

Table 1. Summary of compliance with the key Apartment Design Guide 'Design Criteria'

Control	Design Criteria	Compliance
Building separation	Up to four storeys/12 metres 12 metres between habitable rooms/balconies 9 metres between habitable/balconies and non-habitable rooms 6 metres between non-habitable rooms Five to eight storeys/up to 25 metres 18 metres between habitable rooms/balconies 12 metres between habitable rooms/balconies and non-habitable rooms 9 metres between non-habitable rooms Nine storeys and above/ over 25 metres 24 metres between habitable rooms/balconies 18 metres between habitable rooms/balconies and non-habitable rooms 12 metres between non-habitable rooms	Complies. All internal and external building separation requirements have been met. Minimum separation distances are provided adjacent all boundaries to permit future residential development.
	Minimum distances from side and rear setbacks is required: Up to four storeys/12 metres 6 metres to habitable rooms/balconies 3 metres to non-habitable rooms Five to eight storeys/up to 25 metres 9 metres to habitable rooms/balconies 4.5 metres to non-habitable rooms Nine storeys and above/ over 25 metres 12 metres to habitable rooms/balconies 6 metres to non-habitable rooms	Complies. The buildings are set back at a distance equal to or greater than the requirements of the design criteria. The setback criteria for non-habitable rooms have been adopted, as habitable rooms on the side of the buildings are provided with opaque glazing. Refer to the SEE for a more detailed discussion. In addition, the design criteria states that setbacks are not required from blank facades. The north and south facades are largely blank facades, with a number of small opaquely-glazed openings to improve solar access. However, these still have a minimal 6m setback.
Deep soil zones	Minimum of 7% of a site should be a deep soil zone with the following minimum dimensions: 650sqm-1500sqm – 3m - greater than 1500sqm – 6m	Complies. The proposed deep soil zone covers 23.4% of the total site area, vastly exceeding the minimum required under the ADG.
Communal and Open space	25% - 30% of site area should be devoted to communal open space.	Complies. The proposal is consistent with the design criteria. 3865sqm (66% of the site area) is provided as communal open space. This includes both ground floor and roof top communal space.

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Communal and open space	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)	Complies. The proposal is compliant with the design criteria. Rooftop communal open space will benefit from solar access of 70% achieving 2 hours mid winter. Shadow diagrams indicate that ground floor communal open space will receive a minimum of 50% direct sunlight for approximately 2 hours at mid winter.
	Ground level apartments should contain a minimum of 15m² of open space, with a minimum dimension in one direction of 3m.	Generally Complies. The majority of ground floor apartments are provided with raised terraces, generally consistent with the objectives of the Apartment Design Guide. Where inconsistent, this has generally arisen from the revisions necessitated by DPI Water, however the provision of high quality communal open space at the ground level, also supported by rooftop communal space, is considered to account for the loss of private open space and achieves a high-quality level of amenity for residents.
Vehicle access	Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes.	Complies. Vehicular access to the site is limited to one entry point off Shepherd Street at the corner of the site. The car park entry is located behind the building line and does not dominate the streetscape. This limits opportunities for conflicts and pedestrians, and ensures a high quality streetscape can be provided.
Car Parking	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	Not applicable. The site is not within 800m of a railway/light rail station, nor on or within 400m of land zoned B3 or B4. Car parking provision is consistent with the Liverpool Development Control Plan car parking rates for residential flat buildings. A total of 161 car parking spaces is provided across three basements. This includes 14 accessible spaces, 14 visitors spaces, and 4 service vehicle spaces.
	Parking and facilities are provided for other modes of transport	Complies. Secure undercover parking for 8 motorcycles and 60 bicycles is provided, accessible from the ground floor lobbies of both buildings.
	Visual and environmental impacts of on-grade car parking are minimised	Not applicable. No on-grade car parking is proposed.
Pedestrian access	Access, entries and pathways are accessible and easy to identify.	Complies. Two main pedestrian access points are provided from Shepherd Street to the development, via a shared pedestrian/vehicular laneway, and through a concrete pathway that travels between the buildings to the riverfront. These access points are easily identifiable due to the materials used, differentiating them from the streetscape, and are easily accessible.
Apartment layout	Habitable room depths are limited to a maximum of 2.5 x the ceiling height.	Complies. Habitable rooms are limited to depths of less than 2.5 x the ceiling height.

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	In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window.	Generally Complies. The proposal is largely compliant with the design criteria. Where habitable rooms are proposed with depths greater than 8m, these are in cross-through or double storey apartments and have expansive balconies as light sources. As such the intent of the design criteria is achieved.
	The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts.	Complies. The proposal is compliant with the design criteria, with no cross-over/cross-through apartments less than 4m in width.
	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	Generally Complies. The proposal is largely consistent with the design criteria with the majority of apartment widths at 4m or greater.
	Master bedrooms have a minimum area of 10m2 and other bedrooms 9m2 (excluding wardrobe space).	Generally Complies. The proposal is largely consistent with the design criteria, with the majority of master bedrooms proposed with minimum areas greater than 10m² and other bedrooms 9m².
	Bedrooms have a minimum dimension of 3m (excluding wardrobe space).	Complies. All bedrooms are proposed with a minimum dimension of at least 3m, exclusive of wardrobe space.
	Minimum Apartment sizes (extra 5sqm required for extra bathrooms): 35m² for studios; 50m² for one bedrooms; 70m² for two bedrooms; and 90m² for three bedrooms.	Complies. Minimum Apartment sizes provided are: 50m² one bedrooms; 79m² two bedrooms; and 95m² three bedrooms.
Balconies	Apartments are to have the following balcony dimensions: Studios – 4sqm 1br – 8sqm with min. 2m depth 2br – 10sqm with min. 2m depth 3br – 12sqm with min. 2.4m depth	Partially Complies. The design revisions have necessitated the removal of balconies from 3 apartments fronting the river, on the ground/first floors (RG.04, RG.06, RG. 07). However, this is mitigated by the generous proportion of communal open spaces available in the proposal, and affects less than 3% of all apartments. The proposal also contains 3 bedroom apartments with balconies of 2m in depth, this is considered to still allow for good usable private open space, and is again complemented by substantial communal open spaces at the ground floor and rooftop.
Ceiling heights	Minimum ceiling heights are as follows: 2.7m for habitable rooms 2.4m for non-habitable rooms Double storey apartments – 2.7m for main living area, 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 minimum 30degree slope in mixed use areas – 3.3m for ground and first floor	Complies. The proposal is able to comply. Floor to floor heights of 3100mm have been provided.

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Internal circulation	The maximum number of apartments off a circulation core on a single level is eight.	Generally compliant. Building C1 complies with the design criteria. Building C2 is provided with 2 lifts servicing up to 12 apartments on each floor. This is considered acceptable as each lift will effectively service only 6 apartments each, and the corridor is provided with sufficient solar access and width.
	For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40.	
Storage	- Studio apartments require 4sqm of storage area - One bedroom dwellings require 6m³ of storage area - Two bedroom dwellings require 8m³ of storage area. - Three bedroom dwellings require 10m³ of storage area. 50% of the required storage is to be provided within each apartment.	Able to comply.
Ground floor apartments	Direct street access should be provided for ground-floor apartments.	Complies with intent. All ground floor units fronting Shepherd Street have direct access from the street. All other ground floor apartments can be accessed through communal spaces/corridors.
Daylight access	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.	Largely consistent with the design criteria. The redesign has allowed for improved solar access provision, with 64% of apartments receiving a minimum of 2 hours sunlight between the hours of 9am and 3pm at mid winter. A detailed description is outlined within the SEE. With the dwellings oriented to maximise views/outlook to the Georges River, the full 70% is not achieved however amenity is considered to otherwise be maximised.
	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter.	Complies Less than 15% of apartments receive no direct sunlight between the hours of 9am and 3pm at mid winter.
	Daylight access is maximised where sunlight is limited	Complies. Daylight access is maximised where sunlight is limited, for example in buildings facing the Georges River where floor to ceiling glazed openings are provided onto private open space.
	Design incorporates shading and glare control, particularly for warmer months	Complies. Shading and glare control will be provided through screening and shading devices.
Natural Ventilation	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.	Generally Complies. The redesign allows for improved cross ventilation of 61%. This is compliant with the design criteria.
	Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line.	Complies. No cross-over or cross-through apartments exceed a depth of 18m.
	All habitable rooms are naturally ventilated	Complies. The proposal is consistent with the design criteria; all habitable rooms are naturally ventilated.