Hills Showground Station Precinct

Residential Development

Compliance Table

17th May 2020
Revision D

Cox Architecture

ADG Ref.	Item Description	Notes	Compliance
PART 3	**SITING THE DEVELOPMENT**		
3A	**SITE ANALYSIS**		
3A-1	**Objective:** Site Analysis illustrates that design decisions have been based on opportunities & constraints of the site conditions & their relationship to the surrounding context.		✓
	Design Guidance		
	Each element in the Site Analysis Checklist is addressed.	Refer to site appreciation section of the urban design report for further information	YES
3B	**ORIENTATION**		
3B-1	**Objective:** Building types & layouts respond to the streetscape & site while optimising solar access within the development		✓
	Design Guidance		
	Buildings along the street frontage define the street by facing it & incorporating direct access from the street		YES
	Where the street frontage is to the east or west, rear buildings are orientated to the north	All buildings face the street, there are no rear buildings	YES
	Where the street frontage is to the north or south, over-shadowing to the south is minimised & buildings behind the street frontage are orientated to the east & west	Buildings have been sited to minimise overshadowing to buildings within the precinct masterplan	YES
3B-2	**Objective:** Overshadowing of neighbouring properties is minimised during mid winter.		✓
	Design Guidance		
	Living areas, private open space & communal open space receive solar access in accordance with section 3D Communal & Public Open Space and section 4A Solar & Daylight Access		YES
	Solar access to living rooms, balconies & private open spaces of neighbours are considered	No overshadowing of neighbouring properties south of Carrington Rd between 9am and 12pm. Refer to shadow studies in urban design report	YES
	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%		N/A

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	If the proposal will reduce the solar access of neighbours, building separation is increased beyond minimums contained in 3F Visual Privacy		N/A
	Overshadowing is minimised to the south or downhill by increased upper level setbacks		YES
	Buildings are orientated at 90 deg to the boundary with neighbouring properties to minimise overshadowing & privacy impacts, particularly where minimum setbacks are used & where buildings are higher than the adjoining development		N/A
	A minimum of 4 hours of solar access is retained to solar collectors on neighbouring buildings		N/A
3C	**PUBLIC DOMAIN INTERFACE**		
3C-1	**Objective:** Transition between private & public domain is achieved without compromising safety & security.		✓
	Design Guidance		
	Terraces, balconies and courtyard apartments have direct street entry, where appropriate	Refer to public and private interface section in urban design guidelines	YES
	Changes in level between private terraces, front gardens & dwelling entries above the street level provide surveillance & improve visual privacy for ground level dwellings		YES
	Upper level balconies & windows overlook the public domain	Capable of complying.	YES
	Front fences & walls along street frontages use visually permeable materials & treatments. Height of solid fences or walls is limited to 1m		YES
	Length of solid walls is limited along street frontages		YES
	Opportunities for casual interaction between residents & the public domain is provided for. Design solutions may Include seating at building entries, near letter boxes & in private courtyards adjacent to streets	Capable of complying.	YES
	In developments with multiple buildings and/or entries, pedestrian entries & spaces associated with individual buildings/entries are differentiated to improve legibility for residents, using the following design solutions: • Architectural detailing • Changes in materials • Plant Species • Colours • Opportunities for people to be concealed are minimised	Capable of complying.	YES

ADG Ref.	Item Description	Notes	Compliance
3C-2	**Objective:** Amenity of the public domain is retained & enhanced.		✓
	Design Guidance		
	Planting is used to soften the edges of any raised terraces to the street, for example above sub-basement car parking.	Refer to public and private interface section in urban design guidelines for further information	YES
	Mail boxes are located in lobbies, perpendicular to the street alignment or integrated into front fences where individual street entries are provided	Capable of complying.	YES
	The visual prominence of underground car park vents is minimised & located at a low level where possible	All parking underground.	YES
	Substations, pump rooms, garbage storage areas & other service requirements are located in basement car parks or out of view	Capable of complying	YES
	Ramping for accessibility is minimised by building entry location & setting ground floor levels in relation to footpath levels	Capable of complying.	YES
	Durable, graffiti resistant & easily cleanable materials are used	Capable of complying	YES
	Where development adjoins public parks, open space or bushland, the design positively addresses this interface & uses the following design solutions: • Street access, pedestrian paths & building entries are clearly defined • Paths, low fences & planting are clearly delineate between communal/private open space & the adjoining public open space • Minimal use of blank walls, fences & ground level parking	Capable of complying.	YES
	On sloping sites protrusion of car parking above ground level is minimised by using split levels to step underground car parking	Capable of complying.	YES
	COMMUNAL & PUBLIC OPEN SPACE		
3D-1	**Objective:** An adequate area of communal open space is provided to enhance residential amenity & to provide opportunities for landscaping.		✓
	Design Criteria		
1	Communal open space has a minimum area equal to 25% of the site		✓
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)		✓

ADG Ref.	Item Description	Notes	Compliance
	Design Guidance		
	Communal open space is consolidated into a well designed, easily identified & usable area		YES
	Communal open space have a minimum dimension of 3m. Larger developments should consider greater dimensions		YES
	Communal open space are co-located with deep soil areas	Doran Drive Precinct deep soil can be provided in parts of the Doran Drive Plaza,	YES
	Direct, equitable access are provided to communal open space areas from common circulation areas, entries & lobbies		YES
	Where communal open space cannot be provided at ground level, it is provided on a podium or roof		YES
	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 need to: • 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 & facilities and/or provide contributions to public open space	Doran Drive Precinct deep soil can be provided in parts of the Doran Drive Plaza. All precincts directly interface with or are in close proximity to the existing public open spaces of the Castle Hill Showground, Cattai Creek, Station Plaza and Carpark Plaza and the future open spaces of the Doran Drive Plaza and Precinct East Park.	YES
3D-2	**Objective:** Communal open space is designed to allow for a range of activities, respond to site conditions & be attractive and inviting		✓
	Design Guidance		
	Facilities are provided within communal open spaces & common spaces for a range of age groups (see 4F Common Circulation & Spaces), incorporating the following: • Seating for individuals or groups • Barbeque areas • Play equipment or play areas • Swimming pools, gyms, tennis courts or common rooms	Capable of complying	YES
	Location of facilities responds to microclimate & site conditions with access to sun in winter, shade in summer & shelter from strong winds & down drafts	Capable of complying	YES

ADG Ref.	Item Description	Notes	Compliance
	Visual impacts of services are minimised, including location of ventilation duct outlets from basement car parks, electrical substations & detention tanks	Capable of complying	YES
3D-3	**Objective:** Communal open space is designed to maximise safety.		✓
	Design Guidance		
	Communal open space & public domain should be readily visible from habitable rooms & private open space areas while maintaining visual privacy. Design solutions include: • Bay windows • Corner windows • Balconies	Capable of complying	YES
	Communal open space is well lit	Capable of complying	YES
	Communal open space/facilities that are provided for children & young people are safe and contained	Capable of complying	YES
3D-4	**Objective:** Public open space, where provided, responds to the existing pattern & uses of the neighbourhood		✓
	Design Guidance		
	Public open space is well connected with public streets along at least one edge	Refer to public domain section of the Urban Design Report and Urban Design Guidelines for further information	YES
	POS is connected with nearby parks & other landscape elements	Refer to public domain section of the Urban Design Report and Urban Design Guidelines for further information	YES
	POS is linked through view lines, pedestrian desire paths, termination points & the wider street grid	Refer to public domain section of the Urban Design Report and Urban Design Guidelines for further information	YES
	Solar access is provided year round along with protection from strong winds	Refer to Urban Design Guidelines that prescribe solar access and overshadowing of public spaces for further information	YES

<table>
<tr><th>ADG Ref.</th><th>Item Description</th><th>Notes</th><th>Compliance</th></tr>
<tr><td></td><td>Opportunities for a range of recreational activities is provided for people of all ages</td><td>Refer to public domain section of the urban design report for further information</td><td>YES</td></tr>
<tr><td></td><td>Positive street address & active street frontages are provided adjacent to POS</td><td>Refer to public and private interface section in urban design guidelines for further information</td><td>YES</td></tr>
<tr><td></td><td>Boundaries are clearly defined between POS & private areas</td><td>Refer to public and private interface section in urban design guidelines for further information</td><td>YES</td></tr>
<tr><td>3E</td><td>DEEP SOIL ZONES</td><td></td><td></td></tr>
<tr><td>3E-1</td><td>Objective: Deep soil zones are suitable for healthy plant& tree growth, improve residential amenity and promote management of water and air quality.</td><td></td><td>✓</td></tr>
<tr><td></td><td>Design Criteria</td><td></td><td></td></tr>
<tr><td>1</td><td>Deep soil zones are to meet the following minimum requirements:
<table>
<tr><th>Site Area (sqm)</th><th>Minimum Dim. (m)</th><th>Deep Soil Zone (% of site area)</th></tr>
<tr><td>Less than 650</td><td>-</td><td rowspan="4">7</td></tr>
<tr><td>650-1500</td><td>3</td></tr>
<tr><td>Greater than 1500</td><td>6</td></tr>
<tr><td>Greater than 1500 with significant existing tree cover</td><td>6</td></tr>
</table></td><td>Precinct West and Precinct East can comply.

Doran Drive Precinct is comprised of a highly active urban core with retailing and non-residential uses within a podium. A proportion of deep soil may be provided within the new Doran Drive Plaza commensurate with its desired function as a highly active transport interchange, pedestrian thoroughfare and social meeting place.</td><td>✓</td></tr>
<tr><td></td><td>Design Guidance</td><td></td><td></td></tr>
<tr><td></td><td>On some sites it may be possible to provide larger deep soil zones, depending on the site area & context:
10% of the site as deep soil on sites with an area of 650sqm -1,500sqm
15% of the site as deep soil on sites greater than 1,500sqm</td><td>Precinct East is capable of complying.</td><td>N/A</td></tr>
</table>

ADG Ref.	Item Description	Notes	Compliance
	Deep soil zones are located to retain existing significant trees & to allow for the development of healthy root systems, providing anchorage & stability for mature trees. Design solutions may include: • Basement & sub-basement car park design that is consolidated beneath building footprints • Use of increased front & side setbacks • Adequate clearance around trees to ensure long term health • Co-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil	Capable of complying.	YES
	Achieving the design criteria may not be possible on some sites including where: • location & 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 is achieved & alternative forms of planting provided	Precinct West has no standalone residential uses located within the ground floor and achieves a minimum 6% deep soil on the ground level and can comply with this guidance. Doran Drive Precinct is a high density, village centre for the broader precinct. Precinct East complies.	YES
3F	**VISUAL PRIVACY**		
3F-1	**Objective:** Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external & internal visual privacy.		✓
	Design Criteria		

<table>
<tr><th>ADG Ref.</th><th>Item Description</th><th>Notes</th><th>Compliance</th></tr>
<tr><td>1</td><td>Separation between windows & balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side & rear boundaries are as follows:
<table>
<tr><th>Building Height (m)</th><th>Habitable Rooms & Balconies (m)</th><th>Non-Habitable Rooms (m)</th></tr>
<tr><td>Up to 12 (4 storeys)</td><td>6</td><td>3</td></tr>
<tr><td>Up to 25 (5-8 storeys)</td><td>9</td><td>4.5</td></tr>
<tr><td>Over 25 (9+ storeys)</td><td>12</td><td>6</td></tr>
</table>
Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room.
Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties.</td><td>Indicative reference design demonstrates scheme is capable of complying.</td><td>✓</td></tr>
<tr><td></td><td>Design Guidance</td><td></td><td></td></tr>
<tr><td></td><td>Generally as the height increases, one step in the built form is desirable due to building separations. Any additional steps do not cause a ‘ziggurat’ appearance</td><td>A single 3m tower setback is typically proposed throughout.

There is one tower within Precinct West that is subject to a control which may result in two steps in the built form. This is to provide an appropriate built form transition to the Cattai Creek corridor. Please refer to the Urban Design Guidelines for more information.</td><td>YES</td></tr>
<tr><td></td><td>For residential buildings next to commercial buildings, separation distances are measured as follows:
Retail, office spaces & commercial balconies use the habitable room distances
Service & plant areas use the non-habitable room distances</td><td>Capable of complying.</td><td>YES</td></tr>
<tr><td></td><td>New development are located & oriented to maximise visual privacy between buildings on site & for neighbouring buildings. Design solutions include:
site layout & building are orientated to minimise privacy impacts (see 3B Orientation)
on sloping sites, apartments on different levels have appropriate visual separation distances (see pg 63 figure 3F.4)</td><td>Capable of complying.</td><td>YES</td></tr>
</table>

ADG Ref.	Item Description	Notes	Compliance
	Apartment buildings have an increased separation distance of 3m (in addition to 3F-1 Design Criteria) when adjacent to a different zone that permits lower density residential development, to provide for a transition in scale & increased landscaping (pg 63 figure 3F.5)		N/A
	Direct lines of sight are avoided for windows & balconies across corners	Capable of complying.	YES
	No separation is required between blank walls		N/A
3F-2	**Objective:** Site & building design elements increase privacy without compromising access to light & air and balance outlook & views from habitable rooms & private open space.		✓
	Design Guidance		
	Communal open space, common areas & access paths are separated from private open space & windows to apartments, particularly habitable room windows. Design solutions include: • setbacks • solid or partially solid balustrades on 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 & outlook in another • raising apartments or private open space above the public domain or communal open space • planter boxes incorporated into walls & 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 on windows and/or balconies	Capable of complying.	YES
	Bedrooms, living spaces & other habitable rooms are separated from gallery access & other open circulation space by the apartment's service areas	Capable of complying.	YES
	Balconies & private terraces are located in front of living rooms to increase internal privacy	Capable of complying.	YES
	Windows are offset from the windows of adjacent buildings	Capable of complying.	YES
	Recessed balconies and/or vertical fins are used between adjacent balconies	Capable of complying.	YES
3G	**PEDESTRIAN ACCESS & ENTRIES**		
3G-1	**Objective:** Building entries & pedestrian access connects to and addresses the public domain.		✓
	Design Guidance		
	Multiple entries (including communal building entries & individual ground floor entries) activate the street edge	Refer to Urban Design Guidelines for further information	YES

ADG Ref.	Item Description	Notes	Compliance
	Entry locations relate to the street & subdivision pattern, and the existing pedestrian network	Refer to Urban Design Guidelines for further information	YES
	Building entries are clearly identifiable. Communal entries are clearly distinguishable from private entries	Refer to Urban Design Guidelines for further information	YES
	Where street frontage is limited, a primary street address should be provided with clear sight lines and pathways to secondary building entries	Capable of complying.	YES
3G-2	**Objective:** Access, entries & pathways are accessible & easy to identify.		✓
	Design Guidance		
	Building access areas including lift lobbies, stairwells & hallways are clearly visible from the public domain & communal spaces	Capable of complying.	YES
	The design of ground floors & underground car parks minimise level changes along pathways & entries	Capable of complying.	YES
	Steps & ramps are integrated into the overall building & landscape design	Capable of complying.	YES
	For large developments 'way finding' maps are provided to assist visitors & residents	Capable of complying.	YES
	For large developments electronic access & audio/video intercom are provided to manage access	Capable of complying.	YES
3G-3	**Objective:** Large sites provide pedestrian links for access to streets & connection to destinations.		✓
	Design Guidance		
	Pedestrian links through sites facilitate direct connections to open space, main streets, centres & public transport	Precinct East includes a publicly accessible through site link. Capable of complying.	YES
	Pedestrian links are direct, have clear sight lines, are overlooked by habitable rooms or private open spaces of dwellings, are well lit & contain active uses, where appropriate	Capable of complying.	YES
3H	**VEHICLE ACCESS**		
3H-1	**Objective:** Vehicle access points are designed & located to achieve safety, minimise conflicts between pedestrians & vehicles and create high quality streetscapes.		✓
	Design Guidance		

ADG Ref.	Item Description	Notes	Compliance
	Design solutions include: • materials & colour palette minimise visibility from street • security doors/gates minimise voids in the facade • where doors are not provided, visible interiors reflect façade design, and building services, pipes & ducts are concealed	Capable of complying.	YES
	Car park entries are located behind the building line	Capable of complying.	YES
	Vehicle entries are located at the lowest point of the site, minimising ramp lengths, excavation & impacts on the building form and layout	Capable of complying.	YES
	Car park entry & access are located on secondary streets or lanes where available	Yes	YES
	Vehicle standing areas that increase driveway width & encroach into setbacks are avoided	Capable of complying.	YES
	Access point is located to avoid headlight glare to habitable rooms	Capable of complying.	YES
	Adequate separation distances are provided between vehicle entries & street intersections	Capable of complying.	YES
	The width & number of vehicle access points are limited to the minimum	Capable of complying.	YES
	Visual impact of long driveways is minimised through changing alignments & screen planting		N/A
	The need for large vehicles to enter or turn around within the site is avoided	Turntables for Garbage Trucks and Removalists trucks used throughout to ensure vehicles can enter and leave a building in a forward motion.	YES
	Garbage collection, loading & servicing areas are screened	Located in Basement	YES
	Clear sight lines are provided at pedestrian & vehicle crossings	Capable of complying.	YES
	Traffic calming devices, such as changes in paving material or textures, are used where appropriate	Capable of complying.	YES
	Pedestrian & vehicle access are separated & distinguishable. Design solutions include: • Changes in surface materials • Level changes • Landscaping for separation	Capable of complying.	YES
3J	**BICYCLE & CAR PARKING**		
3J-1	**Objective:** Car parking is provided based on proximity to public transport in metropolitan Sydney & centres in regional areas.		✓
	Design Criteria		

ADG Ref.	Item Description	Notes	Compliance
1	For development in the following locations: • on sites that are within 800m of a railway station or light rail stop in the Sydney Metropolitan Area; or • on land zoned, and sites within 400m of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre the minimum car parking requirement for residents & 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, car share parking spaces are provided within the development.	Refer to Urban Design Guidelines for further information	YES
	Where less car parking is provided in a development, council do not provide on street resident parking permits		N/A
3J-2	**Objective:** Parking & facilities are provided for other modes of transport.		✓
	Design Guidance		
	Conveniently located & sufficient numbers of parking spaces are provided for motorbikes & scooters	Capable of complying.	YES
	Secure undercover bicycle parking is provided & easily accessible from both public domain & common areas	Capable of complying.	YES
	Conveniently located charging stations are provided for electric vehicles, where desirable		N/A
3J-3	**Objective:** Car park design & access is safe and secure		✓
	Design Guidance		
	Supporting facilities within car parks, including garbage, plant & switch rooms, storage areas & car wash bays can be accessed without crossing car parking spaces	Capable of complying.	YES
	Direct, clearly visible & well lit access is provided into common circulation areas	Capable of complying.	YES
	Clearly defined & visible lobby or waiting area is provided to lifts & stairs	Capable of complying.	YES
	For larger car parks, safe pedestrian access is clearly defined & circulation areas have good lighting, colour, line marking and/or bollards	Capable of complying.	YES
3J-4	**Objective:** Visual & environmental impacts of underground car parking are minimised.		✓

ADG Ref.	Item Description	Notes	Compliance
	Design Guidance		
	Excavation minimised through efficient car park layouts & ramp design	Capable of complying.	YES
	Car parking layout is well organised, using a logical, efficient structural grid & double loaded aisles	Capable of complying.	YES
	Protrusion of car parks do not exceed 1m above ground level. Solution include stepping car park levels or using split levels on sloping sites	Podium Carparking sleeved by Residential development.	YES
	Natural ventilation is provided to basement & sub-basement car parking	Capable of complying.	YES
	Ventilation grills or screening devices for car parking openings are integrated into the facade & landscape design	Capable of complying.	YES
3J-5	**Objective:** Visual & environmental impacts of on-grade car parking are minimised.		✓
	Design Guidance		
	On-grade car parking is avoided		YES
	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 & private open space areas • Safe & direct access to building entry points is provided • Parking is incorporated into the landscape design, by extending planting & 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. Shade trees are planted between every 4-5 parking spaces to reduce increased surface temperatures to large areas of paving		N/A
3J-6	**Objective:** Visual & environmental impacts of above ground enclosed car parking are minimised.		✓
	Design Guidance		
	Exposed parking is not located along primary street frontages		N/A

ADG Ref.	Item Description	Notes	Compliance
	Screening, landscaping & other design elements including public art are used to integrate the above ground car parking with the facade. Design solutions include: • Car parking that is concealed behind facade, with windows integrated into the overall facade design (limited to developments where 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		N/A
	Positive street address & active frontages are provided at ground level	Capable of complying.	YES

ADG Ref.	Item Description	Notes	Compliance
PART 4	**DESIGNING THE BUILDING**		
4A	**SOLAR & DAYLIGHT ACCESS**		
4A-1	**Objective:** To optimise number of apartments receiving sunlight to habitable rooms, primary windows & private open space.		✓
	Design Criteria		
1	Living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 2 hrs direct sunlight between 9am - 3pm at mid winter in Sydney Metropolitan Area and in Newcastle and Wollongong local government areas	Indicative reference design demonstrates scheme is capable of complying	✓
2	In all other areas, living rooms & private open spaces of at least 70% of apartments in a building receive a minimum of 3 hrs direct sunlight between 9 am - 3 pm at mid winter		N/A
3	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am - 3 pm at mid winter	Indicative reference design demonstrates scheme is capable of complying	✓
	Design Guidance		

ADG Ref.	Item Description	Notes	Compliance
	The design maximises north aspect. The number of single aspect south facing apartments is minimised	Capable of complying.	YES
	Single aspect, single storey apartments have a northerly or easterly aspect		N/A
	Living areas are located to the north and service areas to the south & west of apartments	Capable of complying.	YES
	To optimise direct sunlight to habitable rooms & balconies a number of the following design features are used: • Dual aspect apartments • Shallow apartment layouts • Two storey & mezzanine level apartments • Bay windows	Indicative reference design demonstrates scheme is capable of complying.	YES
	To maximise the benefit to residents of direct sunlight within living rooms & private open spaces, a minimum of 1sqm of direct sunlight, measured at 1m above floor level, is achieved for at least 15 minutes	Capable of complying.	YES
	Achieving the design criteria may not be possible 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 • significant views are oriented away from the desired aspect for direct sunlight Design drawings need to demonstrate how site constraints & orientation preclude meeting Design Criteria & how the development meets the objective.		N/A
4A-2	**Objective:** Daylight access is maximised where sunlight is limited.		✓
	Design Guidance		
	Courtyards, skylights & high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	High Levels windows are prescribed within Precinct West to prevent views to the commuter car park. These windows are secondary light sources only.	YES.

ADG Ref.	Item Description	Notes	Compliance
	Where courtyards are used: • Use is restricted to kitchens, bathrooms & service areas • Building services are concealed with appropriate detailing & materials to visible walls • Courtyards are fully open to the sky • Access is provided to the light well from communal area for cleaning & maintenance • Acoustic privacy, fire safety & minimum privacy separation distances (see 3F Visual Privacy) are achieved		N/A
	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 site) that will reflect light • Integrating light shelves into the design • Light coloured internal finishes	Capable of complying.	YES
4A-3	**Objective:** Design incorporates shading & glare control, particularly for 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 & planting • Horizontal shading to north facing windows • Vertical shading to east & particularly west facing windows • Operable shading to allow adjustment & choice • High performance glass that minimises external glare off windows, with consideration given to reduce tint glass or glass with a reflectance level below 20% (reflective films are avoided)	Capable of complying.	YES
4B	**NATURAL VENTILATION**		
4B-1	**Objective:** All habitable rooms are naturally ventilated		✓
	Design Guidance		
	The building's orientation maximises capture & use of prevailing breezes for natural ventilation in habitable rooms	Capable of complying.	YES
	Depths of habitable rooms support natural ventilation	Capable of complying.	YES
	The area of unobstructed window openings should be equal to at least 5% of the floor area served	Capable of complying.	YES

ADG Ref.	Item Description	Notes	Compliance
	Light wells are not the primary air source for habitable rooms	Capable of complying.	YES
	Doors & openable windows maximise natural ventilation opportunities by using the following design solutions: • Adjustable windows with large effective openable areas • Variety of window types that provide safety & flexibility such as awnings & louvres • Windows that occupants can reconfigure to funnel breezes into apartment, such as vertical louvres, casement windows & externally opening doors	Capable of complying.	YES
4B-2	**Objective:** The layout & design of single aspect apartments maximises natural ventilation.		✓
	Design Guidance		
	Apartment depths limited to maximise ventilation & airflow	Capable of complying.	YES
	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 used to naturally ventilate internal building areas or rooms such as bathrooms & laundries • Courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation & avoid trapped smells		N/A
4B-3	**Objective:** Number of apartments with natural cross vent is maximised to create comfortable indoor environments for residents.		✓
	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	Indicative reference design demonstrates scheme is capable of complying	✓
2	Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	Capable of complying	✓
	Design Guidance		
	The building includes dual aspect apartments, cross through apartments & corner apartments, and limited apartment depths	Indicative reference design demonstrates scheme is capable of complying	YES
	In cross-through apartments, external window & door opening sizes/ areas on one side of an apartment (inlet side) are approximately equal to the external window & door opening sizes/areas on the other side of the apartment (outlet side)	Capable of complying.	YES

<table>
<tr><th>ADG Ref.</th><th>Item Description</th><th>Notes</th><th>Compliance</th></tr>
<tr><td></td><td>Apartments are designed to minimise the number of corners, doors & rooms that might obstruct airflow</td><td>Capable of complying.</td><td>YES</td></tr>
<tr><td></td><td>Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation & airflow</td><td>Capable of complying.</td><td>YES</td></tr>
<tr><td>4C</td><td colspan="3">CEILING HEIGHTS</td></tr>
<tr><td>4C-1</td><td>Objective: Ceiling height achieves sufficient natural ventilation & daylight access.</td><td></td><td>✓</td></tr>
<tr><td></td><td>Design Criteria</td><td></td><td></td></tr>
<tr><td>1</td><td>Measured from finished floor level to finished ceiling level, minimum ceiling heights are:
<table>
<tr><th colspan="2">Minimum Ceiling Height for apt and mixed-used buildings (m)</th></tr>
<tr><td>Habitable rooms</td><td>2.7</td></tr>
<tr><td>Non-habitable rooms</td><td>2.4</td></tr>
<tr><td>For 2 storey apts</td><td>2.7 for main living area floor
2.4 for second floor, where its area does not exceed 50% of the apt area</td></tr>
<tr><td>Attic spaces</td><td>1.8 at edge of room with 30deg minimum ceiling slope</td></tr>
<tr><td>If located in mixed-use areas</td><td>3.3 for ground and first floor to promote future flexibility of use</td></tr>
</table>
These minimums do not preclude higher ceilings if desired</td><td>Capable of complying.</td><td>✓</td></tr>
<tr><td></td><td>Design Guidance</td><td></td><td></td></tr>
<tr><td></td><td>Ceiling height accommodates use of ceiling fans for cooling & heat distribution</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td>4C-2</td><td>Objective: Ceiling height increases the sense of space in apartments & provides for well proportioned rooms.</td><td></td><td>✓</td></tr>
<tr><td></td><td>Design Guidance</td><td></td><td></td></tr>
</table>

<table>
<tr><th>ADG Ref.</th><th>Item Description</th><th>Notes</th><th>Compliance</th></tr>
<tr><td></td><td>A number of the following design solutions are used:
Hierarchy of rooms in apartment is defined using changes in ceiling heights & alternatives such as raked or curved ceilings, or double height spaces
Well proportioned rooms are provided, for example, smaller rooms feel larger & 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 & coordination of bulkhead location above non-habitable areas, such as robes or storage, can assist</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td>4C-3</td><td>Objective: Ceiling heights contribute to the flexibility of building use over the life of the building</td><td></td><td>✓</td></tr>
<tr><td></td><td>Design Guidance</td><td></td><td></td></tr>
<tr><td></td><td>Ceiling heights of lower level apartments should be greater than the minimum required by Design Criteria allowing flexibility & conversion to non-residential uses</td><td>All residential uses on the ground floor have a 4m minimum floor to floor height to allow for future conversion to alternative uses.</td><td>YES</td></tr>
<tr><td>4D</td><td>APARTMENT SIZE & LAYOUT</td><td></td><td></td></tr>
<tr><td>4D-1</td><td>Objective: The layout of rooms within apartment is functional, well organised & provides a high standard of amenity.</td><td></td><td>✓</td></tr>
<tr><td></td><td>Design Criteria</td><td></td><td></td></tr>
<tr><td>1</td><td>Apartments have the following minimum internal areas:
<table>
<tr><th>Apartment Type</th><th>Minimum Internal Area (sqm)</th></tr>
<tr><td>Studio</td><td>35</td></tr>
<tr><td>1 Bedroom</td><td>50</td></tr>
<tr><td>2 Bedroom</td><td>70</td></tr>
<tr><td>3 Bedroom</td><td>90</td></tr>
</table>
The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5sqm each.
A fourth bedroom & further additional bedrooms increase the minimum internal area by 12sqm each</td><td>Capable of complying.</td><td>YES
✓</td></tr>
<tr><td>2</td><td>Every habitable room has 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 & air is not borrowed from other rooms</td><td>Capable of complying.</td><td>YES
✓</td></tr>
</table>

ADG Ref.	Item Description	Notes	Compliance
	Design Guidance		
	Kitchens is not located as part of the main circulation space in larger apartments (such as hallway or entry space)	Capable of complying	YES
	A window is visible from any point in a habitable room	Capable of complying	YES
	Where minimum areas or room dimensions are not met, apartments demonstrate that they are well designed and demonstrate the usability & functionality of the space with realistically scaled furniture layouts & circulation areas.		N/A
4D-2	**Objective:**		✓
	Design Criteria		
1	Habitable room depths are limited to a maximum of 2.5 x the ceiling height	Capable of complying.	✓
2	In open plan layouts (living, dining & kitchen are combined) maximum habitable room depth is 8m from a window	Capable of complying.	✓
	Design Guidance		
	Greater than minimum ceiling heights allow for proportional increases in room depth up to the permitted max depths		N/A
	All living areas & bedrooms are located on the external face of building	Capable of complying	YES
	Where possible: • bathrooms & laundries have external openable window • main living spaces are oriented toward the primary outlook & aspect and away from noise sources	Capable of complying	YES
4D-3	**Objective:**		✓
	Design Criteria		
1	Master bedrooms have a minimum area of 10sqm & other bedrooms 9sqm (excluding wardrobe space)	Capable of complying.	✓
2	Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	Capable of complying.	✓
3	Living rooms or combined living/dining rooms have a minimum width of: • 3.6m for studio & 1 bedroom apartments • 4m for 2 & 3 bedroom apartments	Capable of complying.	✓

ADG Ref.	Item Description	Notes	Compliance
4	The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	Capable of complying.	✓
	Design Guidance		
	Access to bedrooms, bathrooms & laundries is separated from living areas minimising direct openings between living & service areas	Capable of complying	YES
	All bedrooms allow a minimum length of 1.5m for robes	Capable of complying	YES
	Main bedroom of apartment or studio apartment is provided with a wardrobe of minimum 1.8m L x 0.6m D x 2.1m H	Capable of complying	YES
	Apartment layouts allow flexibility over time, design solutions include: • Dimensions that facilitate a variety of furniture arrangements & removal • Spaces for a range of activities & 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 are regarded as two sole occupancy units for the purposes of the BCA & for calculating mix of apartments) • Room sizes & proportions or open plans (rectangular spaces 2:3 are more easily furnished than square spaces 1:1) • Efficient planning of circulation by stairs, corridors & through rooms to maximise the amount of usable floor space in rooms	Capable of complying	YES
4E	**PRIVATE OPEN SPACE & BALCONIES**		
4E-1	**Objective:** Apartments provide appropriately sized private open space & balconies to enhance residential amenity.	Capable of complying.	✓
	Design Criteria		

<table>
<tr><th>ADG Ref.</th><th>Item Description</th><th>Notes</th><th>Compliance</th></tr>
<tr><td>1</td><td>All apartments are required to have primary balconies as follows:
<table>
<tr><th>Apartment Type</th><th>Minimum Area (sqm)</th><th>Minimum Depth (m)</th></tr>
<tr><td>Studio</td><td>4</td><td>-</td></tr>
<tr><td>1 Bedroom</td><td>8</td><td>2</td></tr>
<tr><td>2 Bedroom</td><td>10</td><td>2</td></tr>
<tr><td>3 Bedroom</td><td>12</td><td>2.4</td></tr>
</table>
The minimum balcony depth to be counted as contributing to the balcony area is 1m</td><td>Capable of complying.</td><td>YES
✓</td></tr>
<tr><td>2</td><td>For apartments at ground level or on podium or similar, a private open space is provided instead of a balcony. It must have minimum area of 15sqm & minimum depth of 3m</td><td>Capable of complying.</td><td>YES
✓</td></tr>
<tr><td></td><td>Design Guidance</td><td></td><td></td></tr>
<tr><td></td><td>Increased communal open space are provided where the number or size of balconies are reduced</td><td></td><td>N/A</td></tr>
<tr><td></td><td>Storage areas on balconies is additional to the minimum balcony size</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td></td><td>Balcony use may be limited in some proposals where:
consistently high wind speeds at 10 storeys & above
close proximity to road, rail or other noise sources
exposure to significant levels of aircraft noise
heritage & adaptive reuse of existing buildings
In these situations,
juliet balconies,
operable walls,
enclosed wintergardens
bay windows
are appropriate. Other amenity benefits for occupants are provide in the apartments or in the development or both. Natural ventilation is also demonstrated</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td>4E-2</td><td>Objective: Primary private open space & balconies are appropriately located to enhance liveability for residents</td><td></td><td>✓</td></tr>
<tr><td></td><td>Design Guidance</td><td></td><td></td></tr>
</table>

ADG Ref.	Item Description	Notes	Compliance
	Primary open space & balconies are located adjacent to the living room, dining room or kitchen to extend the living space	Capable of complying	YES
	POS & balconies predominantly face north, east or west	Capable of complying	YES
	POS & balconies are orientated with the longer side facing outwards or be open to the sky to optimise daylight access into adjacent rooms	Capable of complying	YES
4E-3	**Objective:** Private open space & balcony design is integrated into & contributes to the overall architectural form & detail of the building		✓
	Design Guidance		
	Solid, partially solid or transparent fences & balustrades are selected to respond to the location. They are designed to allow views & passive surveillance of the street while maintaining visual privacy & allowing for a range of uses on the balcony. Solid & partially solid balustrades are preferred	Capable of complying	YES
	Full width full height glass balustrades alone are generally not desirable	Capable of complying	YES
	Projecting balconies are integrated into the building design. The design of soffits are considered	Capable of complying	YES
	Operable screens, shutters, hoods & pergolas are used to control sunlight & wind	Capable of complying	YES
	Balustrades are set back from the building or balcony edge where overlooking or where safety is an issue	Capable of complying	YES
	Downpipes & balcony drainage are integrated with the overall façade & building design	Capable of complying	YES
	Air-conditioning units are located on roofs, in basements, or fully integrated into the building design	Capable of complying	YES
	Where clothes drying, storage or air conditioning units are located on balconies, they are screened & integrated in the building design	Capable of complying	YES
	Ceilings of apartments below terraces are insulated to avoid heat loss	Capable of complying	YES
	Water & gas outlets are provided for primary balconies & private open space	Capable of complying	YES
4E-4	**Objective:** Private open space & balcony design maximises safety		✓
	Design Guidance		
	Changes in ground levels or landscaping are minimised	Capable of complying	YES
	Balcony design & detailing avoids opportunities for climbing & falling	Capable of complying	YES
4F	**COMMON CIRCULATION & SPACES**		

ADG Ref.	Item Description	Notes	Compliance
4F-1	**Objective:** Common circulation spaces achieve good amenity & properly service the number of apartments	Capable of complying.	✓
	Design Criteria		
1	The maximum number of apartments off a circulation core on a single level is eight	Capable of complying	✓
2	For buildings of 10 storeys & over, the maximum number of apartments sharing a single lift is 40	Capable of complying	✓
	Design Guidance		
	Greater than minimum requirements for corridor widths and/or ceiling heights allow comfortable movement & access particularly in entry lobbies, outside lifts & at apartment entry doors	Capable of complying	YES
	Daylight & natural ventilation are provided to all common circulation spaces that are above ground	Capable of complying	YES
	Windows are provided in common circulation spaces & are adjacent to the stair or lift core or at the ends of corridors		YES
	Longer corridors greater than 12m in length from the lift core are articulated. Design solutions include: • Series of foyer areas with windows & spaces for seating • Wider areas at apartment entry doors & varied ceiling heights	Capable of complying	YES
	Common circulation spaces maximise opportunities for dual aspect apartments, including multiple core apartment buildings & cross over apartments	Capable of complying	YES
	Achieving Design Criteria for the number of apartments off a circulation core may not be possible. Where development is unable to achieve this, a high level of amenity for common lobbies, corridors & apartments is demonstrated, including: • Sunlight & natural cross ventilation in apartments • Access to ample daylight & natural ventilation in common circulation spaces • Common areas for seating & gathering • Generous corridors with greater than minimum ceiling heights • Other innovative design solutions that provide high levels of amenity	Capable of complying.	YES
	Where Design Criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level	Capable of complying	YES
	Primary living room or bedroom windows do not open directly onto common circulation spaces, open or enclosed. Visual & acoustic privacy from common circulation spaces to any other rooms are carefully controlled	Capable of complying	YES

<table>
<tr><th>ADG Ref.</th><th>Item Description</th><th>Notes</th><th>Compliance</th></tr>
<tr><td>4F-2</td><td>Objective: Common circulation spaces promote safety & provide for social interaction between residents</td><td></td><td>✓</td></tr>
<tr><td></td><td>Design Guidance</td><td></td><td></td></tr>
<tr><td></td><td>Direct & legible access are provided between vertical circulation points & apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td></td><td>Tight corners & spaces are avoided</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td></td><td>Circulation spaces are well lit at night</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td></td><td>Legible signage are provided for apartment numbers, common areas & general wayfinding</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td></td><td>Incidental spaces, eg space for seating in a corridor, at a stair landing, or near a window are provided</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td></td><td>In larger developments, community rooms for activities such as owners corporation meetings or resident use, are provided & are co-located with communal open space</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td></td><td>Where external galleries are provided, they are more open than closed above the balustrade along their length</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td>4G</td><td>STORAGE</td><td></td><td></td></tr>
<tr><td>4G-1</td><td>Objective: Adequate, well designed storage is provided in each apartment</td><td>Capable of complying</td><td>✓</td></tr>
<tr><td></td><td>Design Criteria</td><td></td><td></td></tr>
<tr><td>1</td><td>In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:
<table>
<tr><th>Apartment Type</th><th>Storage Size Volume (cubic m)</th></tr>
<tr><td>Studio</td><td>4</td></tr>
<tr><td>1 Bedroom</td><td>6</td></tr>
<tr><td>2 Bedroom</td><td>8</td></tr>
<tr><td>3+ Bedroom</td><td>10</td></tr>
</table>
At least 50% of the required storage is to be located within the apartment</td><td>Capable of complying.</td><td>✓</td></tr>
<tr><td></td><td>Design Guidance</td><td></td><td></td></tr>
<tr><td></td><td>Storage is accessible from either circulation or living areas</td><td>Capable of complying</td><td>YES</td></tr>
</table>

ADG Ref.	Item Description	Notes	Compliance
	Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proofed & screened from view from the street	Capable of complying	YES
	Left over space such as under stairs is used for storage	Capable of complying	YES
4G-2	**Objective:** Additional storage is conveniently located, accessible & nominated for individual apartments		✓
	Design Guidance		
	Storage not located in apartments is secure and clearly allocated to specific apartments	Capable of complying	YES
	Storage is provided for larger & less frequently accessed items	Capable of complying	YES
	Storage space in internal or basement car parks is provided at the rear or side of car spaces or in cages, such that allocated car parking remains accessible	Capable of complying	YES
	If communal storage rooms are provided they are accessible from common circulation areas of the building	Capable of complying	YES
	Storage not located in apartment is integrated into the overall building design & not visible from public domain	Capable of complying	YES
4H	**ACOUSTIC PRIVACY**		
4H-1	**Objective:** Noise transfer is minimised through the siting of buildings & building layout		✓
	Design Guidance		
	Adequate building separation is provided within the development & from neighbouring buildings/adjacent uses (see 2F Building Separation & 3F Visual Privacy)	Capable of complying	YES
	Window & door openings are orientated away from noise sources	Capable of complying.	YES
	Noisy areas within buildings including building entries & corridors are located next to or above each other while quieter areas are located next to or above quieter areas	Capable of complying.	YES
	Storage, circulation areas & non-habitable rooms are located to buffer noise from external sources	Capable of complying.	YES
	The number of party walls (shared with other apartments) are limited & are appropriately insulated	Capable of complying.	YES
	Noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open spaces & circulation areas should be located at least 3m away from bedrooms	Capable of complying.	YES
4H-2	**Objective:** Noise impacts are mitigated within apartments through layout & acoustic treatments		✓
	Design Guidance		

ADG Ref.	Item Description	Notes	Compliance
	Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions: • Rooms with similar noise requirements are grouped together • Doors separate different use zones • Wardrobes in bedrooms are co-located to act as sound buffers	Capable of complying.	YES
	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	Capable of complying.	YES
4J	**NOISE & POLLUTION**		
4J-1	**Objective:** In noisy or hostile environments impacts of external noise & pollution are minimised through careful siting & layout		✓
	Design Guidance		
	To minimise impacts the following design solutions are used: • Physical separation between buildings & the noise or pollution source • Residential uses are located perpendicular to the noise source & 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 & communal open spaces • Non-residential uses are located at lower levels vertically separating residential component from noise or pollution source. Setbacks to the underside of residential floor levels are increased, relative to traffic volumes & other noise sources • Buildings respond to both solar access & noise. Where solar access is away from noise source, non-habitable rooms will provide a buffer • Where solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferred • Landscape design reduces the perception of noise & acts as a filter for air pollution generated by traffic & industry	All Non residential uses are always sited to be parallel with the noise source below. Tower setbacks are 3m to assist with noise management. East Precinct Apartments to Showground Rd (noise source) have been located 10m from the noise source, landscaping will provide additional noise buffering and air filtration. Please refer to the Urban Design Guidelines section for Residential Amenity for further controls.	YES

ADG Ref.	Item Description	Notes	Compliance
	Where developments are unable to achieve Design Criteria, alternatives are considered in the following areas: • Solar & daylight access • Private open space & balconies • Natural cross ventilation		N/A
4J-2	**Objective:** Appropriate noise shielding or attenuation techniques for building design, construction & choice of materials are used to mitigate noise transmission		✓
	Design Guidance		
	Design solutions to mitigate noise include: • Limiting the number & 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 eg solid balcony balustrades, external screens & soffits	Capable of complying. Please refer to the Urban Design Guidelines section for Residential Amenity for further controls.	YES
4K	**APARTMENT MIX**		
4K-1	**Objective:** A range of apartment types & sizes is provided to cater for different household types now & into the future		✓
	Design Guidance		
	A variety of apartment types is provided	A maximum 25% 1 Bedroom, and average 55% 2 Bedroom and average 20% 3 Bedroom Unit mix is proposed across the Proposal.	YES
	The apartment mix is appropriate, taking into consideration: • Distance to public transport, employment & education centres • Current market demands & projected future demographic trends • Demand for social & affordable housing • Different cultural & socioeconomic groups		YES
	Flexible apartment configurations are provided to support diverse household types & stages of life including single person households, families, multi-generational families & group households		YES
4K-2	**Objective:** The apartment mix is distributed to suitable locations within the building		✓
	Design Guidance		

ADG Ref.	Item Description	Notes	Compliance
	Different apartment types are located to achieve successful façade composition & to optimise solar access	Capable of complying	YES
	Larger apartment types are located on ground or roof level where there is potential for more open space, and on corners where more building frontage is available	Capable of complying	YES
4L	**GROUND FLOOR APARTMENTS**		
4L-1	**Objective:** Street frontage activity is maximised where ground floor apartments are located		✓
	Design Guidance		
	Direct street access are provided to ground floor apartments	Indicative reference design demonstrates scheme is capable of complying	YES
	Activity is achieved through front gardens, terraces & the facade of the building. Design solutions include: • Both street, foyer & other common internal circulation entrances to ground floor apartments • Private open space is next to the street • Doors & windows face the street	Indicative reference design demonstrates scheme is capable of complying	YES
	Retail or home office spaces are located along street frontages	Retail activation has been located on pedestrian desire lines and public realm frontages within Doran Drive Precinct. Precinct West provides retail/commercial frontages to address Doran Drive and flexible non-residential ground floor uses and Small Office / Home Office uses to address De Clambe Drive. Precinct East allows for flexible ground floor uses.	YES

ADG Ref.	Item Description	Notes	Compliance
	Ground floor apartment layouts support SOHO use & provide opportunities for future conversion into commercial or retail areas. In these cases higher floor to ceiling heights & easy conversion to ground floor amenities are provided.	Precinct West includes a Small Office Home Office product to the ground floor. These have higher ceilings at 4m floor to floor heights.	YES
4L-2	**Objective:** Design of ground floor apartments delivers amenity & safety for residents		✓
	Design Guidance		
	Privacy & safety are provided without obstructing casual surveillance. Design solutions include: • Elevating private gardens & terraces above the street level by 1-1.5m • Landscaping & private courtyards • Window sill heights minimise sight lines into apartments • Integrating balustrades, safety bars or screens with exterior design	Private gardens and terraces are elevated between 0.3m and 0.6m to remain consistent with adjoining residential developments subject to the Hills Shire Council Showground Precinct DCP.	NO.
	Solar access is maximised through: • High ceilings & tall windows • Trees & shrubs allow solar access in winter & shade in summer	Capable of complying	YES
4M	**FACADES**		
4M-1	**Objective:** Building facades provide visual interest along the street while respecting the character of the local area		✓
	Design Guidance		
	Design solutions for front building facades include: • Composition of varied building elements • Defined base, middle & top of buildings • Revealing & concealing certain elements	Capable of complying	YES
	Building services are integrated within the overall facade	Capable of complying	YES

ADG Ref.	Item Description	Notes	Compliance
	Building facades are well resolved with appropriate scale & proportion to streetscape & with consideration of human scale. Solutions include: • Well composed horizontal & vertical elements • Variation in floor heights to enhance the human scale • Elements that are proportional & arranged in patterns • Public artwork or treatments to exterior blank walls • Grouping of floors or elements such as balconies & windows on taller buildings	Capable of complying. Please refer to the Urban Design Guidelines for more information.	YES
	Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	Capable of complying	YES
	Shadow is created on the facade throughout the day with building articulation, balconies & deeper window reveals	Capable of complying	YES
4M-2	**Objective:** Building functions are expressed by the facade		✓
	Design Guidance		
	Building entries are clearly defined	Capable of complying	YES
	Important corners are given visual prominence through change in articulation, materials or colour, roof expression or changes in height	Capable of complying	YES
	Apartment layout is expressed externally through facade features such as party walls & floor slabs	Capable of complying	YES
4N	**ROOF DESIGN**		
4N-1	**Objective:** Roof treatments are integrated into the building design & positively respond to the street		✓
	Design Guidance		
	Roof design relates to the street. Design solutions include: • Special roof features & 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 pitched form complementary to adjacent buildings	Capable of complying	YES
	Roof treatments are integrated with the building design. Design solutions include: • Roof design is in proportion to the overall building size, scale & form • Roof materials compliment the building • Service elements are integrated	Capable of complying	YES

ADG Ref.	Item Description	Notes	Compliance
4N-2	**Objective:** Opportunities to use roof space for residential accommodation & open space are maximised		✓
	Design Guidance		
	Habitable roof space are provided with good levels of amenity. Design solutions include: • Penthouse apartments • Dormer or clerestory windows • Openable skylights	Capable of complying	YES
	Open space is provided on roof tops subject to acceptable visual & acoustic privacy, comfort levels, safety & security considerations	Landscaped roof terraces are provided on lots where required to achieve communal open space requirements.	YES
4N-3	**Objective:** Roof design incorporates sustainability features		✓
	Design Guidance		
	Roof design maximises solar access to apartments during winter & provides shade during summer. Design solutions include: • Roof lifts to the north • Eaves & overhangs shade walls & windows from summer sun	Capable of complying	YES
	Skylights & ventilation systems are integrated into the roof design	Capable of complying	YES
4O	**LANDSCAPE DESIGN**		
4O-1	**Objective:** Landscape design is viable & sustainable		✓
	Design Guidance		
	Landscape design is environmentally sustainable & can enhance environmental performance by incorporating: • Diverse & appropriate planting • Bio-filtration gardens • Appropriately planted shading trees • Areas for residents to plant vegetables & herbs • Composting • Green roofs or walls	Capable of complying	YES
	Ongoing maintenance plans are prepared	Capable of complying	YES

ADG Ref.	Item Description	Notes	Compliance
	Microclimate is enhanced by: • Appropriately scaled trees near the eastern & western elevations for shade • Balance of evergreen & deciduous trees to provide shading in summer & sunlight access in winter • Shade structures such as pergolas for balconies & courtyards	Capable of complying	YES
	Tree & shrub selection considers size at maturity & the potential for roots to compete.	Capable of complying	YES
4O-2	**Objective:** Landscape design contributes to streetscape & amenity		✓
	Design Guidance		
	Landscape design responds to the existing site conditions including: • Changes of levels • Views • Significant landscape features including trees & rock outcrops	Capable of complying.	YES
	Significant landscape features are protected by: • Tree protection zones • Appropriate signage & fencing during construction	Capable of complying	YES
	Plants selected are endemic to region & reflect local ecology Capable of complying.	Capable of complying	YES
4P	**PLANTING ON STRUCTURES**		
4P-1	**Objective:** Appropriate soil profiles are provided		✓
	Design Guidance		
	Structures are reinforced for additional saturated soil weight	Capable of complying	YES
	Soil volume is appropriate for plant growth, including: • Modifying depths & widths according to planting mix & irrigation frequency • Free draining & long soil life span • Tree anchorage	Capable of complying	YES

<table>
<tr><th>ADG Ref.</th><th>Item Description</th><th>Notes</th><th>Compliance</th></tr>
<tr><td></td><td>Minimum soil standards for plant sizes should be provided in accordance with
<table>
<tr><th>Site Area (sqm)</th><th>Recommended Tree Planting</th></tr>
<tr><td>Up to 850</td><td>1 medium tree per 50sqm of deep soil zone</td></tr>
<tr><td>850 – 1,500</td><td>1 large tree or 2 medium trees per 90sqm of deep soil zone</td></tr>
<tr><td>Greater than 1,500</td><td>1 large tree or 2 medium trees per 80sqm of deep soil zone</td></tr>
</table>
.</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td>4P-2</td><td>Objective: Plant growth is optimised with appropriate selection & maintenance</td><td></td><td>✓</td></tr>
<tr><td></td><td>Design Guidance</td><td></td><td></td></tr>
<tr><td></td><td>Plants are suited to site conditions, considerations include:
Drought & wind tolerance
Seasonal changes in solar access
Modified substrate depths for a diverse range of plants
Plant longevity</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td></td><td>A landscape maintenance plan is prepared</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td></td><td>Irrigation & drainage systems respond to:
Changing site conditions
Soil profile & planting regime
Whether rainwater, stormwater or recycled grey water is used</td><td>Capable of complying</td><td>YES</td></tr>
<tr><td>4P-3</td><td>Objective: Planting on structures contributes to the quality & amenity of communal & public open spaces</td><td></td><td>✓</td></tr>
<tr><td></td><td>Design Guidance</td><td></td><td></td></tr>
</table>

ADG Ref.	Item Description	Notes	Compliance
	Building design incorporates opportunities for planting on structures. Design solutions 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 & consider the ability of the facade to change over time	Capable of complying	YES
4Q	**UNIVERSAL DESIGN**		
4Q-1	**Objective:** Universal design features are included in apartment design to promote flexible housing for all community members		✓
	Design Guidance		
	Developments achieve a benchmark of 20% of the total apartments incorporating the Liveable Housing Guideline's silver level universal design features	20% of apartments are capable of achieving Silver level.	YES
4Q-2	**Objective:** A variety of apartments with adaptable designs are provided		✓
	Design Guidance		
	Adaptable housing should be provided in accordance with the relevant council policy	Capable of complying.	YES
	Design solutions for adaptable apartments include: • Convenient access to communal & public areas • High level of solar access • Minimal structural change & residential amenity loss when adapted • Larger car parking spaces for accessibility • Parking titled separately from apartments or shared car parking arrangements	Capable of complying	YES
4Q-3	**Objective:** Apartment layouts are flexible & accommodate a range of lifestyle needs		✓
	Design Guidance		
	Flexible design solutions include: • Rooms with multiple functions • Dual master bedroom apartments with separate bathrooms • Larger apartments with various living space options • Open plan 'loft' style apartments	Capable of complying	YES
4R	**ADAPTIVE REUSE**		

ADG Ref.	Item Description	Notes	Compliance
4R-1	**Objective:** New additions to existing buildings are contemporary, complementary & enhance area's identity & sense of place		✓
	Design Guidance		
	Design solutions include: New elements align with the existing building Additions complement the existing character, siting, scale, proportion, pattern, form & detailing Contemporary & complementary materials, finishes, textures & colours		N/A
	Additions to heritage items are clearly identifiable from the original building		N/A
	New additions allow for interpretation & future evolution of the building		N/A
4R-2	**Objective:** Adapted buildings provide residential amenity but does not precluding future adaptive reuse		✓
	Design Guidance		
	Design features are incorporated sensitively to make up for any physical limitations, to ensure residential amenity. Design solutions include: • Generously sized voids in deeper buildings • Alternative apartment types when orientation is poor • Additions to expand the existing building envelope		N/A
	Where developments are unable to achieve Design Criteria, alternatives are considered in the following areas: • Where there are existing higher ceilings, depths of habitable rooms can increase subject to demonstrating access to natural ventilation, cross ventilation (when applicable) and solar & daylight access (see 4A & 4B) • Alternatives to providing deep soil where less than the minimum requirement is currently available on the site • Building & visual separation subject to demonstrating alternative design approaches to achieving privacy • Common circulation • Car parking • Alternative approaches to private open space & balconies		N/A
4S	**MIXED USE**		
4S-1	**Objective:** Mixed use developments are provided in appropriate locations & provide active street frontages that encourage pedestrian movement.		✓

ADG Ref.	Item Description	Notes	Compliance
	Design Guidance		
	Mixed use development are concentrated around public transport & centres	Non-residential uses are located in buildings with active frontages to the mixed use centre and transport interchange.	YES
	Mixed use developments positively contribute to the public domain. Design solutions include: • Development addresses the street • Active frontages provided • Diverse activities & uses • Avoiding blank walls at the ground level • Live/work apartments on the ground floor level, rather than commercial	Refer to active frontage controls within the Urban Design Guidelines for further information	YES
4S-2	**Objective:** Residential levels of the building are integrated within the development. Safety & amenity is maximised		✓
	Design Guidance		
	Residential circulation areas are clearly defined. Solutions include: • Residential entries separated from commercial entries & directly accessible from the street • Commercial service areas separated from residential components • Residential car parking & communal facilities separated or secured • Security at entries & safe pedestrian routes are provided • Concealment opportunities are avoided	Capable of complying.	YES
	Landscaped communal open space are provided at podium or roof	Capable of complying.	YES
4T	**AWNING & SIGNAGE**		
4T-1	**Objective:** Awnings are well located and complement & integrate with the building design.		✓
	Design Guidance		
	Awnings are located along streets with high pedestrian activity & active frontages	All active frontages and entries to buildings are weather protected via a minimum 2.5m wide awning.	YES

ADG Ref.	Item Description	Notes	Compliance
	A number of the following design solutions are used: • Continuous awnings are maintained & provided in areas with an existing pattern • Height, depth, material & form complements existing street character • Protection from sun & rain is provided • Awnings are wrapped around secondary frontages of corner sites • Awnings are retractable in areas without an established pattern		YES
	Awnings are located over building entries for building address & public domain amenity	Refer to Urban Design Guidelines Wind and Weather Protection for more detail.	YES
	Awnings relate to residential windows, balconies, street tree planting, power poles & street infrastructure	Capable of complying.	YES
	Gutters & down pipes are integrated and concealed	Capable of complying.	YES
	Lighting under awnings is provided for pedestrian safety	Capable of complying.	YES
4T-2	**Objective:** Signage responds to context & desired streetscape character.		✓
	Design Guidance		
	Signage is integrated into building design & respond to scale, proportion & detailing of the development	Capable of complying.	YES
	Legible & discrete way finding is provided for larger developments	Capable of complying.	YES
	Signage is limited to being on & below awnings, and single façade sign on primary street frontages	Capable of complying.	YES
4U	**ENERGY EFFICIENCY**		
4U-1	**Objective:** Development incorporates passive environmental design.		✓
	Design Guidance		
	Adequate natural light is provided to habitable rooms (see 4A Solar & Daylight Access)	Capable of complying.	YES
	Well located, screened outdoor areas are provided for clothes drying	Capable of complying.	YES
4U-2	**Objective:** Passive solar design is incorporated to optimize heat storage in winter & reduce heat transfer in summer.		✓
	Design Guidance		

ADG Ref.	Item Description	Notes	Compliance
	A number of the following design solutions are used: • Use of smart glass or other on north & west elevations • Thermal mass maximised in floors & walls of north facing rooms • Polished concrete floors, tiles or timber rather than carpet • Insulated roofs, walls & floors. Seals on window & door openings • Overhangs & shading devices such as awnings, blinds & screens	Capable of complying.	YES
	Provision of consolidated heating & cooling infrastructure is located in a centralised location (eg basement)	Capable of complying.	YES
4U-3	**Objective:** Adequate natural ventilation to minimise 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 & as many non-habitable rooms, common areas & circulation spaces as possible	Capable of complying.	YES
4V	**WATER MANAGEMENT & CONSERVATION**		
4V-1	**Objective:** Potable water use is minimised		✓
	Design Guidance		
	Water efficient fittings, appliances & wastewater reuse are incorporated	Capable of complying.	YES
	Apartments are individually metered	Capable of complying.	YES
	Rainwater is collected, stored & reused on site	Capable of complying.	YES
	Drought tolerant, low water use plants are used within landscaped areas	Capable of complying.	YES
4V-2	**Objective:** 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	Refer to Urban Design Guidelines Water Strategy for more information.	YES

ADG Ref.	Item Description	Notes	Compliance
	A number of the following design solutions are used: • Runoff is collected from roofs & balconies in water tanks and plumbed into toilets, laundry & irrigation • Porous & open paving materials is maximised • On site stormwater & infiltration, including bio-retention systems such as rain gardens or street tree pits	Capable of complying.	YES
4V-3	**Objective:** Flood management systems are integrated into site.		✓
	Design Guidance		
	Detention tanks are located under paved areas, driveways or in basement car parks	Capable of complying.	YES
	On large sites, parks or open space to provide temporary on site detention basins	Capable of complying.	YES
4W	**WASTE MANAGEMENT**		
4W-1	**Objective:** Waste storage facilities are designed to minimise impacts on streetscape, building entry & amenity of residents.		✓
	Design Guidance		
	Adequately sized storage areas for rubbish bins are located discreetly away from the front of the development or in basement car park	All garbage is proposed to be collected within basement parking areas.	YES
	Waste & recycling storage areas are well ventilated	Capable of complying.	YES
	Circulation design allows bins to be easily manoeuvred between storage & collection points	Capable of complying.	YES
	Temporary storage are provided for large bulk items such as mattresses	Capable of complying.	YES
	Waste management plan is prepared	Capable of complying.	YES
4W-2	**Objective:** Domestic waste is minimised by providing safe & convenient source separation & recycling.		✓
	Design Guidance		
	All dwellings have a waste & recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste & recycling	Capable of complying.	YES
	Communal waste & recycling rooms are in convenient & accessible locations related to each vertical core	Capable of complying.	YES
	For mixed use developments, residential waste & recycling storage areas & access is separate & secure from other uses	Capable of complying.	YES

ADG Ref.	Item Description	Notes	Compliance
	Alternative waste disposal methods such as composting is provided	Capable of complying.	YES
4X	**BUILDING MAINTENANCE**		
4X-1	**Objective:** 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 & doors to protect openings • Detailing horizontal edges with drip lines to avoid staining surfaces • Methods to eliminate or reduce planter box leaching • Appropriate design & material selection for hostile locations	Capable of complying.	YES
4X-2	**Objective:** Systems & access enable ease of maintenance		✓
	Design Guidance		
	Window design enables cleaning from the inside of the building	Capable of complying.	YES
	Building maintenance systems are incorporated & integrated into the design of the building form, roof & facade	Capable of complying.	YES
	Design does not require external scaffolding for maintenance access	Capable of complying.	YES
	Manually operated systems such as blinds, sunshades & curtains are used in preference to mechanical systems	Capable of complying.	YES
	Centralised maintenance, services & storage are provided for communal open space areas within the building	Capable of complying.	YES
4X-3	**Objective:** 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 & spaces • Natural materials that weather well & improve with time, such as face brickwork • Easily cleaned surfaces that are graffiti resistant • Robust & durable materials & finishes in locations which receive heavy wear & tear such as common circulation areas & lift interiors	Capable of complying.	YES

Further to the above ADG Compliance Table we confirm that we have directed the design of the residential flat development at the Hills Showground Station Precinct. The design has been prepared in accordance with the design quality principles and requirements set out in Schedule 1 of State Environmental Planning Policy No 65 - Design Quality of Residential Flat Development and the objectives of the Apartment Design Guide.

Felipe Miranda is registered as an architect in accordance with the NSW Architects Act 2003. Registration Number is 9250.