

Control - Apartment Design Guide - 12/03/2018																
Clause Number	Clause Title	Objective	Design Criteria	fjmt Studio Commentary												
PART 03 - SITING THE DEVELOPMENT																
	Site Analysis	3A-1	Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context	Not applicable as the site analysis remains unaffected.												
		3B-1	Building types and layouts respond to the streetscape and site while optimising solar access within the development	Not applicable as the site analysis remains unaffected.												
	Orientation	3B-2	Overshadowing of neighbouring properties is minimised during mid winter	Not applicable extent of envelope remains unchanged												
	Public Domain Interface	3C-1	Transition between private and public domain is achieved without compromising safety and security	Not applicable as the public domain remains unaffected.												
		3C-2	Amenity of the public domain is retained and enhanced	Not applicable as the public domain remains unaffected.												
	Communal and Public Open Space	3D-1	An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping - Communal open space has a minimum area equal to 25% of the site (see figure 3D.3) - 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)	Not applicable as the Communal and Public open space remains unaffected.												
		3D-2	Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting	Not applicable as the Communal and Public open space remains unaffected.												
		3D-3	Communal open space is designed to maximise safety	Not applicable as the Communal and Public open space remains unaffected.												
		3D-4	Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood	Not applicable as the Communal and Public open space remains unaffected.												
	Deep Soil Zone	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 Deep soil zones are to meet the following minimum requirements: <table><tr><th>Site area</th><th>Min. Dim.</th><th>Deep Soil zone (% of site area)</th></tr><tr><td><650m2</td><td>-</td><td>7%</td></tr><tr><td>650m² - 1500m²</td><td>3m</td><td>7%</td></tr><tr><td>>1150m²</td><td>6m</td><td>7%</td></tr></table>	Site area	Min. Dim.	Deep Soil zone (% of site area)	<650m2	-	7%	650m² - 1500m²	3m	7%	>1150m²	6m	7%	Not applicable as the Communal and Public open space remains unaffected.
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<650m2	-	7%														
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	Site Amenity - Visual Privacy	3F-1	Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room 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:<table><tr><th>Building Height</th><th>Habitable Room & Balcony</th><th>Non Habitable Room & Balcony</th></tr><tr><td>Up to 12m (4 storeys)</td><td>6m</td><td>3m</td></tr><tr><td>Up to 12m (5-8 storeys)</td><td>9m</td><td>4.5m</td></tr><tr><td>Up to 25m (9+ storeys)</td><td>12m</td><td>6m</td></tr></table>	Building Height	Habitable Room & Balcony	Non Habitable Room & Balcony	Up to 12m (4 storeys)	6m	3m	Up to 12m (5-8 storeys)	9m	4.5m	Up to 25m (9+ storeys)	12m	6m	Not applicable, no change to envelop.
Building Height	Habitable Room & Balcony	Non Habitable Room & Balcony														
Up to 12m (4 storeys)	6m	3m														
Up to 12m (5-8 storeys)	9m	4.5m														
Up to 25m (9+ storeys)	12m	6m														
		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	- External operable screens and a fixed louvres are utilised on the facade to provide privacy where appropriate. - These enable the view line to be skewed away from the residences without impacting natural ventilation and light.												
	Site Access - Pedestrian Access and Entries	3G-1	Building entries and pedestrian access connects to and addresses the public domain	All entries and pedestrian ways address the greater public domain.												
		3G-2	Access, entries and pathways are accessible and easy to identify	- Access requirements have been identified including requirements for access to lobbies, apartments and retail. - All have on grade accessible access and contrasting colours for vision impairment. - Signage to entrances are provided in addition to site wide way-finding strategies.												
		3G-3	Large sites provide pedestrian links for access to streets and connection to destinations	Scheme complies with the approved masterplan												
	Vehicle Access	3H-1	Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes	- The driveway entry is located on O'Connell Street. - It is designed to accommodate both residential vehicular traffic and loading and garbage vehicles in line with the traffic engineer recommendations. - No change from approved scheme												

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	Bicycle and Car Parking	3J-1	Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas. 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 and 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.	The proposed development satisfies the requirements of the objective
		3J-2	Parking and facilities are provided for other modes of transport	Bicycle parking is provided at a rate of 1 secure bicycle cage per unit.
		3J-3	Car park design and access is safe and secure	The car park is secure with access directly to the lobbies of all 3 buildings. Lifts serve for access to bicycle parking and storage in addition to management of waste and loading.
		3J-4	Visual and environmental impacts of underground car parking are minimised	- No change from approved scheme - All resident parking is in the basements.
		3J-5	Visual and environmental impacts of on-grade car parking are minimised	The impact of entry and loading on ground level is minimised by sleeving retail, lobby entries and service zones around the car park.
		3J-6	Visual and environmental impacts of above ground enclosed car parking are minimised	No change from approved scheme
PART 04 - DESIGNING THE BUILDING				
	Solar and Daylight Access	4A-1	To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space * 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 * 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 * A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter	- Based on the “Cox / Tzannes method” of sun calculation, and assuming a dense urban environment, the number of apartment achieving solar access for 2 hours/day between 7.30-4.30 is: * June 21, 216 / 295 = 73%, this rises to; * March 21, 257 / 295 = 87.1% - Number of apartments facing south 59/295 apartment of 20.0%. Note that the amenity of outlook over Chippendale, given it's lower scale, is excellent as is the quieter orientation to Wellington St and connection with the new Wellington St park.
		4A-2	Daylight access is maximised where sunlight is limited	All apartments have been designed to maximise their window openings to capture views and as a consequence optimise their access to sunlight be it direct, reflected or ambient.
		4A-3	Design incorporates shading and glare control, particularly for warmer months	- To all apartments on all levels across the whole development, balconies and sun shading extend to shade summer sun, but allow winter sun to penetrate. - Shading devices such as horizontal louvres and balconies are used across the development for specific facade responses. refer to elevations and 3D imagery. - On the facade of the specific apartments in question horizontal louvre shading has been used extensively across the windows to assist in glare control and to mitigate ambient heat loads
	Natural Ventilation	4B-1	All habitable rooms are naturally ventilated	- All apartments have operable windows with compliant open areas. - Operable windows are typically awning style windows - All balconies have sliding doors opening into the living spaces to maximise ventilation
		4B-2	The layout and design of single aspect apartments maximises natural ventilation	Apartments are generally well orientated to maximise the natural ventilation performance of apartments. As noted in the ventilation analysis the apartments are wide frontage and are located on L 13 of the development and as such great natural ventilation is expected.
		4B-3	The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents. 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	- L 10-13 100% of Apartments are Compliant - no change to development compliance

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		4C-1	Ceiling height achieves sufficient natural ventilation and daylight access 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 Rooms - 2.4m * Two Storey Apartments - 2.7m for living area floor and 2.4m for second floor where it's 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 use areas - 3.3m for ground and first floor to promote future flexibility of use. These minimums do not preclude higher ceilings if desired	• All habitable rooms have a minimum ceiling height of 2.7m • All non-habitable rooms have a minimum ceiling height of 2.4m
		4C-2	Ceiling height increases the sense of space in apartments and provides for well proportioned rooms	• All habitable rooms have a minimum ceiling height of 2.7m • All non-habitable rooms have a minimum ceiling height of 2.4m • All ceiling mounted services are located in 2400 ceilings over wet areas.
		4C-3	Ceiling heights contribute to the flexibility of building use over the life of the building	• The proposed development is for a mixed use residential development • The apartment ceiling heights comply with Objectives 4C1 and 2 • Retail ceiling levels and Floor to Floor heights are taller to optimise flexibility
		4D-1	The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity 1. Apartments are required to have the following minimum internal areas: * Studio - 35m2 * 1 Bedroom - 50m2 * 2 Bedroom - 70m2 * 3 Bedroom - 90m2 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	• The proposed 1 bedroom apartment areas are higher than than the ADG objectives, • Apartment sizes have been developed in accordance with the client brief and approvals on the development site whilst providing efficient apartment planning. • Large setbacks to adjacent developments, enable south facing high level apartments to have increased daylighting amenity • All habitable rooms have windows which represent more than 10% of the floor area of the room.
		4D-2	Environmental performance of the apartment is maximised 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	• The proposed 1 bedroom apartments comply with the 8m to the back of the kitchen rule of thumb. • All apartments are open plan layouts, with living rooms and bedrooms located against the external envelop of the building to maximise natural light and ventilation.
		4D-3	Apartment layouts are designed to accommodate a variety of household activities and needs 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	• The apartments comply with the minimum ADG bedroom sizes • The apartments have a minimum 3.6m wide living area. • Main bedrooms have a minimum wardrobe of 1.8m
	Private Open Space and Balconies	4E-1	Apartments provide appropriately sized private open space and balconies to enhance residential amenity * Studio - 4m² - no min. depth * 1 Bedroom - 8m² - min 2m depth * 2 Bedroom - 10m² - min 2m depth * 3 Bedroom - 12m² - min 2.4m depth 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.	• The proposed apartment balcony areas are slightly above and slightly below the ADG objectives, however, in some instances the suggested areas are exceeded whilst providing efficient planning. The scheme results in the following range of balcony sizes: * 1bed External Area - E1308 (8.7sqm) * 1bed External Area - E1309 (6.5sqm) • The balconies have a minimum depth of 2m. • The 2m depth is achieved to a portion of the space to ensure the balcony can accommodate table and chairs.
		4E-2	Primary private open space and balconies are appropriately located to enhance liveability for residents	• Balconies are located off the living areas to maximise sunlight and views.
		4E-3	Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building	• Balconies are located within the building envelope to become an integral part of the form.

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		4E-4	Private open space and balcony design maximises safety	- The proposed development satisfies the requirements of the objective. - The handrail design is contiguous across the width of all balconies and the heights are compliant with the Australian standards and BCA
	Common Circulation and Spaces	4F-1	Common circulation spaces achieve good amenity and properly service the number of apartments - The maximum number of apartments off a circulation core on a single level is eight - For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40	Floors below have the same density of apartments which has been previously approved.
		4F-2	Common circulation spaces promote safety and provide for social interaction between residents	- Separate and spacious lift lobby areas off the corridor allow for sufficient circulation space and interaction of residents. - Natural light and ventilation provide a high quality amenity
	Storage	4G-1	Common circulation spaces achieve good amenity and properly service the number of apartments. In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: * Studio - 4m3 * 1 Bedroom - 6m3 * 2 Bedroom - 8m3 * 3 Bedroom - 10m3 At least 50% of the required storage is to be located within the apartment	Minimum storage volumes are provided per apartment with large storage cages being provided in the basement adjacent the lift lobby area.
		4G-2	Additional storage is conveniently located, accessible and nominated for individual apartments	- Large storage cages being provided in the basement adjacent the lift lobby area. - On grade accessible access is provided to storage facilities
	Acoustic Privacy	4H-1	Noise transfer is minimised through the siting of buildings and building layout	- Generally apartments are arranged side by side to assist in the resolution of acoustic separation and zoning. - Noise sources such as lift shafts and common corridors have also been taken into account.
		4H-2	Noise impacts are mitigated within apartments through layout and acoustic treatments	All apartments are design to meet the requirements of the Australian Standards.
	Noise and Pollution	4J-1	In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings	- Generally apartments are arranged side by side to assist in the resolution of acoustic separation and zoning. - Noise sources such as lift shafts and common corridors have also been taken into account.
		4J-2	Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission	- Bedrooms are set back to reduce traffic noise transfer to these areas. - Insulation Glazing Units will be provided to the facade walls to minimise noise. - Elements of solid walls are provided to the balcony areas to further minimise noise transfer
	Apartment Mix	4K-1	A range of apartment types and sizes is provided to cater for different household types now and into the future	- A range of apartment types are provided across the entire development, including studios, small 1 beds, larger 1 beds, small 2 beds, larger 2 beds and 3 bed apartments - The 2 new additional apartments have negligible impact on this mix.
		4K-2	The apartment mix is distributed to suitable locations within the building	- The apartment mix is suitable to the location having a mix of smaller 1 bedroom apartments designated as more affordable housing. - The mix is distributed evenly across the floors with the premium/larger apartments taking up the corner positions.
	Ground Floor Apartments	4L-1	Street frontage activity is maximised where ground floor apartments are located	NA
		4L-2	Design of ground floor apartments delivers amenity and safety for residents	NA
	Facades	4M-1	Building facades provide visual interest along the street while respecting the character of the local area	The facades have been studied in detail in terms of local materiality, environmental response, enhancement of the public domain and modulation of scale and residential rhythm.
		4M-2	Building functions are expressed by the facade	- The building entries are clearly defined through material articulation of the facade or through large feature entry walls of vibrant colours in Red, Green and Yellow. - The North East and West ends of the site are reinforced through dramatic horizontal striation of the podium facade. - The Oconnor Street retail facade is integrated within a dramatic streetfrontage which creates an outdoor room and helps to activate the publicly accessible private open spaces along the facade. - The materiality of the scheme is specifically composed to communicate the component forms and functions. - Ground Floor retail is simple window wall glazing - Podium residential apartments are clad in terracotta tiles - The upper levels are cloaked in a perforated veil of operable bifold metal screens - with the larger tower form being composed of horizontal louvres over a high performance curtain wall facade.

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	Roof Design	4N-1	Roof treatments are integrated into the building design and positively respond to the street	- The treatment of the roof tops has been developed to respond to the relative exposure of each building to the degree to which they are viewed from adjoining developments. - Given the locale, each building is heavily overlooked by both its immediate offsite neighbours as well as buildings/apartments within the SE plot site. - Given their exposure the rooves are seen as a “fifth facade” and have been carefully composed to conceal plant and equipment.
		4N-2	Opportunities to use roof space for residential accommodation and open space are maximised	roof areas are inaccessible
		4N-3	Roof design incorporates sustainability features	- The roof incorporates water capture . - This water will be used for watering the podium landscaping.
	Landscape Design	4O-1	Landscape design is viable and sustainable	Refer to landscape report
		4O-2	Landscape design contributes to the streetscape and amenity	Refer to landscape report
	Planting on structures	4P-1	Appropriate soil profiles are provided	Refer to landscape report
		4P-2	Plant growth is optimised with appropriate selection and maintenance	Refer to landscape report
		4P-3	Planting on structures contributes to the quality and amenity of communal and public open spaces	Refer to landscape report
	Universal Design	4Q-1	Universal design features are included in apartment design to promote flexible housing for all community members Developments achieve a benchmark of 20% of the total apartments incorporating the Liveable Housing Guideline's silver level universal design features	- This objective was not targeted by the development as it was originally designed under the RFDC. - However, the development does meet this standard.
		4Q-2	A variety of apartments with adaptable designs are provided	- Adaptable apartments are provided. - A range of apartment types and sizes are provided - The proposed apartments are not adaptable.
		4Q-3	Apartment layouts are flexible and accommodate a range of lifestyle needs	Equitable access is provided to all apartment doors in accordance with AS1428.2
	Adaptive Reuse	4R-1	New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place	NA
		4R-2	Adapted buildings provide residential amenity while not precluding future adaptive reuse	NA
	Mixed Use	4S-1	Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement	The Block 11 site is a compliant mixed use development within the approved masterplan and given the retail locations and expected pedestrian activation of the precinct the proposed development will achieve the objective.
		4S-2	Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents	- The proposed development satisfies the requirements of the objective. - Please refer to the drawing documentation which illustrate compliance with this objective
	Awning and Signage	4T-1	Awnings are well located and complement and integrate with the building design	- The proposed development satisfies the requirements of the objective. - Please refer to the drawing documentation which illustrate compliance with this objective
		4T-2	Signage responds to the context and desired streetscape character	- Residential address & way finding building signage will be modest and integrated with the development - Retail signage zones are consistent with signage provide on other buildings in the Central Park Precinct.
	Energy Efficiency	4U-1	Development incorporates passive environmental design - 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	- The development is a 5 Star Greenstar development - The proposed apartments satisfy the requirements of the objective.
		4U-2	Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer	- The proposed development satisfies the requirements of the objective. - Please refer to the drawing documentation which illustrate compliance with this objective
		4U-3	Adequate natural ventilation minimises the need for mechanical ventilation	Natural ventilation is provided.
	Water Management and Conservation	4V-1	Potable water use is minimised	The proposed development satisfies the requirements of the objective
		4V-2	Urban storm water is treated on site before being discharged to receiving waters	The proposed development satisfies the requirements of the objective
		4V-3	Flood management systems are integrated into site design	All Ground Floor levels have been designed to suit flood levels and freeboard requirements
	Waste Management	4W-1	Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents	All waste storage and management facilities are within the basement and are not accessible nor visible to the general public.
		4W-2	Domestic waste is minimised by providing safe and convenient source separation and recycling	The garbage chute is an e-diverter system that allows for normal residential waste to be separated from recycling.
	Building Maintenance	4X-1	Building design detail provides protection from weathering	The materiality and detailing of the proposed development are in keeping with the client brief, building typology and expected building life
		4X-2	Systems and access enable ease of maintenance	All facades are accessible for cleaning and maintenance from either boom lift or rope access.
		4X-3	Material selection reduces ongoing maintenance costs	Materials have been carefully selected to require minimum ongoing maintenance