

Attachment 6 - Apartment Design Guide Assessment

Standards/controls	Comment
<p>Part 3 Siting the development</p> <p>3A Site analysis</p> <p>Site analysis uses the following key elements to demonstrate that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context:</p> <ul style="list-style-type: none">- Site location plan- Aerial photograph- Local context plan- Site context and survey plan- Streetscape elevations and sections- Analysis <p>A written statement explaining how the design of the proposed development has responded to the site analysis must accompany the development application.</p> <p>3B Orientation</p> <div><p><i>Objective 3B-1</i></p><p>Building types and layouts respond to the streetscape and site while optimising solar access within the development</p><p><i>Design guidance</i></p><p>Buildings along the street frontage define the street, by facing it and incorporating direct access from the street (see figure 3B.1)</p><p>Where the street frontage is to the east or west, rear buildings should be orientated to the north</p><p>Where the street frontage is to the north or south, overshadowing to the south should be minimised and buildings behind the street frontage should be orientated to the east and west (see figure 3B.2)</p></div>	<p>Satisfactory</p> <p>A suitable site analysis has been undertaken</p> <p>Satisfactory</p> <p>The site is flood affected and seeks to minimise the elevation of the ground floor to activate the street.</p> <p>The site adjoins a number of existing towers to the west which will lead to some morning shadowing however provides communal open space to the north and limits the number of single aspect south facing apartments.</p>

Standards/controls	Comment
<p>Objective 3B-2 Overshadowing of neighbouring properties is minimised during mid winter</p> <p>Design guidance</p> <p>Living areas, private open space and communal open space should receive solar access in accordance with sections 3D Communal and public open space and 4A Solar and daylight access</p> <p>Solar access to living rooms, balconies and private open spaces of neighbours should be considered</p> <p>Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20%</p> <p>If the proposal will significantly reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy</p> <p>Overshadowing should be minimised to the south or down hill by increased upper level setbacks</p> <p>It is optimal to orientate buildings at 90 degrees to the boundary with neighbouring properties to minimise overshadowing and privacy impacts, particularly where minimum setbacks are used and where buildings are higher than the adjoining development</p> <p>A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings</p>	<p>Satisfactory</p> <p>Solar access to the sites to the west/rear will be impacted by the development, whereby some apartments rely on morning sun which will be impacted by the development. Given the building envelope is largely within what the planning controls anticipate, these impacts are not considered unreasonable.</p>

3C Public domain interface**Objective 3C-1**

Transition between private and public domain is achieved without compromising safety and security

Design guidance

Terraces, balconies and courtyard apartments should have direct street entry, where appropriate

Changes in level between private terraces, front gardens and dwelling entries above the street level provide surveillance and improve visual privacy for ground level dwellings (see figure 3C.1)

Upper level balconies and windows should overlook the public domain

Front fences and walls along street frontages should use visually permeable materials and treatments. The height of solid fences or walls should be limited to 1m

Length of solid walls should be limited along street frontages

Opportunities should be provided for casual interaction between residents and the public domain. Design solutions may include seating at building entries, near letter boxes and in private courtyards adjacent to streets

In developments with multiple buildings and/or entries, pedestrian entries and spaces associated with individual buildings/entries should be differentiated to improve legibility for residents, using a number of the following design solutions:

- architectural detailing
- changes in materials
- plant species
- colours

Opportunities for people to be concealed should be minimised

Satisfactory

Suitable passive surveillance of the street is provided.

The hotel and café have an active frontage through direct access to the hotel lobby and bifold windows to the café.

The large hotel foyer provides for a point of gathering and activation of the street frontage

Standards/controls

Comment

<p>Objective 3C-2</p> <p>Amenity of the public domain is retained and enhanced</p> <p>Design guidance</p> <p>Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking</p> <p>Mail boxes should be located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided</p> <p>The visual prominence of underground car park vents should be minimised and located at a low level where possible</p> <p>Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view</p> <p>Ramping for accessibility should be minimised by building entry location and setting ground floor levels in relation to footpath levels</p> <p>Durable, graffiti resistant and easily cleanable materials should be used</p> <p>Where development adjoins public parks, open space or bushland, the design positively addresses this interface and uses a number of the following design solutions:</p> <ul style="list-style-type: none"> • street access, pedestrian paths and building entries which are clearly defined • paths, low fences and planting that clearly delineate between communal/private open space and the adjoining public open space • minimal use of blank walls, fences and ground level parking <p>On sloping sites protrusion of car parking above ground level should be minimised by using split levels to step underground car parking</p>	<p>Satisfactory</p> <p>Kenny St is currently a undergoing a transition from a lower scale commercial area to highly developed mixed-use buildings.</p> <p>Street trees are to be retained.</p> <p>Awnings are proposed. Mail boxes are integrated into the lobby area.</p> <p>Substations are integrated into the built form.</p>
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3D Communal and public open space

<p>Objective 3D-1</p> <p>An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping</p>	<p>Satisfactory</p> <p>The COS has been redesigned to provide separate areas for hotel guests (L1 podium) and residents (L4 podium). The COS is adequate in size (over 30% of site area).</p> <p>Solar access to the communal open space is limited to the northern area of COS (300sqm) as the remaining areas are underneath the tower or are south</p>
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Objective 3D-2

Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting

Design guidance

Facilities are provided within communal open spaces and common spaces for a range of age groups (see also 4F Common circulation and spaces), incorporating some of the following elements:

- seating for individuals or groups
- barbecue areas
- play equipment or play areas
- swimming pools, gyms, tennis courts or common rooms

The location of facilities responds to microclimate and site conditions with access to sun in winter, shade in summer and shelter from strong winds and down drafts

Visual impacts of services should be minimised, including location of ventilation duct outlets from basement car parks, electrical substations and detention tanks

Objective 3D-3

Communal open space is designed to maximise safety

Design guidance

Communal open space and the public domain should be readily visible from habitable rooms and private open space areas while maintaining visual privacy. Design solutions may include:

- bay windows
- corner windows
- balconies

Communal open space should be well lit

Where communal open space/facilities are provided for children and young people they are safe and contained

Objective 3D-4

Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood

facing. This represents 50% of the required COS (25% = 616sqm).

Satisfactory

A suitable range of activities are possible within the communal open spaces.

Pool, gym and communal room are provided in addition to lawn, seating areas and outdoor exercise areas.

Satisfactory

No concerns raised noting the hotel and residential outdoor areas are now two distinct separate spaces.

N/A

3E Deep soil zones**Objective 3E-1**

Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality

Satisfactory

Due to the site's city centre location, deep soil zones have been incorporated at podium level and to provide screening for the hotel.

The 6m dimension is achieved, with an area of approximately 400sqm (16%).

3F Visual privacy**Objective 3F-1**

Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy

Design criteria

1. Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows:

Building height	Habitable rooms and balconies	Non-habitable rooms
up to 12m (4 storeys)	6m	3m
up to 25m (5-8 storeys)	9m	4.5m
over 25m (9+ storeys)	12m	6m

Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room (see figure 3F.2)

Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties

Satisfactory

The 12m side and rear setback required for buildings 9+ storeys has been adopted from Level 5 and above.

This means that the levels up to 25m exceed the minimum 9m setbacks.

However, it is noted that to the rear, the development often achieves only 18m building separation from 27 Atchison Street (a 9-storey building) however this building has a minimal setback to the common boundary of ~6m.

Objective 3F-2

Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space

Design guidance

Communal open space, common areas and access paths should be separated from private open space and windows to apartments, particularly habitable room windows. Design solutions may include:

- setbacks
- solid or partially solid balustrades to balconies at lower levels
- fencing and/or trees and vegetation to separate spaces
- screening devices
- bay windows or pop out windows to provide privacy in one direction and outlook in another
- raising apartments/private open space above the public domain or communal open space
- planter boxes incorporated into walls and balustrades to increase visual separation
- pergolas or shading devices to limit overlooking of lower apartments or private open space
- on constrained sites where it can be demonstrated that building layout opportunities are limited, fixed louvres or screen panels to windows and/or balconies

Bedrooms, living spaces and other habitable rooms should be separated from gallery access and other open circulation space by the apartment's service areas

Balconies and private terraces should be located in front of living rooms to increase internal privacy

Windows should be offset from the windows of adjacent buildings

Satisfactory

Appropriate separation is provided.

Units are arranged to position noisy areas away from bedrooms.

Balconies generally situated in front of living spaces.

Adjacent balconies separated by fin walls.

3G Pedestrian access and entries**Objective 3G-1**

Building entries and pedestrian access connects to and addresses the public domain

Design guidance

Multiple entries (including communal building entries and individual ground floor entries) should be provided to activate the street edge

Entry locations relate to the street and subdivision pattern and the existing pedestrian network

Building entries should be clearly identifiable and communal entries should be clearly distinguishable from private entries

Where street frontage is limited and multiple buildings are located on the site, a primary street address should be provided with clear sight lines and pathways to secondary building entries

Objective 3G-2

Access, entries and pathways are accessible and easy to identify

Design guidance

Building access areas including lift lobbies, stairwells and hallways should be clearly visible from the public domain and communal spaces

The design of ground floors and underground car parks minimise level changes along pathways and entries

Steps and ramps should be integrated into the overall building and landscape design

For large developments 'way finding' maps should be provided to assist visitors and residents (see figure 4T.3)

For large developments electronic access and audio/video intercom should be provided to manage access

Satisfactory

Separate lobbies are provided

Satisfactory

Entries are clearly visible and accessible.

The ground floor is set above the street by almost 1m, however stairs and ramps access area internalised and readily identifiable.

Car parking areas are designed to provide equitable paths of travel.

Objective 3G-3

Large sites provide pedestrian links for access to streets and connection to destinations

Design guidance

Pedestrian links through sites facilitate direct connections to open space, main streets, centres and public transport

Pedestrian links should be direct, have clear sight lines, be overlooked by habitable rooms or private open spaces of dwellings, be well lit and contain active uses, where appropriate

N/A

3H Vehicle access**Objective 3H-1**

Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes

Design guidance

Car park access should be integrated with the building's overall facade. Design solutions may include:

- the materials and colour palette to minimise visibility from the street
- security doors or gates at entries that minimise voids in the facade
- where doors are not provided, the visible interior reflects the facade design and the building services, pipes and ducts are concealed

Car park entries should be located behind the building line

Vehicle entries should be located at the lowest point of the site minimising ramp lengths, excavation and impacts on the building form and layout

Car park entry and access should be located on secondary streets or lanes where available

Vehicle standing areas that increase driveway width and encroach into setbacks should be avoided

Access point locations should avoid headlight glare to habitable rooms

Adequate separation distances should be provided between vehicle entries and street intersections

Satisfactory

A single vehicle access point is provided on the southern side of the site.

The vehicle entry point is integrated into the façade.

Standards/controls	Comment
<p>The width and number of vehicle access points should be limited to the minimum</p> <p>Visual impact of long driveways should be minimised through changing alignments and screen planting</p> <p>The need for large vehicles to enter or turn around within the site should be avoided</p> <p>Garbage collection, loading and servicing areas are screened</p> <p>Clear sight lines should be provided at pedestrian and vehicle crossings</p> <p>Traffic calming devices such as changes in paving material or textures should be used where appropriate</p> <p>Pedestrian and vehicle access should be separated and distinguishable. Design solutions may include:</p> <ul style="list-style-type: none"> • changes in surface materials • level changes • the use of landscaping for separation 	
<p>3J Bicycle and car parking</p> <p><i>Objective 3J-1</i> Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas</p> <p><i>Objective 3J-2</i> Parking and facilities are provided for other modes of transport</p> <p><i>Objective 3J-3</i> Car park design and access is safe and secure</p>	<p>Satisfactory</p> <p>Car parking meets the GTGD requirements.</p> <p>Bicycle parking has been provided</p> <p>Previously open areas at the ground floor level (western elevation and on Kenny Street have been screened to prevent access whilst not restricting floodwater to move through the site (500mm 'clear zone').</p> <p>Security shutter provided to residential parking</p>

Standards/controls	Comment
<p>Objective 3J-4 Visual and environmental impacts of underground car parking are minimised</p> <p>Design guidance</p> <p>Excavation should be minimised through efficient car park layouts and ramp design</p> <p>Car parking layout should be well organised, using a logical, efficient structural grid and double loaded aisles</p> <p>Protrusion of car parks should not exceed 1m above ground level. Design solutions may include stepping car park levels or using split levels on sloping sites</p> <p>Natural ventilation should be provided to basement and sub basement car parking areas</p> <p>Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design</p>	<p>Satisfactory</p> <p>Access to parking is suitably located on the site and integrated into the design.</p> <p>Parking and driveways are visually minimised from the public domain through sleeving and placing the majority of parking below ground level.</p> <p>Appropriate conditions relating to excavation and geotechnical requirements are recommended.</p>
<p>Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised</p>	N/A
<p>Objective 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised</p>	N/A
<p>4A Solar and daylight access</p> <p>Objective 4A-1 To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space</p>	<p>Satisfactory</p> <p>The proposed development achieves the 70% solar access as demonstrated by the sun eye diagrams.</p> <p>L5-13 – 54/63 units receive 2 hours minimum</p> <p>L14-15 – 9/10 units receive 2 hours minimum</p> <p>L16-17 – 2/2 units receive 2 hours minimum</p> <p>Total - 65/75 units receive 2 hours minimum = 86%</p> <p>12% of units receive no direct sunlight in midwinter (U#02 – 9 x single aspect south facing 2 bedroom units on L5-13)</p>

Objective 4A-2

Daylight access is maximised where sunlight is limited

Satisfactory

The pool area is likely to receive very little solar access as it is beneath the tower form.

Objective 4A-3

Design incorporates shading and glare control, particularly for warmer months

Satisfactory

Screening for glare control is provided to the western elevation.

Design guidance

A number of the following design features are used:

- balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areas
- shading devices such as eaves, awnings, balconies, pergolas, external louvres and planting
- horizontal shading to north facing windows
- vertical shading to east and particularly west facing windows
- operable shading to allow adjustment and choice
- high performance glass that minimises external glare off windows, with consideration given to reduced tint glass or glass with a reflectance level below 20% (reflective films are avoided)

The windows are identified as double glazed and thin blades to the upper levels on the eastern elevation to shade the large glass windows. The floor slabs of each level over hang the windows below to also provide shading.

4B Natural ventilation**Objective 4B-1**

All habitable rooms are naturally ventilated

Design guidance

The building's orientation maximises capture and use of prevailing breezes for natural ventilation in habitable rooms

Depths of habitable rooms support natural ventilation

The area of unobstructed window openings should be equal to at least 5% of the floor area served

Light wells are not the primary air source for habitable rooms

Doors and openable windows maximise natural ventilation opportunities by using the following design solutions:

- adjustable windows with large effective openable areas
- a variety of window types that provide safety and flexibility such as awnings and louvres
- windows which the occupants can reconfigure to funnel breezes into the apartment such as vertical louvres, casement windows and externally opening doors

Satisfactory

All habitable rooms are naturally ventilated

Objective 4B-2

The layout and design of single aspect apartments maximises natural ventilation

Design guidance

Apartment depths are limited to maximise ventilation and airflow (see also figure 4D.3)

Natural ventilation to single aspect apartments is achieved with the following design solutions:

- primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation)
- stack effect ventilation / solar chimneys or similar to naturally ventilate internal building areas or rooms such as bathrooms and laundries
- courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation and avoid trapped smells

Objective 4B-3

The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents

Satisfactory

Single aspect apartments do not include “snorkel” rooms, or other devices which would limit their potential for ventilation.

Satisfactory

First 9 storeys of the building = Levels 5-8 (7 units per floor = 28 units)

20 units are corner/dual aspect units that are naturally cross ventilated = 71%

Overall, a total of 61% of apartments achieve natural ventilation which is acceptable.

No apartments exceed 18m in depth.

4C Ceiling heights**Objective 4C-1**

Ceiling height achieves sufficient natural ventilation and daylight access

Design criteria

1. Measured from finished floor level to finished ceiling level, minimum ceiling heights are:

Minimum ceiling height for apartment and mixed use buildings	
Habitable rooms	2.7m
Non-habitable	2.4m
For 2 storey apartments	2.7m for main living area floor 2.4m for second floor, where its area does not exceed 50% of the apartment area
Attic spaces	1.8m at edge of room with a 30 degree minimum ceiling slope
If located in mixed used areas	3.3m for ground and first floor to promote future flexibility of use

These minimums do not preclude higher ceilings if desired

Design guidance

Ceiling height can accommodate use of ceiling fans for cooling and heat distribution

Objective 4C-2

Ceiling height increases the sense of space in apartments and provides for well proportioned rooms

Objective 4C-3

Ceiling heights contribute to the flexibility of building use over the life of the building

Satisfactory

Ceiling heights are sufficient with 3.1m provided floor to floor, which will allow for servicing in addition to the 2.7m ceiling height.

Satisfactory

Minimum ceiling heights achieved

Satisfactory

Additional height to the hotel floors allows for future adaptation if necessary and promotes flexible use while increasing the sense of space in the otherwise small rooms.

4D Apartment size and layout**Objective 4D-1**

The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity

Design criteria

1. Apartments are required to have the following minimum internal areas:

Apartment type	Minimum internal area
Studio	35m ²
1 bedroom	50m ²
2 bedroom	70m ²
3 bedroom	90m ²

The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m² each

A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m² each

2. Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms

Design guidance

Kitchens should not be located as part of the main circulation space in larger apartments (such as hallway or entry space)

A window should be visible from any point in a habitable room

Where minimum areas or room dimensions are not met apartments need to demonstrate that they are well designed and demonstrate the usability and functionality of the space with realistically scaled furniture layouts and circulation areas. These circumstances would be assessed on their merits

Satisfactory

Unit sizes comply.

All habitable rooms have windows.

*Standards/controls**Comment***Objective 4D-2**

Environmental performance of the apartment is maximised

Design criteria

1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height
2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window

Design guidance

Greater than minimum ceiling heights can allow for proportional increases in room depth up to the permitted maximum depths

All living areas and bedrooms should be located on the external face of the building

Where possible:

- bathrooms and laundries should have an external openable window
- main living spaces should be oriented toward the primary outlook and aspect and away from noise sources

Satisfactory

Depths comply.

Living areas and bedrooms are on the external face of the building.

Habitable room depths do not exceed 8m.

<p>Objective 4D-3 Apartment layouts are designed to accommodate a variety of household activities and needs</p>	<p>Satisfactory Bedroom and living room dimensions appear to be compliant throughout the development.</p>
<p>Design criteria</p> <ol style="list-style-type: none"> 1. Master bedrooms have a minimum area of 10m² and other bedrooms 9m² (excluding wardrobe space) 2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space) 3. Living rooms or combined living/dining rooms have a minimum width of: <ul style="list-style-type: none"> • 3.6m for studio and 1 bedroom apartments • 4m for 2 and 3 bedroom apartments 4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts 	
<p>Design guidance</p> <p>Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas</p> <p>All bedrooms allow a minimum length of 1.5m for robes</p> <p>The main bedroom of an apartment or a studio apartment should be provided with a wardrobe of a minimum 1.8m long, 0.6m deep and 2.1m high</p>	
<p>Apartment layouts allow flexibility over time, design solutions may include:</p> <ul style="list-style-type: none"> • dimensions that facilitate a variety of furniture arrangements and removal • spaces for a range of activities and privacy levels between different spaces within the apartment • dual master apartments • dual key apartments <i>Note: dual key apartments which are separate but on the same title are regarded as two sole occupancy units for the purposes of the Building Code of Australia and for calculating the mix of apartments</i> • room sizes and proportions or open plans (rectangular spaces (2:3) are more easily furnished than square spaces (1:1)) • efficient planning of circulation by stairs, corridors and through rooms to maximise the amount of usable floor space in rooms 	

4E Private open space and balconies**Objective 4E-1**

Apartments provide appropriately sized private open space and balconies to enhance residential amenity

Design criteria

1. All apartments are required to have primary balconies as follows:

Dwelling type	Minimum area	Minimum depth
Studio apartments	4m ²	-
1 bedroom apartments	8m ²	2m
2 bedroom apartments	10m ²	2m
3+ bedroom apartments	12m ²	2.4m

The minimum balcony depth to be counted as contributing to the balcony area is 1m

2. For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m² and a minimum depth of 3m

Design guidance

Increased communal open space should be provided where the number or size of balconies are reduced

Storage areas on balconies is additional to the minimum balcony size

Balcony use may be limited in some proposals by:

- consistently high wind speeds at 10 storeys and above
- close proximity to road, rail or other noise sources
- exposure to significant levels of aircraft noise
- heritage and adaptive reuse of existing buildings

In these situations, juliet balconies, operable walls, enclosed wintergardens or bay windows may be appropriate, and other amenity benefits for occupants should also be provided in the apartments or in the development or both. Natural ventilation also needs to be demonstrated

Satisfactory

Balcony sizes are compliant

Objective 4E-2

Primary private open space and balconies are appropriately located to enhance liveability for residents

Design guidance

Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space

Private open spaces and balconies predominantly face north, east or west

Primary open space and balconies should be orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms

Satisfactory

Private open space areas are well connected to internal areas and oriented to take advantage of sun and outlook.

Objective 4E-3

Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building

Design guidance

Solid, partially solid or transparent fences and balustrades are selected to respond to the location. They are designed to allow views and passive surveillance of the street while maintaining visual privacy and allowing for a range of uses on the balcony. Solid and partially solid balustrades are preferred

Full width full height glass balustrades alone are generally not desirable

Projecting balconies should be integrated into the building design and the design of soffits considered

Operable screens, shutters, hoods and pergolas are used to control sunlight and wind

Balustrades are set back from the building or balcony edge where overlooking or safety is an issue

Downpipes and balcony drainage are integrated with the overall facade and building design

Air-conditioning units should be located on roofs, in basements, or fully integrated into the building design

Where clothes drying, storage or air conditioning units are located on balconies, they should be screened and integrated in the building design

Satisfactory

Standards/controls	Comment
<p>Ceilings of apartments below terraces should be insulated to avoid heat loss</p> <p>Water and gas outlets should be provided for primary balconies and private open space</p>	
<p>Objective 4E-4 Private open space and balcony design maximises safety</p> <p>Design guidance</p> <p>Changes in ground levels or landscaping are minimised</p> <p>Design and detailing of balconies avoids opportunities for climbing and falls</p>	<p>Satisfactory</p>
<p>4F Common circulation and spaces</p>	
<p>Objective 4F-1 Common circulation spaces achieve good amenity and properly service the number of apartments</p>	<p>Satisfactory</p> <p>Max. 7 apartments on each floor</p> <p>75 units are serviced by 2 lifts</p>
<p>Objective 4F-2 Common circulation spaces promote safety and provide for social interaction between residents</p> <p>Design guidance</p> <p>Direct and legible access should be provided between vertical circulation points and apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines</p> <p>Tight corners and spaces are avoided</p> <p>Circulation spaces should be well lit at night</p> <p>Legible signage should be provided for apartment numbers, common areas and general wayfinding</p> <p>Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided</p> <p>In larger developments, community rooms for activities such as owners corporation meetings or resident use should be provided and are ideally co-located with communal open space</p> <p>Where external galleries are provided, they are more open than closed above the balustrade along their length</p>	<p>Satisfactory</p>

4G Storage**Objective 4G-1**

Adequate, well designed storage is provided in each apartment

Design criteria

1. In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:

Dwelling type	Storage size volume
Studio apartments	4m ³
1 bedroom apartments	6m ³
2 bedroom apartments	8m ³
3+ bedroom apartments	10m ³

At least 50% of the required storage is to be located within the apartment

Design guidance

Storage is accessible from either circulation or living areas

Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proof and screened from view from the street

Left over space such as under stairs is used for storage

Objective 4G-2

Additional storage is conveniently located, accessible and nominated for individual apartments

Design guidance

Storage not located in apartments is secure and clearly allocated to specific apartments

Storage is provided for larger and less frequently accessed items

Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages so that allocated car parking remains accessible

If communal storage rooms are provided they should be accessible from common circulation areas of the building

Storage not located in an apartment is integrated into the overall building design and is not visible from the public domain

Satisfactory

Adequate storage areas are provided within apartment layouts and in basement

Satisfactory

Storage is conveniently located alongside many parking spaces and in the residential basement.

4H Acoustic privacy**Objective 4H-1**

Noise transfer is minimised through the siting of buildings and building layout

Design guidance

Adequate building separation is provided within the development and from neighbouring buildings/adjacent uses (see also section 2F Building separation and section 3F Visual privacy)

Window and door openings are generally orientated away from noise sources

Noisy areas within buildings including building entries and corridors should be located next to or above each other and quieter areas next to or above quieter areas

Storage, circulation areas and non-habitable rooms should be located to buffer noise from external sources

The number of party walls (walls shared with other apartments) are limited and are appropriately insulated

Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces and circulation areas should be located at least 3m away from bedrooms

Satisfactory

Landscaping at hotel level creates an appropriate interface with adjoining sites to the rear. Use of outdoor hotel areas can be properly managed to minimise amenity impacts on residents through the implementation of the Plan of Management.

Objective 4H-2

Noise impacts are mitigated within apartments through layout and acoustic treatments

Design guidance

Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions:

- rooms with similar noise requirements are grouped together
- doors separate different use zones
- wardrobes in bedrooms are co-located to act as sound buffers

Where physical separation cannot be achieved noise conflicts are resolved using the following design solutions:

- double or acoustic glazing
- acoustic seals
- use of materials with low noise penetration properties
- continuous walls to ground level courtyards where they do not conflict with streetscape or other amenity requirements

Satisfactory

No specific concerns.

4J Noise and pollution**Objective 4J-1**

In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings

Satisfactory

Generally, the building is well located, with residential apartments 6 storeys above ground level to reduce noise impacts.

Objective 4J-2

Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission

Satisfactory**Design guidance**

Design solutions to mitigate noise include:

- limiting the number and size of openings facing noise sources
- providing seals to prevent noise transfer through gaps
- using double or acoustic glazing, acoustic louvres or enclosed balconies (wintergardens)
- using materials with mass and/or sound insulation or absorption properties e.g. solid balcony balustrades, external screens and soffits

4K Apartment mix**Objective 4K-1**

A range of apartment types and sizes is provided to cater for different household types now and into the future

Satisfactory

The development consists of 75 units:

1 bed - 11

2 bed – 58

3 bed – 4

4 bed – 2

Design guidance

A variety of apartment types is provided

The apartment mix is appropriate, taking into consideration:

- the distance to public transport, employment and education centres
- the current market demands and projected future demographic trends
- the demand for social and affordable housing
- different cultural and socioeconomic groups

Provides an acceptable mix noting that a more diverse offering would include studio apartments and dual key arrangements to contribute to housing diversity and affordability in Wollongong.

*note – DCP requires 10% of 1 bed & 10% 3 bed apartments to be provided. A higher proportion of 1 bedroom apartments (15%) are proposed which is supported and reasonably compensates for the lower number of 3+ bed units in this location (8%).

Flexible apartment configurations are provided to support diverse household types and stages of life including single person households, families, multi-generational families and group households

Standards/controls	Comment
<p>Objective 4K-2 The apartment mix is distributed to suitable locations within the building</p> <p>Design guidance</p> <p>Different apartment types are located to achieve successful facade composition and to optimise solar access (see figure 4K.3)</p> <p>Larger apartment types are located on the ground or roof level where there is potential for more open space and on corners where more building frontage is available</p>	<p>Satisfactory</p> <p>The majority of 3 & 4-bedroom units are located in the top four floors, with one and two bedroom units spread throughout.</p> <p>Although some larger units could be provided closer to the COS area, the larger units have increased balcony sizes and this isn't considered an issue that would necessitate a redesign.</p>
<p>4L Ground floor apartments</p> <p>Objective 4L-1 Street frontage activity is maximised where ground floor apartments are located</p>	
<p>Objective 4L-2 Design of ground floor apartments delivers amenity and safety for residents</p>	
<p>4M Facades</p> <p>Objective 4M-1 Building facades provide visual interest along the street while respecting the character of the local area</p> <p>Design guidance</p> <p>Design solutions for front building facades may include:</p> <ul style="list-style-type: none"> • a composition of varied building elements • a defined base, middle and top of buildings • revealing and concealing certain elements • changes in texture, material, detail and colour to modify the prominence of elements <p>Building services should be integrated within the overall facade</p>	<p>Satisfactory</p> <p>Façade treatment includes louvres and blades walls within the podium and a relatively simple treatment to the tower.</p>

Standards/controls**Comment**

Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. Design solutions may include:

- well composed horizontal and vertical elements
- variation in floor heights to enhance the human scale
- elements that are proportional and arranged in patterns
- public artwork or treatments to exterior blank walls
- grouping of floors or elements such as balconies and windows on taller buildings

Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights

Shadow is created on the facade throughout the day with building articulation, balconies and deeper window reveals

Objective 4M-2

Building functions are expressed by the facade

Design guidance

Building entries should be clearly defined

Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height

The apartment layout should be expressed externally through facade features such as party walls and floor slabs

Satisfactory

There is a delineation between the podium (hotel) and residential tower which is clearly articulated

4N Roof design**Objective 4N-1**

Roof treatments are integrated into the building design and positively respond to the street

Design guidance

Roof design relates to the street. Design solutions may include:

- special roof features and strong corners
- use of skillion or very low pitch hipped roofs
- breaking down the massing of the roof by using smaller elements to avoid bulk
- using materials or a pitched form complementary to adjacent buildings

Satisfactory

The roof design has changed in response to the previous DRP comments

Standards/controls	Comment
<p>Roof treatments should be integrated with the building design. Design solutions may include:</p> <ul style="list-style-type: none"> • roof design proportionate to the overall building size, scale and form • roof materials compliment the building • service elements are integrated 	
<p>Objective 4N-2 Opportunities to use roof space for residential accommodation and open space are maximised</p> <p>Design guidance</p> <p>Habitable roof space should be provided with good levels of amenity. Design solutions may include:</p> <ul style="list-style-type: none"> • penthouse apartments • dormer or clerestory windows • openable skylights <p>Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations</p>	<p>Satisfactory</p> <p>Roof space is not utilised for COS or other purposes</p>
<p>Objective 4N-3 Roof design incorporates sustainability features</p> <p>Design guidance</p> <p>Roof design maximises solar access to apartments during winter and provides shade during summer. Design solutions may include:</p> <ul style="list-style-type: none"> • the roof lifts to the north • eaves and overhangs shade walls and windows from summer sun <p>Skylights and ventilation systems should be integrated into the roof design</p>	<p>Satisfactory</p> <p>Solar panels are provided.</p>

40 Landscape design**Objective 40-1**

Landscape design is viable and sustainable

Design guidance

Landscape design should be environmentally sustainable and can enhance environmental performance by incorporating:

- diverse and appropriate planting
- bio-filtration gardens
- appropriately planted shading trees
- areas for residents to plant vegetables and herbs
- composting
- green roofs or walls

Ongoing maintenance plans should be prepared

Microclimate is enhanced by:

- appropriately scaled trees near the eastern and western elevations for shade
- a balance of evergreen and deciduous trees to provide shading in summer and sunlight access in winter
- shade structures such as pergolas for balconies and courtyards

Tree and shrub selection considers size at maturity and the potential for roots to compete (see Table 4)

Satisfactory

Acceptable landscaping is provided, subject to conditions

Objective 40-2

Landscape design contributes to the streetscape and amenity

Design guidance

Landscape design responds to the existing site conditions including:

- changes of levels
- views
- significant landscape features including trees and rock outcrops

Significant landscape features should be protected by:

- tree protection zones (see figure 40.5)
- appropriate signage and fencing during construction

Plants selected should be endemic to the region and reflect the local ecology

Satisfactory

Standards/controls	Comment
4P Planting on structures	
Objective 4P-1 Appropriate soil profiles are provided	Satisfactory
Design guidance Structures are reinforced for additional saturated soil weight	
Soil volume is appropriate for plant growth, considerations include: <ul style="list-style-type: none"> • modifying depths and widths according to the planting mix and irrigation frequency • free draining and long soil life span • tree anchorage 	
Minimum soil standards for plant sizes should be provided in accordance with Table 5	
Objective 4P-2 Plant growth is optimised with appropriate selection and maintenance	Satisfactory
Design guidance Plants are suited to site conditions, considerations include: <ul style="list-style-type: none"> • drought and wind tolerance • seasonal changes in solar access • modified substrate depths for a diverse range of plants • plant longevity 	
A landscape maintenance plan is prepared	
Irrigation and drainage systems respond to: <ul style="list-style-type: none"> • changing site conditions • soil profile and the planting regime • whether rainwater, stormwater or recycled grey water is used 	

Objective 4P-3

Planting on structures contributes to the quality and amenity of communal and public open spaces

Design guidance

Building design incorporates opportunities for planting on structures. Design solutions may include:

- green walls with specialised lighting for indoor green walls
- wall design that incorporates planting
- green roofs, particularly where roofs are visible from the public domain
- planter boxes

Note: structures designed to accommodate green walls should be integrated into the building facade and consider the ability of the facade to change over time

Satisfactory

4Q Universal design**Objective 4Q-1**

Universal design features are included in apartment design to promote flexible housing for all community members

Design guidance

Developments achieve a benchmark of 20% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features

Satisfactory

8 units (10%) have been designed to meet adaptable standards, with another 15 units (20%) designed to meet Silver Liveable Housing guidelines (includes the 8 adaptable).

Objective 4Q-2

A variety of apartments with adaptable designs are provided

Design guidance

Adaptable housing should be provided in accordance with the relevant council policy

Design solutions for adaptable apartments include:

- convenient access to communal and public areas
- high level of solar access
- minimal structural change and residential amenity loss when adapted
- larger car parking spaces for accessibility
- parking titled separately from apartments or shared car parking arrangements

Satisfactory

All adaptable units are 2-bedroom. A variety of units sizes would improve opportunities ageing in place or independent living for those with a disability.

Standards/controls	Comment
<p>Objective 4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs</p> <p>Design guidance Apartment design incorporates flexible design solutions which may include:</p> <ul style="list-style-type: none"> • rooms with multiple functions • dual master bedroom apartments with separate bathrooms • larger apartments with various living space options • open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom 	<p>Satisfactory Generally acceptable, see previous comments</p>
<p>4R Adaptive reuse</p> <p>Objective 4R-1 New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place</p> <p>Objective 4R-2 Adapted buildings provide residential amenity while not precluding future adaptive reuse</p>	<p>N/A</p> <p>N/A</p>
<p>4S Mixed use</p> <p>Objective 4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement</p> <p>Design guidance Mixed use development should be concentrated around public transport and centres</p> <p>Mixed use developments positively contribute to the public domain. Design solutions may include:</p> <ul style="list-style-type: none"> • development addresses the street • active frontages are provided • diverse activities and uses • avoiding blank walls at the ground level • live/work apartments on the ground floor level, rather than commercial 	<p>Satisfactory The hotel and residential uses have been separated to minimise conflict between these land uses.</p>

Standards/controls	Comment
<p data-bbox="220 264 421 300">Objective 4S-2</p> <p data-bbox="220 311 847 412">Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents</p> <p data-bbox="220 445 440 481">Design guidance</p> <p data-bbox="220 495 820 562">Residential circulation areas should be clearly defined. Design solutions may include:</p> <ul data-bbox="225 584 879 904" style="list-style-type: none"> • residential entries are separated from commercial entries and directly accessible from the street • commercial service areas are separated from residential components • residential car parking and communal facilities are separated or secured • security at entries and safe pedestrian routes are provided • concealment opportunities are avoided <p data-bbox="220 931 858 999">Landscaped communal open space should be provided at podium or roof levels</p>	<p data-bbox="927 271 1082 306">Satisfactory</p> <p data-bbox="927 318 1394 385">Commercial and residential lobby access is separated.</p> <p data-bbox="927 396 1394 486">There is a large combined service dock for both the residential and non-residential components.</p> <p data-bbox="927 497 1394 564">Parking and communal areas are separated and secured.</p> <p data-bbox="927 575 1394 642">Secure entry points are provided to residential lobby areas.</p>

4T Awnings and signage**Objective 4T-1**

Awnings are well located and complement and integrate with the building design

Design guidance

Awnings should be located along streets with high pedestrian activity and active frontages

A number of the following design solutions are used:

- continuous awnings are maintained and provided in areas with an existing pattern
- height, depth, material and form complements the existing street character
- protection from the sun and rain is provided
- awnings are wrapped around the secondary frontages of corner sites
- awnings are retractable in areas without an established pattern

Awnings should be located over building entries for building address and public domain amenity

Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure

Gutters and down pipes should be integrated and concealed

Lighting under awnings should be provided for pedestrian safety

Objective 4T-2

Signage responds to the context and desired streetscape character

Satisfactory

An awning is provided

N/A

Condition is recommended confirming signage must be subject to a future application unless exempt.

4U Energy efficiency**Objective 4U-1**

Development incorporates passive environmental design

Design guidance

Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access)

Well located, screened outdoor areas should be provided for clothes drying

Satisfactory

Minimum levels of solar access and natural ventilation are achieved.

Standards/controls

Comment

Objective 4U-2

Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer

Design guidance

A number of the following design solutions are used:

- the use of smart glass or other technologies on north and west elevations
- thermal mass in the floors and walls of north facing rooms is maximised
- polished concrete floors, tiles or timber rather than carpet
- insulated roofs, walls and floors and seals on window and door openings
- overhangs and shading devices such as awnings, blinds and screens

Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement)

Satisfactory

As above

Objective 4U-3

Adequate natural ventilation minimises the need for mechanical ventilation

Design guidance

A number of the following design solutions are used:

- rooms with similar usage are grouped together
- natural cross ventilation for apartments is optimised
- natural ventilation is provided to all habitable rooms and as many non-habitable rooms, common areas and

Satisfactory

4V Water management and conservation

Objective 4V-1

Potable water use is minimised

Design guidance

Water efficient fittings, appliances and wastewater reuse should be incorporated

Apartments should be individually metered

Rainwater should be collected, stored and reused on site

Drought tolerant, low water use plants should be used within landscaped areas

Satisfactory

Standards/controls

Comment

Objective 4V-2

Urban stormwater is treated on site before being discharged to receiving waters

Design guidance

Water sensitive urban design systems are designed by a suitably qualified professional

A number of the following design solutions are used:

- runoff is collected from roofs and balconies in water tanks and plumbed into toilets, laundry and irrigation
- porous and open paving materials is maximised
- on site stormwater and infiltration, including bio-retention systems such as rain gardens or street tree pits

Satisfactory

The proposal includes a Water Sensitive Urban Design Report which details water recapture and use in landscaped areas along with gross pollutant traps.

Objective 4V-3

Flood management systems are integrated into site design

Design guidance

Detention tanks should be located under paved areas, driveways or in basement car parks

On large sites parks or open spaces are designed to provide temporary on site detention basins

Satisfactory

Satisfactory response to flooding matters by Council's engineer, noting incorporation of a solid masonry wall (up to 1m in height) along the northern boundary to protect adjoining building against flood waters passing through site.

4W Waste management

Objective 4W-1

Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents

Design guidance

Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development or in the basement car park

Waste and recycling storage areas should be well ventilated

Circulation design allows bins to be easily manoeuvred between storage and collection points

Temporary storage should be provided for large bulk items such as mattresses

A waste management plan should be prepared

Satisfactory

Garbage storage rooms and waste collection occurs in the ground level parking area behind commercial space and lobbies which is appropriate.

Chutes are provided for general and recyclable waste.

*Standards/controls**Comment***Objective 4W-2**

Domestic waste is minimised by providing safe and convenient source separation and recycling

Design guidance

All dwellings should have a waste and recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste and recycling

Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core

For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses

Alternative waste disposal methods such as composting should be provided

Satisfactory

Recycling rooms and provision for FOGO collection has been provided.

4X Building maintenance**Objective 4X-1**

Building design detail provides protection from weathering

Design guidance

A number of the following design solutions are used:

- roof overhangs to protect walls
- hoods over windows and doors to protect openings
- detailing horizontal edges with drip lines to avoid staining of surfaces
- methods to eliminate or reduce planter box leaching
- appropriate design and material selection for hostile locations

Satisfactory

Standards/controls	Comment
<p>Objective 4X-2 Systems and access enable ease of maintenance</p> <p>Design guidance</p> <p>Window design enables cleaning from the inside of the building</p> <p>Building maintenance systems should be incorporated and integrated into the design of the building form, roof and facade</p> <p>Design solutions do not require external scaffolding for maintenance access</p> <p>Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems</p> <p>Centralised maintenance, services and storage should be provided for communal open space areas within the building</p>	Satisfactory
<p>Objective 4X-3 Material selection reduces ongoing maintenance costs</p> <p>Design guidance</p> <p>A number of the following design solutions are used:</p> <ul style="list-style-type: none"> • sensors to control artificial lighting in common circulation and spaces • natural materials that weather well and improve with time such as face brickwork • easily cleaned surfaces that are graffiti resistant • robust and durable materials and finishes are used in locations which receive heavy wear and tear, such as common circulation areas and lift interiors 	