ATTACHMENT 3

Apartment Design Guide assessment

Standards/controls	*Comment*
2E Building depth Use a range of appropriate maximum apartment depths of 12-18m from glass line to glass line when precinct planning and testing development controls. This will ensure that apartments receive adequate daylight and natural ventilation and optimise natural cross ventilation. Where greater depths are proposed, demonstrate that indicative layouts can achieve acceptable amenity with room and apartment depths. This may require significant building articulation and increased perimeter wall length.	The building depth for building A exceeds 18m, reaching almost 24m at its widest as highlighted below.  The room depths do not exceed 8m from a window and the variation does not compromise natural ventilation targets. It is however noted that the exceedance of the recommended building depth reduces opportunities for improving the solar access to the heritage listed tree.
Part 3 Siting the development	
3A Site analysis 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: - Site location plan - Aerial photograph - Local context plan - Site context and survey plan - Streetscape elevations and sections - Analysis A written statement explaining how the design of the proposed development has responded to the site analysis must accompany the development application.	A suitable level of detail has been provided to demonstrate the site analysis has appropriately informed the design.

Standards/controls	*Comment*
3B Orientation *Objective 3B-1* Building types and layouts respond to the streetscape and site while optimising solar access within the development ***Design guidance*** Buildings along the street frontage define the street, by facing it and incorporating direct access from the street (see figure 3B.1) Where the street frontage is to the east or west, rear buildings should be orientated to the north 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)	The orientation of the tower form responds to the site characteristics and adjoining development.

Standards/controls	*Comment*
Objective 3B-2 Overshadowing of neighbouring properties is minimised during mid winter	The form and separation of the tower form to adjoining development provides an appropriate response to adjoining development in terms of mitigating overshadowing impacts.
Design guidance	
Living areas, private open space and communal open spac should receive solar access in accordance with sections 3D Communal and public open space and 4A Solar and daylight access	
Solar access to living rooms, balconies and private open spaces of neighbours should be considered	
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%	
If the proposal will significantly reduce the solar access of neighbours, building separation should be increased beyon minimums contained in section 3F Visual privacy	
Overshadowing should be minimised to the south or down hill by increased upper level setbacks	
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	
A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings	

Standards/controls	*Comment*
3C Public domain interface	Satisfactory
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	

Standards/controls	*Comment*
Objective 3C-2 Amenity of the public domain is retained and enhanced	Satisfactory
Design guidance	
Planting softens the edges of any raised terraces to the street, for example above sub-basement car parking	
Mail boxes should be located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	
The visual prominence of underground car park vents should be minimised and located at a low level where possible	
Substations, pump rooms, garbage storage areas and other service requirements should be located in basement car parks or out of view	
Ramping for accessibility should be minimised by building entry location and setting ground floor levels in relation to footpath levels	
Durable, graffiti resistant and easily cleanable materials should be used	
Where development adjoins public parks, open space or bushland, the design positively addresses this interface and uses a number of the following design solutions: • 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	
On sloping sites protrusion of car parking above ground level should be minimised by using split levels to step underground car parking	

Standards/controls	*Comment*
3D Communal and public open space *Objective 3D-1* An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping ***Design criteria*** 1. Communal open space has a minimum area equal to 25% of the site (see figure 3D.3) 2. Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter) ***Design guidance*** Communal open space should be consolidated into a well designed, easily identified and usable area Communal open space should have a minimum dimension of 3m, and larger developments should consider greater dimensions Communal open space should be co-located with deep soil areas Direct, equitable access should be provided to communal open space areas from common circulation areas, entries and lobbies Where communal open space cannot be provided at ground level, it should be provided on a podium or roof Where developments are unable to achieve the design criteria, such as on small lots, sites within business zones, or in a dense urban area, they should: • provide communal spaces elsewhere such as a landscaped roof top terrace or a common room • provide larger balconies or increased private open space for apartments • demonstrate good proximity to public open space and facilities and/or provide contributions to public open space	The communal open space provided represents ~22% of the site area (950m² level 4, 280m² Level 2 and 200m² on level 1 – 1430 / 6,514 = 22%). The central level 4 COS area has northerly aspect that will receive the requisite solar access.

Standards/controls	*Comment*
Objective 3D-2 Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting	The COS is split between a gym on level 1, a COS area on level 2 with a barbeque and covered area, and a larger COS area on level 4. All three areas have an accessible toilet and both level 2 and 4 have barbeque areas, seating and a mixture of open and covered space. The spaces combined provide for a variety of separate locations and experiences.
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	

Standards/controls	*Comment*
Objective 3D-4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood ***Design guidance*** The public open space should be well connected with publi streets along at least one edge The public open space should be connected with nearby parks and other landscape elements Public open space should be linked through view lines, pedestrian desire paths, termination points and the wider street grid Solar access should be provided year round along with protection from strong winds Opportunities for a range of recreational activities should be provided for people of all ages A positive address and active frontages should be provided adjacent to public open space Boundaries should be clearly defined between public open space and private areas	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 ***Design criteria*** 1. Deep soil zones are to meet the following minimum requirements: Site area / Minimum dimensions / Deep soil zone (% of site area) less than 650m² / - / 7% 650m² - 1,500m² / 3m greater than 1,500m² / 6m greater than 1,500m² with significant existing tree cover / 6m	The proposal retains the heritage listed tree and removes existing hard stand area that comes right to the trunk and in doing do provides for a large deep soil area within the site.

Standards/controls	*Comment*
Design guidance On some sites it may be possible to provide larger deep soi zones, depending on the site area and context: • 10% of the site as deep soil on sites with an area of 650m² - 1,500m² • 15% of the site as deep soil on sites greater than 1,500m² Deep soil zones should be located to retain existing significant trees and to allow for the development of healthy root systems, providing anchorage and stability for mature trees. Design solutions may include: • basement and sub basement car park design that is consolidated beneath building footprints • use of increased front and side setbacks • adequate clearance around trees to ensure long term health • co-location with other deep soil areas on adjacent sites t create larger contiguous areas of deep soil Achieving the design criteria may not be possible on some sites including where: • the location and building typology have limited or no space for deep soil at ground level (e.g. central business district, constrained sites, high density areas, or in centres) • there is 100% site coverage or non-residential uses at ground floor level Where a proposal does not achieve deep soil requirements, acceptable stormwater management should be achieved and alternative forms of planting provided such as on structure	

Standards/controls	*Comment*
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 sam 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	Separation distances comply.

Standards/controls	*Comment*
Design guidance	
Generally one step in the built form as the height increases due to building separations is desirable. Additional steps should be careful not to cause a 'ziggurat' appearance	
For residential buildings next to commercial buildings, separation distances should be measured as follows: • for retail, office spaces and commercial balconies use the habitable room distances • for service and plant areas use the non-habitable room distances	
New development should be located and oriented to maximise visual privacy between buildings on site and for neighbouring buildings. Design solutions include: • site layout and building orientation to minimise privacy impacts (see also section 3B Orientation) • on sloping sites, apartments on different levels have appropriate visual separation distances (see figure 3F.4)	
Apartment buildings should have an increased separation distance of 3m (in addition to the requirements set out in design criteria 1) when adjacent to a different zone that permits lower density residential development to provide for a transition in scale and increased landscaping (figure 3F.5)	
Direct lines of sight should be avoided for windows and balconies across corners	
No separation is required between blank walls	

Standards/controls	*Comment*
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	Satisfactory
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	
Recessed balconies and/or vertical fins should be used between adjacent balconies	

Standards/controls	*Comment*
3G Pedestrian access and entries	
Objective 3G-1 Building entries and pedestrian access connects to and addresses the public domain	Satisfactory
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 communa entries should be clearly distinguishable from private entrie	
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	Satisfactory
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	

Standards/controls	*Comment*
Objective 3G-3 Large sites provide pedestrian links for access to streets an 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	Access is provided via the right of carriageway to Parkinson Street, keeping both the primary frontages free of vehicular crossovers.

Standards/controls	*Comment*
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 th 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 betwee vehicle entries and street intersections	
The width and number of vehicle access points should be limited to the minimum	
Visual impact of long driveways should be minimised through changing alignments and screen planting	
The need for large vehicles to enter or turn around within the site should be avoided	
Garbage collection, loading and servicing areas are screened	
Clear sight lines should be provided at pedestrian and vehicle crossings	
Traffic calming devices such as changes in paving material or textures should be used where appropriate	
Pedestrian and vehicle access should be separated and distinguishable. Design solutions may include: • changes in surface materials • level changes • the use of landscaping for separation	

Standards/controls	*Comment*
3J Bicycle and car parking	
Objective 3J-1 Car parking is provided based on proximity to public transp in metropolitan Sydney and centres in regional areas ***Design criteria*** 1. For development in the following locations: • on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or • on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre the minimum car parking requirement for residents an visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less The car parking needs for a development must be provided off street ***Design guidance*** Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site Where less car parking is provided in a development, council should not provide on street resident parking permit	See discussion at Chapter E3 of WDCP 2009.
Objective 3J-2 Parking and facilities are provided for other modes of transport ***Design guidance*** Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas Conveniently located charging stations are provided for electric vehicles, where desirable	Complies

Standards/controls	*Comment*
3J Bicycle and car parking *Objective 3J-3* Car park design and access is safe and secure ***Design guidance*** Supporting facilities within car parks, including garbage, plant and switch rooms, storage areas and car wash bays can be accessed without crossing car parking spaces Direct, clearly visible and well lit access should be provided into common circulation areas A clearly defined and visible lobby or waiting area should be provided to lifts and stairs For larger car parks, safe pedestrian access should be clearly defined and circulation areas have good lighting, colour, line marking and/or bollards	Complies

Standards/controls	*Comment*
Objective 3J-4 Visual and environmental impacts of underground car parking are minimised ***Design guidance*** Excavation should be minimised through efficient car park layouts and ramp design Car parking layout should be well organised, using a logical, efficient structural grid and double loaded aisles 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 Natural ventilation should be provided to basement and sub basement car parking areas Ventilation grills or screening devices for car parking openings should be integrated into the facade and landscape design	Areas of above ground car parking are sleeved with either commercial or residential and screened from public view.
Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised ***Design guidance*** On-grade car parking should be avoided Where on-grade car parking is unavoidable, the following design solutions are used: • parking is located on the side or rear of the lot away from the primary street frontage • cars are screened from view of streets, buildings, communal and private open space areas • safe and direct access to building entry points is provided • parking is incorporated into the landscape design of the site, by extending planting and materials into the car park space • stormwater run-off is managed appropriately from car parking surfaces • bio-swales, rain gardens or on site detention tanks are provided, where appropriate • light coloured paving materials or permeable paving systems are used and shade trees are planted between every 4-5 parking spaces to reduce increased surface temperatures from large areas of paving	N/A

Standards/controls	*Comment*
Objective 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised ***Design guidance*** Exposed parking should not be located along primary street frontages Screening, landscaping and other design elements including public art should be used to integrate the above ground car parking with the facade. Design solutions may include: • car parking that is concealed behind the facade, with windows integrated into the overall facade design (approach should be limited to developments where a larger floor plate podium is suitable at lower levels) • car parking that is 'wrapped' with other uses, such as retail, commercial or two storey Small Office/Home Office (SOHO) units along the street frontage (see figure 3J.9) Positive street address and active frontages should be provided at ground level	Satisfactory
4A Solar and daylight access *Objective 4A-1* To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space ***Design criteria*** 1. Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas 2. In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid winter 3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter	The proposal achieves 88% of units with solar access.

Standards/controls	*Comment*
Design guidance The design maximises north aspect and the number of single aspect south facing apartments is minimised Single aspect, single storey apartments should have a northerly or easterly aspect Living areas are best located to the north and service area to the south and west of apartments To optimise the direct sunlight to habitable rooms and balconies a number of the following design features are used: • dual aspect apartments • shallow apartment layouts • two storey and mezzanine level apartments • bay windows To maximise the benefit to residents of direct sunlight withi living rooms and private open spaces, a minimum of 1m² of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes Achieving the design criteria may not be possible on some sites. This includes: • where greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise source • on south facing sloping sites • where significant views are oriented away from the desired aspect for direct sunlight Design drawings need to demonstrate how site constraints and orientation preclude meeting the design criteria and how the development meets the objective	North aspect is maximised and single aspect south facing units are limited to 6% of the total.

Standards/controls	*Comment*
Objective 4A-2 Daylight access is maximised where sunlight is limited ***Design guidance*** Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms Where courtyards are used : • use is restricted to kitchens, bathrooms and service areas • building services are concealed with appropriate detailing and materials to visible walls • courtyards are fully open to the sky • access is provided to the light well from a communal area for cleaning and maintenance • acoustic privacy, fire safety and minimum privacy separation distances (see section 3F Visual privacy) are achieved Opportunities for reflected light into apartments are optimised through: • reflective exterior surfaces on buildings opposite south facing windows • positioning windows to face other buildings or surfaces (on neighbouring sites or within the site) that will reflect light • integrating light shelves into the design • light coloured internal finishes	Satisfactory

Standards/controls	*Comment*
Objective 4A-3 Design incorporates shading and glare control, particularly f warmer months ***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 o glass with a reflectance level below 20% (reflective films are avoided)	Satisfactory.
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 equa 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	Complies

Standards/controls	*Comment*
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	Satisfactory

Standards/controls	*Comment*
Objective 4B-3 **The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents**	65% of units within the first 9 storeys of the development are naturally cross ventilated.
Design criteria	
1. At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed	
2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	
Design guidance	
The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths	
In cross-through apartments external window and door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window and door opening sizes/areas on the other side of the apartment (outlet side) (see figure 4B.4)	
Apartments are designed to minimise the number of corners, doors and rooms that might obstruct airflow	
Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation and airflow	

Standards/controls	*Comment*
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	Floor to ceiling heights of units are all a minimum of 2.7m.
Objective 4C-2 Ceiling height increases the sense of space in apartments and provides for well proportioned rooms ***Design guidance*** A number of the following design solutions can be used: • the hierarchy of rooms in an apartment is defined using changes in ceiling heights and alternatives such as raked or curved ceilings, or double height spaces • well proportioned rooms are provided, for example, smaller rooms feel larger and more spacious with higher ceilings • ceiling heights are maximised in habitable rooms by ensuring that bulkheads do not intrude. The stacking of service rooms from floor to floor and coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist	Satisfactory

Standards/controls	*Comment*
Objective 4C-3 Ceiling heights contribute to the flexibility of building use ove the life of the building ***Design guidance*** Ceiling heights of lower level apartments in centres should be greater than the minimum required by the design criteria allowing flexibility and conversion to non-residential uses (see figure 4C.1)	Satisfactory

Standards/controls	*Comment*
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: 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	Complies

Apartment type	Minimum internal area
Studio	35m²
1 bedroom	50m²
2 bedroom	70m²
3 bedroom	90m²

Standards/controls	*Comment*
Objective 4D-2 **Environmental performance of the apartment is maximised**	Complies
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	No unit bathrooms or laundries have external windows. These components have been centrally located to maximise available façade for habitable rooms.

Standards/controls	*Comment*
Objective 4D-3 **Apartment layouts are designed to accommodate a variety household activities and needs**	Satisfactory
Design criteria	
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: • 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	
Design guidance	
Access to bedrooms, bathrooms and laundries is separated from living areas minimising direct openings between living and service areas	
All bedrooms allow a minimum length of 1.5m for robes	
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	
Apartment layouts allow flexibility over time, design solutions may include: • 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 *Note: dual key apartments which are separate but on the same title ar regarded as two sole occupancy units for the purposes of the Building Code of Australia and for calculating the mix of apartments* • 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	

Standards/controls	*Comment*
4E Private open space and balconies	Complies

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	4m²	-
1 bedroom apartments	8m²	2m
2 bedroom apartments	10m²	2m
3+ bedroom apartments	12m²	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

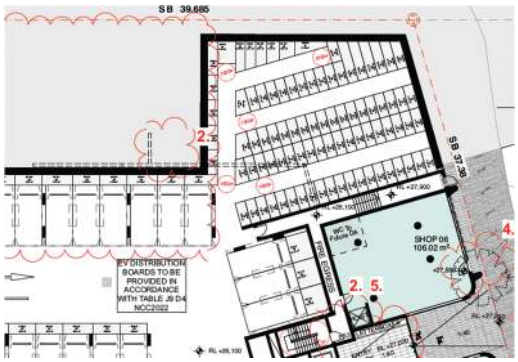
Standards/controls	*Comment*
Objective 4E-2 **Primary private open space and balconies are appropriately located to enhance liveability for residents**	Complies
Design guidance	
Primary open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living 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	

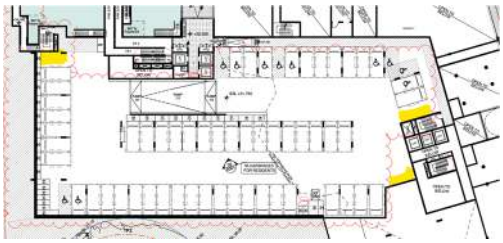
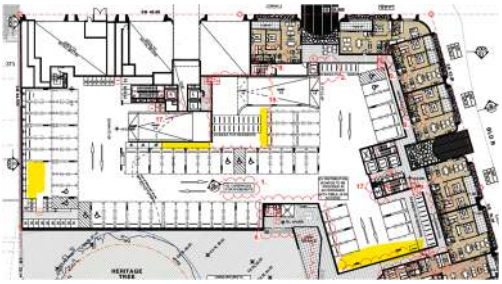
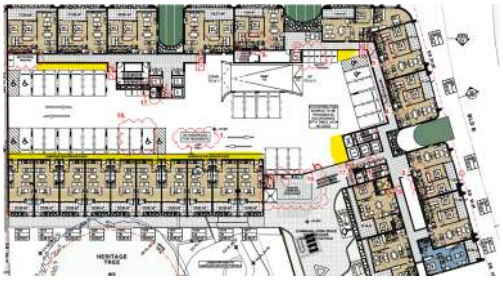
Standards/controls	*Comment*
Objective 4E-3 **Private open space and balcony design is integrated into an contributes to the overall architectural form and detail of the building**	Satisfactory
Design guidance	
Solid, partially solid or transparent fences and balustrades are selected to respond to the 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	
Ceilings of apartments below terraces should be insulated to avoid heat loss	
Water and gas outlets should be provided for primary balconies and private open space	
Objective 4E-4 **Private open space and balcony design maximises safety**	Satisfactory
Design guidance	
Changes in ground levels or landscaping are minimised	
Design and detailing of balconies avoids opportunities for climbing and falls	

Standards/controls	*Comment*
4F Common circulation and spaces *Objective 4F-1* Common circulation spaces achieve good amenity and properly service the number of apartments ***Design criteria*** 1. The maximum number of apartments off a circulation core on a single level is eight 2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40	Complies

Standards/controls	*Comment*
Design guidance Greater than minimum requirements for corridor widths and/ or ceiling heights allow comfortable movement and access particularly in entry lobbies, outside lifts and at apartment entry doors Daylight and natural ventilation should be provided to all common circulation spaces that are above ground Windows should be provided in common circulation spaces and should be adjacent to the stair or lift core or at the ends of corridors Longer corridors greater than 12m in length from the lift core should be articulated. Design solutions may include: • a series of foyer areas with windows and spaces for seating • wider areas at apartment entry doors and varied ceiling heights Design common circulation spaces to maximise opportunities for dual aspect apartments, including multiple core apartment buildings and cross over apartments Achieving the design criteria for the number of apartments off a circulation core may not be possible. Where a development is unable to achieve the design criteria, a high level of amenity for common lobbies, corridors and apartments should be demonstrated, including: • sunlight and natural cross ventilation in apartments • access to ample daylight and natural ventilation in common circulation spaces • common areas for seating and gathering • generous corridors with greater than minimum ceiling heights • other innovative design solutions that provide high levels of amenity Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level Primary living room or bedroom windows should not open directly onto common circulation spaces, whether open or enclosed. Visual and acoustic privacy from common circulation spaces to any other rooms should be carefully controlled	Satisfactory

Standards/controls	*Comment*
Objective 4F-2 **Common circulation spaces promote safety and provide fo social interaction between residents**	Satisfactory
Design guidance	
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	
Tight corners and spaces are avoided	
Circulation spaces should be well lit at night	
Legible signage should be provided for apartment numbers common areas and general wayfinding	
Incidental spaces, for example space for seating in a corridor, at a stair landing, or near a window are provided	
In larger developments, community rooms for activities suc as owners corporation meetings or resident use should be provided and are ideally co-located with communal open space	
Where external galleries are provided, they are more open than closed above the balustrade along their length	

Standards/controls	*Comment*
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 — 4m³ 1 bedroom apartments — 6m³ 2 bedroom apartments — 8m³ 3+ bedroom apartments — 10m³ 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	The proposal includes a storage schedule indicating areas per unit and floor plans indicate storage areas within units in accordance with this control.
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	The proposal includes a large communal storage area on Lower Ground floor. This space has three blind aisles with one access point and is compromised in terms of safety (See image below).  It appears that storage for some units is also not located on the same floor as the related car space. There are a number of areas within the car parking levels however that could be utilised for additional storage as

Standards/controls	*Comment*
	highlighted below. This would be resolvable via conditions of consent or amendments to the plans. Upper ground  Lower ground  Level 1  Level 2  Level 3

Standards/controls	*Comment*
	

4H Acoustic privacy

Objective 4H-1
Noise transfer is minimised through the siting of buildings an 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

An Acoustic Report has been prepared with the DA and notes that internal noise transfer within the development is satisfactory.

Recommendations are provided for achieving natural ventilation of units where windows are required to be closed for acoustic reasons. This includes the following:

1. Ducted Air-Conditioning System where the Fan Coil Units provide outside air mixed with the return air is always considered as a first option. Ductwork and plenums must be acoustically treated.
2. A device similar/equivalent to the Aeropac Room Ventilator and Air-Filter is fitted to the required rooms.
3. Silenceair external wall vents or any other approved vent type, together with upgraded toilet and laundry fans to provide forced flow-through ventilation. The fans in this case must be operating whenever external doors/windows are closed (available from www.silenceair.com)
4. Fresh air fan system to draw air from the façade with no view of the main road into the residence could also be used.

Standards/controls	*Comment*
Objective 4H-2 **Noise impacts are mitigated within apartments through layo and acoustic treatments** ***Design guidance*** Internal apartment layout separates noisy spaces from quie 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.

Standards/controls	*Comment*
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** ***Design guidance*** To minimise impacts the following design solutions may be used: • physical separation between buildings and the noise or pollution source • residential uses are located perpendicular to the noise source and where possible buffered by other uses • non-residential buildings are sited to be parallel with the noise source to provide a continuous building that shields residential uses and communal open spaces • non-residential uses are located at lower levels vertically separating the residential component from the noise or pollution source. Setbacks to the underside of residential floor levels should increase relative to traffic volumes and other noise sources • buildings should respond to both solar access and noise. Where solar access is away from the noise source, non-habitable rooms can provide a buffer • where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferable (see figure 4J.4) • landscape design reduces the perception of noise and acts as a filter for air pollution generated by traffic and industry Achieving the design criteria in this Apartment Design Guide may not be possible in some situations due to noise and pollution. Where developments are unable to achieve the design criteria, alternatives may be considered in the following areas: • solar and daylight access • private open space and balconies • natural cross ventilation	The proposal is accompanied by an Acoustic Report that makes various recommendations with regard to noise mitigation. The draft conditions include reference to meeting those recommendations.

Standards/controls	*Comment*
Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission ***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	See recommendations in section 5 of the Acoustic report
4K Apartment mix	
Objective 4K-1 A range of apartment types and sizes is provided to cater fo different household types now and into the future ***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 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	Satisfactory

Standards/controls	*Comment*
Objective 4K-2 The apartment mix is distributed to suitable locations within the building	Satisfactory
Design guidance	
Different apartment types are located to achieve successful facade composition and to optimise solar access (see figure 4K.3)	
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	
4L Ground floor apartments	
Objective 4L-1 Street frontage activity is maximised where ground floor apartments are located	N/A
Design guidance	
Direct street access should be provided to ground floor apartments	
Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include: • both street, foyer and other common internal circulation entrances to ground floor apartments • private open space is next to the street • doors and windows face the street	
Retail or home office spaces should be located along street frontages	
Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for conversion into commercial or retail areas. In these cases provide higher floor to ceiling heights and ground floor amenities for easy conversion	

Standards/controls	*Comment*
Objective 4L-2 **Design of ground floor apartments delivers amenity and safety for residents** ***Design guidance*** Privacy and safety should be provided without obstructing casual surveillance. Design solutions may include: • elevation of private gardens and terraces above the street level by 1-1.5m (see figure 4L.4) • landscaping and private courtyards • window sill heights that minimise sight lines into apartments • integrating balustrades, safety bars or screens with the exterior design Solar access should be maximised through: • high ceilings and tall windows • trees and shrubs that allow solar access in winter and shade in summer	N/A

Standards/controls	*Comment*
4M Facades	
Objective 4M-1 Building facades provide visual interest along the street while respecting the character of the local area	Satisfactory
Design guidance	
Design solutions for front building facades may include: • 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	
Building services should be integrated within the overall facade	
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	Satisfactory
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	

Standards/controls	*Comment*
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 Roof treatments should be integrated with the building design. Design solutions may include: • roof design proportionate to the overall building size, scale and form • roof materials compliment the building • service elements are integrated	Rooftop plant is located within enclosures and roof features provide visual interest to the top of the buildings.
Objective 4N-2 Opportunities to use roof space for residential accommodation and open space are maximised ***Design guidance*** Habitable roof space should be provided with good levels of amenity. Design solutions may include: • penthouse apartments • dormer or clerestory windows • openable skylights Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations	N/A

Standards/controls	*Comment*
Objective 4N-3 **Roof design incorporates sustainability features** ***Design guidance*** Roof design maximises solar access to apartments during winter and provides shade during summer. Design solutions may include: • the roof lifts to the north • eaves and overhangs shade walls and windows from summer sun Skylights and ventilation systems should be integrated into the roof design	Satisfactory
4O Landscape design	
Objective 4O-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

Standards/controls	*Comment*
Objective 4O-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 4O.5) • appropriate signage and fencing during construction Plants selected should be endemic to the region and refle the local ecology	Satisfactory
4P Planting on structures	
Objective 4P-1 **Appropriate soil profiles are provided** ***Design guidance*** Structures are reinforced for additional saturated soil weight Soil volume is appropriate for plant growth, considerations include: • 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	Satisfactory

Standards/controls	*Comment*
Objective 4P-2 **Plant growth is optimised with appropriate selection and maintenance** ***Design guidance*** Plants are suited to site conditions, considerations include: • 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: • changing site conditions • soil profile and the planting regime • whether rainwater, stormwater or recycled grey water is used	Satisfactory
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

Standards/controls	*Comment*
4Q Universal design	
Objective 4Q-1 Universal design features are included in apartment design 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	Complies
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
Objective 4Q-3 Apartment layouts are flexible and accommodate a range o lifestyle needs ***Design guidance*** Apartment design incorporates flexible design solutions which may include: • 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	Satisfactory

Standards/controls	*Comment*
4R Adaptive reuse	
Objective 4R-1 New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense o place ***Design guidance*** Design solutions may include: • new elements to align with the existing building • additions that complement the existing character, siting, scale, proportion, pattern, form and detailing • use of contemporary and complementary materials, finishes, textures and colours Additions to heritage items should be clearly identifiable from the original building New additions allow for the interpretation and future evolution of the building	N/A

Standards/controls	*Comment*
Objective 4R-2 **Adapted buildings provide residential amenity while not precluding future adaptive reuse** ***Design guidance*** Design features should be incorporated sensitively into adapted buildings to make up for any physical limitations, to ensure residential amenity is achieved. Design solutions may include: • generously sized voids in deeper buildings • alternative apartment types when orientation is poor • using additions to expand the existing building envelope Some proposals that adapt existing buildings may not be able to achieve all of the design criteria in this Apartment Design Guide. Where developments are unable to achieve the design criteria, alternatives could be considered in the following areas: • where there are existing higher ceilings, depths of habitable rooms could increase subject to demonstrating access to natural ventilation, cross ventilation (when applicable) and solar and daylight access (see also sections 4A Solar and daylight access and 4B Natural ventilation) • alternatives to providing deep soil where less than the minimum requirement is currently available on the site • building and visual separation – subject to demonstrating alternative design approaches to achieving privacy • common circulation • car parking • alternative approaches to private open space and balconies	N/A

Standards/controls	*Comment*
4S Mixed use	
Objective 4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement	Satisfactory
Design guidance	
Mixed use development should be concentrated around public transport and centres	
Mixed use developments positively contribute to the public domain. Design solutions may include: • 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	
Objective 4S-2 Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents	Satisfactory
Design guidance	
Residential circulation areas should be clearly defined. Design solutions may include: • 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	
Landscaped communal open space should be provided at podium or roof levels	

Standards/controls	*Comment*
4T Awnings and signage	
Objective 4T-1 **Awnings are well located and complement and integrate wit the building design**	Complies
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 conceale	
Lighting under awnings should be provided for pedestrian safety	
Objective 4T-2 **Signage responds to the context and desired streetscape character**	N/A
Design guidance	
Signage should be integrated into the building design and respond to the scale, proportion and detailing of the development	
Legible and discrete way finding should be provided for larger developments	
Signage is limited to being on and below awnings and a single facade sign on the primary street frontage	

Standards/controls	*Comment*
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 f clothes drying	Satisfactory
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
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

Standards/controls	*Comment*
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 withi landscaped areas	Satisfactory
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
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 provid temporary on site detention basins	Satisfactory

Standards/controls	*Comment*
4W Waste management	
Objective 4W-1 Waste storage facilities are designed to minimise impacts o the streetscape, building entry and amenity of residents	Satisfactory
Design guidance	
Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development o 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	
Objective 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling	An Operational Waste Management Plan has been provided and suitable waste storage and collection are integrated into the building.
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	

Standards/controls	*Comment*
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
Objective 4X-2 Systems and access enable ease of maintenance ***Design guidance*** Window design enables cleaning from the inside of the building Building maintenance systems should be incorporated and integrated into the design of the building form, roof and facade Design solutions do not require external scaffolding for maintenance access Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems Centralised maintenance, services and storage should be provided for communal open space areas within the building	Satisfactory
Objective 4X-3 Material selection reduces ongoing maintenance costs ***Design guidance*** A number of the following design solutions are used: • 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	Satisfactory