

PROJECT: 22-24 ANGLE ST BALGOWLAH

TABLE 1 – APARTMENT DESIGN GUIDE – DESIGN OBJECTIVES AND DESIGN CRITERIA

	OBJECTIVE	DESIGN CRITERIA	PROPOSED	COMMENT
Part 3 Siting the Development				
Site Analysis	Objective 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		The site survey and site analysis included in the Submission addresses the potential opportunities and constraints of the site. The Statement of Environmental Effects (SEE) also documents the site location and local context in relation to surrounding development.	
Orientation	Objective 3B-1 Building types and layouts respond to the streetscape site while optimising solar access within the development		The building layout has been designed to face both Sydney Rd to the South and the rear boundary to the North . The site's orientation and the disposition of the buildings on 20 Angle St allows the building to achieve a good northern and eastern aspect while responding consistently with the existing street scape, which includes an unmade road to the South at the Junction of Angle St and Sydney Rd	
	Objective 3B-2 Overshadowing of neighbouring properties is minimised during mid-winter		Shadow diagrams included in the Submission demonstrate that the majority of the new overshadowing falls onto the the unmade street to the south. There are no	

			unreasonable shadow impacts on neighbouring properties.	
Public Domain Interface	Objective 3C-1 Transition between private and public domain is achieved without compromising safety and security		NA	
	Objective 3C-2 Amenity of the public domain is retained and enhanced		The Front (Sydney Rd) and are consistent with the existing and neighbouring properties and do not impact or inhibit the growth of canopy trees. The street setbacks are consistent with neighbouring development to the west and the prevailing streetscape further to the east. The adjacent Flat building to the east are an anomaly in the street.	
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	<ol style="list-style-type: none"> 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) 	<p>The ground floor dwellings have private courtyards with the balance of the ground floor being communal open space ie 216sm of the site area of 842sm 26%</p> <p>The principal part faces north at the rear of the site.</p> <p>The unmade road to the South contributes significant Communal open space that will be further enhanced by the consolidation of two crossovers to one single crossover from Angle S</p>	

	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 scheme provides ground level communal and public open space areas. Additional areas will be provided in the unmade road areas	
	Objective 3D-3 Communal open space is designed to maximise safety			The significant private open space at rear of the property to the north maximises safety	
	Objective 3D-4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood			Public open space is provided along the unmade road where traffic volumes in Angle St are minimal	
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	Deep soil zones are to meet the following minimum requirements:			A total of 172m ² of deep soil landscaping greater than 3m wide is provided, which equates to 20.5% of the total site area which is greater than the require 7%. There are further the deep soil zones that do not have min dimensions of 3m, they have been located so to enable the possible retention of existing trees and when combined with the unmade road significant areas to grow trees
		Site Area	Min. Dimensions	Deep soil zone (% of site area)	
		Less than 650m ²	-	7%	
		650m ² – 1500m ²	3m		
		Greater than 1500m ²	6m		
		Greater than 1500m ² with significant tree cover	6m		
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	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:			The existing buildings on site are two storey as is the proposed development. The upper level dwellings have been designed to orientate the living areas to the unmade section of the junction of Angle St
		Building height	Habitable rooms and balconies	Non-habitable rooms	

<p><i>Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room</i></p>	Up to 12m (4 storeys)	6m	3m	<p>and Sydney Rd or toward the corners along the northern boundary</p> <p>The upper floor is approximately level with the ridge of the building to the north, so the dwellings will see roof below .</p> <p>The NE corner dwelling looks both to the north along a residential flat building that is orientated to the east away from the development site and east onto Angle St that sweeps across its eastern axis</p> <p>The Ground Floor dwellings have fences and vegetation screens to prevent overlooking</p>	
	Up to 25m (5-8 storeys)	9m	4.5m		
	Over 25m (9+ storeys)	12m	6m		
<p>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</p>				<p>The site has extensive areas adjacent that are conducive to enhancing the liveability of both neighbours and residents.</p> <p>The long boundary to the South is to the unmade road, to the east is a landscape common open space, while the land falls away to the north so the site looks above the dwellings to the north</p> <p>To the west is a similar development to that proposed with only minor rooms facing the common boundary.</p> <p>The proposal only has minor rooms to this boundary with window arrangements to orientate windows north and south.</p>	

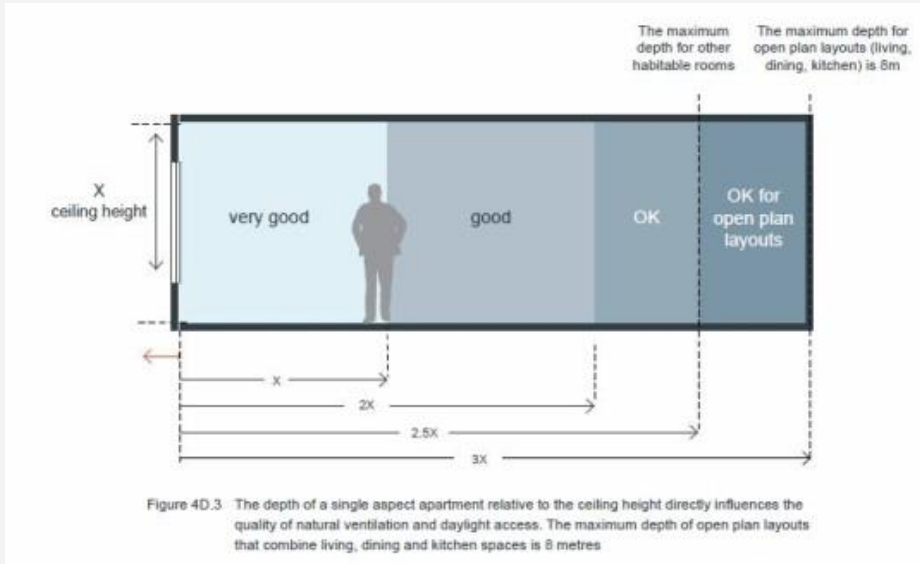
Pedestrian Access and Entries	Objective 3G-1 Building entries and pedestrian access connects to and addresses the public domain		The residential building entry and pedestrian access is provided from Angle St.
	Objective 3G-2 Access, entries and pathways are accessible and easy to identify		Building access is direct to the Street and connects only ground and a first floor with a skylight to provide natural light and ventilation
	Objective 3G-3 Large sites provide pedestrian links for access to streets and connection to destinations		NA
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		<p>A single vehicle access point is proposed from the dead end of Angle St .</p> <p>The far more hazardous vehicular entry from Sydney Rd will be deleted and the soft landscaped parts of the Unmade Rd will be increased providing for opportunities for increased Communal Open space</p>
Bicycle and Car Parking	Objective 3J-1 Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas	<p>For development in the following locations:</p> <ul style="list-style-type: none"> on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or 	Car parking has been provided as per the relevant standards. Refer to traffic report for more detail.

	<ul style="list-style-type: none"> on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre <p>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</p> <p>The car parking needs for a development must be provided off street.</p>		
	Objective 3J-2 Parking and facilities are provided for other modes of transport	Undercover bicycle parking has been provided on site.	
	Objective 3J-3 Car park design and access is safe and secure	The carpark design is in accordance with Road and Marine services standards. Access to storage for the adaptable apartments has been considered and provided in a level area away from the aisle of traffic / adjacent to a 'shared area'.	
	Objective 3J-4 Visual and environmental impacts of underground car parking are minimised	The carpark fits generally under the building and associated ground floor terraces enabling landscaping to all sides of the building	
	Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised	NA	

	Objective 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised	N/A	
Part 4 – Designing the Building			
Solar and Daylight Access	Objective 4A-1 To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space	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	Six dwellings receive two hours of direct sunlight ie 75 %
		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	NA
		3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter	One dwelling does not receive sun during this period ie 12.5 %
	Objective 4A-2 Daylight access is maximised where sunlight is limited		The site and main living area disposition allows for maximum solar access
	Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months		Refer to BASIX certificate.
Natural Ventilation	Objective 4B-1 All habitable rooms are naturally ventilated		All habitable rooms have access to natural ventilation.
	Objective 4B-2 The layout and design of single aspect apartments maximises natural ventilation		Natural ventilation is maximised through a design that maximises private open space

			which is accessed through the primary living areas. Cross ventilation is achieved with all dwelling having dual aspects	
	Objective 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	All dwellings are naturally cross ventilated. This equates to a total of 100% of apartments which achieves compliance with natural cross ventilation.	
		2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	N/A	
Ceiling Heights	Objective 4C-1 Ceiling height achieves sufficient natural ventilation and daylight access	Measured from finished floor level to finished ceiling level, minimum ceiling heights are:	Measured from finished floor level to finished ceiling level, the proposed floor to ceiling heights are summarised below: <ul style="list-style-type: none"> Ground floor: 2.7 m Level 1 2.7 m 	
		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		

		<i>If located in mixed use areas</i>	<i>3.3m for ground and first floor to promote future flexibility of use</i>		
	Objective 4C-2 <i>Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms</i>			All dwellings have a minimum ceiling height of 2.7m in habitable rooms and the layouts have been designed to provide spacious, well-proportioned rooms.	
	Objective 4C-3 <i>Ceiling heights contribute to the flexibility of building use over the life of the building</i>			NA	
Apartment Size and Layout	Objective 4D-1 <i>The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity</i>	1. <i>Apartments are required to have the following minimum internal areas:</i>		All dwellings comply with the minimum internal areas.	
		<i>Apartment Types</i>	<i>Minimum Internal Area</i>		
		<i>Studio</i>	<i>35m³</i>		
		<i>1 bedroom</i>	<i>50m³</i>		
		<i>2 bedroom</i>	<i>70m³</i>		
		<i>3 bedroom</i>	<i>90m³</i>		
		<i>The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m² each.</i> <i>A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m² each.</i>		All habitable rooms have a window to an external wall with a total minimum glass area greater than 10% of the floor area of the room	
		2. <i>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</i>			

<p>Objective 4D-2 Environmental performance of the apartment is maximised</p>				
		<p>1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height</p>	<p>Based on the ceiling heights of 2.7m, habitable room depths are required to be limited to 7m – 7.1m. All habitable rooms comply with this requirement.</p>	
		<div data-bbox="960 568 1877 1134">  </div>		
	<p>2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window</p>	<p>All dwellings comply with this design criterion. The scheme proposes mainly dual aspect apartments which have an open plan layout where it is 7.9m or less across both the dining and living rooms from the balcony window.</p>		

	Objective 4D-3 Apartment layouts are designed to accommodate a variety of household activities and needs	1. Master bedrooms have a minimum area of 10m ² and other bedrooms 9m ² (excluding wardrobe space)	All dwellings comply with this design criterion.																
		2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	All dwellings comply with this design criterion.																
		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	All dwellings comply for living rooms.																
		4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	N/A																
Private Open Space and Balconies	Objective 4E-1 Apartments provide appropriately sized private open space and balconies to enhance residential amenity	1. All apartments are required to have primary balconies as follows:	All dwellings comply with the minimum numeric requirements, with all apartments substantially exceeding the minimum.																
		<table><tr><td>Dwelling type</td><td>Minimum Area</td><td>Minimum Depth</td></tr><tr><td>Studio</td><td>4m³</td><td>-</td></tr><tr><td>1 bedroom</td><td>8m³</td><td>2m</td></tr><tr><td>2 bedroom</td><td>10m³</td><td>2m</td></tr><tr><td>3+ bedroom</td><td>12m³</td><td>2.4m</td></tr></table>			Dwelling type	Minimum Area	Minimum Depth	Studio	4m ³	-	1 bedroom	8m ³	2m	2 bedroom	10m ³	2m	3+ bedroom	12m ³	2.4m
		Dwelling type			Minimum Area	Minimum Depth													
		Studio			4m ³	-													
		1 bedroom			8m ³	2m													
		2 bedroom			10m ³	2m													
		3+ bedroom	12m ³	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 15m ² and a minimum depth of 3m.	All dwellings comply with the minimum numeric requirements, with all exceeding the minimum area	
	Objective 4E-2 Primary private open space and balconies are appropriately located to enhance liveability for residents		Private open space is directly accessible from the living area of each dwelling.	
	Objective 4E-3 Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building		The balconies are integrated into the overall design development and form part of the detail of the building.	
	Objective 4E-4 Private open space and balcony design maximises safety		All balconies comprise complying balustrades of 1.0m in height and have sun-shading elements to protect from summer sun where required	
Common Circulation and Spaces	Objective 4F-1 Common circulation spaces achieve good amenity and properly service the number of apartments	1. The maximum number of apartments off a circulation core on a single level is eight	Complies	
		2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40	NA	
	Objective 4F-2 Common circulation spaces promote safety and provide for social interaction between residents			
Storage	Objective 4G-1 Adequate, well designed storage is provided in each apartment	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:	The proposal provides for storage within the apartments and the basement levels. In most instances, the storage area exceeds	

		Dwelling Type	Storage size volume	the minimum design criteria. Storage is indicated with an 'ST' on the plans and is a flexible space that can be used as a study area or as a cupboard.	
		Studio	4m ³		
		1 bedroom	6m ³		
		2 bedroom	8m ³		
		3+ bedroom	10m ³		
		At least 50% of the required storage is to be located within the apartment			
		Objective 4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments			
Acoustic Privacy	Objective 4H-1 Noise transfer is minimised through the siting of buildings and building layout			N/A	
	Objective 4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments			Refer to acoustic report.	
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			NA	
	Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission			The proposal will comply with all relevant Australian Standards relating noise transmission and the recommendations in the Acoustic Impact Report.	
Apartment Mix	Objective 4K-1 A range of apartment types and sizes is provided to cater for different household types now and into the future				

	Objective 4K-2 <i>The apartment mix is distributed to suitable locations within the building</i>	The building is a townhouse development with no apartments.	
Ground Floor Apartments	Objective 4L-1 <i>Street frontage activity is maximised where ground floor apartments are located</i>	NA	
	Objective 4L-2 <i>Design of ground floor apartments delivers amenity and safety for residents</i>	NA	
Facades	Objective 4M-1 <i>Building facades provide visual interest along the street while respecting the character of the local area</i>	Building façades proposed by Wolski Coppin Architecture are articulated and modulated through the use of recessed balconies, and recessed voids.	
	Objective 4M-2 <i>Building functions are expressed by the facade</i>		
Roof Design	Objective 4N-1 <i>Roof treatments are integrated into the building design and positively respond to the street</i>	The design breaks the building up into identifiable dwellings above a podium and reduces the continuous wall length below council's DCP minimum.	
	Objective 4N-2 <i>Opportunities to use roof space for residential accommodation and open space are maximised</i>		
	Objective 4N-3 <i>Roof design incorporates sustainability features</i>		
Landscape Design	Objective 4O-1 <i>Landscape design is viable and sustainable</i>	The deep soil zone along the northern boundary is sufficient for canopy tree planting.	
Planting on Structures	Objective 4P-1 <i>Appropriate soil profiles are provided</i>		
	Objective 4P-2 <i>Plant growth is optimised with appropriate selection and maintenance</i>		

	Objective 4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces	Refer to the landscape plan for further detail regarding the proposed landscaping and planting selection for the site.	
Universal Design	Objective 4Q-1 Universal design features are included in apartment design to promote flexible housing for all community members	Adaptable Apartments are provided	
	Objective 4Q-2 A variety of apartments with adaptable designs are provided		
	Objective 4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs		
Adaptive Reuse	Objective 4R-1 New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place	NA	
	Objective 4R-2 Adapted buildings provide residential amenity while not precluding future adaptive reuse	NA	
Mixed Use	Objective 4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement	N/A	
	Objective 4S-2 Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents	Refer above.	
Awnings and Signage	Objective 4T-1 Awnings are well located and complement and integrate with the building design	N/A	
	Objective 4T-2 Signage responds to the context and desired streetscape character	N/A	
	Objective 4U-1 Development incorporates passive environmental design	Refer to BASIX certificate.	

Energy Efficiency	Objective 4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer	75% of the dwellings receive sunshine in mid-winter.	
	Objective 4U-3 Adequate natural ventilation minimises the need for mechanical ventilation	All dwellings by their nature are inherently cross ventilated.	
Water Management and Conservation	Objective 4V-1 Potable water use is minimised	Potable water use will be minimised where possible. Refer to BASIX certificate.	
	Objective 4V-2 Urban stormwater is treated on site before being discharged to receiving waters	Stormwater Management Plan is provided	
	Objective 4V-3 Flood management systems are integrated into site design		
Waste Management	Objective 4W-1 Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents	Waste management plan is provided.	
	Objective 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling		
Building Maintenance	Objective 4X-1 Building design detail provides protection from weathering	The design incorporates eave overhangs, expressed window heads and skillion roofs. Features which direct water away from the building proper minimising the risk of weather damage over time.	
	Objective 4X-2 Systems and access enable ease of maintenance	All plant equipment is accessible, being located on the ground level. Meters are provided on each level, which are readily accessible via services cupboards.	

	<p>Objective 4X-3 <i>Material selection reduces ongoing maintenance costs</i></p>	<p>Materials selected are robust & long lasting with a preference for an applied external finish and or cladding onto a masonry structure. Windows & screens are powder-coated aluminium.</p>	
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