum of 12.0m in length.

6 Direct access is to be provided from basement car parks to dwelling entry points; and, wherever possible direct access is to be provided from basement parking into each individual dwelling.

7 Car park entry is to be integrated within the building and located behind the building line.

6B.2 CAR PARKING PROVISION (continued)

Controls

8 Battle axe site driveways along access handles, as in *Figure 6B.2-3*, are to:

i) be a maximum of 3.0m width;

ii) provide passing bays for two way traffic;

iii) provide 1.0m wide planter beds to side boundaries (less where passing bays are located);

iv) provide screen planting to neighbouring properties.

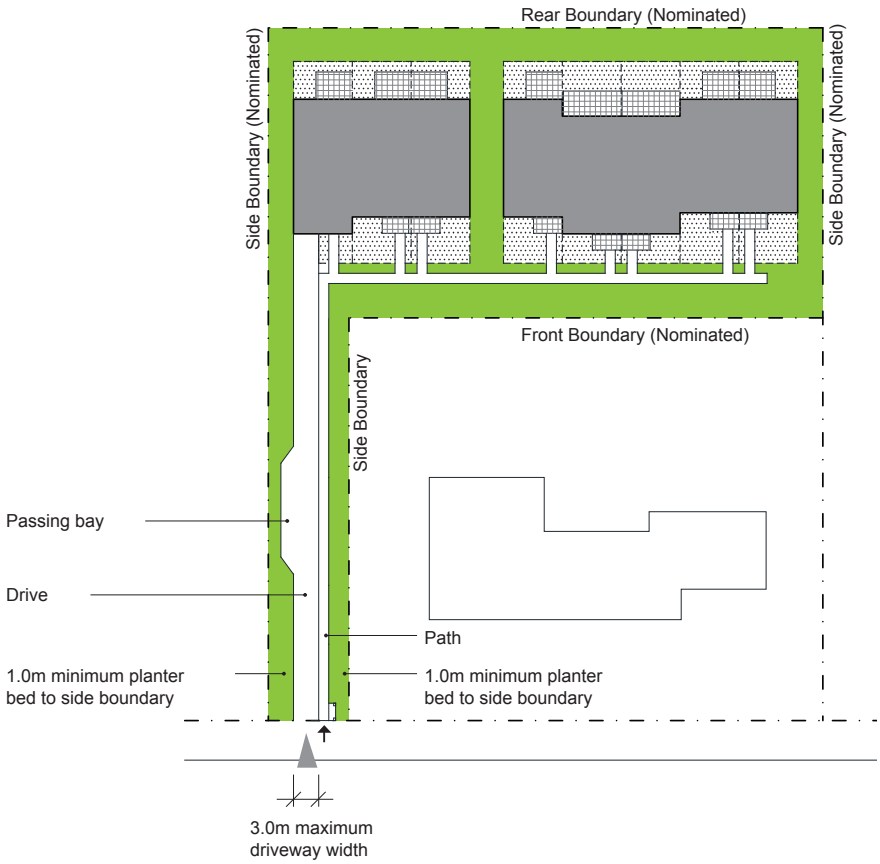


Figure 6B.2-3:
Battle axe site access handles

9 Car parking design is to be in accordance with requirements for Silver and Platinum Level dwellings as required in this DCP and by the *Livable Housing Guidelines*. Circulation areas, roadways and ramps are to comply with AS2890.1. Where a conflict occurs, the *Livable Housing Guidelines* is to take precedence.

Note: Refer to *Livable Housing Guidelines* at *http://www.livablehousingaustralia.org.au/*

6B.2 CAR PARKING PROVISION (continued)

Controls

Car parking rates

10 The following parking ranges apply to multi-dwelling housing on sites within 400m walking distance of a railway station entry:

Dwelling Size	Minimum number of parking spaces per dwelling	Maximum number of parking spaces per dwelling
One bedroom	1 space	1 space
Two bedrooms	1 space	1.5 spaces
Three or more bedrooms	1 space	2 spaces

11 For all other locations, car parking is to be provided in accordance with the parking rates in Part 22R.1.

Note: Any spaces provided which exceed the upper range are included in the gross floor area calculation.

Note: A *Traffic Impact Assessment* is to accompany Development Applications that seek to vary the parking rates. This includes commercial or strata funded car share schemes in lieu of parking spaces.

12 At least one visitor car space is to be provided within the site for every 4 dwellings or part thereof.

13 At least one visitor parking space is to be accessible and comply with the dimensional and locational requirements of AS2890.6.

14 One visitor parking bay is to be provided with a tap, to make provision for on-site car washing.

15 A clearly signposted space for temporary parking of service and removalist vehicles is to be provided. The space is to have a minimum dimension of 3.5m x 6.0m and a minimum manoeuvring area 7.0m wide. Where a separate space is not provided, one of the visitor spaces may be used if it meets these dimensions and provides signage for dual usage.

6B.3 BICYCLE PARKING PROVISION

Further controls that may apply		
		SECTION C **PART 22.7-** Bicycle Parking and Facilities

Objectives

1 *To provide adequate bicycle parking that is safe and easily accessible.*

2 *To encourage the use of bicycles.*

Controls

1 Where basement parking is provided, the following rates of onsite secure bicycle parking spaces and storage to AS2890.3 on site are required:

i) 1 bicycle parking space per 5 units or part thereof for residents within the residential car park area; and

ii) 1 bicycle parking space (in the form of a bicycle rail) per 10 units or part thereof for visitors within the visitor car park area.

READ WITH

SECTION A
PART 6 - Multi-Dwelling Housing
6A.2: Site Layout
6A.4: Building Separation
6C.6: Dwelling Placement and Room Design.

SECTION C
PART 22 - General Access and Parking
22.1: General Equitable Access
PART 23 - General Building Design and Sustainability
23.5: Roof Terraces and Podiums
23.8: General Acoustic Privacy
23.9: General Visual Privacy

REFER TO

LIVABLE HOUSING DESIGN GUIDELINES

6C.1 COMMUNAL OPEN SPACE

Further controls that may apply		
		SECTION C **PART 23.5-** Roof Terraces and Podiums

Objectives

1 To provide adequate, useable, attractive, highly visible, safe and accessible communal open space with good amenity for larger developments.

2 To provide communal open space that is responsive to the site and its context, and is well integrated within the development.

3 To ensure high quality communal open space that adds to the amenity of the development and facilitates social interaction.

Controls

1 Where more than 10 dwellings are proposed, one Primary communal open space is to be provided as follows, and as in *Figure 6C1.-1*:

i) have a minimum area of 72.0m^2 ; and

ii) have a minimum dimension of 8.0m.

2 Where more than 20 dwellings are proposed, 144m^2 of communal open space is to be provided with a minimum dimension of 8.0m. This may be provided as:

i) a single Primary communal open space; or

ii) a Primary communal open space, with minimum requirements as per 6C.1(1) and a Secondary communal open space with minimum dimension of 8.0m.

3 Shared facilities such as barbecue facilities, shade structures, play equipment and seating, are to be provided within the Primary communal open space. Placement of these facilities are to consider the privacy and amenity of dwellings adjacent to the communal open space. Seating is to be provided within the Secondary communal open space.

4 All communal open space is to be located at ground level behind the building line and be screened from the street by the built form.

5 Access to all communal open spaces is to be provided for people with a disability in accordance with Part 2 Section 7 of AS1428.

6 The location and design of communal open spaces is to optimise opportunities for social and recreation activities, solar access, orientation, summer shade, visibility and outlook; and consider the privacy of the adjacent onsite residents and the neighbours to the development site.

7 At least 50% of the area of the Primary and Secondary communal open space is to recieve direct sunlight for at least three hours between 9am and 3pm at mid winter.

8 Communal open spaces are to be co-located and integrated with any natural feature(s) of the site and soft landscaping areas.

9 All communal open spaces are to be capable of surveillance from at least two dwellings for safety reasons.

10 Communal open spaces are to be designed to avoid concealment or entrapment areas.

Note: Communal open spaces are to be well lit with an energy efficient lighting system to be used in conjunction with timers or daylight controls. All light spill is prohibited.

6C.1 COMMUNAL OPEN SPACE (continued)

Controls

11 Garden maintenance storage areas, drainage and connections to water taps are to be provided within the Primary communal open space. Secondary communal open spaces are to have adequate connections to water for maintenance purposes.

Note: Proposals are to demonstrate entry and access to communal open spaces and common areas for maintenance purposes.

Figure 6C.1-1:
Communal open space

Legend

- Building Footprint
- Landscaped Common Areas
- Landscaped Communal Open Space
- Landscaped Private Open Space
- Paved Private Open Space
- Private Open Space Boundary
- Pedestrian Pathway
- Pedestrian Entry
- Driveway

6C.2 PRIVATE OPEN SPACE

Objectives

1. *To provide adequately sized private outdoor areas with a high level of amenity for residents to enjoy outdoor living.*
2. *To provide private open spaces that are integrated into the overall design of the development.*
3. *To ensure that private open space design allows views and passive surveillance of the street and communal areas.*
4. *To provide for the safety, visual and acoustic privacy of residents both within the development site and between neighbouring properties.*
5. *To ensure the site character is not dominated by dividing fences, walls and access paths and the internal site character is one of dwellings within a predominantly landscaped setting.*

Controls

1 A minimum private open space of 25.0m^2 internal dimension is to be provided to each dwelling within the multi-dwelling housing development, as in *Figure 6C.2-1.* The private open space is to:

- i) have a minimum internal dimension of 4.0m;
- ii) have direct level access from the living/dining area;
- iii) provide a consolidated paved area of 12.0m^2 and a minimum width of 3.0m to accommodate a table and 6 chairs directly accessible from the living/dining area;
- iv) provide a 4.0m^2 minimum landscaped area/planter bed for gardening.

2 The private open space to each dwelling may be provided as a maximum of 2 separate spaces only if the Primary private open space is a minimum 20m^2 in area, and meets all the criteria in 6C.2(1)i-iv. The remaining Secondary private open space is to have a minimum internal dimension of 2m.

3 All private open space area requirements are exclusive of any areas for the provision of services such as fixed drying areas.

Note: Pull out lines are acceptable within the private open space.

4 Ground level private open space (outdoor) is to be differentiated from common areas by:

- i) a change in level; and/or
- ii) screen planting, such as hedges and low shrubs; and/or
- iii) a fence/wall to a maximum height of 1.8m. Any solid wall component is to be a maximum height of 1.2m with at least 30% transparent component above.

5 Where practical, a gate is to be provided between the private open space and common areas to allow access into common areas.

6 Private open space, courtyard and terrace wall and fence heights are not to exceed:

- i) 1.2m to any street frontage;
- ii) 1.8m to any side or rear boundary, with a maximum 1.2m high solid component and a minimum 30% transparent component above.

7 A water outlet is to be provided within the Primary private open space.

6C.2 PRIVATE OPEN SPACE (continued)

Controls

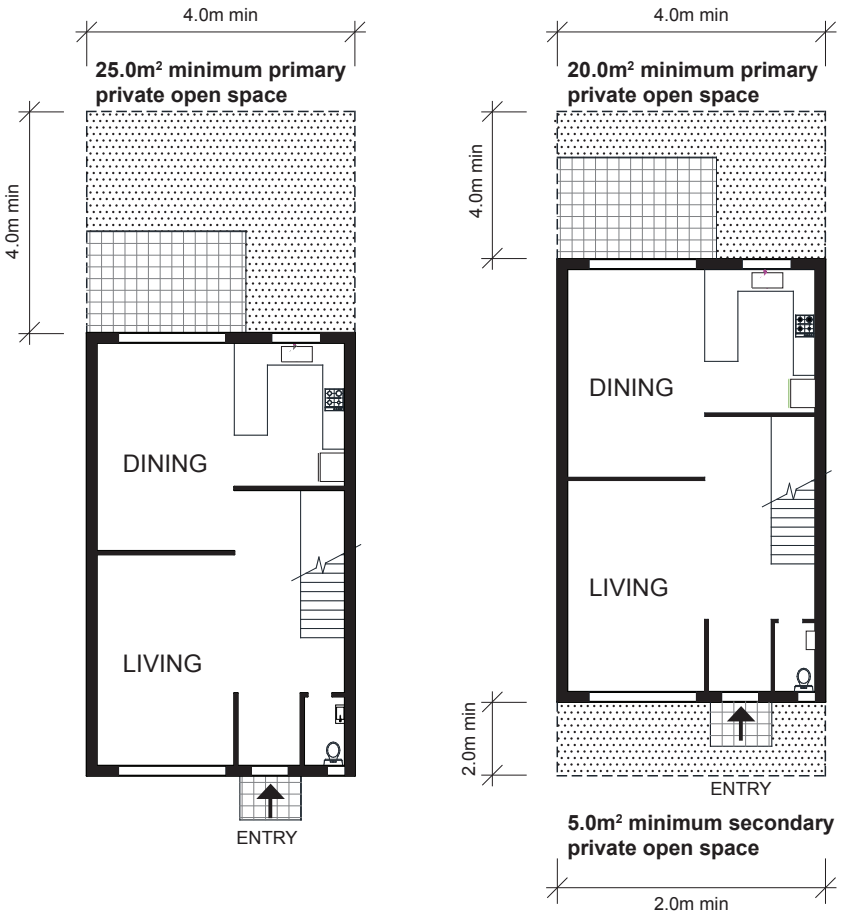


Figure 6C.2-1:
Private open space.

6C.3 SOLAR ACCESS AND DAYLIGHT

Objectives

1 *To provide adequate sunlight to all dwellings.*

2 *To ensure a high level of internal amenity for occupants.*

3 *To provide adequate access to daylight in all habitable rooms.*

4 *To minimise overshadowing of living areas and private and communal open space areas within neighbouring developments.*

5 *To minimise the impact of development on existing solar collection devices.*

6 *To provide adequate shading in summer.*

Controls

1 Buildings are to be oriented to optimise the northern aspect.

2 All dwellings are to receive a minimum of three hours direct sunlight to the living room and/or dining room, and to the Primary private open space between 9am and 3pm on 21st June.

Note: Shadows cast by trees and fences are excluded from this calculation.

Note: Shadows cast by adjacent buildings or those in the vicinity likely to impact the development site are to be included. Where future development is anticipated under existing land-use zones, building envelopes under the relevant controls are to be included.

3 All habitable rooms are to have a window in an external wall that is directly visible from every part of the room. Snorkel windows are not permitted.

Note: Refer to Part 1B.1 for definition of snorkel window.

4 The use of lightwells, skylight, or high level windows as a primary source of daylight in habitable rooms is not permitted.

5 Notches, slots or indents in the perimeter of the building are to be at least as wide as they are deep.

6 All developments are to allow the retention of at least three hours of sunlight between 9am and 3pm on 21st June to the living areas and the private open spaces and communal open spaces of multi-dwelling housing and any low density residential development on adjoining lots.

7 If the proposal will significantly reduce the solar access of existing dwellings on a neighbouring site, building setbacks are to be increased beyond the minimums to reasonably alleviate the impact.

Note: Overshadowing is not to compromise the development potential of the adjoining yet-to-be-developed site(s).

8 Developments are to allow the retention of a minimum of 4 hours direct sunlight between 9am to 3pm on 21st June to all existing neighbouring solar collectors and solar hot water services.

Sun Shading

9 All developments are to utilise shading and glare control. Design solutions include:

i) providing external horizontal shading to north-facing windows, such as eaves, overhangs, pergolas, awnings, colonnades, upper floor balconies, deciduous vegetation;

ii) providing vertical shading to east and west windows, such as sliding screens, adjustable louvres, blinds and shutters;

iii) providing shading to glazed and transparent roofs.

10 All shading devices are to be integrated into the building facade design.

6C.4 NATURAL VENTILATION

Further controls that may apply		
SECTION A **PART 6C.6 -** Dwelling Placement and Room Design		

Objectives

1 *To provide adequate natural cross ventilation to all dwellings.*

2 *To ensure a high level of internal amenity for all occupants.*

3 *To provide adequate access to fresh air for all habitable rooms.*

4 *To provide a high proportion of naturally ventilated kitchens.*

5 *To minimise reliance on mechanical ventilation.*

Controls

1 All dwellings are to have natural cross ventilation. Building designs (plans, sections) are to demonstrate the potential for cross ventilation. Design solutions may include:

i) facilitating cross ventilation by designing narrow dwelling depths;

ii) facilitating convective currents by designing spaces which draw cool air in at lower levels and allow warm air to escape at higher levels;

iii) minimising interruptions in air flow (the more corners or rooms airflow must negotiate, the less effective the natural ventilation);

iv) grouping rooms with similar usage together, for example keeping living spaces together and sleeping spaces together (this allows the dwelling to be compartmentalised for efficient summer cooling or winter heating).

v) Select doors and operable windows to maximise natural ventilation opportunities. Design solutions may include:

- locating small windows on the windward side (facing prevailing winds) and larger windows on the leeward side (away from prevailing winds) of the building thereby utilising air pressure to draw air through the dwellings;
- using higher level casement or sash windows, clerestory windows or operable fanlight windows (including above internal doors) to facilitate convective currents;
- selecting window styles that can funnel breezes into the dwelling such as vertical louvred, casement windows and externally opening doors.

2 All habitable rooms are to have a window or door in an external wall that can be opened and closed for natural ventilation. The use of lightwells, skylights, or high level windows as a primary source of ventilation in habitable rooms is not permitted.

3 At least 25% of all kitchens are to be immediately adjacent to an operable window in an external wall.

4 Notches, slots or indentations cannot be relied upon to achieve natural cross ventilation unless they meet the minimum building separation requirements. Notches, slots or indentations in the perimeter of the building are to be at least as wide as they are deep.

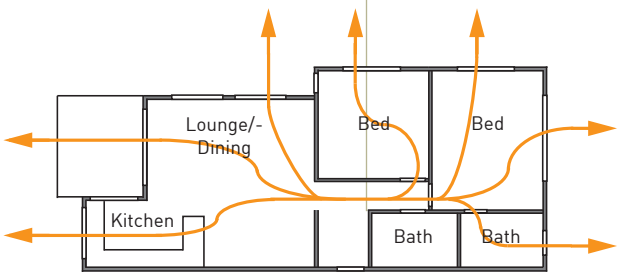


Figure 6C.4-1: Building layout that facilitates cross ventilation.

6C.5 DWELLING MIX AND ACCESSIBILITY

Objectives

1 *To provide dwellings to cater for a range of household types.*

2 *To increase housing diversity and housing choice within Ku-ring-gai.*

3 *To increase the housing choice for seniors, people with disabilities and families.*

4 *To promote flexible housing for all community members and for changing household requirements now and in the future as needs change due to ageing and disability.*

Controls

1 A range of dwelling sizes and a mix of types which includes two, three and four bedroom dwellings are to be provided within the development

Accessible Housing

2 All multi-dwelling housing development is to be designed to Silver Level under the *Livable Housing Design Guidelines*.

3 At least 15% or part thereof, of all multi-dwelling housing are to be designed to Platinum Level under the *Livable Housing Design Guidelines*.

Note: For details on Liveable Housing Design Guidelines refer to www.livablehousingaustralia.org.au.

4 At least 70% of all dwellings are to be visitable.

6C.6 DWELLING PLACEMENT AND ROOM DESIGN

Further controls that may apply		
PART 1B - Dictionary		**SECTION C** **PART 21.1 -** Earthworks and Slope

Objectives

1 *To ensure adequate outlook, daylight access and natural ventilation to all dwellings.*

2 *To minimise on site excavation for multi-dwelling developments.*

3 *To assist in preventing dampness and water ingress into buildings and to enable effective long term maintenance and servicing to all external walls of dwellings.*

4 *To enable pleasant outdoor private open space that has good daylight and ventilation.*

5 *To enable connection and access to common areas from private open areas.*

Controls

Relationship to Ground Line

1 Subterranean rooms are not permitted to any part of the dwelling. The floor level of all rooms is to be located above finished ground level.

Note: Refer to Part 1B Dictionary for the definition of subterranean rooms.

2 No dwellings are to be accommodated as a result of excavation.

Note: Refer to Part 21.1 Earthworks and Slope.

3 No part of any wall used to accommodate any residential dwelling uses, including storage areas inside and outside the dwelling:

i) is to be located below any adjacent ground level;

ii) is to be in direct contact with soil;

iii) is to have any form of tanking, including spaces that act as tanking, separating the dwelling from external ground levels.

Note: Tanking is only acceptable to basement parking levels.

4 Tanking may only be provided to basement parking levels. Where basement storage is located adjacent to external walls, it is to be separated from the tanked wall by an accessible maintenance passage. (*See Figure 6C.6-1*)

5 The internal finished floor level of any part of a ground floor dwelling and/or private open space is not to be more than 0.9m below existing ground level at the building line.

6 Where the internal finished floor level of a ground floor dwelling and/or private open space is not more than 0.9m below the existing ground level at the building line, the ground level adjacent to the building is to be levelled to the finished floor level for a distance of 3.0m from the building line *(see Figure 6C.6-1).*

7 No obstructions, such as retaining walls or fences, are permitted to project beyond a 45˚ control plane, drawn from the finished ground level at the building line. Plants may project beyond the 45˚ control plane *(see Figure 6C.6-1).*

8 Ground floor dwellings are to consider noise attenuation measures where the dwellings may be impacted by adjoining common areas, communal open space and the public domain.

9 Ground and podium level dwellings are to have private outdoor areas differentiated from communal areas. A gate is to be provided from the private open space of each dwelling into common areas where possible.

6C.6 DWELLING PLACEMENT AND ROOM DESIGN (continued)

Controls

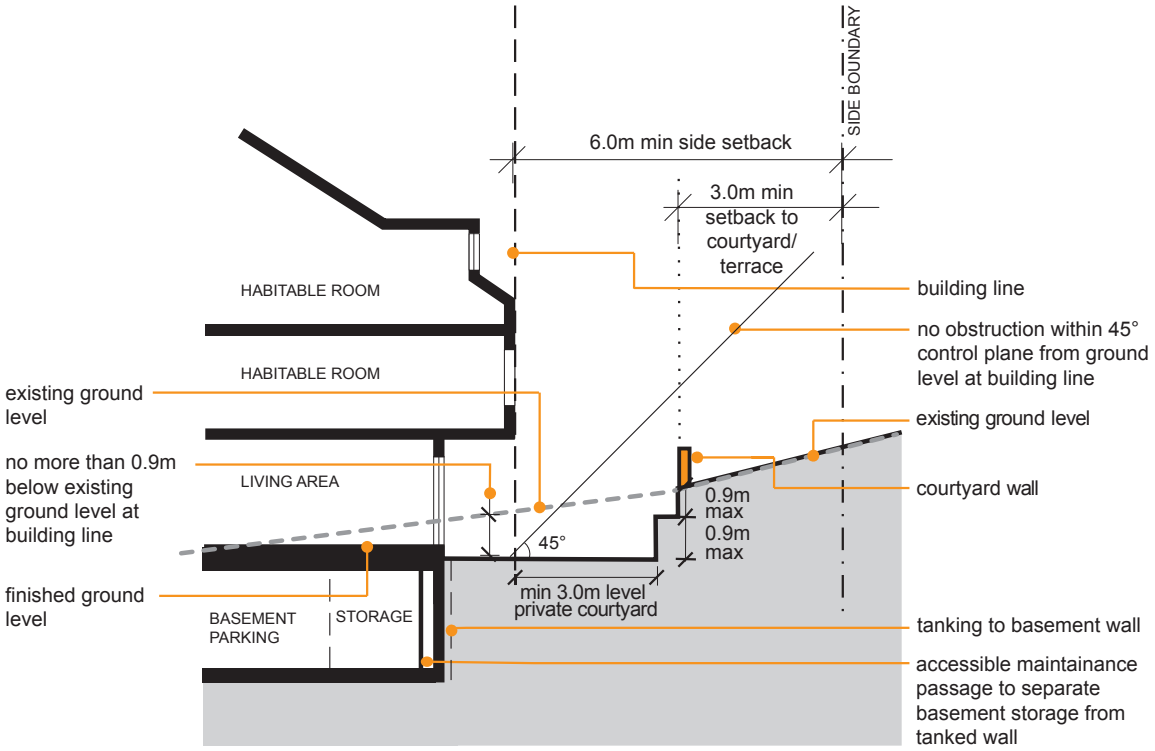


Figure 6C.6-1:
Dwelling relationship to ground line

6 To provide dwellings with well proportioned and functional rooms of adequate dimension.

7 To ensure safety of movement on stairs for all age groups.

8 To ensure the provision of separate living, dining and kitchen areas within each dwelling, and generous areas where open plan living is provided.

9 To ensure kitchens have adequate areas to facilitate food preparation for the entire household.

10 To ensure adequate daylight access and natural ventilation.

Dwelling and Room Design

10 The maximum habitable room depth is 8.0m from a window in an external wall.

11 The maximum internal plan depth of a dwelling is to be 14.0m from glass line to glass line, as in *Figure 6C.6-2*.

12 The living area is to have a minimum internal plan dimension of 4.0m, as in *Figure 6C.6-2*.

13 The dining area is to have a minimum internal plan dimension of 4.0m, as in *Figure 6C.6-2.*

14 Where living and dining rooms are combined in an open plan, a minimum internal plan dimension of 8.0m is to be provided across both areas, with the secondary plan dimension remaining at 4.0m as in *Figure 6C.6-2* to *Figure 6C.6-4*.

15 Where kitchen areas are included within open plan dining and living areas, the kitchen area and the circulation area for the kitchen is to be separate and excluded from the measurement of living room and dining room area dimensions in 6C.6(14).

16 All bedrooms are to have a minimum internal plan dimension of 3.0m, as in *Figure 6C.6-3*.

17 All minimum internal plan dimensions are exclusive of storage and wardrobe space.

6C.6 DWELLING PLACEMENT AND ROOM DESIGN (continued)

Controls

11 To ensure adequate storage in bedrooms.

12 To provide bathing options for a variety of household compositions.

Room Design

18 Dwellings are to provide the following minimum dwelling sizes and bathroom provisions according to the number of bedrooms provided:

Dwelling	Minimum Size (m^2)	Bathrooms
Studio	50	1 bathroom
1 bedroom	70	1 bathroom
2 bedrooms	95	2 bathrooms
3 bedrooms	115	3 bathrooms
4 bedrooms	130	3 bathrooms

19 Built in wardrobes of minimum 0.6m deep and 1.8m long are to be provided to the following:

i) all studio dwellings

ii) all bedrooms in one and two bedroom dwellings;

iii) at least two bedrooms in dwellings of three or more bedrooms.

20 Where more than one bathroom is provided, one bathroom is to be fitted with a bathtub.

21 No winders are to be provided in staircases.

22 All kitchens are to provide a minimum clear workbench surface of 0.6x2.0m. This may be provided as two surfaces of minimum 0.6x1.0m each.

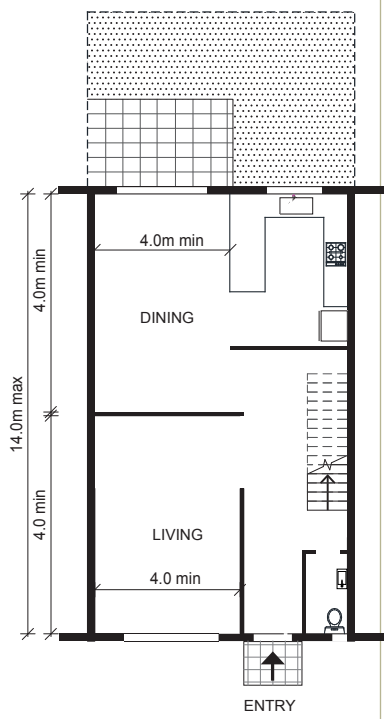


Figure 6C.6-2: Maximum internal plan depth controls.

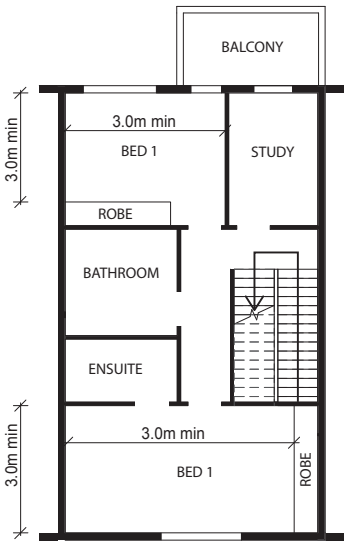


Figure 6C.6-3: Minimum dimension controls for bedrooms - Level 1

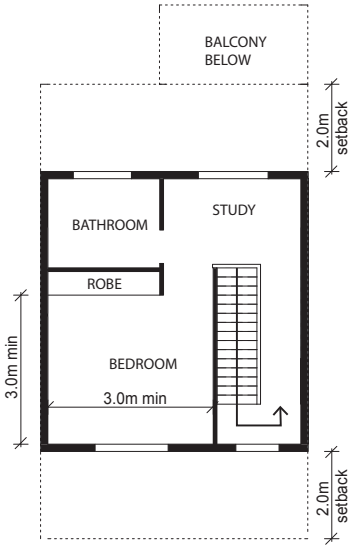


Figure 6C.6-4: Minimum dimension controls for bedrooms - Level 2

6C.7 BUILDING ENTRIES AND INTERNAL PATHWAYS

Further controls that may apply		
SECTION A **PART 6A.1 -** Site Layout		**SECTION C** **PART 22.1 -** Equitable Access

Objectives

1 *To ensure the site and building entry is clear and provides an identifiable element in the street.*

2 *To ensure the building entry contributes positively to the streetscape and building facade design.*

3 *To ensure dwelling entries are close to and relate to natural ground line at street level and within the site.*

4 *To ensure that a high level of amenity is provided to pedestrian links within the development.*

5 *To ensure the amenity of adjoining building courtyards is not compromised by pedestrian flow through the site.*

6 *To soften the impact of hard landscaping within the site.*

7 *To ensure all pathways are safe and accessible.*

Controls

1 The entry into the multi-dwelling housing development is to be directly accessible and visible from the street.

2 All ground floor entries to dwellings are to be located no more than 1.0m above natural ground level. Any falls in the ground level are to be accommodated within the design of the dwelling by utilising split levels.

3 Building entry pathways are to be minimum 1.2m wide and located within the common area with a minimum dimension of 1.2m on either side for landscape planting. All other internal pathways are to be minimum 1.2m wide with a minimum dimension of 0.6m on either side for landscape planting.

Note: A building entry path is any path that provides a line of travel from the street, or lift/stair from the carparking, to the front entry of each dwelling.

4 All paths are to provide extra widths to allow effective turning and to allow easy passing between pedestrians.

5 Where any path is included in the side setback, then the setback is to be increased by the width of the path.

6 Provide clear sightlines to the entries of all dwellings. Provide way-finding signs on large development sites comprising multiple buildings.

7 All street and individual dwelling entry areas are to be well lit and designed to avoid any concealment or entrapment areas. All light spill is prohibited.

8 Individual dwelling entries are to be integrated into the building facade design and be articulated with awnings, porticos, recesses or projecting bays for clear identification.

9 All pathways are to be designed to avoid blind corners, dark alcoves and narrow passageways dominated by internal fencing or structures.

Figure 6C.7-1: Entrances to individual townhouses are clearly identifiable with the use of porches/verandahs.

6C.8 BUILDING FACADES AND ARTICULATION

Further controls that may apply		
PART 1B - Dictionary		**SECTION C** **PART 23.8-** General Acoustic Privacy **PART 23.9-** General Visual Privacy

Objectives

1. *To ensure multi-dwelling development does not appear as 3 story residential flat buildings in their shape and structure.*
2. *To create high quality streetscapes of buildings with individual character, diversity and interest.*
3. *Provide an individual identity for each dwelling building.*
4. *To promote well-designed buildings of high architectural quality that contribute to the local character.*
5. *To design building facades that reduce the bulk and scale of the building.*
6. *To create building facades that are environmentally responsive.*
7. *To integrate building elements into the overall building form and facade design.*
8. *To ensure air conditioning and telecommunication devices are concealed and do not detract from or clutter the buildings visual quality.*

Controls

1 Buildings are to express the scale and mass of townhouse and villa development.

2 Building design and finish is to provide a variety of architectural character within the streetscape.

3 All facades are to achieve well-proportioned compositions utilising suitable architectural elements and treatments, including a variety of window openings.

4 All building elevations are not to exceed 36.0m in length.

5 All external walls longer than 14.0m are to be articulated by having a minimum 0.6m step in the building facade alignment (projection or indentation). Facades consisting of a single predominant finish or material and/or limited articulation will not be accepted.

6 All building facades are to be modulated and articulated with wall planes and architectural elements that vary in depth and reduce bulk and scale of the building. Large flat walls, undifferentiated window openings, applied treatments and inarticulated facades will not be accepted. Articulation that is integrated into the building may include:

i) well designed elevations utilising architectural elements to make the buildings unique with changes of material, texture, colour that are integrated into the building;

ii) defining a base, middle and top related to the overall proportions of the building;

iii) expressing internal building layout or structure, such as vertical bays or party walls;

iv) using a variety of window types to create a rhythm or express the building uses;

v) using recessed balconies and deep windows to add visual depth;

vi) sun shading devices to openings.

Note: Facades are to be designed to minimise weathering and ongoing maintenance by selecting appropriate robust materials/finishes; and including appropriate building edge, balcony edge, sill head and parapet detailing that demonstrates protection from prevailing weather and harsh solar aspects.

7 All building elements, including shading devices and awnings, are to be coordinated and integrated into the overall facade design.

Figure 6C.8-1:
Well articulated building facade with the use of balconies. Sun shading devices incorporated into the balcony design for solar access control.

6C.8 BUILDING FACADES AND ARTICULATION (continued)

9 To provide distinct building articulation on corner sites that reinforce the street intersection.

10 To ensure that building facade design contributes to the safety of the public domain.

Controls

8 Air conditioning condensers are to be located within the basement or within the roof structure of the upper most roof. Air conditioning condensers are not to be located on:

i) the building façade:

ii) the top of a flat roof:

iii) terraces;

iv) private or communal open spaces; or

v) balconies.

Note: Where air conditioning condensers are to be located within the basement, certification from a mechanical engineer is to be provided confirming that the nominated area/plantroom will be large enough to accommodate the number of proposed condenser units. This certification must also indicate the likely required supply/extraction air flow within the plant room to demonstrate that ventilation requirements have been sufficiently incorporated into the basement design. Additionally there must be sufficient service ducting incorporated into the development so that the systems operate efficiently.

9 Telecommunication structures are to be located within roof structures or basements and not be visible from any street or public domain area.

10 Balconies that run the full length of the building facade are not permitted.

11 Balconies are not to project more than 1.5m from the outermost wall of the building facade and be integrated into the overall building design and composition of the elevations.

12 Blade walls are not to be the sole element used to articulate the facade.

13 Overhead ducts and services at the basement parking entry are to be concealed and not be visible from the street.

14 Street corners are to be addressed through the use of architectural elements that give visual prominence to parts of the building facade, such as a change in building modulation, material, colour, roof expression or height.

15 Building elevations are not to create snorkel windows to any part of the building.

Note: Refer to Section A Part 1B Dictionary for definition of snorkel window.

6C.9 BUILDING STOREYS

Objectives

1 *To ensure that buildings are responsive to the site.*

2 *To provide for quality dwelling interior spaces and private open space areas.*

3 *To ensure roof articulation, lift overruns and services are incorporated into the allowable building height.*

4 *To ensure additional height is available at the ground level to integrate the relationship of the building with the topography.*

Controls

1 Multi-dwelling housing is to have a maximum of 3 storeys as illustrated in *Figure 6C.9-1.*

Note: The 1st storey is measured from a maximum 1m above the existing ground line.

2 On steep sites, the size of the floor plate is to reflect the topographic constraints. Subterranean dwellings at ground level are not permitted.

Note: Smaller stepping floor plates can assist to negotiate the topography.

3 Attic levels cannot be located above the third storey.

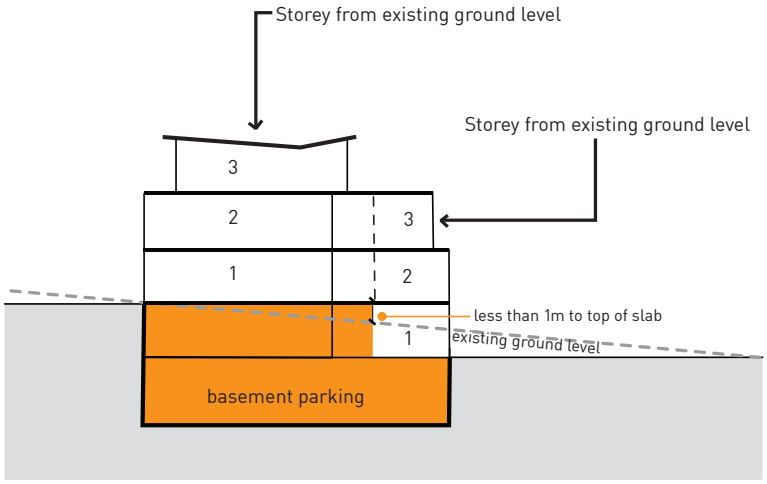


Figure 6C.9-1
Building Storeys

6C.10 TOP STOREY DESIGN AND ROOF FORMS

Objectives

1 *To encourage a scale and character of development that provides a transition between residential flat buildings and single dwellings.*

2 *To minimise the visual bulk of buildings.*

3 *To contribute to the overall design and environmental performance of buildings.*

4 *To ensure multi-dwelling development does not have the appearance of a 3 story residential flat building.*

5 *To manage overlooking and privacy of dwellings and private open spaces within and adjacent to the multi-dwelling housing development.*

Figure 6C.10-1:
Top floor setback with recessive colour scheme to minimise the bulk and scale.

Figure 6C.10-2
Broken roof forms on townhouses

Controls

1 The top storey of the building is to be incorporated into the roof space to make an attic floor level where possible. Where a flat roof is proposed, the design is not to resemble a residential apartment building form.

2 Service elements such as drainage pipes and communication devices are to be integrated into the overall design of the roof and not be visible from the public domain or any surrounding development.

3 Roof design is to enable solar access to openings in winter and shading to openings in summer.

4 Roof forms are to be modulated or broken, especially for long facades *(see Figure 6C.10-2)*.

5 Where solar panels are provided they are to be integrated into the roof line.

6 Balconies and terraces are not permitted above the ground and first floor levels of the building except to the street frontage.

Attic Floor Top Storey

7 Where the top storey is incorporated into the roof space to form attic rooms, dormer windows are to be provided. Skylights to habitable rooms will not be permitted.

8 Dormer windows to attics are to be no higher than the height of the main roof of the building and are not to incorporate or access a balcony or terrace.

Flat Roof Top Storey

9 Where the top storey is not incorporated within the roof form, it is to stepback as follows:

i) a minimum of 2.0m from the front and rear building line of the floor below;

ii) a minimum of 0.6m from the building line of the floor below at the end walls, where the end walls at the top storey has no openings; where end walls have openings, the stepback is to be a minimum of 2.0m from the building line of the floor below;

iii) access to balconies or terraces at the top storey may only be provided to the street elevation.

10 Flat roofs and terraces are not to be used for plant and service equipment, all such equipment is to be concealed within the buildings roof structure and basements.

6C.11 INTERNAL CEILING HEIGHTS

Objectives

1 *To ensure that adequate internal ceiling height is provided.*

2 *To ensure the internal ceiling height is coordinated with external building form requirements.*

3 *To ensure all dwellings are designed to facilitate a 'sense of space' and natural light and ventilation into rooms.*

4 *To ensure all servicing elements are incorporated within the building structure.*

Controls

1 All multi-dwelling housing developments are to comply with the following minimum ceiling heights, measured from finished floor level (FFL) to finished ceiling level (FCL):

   i) 2.7m for all habitable rooms (minimum 3.1m floor to floor height);

   ii) 2.4m for all non-habitable rooms (minimum 2.8m floor to floor height with 0.4m clearance for structure, services and finished).

2 Architectural plans are to indicate service ducts between floors for drainage pipes and building services.

6C.12 VISUAL AND ACOUSTIC PRIVACY

Further controls that may apply		
SECTION A **PART 6A.3 -** Building Separation		**SECTION C** **PART 23.8 -** General Acoustic Privacy **PART 23.9 -** General Visual Privacy

Objectives

1 *To ensure high standards of visual and acoustic privacy to habitable rooms and private open space both within the development and to neighbouring developments.*

2 *To ensure building elements are well designed and integrated into the overall building form.*

Controls

1 Buildings are to be designed to ensure privacy to other onsite dwellings and to neighbouring properties. In addition to design options outlined in Part 23.8 and Part 23.9, design measures may also include:

i) off-setting balconies in relation to adjacent balconies;

ii) using recessed balconies and/or vertical fins between adjacent private balconies;

iii) using louvres/screen panels to windows and balconies;

iv) incorporating planter boxes into walls or balustrades to increase the visual separation between areas;

v) utilising pergolas or shading devices to limit overlooking of lower building levels or common and private open space.

2 Continuous transparent or translucent balustrades to private open spaces are not permitted to balconies/terraces/courtyards.

3 Screening between dwellings is to be integrated into the overall building design.

4 Landscaped screening is to be provided to neighbouring properties.

5 Any screens for achieving visual privacy to habitable rooms cannot be fixed in place and impede their function of the opening to provide daylight, ventilation or outlook from the internal space.

6 For requirements on noise levels associated with air conditioning, kitchen, bathroom, laundry ventilation, or other mechanical ventilation systems and other plant refer to Part 23.8 of this DCP.

Figure 6C.12-1:
Operable louvres to all balconies to provide enhanced privacy.

6C.13 STORAGE

Further controls that may apply		
		SECTION C **PART 23.7 -** Waste Management **PART 23.9 -** General Visual Privacy

Objectives

1 To ensure all dwellings have adequate, appropriate, convenient and accessible storage for everyday household items.

Controls

1 Storage space is to be provided at the following minimum volumes:

i) $10m^3$ for two bedroom dwellings; and

ii) $12m^3$ for dwellings with three or more bedrooms.

Note: Internal service ducting is not to impact on storage area provisions.

2 At least 50% of the storage space is to be provided within the dwelling.

Note: Storage space within dwellings are to be in the form of cupboards. These cupboards can be located in circulation spaces, living rooms, laundries, flexible spaces (which can also be used as studios/media rooms etc). Storage in kitchens, bedrooms or bathrooms will not count towards this requirement.

Note: Storage within laundries is to exclude the space required to accommodate a washing tub, washing machine and dryer.

3 Storage space provided outside the dwellings within basements and such like, are to be separately allocated and identified as belonging to the relevant dwelling.

4 Storage space outside dwellings is to be provided as dedicated storerooms within the basement adjacent to designated parking bays.

6C.14 EXTERNAL AIR CLOTHES DRYING FACILITIES

Objectives

1 *To maximise the opportunities for sun and wind drying of clothes and reduce the use of electric dryers.*

2 *To provide external air clothes drying areas that do not detract from the visual appearance of the building and common areas.*

Controls

Private drying facilities

1 Provide one external air clothes drying area for each dwelling.

Note: Clothes drying areas do not form part of the required 35m^2 private open space.

2 The external air clothes drying area is not to be located at the street frontage and is to be screened from all public domain areas and common areas.

Shared drying facilities

3 Where shared air clothes drying lines are provided, they are to be located within common areas, but are not to form part of any communal open space and should not be visible from any public domain.

6C.15 FENCING

Objectives

1 *To ensure fencing design responds to the character of the streetscape in terms of:*

- *i) open landscape quality;*
- *ii) visibility and security;*
- *iii) materials selection;*
- *iv) solid or transparent qualities;*
- *v) height;*
- *vi) vertical and horizontal composition of the materials;*
- *vii) location of entries and gates;*
- *viii) noise sources;*
- *ix) topography.*

2 *To ensure that fencing does not detract from the overall visual amenity and character of the area.*

3 *To ensure onsite fencing and courtyard walls are integrated with the built form and provide separation and privacy to private open areas.*

Controls

1 Front boundary fences and walls (to a public street/public domain) and side boundary fences within the street setback are not to be higher than:

- i) 0.9m if of closed construction (such as masonry, lapped and capped timber or brushwood fences); or
- ii) 1.2m if of open construction (such as open paling and picket fences).

Note: Open fencing includes panels set into a timber frame or between brick piers, where any solid base is not taller than 0.9m, and panels are spaced pickets, palings, or lattice.

2 Closed front fences with a maximum height of 1.8m may be considered where the site fronts a busy road or other sources of undesirable noise. These fences are to be set back at least 2.0m from the front boundary and screened by landscaping.

Note: Rendered masonry boundary walls are generally inappropriate to the landscape character of Ku-ring-gai.

3 Fences and walls are to step down and follow the natural contours of the site.

4 Hedges and shrub planting are preferred to the street frontage, but no higher than 1.2m along the entire front boundary, or 1.8m on a site fronting a busy road.

5 All fencing is to be designed to highlight entrances, and be compatible with buildings and letterboxes.

6 External finishes for fencing is to be robust and graffiti resistant.

Figure 6C.15-1:
Open style fencing to maintain visual link.

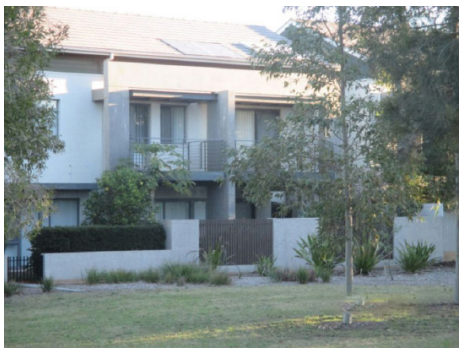


Figure 6C.15-2:
Use of hedges as fencing.

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PART 6R

REFERENCES

6R References

6R.1 Design Quality Principles

6R.1 DESIGN QUALITY PRINCIPLES

The following are Design Quality Principles which are to be achieved by all multi-dwelling developments:

Principle 1: Context and neighbourhood character

Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions. Responding to context involves identifying the desirable elements of an area's existing or future character. Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

Principle 2: Built form and scale

Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings. Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

Principle 3: Density

Good design achieves a high level of amenity for residents and each dwelling, resulting in a density appropriate to the site and its context. Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.

Principle 4: Sustainability

Good design combines positive environmental, social and economic outcomes. Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation.

Principle 5: Landscape

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood. Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks.Good landscape design optimises

6R.1 DESIGN QUALITY PRINCIPLES (continued)

useability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity and provides for practical establishment and long term management.

Principle 6: Amenity

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being. Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.

Principle 7: Safety

Good design optimises safety and security within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety.A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit and visible areas that are easily maintained and appropriate to the location and purpose.

Principle 8: Housing diversity and social interaction

Good design achieves a mix of dwelling sizes, providing housing choice for different demographics, living needs and household budgets. Well designed developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people and providing opportunities for social interaction among residents.

Principle 9: Aesthetics

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures. The visual appearance of a well designed development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

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