

## APPENDIX – DRAFT 5 STOREY PLANNING CONTROLS

An urban design consultant was engaged to prepare draft development control guidelines for precincts to be rezoned for five storey multi-unit housing (a form not facilitated by Council's current planning controls).

The draft development control guidelines prepared by the consultant are based on two development types occurring within the precincts, residential or mixed use development. The urban design consultant recommends that floor space ratio not be used as a control, as it does not include many elements that affect scale or bulk (parking levels above ground, pitched roofs and parapet walls, which can contribute to the bulk of a building). The draft development control guidelines have been written as a series of controls that have a direct influence on compatibility with character and amenity of existing neighbourhoods, conservation of existing vegetation, and the scale and bulk of building forms.

It is anticipated that following the exhibition of the Strategy and consideration of issues raised in submissions, the draft development controls for 5 storey development will require refinement for incorporation into appropriate Development Control Plans (DCPs).

Council's current planning controls facilitate the development of precincts to be rezoned for townhouses, 3 storey units and 8-10 storey apartments. These controls can be found on Council's website <http://www.hornsby.nsw.gov.au\dcp>. The relevant DCPs are outlined below.

Form of Housing	Development Controls
Townhouses	Medium Density Multi-Unit Housing DCP
3 storey units	Medium/High Multi-Unit Housing DCP
8-10 storey units	High Density Multi-Unit Housing DCP

## RECOMMENDED CONTROLS

Separate sequences of planning controls are recommended for two development types that would occur in the new *Housing Strategy's* development precincts:

- Mixed uses: shops, offices and apartments; and
- Residential flat buildings.

The recommended controls are based upon three-dimensional analysis of the building prototypes that are illustrated in Chapter Four of the project report, and they address:

- Existing and desired character according to the "Design Principles" in Chapter Three;
- Residential amenity of existing neighbours and proposed dwellings;
- Commercial activity, including the orientation and "exposure" of shop-frontages in conjunction with the location of parking for shoppers and deliveries;
- Design quality principles that are specified by *SEPP No 65*;
- The general scope of Hornsby Shire's existing medium to high density development controls.

### Density + floor space ratios

This urban design analysis strongly recommends that density controls should not be used as a means of securing high standards of quality or promoting the efficient planning and assessment of development:

- Density controls are proportionate measures that compare maximum floor space or the maximum number of dwellings to the area of a development site:
  - These proportionate measures have no direct bearing upon urban design quality, compatibility with neighbourhood character, commercial or residential amenities;
  - In reality, these qualities are influenced by the shape and area of each development site, by the capability to accommodate "dwelling modules" in an efficient manner, and by designers' skills;
  - Most often, density measures are standardised proportions that are adopted without detailed consideration of local development sites and development types.
- Density expressed as a floor space ratio does not include many elements that affect scale or bulk:
  - Parking and some service areas which are located wholly or partly above-ground;
  - Elements such as pitched roofs or parapet walls that can contribute substantially to the volume, or the mass, of a building.
- As "generic" proportions, densities are not responsive to the full range of site areas or conditions:
  - Of particular importance for the "bushland shire", density controls often "encourage" the removal of existing vegetation that is visually-prominent or environmentally-significant;
  - In relation to site areas, development potential of smaller sites can be underestimated while larger sites receive windfall benefits that result in "over-scaled" building forms (or pressure for the removal of existing vegetation).
- With regard to five storey developments, density controls would deliver entirely different urban design outcomes according to the type of parking that is provided:
  - For basement parking, permissible floorspace would be distributed over five levels resulting in relatively smaller "floorplates" and buildings that appear less massive or bulky;
  - By comparison, developments with undercroft parking would seek to distribute their allowable floor area (which would be identical to that of a five storey building with basement parking) over only four levels, resulting in larger floorplates that appear more-bulky and also placing considerable pressure upon setback controls together with any existing trees.

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- With regard to the efficient planning and assessment of development, density offers no benefits: Density requires complicated measurements that are time-consuming, based upon assumptions and inclusions that are frequently-debated, and duplicating the effects of several other controls; Typically, density controls are not consistent with envelope measures and qualitative provisions that have an immediate bearing upon urban design quality, resulting in significant disputes between applicants and assessors which often may be resolved only by costly court-appeals.

**If density is required as a control for five storey buildings, detailed analysis of typical sites and development types is essential to confirm appropriate measures:**

- Preliminary urban design analysis suggests the following range of floor space ratios:  
Varying according to a site's area, from 1.5:1 to 1.6:1 with basement parking, and between 1.1:1 and 1.3:1 where parking would be located in an undercroft (that counts as a storey).
- For mixed-use developments:  
Between 1.5:1 and 1.8:1 subject to the area and configuration of a site.  
These measures are unlikely to encourage a mix of residential and large retail tenants such as supermarkets or fruit markets, but a higher uniform FSR is likely to encourage bulky forms.
- Implementation of density controls would be complicated by the Department of Planning's *Standard Instrument*:  
Permissible densities must be defined as a single measure for each zone, or may vary across a zone as depicted by a cadastral map - there will be no scope to offer "bonuses" in relation to specified development types or to reward special design features.

## The recommended controls

**This urban design analysis recommends a series of controls that have a direct influence upon important outcomes such as:**

- Compatibility with the character and amenity of existing neighbourhoods;
- Conservation of existing vegetation;
- Scale and bulk of building forms, and the amenity of new dwellings.

**Recommended controls follow a sequence that follows the "hierarchy" of decisions typically made by developers, designers and assessors:**

- Primary numeric elements define an acceptable building envelope:  
Height;  
Setbacks;  
Floorplates and separations;  
Articulation of building forms;
- Secondary elements that influence or "refine" an acceptable building envelope which has been defined by reference to the primary numeric controls:  
Orientation in relation to active retail or commercial frontages and residential addresses;  
Amenity in terms of solar access, natural cross-ventilation, open spaces, privacy, social interaction and safety;
- Tertiary design quality elements that do not directly affect the scale or size of any building:  
Housing choice in relation to dwelling diversity plus accessibility and adaptability for people who have limited mobility;  
Architectural design in relation to scale and bulk plus civic quality;  
Landscape design in relation to neighbourhood character, shade and habitat, plus civic quality.

## Residential flat buildings

### Introduction

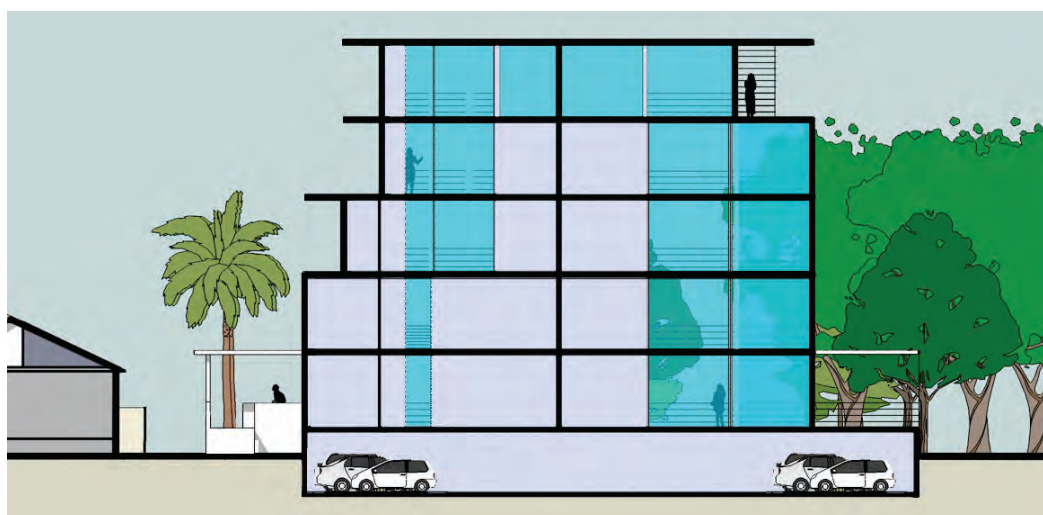


Although several distinct environmental themes are evident across the precincts that have been identified for future development of five storey residential flats, appropriate outcomes can be achieved by a single set of planning controls which reflect the following urban design objectives:

- i Enhancement of garden suburb settings within the "bushland shire":  
By maintaining existing trees - especially bushland remnants - that might be located near front and rear boundaries of any site and which provide prominent elements of a precinct's character, and / or planting new trees to enhance a neighbourhood's existing tree-corridors.
- ii Reasonable "compatibility" with existing detached dwellings:  
In terms of building scale, and also in relation to current levels of residential amenity.
- iii High levels of energy efficiency achieved for apartment dwellings:  
In terms of sunlight and summer-time sunshading for living areas in particular, natural daylighting and the cross-ventilation of habitable rooms.
- iv High levels of internal amenity for apartment dwellings:  
In terms of privacy, attractive outlooks from living areas in particular, a comfortable indoor climate, the effective design of private open spaces and communal areas, and encouragement of positive social interaction together with high levels of safety and security.
- v High standards of architectural and landscape design quality:  
Achieved by effective greening surrounding well-articulated building forms, and delivering a combined response to all of the preceding objectives.

**These objectives also apply to residential components of five storey mixed use developments upon existing retail properties and within existing "retail villages".**

## i Height



Section parallel to the street

### Objectives for height:

- i In conjunction with other numeric controls, to define the maximum building envelope for any site.

### Recommended controls:

- i Maximum height of five storeys:
  - Where "storey" is defined by the *Standard Instrument*;
  - Allowing four occupied storeys plus carparking in an "undercroft", noting that undercrofts are an open storey located beneath the occupied levels of a residential building, either at existing ground level or slightly below ground level;
  - Alternatively, allowing five occupied levels with parking in a basement that does not project more than 1m above existing ground.
- ii Maximum building height of 17.5m, based upon the following allowances:
  - Up to 1m for a basement, as defined by the *Standard Instrument*, *plus*
  - Five levels with ceiling heights of 2.7m per the *Residential Flat Design Code* under *SEPP No 65*, *plus*
  - Up to 1.5m for roofs and plant rooms, noting that tall pitched roofs and parapets are not desirable in terms of urban design quality because they would unnecessarily accentuate the scale of infill developments.
- iii The floor level of the lowest residential storey should be a maximum of 1.5m above existing ground:
  - Ensuring that any parking undercroft would be recessed at least 1m below the street level directly in front of the development site.
- iv Where heritage items occur on a neighbouring site, building heights might need to be reduced:
  - Appropriate building heights should be defined by specialist evaluation of the listed item.

## ii Setbacks



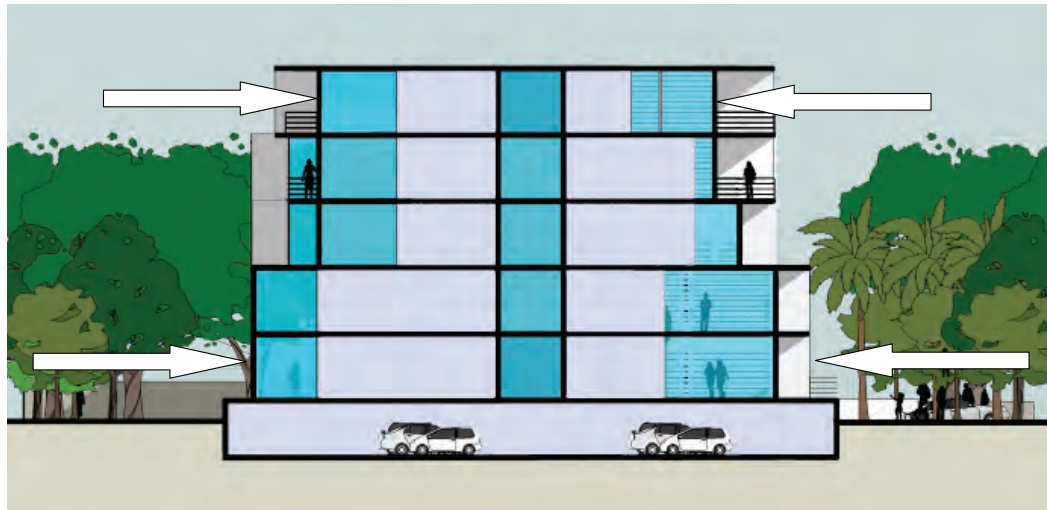
Plan view of two infill development sites

### Objectives for setbacks:

- i In conjunction with other numeric controls, to define the maximum building envelope for any site.
- ii Promote reasonable compatibility with the landscape character of existing detached dwelling neighbourhoods by ensuring that infill developments will be surrounded by canopy trees.
- iii Provide for the conservation of existing trees that are located near boundaries of each site and / or planting of new trees to expand local habitat and provide summer-time shade for dwellings.
- iv Separate proposed and existing dwellings in order to retain a reasonable proportion of neighbours' current privacy and sunlight.
- v Contribute to well-articulated building forms in order to disguise the scale of multi-level buildings.

### Recommended controls:

- i Minimum setbacks from front and rear boundaries:
  - An average of 10m and a minimum of 8m;
  - Measured to the face of buildings and balconies consistent with the *Standard Instrument* definition of "setback", with the average recommended to encourage articulation;
  - Including "deep soil" (capable of accommodating canopy trees with mature heights of 10m to 12m) with a minimum width of 7m (measured from the boundary) without encroachment by any basement or parking undercroft;
  - On corner sites, front and rear boundary setbacks apply to the shorter street frontage.
- ii Minimum setbacks from side boundaries:
  - An average of 6m and a minimum of 4m;
  - Facing existing RFB's, a minimum of 4m (ie no average required)
  - Including deep soil with a minimum width of 4m;
  - On corner sites, side boundary setbacks apply to the longer of the two street frontages.
- iii Minor encroachments are allowed beyond the minimum setbacks:
  - Driveways or basement ramps with deep soil verges at least 2m wide, terraces above basement ramps, stairs to private terraces and pedestrian ramps to building lobbies.



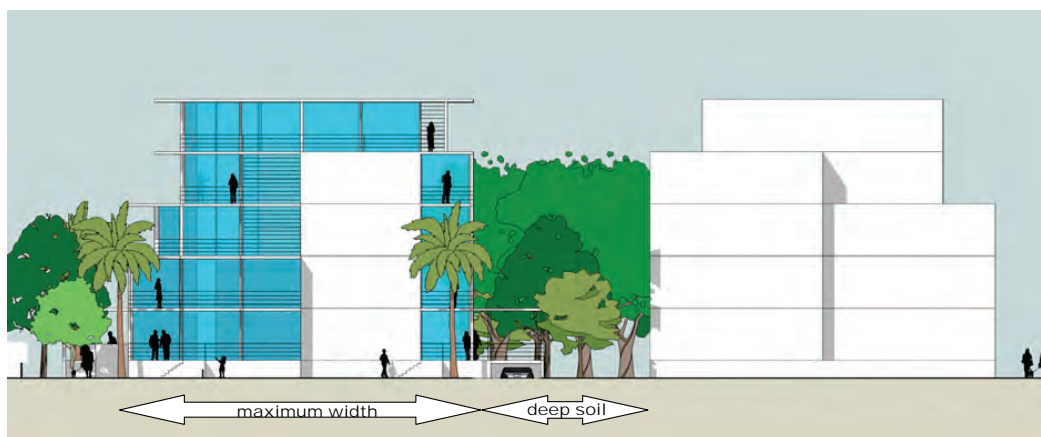
Section perpendicular to the street

- iv Additional setbacks are required for the top storey:  
A minimum step of 3m between exterior walls of the lowest storey and exterior walls of the top-most storey;
- v Where heritage items occur on a neighbouring site, setbacks might need to be increased:  
Appropriate setbacks should be defined by a specialist, responding to values that are specified by the Council's heritage inventory.

#### Implications for development yields:

- In relation to commonly-occurring allotment depths, maximum floorplates would be up to:  
25m to 29m on sites that are 45m deep;  
35m to 39m on sites that are 55m deep;
- In relation to commonly-occurring allotment widths, maximum floorplates would be up to:  
18m to 22m wide on two amalgamated allotments;  
33m to 35m on three amalgamated allotments.
- Reasonable repetition of floorplates and dwelling types is allowed on the lower levels, but upper storey setbacks will stimulate articulation of building forms together with an overall diversity of dwelling types in each development (due to "shrinking" of upper storey floorplates).
- Setbacks operate in conjunction with controls for sunlight, privacy and heritage:  
Although the recommended setbacks are considered to have a "generic" relevance, the circumstances of some sites might require larger setback dimensions.

### iii Floorplates + separations



Street elevation of a large development site

#### Objectives for floorplates and separations:

- i In conjunction with other numeric controls, to define the maximum building envelope for any site.
- ii Promote reasonable compatibility with the built-form character of existing detached dwelling neighbourhoods by limiting the width and depth of infill buildings.
- iii Promote reasonable compatibility with the landscape character of existing detached dwelling neighbourhoods by ensuring that buildings on large sites will be separated by garden areas which are wide enough to accommodate canopy trees.
- iv Separate opposing buildings upon the same site in order to provide reasonable privacy and sunlight for dwellings.



#### Recommended controls:

- i Maximum facade width of 25m measured between opposing exterior walls at any point: Balconies, terraces and ground floor lobbies may project beyond this maximum.
- ii Maximum facade width may be increased to 35m if facades incorporate a distinct indentation:
  - Indentations should measure at least 4m by 4m, and create the appearance of two separate "building pavilions" rather than a single building mass;
  - The appearance of separate pavilions should be accentuated by individual roofs above each pavilion element.
- iii On large sites where the floorplate control requires more than one building, adjoining buildings should be separated by deep soil that measures at least 6m x 6m:
  - Sufficient for at least one canopy tree with a mature height of 8m to 10m.

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### Implications for development yields:

- Standard floorplates (with maximum dimensions of 25m) on two-lot amalgamated sites would accommodate a maximum of four dwellings per level:
  - Up to two x two bedroom plus two x three bedroom apartments;
- Indented floorplates (with maximum overall dimensions of 35m) on two-lot amalgamated sites would accommodate a maximum of six dwellings per level:
  - Up to four x two bedroom plus two x three bedroom apartments;
- Building separations operate in conjunction with privacy and sunlight controls:
  - 6m is the minimum width of deep soil that would accommodate canopy trees suitable to disguise the appearance of continuous building forms;
  - Interior planning of apartments together with the design of facades might require wider separation between adjacent buildings upon large sites.

#### iv Articulation



##### Objectives for articulation:

- i Disguise the scale and bulk of five storey buildings in order to achieve reasonable compatibility with existing detached dwellings.
- ii Enhance streetscape character by the effective shadow-modelling of facades.

##### Recommended controls:

- i Facades must not display expansive uniform planes or panels.
- ii Divide all facades by vertical steps:
  - Across 50% of the width of every facade: at least two steps between the ground level setback and the penthouse facade (ie sheer vertical planes are not taller than two or three storeys);
  - The remainder of any facade may include a sheer vertical rise of up to four storeys;
  - On sites that directly adjoin an existing residential flat building, no step is required for the side elevation that would directly face the existing residential flat building.
- iii Provide horizontal articulation by dividing all facades into vertical "panels" generally no wider than 8m, and by visually-separating the adjoining panels by steps of at least one metre such as:
  - Indentations or projections in the alignment of exterior walls;
  - Balconies or terraces that project forward of walls;
  - Eaves, pergolas and awnings that project forward of exterior walls.
- iv Portion of the required horizontal articulation may be achieved by pronounced design variations:
  - Panels of curtain wall windows, bay windows or large sliding doors;
  - Steel-framed balconies with balustrades of steel or glass;
  - Feature panels of light cladding, face brick or painted masonry;
  - Fins, blades or sunscreens that project from, or stand forward of, exterior walls.

## v Orientation + address



### Objectives for orientation and address:

- i Retain a reasonable proportion of the amenity enjoyed by neighbouring dwellings.
- ii Encourage positive social interaction between new and existing residents by providing controlled sight-lines into and from the living areas of most dwellings.
- iii Promote high levels of personal safety and residential security through passive surveillance of public and semi-public areas.

### Recommended controls:

- i The primary orientation of dwellings should be toward the front or rear boundaries of each site:  
Primary orientation refers to unscreened outlooks from living room windows and balconies.
- ii Provide sight lines from the living areas of new dwellings toward public and semi-public places:  
Living areas include living rooms, family rooms, dining rooms, kitchens and hallways that are occupied regularly.  
Public places include streets and street-footpaths, or any park that is located next to the site.  
Semi-public places include walkways, lobbies, communal open spaces and above-ground parking areas that are freely accessible from the street.
- iii Encourage the provision of windows in upper-storey lift lobbies in order to overlook semi-public or public places.

## vi Amenity



View from the neighbour's back yard

### Objectives for amenity:

- i Retain a reasonable proportion of the amenity enjoyed by neighbouring dwellings.
- ii Provide living environments that match or exceed the quality of detached dwellings.
- iii In conjunction with other numeric controls, define the maximum floor area for buildings having regard for environmental circumstances that are unique to each site.

### Recommended controls:

- i Protect existing privacy that is enjoyed by neighbouring dwellings:
  - Unscreened balconies and transparent living room windows should only face front or rear boundaries.
  - Recognise that privacy is not compromised by overlooking from proposed bedroom windows.
  - Where unscreened balconies and transparent living room windows would face a neighbour's living room windows or principal area of private space, those windows and / or open spaces should be separated by at least 12m for the lower four storeys and by at least 18m for any fifth storey.
  - Alternatively, where orientation and privacy separations cannot be achieved, new buildings must satisfy minimum setbacks and privacy screening should be provided to prevent overlooking from windows, balconies or terraces.
- ii Protect existing sunlight that is enjoyed by neighbouring dwellings:
  - Maintain at least three hours sunlight daily during midwinter for the windows of any living room and the principal area of private open space.
  - Alternatively where neighbours' windows and private open spaces currently receive less than three hours sunlight, maintain the full amount of existing sunlight.



Corner balcony of a new apartment: an "outdoor room"

- iii Protect neighbours' bedrooms from potentially-noisy areas:
  - Potentially noisy areas include building and lift lobbies, driveways and communal roof terraces.
  - Those areas should be separated by at least 12m and / or protected by acoustic screens.
- iv A reasonable proportion of new dwellings should have adequate sunlight:
  - At least 70% of proposed dwellings should receive three or more hours sunlight during midwinter.
  - Midwinter sunlight should be available to a dwelling's principal living rooms and the main area of private open space.
  - Midwinter sunlight should be received by at least half of a dwelling's living room window(s) together with half of the private open space.
- v A reasonable proportion of new dwellings should have floor-plans that are naturally-ventilated:
  - At least 60% of proposed dwellings should be naturally cross-ventilated.
  - Apartment types that favour natural cross-ventilation include "corner" and "through-floor" apartments which have windows in two separate exterior walls, and mezzanine apartments over two levels which have two-storey windows next to a void that connects the upper and lower levels.
- vi New dwellings should be protected from excessive or inappropriate noise:
  - Avoid shared access balconies to dwellings and open lift lobbies that would directly expose bedroom windows to intrusive noise.
  - Design common walls between adjoining dwellings to prevent the transfer of unreasonable noise, and avoid floor finishes that would amplify the transfer of noise to any apartment below.
  - On sites that face major roads or the railway, ensure that new dwellings would not be exposed to excessive levels of noise due to inappropriate orientations or unsatisfactory design of the building envelope.

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- vii Adequate areas of private open space should be provided for each dwelling:
    - Provide well-designed open spaces with areas that are in proportion to the size of each dwelling. Each private open space should contain one area that measures 2.5m x 2.5m.
    - Open spaces for lower storey apartments may be located within setback areas provided that there is communal management of landscaping which is located along a boundary.
    - Design private open spaces as "outdoor rooms" that adjoin interior living areas, with L-shaped or irregular floorplans that would accommodate a number of outdoor activities plus extensive screening to provide privacy and shade.
    - Private open spaces should include a storage cupboard together with a clothes drying area that is surrounded by tall fixed screens.
  - viii Provide communal open spaces for developments with more than 10 dwellings:
    - Communal open spaces should be located to receive at least three hours sunlight during midwinter, in central locations that are highly-visible to provide convenient access from all dwellings.
    - Where communal open spaces are required, their combined area should be equivalent to 25% of the site's area, and they should accommodate a combination of active and passive recreation areas.
    - Balconies or terraces of surrounding dwellings near ground level should be screened or elevated to protect the privacy of those dwellings.

#### Implications for development yields:

- Amenity controls might require reduction of heights and / or an increase in setbacks:
  - Although those numeric controls are considered to have "generic" relevance, the circumstances of some sites might require minor reduction in floorspace in order to satisfy the sunlight control in particular.

### vii Housing choice

#### Objectives for housing choice:

- i Provide a range of dwelling types that match the demographic diversity of Hornsby's residential population, both currently and as projected.
- ii Accommodate "in-situ aging" of residents by providing a proportion of dwellings that are accessible, or that may be adapted, to meet the needs of people who have limited physical mobility.

#### Recommended controls:

- i Not more than one third of dwellings in any development should be the same type:
  - Same dwelling-types may identified by features of floorplans such as floor area, the number of bedrooms and living rooms, together with the size and type of private open space.
- ii At least 10% of proposed dwellings should be accessible by people with impaired mobility:
  - Accessibility is defined by AS 1428.
- iii At least 30% of proposed dwellings should be adaptable to meet needs of residents as they age:
  - Adaptability is defined by AS 4299.

## viii Architectural design



### Objectives for exterior design:

- i Disguise the scale and bulk of five storey buildings in order to achieve reasonable compatibility with existing detached dwellings.
- ii Enhance streetscape character by suitable diversity of exterior materials and finishes.

### Recommended controls:

- i Facades should incorporate effective shadow modelling:
  - Light-weight structures such as balconies, blinds and privacy screens should be located at visually-prominent corners of each building.
  - Roofs should be flat-pitches without parapets in order to minimise the height of exterior walls, and they should incorporate eaves which cast shadows across the top-storey's walls.
  - Lower storeys should include awnings and roofs with eaves that cast shadows across walls.
- ii Facades should be expressed as two or three distinct levels:
  - Roofs and eaves should contribute to a distinctive silhouette for each building.
  - The top storey should incorporate a high proportion of large windows.
  - Walls with a substantial proportion of masonry should be confined to the lower storeys.
- iii Facade elements should not be repetitive or "inanimate":
  - Extensive panels of blank masonry, and continuous rows of near-identical balconies or windows, are not acceptable within any facade.
  - Levels one to four should display a varied pattern of "solid-to-void".
  - If vertical rows of windows are proposed, the height of masonry sills should be minimised to avoid a bulky character.
  - Parapets that accentuate wall heights generally are not desirable.

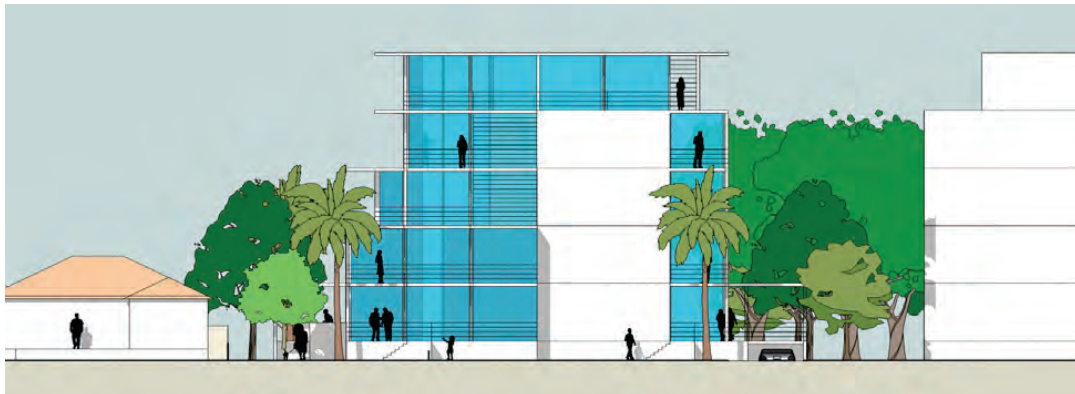
## ix Landscape design



Planting along front + rear boundaries - a diagrammatic depiction only

### Objectives for landscape design:

- i Retain existing trees located near front and rear boundaries of any site that are visually-prominent streetscape elements of any precinct, or bushland remnants which are part of an endangered ecological community.
- ii Enhance neighbourhood canopy and habitat with corridors of indigenous trees along the front and rear boundaries of each site.
- iii Disguise the scale of new buildings, and contribute to the amenity of neighbouring properties, by strategically-placed screen plantings along boundaries and street frontages.
- iv Contribute to attractive streetscapes by providing shade that also moderates the local climate.



Planting along side boundaries - a diagrammatic depiction only

### Recommended controls:

- i Front and rear setbacks should be landscaped:
  - Primarily with canopy trees that will reach mature heights of at least 10m to 12m.
  - Secondly, with a band of shrubs and ground covers along the street frontage at least 2m wide.
  - Thirdly, with shrubs along the rear boundary to screen views into neighbouring properties.

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- ii Side setbacks and separations between adjacent buildings on the same site should be landscaped:
    - Canopy trees that will reach mature heights of at least 10m to 12m should be located strategically at visually-prominent corners of each building.
    - Shrubs and ground covers should provide screening between neighbouring dwellings as well as shade along pathways and driveways.
  - iii Minor structures located within setbacks should not be visually-prominent:
    - Minor structures include fences, garbage stores, letter boxes and meter enclosures.
    - A soft-landscaped character should be displayed by front setbacks in particular.
    - Minor structures should not be located less than 2m from the front boundary, and they should be visually-screened by plantings.
    - Within front setbacks, visually-opaque walls around garbage stores and fences should not be taller than 1.2m, although see-through screens may be higher.

## Mixed use developments

### Introduction



Facing an existing street

Facing a new "street"

There are three forms of mixed use development which are appropriate to sites and precincts that currently accommodate retail activity, according to the design principles in Section Three of this report:

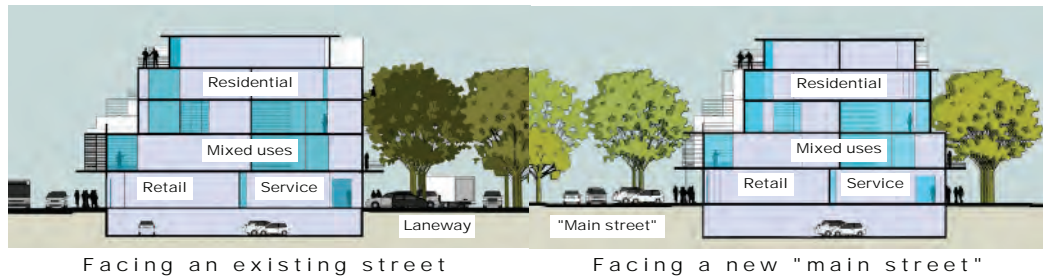
- i Where the primary retail frontage would face an existing public roadway and where a proportion of shopper parking would be provided in a rear "laneway":
  - Bouvardia Street, Asquith
  - Berowra Commercial Centre
  - Carlingford Road, Carlingford
  - Mount Colah Commercial Centre
  - Normanhurst Road, Normanhurst.
- ii Where the primary retail frontage would face a new "street" that is not currently a public roadway, where a proportion of shopper parking would be provided in kerbside locations along that "street":
  - Palmerston Road, Waitara
  - Thompsons Corner, West Pennant Hills.
- iii Where the primary retail frontage would face a parking forecourt that is next to a public roadway:
  - Mount Kuring-gai Commercial Centre.

With the exception of setbacks, identical planning controls are recommended for all three development types:

- Setbacks are defined for each of the three development forms by reference to their primary "shop frontage" and the most-desirable location of above-ground parking.

Planning controls for retail villages are identical or similar to those recommended for residential flat buildings.

**i Orientation + land use**



**Objectives for orientation and land use:**

- i Encourage effective mixed use developments by adopting the preferred retail orientation for each site or village, according to the *Key Principles Diagrams* (Appendix One to the project report).
- ii Optimise commercial potential for each village by appropriate orientation of shop-fronts and convenient location of above-ground parking.
- iii Contribute to high levels of residential amenity for dwellings located above shops and offices.



Primary retail frontage



Side with secondary retail



Side with basement access

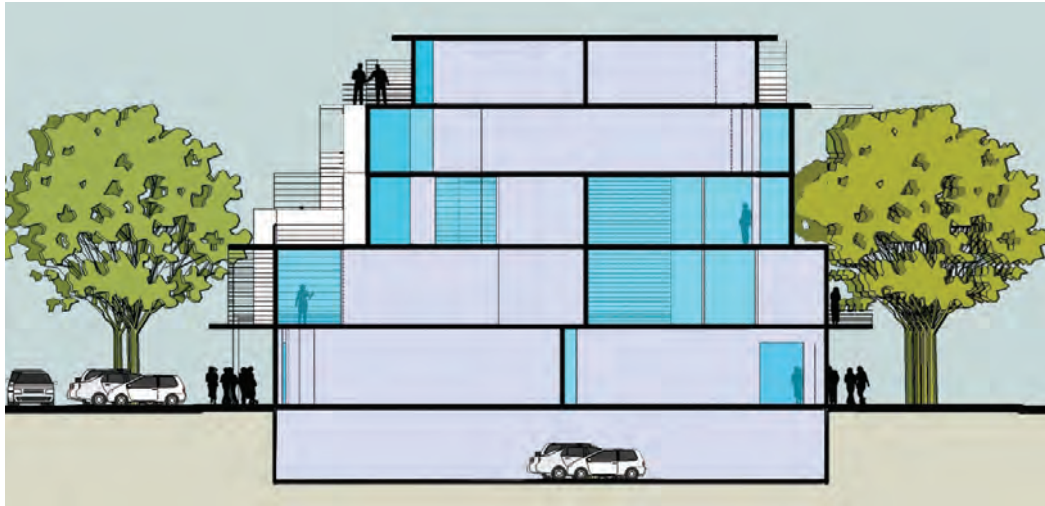


Rear with basement access

**Recommended controls:**

- i Locate employment uses in order to emphasise the "primary retail frontage":  
 "Primary retail frontages" for each village are defined by *Key Principles Diagrams*;  
 At street level, shop + office windows and building entrances should occupy 90% of the primary frontage, 30% of facades facing side streets or alleyways, and 10% of rear facades;  
 The first level above-ground may accommodate a mix of uses such as restaurants, offices and dwellings.
- ii Locate service uses to protect the "activation" of primary retail frontages:  
 Off-street parking must be located in basements or behind occupied floorspace;  
 Access to garages and storage areas must be confined to side and rear facades.
- iii Provide street-level parking in convenient proximity to primary retail frontages:  
 Where the primary frontage faces an existing street: along existing kerbsides and in a new rear laneway;  
 Facing a new "main street": along that street;  
 Provide a parking forecourt for the commercial centre at Mt Kuring-gai.
- iv The location of dwellings should not reduce commercial activity at street level.

## ii Height



Section perpendicular to the street  
Retail facing a new "main street" driveway

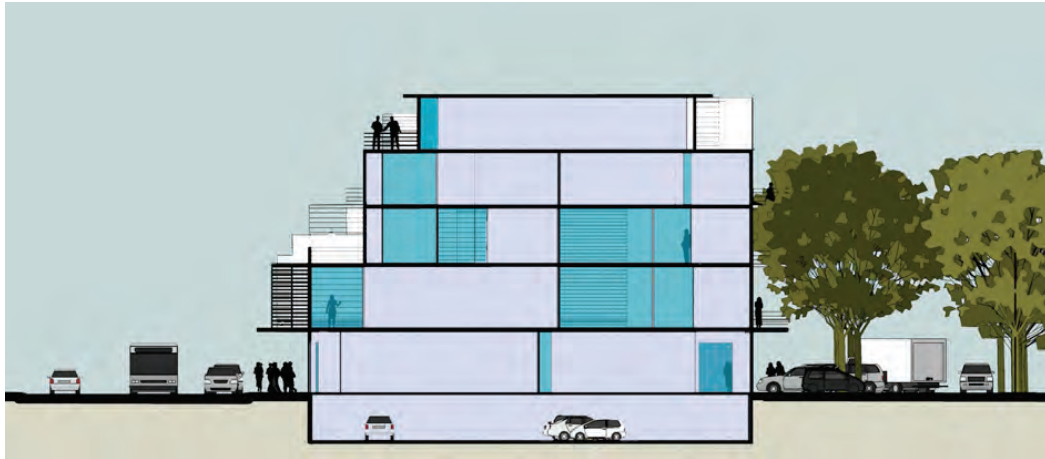
### Objectives for height:

- i In conjunction with other numeric controls, to define the maximum building envelope for any site.

### Recommended controls:

- i Maximum height of five storeys:  
Where "storey" is defined by the *Standard Instrument*;  
Allowing five occupied levels plus parking in a basement that does not project above street level.
- ii Maximum building height of 18m includes an allowance for:  
Two retail or commercial levels with ceiling heights of 3.5, *plus*  
Three residential levels with ceiling heights of 2.7m per the *Residential Flat Design Code* under *SEPP No 65*, *plus*  
Up to 1.5m for roofs and plant rooms (noting that tall pitched roofs and parapets are not desirable in terms of urban design quality because they unnecessarily accentuate the scale of infill developments).
- iii An allowable encroachment of 1.5m for any development that would accommodate a supermarket or similarly-scaled tenant:  
Allowing a 5m ceiling height for services, and preventing unnecessary height for other buildings (which typically occurs where a single maximum building height applies to all development).
- iv Mixed uses, including shops and offices, should be confined to the lower two storeys:  
Providing a broad "podium" for apartment dwellings from levels three to five;  
Dwellings may be located on level two within the podium and at ground level facing a side street or lane provided that they would not interrupt the desired continuity of commercial activity.

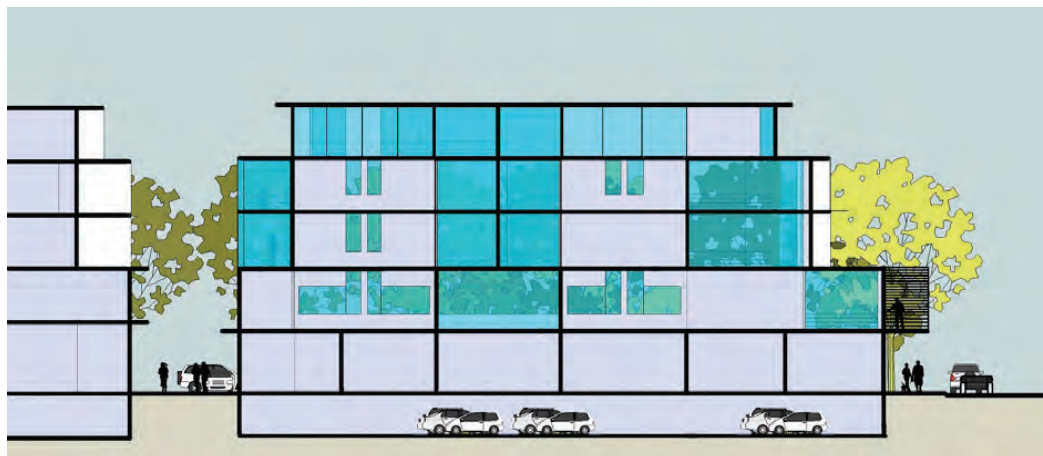
### iii Setbacks



Development facing an existing street:  
section perpendicular to the street

#### Objectives for setbacks:

- i In conjunction with other numeric controls, to define the maximum building envelope for any site.
- ii Establish a "pedestrian-friendly" scale for primary and secondary retail frontages in order to encourage optimum levels of business activity and employment.
- iii Provide vehicle access and above-ground parking in locations that are highly-visible as well as convenient to the primary retail frontage, consistent with "main street" retail practice.
- iv Enhance streetscapes by accommodating avenues of canopy trees in strategic locations.
- v Provide reasonable separation between neighbouring dwellings to maximise mutual amenity.
- vi Contribute to well-articulated building forms in order to disguise the scale of multi-level buildings.

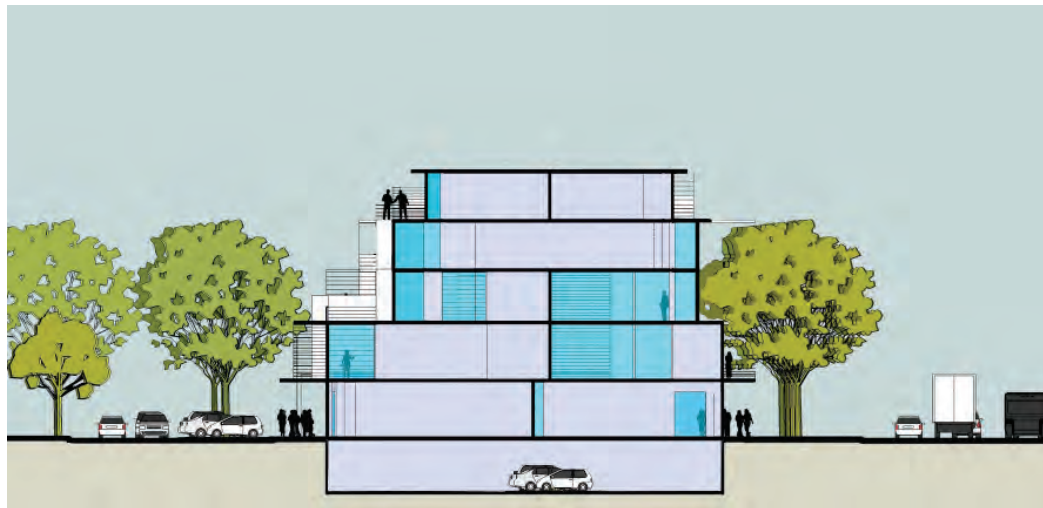


Developments facing existing or new streets:  
section perpendicular to side street + pedestrian "alleyway"

**Recommended controls:**

**A Where the primary retail frontage faces an existing street**

- i Retail and mixed use "podiums" facing primary and secondary streets:  
Zero setbacks measured to the face of buildings and balconies consistent with the *Standard Instrument* definition of "setback";  
Encroachments by balconies are allowed above footpaths (subject to Council's licensing);
- ii Rear facades of "podiums":  
16m or 22m for a "laneway" accommodating 90° parking (either single or double-loaded), one or two-way traffic movements, the turning circle of a medium rigid delivery vehicle, one 2m wide footpath and a 2m wide deep soil verge (to allow an avenue of canopy trees facing the neighbouring properties);  
Encroachments by balconies are allowed above the footpath.
- iii Residential levels facing primary or secondary streets (front and side facades):  
Minimum setback of 3m from the podium facades;  
An additional setback of 3m for level five (the top storey);  
At least two steps between the podium facade and upper residential storeys along 50% of any facade to encourage reasonable articulation.
- iv Residential facades facing "laneways" to the rear, or pedestrian "alleyways":  
Minimum setback of 0m from podium facades;  
Minimum setback of 3m from the podium facade to level five;  
At least one step between lower and upper storeys along 25% of the facade (ie 75% may have a sheer vertical rise of four storeys).



Development facing a new "street":  
section perpendicular to both streets

**B Where the primary retail frontage faces a new "street"**

- i Retail and mixed use frontages facing the new street:
  - 18m or 24m for the new street accommodating 90° parking (either single or double-loaded), one or two-way traffic movements, the turning circle of a medium rigid delivery vehicle, one 3.5m wide footpath and a 2m wide deep soil verge (suitable for an avenue of canopy trees facing the neighbouring properties);
  - Encroachments by balconies are allowed above footpaths.
- ii Retail and mixed use frontages facing secondary streets:
  - Zero setbacks;
  - Encroachments by balconies are allowed above footpaths (subject to Council's licensing);
- iii Rear facades of podiums:
  - 6m from the street kerb to accommodate an avenue of canopy trees.
- iv Residential levels facing primary or secondary streets:
  - Minimum setback of 3m from the podium facade;
  - An additional setback of 3m to level five;
  - At least two steps between the podium facade and upper storeys along 50% of any front or side facade in order to encourage reasonable articulation (ie 50% may have a sheer vertical rise of four storeys).
- v Residential facades facing a street to the rear, or a pedestrian "alleyway":
  - Minimum setback of zero;
  - Minimum setback of 3m from podium facade to level five;
  - At least one step between lower and upper storeys along 50% of the facade (ie 50% may have a sheer vertical rise of four storeys).

### *C For the Mount Kuring-Gai Commercial Centre*

- i Retail and mixed use "podiums" facing primary and secondary streets:
  - Zero setback from the Highway measured to the face of buildings and balconies;
  - 24m from Nyara Road to accommodate 90° parking (double-loaded), two-way traffic movements, the turning circle of a medium rigid delivery vehicle, one 2m wide footpath and a 4m wide deep soil verge (to allow an avenue of canopy trees as an extension of existing street trees);
- ii Rear facades of "podiums":
  - Equal to the existing building.
- iii Residential levels facing primary or secondary streets (front and side facades):
  - Minimum setback of 3m from the podium facades;
  - An additional setback of 3m for level five (the top storey);
  - At least two steps between the podium facade and upper residential storeys along 50% of any facade to encourage reasonable articulation.
- iv Residential facades facing neighbouring residential properties:
  - Minimum setback of 6m from podium facades;
  - An additional setback of 3m for level five;
  - At least two steps between the podium facade and upper residential storeys along 50% of any facade to encourage reasonable articulation.

#### **Implications for development yields:**

- Developments facing existing streets would have:
  - Lower storey floorplates with maximum depths of 23m to 29m on sites that are 45m deep, up to 33m to 39m for sites that are 55m deep;
  - Mid-level residential floor plates upwards of 20m to 26m;
- Developments facing new "main streets" would have:
  - Lower storey floorplates with maximum depths of 17m to 23m on sites that are 45m deep, up to 27m to 33m for sites that are 55m deep;
  - Mid-level residential floor plates upwards of 11.5m to 17.5m;
- Reasonable repetition of floorplates and dwelling types is allowed on the lower levels, and upper storey setbacks will stimulate articulation of building forms together with an overall diversity of dwelling types in each development (due to "shrinking" of upper storey floorplates).

#### iv Floorplates + separations



Primary retail elevation

#### Objectives for floorplates and separations:

- i In conjunction with other numeric controls, to define the maximum building envelope for any site.
- ii Promote consistency with the scale and appearance of traditional main street retail villages by limiting the width and depth of infill buildings.
- iii Enhance the outdoor pedestrian network, as well as promoting the visibility and accessibility of shop-frontages, by establishing new "mid-block alleyways" between adjacent buildings that link primary retail frontages with rear parking laneways or existing streets.
- iv Separate opposing buildings within the same village or upon large sites by distances that are sufficient to provide reasonable privacy and sunlight for dwellings.

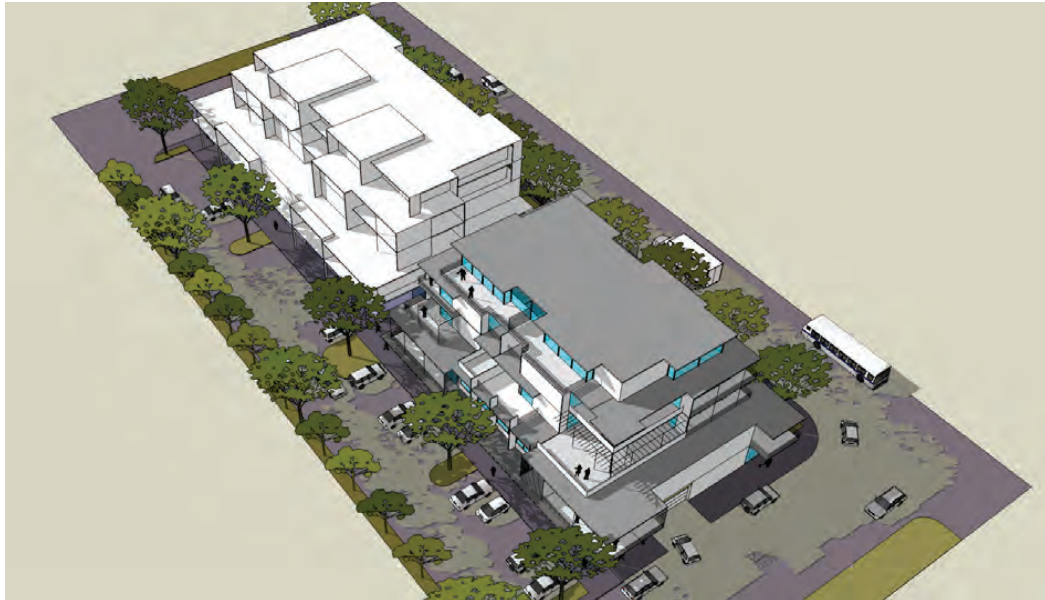
#### Recommended controls:



Alley from street to primary frontage

- i Maximum residential floorplate depth is 25m, measured perpendicular to the primary retail frontage and between opposing exterior walls at any point:  
Balconies and terraces may project beyond this maximum dimension.
- ii Maximum residential floorplate width is 35m, measured perpendicular to the primary retail frontage and between opposing exterior walls at any point:  
Balconies and terraces may project beyond this maximum dimension.
- iii Buildings within the same village or on the same site should be separated by open-air alleyways that are at least 6m wide at street level.

## v Articulation



Aerial view with retail facing a new "main street"

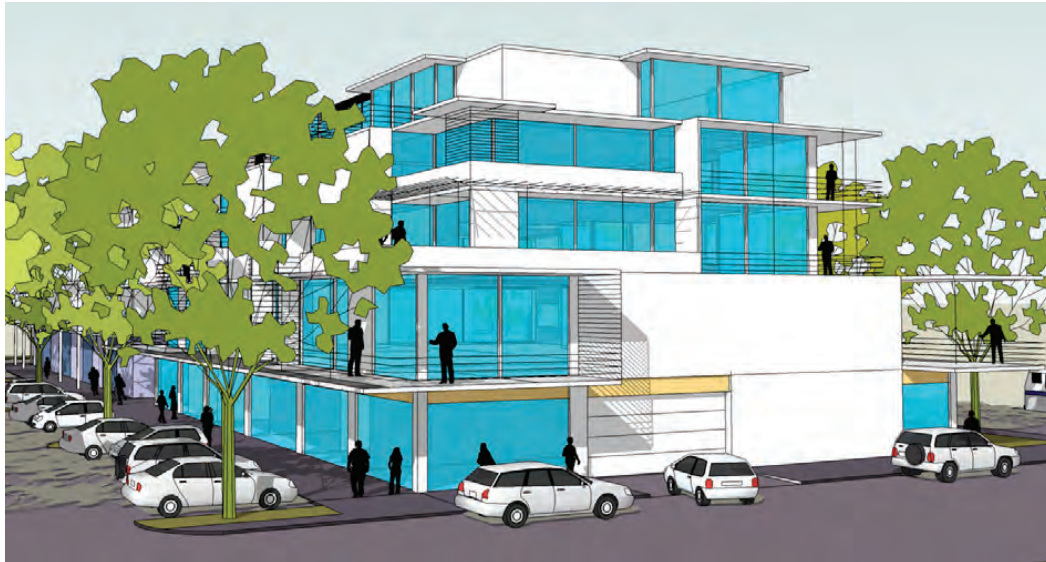
### Objectives for articulation:

- i Disguise the scale and bulk of five storey buildings in order to achieve a pedestrian-friendly environment for primary and secondary retail frontages.
- ii Enhance streetscape character by effective shadow-modelling of facades.

### Recommended controls:

- i Articulation of podium facades should rely upon simple contrasts in materials and finishes:
  - Ribbons of shop-front windows; and
  - Steel-framed balconies and balustrades of steel or glass that contrast the "weight" of masonry walls; and
  - Contrasting panels of face brick or stonework, light-weight cladding, or painted masonry;
  - Fins, blades or sunscreens that project from, or stand forward of, exterior walls.
- ii Articulation of residential facades should be achieved by a series of vertical "panels" that are generally not wider than 8m, where adjoining panels are separated by steps of at least one metre:
  - Indentations or projections in the alignment of exterior walls, or
  - Balconies or terraces that are indented behind exterior and /or that project forward of walls, and
  - Eaves, pergolas and awnings that project forward of exterior walls.
- iii Alternatively, where adjoining panels in residential facades are not stepped, provide distinct variations in exterior materials and finishes:
  - Panels of curtain wall windows, bay windows or large sliding doors that contrast with solid walls;
  - Steel-framed balconies and balustrades of steel or glass that contrast the "weight" of masonry walls;
  - Contrasting panels of light cladding, face brick or painted masonry;
  - Fins, blades or sunscreens that project from, or stand forward of, exterior walls.

## vi Amenity



### Objectives for amenity:

- i Provide living environments that match or exceed the quality of detached dwellings.
- ii Address the special requirements of dwellings that are located above shops.
- iii Promote high levels of personal safety and residential security through passive surveillance of public and semi-public areas.
- iv In conjunction with other numeric controls, define the maximum floor area for buildings having regard for environmental circumstances that are unique to each site.

### Recommended controls:

- i A reasonable proportion of new dwellings should have adequate sunlight:
  - At least 70% of proposed dwellings should receive three or more hours sunlight during midwinter.
  - Midwinter sunlight should be available to a dwelling's principal living rooms and the main area of private open space.
  - Midwinter sunlight should be received by at least half of a dwelling's living room window(s) together with half of the private open space.
- ii A reasonable proportion of new dwellings should have floor-plans that are naturally-ventilated:
  - At least 60% of proposed dwellings should be naturally cross-ventilated.
  - Apartment types that favour natural cross-ventilation include "corner" and "through-floor" apartments which have windows in two separate exterior walls, and mezzanine apartments over two levels which have two-storey windows next to a void that connects the upper and lower levels.
- iii New dwellings should be protected from excessive or inappropriate noise:
  - Provide wide terraces around the lower residential storey to screen potential night-time noise from retail tenants such as restaurants.
  - Avoid shared balcony access for dwellings and open lift lobbies that would directly expose bedroom windows to intrusive noise.

Design common walls between adjoining dwellings to prevent the transfer of unreasonable noise, and avoid floor finishes that would amplify the transfer of noise to any apartment below. Locate commercial garbage stores and design the building envelope in order to minimise disturbance for residents as a result of early-morning garbage collection.

On sites that face major roads or the railway, ensure that new dwellings would not be exposed to excessive levels of noise due to inappropriate orientations or unsatisfactory design of the building envelope.

- vii Adequate areas of private open space should be provided for each dwelling:
  - Provide well-designed open spaces with areas that are in proportion to the size of each dwelling, and including one area that measures 2.5m x 2.5m.
  - Design private open spaces as "outdoor rooms" that adjoin interior living areas, with L-shaped or irregular floorplans that would accommodate a number of outdoor activities plus extensive screening to provide privacy and shade.
  - Private open spaces should include a storage cupboard together with a clothes drying area that is surrounded by tall fixed screens.
- viii Provide reasonable privacy for new dwellings:
  - Unscreened balconies and transparent living room windows should only face front or rear boundaries.
  - Where unscreened balconies and transparent living room windows would face neighbouring living room windows or a principal area of private space, those windows and / or open spaces should be separated by at least 12m for dwellings located on the lower four storeys and by at least 18m for fifth storeys.
  - Alternatively, where orientation and privacy separations cannot be achieved, new buildings must satisfy minimum setbacks and privacy screening should be provided to prevent overlooking from windows, balconies or terraces.
- ix Provide for high levels of safety and security along streets and in communal residential areas:
  - Ensure that a proportion of dwellings can overlook street footpaths, alleyways and kerbside parking areas from balconies and living areas.
  - Maximise the visibility of street-level lobbies from surrounding footpaths, upper-storey lift lobbies and dwellings (located either within the development or in a neighbouring building).
  - Provide secure access to lift lobbies, basements and communal storage areas.

## vii Housing choice

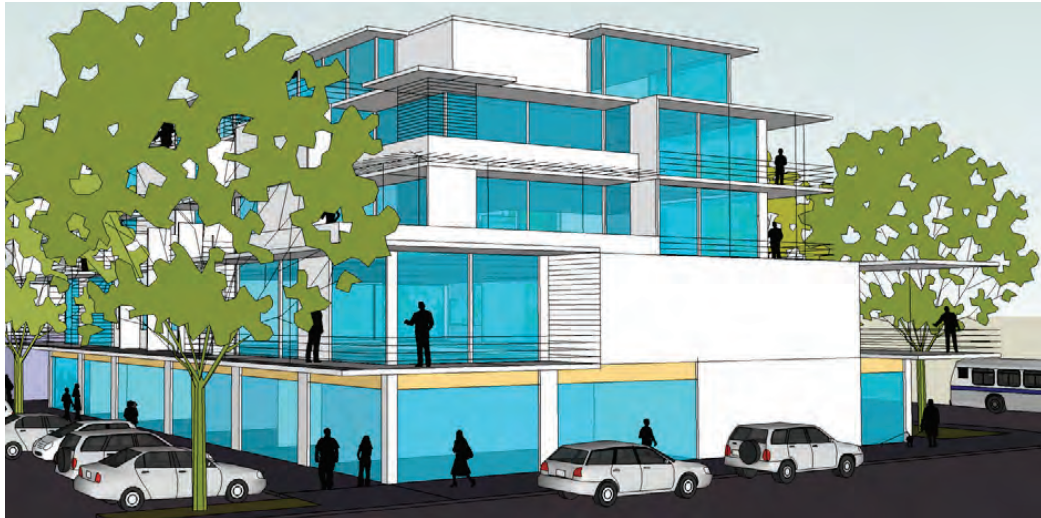
### Objectives for housing choice:

- i Provide a range of dwelling types that match the demographic diversity of Hornsby's residential population, both currently and as projected.
- ii Accommodate "in-situ aging" of residents by providing a proportion of dwellings that are accessible, or that may be adapted, to meet the needs of people who have limited physical mobility.

### Recommended controls:

- i Not more than one third of dwellings in any development should be the same type:
  - Same dwelling-types may identified by features of floorplans such as floor area, the number of bedrooms and living rooms, together with the size and type of private open space.
- ii At least 10% of proposed dwellings should be accessible by people with impaired mobility:
  - Accessibility is defined by AS 1428.
- iii At least 30% of proposed dwellings should be adaptable to meet needs of residents as they age:
  - Adaptability is defined by AS 4299.

## viii Architectural design



Retail corner - with the existing street behind

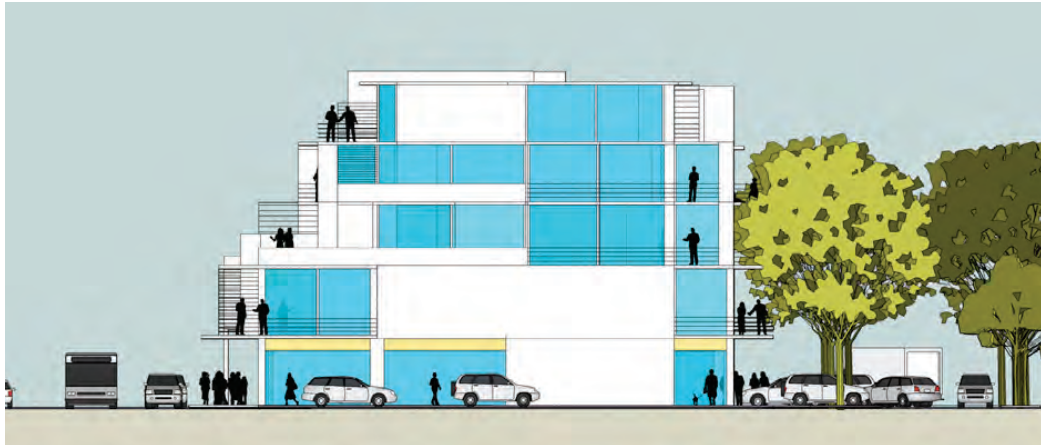
### Objectives for exterior design:

- i Disguise the scale and bulk of five storey buildings in order to achieve reasonable compatibility with existing detached dwellings.
- ii Enhance streetscape character by suitable diversity of exterior materials and finishes.

### Recommended controls:

- i Facades should incorporate effective shadow modelling:
  - Light-weight structures such as balconies should be located at visually-prominent corners of each building.
  - Roofs should be flat-pitches without parapets in order to minimise the height of exterior walls, and they should incorporate eaves which cast shadows across the top-storey's walls.
  - Lower storeys should include awnings and balconies that cast shadows across walls.
- ii Facades should be expressed as two or three distinct levels:
  - The street level should comprise extensively-glazed shop-fronts.
  - Roofs and eaves should contribute to a distinctive silhouette for each building.
  - The top storey should incorporate a high proportion of large windows.
- iii Facade elements should not be repetitive or "inanimate":
  - Extensive panels of blank masonry, and continuous rows of near-identical balconies or windows (other than street level shop-fronts), are not acceptable within any facade.
  - Levels two to four should display a varied pattern of "solid-to-void", and where vertical rows of windows are proposed, the height of masonry sills should be minimised to avoid a bulky character.
  - Parapets that accentuate wall heights generally are not desirable.

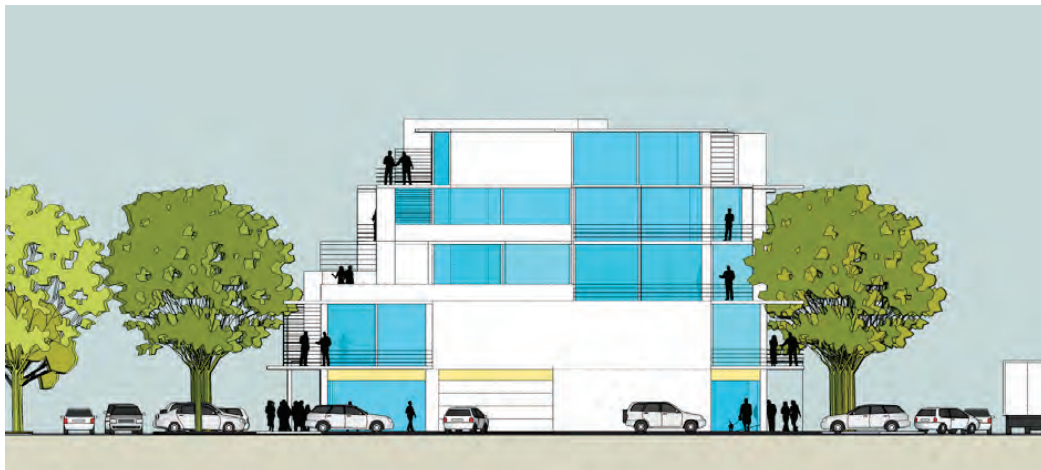
## ix Landscape design



Side elevation:  
Retail facing an existing street with a new "rear lane"

### Objectives for landscape design:

- i Contribute to attractive streetscapes by providing shade along pedestrian frontages and throughout above-ground parking areas.
- ii Disguise the scale of new buildings and contribute to the amenity of neighbouring properties by strategically-placed screen plantings along boundaries and street frontages.
- iii Enhance the amenity of apartments by landscaping balconies and roof terraces.



Side elevation:  
Retail facing a new "main street" with existing street to the "rear"

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**Recommended controls:**

- i Provide co-ordinated paving and tree-plantings along primary and secondary retail frontages:
  - Trees should be planted as widely-spaced avenues along kerbsides, using a consistent range of species for each precinct or centre.
  - Species should have elevated canopies and should achieve mature heights of at least 10m to 12m.
  - Pavements within each precinct or centre should be of a consistent design, constructed of durable and non-slip modular units that are resistant to fading, discolouration and chipping, and that may readily be removed and replaced following future installation of in-ground services.
- ii Provide shady trees and screen plantings throughout above-ground parking areas:
  - Trees should be planted as dual-avenues along "laneways", "new streets" or forecourts.
  - A consistent range of species should be used for each village, with elevated canopies that would achieve mature heights of 10m to 12m.
  - Adjacent to residential neighbours, screens of shrubs should be planted along continuous verges to prevent overlooking.
- iii Provide screen and shade plantings for residential levels:
  - Landscaping should be provided in planter boxes that are watered by recycled grey waters or stormwater.