ATTACHMENT 1

The Hills Development Control Plan (DCP) 2012

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THE HILLS Sydney's Garden Shire

Part D Section 20

Castle Hill North Precinct

DRAFT

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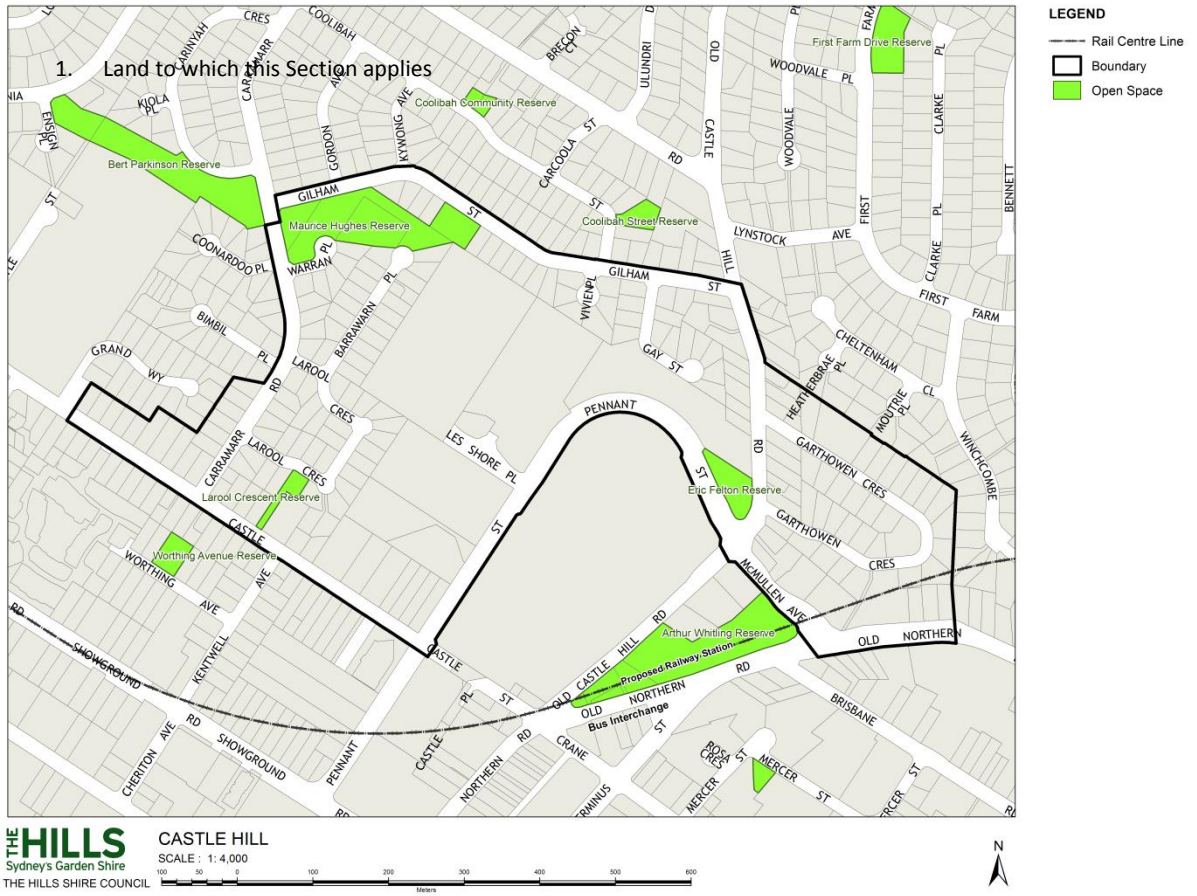
1 Introduction

This Section establishes a framework and controls to guide development in the Castle Hill North Precinct.

1.1 Land to which this Section applies

This section applies to the land within the Castle Hill North Precinct (refer to Figure 1).



1.2 Purpose of this Section

The purpose of this section of the DCP is to guide future development of the Castle Hill North precinct by identifying the vision, development principles, key elements and structure for the future development of the precinct. It seeks to ensure the orderly, efficient and environmentally sensitive development of the precinct to achieve high quality urban design outcomes.

1.3 Relationship to other Sections of the DCP

This section forms part of The Hills Development Control Plan 2012 (DCP 2012). Development within the Castle Hill North Precinct will need to have regard to this section of the DCP as well as other relevant controls in DCP 2012. In the event of any inconsistency between this section and other sections of DCP 2012, this section will prevail to the extent of the inconsistency.

2 Vision and Principles

2.1 Vision

The Castle Hill North Precinct is proposed to become an attractive and well connected neighbourhood that achieves housing targets, creates vibrant, safe and desirable places, reinforces the garden Shire character and lifestyle and is supported by necessary infrastructure. It is anticipated that the precinct will provide up to 3283 additional dwellings by 2036. In order to meet this vision, future development within the Precinct must achieve the following key principles and strategic priorities.

2.2 Development principles

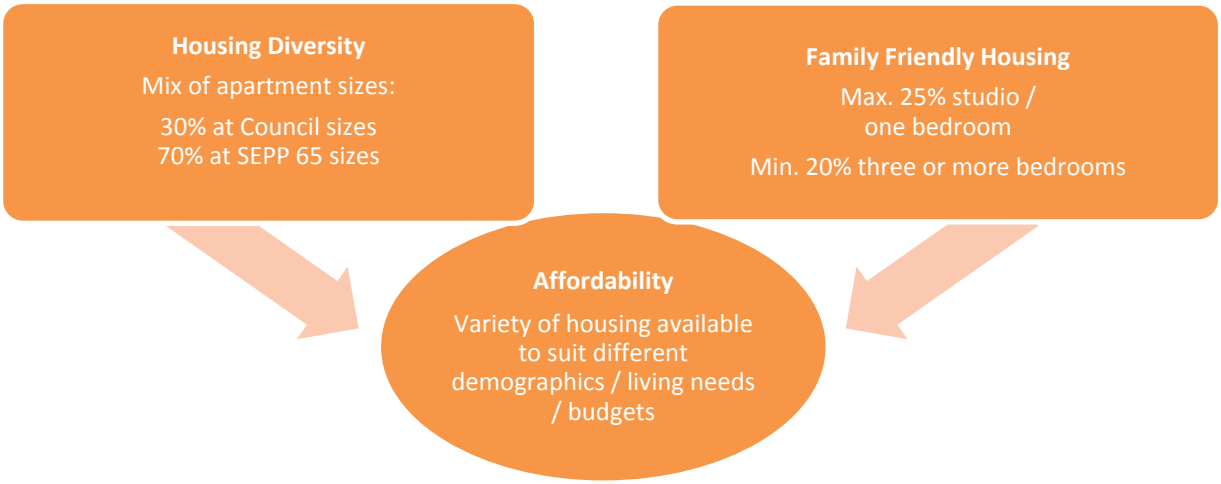
To achieve the vision, future development within the Precinct must address the following key principles and strategic priorities of Council:

Housing Diversity

As the population grows there will be greater reliance on higher density development to accommodate future housing demand. The expected characteristics of the Hills Shire population will continue to include a variety of household types including singles, couples and a high proportion of households with children. It will be critical that future high density development provides 'dwelling diversity' to ensure the market caters for the different living needs, expectations and household budgets within the community. This will require the provision of an appropriate mix of one, two and three bedroom apartments which are varied in size.

Apartment buildings are long term building stock so it is very important that if they are to be built, they are resilient over the long term. Unlike detached housing where landowners can choose the style and size of their home, a homeowner wanting an apartment can only choose from what is being provided. Whilst smaller apartments should be provided to meet the needs of a certain demographic within the market, moderate and larger apartments should also be provided to meet the latent demand for this housing option. This will then reduce pressure on smaller, more affordable housing options.

In order to achieve appropriate housing diversity within the Corridor, a floor space incentive provision has been included within The Hills Local Environmental Plan 2012 which permits additional floor space for developments that provide the required mix of apartment types and sizes (refer to figure 2). Further information on housing diversity is also provided as Attachment A.



2. Approach to Housing Diversity

Transit oriented development

Transit oriented development (TOD) involves the creation of compact, walkable, mixed-use communities around public transport nodes. A key goal of TODs is to increase the number of people who walk, cycle or use public transport as their main form of transport. TODs have densities that result in increased patronage of public transport and provide more opportunities for people to live near the station and reduce their reliance on vehicles.

The need to locate high density housing in centres with good access to services, community facilities and transport is well recognised and will support the on-going operation of the Sydney Metro Northwest. Density at the core allows for a scale and character suitable for pedestrian connectivity. Centres should provide a mixture of residential, retail and commercial activities that are centred around transport and create an environment where services, recreation, entertainment, jobs and housing provide a lifestyle alternative to the traditional suburban context, consistent with the principles of TODs.

This DCP Sections supports the provision of TODs by helping to deliver the highest densities in key strategic locations close to centres and existing and proposed transport infrastructure. This will ensure a sensible balance can be achieved between delivering on housing targets whilst ensuring an appropriate transition in residential densities and maintaining residential character.

Infrastructure and open space

Public open spaces play an important role in urban areas including provision of recreation, environmental conservation, connecting people with nature and improving social and mental health.

The expected additional population within the Castle Hill North Precinct will increase demand for various public facilities and services (such as roads, community facilities, open space and the like). The future population should be provided with access to open space, recreation and community facilities in line with the lifestyle enjoyed by existing residents.

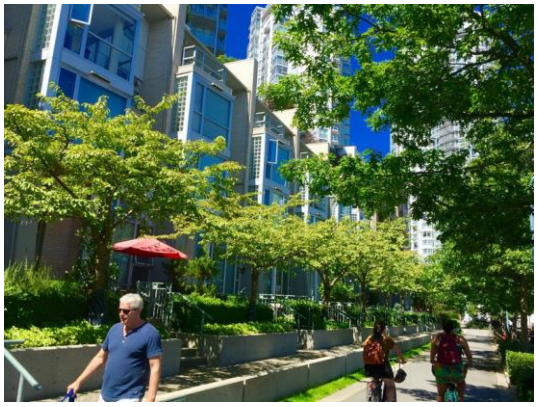
There is a need to improve open space networks to meet the demands generated by incoming population and ensure appropriate recreational opportunities are provided for the future population. A number of local parks will be embellished to improve their capacity. Development within the Precinct will also be levied for the provision of new playing fields, cycle-ways, and public domain improvements which will be delivered to improve the quality of life of future residents.

Place Making

Place making will be a key focus in order to provide neighbourhoods that are sustainable, accessible, safe, attractive and well serviced with a unique character and sense of place. The development controls will provide the guidelines to make neighbourhoods liveable including vibrant activity centres, permeable and safe movement networks, generous public spaces, high quality built form and ecologically sustainable development. The provision and embellishment of quality spaces including streets, parks, buildings, and other public spaces will enable greater interaction between people and foster healthier, more social and economically viable communities.

Public areas such as informal gathering areas within centres will include high quality and durable elements such as seating, shading and lighting to enhance the amenity of these areas. Streets will be enlarged where possible incorporating new public domain treatments including new paving, new street furniture and lighting, improved pedestrian access and dedicated street tree planting.

Quality built form plays a vital role in achieving liveable, productive and resilient environments and creating great places that people want to live, work, visit and invest in. Development which achieves the key principles and meets with the development controls in this DCP will ensure an exemplary standard of design that provides a positive contribution to the public realm. A design excellence clause has been included within The Hills Local Environmental Plan 2012 to require certain buildings and or development sites to be assessed by a design excellence panel to achieve quality built form outcomes for the precincts.



3. Activated pedestrian and cycleway
Source: Brent Toderian

4. Retail at ground level
Source: Google Streetview

3 Desired Character and Structure Plan

3.1 Desired Character

Castle Hill North Precinct will be a pedestrian friendly centre which will provide an attractive alternative to the traditional suburban context. It will focus on an appropriate scale and amenity for pedestrians which will be achieved by providing buildings at a human scale and an improved public domain that make travel by foot a desirable option. Developments will have reasonable setbacks and landscaping reflective of their intended character.

Development is to be consistent with the desired character for the precinct as well as the Structure Plan streetscape area controls, key precinct elements, general controls and development type controls. LEP 2012 utilises floor space ratios as the primary development standard for the Castle Hill North Precinct. This provides the flexibility to articulate and guide the desired built form outcomes on each individual development site. In order to provide a guide of the likely built form outcome, the structure plan identifies the intended land uses, indicative building height ranges and key links.

Objectives

a. To precinct will provide for a diverse population in a higher density urban environment within a landscaped garden setting.

b. To encourage development of high architectural quality exhibiting innovative ecological sustainable urban design.

c. To provide a high amenity living environment with high quality attractive public open space.

d. To locate higher scale residential development closer to Castle Hill station to cater for future demand.

Controls

1. Development is to comply with the Castle Hill North Precinct Structure Plan.
2. Development is to be of a high design quality to ensure an attractive, amenable and enjoyable urban environment.

5. Desired future character
Source : Oculus

3.2 Castle Hill North Precinct Structure Plan

Objectives

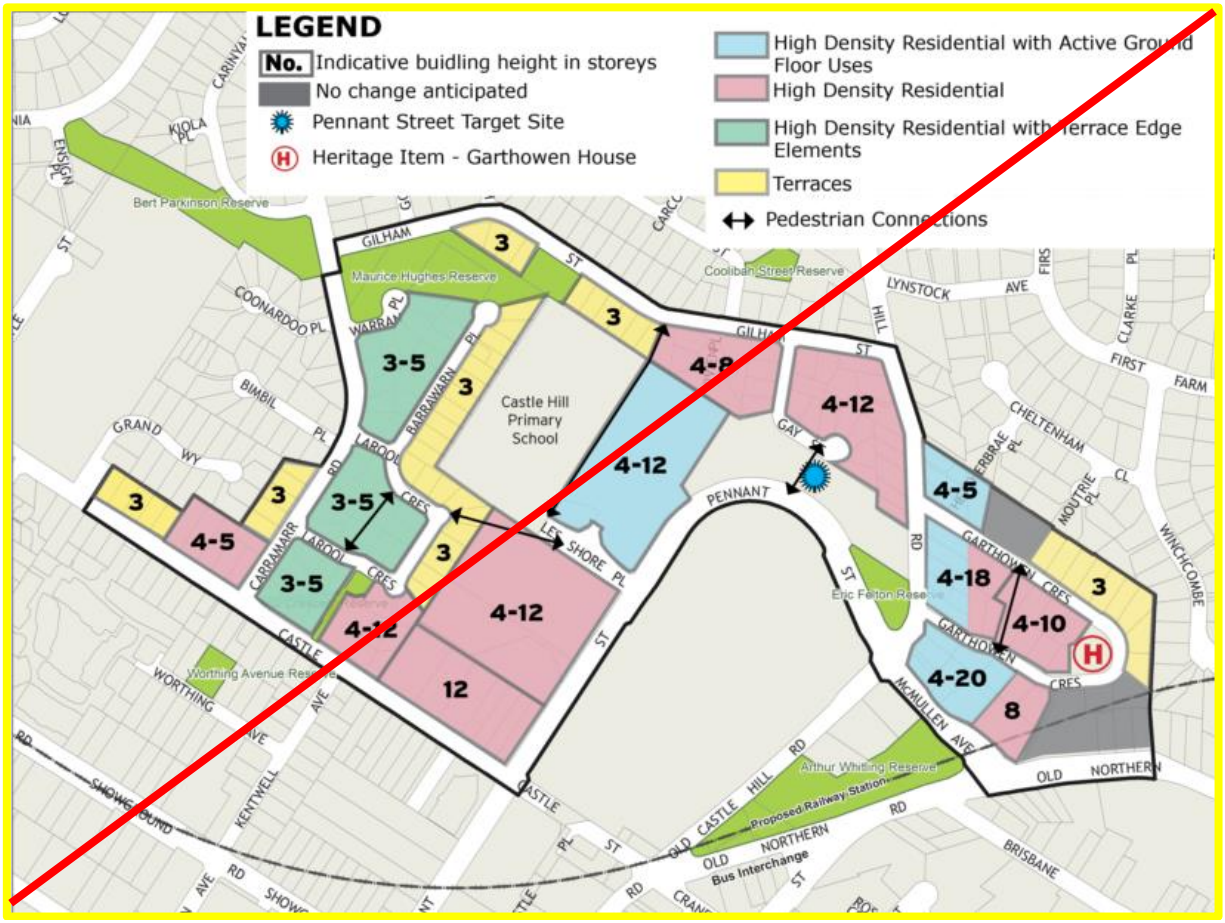
a. To ensure that development occurs in a coordinated manner consistent with the vision and development principles for the Precinct.

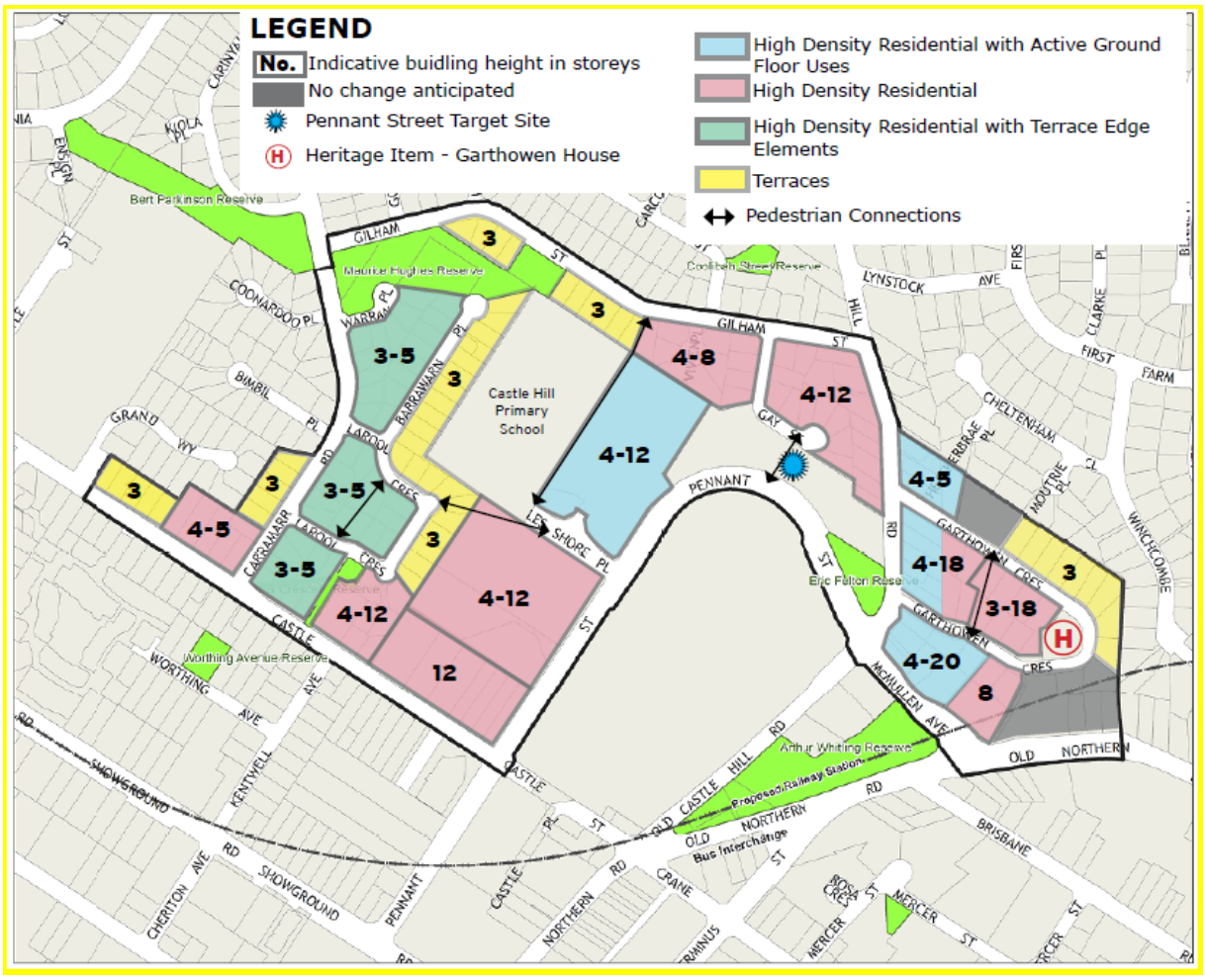
b. To provide a diversity of residential development within the precinct.

c. To locate higher scale residential development close to station to optimise access to public transport.

Controls

1. Development is to comply with the Castle Hill North Precinct Structure Plan.





6. Castle Hill North Precinct Structure Plan

3.3 Streetscape Areas

Objectives

a. To ensure the delivery of an appropriate mix of uses.

b. To ensure that the proposed land uses and the built form of future development contributes to the intended character for each streetscape.

c. To ensure that future development provides an appropriate address to sensitive interfaces and transitions to the surrounding residential context.

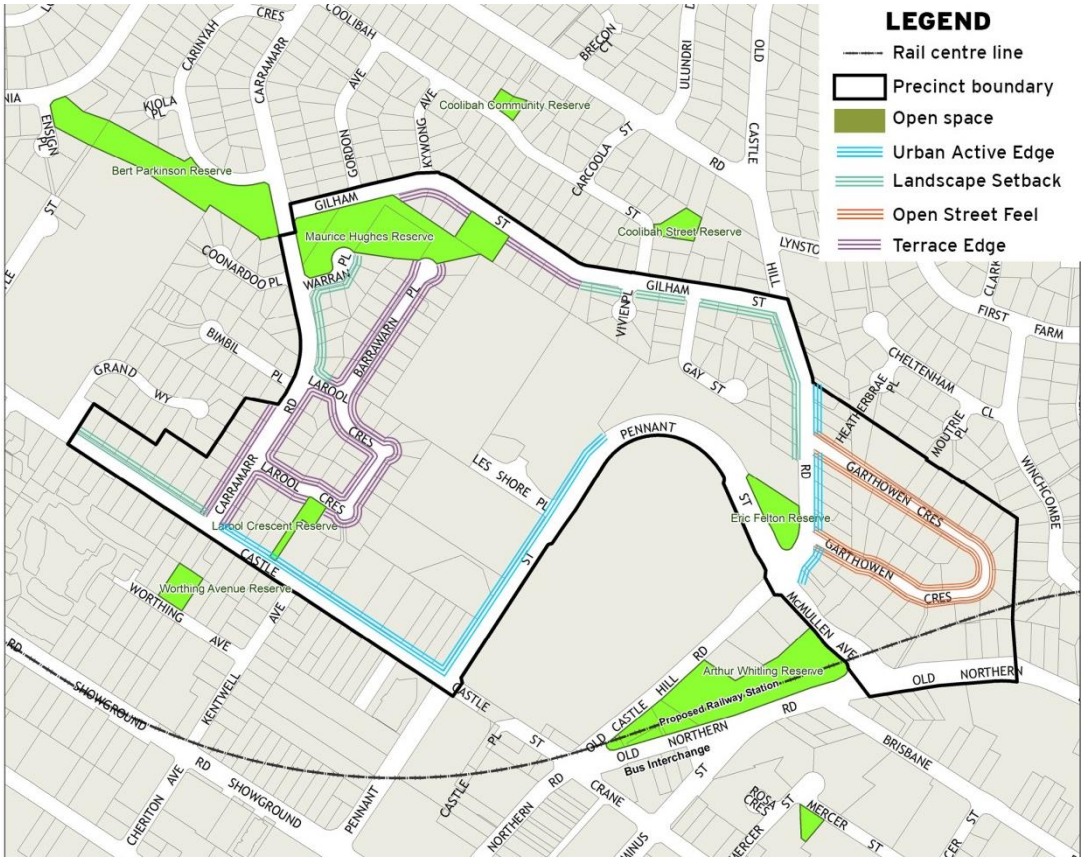
d. To provide for a high density residential development with a high quality public domain, high canopy trees and activated streets.

e. To ensure that each streetscape is distinct yet contributes to the overall vision for the Castle Hill North Precinct, which is for a vibrant, connected and walkable centre that is an attractive place to live, work and visit.

Controls

1. Development shall comply with the 'Structure Plan' included within Figure 6.
2. Development is to be consistent with key streetscape elements as outlined below.

There are four key streetscape areas within the precinct as identified in Streetscape Area Map below.



7. Streetscape Area Map

Urban Active Edge Streetscape

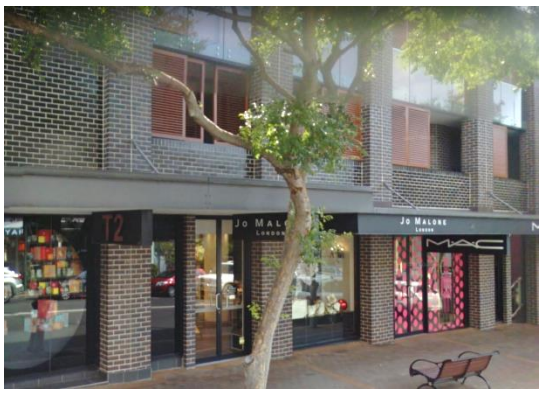
The 'Urban Active Edge Streetscape' includes land along Pennant Street/ Castle Street and the eastern side of Old Castle Hill Road (from McMullen Avenue to just north of Garthowen Crescent).

Character

a. This streetscape will provide a high degree of pedestrian connectivity to the Castle Hill Railway Station and other retail and commercial services within the Castle Hill Centre.
b. Development will contribute to a high density environment with a compact urban form.
c. This area will have a lively and vibrant streetscape which will be achieved through a mix of uses and street level activation.
d. The delivery of public domain improvements including high quality paving, street furniture and street trees along these frontages will contribute to the consistency of the streetscape.

8. Activate Street frontage, Sydney
Source: THSC

9. Ground floor retail, Sydney
Source: THSC



10. Active street frontage, Sydney
Source: Google Maps

11. Active Street frontage, Sydney
Source: THSC

Land Use

a. For land zoned R1 General Residential, retail and commercial uses shall be provided on the ground and first floors.
b. For land zoned R4 High Density Residential, ground floor neighbourhood shops are encouraged to meet the day to day requirements of residents.

12. Residential Development with fine grain residential street interface, Harold Park

Source: THSC

Street Frontage

a. Buildings shall provide a hard line edge, at the setback line to provide continuity and create a seamless and identifiable area of public and private space.
b. Provide retail and commercial uses on the ground and first floors with fine grain articulation.
c. Provide awnings to active frontages.
d. Treatment of the front setback areas are to integrate with the public domain treatments identified within the Castle Hill North Public Domain Plan and provide a consistent streetscape.

13. Activated street frontage with residential above

Source: Google Streetview

14. Cross section of a Landscape Setback Streetscape

Landscape Setback Streetscape

The 'Landscape Setback Streetscape' includes the areas of Gilham Street, Gay Street, Old Castle Hill Road (both sides), Castle Street (west of Carramar Road) and Carramar Road (north of Larool Crescent).

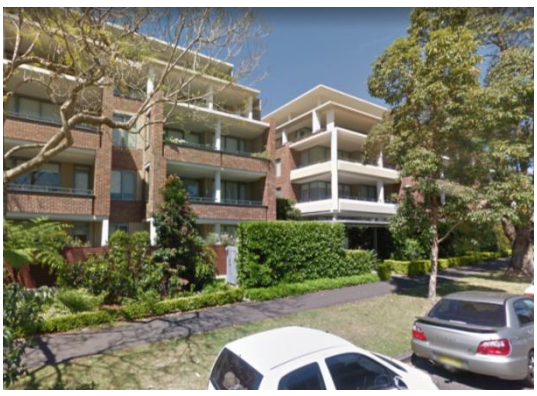
Character

a. This streetscape area includes medium to low-rise residential development with generous setbacks reflective of a landscaped garden character.
b. Future development will provide a transition of height and density to reflect the proximity of the sites from the Castle Hill Railway Station.
c. Lower scale development with high quality landscape treatments to be provided along interfaces with sensitive uses.
d. The streetscape will be characterised by wide footpaths and tree lined verges to encourage pedestrian movement.

Land Use

a. Terrace housing style development and medium-high density residential apartments in a landscaped setting.

15. Landscaped setback Rhodes
Source: THSC



16. Landscaped setback Lindfield
Source: Google Streetview

17. Cross section of a Landscape Setback Streetscape

Street Frontage

a. Where high density development is provided the streetscape will be characterised by landscaped setbacks.
b. Setback areas, where high density development is proposed, are to be intensively landscaped and shall include ground cover (grass), shrubs and trees of varying heights so as to facilitate the retention of 'The Garden', feel.
c. A minimum of two high canopy trees per 30 m of street frontage where the street setback is greater than 3m is to be provided within the front setback.
d. Where terraces are proposed, development shall address the 'Terrace Edge Streetscape' street frontage elements.
e. Deciduous trees are encouraged within the front setback areas to facilitate sunlight access in winter.
f. Buildings on sites which adjoin public open spaces shall have an outlook to the adjoining open space area, so as to increase passive surveillance of these spaces.
g. Development is to ensure that the private open space of adjoining properties including the common open spaces of private developments is to receive a minimum of 4 hours of sunlight between the hours of 9am to 3pm on June 21.
h. No additional overshadowing of public open spaces such as riparian ways, local parks and plazas, including areas adjoining the precinct is to occur between the hours of 11am and 2pm between the dates of April 21 and August 21.

Open Street Feel Streetscape

The 'Open Street Feel Streetscape' includes land along Garthowen Crescent.

Character

a. This streetscape will be characterised by high density residential development within an open landscaped setting.
b. Sites within the southern portion of Garthowen Crescent, that have a dual frontage with McMullen Avenue, will have a more urban setting to provide a transition to the highly urban 'Urban Active Edge Streetscapes' which is identified along Old Castle Hill Road and McMullen Avenue.
c. Building heights and densities shall transition throughout the streetscape to respond to existing lower scale development and other sensitive interfaces including Garthowen House.
d. To accommodate a higher density environment a moderate widening of the Garthowen Crescent carriageway will be required to facilitate safe vehicular movement and an appropriate amount of on-street parking.

Land Use

a. For land zoned R1 General Residential, retail and commercial uses shall be provided on the ground and first floor so as to facilitate active and vibrant street frontages and to increase employment opportunities. Upper floors will comprise residential levels.
b. Higher density residential development is to occur in the R4 High Density Residential zones to provide a range of dwelling types in near adjacency to the rail station.
c. Building heights and densities are to transition downward to Garthowen House and the lower scale residential uses within, and adjoining, the Castle Hill North Precinct.
d. Terrace housing style development is to be provided within the R3 Medium Density Residential zone.

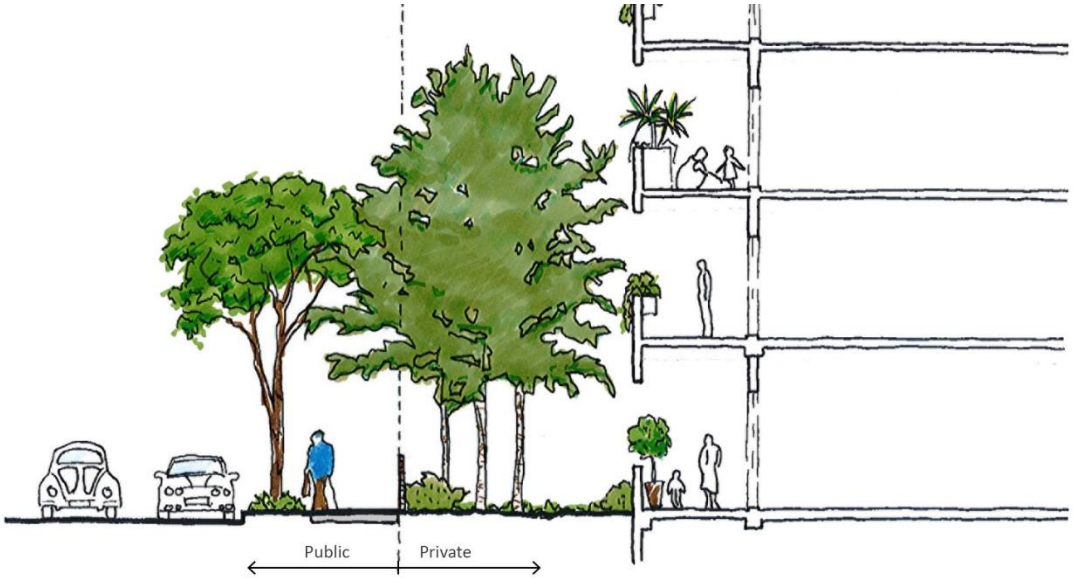
18. Example Residential Development with open street feel, Wentworth Point

Source: Google Maps Streetview

Street Frontage

a. This streetscape will have two different character areas. The northern end of Garthowen Crescent, will have an open landscaped feel which will be facilitated through generous landscaped setbacks, where a higher density development is proposed, incorporating a blend of native and exotic species (ground cover (grass), shrubs and trees).

b. The southern end of Garthowen Crescent will also have an open landscaped feel, however it will be a transitional area to the 'Urban Active Edge Streetscape'.
c. Future development shall be designed to provide clear sight lines to the adjoining street verges.



19. Cross section of Open Street Feel Streetscape

Terrace Edge Streetscape

The 'Terrace Edge Streetscape' includes land along Barrawarn Place, Larool Crescent and Carramar Road (south).

Character

a. This streetscape will be characterised by terrace lined streets with soft landscape treatments within the front setback areas of terraces.
b. Fine grain terrace style street appearance will break up the massing and scale of the built form and present a compact medium density dwelling type which transitions sensitively to the surrounding neighbourhood.

Land Use

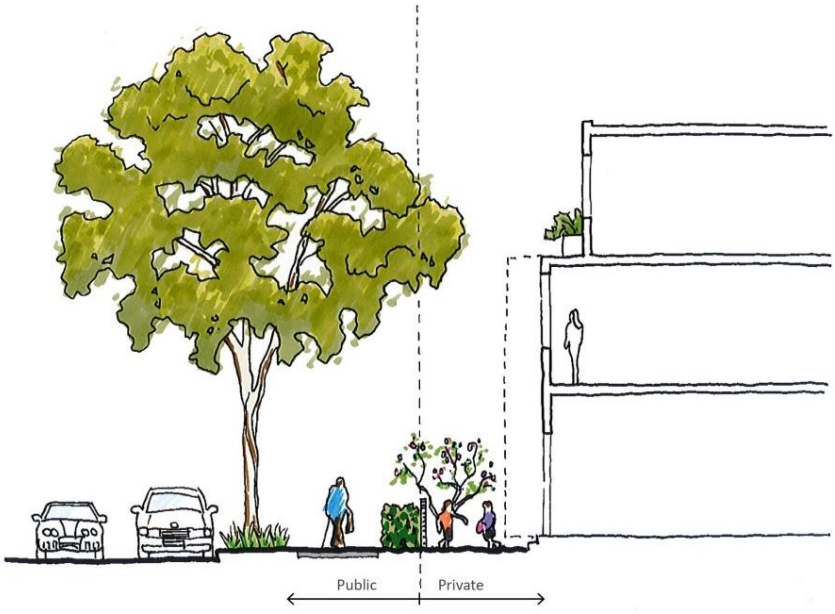
a. Terrace type housing on land zoned R3 Medium Density Residential.
b. Residential flat buildings on land zoned R4 High Density Residential. These developments are to have a street address which is reflective of a terrace streetscape.

20. Terrace Development
Source: THSC

21. Terrace Development
Source: Domain

Street Frontage

a. Terrace style development and scale, no greater than 3 storeys in height.
b. Private open space areas in the form of courtyards and small garden areas will be provided in the front setback areas.
c. Provide moderate and low level landscaping within the private open space courtyards to soften the interface of the built form with the public realm.



22. Cross section of Terrace Feel Streetscape

4 General Development Controls

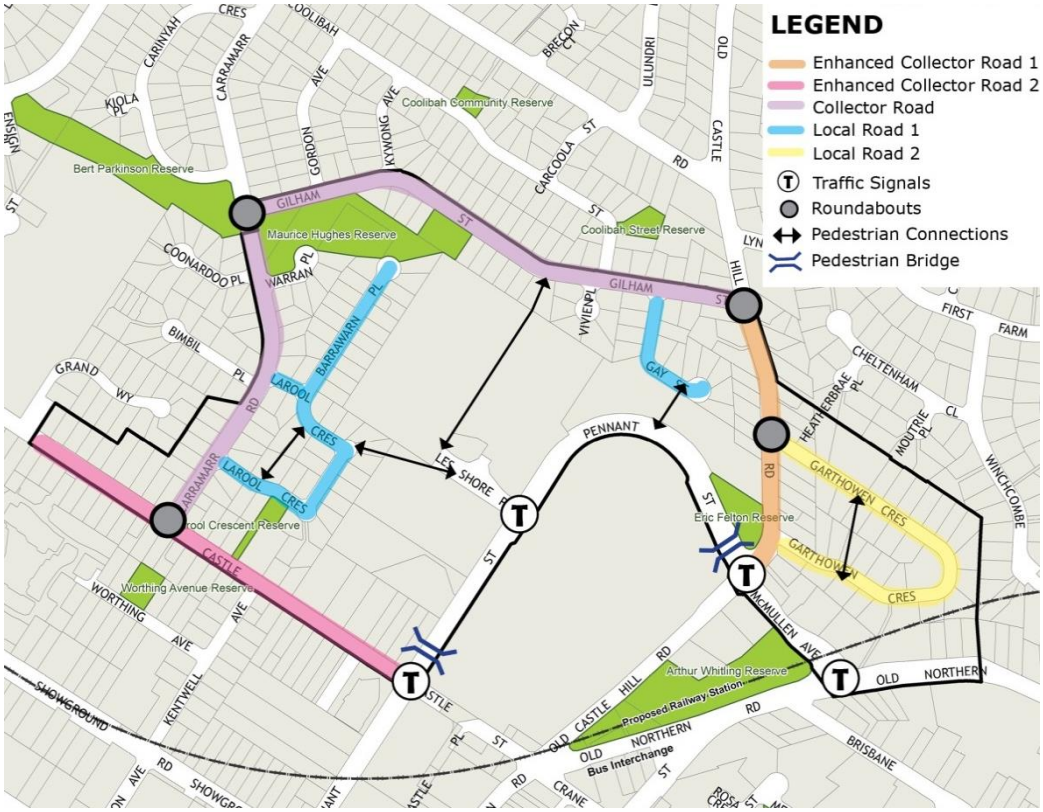
4.1 Movement network and design

Objectives

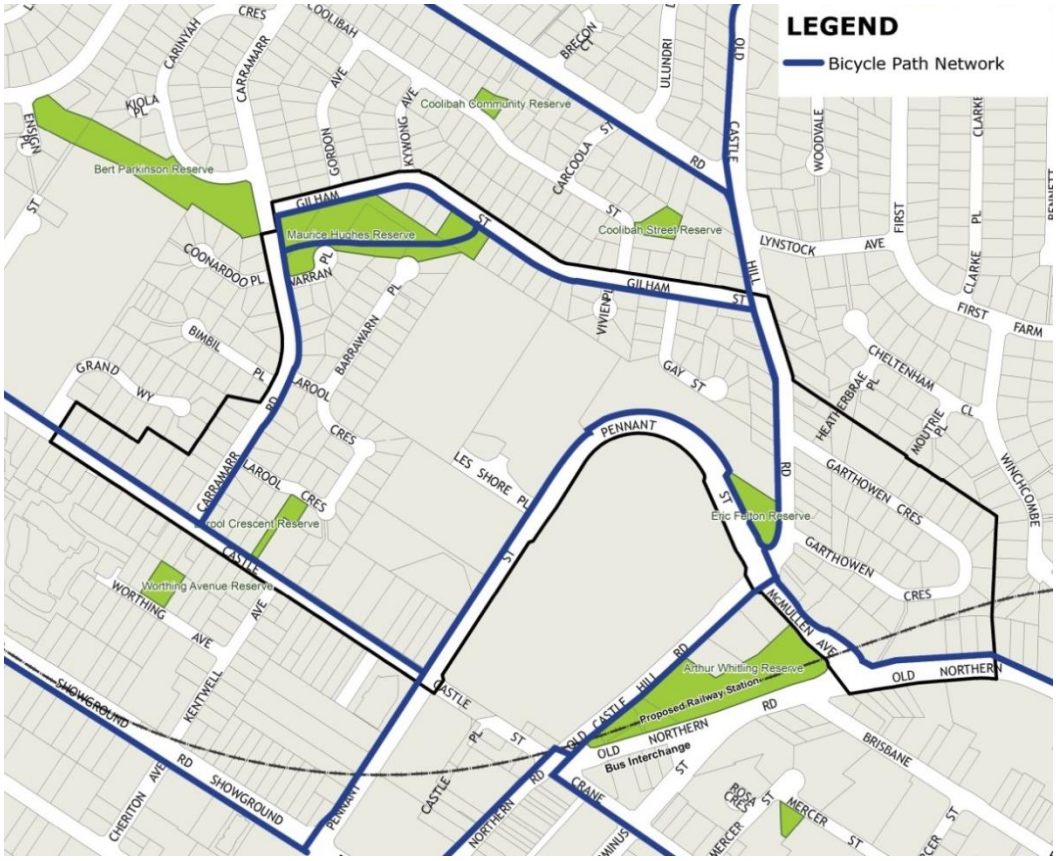
a. To encourage residents to walk or cycle to shops, railway station, recreation areas, community and other facilities by providing for safe and direct pedestrian and cycle connections between key locations.
b. A functional and attractive new street network is provided that facilitates access, safety and convenience for all street and road users and minimises the negative impact of traffic.
c. Carriageways and verge widths are consistent with the identified street hierarchy and profiles to allow streets to perform their designated functions within the street network, enhance functionality and amenity for users and accommodate public utilities and drainage systems.
d. Improve the capacity and function of the road network to support higher density development.

Controls

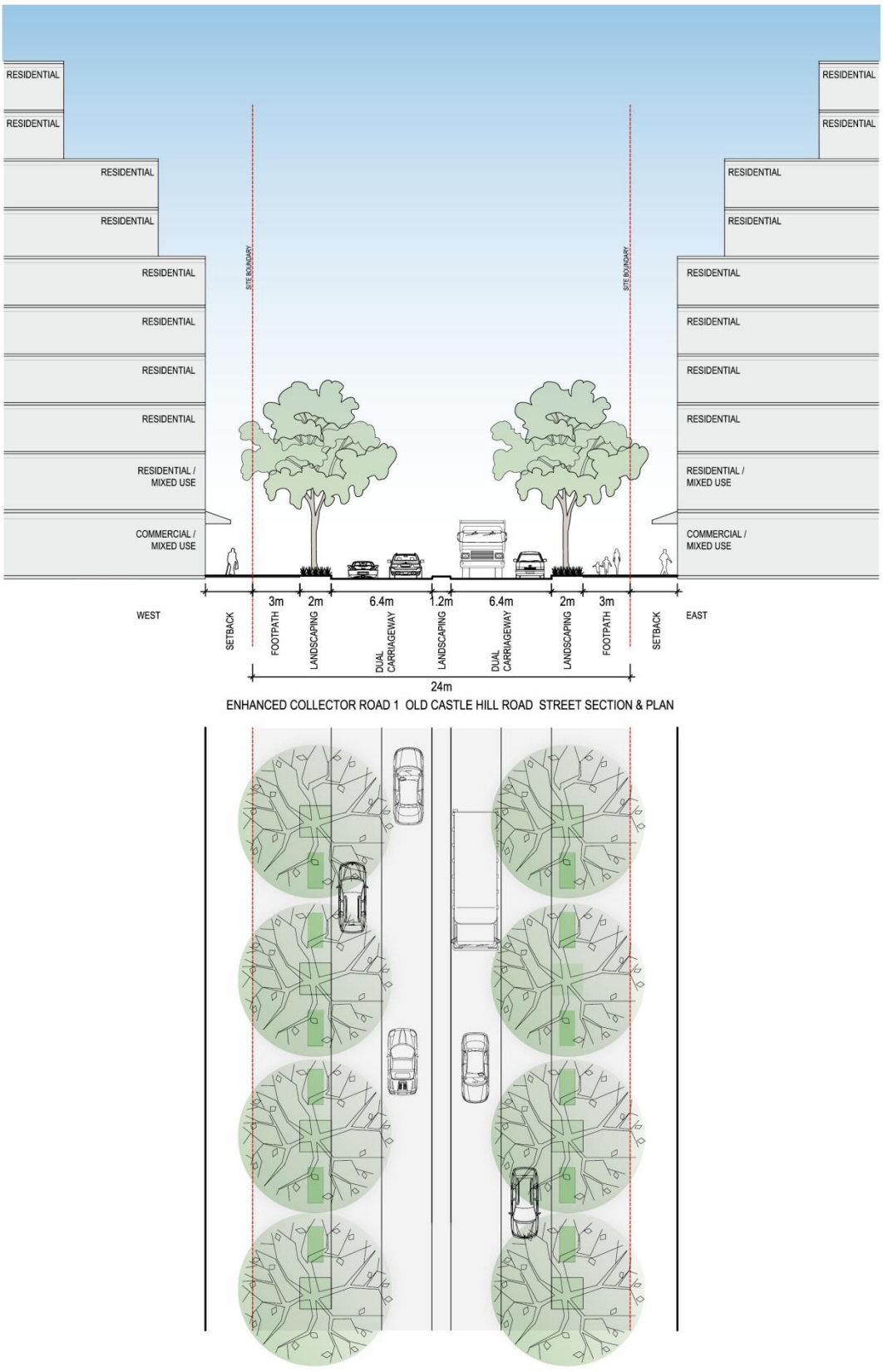
1. The street network is to be consistent with the 'Indicative Street Network and Hierarchy' within figure 23.
2. Streets profiles are to be consistent with the street profiles in Figures 26-29.
3. The design and construction of road infrastructure shall comply with Council's Design Guidelines Subdivisions/Developments.
4. Road infrastructure is to be constructed to Council's specifications.
5. The cycleway network is to be generally consistent with the 'Existing and Proposed Cycleway Network' map in Figure 24.
6. Pedestrian links shall be provided, by way of legal public access, in accordance with the 'Indicative Street Network and Hierarchy' in Figure 23.
7. As high density development occurs along Garthowen Crescent, land identified within the 'Garthowen Crescent - Land Dedication Plan' shall be dedicated to Council at no cost.
8. Land along the northern side of Castle Street and along both the eastern and western sides of Old Castle Hill Road, as identified in the Castle Street and Old Castle Hill Road - Road Widening Plans (Figures 30-33) shall be acquired for road widening.



23. Indicative Street Network and Hierarchy

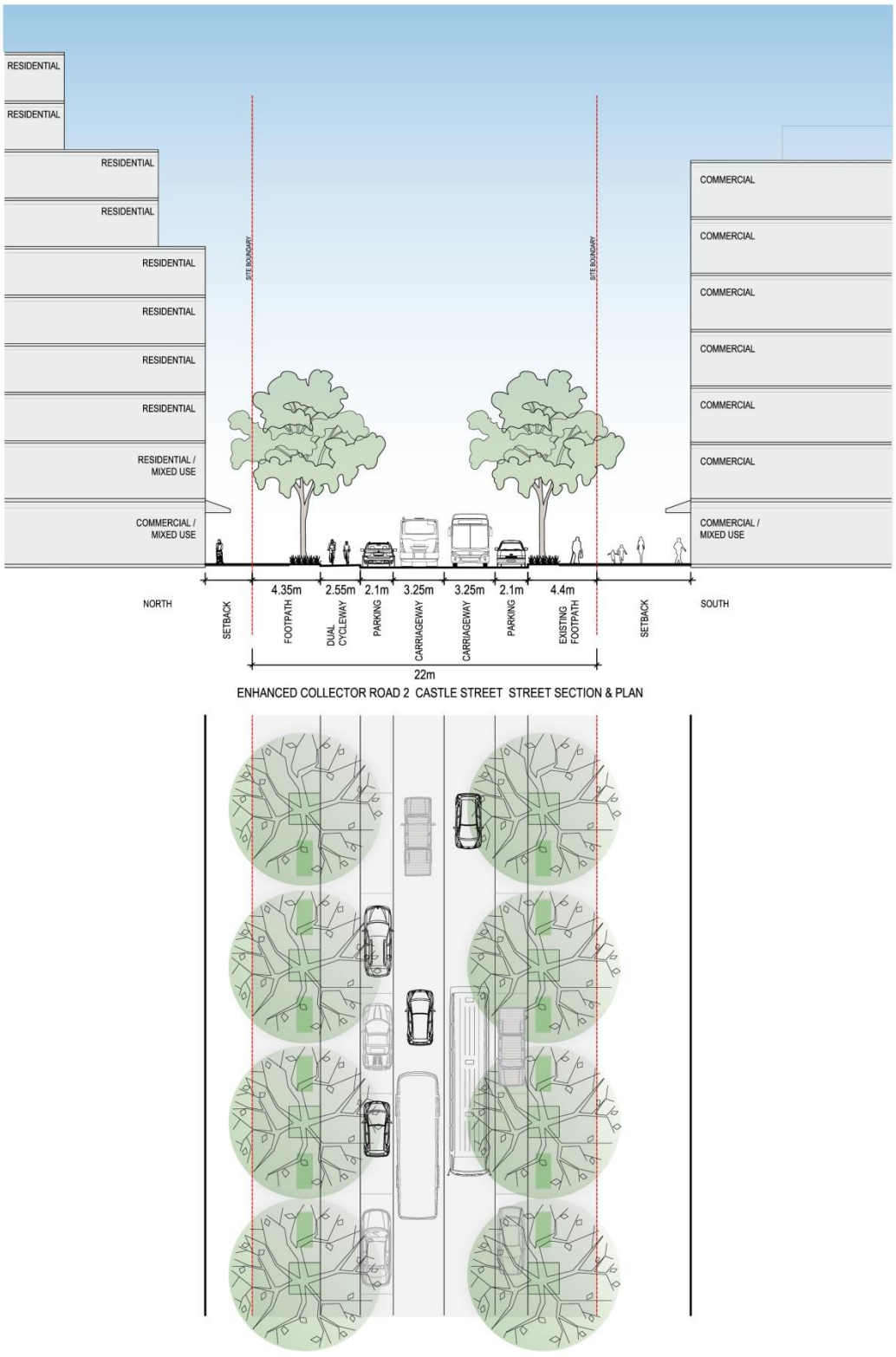


24. Existing and Proposed Cycleway Network



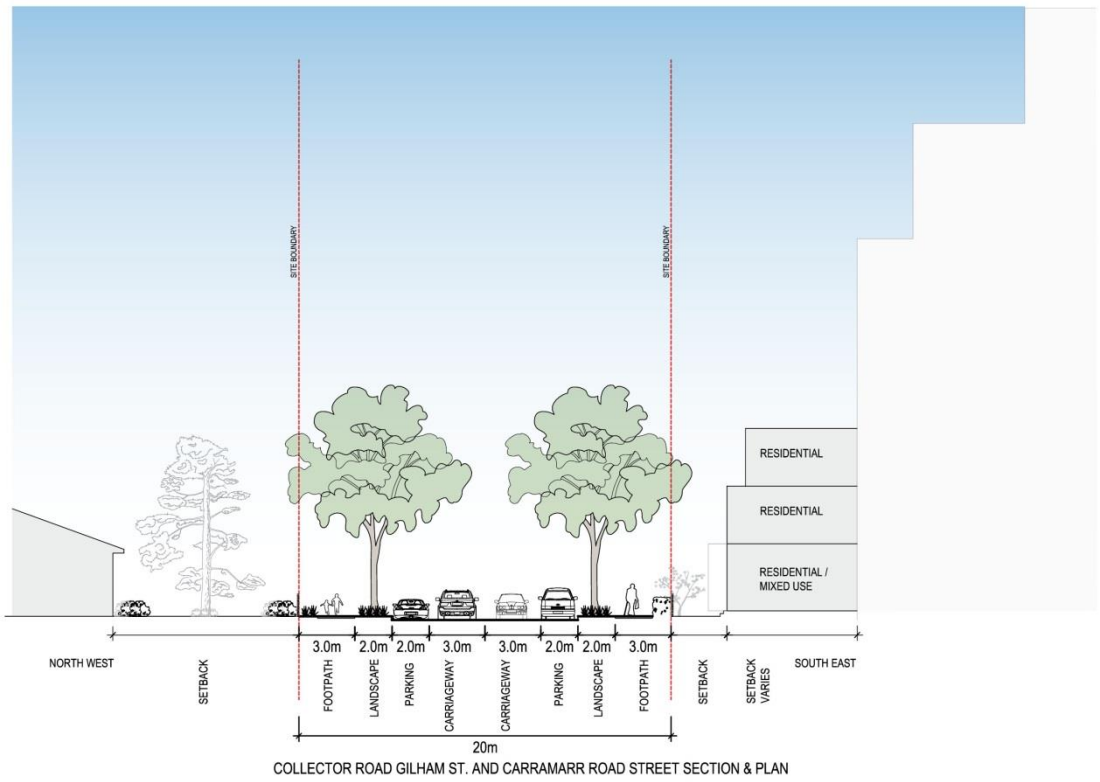
ENHANCED COLLECTOR ROAD 1 OLD CASTLE HILL ROAD STREET SECTION & PLAN

25. Profile – Enhanced Collector Road 1 (Old Castle Hill Road)

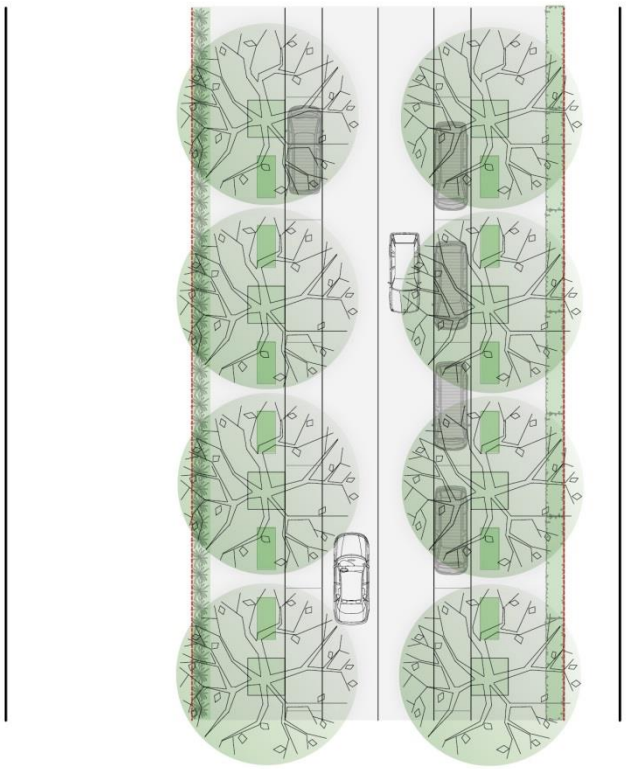


ENHANCED COLLECTOR ROAD 2 CASTLE STREET STREET SECTION & PLAN

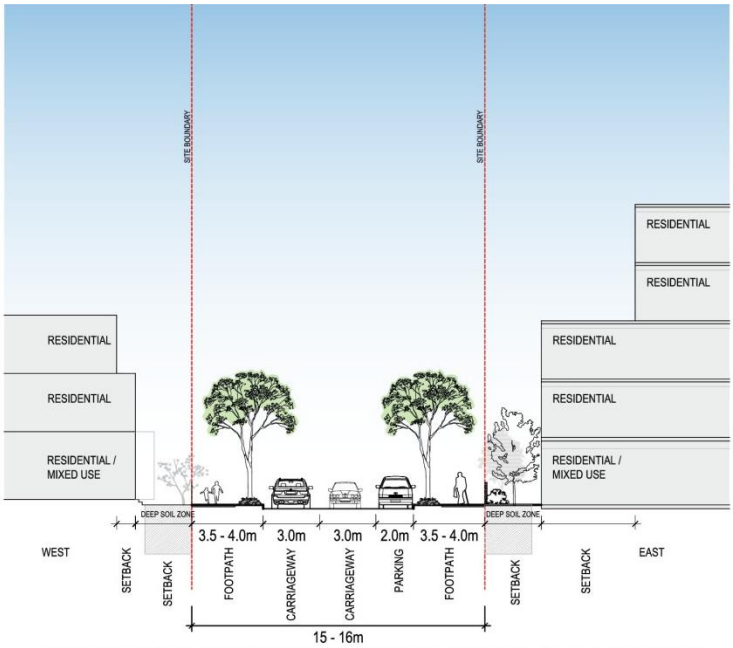
26. Profile – Enhanced Collector Road 2 (Castle Street)



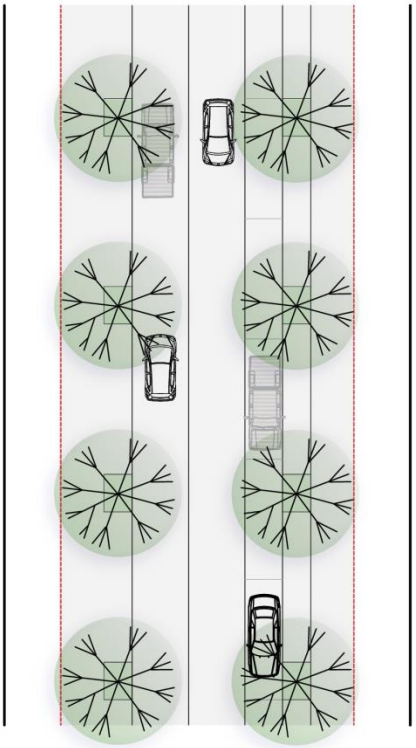
COLLECTOR ROAD GILHAM ST. AND CARRAMARR ROAD STREET SECTION & PLAN



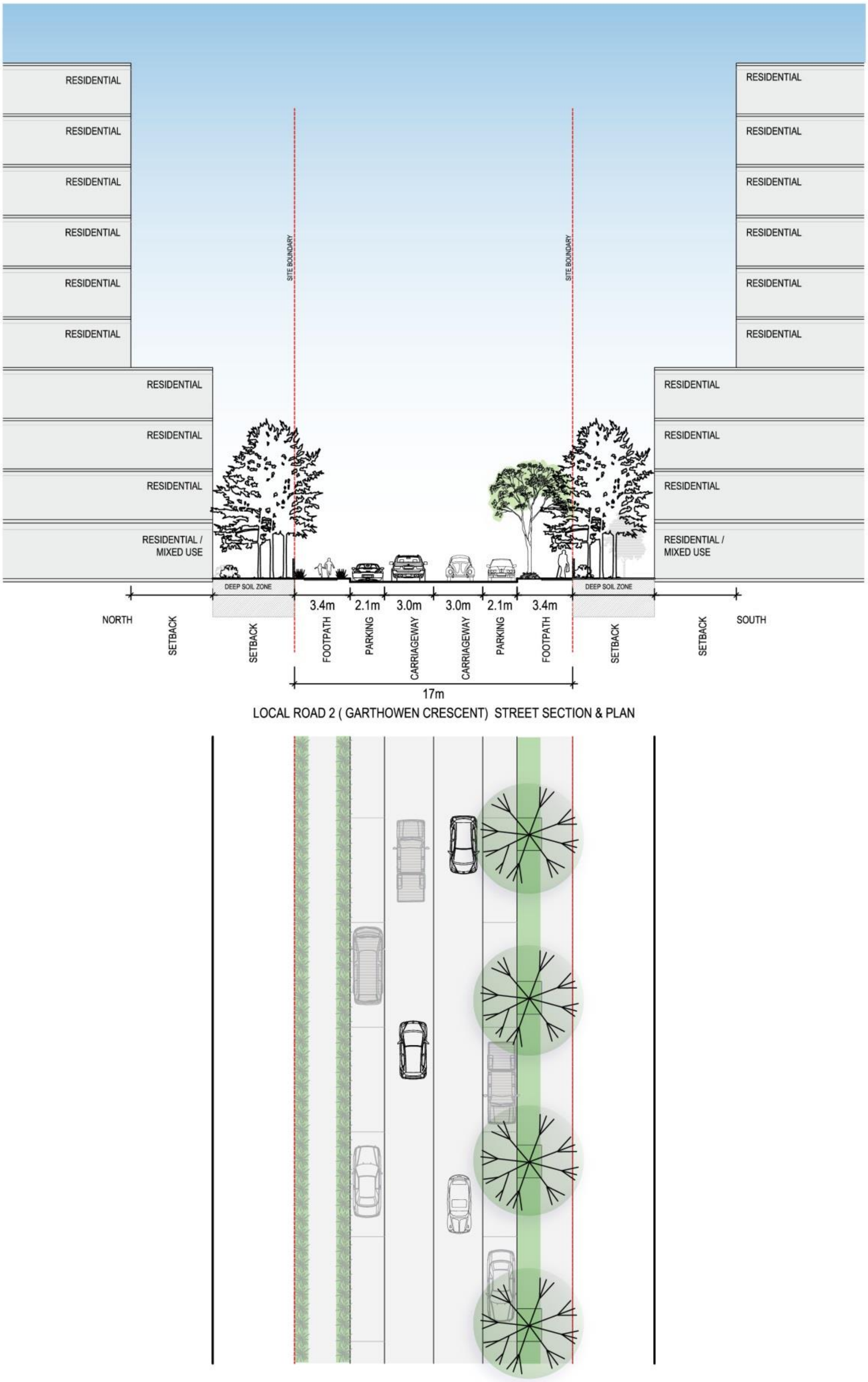
27. Profile – Collector Road (Gilham Street and Carramarr Road)



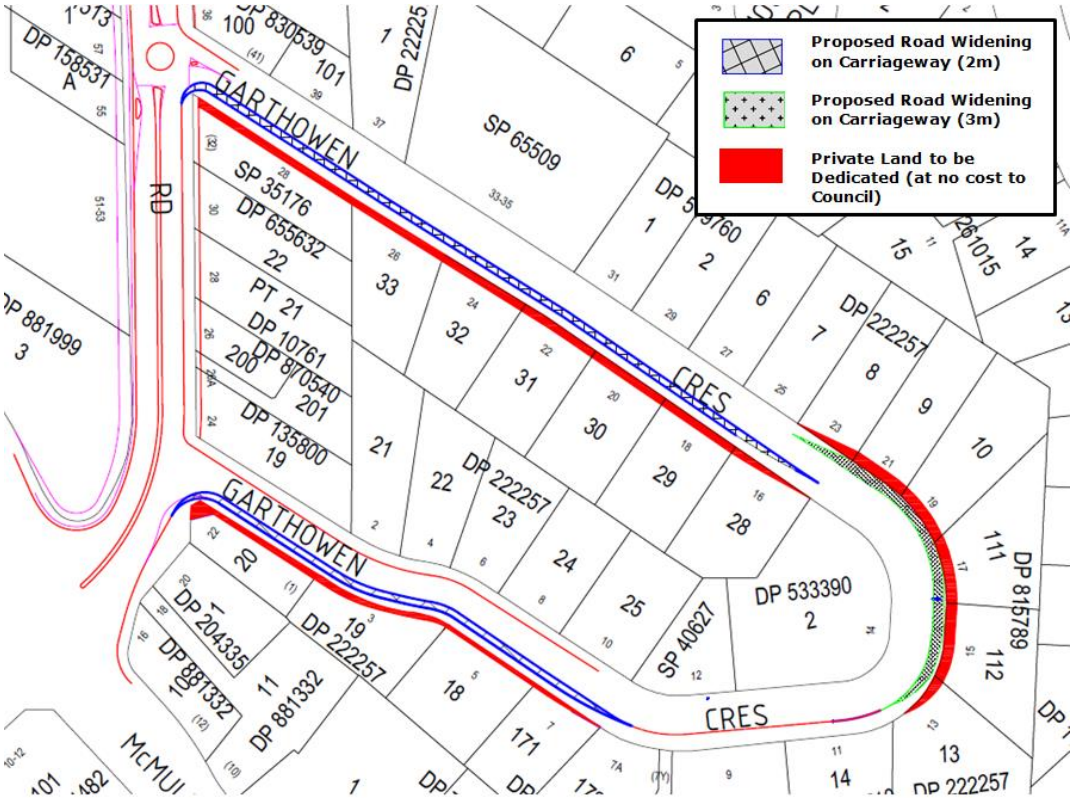
LOCAL ROAD 1 (LAROOL CRESCENT, BARRAWARN PLACE AND GAY STREET) STREET SECTION & PLAN



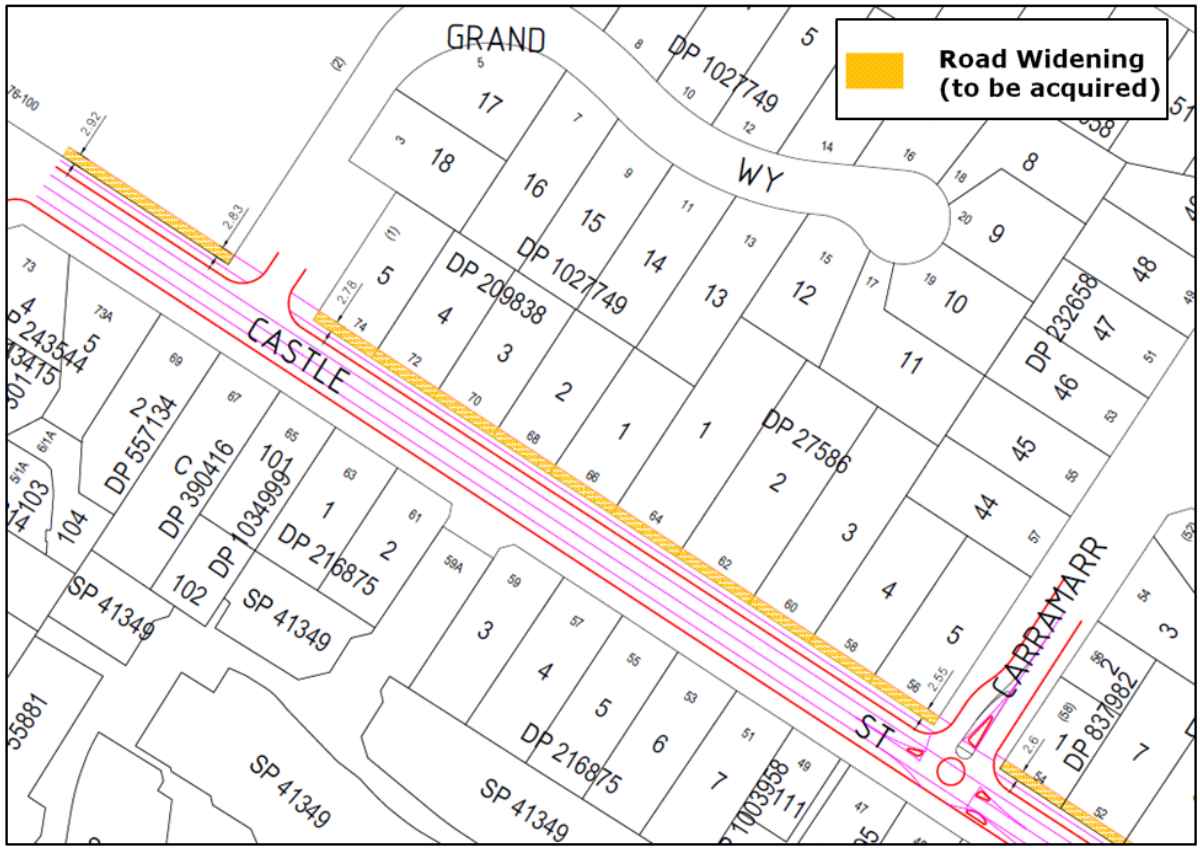
28. Profile – Local Road 1 (Larool Crescent, Barrawarn Place and Gay Street)



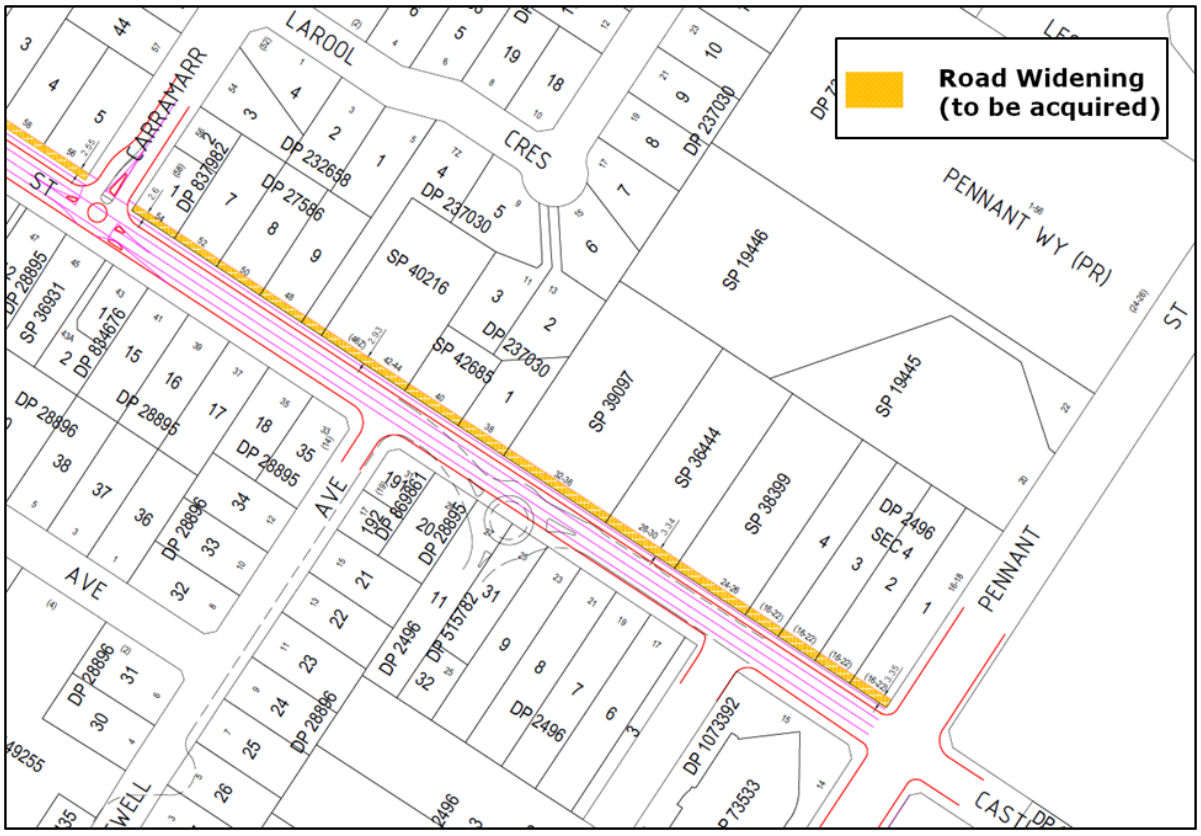
29. Profile – Local Road 2 (Garthowen Crescent)



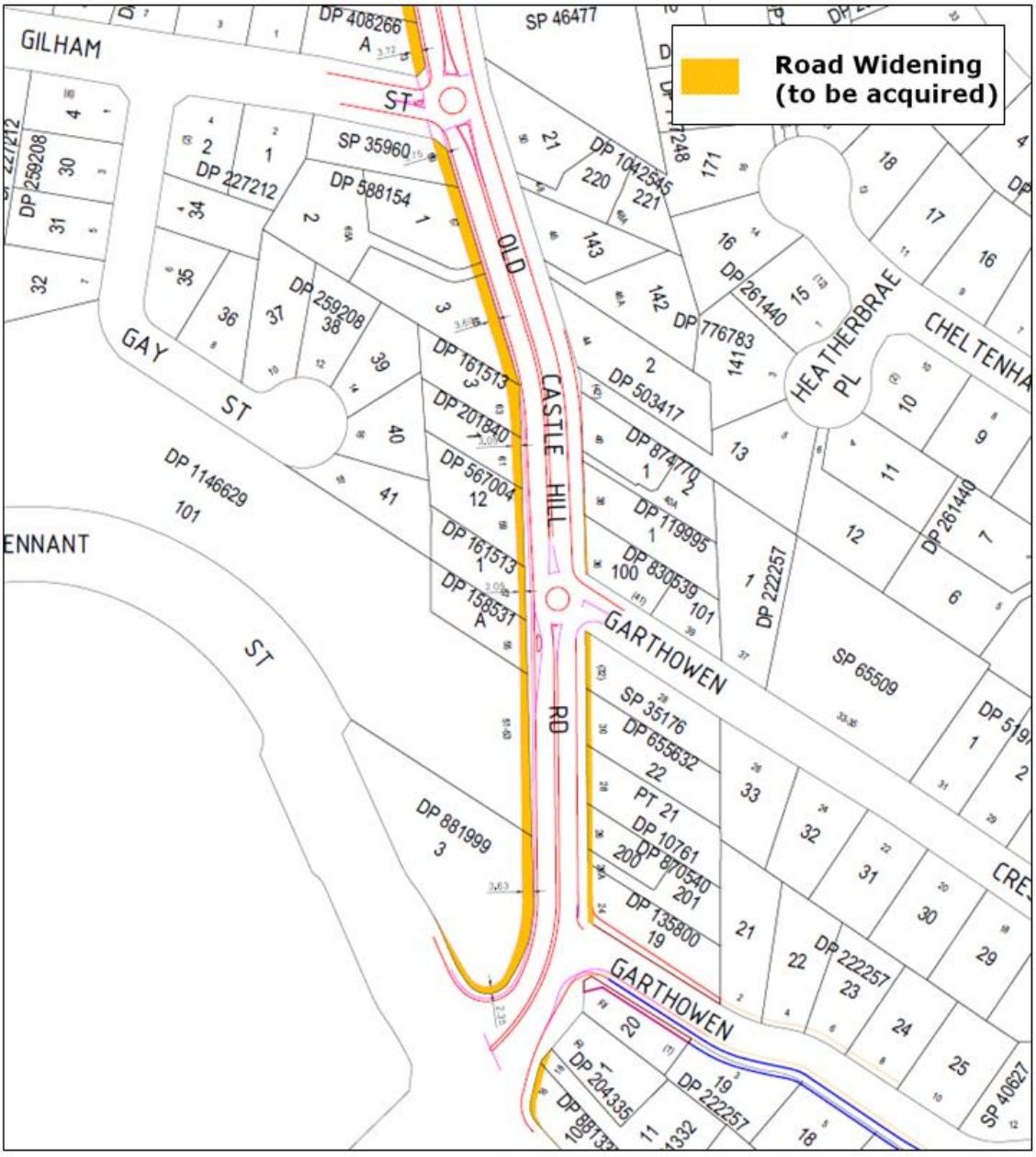
30. Garthowen Crescent Land Dedication Plan



31. Castle Street – Road Widening Plan (East)



32. Castle Street - Road Widening Plan (West)



33. Old Castle Hill Road – Road Widening Plan

4.2 Public Domain

Objectives

a. To provide a range of quality public spaces to support new residential and employment uses.
b. To improve the quality and aesthetic of the public domain to reflect the transitioning of Castle Hill North into a Transit Centre.
c. To provide an improved pedestrian experience.
d. Undergrounding of power lines to improve the aesthetics and liveability of the centre and to facilitate increased space within road reserves to install public domain improvements.

Controls

1. Development applications shall comply with the Castle Hill North Public Domain Plan and demonstrate how high quality elements (driveways, footpaths, street trees, street furniture etc.) will be incorporated into future development.
2. As part of future development, developers shall arrange with the utility provider for the undergrounding of the power lines adjoining the development site. The undergrounding of the power lines shall be at no cost to Council.
3. No additional utility objects shall be located in the public right of way or street verge for any development.

4.3 Sunlight to Public Spaces

Objectives

a. To provide a comfortable and enjoyable public realm.
b. To ensure new buildings and works allow good sunlight access to public spaces.
c. To ensure that overshadowing from new buildings or works does not result in significant loss of sunlight and diminish the enjoyment of public spaces for pedestrians.
d. To protect, and where possible increase the level of sunlight to public spaces during the times of the year when the public space is most commonly used.

Controls

1. Development is to ensure that the private open space of adjoining properties including the common open spaces of private developments is to receive a minimum of 4 hours of sunlight between the hours of 9am to 3pm on June 21.
2. No additional overshadowing of public open spaces such as local parks and plazas, including public open spaces adjoining the precinct is to occur between the hours of 11am and 2pm between the dates of April 21 and August 21.

4.4 Integrated Water Management

Objectives

a. To adopt best practice techniques for stormwater quality management.
b. To minimise flooding and reduce the effects of stormwater pollution on waterways.
c. To ensure that land is appropriate to managing and minimise risks from flooding.
d. To ensure an integrated approach to water management through the use of water sensitive urban design (WSUD) principles.

Controls

1. A Stormwater Management Plan is to be prepared for each development application to include consideration of various sustainable practices including stormwater harvesting and re-use and water conservation.

2. All Stormwater drainage designs are to comply with the most up to date revision of Council's Design Guidelines Subdivision/Developments (September 2011) and Contributions Plan No.17 – Castle Hill North Precinct, or an appropriate alternative approved by Council.

Flood Management

3. Any site that is identified as a Flood Control Lot is to comply with Part C Section 6 – Flood Controlled Land, of this DCP.
4. Flood planning levels for new development shall comply with the requirements of Part C Section 6 of this DCP.
5. Development is to comply with the flood risk management provisions of Part C Section 6 of this DCP.
6. All landscaping is to be compatible with flood risk and not impede overland stormwater flows.
7. All vegetation species and structures, including paths, walls and fences, are to be able to withstand temporary flood inundation in any areas designated as detention basins.
8. During the construction phase of development, the relevant Stormwater Management Objectives for New Development as set out in the most up to date revision of "Managing Urban Stormwater: Soils and Construction" (NSW Department of Housing) must be complied with in full.
9. Erosion and sediment control measures are to be implemented and regularly maintained on site, while sediment trapping measures are to be located at all points where stormwater runoff can enter inlets to stormwater systems, or where runoff may leave the construction site.

Water Sensitive Urban Design (WSUD)

10. WSUD is to be adopted throughout all development, incorporating water quality management and attenuation of runoff to acceptable levels following development.
11. The following stormwater management objectives are to be achieved for all development within the Precinct:
    - 90% reduction in the post-development average annual gross pollutant load;
    - 85% reduction in the post-development average annual total suspended solids (TSS) load;
    - 65% reduction in the post-development average annual total phosphorus (TP) load; and
    - 45% reduction in the post-development average annual total nitrogen (TN) load.
12. For developments generating oils and grease, the additional objective of no visible oils for flows up to 50% of the one-year ARI peak flow shall be achieved.
13. WSUD infrastructure elements are to be designed and constructed in accordance following publications:
    - Australian Runoff Quality (Engineers Australia 2005); and
    - Water Sensitive Urban Design Technical Guidelines for Western Sydney (NSW Government Stormwater Trust and UPRCT, May 2004).
14. The WSUD strategy prepared for all development is to take into account water quality and stream erosivity objectives, together with attenuating flow rates and runoff volumes to acceptable levels following urban development.
15. Water quality modelling to support development proposals within the Precincts shall utilise MUSIC Version 5 or later and adopt modelling parameters in line with the most up to date version of the NSW Music Modelling Guidelines (CMA).
16. Stormwater runoff must be treated before being discharged into riparian zones or watercourses.
17. To minimise the impact of stormwater on the health and amenity of upper Cattai Creek Catchment, stormwater is to be retained on development sites by:
    - collecting and storing water from roofs and hard surfaces;
    - maximising porous surfaces and deep soil zones; and
    - draining paved surfaces to adjacent vegetation.
18. All buildings must install rainwater tanks to meet a portion of supply such as outdoor use and toilets. All residential dwellings are required to provide a (minimum) 3,000 litre (3 KL) rainwater tank, and such tank is to be connected for use in toilet flushing and external uses. Larger tanks than the requirement are permitted.

19. Each rainwater tank is to be provided with potable water trickle top-up with a back flow prevention device, complying with Sydney Water requirements.
20. On-site detention is to be provided in accordance with Section 4.22 of Council's Design Guidelines Subdivision / Developments.

4.5 Cut and Fill

Objectives

a. Developments minimise the impact of earthworks on the stormwater regime, salinity and groundwater.

b. The extent of cut and fill required for large scale development does not detract from the appearance and design.

c. Development visually integrates with the surrounding environment.

d. Fill material imported to a site is to be clean and comply with the contamination and salinity provisions of this section.

e. Land is appropriately stabilised and retained.

f. Cut and fill does not encroach within, or adversely affect the efficiency, integrity and stability of any open space area.

Controls

1. In the areas of fill relevant provisions of Council's Flood Controlled Land DCP are to be applied, with reference to the Flood Risk Management Section of this DCP.
2. A Fill Plan must be prepared.
3. All cut and fill works shall be in accordance with Council's Design Guidelines Subdivisions/ Developments and Works Specification Subdivisions/ Developments.
4. All landfilled areas must comprise clean material free from contamination. Imported material shall be certified "Virgin Excavated Natural Material (VENM)".
5. Landfilled areas must be suitably compacted and stabilised with density tests to verify that compaction was achieved in accordance with Council requirements.

4.6 Ecologically Sustainable Development

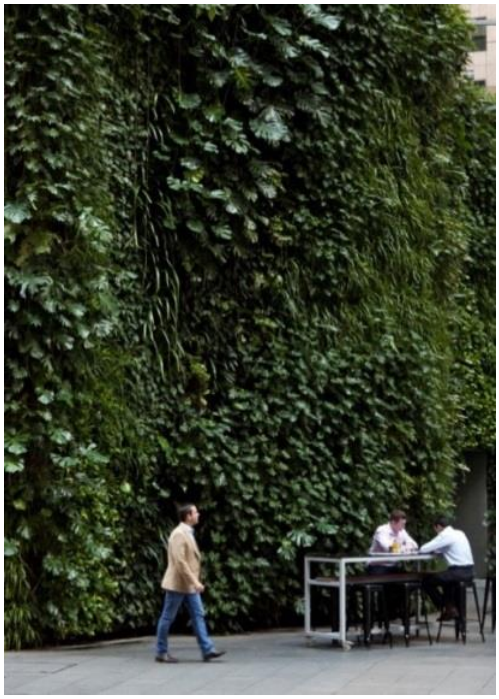
Objectives

f. Building designs are innovative and sustainable to reduce the reliance on, and consumption of, fossil fuels and potable water supplies.
g. Development adapts to climate change.
h. Developments contribute to improved quality of life, health and well-being of the community.
i. The design, construction and operation of development minimises adverse impacts on the natural environment.
j. Use landscape treatments to improve amenity for people using open space.

Controls

1. Residential flat buildings, townhouses and terraces built as a development lot should achieve a minimum 5 star NatHERS energy rating for each dwelling unit.
2. Development other than residential should achieve a minimum 5 star Green Star Design and as Built rating, respectively,
3. Building operation should achieve a minimum 4.5 star base building and tenancy NABERS Energy rating, where applicable.

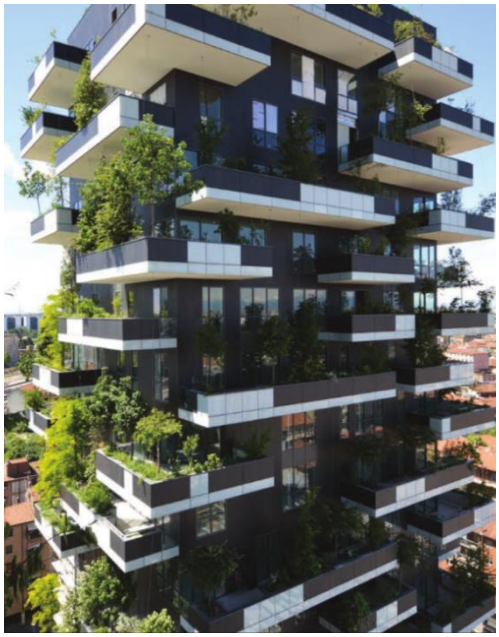
4. The incorporation of green walls and roofs into the design of buildings is encouraged. Where suitable, building facades should incorporate vertical landscaping features to soften the visual bulk of buildings and to improve streetscape appeal.
5. Canopy trees, understorey planting and permeable surfaces should be provided where possible to reduce the extent of paved surfaces and to enhance the amenity of the development and streetscape.
6. Buildings are encouraged to incorporate a trigeneration energy facility that provides energy-efficient power, heating and air conditioning for use on site.
7. Building designs are to:
    - Maximise the use of natural light and cross ventilation;
    - Reduce the reliance on mechanical heating and cooling through the use of eaves, awnings, good insulation and landscaping;
    - Include energy efficient light fittings and water fittings;
    - Allow for separate metering of water and energy usage for commercial and multi-unit tenancies.



34. Green Wall at 1 Bligh Street, Sydney
Source: City of Sydney

Green roofs *can help to decrease heat absorption, reduce the ambient temperatures of buildings, and improve air quality and building efficiency. They can also provide a habitat for urban ecology and have amenity and recreational benefits for a building's occupants.*

Green walls *are plant systems that are grown on the vertical façade of a building and are often a striking and attractive design feature. Benefits include reducing the radiation of absorbed heat from buildings, they provide insulation from noise and heat, and make public spaces more appealing for the community to use and enjoy.*



35. Greened Balconies to residential apartments
Source: Stefano Boeri Architects

36. Greenroof in cityscape
Source: Susanne Jesperson

4.7 Ecology

Objectives

a. To protect and enhance areas of significant native vegetation.

b. To protect and enhance wildlife habitat.

c. To protect and enhance the integrity and environmental functionality of riparian corridors.

Controls

1. Wherever practical, development within the Precinct should be sited to minimise impacts on the existing vegetation and avoid removal of significant trees.
2. Provide green roofs and walls wherever practical to mitigate the loss of green canopy and vegetation as a result of development.

37. Green roofs on higher density development

Source: Google Maps

4.8 Heritage (Garthowen House)

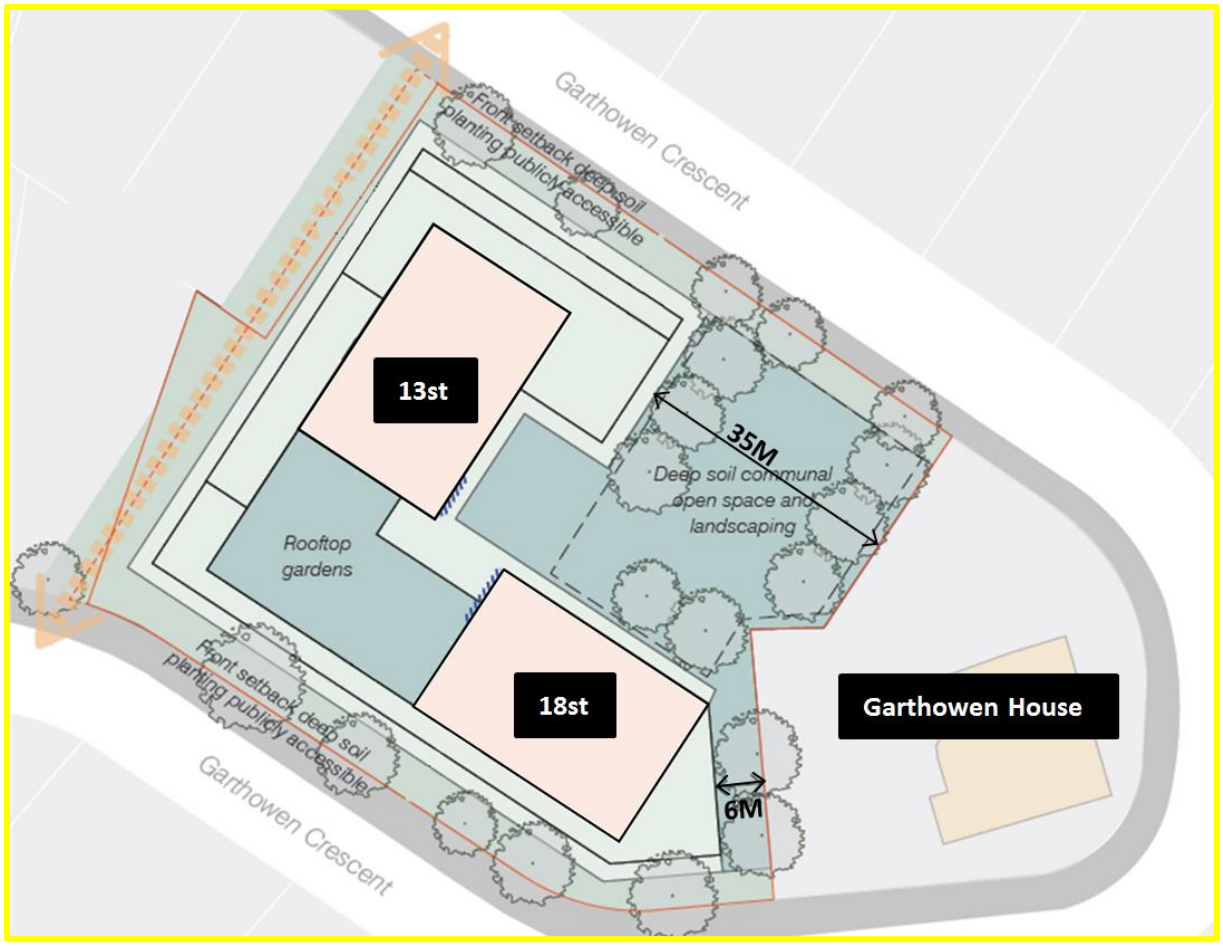
Objectives

a. To ensure that development within the vicinity of Garthowen House does not impact on the heritage significance of the heritage item.

Controls

1. Development in the vicinity of Garthowen House shall have regard to Part C Section 4 – Heritage of this DCP.
2. The curtilage of the heritage item, being the existing allotment boundary of 14 Garthowen Crescent (Lot 2 DP 533390), shall be maintained and protected.
3. Development on sites within the vicinity of Garthowen House shall be designed to ensure that building elements, which interface the western boundary of the heritage site, have a maximum height of (4) four storeys or no more than 13.5m in height whichever is the lessor (exclusive of building services).
4. Development on sites adjoining the heritage item should consider locating landscaped areas and common open space areas between future building elements and the heritage site to assist in providing greater separation between the heritage cottage and future development.
5. Development to the west of the heritage item shall incorporate a transition of height and density, with the lower scale elements located closest to the heritage site.
6. Development within the vicinity of the heritage site shall ensure that significant view lines to and from the heritage item are appropriately maintained.
7. Development within the vicinity of the heritage site shall ensure that significant view lines to and from the heritage item are appropriately maintained.
8. No additional overshadowing of the gardens of the property that serve as private open space is to occur between the dates of April 21 and August 21.
9. Development on land at 6-12, 12B and 16-20 Garthowen Crescent, adjoining the heritage item shall ensure a sensitive visual response and relationship to Garthowen House, as demonstrated in Figure XX – Indicative Layout Plan below. The development shall incorporate the following:

a. A deep soil communal open space of at least 1,900m^2 directly adjacent to the west of the heritage item;
b. A minimum setback of 6 metres to the boundary with 14 Garthowen Crescent for land fronting the southern side of Garthowen Crescent; and
c. A minimum setback of 35 metre to the boundary with 14 Garthowen Crescent for land fronting the northern side of Garthowen Crescent.



XX. Indicative Layout Plan for development adjoining the heritage item at 6-12, 12B and 16-20 Garthowen Crescent
Source: THSC

5 Built Form

5.1 Residential flat buildings and shop top housing

5.2 Site requirements

The Hills LEP 2012, clause 4.1A (Minimum lot sizes for dual occupancy, multi dwelling housing and residential flat buildings) specifies the minimum lot size for residential flat buildings in the R1 General Residential, R3 Medium Density Residential, R4 High Density Residential and B2 Local Centre zones.

Objectives

a. To encourage the amalgamation of sites and discourage the creation of isolated development sites.

b. Developments provide high quality space for recreation and for use by residents of developments.

c. Development sites have sufficient area to provide adequate access, parking, landscaping and building separation.

Controls

1. Development sites shall have a minimum road frontage of 30m.
2. Development sites shall have a minimum site depth of 40m.
3. Residential flat buildings and shop top housing are to have a frontage (address) to the street and are not to be located on battle-axe allotments or rely of a right of access arrangements for access to a public road.

5.3 Building Design

Objectives

a. To ensure the street frontage heights and setbacks reinforce the future precinct character and residential identity.

b. Develop a cohesive architectural expression based on a consistent high quality built form, facade design and external materials and finishes.

Controls

1. Development shall incorporate high quality architectural materials and urban design that contributes and reflects a modern suburban character and preferably light in colour. The palette of the selected materials are to be a combination of natural building products such as stone or tile cladding, facebrick, render and painted concrete block work, and terracotta or painted compressed fibre cement (CFC) facade feature walls.

5.4 Built form controls

Objectives

a. To ensure the street frontage heights and setbacks reinforce the future precinct character and residential identity.

b. Building heights and articulation to provide a sensitive transition to the surrounding areas.

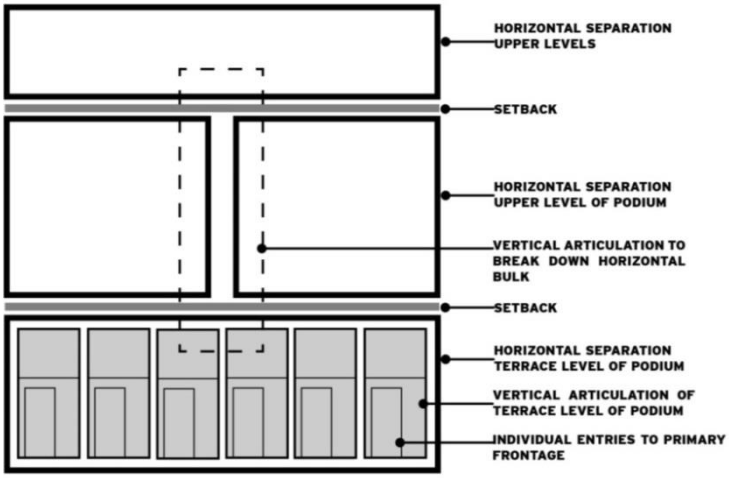
c. To ensure the bulk and massing of the precinct provides a high quality pedestrian street experience.

d. To create an active interface between ground floor uses and the street.

e. To ensure buildings are able to adapt to differing uses.

Controls

1. The proposed development must not exceed the maximum height in stories shown on the Structure Plan refer to figure 6. The maximum height in storeys may only be achieved when it is demonstrated that:
   a. the built form achieves the desired street character;
   b. Is sympathetic to the heritage context, contributes positively to the precinct setting; and
   c. Does not provide additional overshadowing to public open space between the hours of 11am-2pm between the dates of 21 April to 21 August. This includes public open spaces outside and adjacent to the precinct.
2. A horizontal architectural hierarchy is to clearly define the ground floor street zone, upper podium and tower elements.
3. The podium element of any development is to be broken up horizontally to provide a combined ground floor and level 1 street zone articulation equal in height or to align with a two story terrace configuration.

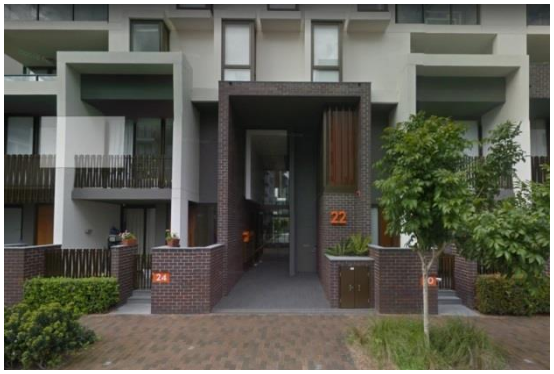


38. Street façade articulation

Source: THSC

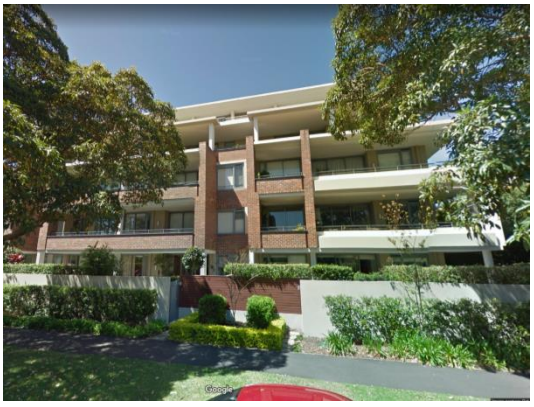
4. On streets with a road reserve of less than 20m the width of the façade shall not exceed 40m. On streets with a road reservation of 20m or greater the street frontage shall not exceed 65m .
5. Developments greater than 40m in length are to be designed so as to express the appearance of two distinct building elements with individual architectural expression.
6. Adjacent buildings are to comply with the provisions of SEPP65 ADG building separation. For developments of 3 stories or less the minimum building separation is 4m. This is to be provided as a pedestrianised public right of way.
7. Pedestrian links should be connected to the existing and proposed pedestrian network.

39. Pedestrian right of way
Source: THSC



40. Clearly identifiable entries
Source: THSC

8. The entry to the development is to be visually identifiable from the street frontage with clear sight lines. Separate entrances are required for commercial / retail and residential uses.
9. All ground floor lobbies are to have a direct visual connection to the street.
10. Balconies to upper levels are to provide a minimum 50% opaque / solid balustrading to provide for residential amenity.
11. Services such as for fire protection, water and power distribution are not to intrude upon the pedestrian right of way, visually detract from the appearance of the development, and are to be screened from the street frontage with materials which are integrated with architectural expression of the development.
12. Car parking areas at lower levels must be sleeved by other uses with a minimum depth of 10m to activate the street. Car parking at the ground floor level is not encouraged in a mixed use building.
13. Underground car parking is not to intrude into the setback zone of 5m from the street boundary or be aligned with the building line



41. Services visually concealed from street view, Lindfield.
Source: Google Maps

42. Two storey terrace appearance to street level portion of podium.
Source: THSC

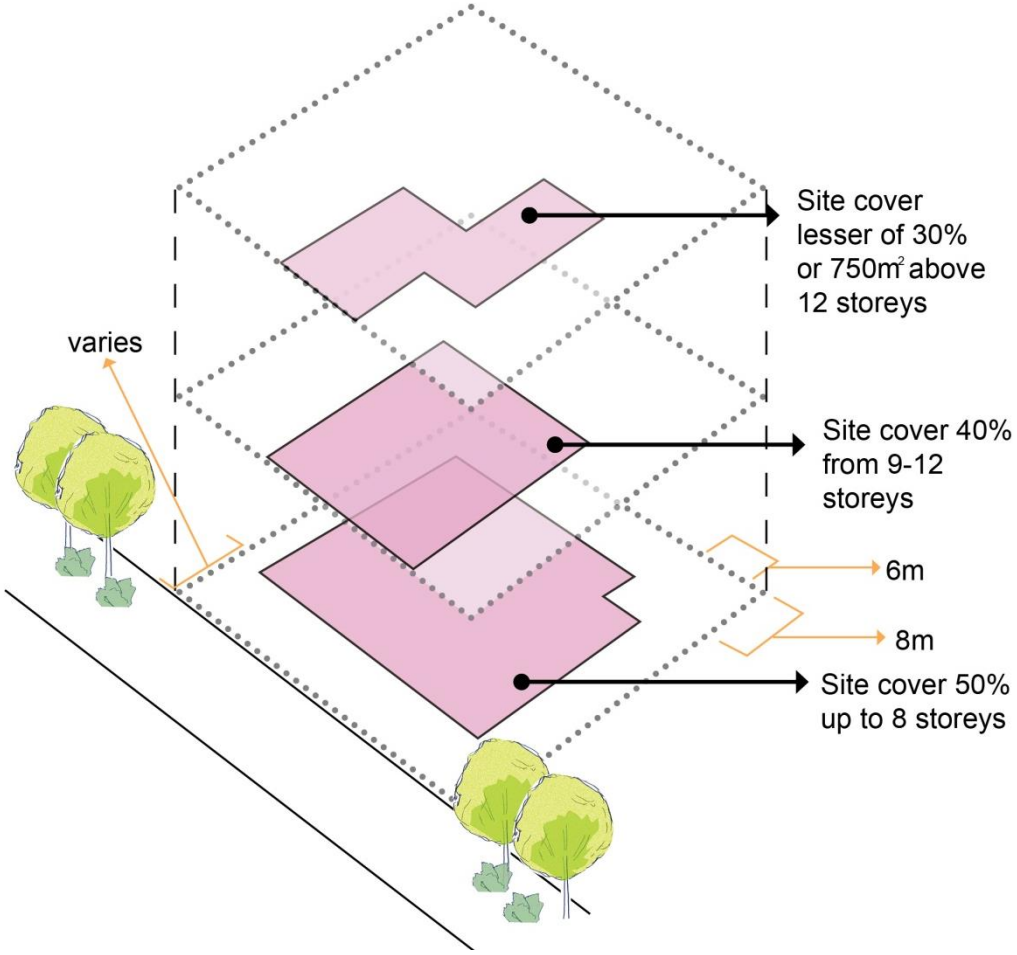
5.5 Building height and form

Objectives

a. To provide for a range of building heights and forms across the Precinct and within each street block to create variety and encourage different architectural styles.
b. To reinforce key landmark sites and defining entries / gateways through the location of taller buildings.
c. To allow reasonable daylight access to all developments and the public domain.
d. To ensure buildings are sufficiently articulated to reduce the appearance of building bulk and scale and provide for visual interest.
e. To ensure that high density residential development promotes a slender built form.
f. Buildings are articulated to reduce the appearance of building bulk and scale and provide for visual interest and innovative design.
g. Buildings allow reasonable daylight access and privacy to all developments and the public domain.
h. Development includes buildings of a mix of sizes, heights and architectural expressions.

Controls

1. Buildings are to have a maximum depth of 18m measured from glass line to glass line.
2. Street corners must be addressed by giving visual prominence to parts of the building façade, such as a change in building articulation, material or colour, roof expression or height.
3. Each street façade is to be articulated into smaller elements at a scale or grain that reflects the use of the building and its various components, the location of the building relative to pedestrian or outdoor recreation activity, and elements such as building entries.
4. Site cover shall not exceed a cumulative total of:
    - 50% of the site area (excluding land to be dedicated or acquired for a public purpose) up to 8 storeys;
    - 40% of the site area (excluding and land to be dedicated or acquired for a public purpose) from 9 to 12 storeys; and
    - 30% of the site area (excluding and land to be dedicated or acquired for a public purpose) or 750m^2 per building, whichever is the lesser, above 12 storeys.



43. Example High density residential including site cover outcomes

5.6 Floor to floor heights and floor to ceiling heights

Objectives

f. To provide for future flexibility in use.

g. To provide for improved solar access to ground floor of developments.

Controls

1. Buildings are to have the following minimum floor to floor heights;

Use	Storey Height (floor to floor)	Minimum floor to ceiling height
Ground floor commercial or retail *	4.2m minimum	3.6m
Ground floor residential	3.6m minimum	3.3m
Residential floors above first floor	3.1m minimum	2.7m
Commercial floors	3.6m minimum	3.3m
Allowance for green roofs	0.5 - 1m	
Structure such as transfer beams	250mm	3.3m – subject to location of transfer
Plant equipment, lift over-runs and stairs.	No more than 4.5m **	

*Greater heights may be required for showrooms and facilities such as gyms, swimming pools and common areas.

** Subject to number of storeys greater allowance (6m) for buildings greater than 12 storeys.

Building setbacks

Objectives

a. To provide strong definition to the public domain and create a consistent streetscape.

b. To set taller building elements back from the street to reduce building scale and bulk and enable adequate sunlight access to the public domain

c. To provide articulation zones to complement building mass and emphasise key design elements such as entrance points and respond to environmental conditions including solar access, noise, privacy and views.

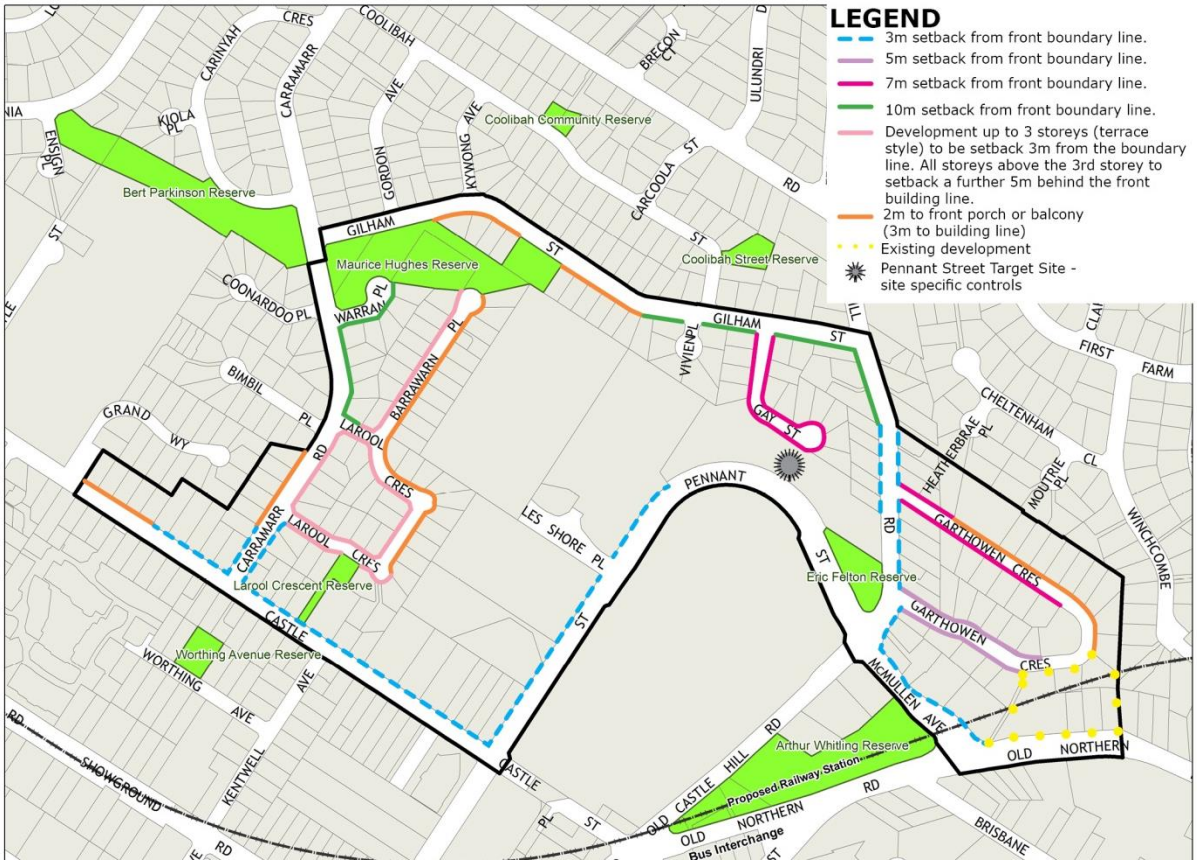
d. To ensure adequate separation between buildings on different sites to alleviate amenity impacts, including privacy, daylight access, acoustic control and natural ventilation.

e. To create a landscaped streetscape that can accommodate high canopy trees.

Controls

1. Variations to the front setback requirement will be considered where land is dedicated, at no cost to Council, for the purpose of road widening.
2. Front Setbacks are to be provided in accordance with the 'Street Setbacks Map' identified within Figure 28. If not identified on this Figure, setbacks shall be provided in accordance with the following table.

Setbacks – Residential Flat Buildings and Shop Top Housing	
Front Setback from boundary	• 7.5m
Primary Frontage Setback	• For all buildings, on a street reservation greater than 20m in width (Old Castle hill Road and Castle Street), all storeys above the 6th storey shall be setback 3m behind the front building line. • For all buildings on a street reservation less than 20m in width, all storeys above the 4th storey shall be setback 6m behind the front building line. • Underground car parking is not to intrude into the primary frontage setback.
Secondary Frontage Setback	• For all buildings on a street reservation greater than 20m in width, all storeys above the 8th storey shall be setback 9m behind the front building line.
Rear Setback	• 8m or to comply with SEPP 65 whichever is the greater
Side Setback	• 6m or to comply with SEPP 65 whichever is the greater • Zero lot on designated active streets in which the intended street character is to provide a street wall.
Balconies	• Balconies shall not protrude into the setback area.



44. Street Setback Map

5.7 Streetscape and the Public Domain Interface

Objectives

a. Development contributes to the activity, safety, amenity and quality of streets and the public domain.

b. Development addresses the street and creates a human scale for pedestrians.

Controls

3. Buildings shall address any shared open space and adjacent public areas to increase the natural surveillance of these areas and contribute to their safety and security.
4. Residential developments are to address the primary street frontage. Where a development comprises a number of buildings with a variety of orientations, a major part of the overall development is to face the street.
5. Building design shall avoid creating opportunities for personal concealment.
6. The siting and design of dwellings should take advantage of any views to open space, public reserves and bushland to promote natural surveillance and to enhance the visual amenity of residents.
7. Blank courtyard walls along boundaries shared with open space or reserves should be avoided and opportunities to create and orient dwellings to permit direct views from living areas into the open space/reserve should be pursued in design. Any blank wall or portion of blank wall is to be treated with an anti-graffiti paint application and / or vegetation treatment.
8. Lighting is to be provided for safety at night for all public and semi-public entry ways.

5.8 Residential Uses on Ground and First Floors

Objectives

a. To activate the street.
b. To provide for residential identity and legibility.
c. Encourage the provision of housing for a diversity of dwelling types and users.
d. To introduce a fine grain built form and architectural diversity within a street block and / or building development.
E. To provide for future flexibility in use.

Controls

1. Higher density development with residential ground and lower floor uses is to adopt a two story terrace house appearance to present a fine grain articulation to the street frontage.
2. Ground floor apartments are to have a minimum floor to floor height of 3.6m to allow for greater solar access and flexibility in future use.
3. Residential ground floor units are to have individual gates and entrances accessed directly from the street.
4. Ground floor residential apartments are to be elevated from the street level by a minimum of 300mm and a maximum of 600m.
5. Ground floor residential fences are to be no more than 1.2m in height with a minimum 50% transparency. Contemporary palisade fence designs in a dark recessive colour are encouraged.
6. Soft landscaping to the front of the terrace is to be a minimum of 40% of the setback area, contiguous, and a minimum of 2m in any direction.
7. Small trees suitable for the landscaped area provided are encouraged.
8. Underground car parking is not to intrude into the primary setback by more than 500mm.

45. Terrace style housing with access to street.
Source : THSC

46. Entry detail
Source: THSC

5.9 Podium Design

Objectives

a. Development contributes to the activity, safety, amenity and quality of streets and the public domain.
b. Development addresses the street and creates a human scale for pedestrians.
c. Podium facades reinforce the intended neighbourhood character and enhance the pedestrian experience.
d. Podium form animates the street level by engaging primary and secondary street frontages appropriately.

Controls

1. Podium shall be used to frame adjacent park land and on-site open space.
2. Tower base facades shall avoid blank, featureless walls by patterning high quality architectural elements, like window bays, canopies and fenestration.
3. Refer to 5.4 Built Form Controls for precinct specific controls.

47. Podium addressing public open space , Pyrmont
Source: THSC

48. Podium interface with street, Rhodes
Source: THSC

5.10 Tower Form and Design

Objectives

a. Towers minimise the bulk and scale of the proposed development and reflect a slender built form.

b. Slender tower built forms are to be provided which promote:
   - open, attractive and distinct skyline;
   - small, fast moving shadows;
   - view corridors between nearby towers;
   - efficient interior climate control; and
   - balconies as an extension of indoor living space.

c. Tower form mitigates negative visual and physical impacts, including impacts on privacy, by setting back from streets, parks, open space and adjacent properties and tower forms.

Controls

1. Tower floor plate is limited to 750m^2 per tower (includes all services, lift and stairwells, etc.). Note: Balconies are excluded from calculations to encourage larger private outdoor space areas.
2. Tower form provides a unique profile when compared to nearby existing and proposed towers of similar height.
3. New towers are separated a minimum distance of 25m from any adjacent tower(s) where existing or approved.
4. Tower form is coordinated to off-set with adjacent towers to ensure:
   - prominent tower views to natural features are not obstructed; and
   - views of the sky and access to sunlight from the public realm and private open space areas are maximised.
5. Tower form is orientated to:
   - reduce the perceived mass of the building; and
   - provide privacy for both communal and private open space areas.
6. Tower façades are:
   - articulated to manage passive solar gain in summer;
   - well-glazed with functional windows where possible to reduce reliance on artificial cooling;
   - designed with high-quality sustainable materials and finishes that promote building longevity; and
   - varied in design and articulation to promote visual interest.

5.11 Roof design and roof features (tower caps)

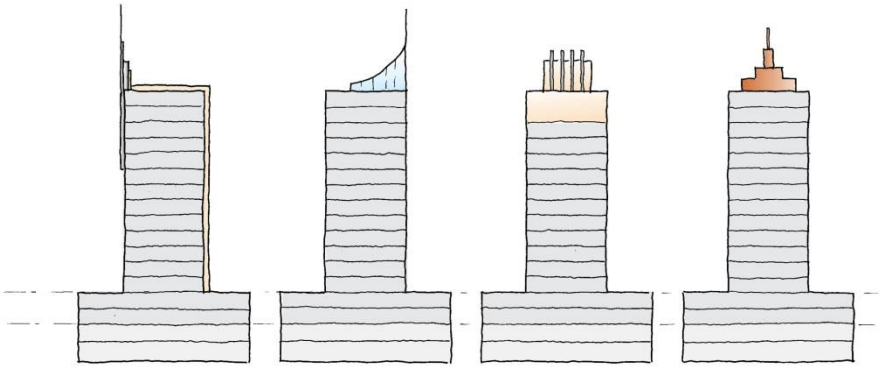
Objectives

a. Roof design and roof features shall attractively integrate telecommunications, service structures, lift motor rooms and mechanical plants.

Controls

1. Where building height creates an identifiable protrusion in the skyline, the following shall be provided:
   - a signature cap or roof feature which strengthens the identity of the building as a landmark; and
   - decorative lighting that highlights key architectural features.

2. Tower cap design shall integrate all signage, telecommunications, service structures, lift motor rooms and mechanical plants.
3. Roof features shall be designed to generate an interesting skyline and enhance views from adjoining developments and surrounding areas.
4. Lift over-runs and all other service equipment shall be incorporated into the roof design and be obscured from general view.



49. Variety of tower caps

5.12 Adaptable housing

Objectives

a. To ensure a sufficient proportion of dwellings include accessible layouts and features to accommodate changing requirements of residents.
b. To encourage flexibility in design to allow people to adapt their home as their needs change due to age or disability.

Controls

1. Residential flat buildings are to meet the requirements for adaptable housing within Part B Section 5 Residential Flat Buildings of The Hills DCP 2012.
2. All types of residential accommodation are to consider flexibility in the design to allow adaption to meet the changing needs of residents due to ageing or disability.

5.13 Open space and landscaping

Objectives

a. To provide communal open space for the enjoyment by residents.
b. To maximise opportunities for landscaping, including the retention and/or planting of trees within deep soil areas to ensure a high level of amenity.
c. To assist with the management of water quality.

Controls

1. Development provides sufficient space for landscaping that will complement the building form and enhance the landscape character of the street.
2. Communal space areas:
   - are accessible, useable and safe;

- enhance the attractiveness of the development;
- provide opportunities for social interaction; and
- create shaded outdoor areas.
- Be of high quality design and allow for a range of active and passive uses.

Landscaping

1. 50% of site area - exclusive of building footprint/s, access driveways and parking. Terraces and patios within 1m of natural ground level shall be included in the calculation of landscaped open space.
2. Landscaped areas are to have a minimum width of 2m. Areas less than 2m in width will be excluded from the calculation of landscaped area.
3. Native ground covers and grasses are to be used in garden beds and path surrounds (turf is to be confined to useable outdoor areas).

Roof Gardens and Planting on Structures

1. Green walls are encouraged on podium walls along active frontages to soften the interface between future development and the public realm.
2. Rooftop gardens must be adequately enclosed and accessible to occupants of the development.
3. The design of exterior private open spaces such as roof top gardens is to address visual and acoustic privacy, safety, security, and wind effects.
4. Where roof gardens and green walls are provided, consideration should be given to the Urban Green Cover in NSW – Technical Guidelines, published by the Office of Environment and Heritage.
5. For planting guidance refer to ,

   http://www.growinggreenguide.org/technical-guide/design-and-planning/plant-selection/green-roofs/

50. New Acton Roof Top
Source : unknown

Communal Open Space

1. A minimum of 20m^2 per dwelling shall be provided as common open space.
2. A minimum of 25% of the site area is be allocated for communal open space. The remaining communal open space requirement may be provided internally or on a rooftop.

3. Common open space areas at ground level are to be centrally located with high quality landscape treatments.
4. External (outside) common open space areas are to be capable of accommodating substantial vegetation and are to be designed to incorporate active and passive recreation facilities (such as seating, shade structures, BBQs and children's play equipment).
5. External (outside) common open space areas are to be located and designed to:
   - be seen from the street between buildings.
   - provide for active and passive recreation needs of all residents.
   - provide landscaping.
   - present as a private area for use by residents only.
   - include passive surveillance from adjacent internal living areas and/or pathways.
   - have a northerly aspect where possible.
   - be in addition to any public thoroughfares.
6. Plant species appropriate to the context and the specific microclimate within the development are to be selected to maximise use of endemic and native species and opportunities for urban biodiversity.
7. Drought tolerant plant species, and species that enhance habitat and ecology, are to be prioritised.
8. Landscape design is to be integrated with water and stormwater management.

5.14 Safety and Security

Objectives

a. Building design enhances safety and security for intended users.

Controls

1. Above ground floor windows and balconies overlook all on-site pedestrian paths and communal open spaces.
2. Lighting at 4m intervals is provided along all on-site pedestrian paths and communal open spaces.
3. Entrances and exits to the street are directly accessible, illuminated and highly visible.
4. Dead-end corridors, alleyways, pathways and refuse areas are signed and secured to prevent unauthorised access.
5. Development is to address the principles of Crime Prevention Through Environmental Design (CPTED).

Note: Consideration shall also be given to The Hills Council's Policy Designing Safer Communities, Safer by Design Guidelines (June 2002).

5.15 Noise

Objectives

a. To ensure the amenity of future residents and workers by appropriately responding to noise impacts.

Controls

1. Site planning, building orientation and interior layout is to lessen noise intrusion as far as possible.
2. The provisions of State Environmental Planning Policy (Infrastructure) 2007 and Development near Rail Corridors and Busy Roads Interim Guideline must be taken into consideration to minimise impacts of busy roads and railway corridors on residential and other sensitive development.

5.16 Wind

Objectives

a. To allow for cooling summer breezes to move through the precinct.

b. To ensure the built form does not provide adverse wind conditions which will impact upon the amenity of pedestrian comfort in streets and public open spaces.

c. The built form does not adversely impact upon the amenity of residents in common open spaces.

Controls

1. Built form is to demonstrate that the passage of cooling summer breezes will not be impacted.

2. Buildings of 8 or more storeys in height (or over 25 m) whichever is the lessor require wind tunnel testing, irrespective of whether they are built to the street frontage or not, which demonstrates the following:

a. In open areas to which people have access, the annual maximum gust speed should not exceed 23 metres per second, which is the speed at which people begin to be blown over;

b. In walkways, pedestrian transit areas, streets where pedestrians do not generally stop, sit, stand, window shop and the like, annual maximum gust speed should not exceed 16 metres per second;

c. In areas where pedestrians are involved in stationary short-exposure activities such as window shopping, standing or sitting (including areas such as bus stops, public open space and private open space), the annual maximum gust speed should not exceed 13 metres per second;

d. In areas for stationary long-exposure activity, such as outdoor dining, the annual maximum gust speed should not exceed 10 metres per second.

e. The report is to be prepared by a suitably qualified engineer.

5.17 Vehicular and Pedestrian Access

Objectives

a. Vehicles and pedestrians enter and exit developments in a safe and efficient manner.

b. Visual impacts of access and parking facilities on the public realm are minimised.

c. Pedestrian and cycle access to, from and through development is simple, safe and direct.

Controls

Vehicular Access

1. Car Parking shall be provided at the rates identified within Part 6 of this Section of the DCP.
2. Adequate vehicular entry and exit and circulation areas are to be provided. The design must:
   - Provide a safe environment for both pedestrians and vehicles using the site and surrounding road networks;
   - Ensure vehicular ingress and egress to the site is in a forward direction at wall times;
   - Provide for service vehicles where possible; and
   - Be designed to minimise the visual impact of hard paved areas.
3. The driveway shall be centrally located within the development and be a minimum of 10 metres from any side boundary or street.
4. Driveways are to have a minimum width of 6 metres for a distance of 6 metres within the development to ensure easy entry/exit of vehicles.
5. Parking shall be provided underground or at the rear of buildings.

Pedestrian Access

1. Developments in excess of 10 units are to provide pedestrian access from the street separate from the vehicular access.
2. A pedestrian link through the site must be provided as part of the development to increase the connectivity of the area for local pedestrians. The following factors should be considered when identifying the most appropriate location for the link of the pathway:
    - The link must be no less than 3m wide;
    - It should be a straight-line link through the site linking streets or other public spaces; and
    - The link shall not include stairs.
3. The design and layout of any building adjoining and landscaped spaces adjoining the pathway shall ensure there is natural surveillance of the pathway to protect the amenity of users. Solid fences will not be permitted along the boundary of the pathway as they will restrict passive surveillance over the pathway.
4. The pedestrian link, including links identified on the 'Indicative Street Network Hierarchy' figure, must be either dedicated to Council at no cost or be subject to a right of legal public access.

Garages

1. Where possible, any ground level car parking, garages and/or basement garage doorways should be screened from public areas by planting.

5.18 Terrace housing (attached housing)

Site requirements and layout

Objectives

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

b. Development sites have sufficient area to provide adequate access, parking and landscaping.

c. To minimise impact on the amenity of neighbouring sites.

d. To allow a range of allotment types to suit most household types and allow for diversity.

e. To provide a distinct urban character sympathetic to existing and new development.

Controls

1. Sites shall have minimum site depth of 30m.
2. Terrace housing (as single lot or as a townhouse type development) shall be provided on land zoned R3 Medium Density Residential.
3. Rear laneways are to be a minimum of 6m in width (AS 2890.1: 2004). Allow for 1.5m planting zones at end of sightlines in entry ways.
4. All dwellings with a frontage to the street (including a secondary street) must address the street.

Building height

Objectives

a. Terraces integrate with the character of surrounding development and are of a high architectural quality.

b. Designs reduce the visual bulk of buildings from the street.

c. The scale of terrace development reinforces the desired future neighbourhood character.

Controls

1. Terrace houses are to be a minimum of 2 storeys and a maximum of 3 storeys inclusive of attic rooms.

Building setbacks

Objectives

a. Developments contribute to an attractive and diverse neighbourhood that is characterised by high quality landscaping and innovative building design.

b. To provide strong definition to the public domain and create a consistent streetscape.

c. To alleviate impacts on amenity including privacy, solar access, acoustic control and natural ventilation within the development and adjoining neighbours.

Controls

1. Setbacks shall be provided in accordance with the following table.

Front setbacks	• 3m (to front building line for the first and second storeys) • 4m (to front building line for the third storey)
Front articulation zone	• Minor façade elements such as balconies, porches or verandahs may be 1m forward of front building line. On corner blocks the articulation zone may be extended along the secondary frontage for a max of 3m or 25% of façade length with a min. of 1m setback from boundary.
Side setbacks	• 0m between terraces • 3m from side property boundary (end terraces)
Rear Setback • 1-2 storey element • 3 storey element • Garages of rear lanes	 • 8m • 10m • 0.5m

Building design and streetscape

Objectives

a. To incorporate high quality façade design and finishes.

b. Designs reduce the visual bulk of buildings from the street to reinforce the desired future neighbourhood character.

c. Developments provide usable private open space areas to improve the amenity for future residents.

Controls

1. Each dwelling is to include individual access from the main street frontage.
2. Building entry must be integrated with building façade design. At street level, entry is to be articulated with awnings, porticos, recesses or projecting bays for clear identification. The entry path to the building is to be accessible and visible from the street.
3. The minimum internal floor area for each dwelling, excluding common passageways, car parking spaces and balconies shall be as follows:

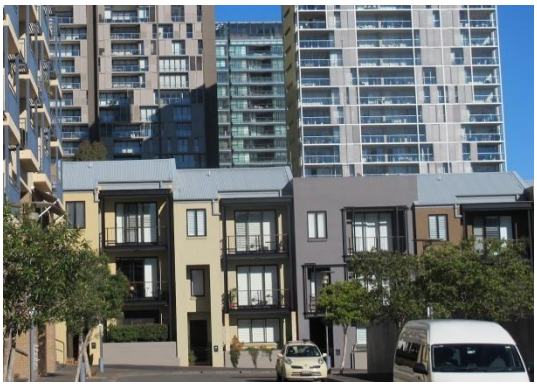
Dwelling Type	Minimum Floor Area
1 bedroom dwelling	75m^2
2 bedroom dwelling	110m^2
3 bedroom dwelling	135m^2

4. For strata developments, a minimum of 10m^3 storage space is to be provided for each dwelling in either a lockable garage or a basement. Storage areas shall have a minimum base of 5m^2 and minimum width of 2m.
5. The minimum width of each dwelling is 6m.
6. The maximum building length is 50m (block of attached terraces).
7. Waste collection is to be undertaken from the rear laneway, or as per residential flat building if strata development subject to council discussion.
8. Bin storage areas must be located so that bins can be easily wheeled to the rear laneway for collection.
9. Hedge and shrub planting or open style fencing shall be provided along the street frontage. Where proposed, the height of front fences should not exceed:
    - 0.9m for solid masonry fences; and
    - 1.2m for open or transparent style fences.
    - Chain-link, sheet metal or timber paling fencing is not permitted to front or secondary frontages.
10. Side and rear fences are to be a maximum of 1.8m in height.
11. Front fencing and courtyard walls are permitted on the boundary line. Courtyard walls are only permitted on secondary frontage to corner lots.
12. Minimise direct overlooking of main internal living areas and private open space of dwellings both within and adjoining the development through building design, window locations and sizes, landscaping and other screening devices.
13. Rear laneways to provide for low maintenance soft landscaping treatments to reduce impact of hardscaped surfaces and wall treatments.

51. Terrace style housing, Kingston
Source: THSC

52. Terrace style townhouses, Botany
Source: Google Streetview

53. Modern Terrace design, Alexandria
Source: www.realestate.com



54. Terraces, Pyrmont
Source: THSC

Open space and landscaping

Objectives

a. To cater for the recreational needs of building occupants.

b. To improve amenity and soften the impact of buildings through the provision of landscaping, including the retention and/or planting of trees within deep soil zones.

c. A high level of amenity for residents is achieved through the provision of sufficient solar access, natural ventilation, privacy and open space.

Controls

1. Minimum 36m^2 for each dwelling (6m x 6m). Must be located at ground level at the rear of the dwelling, directly accessible from the main living area.

2. 50% of the private open space area shall comprise deep soil planting and be located such that a canopy tree can be planted.

3. 40% of front setback area shall comprise soft landscaping.

4. Landscaped areas are to have a minimum width of 2m within front setback.
5. Roof terraces and roof gardens are encouraged where the privacy of adjoining properties can be maintained.
6. The siting of dwellings is to provide good solar access to private open space and is not to adversely impact upon the solar access of adjacent dwellings POS.
7. At least 50% of the required private open space for each dwelling is to receive direct sunlight for a minimum of 3 hours between 9am and 3pm on 21 June.
8. A collapsible or permanent clothes drying device is to be provided within private open space areas and located to maximise the amount of direct sunlight received.

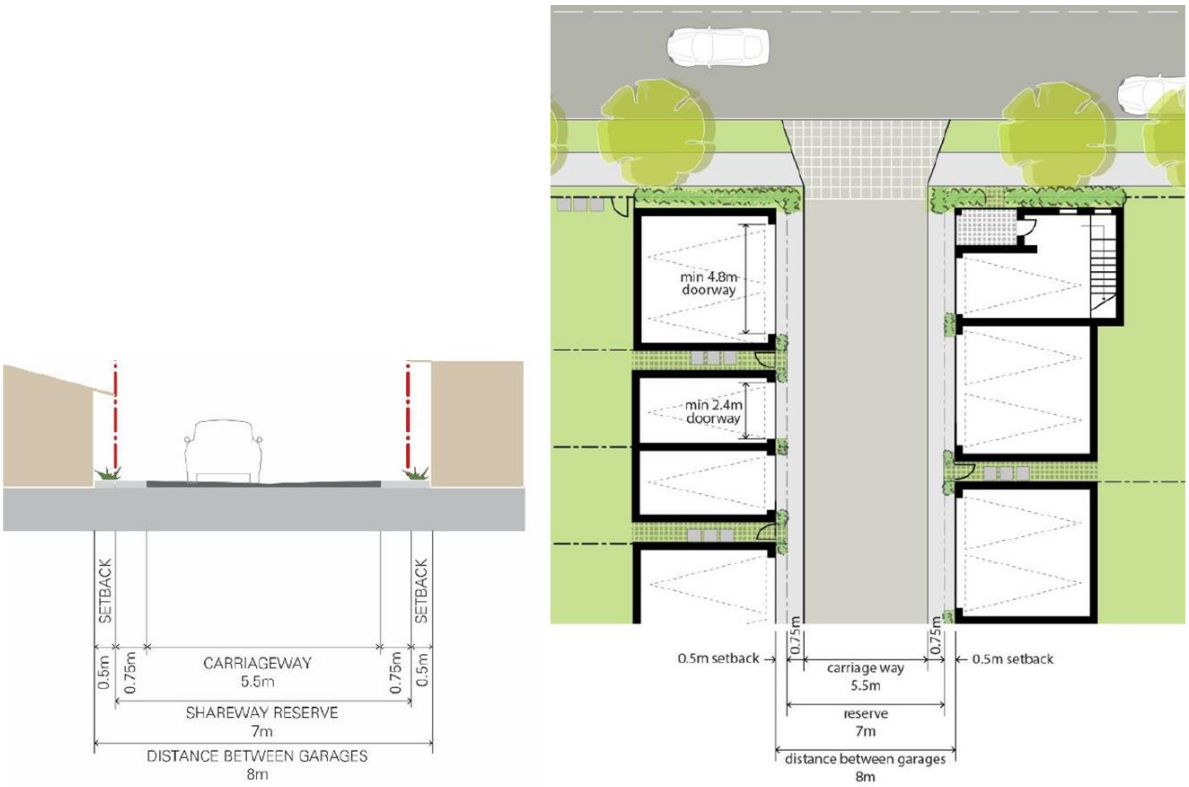
Rear laneways

Objectives

a. To facilitate orderly development within the R3 Medium Density zone through the provision of rear laneways.
b. To provide vehicular access to the rear or side of lots to reduce garage dominance in residential streets.
c. To reduce vehicular conflict through reduced driveway cross overs and focusing of traffic to known points.
d. To enable garbage collection along rear laneways.
e. To facilitate the use of attached and narrow lot housing to achieve an attractive streetscape.

Controls

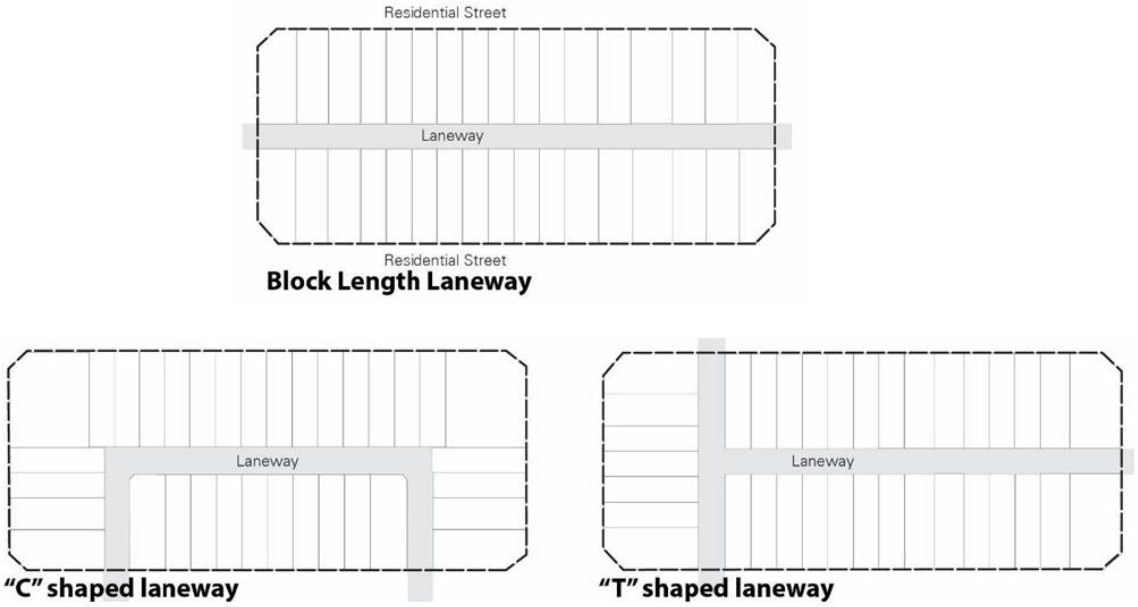
1. The design and construction of laneways is to be consistent with Figure 53.



Source: North Kellyville DCP

55. Rear Laneway Principles

2. The laneway is a public “shareway” as the paved surface is for cyclists, pedestrians and cars etc, with a 10 km speed limit and driveway-style crossovers to the street rather than a road junction.
3. On-street car parking within the rear laneway carriageway shall not be permitted.
4. The minimum garage doorway widths for manoeuvrability in this laneway section are 2.4m (single) and 4.8m (double).
5. Rear laneway design shall have regard to the following lot layouts. Entry way sightlines are to end with a landscaped treatment or the continuation of the laneway.



Source: North Kellyville DCP

56. Sample Lane Sections

6. Laneways that create a ‘fronts to backs’ layout (front addressed principle dwellings on one side and rear accessed garages on the other side) are to be avoided.
7. All lots adjoining a laneway should utilise the laneway for vehicular/garage access.
8. Terraces shall be designed so as to facilitate passive surveillance along the rear laneway through the positioning of windows and balconies facing the laneway.

6 Car and bicycle parking

6.1 Car parking

Objectives

a. To minimise adverse traffic impacts.

b. To provide sufficient parking spaces for development while encouraging public transport use.

c. To ensure that car parking is appropriately located.

Controls- General

1. Car parking spaces are to be provided at the rates specified in the Car Parking Rates table below. For any use not specified, the car parking rates in The Hills DCP 2012 (Part C Section 1 – Parking) shall apply.

Table 1 Car parking rates – all land uses

Land Use	Rate
Dwellings – detached, attached and semi-detached	1 space per dwelling (minimum)
Multi dwelling housing	To comply with the rates in Part C Section 1 – Parking.
Residential flat buildings, and dwellings in shop top housing	1 resident space per unit and 1 visitor space per 5 units.
All other uses	To comply with the rates in Part C Section 1 – Parking.

Controls- Residential Flat Buildings and Shop Top Housing

2. For residential flat buildings and shop top housing, the following is required:
   - Parking is to be underground and generally within the footprint of the building above.
   - Where above ground parking cannot be avoided due to site conditions, it must be well integrated into the overall façade design and create a good relationship to the public domain.
3. Garages and parking structures are not to project forward of the building line and are to be screened from the public domain by active uses.
4. Any parking located within the front setback area must be suitably landscaped to add positively to the streetscape.
5. Car share spaces are encouraged within residential flat buildings and shop top housing developments. Car share spaces are to be for the exclusive use of car share scheme vehicles, and included in the number of car parking spaces permitted on a site. The car share parking spaces are to be:
   – exclusive of visitor car parking;
   – retained as common property by the Owners Corporation of the site, and not sold or leased to an individual owner/occupier at any time;
   – made available for use by operators of car share schemes without a fee or charge;
   – grouped together in the most convenient locations relative to car parking entrances and pedestrian lifts or access points;
   – located in well-lit places that allow for casual surveillance;
   – signposted for use only by car share vehicles; and
   – made known to building occupants and car share members through appropriate signage which indicates the availability of the scheme and promotes its use as an alternative mode of transport.

Development Applications are to demonstrate how the car share parking space(s) is to be accessed, including where access is through a security gate. A covenant is to be registered with the strata plan advising of any car share parking space. The covenant is to include provisions that the car share parking space(s) cannot be revoked or modified without prior approval of Council.

Controls- Terrace Housing

1. All terrace housing shall be accessed via a rear laneway where the rear laneway is also accessed by a second and opposite row of terrace housing.
2.
3. Garages are to face the rear lane.
4. Where basement car parking is provided, the parking area is to be accessed by a single front driveway. The car park entry is to be integrated with the building design.
5. Basement car parking is to be consolidated under building footprints to maximise opportunities for deep-soil planting on the site.
6. Basement car parking must not protrude more than 0.5m above the natural ground level.
7. Where basement car parking is provided, waste collection shall occur within the basement car park.

6.2 Bicycle parking

Objectives

a. To ensure that bicycle parking is considered in all development and provided appropriately in developments.

b. To ensure that end of trip facilities are provided in new buildings featuring employment uses.

Controls

1. Secure, conveniently located bike parking facilities are to be provided at the rates specified in the Bicycle Parking Rate table below.

Table 2 Bicycle Parking rates

Land Use	Bicycle parks rate (minimum)
Residential flat buildings	1 space per 3 apartments 1 space for 12 apartments for visitors
Industrial	1 space per 1500m^2 GFA for staff
Commercial	1 space for 600m^2 GFA for staff
Shops/cafes/restaurants	○ space per 450m^2 for staff

2. End of trip facilities such as change rooms, showers and secure areas for bicycle parking are to be provided within employment development.

Appendix A: Housing Diversity

As the Hills Shire population grows there will be greater reliance on higher density development to accommodate future housing demand. A more sustainable Sydney is a more compact Sydney and more new homes in the future will be in the form of higher density developments. More people need to be able to choose to live, raise families and retire to an apartment located in an area of high accessibility and amenity.

The Hills Shire Council is expected to be home to an additional 37,934 households between 2016 and 2036 and population forecasts indicate that 23,519 (or 62%) of these will be 'larger' household types such as couples with children, single parents with children and multiple family households. It will be critical that future high density development provides 'dwelling diversity' to ensure the market caters for the different living needs, expectations and household budgets within the community. This will require the provision of an appropriate mix of one, two and three bedroom apartments which are varied in size.

Apartment buildings are a long term building stock so it is very important that if they are to be built, they are resilient over the long term. Unlike detached housing where landowners can choose the style and size of their home, a homeowner wanting an apartment can only choose from what is being provided. Whilst smaller apartments should be provided to meet the needs of a certain demographic within the market, moderate and larger apartments should also be provided to meet the latent demand for this housing option. This will then reduce pressure on smaller, more affordable housing options.

In order to achieve appropriate housing diversity within the Corridor, a floor space incentive provision has been established within The Hills Local Environmental Plan 2012 which permits additional floor space for developments that provide the required mix of apartment types and sizes.

This document provides an overview as to why the housing diversity provision has been prepared, how it was prepared, and how it should be applied. This document will assist applicants, consent authorities and community in understanding the intent behind the housing diversity provision.

1. Housing Diversity within the Sydney Metro Northwest Corridor

As part of the planning for the Sydney Metro North West Corridor, a development incentive provision has been implement which will facilitate:

- the delivery of at least 20% of future apartment development in the form of three or more bedroom apartments and
- at least 40% of all future two and three bedroom apartments will be at a larger apartment adopted size.

This will provide a greater diversity of product and will help meet the future housing needs of our community. The application of the development incentive provision to the Castle Hill North Precinct is outlined below.

1. All land is subject to a 'base' floor space ratio which is identified on the Floor Space Ratio Map.

2. Land within the Castle Hill North Precinct is also assigned with an "incentivised" floor space ratio through an Incentive Floor Space Ratio Map.

   For ease of reference all land that is also subject to an incentivised floor space is identified as 'Area A' on the Floor Space Ratio Map.

   Development will only be permitted at the 'incentivised' floor space ratio if it satisfies the requirements set out within Clause 7.12 'Dwelling Mix and Diversity within the Sydney Metro Northwest Corridor'. In summary the provision requires the following:

a) Maximum of 25% of all dwellings to be studio or one bedroom apartments;
b) Minimum of 20% of all dwellings to be three or more bedroom apartments;
c) 40% of all two and three bedroom apartments to comply with a minimum apartment size set by Council (110m^2 for two bedrooms and 135m^2 for three bedrooms); and
d) Parking rates to be 1 space per apartment and 1 visitor space per 5 apartments.

Development that does fully comply with the above requirements will only be permitted to develop at the 'base' floor space ratio, as identified on the Floor Space Ratio Map.

3. For certain key sites within the Precinct, 20% floor space incentive, in addition to the floor space potential under the Incentive Floor Space Ratio Map, will be permitted. The additional floor space bonus will only be permitted subject to full compliance with the relevant key site provisions under cl. 4.4B 'Additional floor space ratio incentive for key sites' of LEP 2012.

The overall yield anticipated within the Castle Hill North Precinct is 3,575 dwellings (comprising 3,425 units).

The following table provides a breakdown of the 3,425 additional units within the Castle Hill North Precinct in accordance with the new mix and size requirement. The incentive provision would facilitate the delivery of approximately 70% at SEPP 65 sizes and 30% of the apartments at the larger apartment. As 2 and 3 bedroom apartments would comprise around 75% of apartments, 40% of 2 and 3 bedroom apartments would equate to approximately 30% of the overall number of units within the Precinct.

Total Units	**Unit Mix**			**Unit Size**			**% of Total Units**
	Unit Type	**Mix**	**No. Units**	**Unit Size**	**% of Unit Type**	**No. Units**	
3,425	1 Bed	25%	856	**SEPP 65**	**100%**	856	**25%**
				Council	0%	0	0%
	2 Bed	55%	1,884	**SEPP 65**	**60%**	1,130	**33%**
				Council	40%	754	22%
	3 Bed	20%	685	**SEPP 65**	**60%**	411	**12%**
				Council	40%	274	8%
				Total Units		3,425	100%
				Total SEPP 65 Sized Units		2,398	**70%**
				Larger Sized Units		1,028	30%

Hypothetical Development Scenario with New Apartment Size Requirement

The delivery of around 30% of the apartments at the larger sizes will facilitate an appropriate diversity of housing stock and will provide developers with sufficient flexibility to determine the sizes for the remaining units. The provision will facilitate a greater level of apartment diversity than what would be achieved if development was only subject to the minimum apartment area requirements within SEPP 65 and the Apartment Design Guide.

4. State Environmental Planning Policy No. 65

State Environmental Planning Policy No 65 - Design Quality of Residential Apartment Development (SEPP 65) has been prepared to promote better apartment design across the State. The policy aims to deliver a better living environment for the residents now choosing this form of housing, and enhance our streetscapes and our neighbourhoods across the State.

SEPP 65 establishes nine design quality principles which are intended to ensure high quality development outcomes and more liveable urban areas. The SEPP 65 design quality principles must be considered by design professionals when designing residential apartment development, by design review panels when giving advice on proposals and by consent authorities. The nine principles are listed below:

- Principle 1 – Context and Neighbourhood Character;
- Principle 2 – Built Form and Scale;
- Principle 3 – Density;
- Principle 4 – Sustainability;
- Principle 5 – Landscape;
- Principle 6 – Amenity;
- Principle 7 – Safety;
- Principle 8 – Housing Diversity and Social Interaction
- Principle 9 – Aesthetics.

In determining a development application for consent to carry out development to which this Policy applies, a consent authority is to take into consideration (in addition to any other matters that are required to be, or may be, taken into consideration):

a) the advice (if any) obtained from the design review panel, and
b) the design quality of the development when evaluated in accordance with the design quality principles, and
c) Apartment Design Guide.

Through the Design Principles, SEPP 65 recognises that housing diversity is a critical design requirement when assessing applications for high density development. Principle 8 – Housing Diversity and Social Interaction provised the folowing.

- *Principle 8 – Housing Diversity and Social Interaction*
  Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.

  Well-designed apartment 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.

As outlined within the principle, well designed apartment developments respond to social context by providing housing and facilitites to suit the existing and future social mix. The approach being implemented within the Sydney Metro Northwest Corridor is directly consistent with this Principle as the provisions have been prepared having regard to the future demographic characteristics of the Shire.

5. Housing to Meet the Needs of the Future Hills Shire Population

The housing diversity provision which is being applied within the Sydney Metro Northwest Corridor has been prepared to ensure that the future housing stock is appropriate to meet the needs of the future population.

There are two critical and equally important issues being diversity of mix (i.e. 1 bedroom, 2 bedroom and 3+ bedrooms) and diversity of mix of size (provision of a mix of small, moderate and larger apartments).

Ensuring a Diversity of Apartment Mix
The following table identifies the projected household types for The Hills Shire from the Department of Planning and Environment's 'Household and Implied Dwelling Projection Data (2014)'.

Household Type	2011	2016	2021	2026	2031
Couple only	13,750	16,250	18,650	21,050	23,450
Couple with children	30,350	34,150	38,250	42,400	45,950
Single parent	4,350	5,050	5,850	6,700	7,550
Other family households	650	700	800	900	1,050
Multiple-family households	1,600	1,850	2,150	2,400	2,600
Lone person	5,450	6,700	8,050	9,600	11,200
Group	750	850	900	1,000	1,100
Total	**56,900**	**65,600**	**74,600**	**84,000**	**92,900**

Household Type Projections
NSW Department of Planning and Environment

Based on the above projections, by 2031 approximately 62% of households within The Hills Shire will be a family household including couples with children, single parents with children and multiple family households. Accordingly, it is reasonable to assume that approximately 62% of the additional housing stock that will be provided within The Hills Shire by 2031 will need to be capable of accommodating these household.

The Draft North West Subregional Strategy, prepared in December 2007, set The Hills Shire a target of an additional 36,000 dwellings by 2031. Council's Local Strategy and Residential Direction demonstrated how this target would be predominately met through the provision of 35,925 new dwellings in existing urban areas, the North West Growth Centre and the release areas of Kellyville/Rouse Hill and Balmoral Road. It should be noted that the dwelling targets represented Council's projected yield at the time of preparing its Local Strategy in June 2008, prior to the Government commitment to the delivery of the Sydney Metro Northwest.

Of the original dwelling target, approximately 4,600 were planned on land south of the M2 Motorway, on land which has now been transferred to the Parramatta City LGA. This land included Carlingford, Northmead, North Rocks, North Parramatta and Oatlands. As this analysis is principally focussed on ensuring that housing within The Hills Shire is sufficient to meet the needs of the future Hills Shire population, planned growth and approvals on land south of the M2 Motorway has been excluded from this analysis.

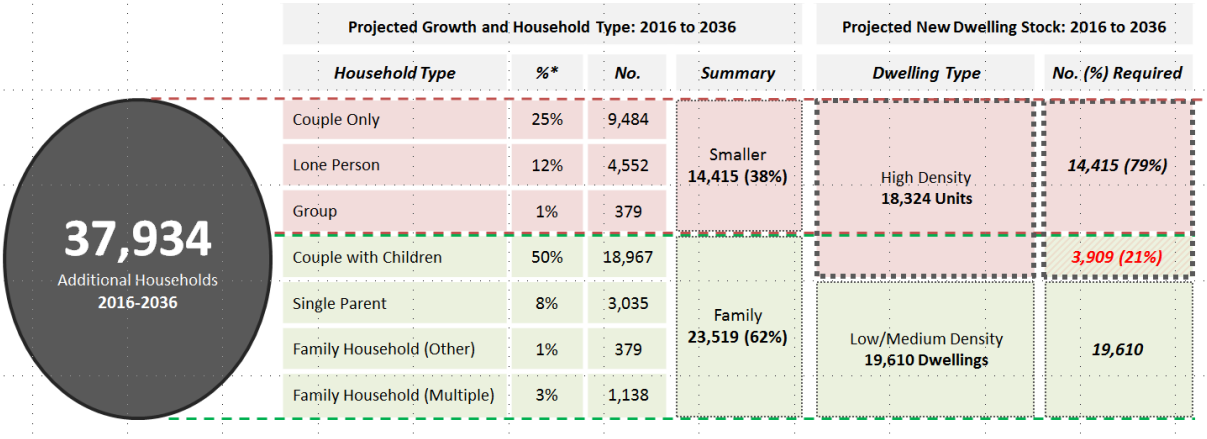
The following table provides a summary of the Shire's current dwelling targets, the additional growth opportunities which have arisen since the targets were established and Council's progress toward achieving its targets. It is noted that the planned dwellings and past approval figures have been adjusted to account for land that has transferred to Parramatta City Council.

SUMMARY	Planned Dwellings (Total)	Planned Apartments	Planned Low and Medium Density Dwellings
Target Dwellings 2004-2031	**31,375**	**5,623**	**25,752**
Additional Growth Opportunities			
Baulkham Hills Town Centre	1,000	1,000	0
Rural Subdivision	700	0	700
Box Hill North	4,600	645	3,955
Hills Corridor Strategy	16,050	15,604	446
Revised Dwelling Supply 2004+	**53,725**	**22,872**	**30,853**
Actual Dwellings 2004-2016	15,791	4,570	11,221
Revised Dwelling Projection 2016+	**37,934**	**18,302**	**19,632**

Dwelling Targets and Residential Activity

When accounting for the additional growth opportunities and actual dwellings that have been approved since 2004, a revised dwelling projection of approximately 37,934 dwellings could be achieved within The Hills Shire from 2016, of which 18,302 dwellings (48%) would be apartments.

The following table provides justification for requiring at least 20% of future high density apartments within The Hills Shire as 3 bedroom units.



Projected Growth and Household Type: 2016 to 2036				Projected New Dwelling Stock: 2016 to 2036	
Household Type	*%**	*No.*	*Summary*	*Dwelling Type*	*No. (%) Required*
Couple Only	25%	9,484	Smaller 14,415 (38%)	High Density 18,324 Units	*14,415 (79%)*
Lone Person	12%	4,552			
Group	1%	379			
Couple with Children	50%	18,967	Family 23,519 (62%)		*3,909 (21%)*
Single Parent	8%	3,035		Low/Medium Density 19,610 Dwellings	*19,610*
Family Household (Other)	1%	379			
Family Household (Multiple)	3%	1,138			

Justification for Apartment Mix

Of the 37,934 additional dwellings projected within The Hills Shire from 2016, approximately 23,519 (62%) will need to be able to accommodate a family household. It is assumed that the 19,610 dwellings within the low and medium density residential areas will be capable of accommodating family households. This means that the remaining 3,909 family households will need to be accommodated within high density apartments which equates to approximately 21% of the future high density apartment stock.

Having regard to the above analysis, the incentive provision being applied within the Corridor requires a minimum of 20% of the future apartment stock incorporates 3 or more bedrooms. This will ensure that the housing stock matches the needs of the Shire's future households.

Ensuring a Diversity of Apartment Size

It is imperative that an appropriate mix of apartment sizes is produced so as to facilitate housing diversity within the marketplace. Having a diverse housing stock will provide improved housing choice for the future Hills Shire residents and will ensure that the apartments which are produced cater for a wider range of households with varying needs, expectations and living requirements.

In order to ensure that an appropriate diversity of apartment sizes is being produced within the Corridor, the incentive provision requires a proportion of 2 and 3 bedroom apartments to be at the larger apartment size. The requirement would require the following:

- at least 40% of 2 bedroom dwellings forming part of the development have a minimum internal floor area of 110m^2; and
- at least 40% of 3 bedroom dwellings forming part of the development have a minimum internal floor area of 135m^2.

So long as 40% of 2 bedroom apartments have an area of 110m^2 and 40% of 3 bedroom apartments have a minimum area of 135m^2, developers will have full discretion with respect to the distribution of sizes for the remaining apartments.

The incentive provision would facilitate the delivery of approximately 70% at SEPP 65 sizes and 30% of the apartments at the larger apartment. As 2 and 3 bedroom apartments would comprise around 75% of apartments, 40% of 2 and 3 bedroom apartments would equate to approximately 30% of the overall number of units within the Precinct.

As previously mentioned, Principle 8 of SEPP 65 requires that 'Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets'. Accordingly,

requiring a mix of apartment sizes, including a proportion of larger apartments, is consistent with this principle as it will ensure that an appropriate diversity of apartment sizes is provided to suit different needs and budgets.