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APPENDIX E

ADG COMPLIANCE ANALYSIS

ADG Ref.	Item Description	Notes	Compliance
PART3 SITING THE DEVELOPMENT			
3A SITE ANALYSIS			
3A-1 p47	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.	YES	
3B ORIENTATION			
3B-1 p49	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	NA	
	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	NA	
3B-2 p49	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	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%	NA	
	If the proposal will reduce the solar access of neighbours, building separation is increased beyond minimums contained in 3F Visual Privacy	NA	
	Overshadowing is minimised to the south or downhill by increased upper level setbacks	NO	
	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	NA	
	A minimum of 4 hours of solar access is retained to solar collectors on neighbouring buildings	YES	
3C PUBLIC DOMAIN INTERFACE			
3C-1 p51	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	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	YES	
	Front fences & walls along street frontages use visually permeable materials & treatments. Height of solid fences or walls is limited to 1m	Capable of complying.	YES
	Length of solid walls is limited along street frontages	Capable of complying.	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

ADG Ref.	Item Description	Notes	Compliance
	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: <ul style="list-style-type: none">Architectural detailingChanges in materialsPlant SpeciesColoursOpportunities for people to be concealed are minimised	Capable of complying.	YES
3C-2 p53	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	Capable of complying.	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	Capable of complying.	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: <ul style="list-style-type: none">Street access, pedestrian paths & building entries are clearly definedPaths, low fences & planting are clearly delineate between communal/private open space & the adjoining public open spaceMinimal 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 p55	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	Communal open space is to be assessed on a lot by lot basis as part of the stage 2 development applications. The indicative design scheme proposes a mix of public and communal open space totalling a minimum of 25% of the overall site area.	NO ✓
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)	Capable of complying.	✓
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		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

ADG Ref.	Item Description	Notes	Compliance
	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: <ul style="list-style-type: none">Provide communal spaces elsewhere such as a landscaped roof top terrace or a common roomProvide larger balconies or increased private open space for apartmentsDemonstrate good proximity to public open space & facilities and/or provide contributions to public open space		YES
3D-2 p57	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: <ul style="list-style-type: none">Seating for individuals or groupsBarbeque areasPlay equipment or play areasSwimming 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
	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 p57	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: <ul style="list-style-type: none">Bay windowsCorner windowsBalconies	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 p59	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		YES
	POS is connected with nearby parks & other landscape elements		YES
	POS is linked through view lines, pedestrian desire paths, termination points & the wider street grid		YES
	Solar access is provided year round along with protection from strong winds		YES
	Opportunities for a range of recreational activities is provided for people of all ages		YES
	Positive street address & active street frontages are provided adjacent to POS		YES
	Boundaries are clearly defined between POS & private areas		YES
3E	DEEP SOIL ZONES		
3E-1 p61	Objective: Deep soil zones are suitable for healthy plant & tree growth, improve residential amenity and promote management of water and air quality.		✓
	Design Criteria		

ADG Ref.	Item Description	Notes	Compliance													
1	<p>Deep soil zones are to meet the following minimum requirements:</p> <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="3">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><td></td></tr></table>	Site Area (sqm)	Minimum Dim. (m)	Deep Soil Zone (% of site area)	less than 650	-	7	650-1500	3	greater than 1500	6	greater than 1500 with significant existing tree cover	6		<p>Deep soil planting is provided on a site-wide basis and achieves 15% of total site area, in excess of the minimum 7% requirement.</p>	✓
Site Area (sqm)	Minimum Dim. (m)	Deep Soil Zone (% of site area)														
less than 650	-	7														
650-1500	3															
greater than 1500	6															
greater than 1500 with significant existing tree cover	6															
Design Guidance																
	<p>On some sites it may be possible to provide larger deep soil zones, depending on the site area & context:</p> <ul style="list-style-type: none">10% of the site as deep soil on sites with an area of 650sqm - 1,500sqm15% of the site as deep soil on sites greater than 1,500sqm		YES													
	<p>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:</p> <ul style="list-style-type: none">Basement & sub-basement car park design that is consolidated beneath building footprintsUse of increased front & side setbacksAdequate clearance around trees to ensure long term healthCo-location with other deep soil areas on adjacent sites to create larger contiguous areas of deep soil		YES													
	<p>Achieving the design criteria may not be possible on some sites including where:</p> <ul style="list-style-type: none">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 <p>Where a proposal does not achieve deep soil requirements, acceptable stormwater management is achieved & alternative forms of planting provided</p>		NA													
3F	VISUAL PRIVACY															
3F-1 p63	<p>Objective: Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external & internal visual privacy.</p>		✓													
	Design Criteria															
1	<p>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:</p> <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>	Building Height (m)	Habitable Rooms & Balconies. (m)	Non-Habitable Rooms (m)	up to 12 4 storeys)	6	3	up to 25 (5-8 storeys)	9	4.5	over 25 (9+ storeys)	12	6	<p>Indicative reference design demonstrates scheme is capable of complying.</p>	✓	
Building Height (m)	Habitable Rooms & Balconies. (m)	Non-Habitable Rooms (m)														
up to 12 4 storeys)	6	3														
up to 25 (5-8 storeys)	9	4.5														
over 25 (9+ storeys)	12	6														
	<p>Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room.</p> <p>Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties.</p>															
	Design Guidance															
	<p>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</p>		NA													

ADG Ref.	Item Description	Notes	Compliance
3F-2 p65	For residential buildings next to commercial buildings, separation distances are measured as follows: <ul style="list-style-type: none">Retail, office spaces & commercial balconies use the habitable room distancesService & plant areas use the non-habitable room distances		NA
	New development are located & oriented to maximise visual privacy between buildings on site & for neighbouring buildings. Design solutions include: <ul style="list-style-type: none">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)	Capable of complying.	YES
	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)		NA
	Direct lines of sight are avoided for windows & balconies across corners	Capable of complying.	YES
	No separation is required between blank walls		NA
	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: <ul style="list-style-type: none">setbackssolid or partially solid balustrades on balconies at lower levelsfencing and/or trees and vegetation to separate spacesscreening devicesbay windows or pop out windows to provide privacy in one direction & outlook in anotherraising apartments or private open space above the public domain or communal open spaceplanter boxes incorporated into walls & balustrades to increase visual separationpergolas or shading devices to limit overlooking of lower apartments or private open spaceon 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
3G	PEDESTRIAN ACCESS & ENTRIES		
	3G-1 p67 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	Capable of complying.	YES
	Entry locations relate to the street & subdivision pattern, and the existing pedestrian network	Capable of complying.	YES
	Building entries are clearly identifiable. Communal entries are clearly distinguishable from private entries	Capable of complying.	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 p67 Objective: Access, entries & pathways are accessible & easy to identify.		✓

ADG Ref.	Item Description	Notes	Compliance
3G-3 p67	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
	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		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		YES
3H	VEHICLE ACCESS		
	3H-1 p69 Objective: Vehicle access points are designed & located to achieve safety, minimise conflicts between pedestrians & vehicles and create high quality streetscapes.		✓
	Design Guidance		
	Car park access is integrated with the building's overall facade. Design solutions include: <ul style="list-style-type: none">materials & colour palette minimise visibility from streetsecurity doors/gates minimise voids in the facadewhere doors are not provided, visible interiors reflect facade 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		NA
	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
3J	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	Capable of complying.	YES
	The need for large vehicles to enter or turn around within the site is avoided	The majority of blocks are proposed to be serviced from below ground loading areas hence large vehicle turning areas are required within basements.	NO
	Garbage collection, loading & servicing areas are screened	Capable of complying.	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: <ul style="list-style-type: none">Changes in surface materialsLevel changesLandscaping for separation	Capable of complying.	YES
	BICYCLE & CAR PARKING		
	3J-1 p71 Objective: Car parking is provided based on proximity to public transport in metropolitan Sydney & centres in regional areas.		✓

ADG Ref.	Item Description	Notes	Compliance
Design Criteria			
1	For development in the following locations: <ul style="list-style-type: none">on sites that are within 800m of a railway station or light rail stop in the Sydney Metropolitan Area; oron land zoned, and sites within 400m of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre <p>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.</p> <p>The car parking needs for a development must be provided off street.</p>	Parking is provided in accordance with Ryde DCP	✓
Design Guidance			
Where a car share scheme operates locally, car share parking spaces are provided within the development.			YES
Where less car parking is provided in a development, council do not provide on street resident parking permits			NA
3J-2 p71	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		Capable of complying.	YES
3J-3 p73	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 p73	Objective: Visual & environmental impacts of underground car parking are minimised.		✓
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			NA
Natural ventilation is provided to basement & sub-basement car parking			NO
Ventilation grills or screening devices for car parking openings are integrated into the facade & landscape design			NA
3J-5 p75	Objective: Visual & environmental impacts of on-grade car parking are minimised.		✓
Design Guidance			
On-grade car parking is avoided			YES

ADG Ref.	Item Description	Notes	Compliance
3J-6 p75	Where on-grade car parking is unavoidable, the following design solutions are used: <ul style="list-style-type: none">• 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		NA
	Objective: Visual & environmental impacts of above ground enclosed car parking are minimised.		NA
	Design Guidance		
	Exposed parking is not located along primary street frontages		NA
	Screening, landscaping & other design elements including public art are used to integrate the above ground car parking with the facade. Design solutions include: <ul style="list-style-type: none">• 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		NA
	Positive street address & active frontages are provided at ground level		NA

PART4 DESIGNING THE BUILDING				
4A	SOLAR & DAYLIGHT ACCESS			
4A-1 p79	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.	YES	✓
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		NA	
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.	YES	✓
Design Guidance				
The design maximises north aspect. The number of single aspect south facing apartments is minimised			YES	
Single aspect, single storey apartments have a northerly or easterly aspect		Some apartments are oriented south east.	NO	
Living areas are located to the north and service areas to the south & west of apartments			NA	
To optimise direct sunlight to habitable rooms & balconies a number of the following design features are used: <ul style="list-style-type: none">Dual aspect apartmentsShallow apartment layoutsTwo storey & mezzanine level apartmentsBay windows		Indicative reference design demonstrates scheme is capable of complying.		YES

ADG Ref.	Item Description	Notes	Compliance
	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: <ul style="list-style-type: none">greater residential amenity can be achieved along a busy road or rail line by orientating the living rooms away from the noise sourceon south facing sloping sitessignificant 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.	NA	
4A-2 p81	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	NA	
	Where courtyards are used: <ul style="list-style-type: none">Use is restricted to kitchens, bathrooms & service areasBuilding services are concealed with appropriate detailing & materials to visible wallsCourtyards are fully open to the skyAccess is provided to the light well from communal area for cleaning & maintenanceAcoustic privacy, fire safety & minimum privacy separation distances (see 3F Visual Privacy) are achieved	NA	
	Opportunities for reflected light into apartments are optimised through: <ul style="list-style-type: none">Reflective exterior surfaces on buildings opposite south facing windowsPositioning windows to face other buildings or surfaces (on neighbouring sites or within site) that will reflect lightIntegrating light shelves into the designLight coloured internal finishes	Capable of complying.	YES
4A-3 p81	Objective: Design incorporates shading & glare control, particularly for warmer months.		✓
	Design Guidance		
	A number of the following design features are used: <ul style="list-style-type: none">Balconies or sun shading that extend far enough to shade summer sun, but allow winter sun to penetrate living areasShading devices such as eaves, awnings, balconies, pergolas, external louvres & plantingHorizontal shading to north facing windowsVertical shading to east & particularly west facing windowsOperable shading to allow adjustment & choiceHigh 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 p83	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
	Light wells are not the primary air source for habitable rooms	Capable of complying.	YES

ADG Ref.	Item Description	Notes	Compliance
	Doors & openable windows maximise natural ventilation opportunities by using the following design solutions: <ul style="list-style-type: none">Adjustable windows with large effective openable areasVariety of window types that provide safety & flexibility such as awnings & louvresWindows that occupants can reconfigure to funnel breezes into apartment, such as vertical louvres, casement windows & externally opening doors	Capable of complying.	YES
4B-2 p83	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: <ul style="list-style-type: none">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 & laundriesCourtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation & avoid trapped smells	Capable of complying.	YES
4B-3 p85	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	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
	Apartments are designed to minimise the number of corners, doors & rooms that might obstruct airflow	Capable of complying.	YES
	Apartment depths, combined with appropriate ceiling heights, maximise cross ventilation & airflow	Capable of complying.	YES
4C	CEILING HEIGHTS		
4C-1 p87	Objective: Ceiling height achieves sufficient natural ventilation & daylight access.	Capable of complying.	✓
	Design Criteria		

ADG Ref.	Item Description	Notes	Compliance													
1	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-used 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	Minimum Ceiling Height for apt and mixed-used buildings (m)		Habitable rooms	2.7	Non-habitable rooms	2.4	For 2 storey apts	2.7 for main living area floor 2.4 for second floor, where its area does not exceed 50% of the apt area	Attic spaces	1.8 at edge of room with 30deg minimum ceiling slope	If located in mixed-used areas	3.3 for ground and first floor to promote future flexibility of use	Capable of complying.		✓
Minimum Ceiling Height for apt and mixed-used buildings (m)																
Habitable rooms	2.7															
Non-habitable rooms	2.4															
For 2 storey apts	2.7 for main living area floor 2.4 for second floor, where its area does not exceed 50% of the apt area															
Attic spaces	1.8 at edge of room with 30deg minimum ceiling slope															
If located in mixed-used areas	3.3 for ground and first floor to promote future flexibility of use															
Design Guidance																
	Ceiling height accommodates use of ceiling fans for cooling & heat distribution	Capable of complying.	YES													
4C-2 p87	Objective: Ceiling height increases the sense of space in apartments & provides for well proportioned rooms.			✓												
Design Guidance																
	A number of the following design solutions are used: <ul style="list-style-type: none">Hierarchy of rooms in apartment is defined using changes in ceiling heights & alternatives such as raked or curved ceilings, or double height spacesWell proportioned rooms are provided, for example, smaller rooms feel larger & more spacious with higher ceilingsCeiling 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	Capable of complying.	YES													
4C-3 p87	Objective: Ceiling heights contribute to the flexibility of building use over the life of the building.			✓												
Design Guidance																
	Ceiling heights of lower level apartments should be greater than the minimum required by Design Criteria allowing flexibility & conversion to non-residential uses		NO													
4D	APARTMENT SIZE & LAYOUT															
4D-1 p89	Objective: The layout of rooms within apartment is functional, well organised & provides a high standard of amenity.			✓												
Design Criteria																
1	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	Apartment Type	Minimum Internal Area (sqm)	Studio	35	1 Bedroom	50	2 Bedroom	70	3 Bedroom	90	Capable of complying.	YES	✓		
Apartment Type	Minimum Internal Area (sqm)															
Studio	35															
1 Bedroom	50															
2 Bedroom	70															
3 Bedroom	90															
2	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	Capable of complying.	YES	✓												
Design Guidance																

ADG Ref.	Item Description	Notes	Compliance
	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.		NA
4D-2 p89	Objective: Environmental performance of the apartment is maximised.		✓
	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		NA
	All living areas & bedrooms are located on the external face of building	Capable of complying.	YES
	Where possible: <ul style="list-style-type: none">bathrooms & laundries have external openable windowmain living spaces are oriented toward the primary outlook & aspect and away from noise sources	Capable of complying.	YES
4D-3 p91	Objective: Apartment layouts are designed to accommodate a variety of household activities & needs.		✓
	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: <ul style="list-style-type: none">3.6m for studio & 1 bedroom apartments4m for 2 & 3 bedroom apartments	Capable of complying.	✓
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: <ul style="list-style-type: none">Dimensions that facilitate a variety of furniture arrangements & removalSpaces for a range of activities & privacy levels between different spaces within the apartmentDual master apartmentsDual 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 apartmentsRoom 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 p93	Objective: Apartments provide appropriately sized private open space & balconies to enhance residential amenity.	Capable of complying.	✓
	Design Criteria		

ADG Ref.	Item Description	Notes	Compliance															
1	All apartments are required to have primary balconies as follows:	Capable of complying.	✓															
	<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>			Apartment Type	Minimum Area (sqm)	Minimum Depth (m)	Studio	4	-	1 Bedroom	8	2	2 Bedroom	10	2	3+ Bedroom	12	2.4
	Apartment Type			Minimum Area (sqm)	Minimum Depth (m)													
	Studio			4	-													
	1 Bedroom			8	2													
	2 Bedroom			10	2													
3+ Bedroom	12	2.4																
The minimum balcony depth to be counted as contributing to the balcony area is 1m																		
2	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	Capable of complying.	✓															
	Design Guidance																	
	Increased communal open space are provided where the number or size of balconies are reduced	NA																
	Storage areas on balconies is additional to the minimum balcony size	Capable of complying.		YES														
	Balcony use may be limited in some proposals where: <ul style="list-style-type: none">consistently high wind speeds at 10 storeys & aboveclose proximity to road, rail or other noise sourcesexposure to significant levels of aircraft noiseheritage & adaptive reuse of existing buildings In these situations, <ul style="list-style-type: none">juliet balconies,operable walls,enclosed wintergardensbay windows are appropriate. Other amenity benefits for occupants are provided in the apartments or in the development or both. Natural ventilation is also demonstrated	Capable of complying.		YES														
4E-2 p93	Objective: Primary private open space & balconies are appropriately located to enhance liveability for residents		✓															
	Design Guidance																	
	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 p95	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 facade & 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														

ADG Ref.	Item Description	Notes	Compliance
4E-4 p95	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
	Objective: Private open space & balcony design maximises safety		✓
4F	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
	COMMON CIRCULATION & SPACES		
4F-1 p97	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	On high rise levels some buildings provide up to 12 apartments per circulation core.	NO
	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	Capable of complying.	YES
	Longer corridors greater than 12m in length from the lift core are articulated. Design solutions include: <ul style="list-style-type: none">Series of foyer areas with windows & spaces for seatingWider 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
4F-2 p99	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: <ul style="list-style-type: none">Sunlight & natural cross ventilation in apartmentsAccess to ample daylight & natural ventilation in common circulation spacesCommon areas for seating & gatheringGenerous corridors with greater than minimum ceiling heightsOther innovative design solutions that provide high levels of amenity	Capable of complying. The indicative reference scheme shows that multiple sources of daylight, natural ventilation, and amenity through views out can be achieved in floorplates with up to 12 apartments per floor.	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
	Objective: Common circulation spaces promote safety & provide for social interaction between residents		✓
	Design Guidance		
	Direct & legible access are provided between vertical circulation points & apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines	Capable of complying.	YES
	Tight corners & spaces are avoided	Capable of complying.	YES
	Circulation spaces are well lit at night	Capable of complying.	YES
	Legible signage are provided for apartment numbers, common areas & general wayfinding	Capable of complying.	YES

STAGE 1 SSDA DESIGN REPORT

ADG Ref.	Item Description	Notes	Compliance										
	Incidental spaces, eg space for seating in a corridor, at a stair landing, or near a window are provided	Capable of complying.	YES										
	In larger developments, community rooms for activities such as owners corporation meetings or resident use, are provided & are co-located with communal open space	Capable of complying.	YES										
	Where external galleries are provided, they are more open than closed above the balustrade along their length	Capable of complying.	YES										
4G	STORAGE												
4G-1 p101	Objective: Adequate, well designed storage is provided in each apartment	Capable of complying.	✓										
	Design Criteria												
1	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:	Capable of complying.	✓										
	<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>	Apartment Type		Storage Size Volume (cubic m)	Studio	4	1 Bedroom	6	2 Bedroom	8	3+ Bedroom	10	
Apartment Type	Storage Size Volume (cubic m)												
Studio	4												
1 Bedroom	6												
2 Bedroom	8												
3+ Bedroom	10												
	At least 50% of the required storage is to be located within the apartment												
	Design Guidance												
	Storage is accessible from either circulation or living areas	Capable of complying.	YES										
	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 p101	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 p103	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)	Indicative reference design demonstrates scheme is 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										

ADG Ref.	Item Description	Notes	Compliance	
4H-2 p103	Objective: Noise impacts are mitigated within apartments through layout & acoustic treatments		✓	
	Design Guidance			
	Internal apartment layout separates noisy spaces from quiet spaces, using a number of the following design solutions:	Capable of complying.	YES	
	<ul style="list-style-type: none">Rooms with similar noise requirements are grouped togetherDoors separate different use zonesWardrobes in bedrooms are co-located to act as sound buffers			
	Where physical separation cannot be achieved, noise conflicts are resolved using the following design solutions:	Capable of complying.		
	<ul style="list-style-type: none">Double or acoustic glazingAcoustic sealsUse of materials with low noise penetration propertiesContinuous walls to ground level courtyards where they do not conflict with streetscape or other amenity requirements		YES	
4J	NOISE & POLLUTION			
4J-1 p105	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:	Capable of complying.	YES	
	<ul style="list-style-type: none">Physical separation between buildings & the noise or pollution sourceResidential uses are located perpendicular to the noise source & where possible buffered by other usesNon-residential buildings are sited to be parallel with the noise source to provide a continuous building that shields residential uses & communal open spacesNon-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 sourcesBuildings respond to both solar access & noise. Where solar access is away from noise source, non-habitable rooms will provide a bufferWhere solar access is in the same direction as the noise source, dual aspect apartments with shallow building depths are preferredLandscape design reduces the perception of noise & acts as a filter for air pollution generated by traffic & industry			
	Where developments are unable to achieve Design Criteria, alternatives are considered in the following areas:			
	<ul style="list-style-type: none">Solar & daylight accessPrivate open space & balconiesNatural cross ventilation			
4J-2 p105	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:	Capable of complying.		YES
	<ul style="list-style-type: none">Limiting the number & size of openings facing noise sourcesProviding seals to prevent noise transfer through gapsUsing 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			
4K	APARTMENT MIX			
4K-1 p107	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	Capable of complying.	YES	

ADG Ref.	Item Description	Notes	Compliance
	The apartment mix is appropriate, taking into consideration: <ul style="list-style-type: none">Distance to public transport, employment & education centresCurrent market demands & projected future demographic trendsDemand for social & affordable housingDifferent cultural & socioeconomic groups	Capable of complying.	YES
	Flexible apartment configurations are provided to support diverse household types & stages of life including single person households, families, multi-generational families & group households	Capable of complying.	YES
	4K-2 p107 Objective: The apartment mix is distributed to suitable locations within the building		✓
	Design Guidance		
4L 4L-1 p109	Different apartment types are located to achieve successful facade 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
	GROUND FLOOR APARTMENTS		
	Objective: Street frontage activity is maximised where ground floor apartments are located		✓
	Design Guidance		
	Direct street access are provided to ground floor apartments	Capable of complying.	YES
	Activity is achieved through front gardens, terraces & the facade of the building. Design solutions include: <ul style="list-style-type: none">Both street, foyer & other common internal circulation entrances to ground floor apartmentsPrivate open space is next to the streetDoors & windows face the street	Capable of complying.	YES
	Retail or home office spaces are located along street frontages	Ground floor street frontages are generally residential dwellings activated by direct street access and presenting a two storey scale expression. Retail activation has been located on pedestrian and public realm frontages in lieu of vehicular street frontages to maximise activation of the pedestrian realm.	NO
4L-2 p109	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.		NO
	Objective: Design of ground floor apartments delivers amenity & safety for residents		✓
	Design Guidance		
	Privacy & safety are provided without obstructing casual surveillance. Design solutions include: <ul style="list-style-type: none">Elevating private gardens & terraces above the street level by 1-1.5m (see pg 109 Figure 4L.4)Landscaping & private courtyardsWindow sill heights minimise sight lines into apartmentsIntegrating balustrades, safety bars or screens with exterior design	Capable of complying.	YES
4M 4M-1 p111	Solar access is maximised through: <ul style="list-style-type: none">High ceilings & tall windowsTrees & shrubs allow solar access in winter & shade in summer	Capable of complying.	YES
	FACADES		
	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: <ul style="list-style-type: none">Composition of varied building elementsDefined base, middle & top of buildingsRevealing & 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: <ul style="list-style-type: none">Well composed horizontal & vertical elementsVariation in floor heights to enhance the human scaleElements that are proportional & arranged in patternsPublic artwork or treatments to exterior blank wallsGrouping of floors or elements such as balconies & windows on taller buildings	Capable of complying.	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		YES
	4M-2 p111 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 p113	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: <ul style="list-style-type: none">Special roof features & strong cornersUse of skillion or very low pitch hipped roofsBreaking down the massing of the roof by using smaller elements to avoid bulkUsing materials or pitched form complementary to adjacent buildings	Capable of complying.	YES
	Roof treatments are integrated with the building design. Design solutions include: <ul style="list-style-type: none">Roof design is in proportion to the overall building size, scale & formRoof materials compliment the buildingService elements are integrated	Capable of complying.	YES
	4N-2 p113 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: <ul style="list-style-type: none">Penthouse apartmentsDormer or clerestory windowsOpenable 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 some blocks where required to achieve communal open space requirements.	YES
	4N-3 p113 Objective: Roof design incorporates sustainability features		✓
	Design Guidance		
	Roof design maximises solar access to apartments during winter & provides shade during summer. Design solutions include: <ul style="list-style-type: none">Roof lifts to the northEaves & 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 p115	Objective: Landscape design is viable & sustainable		✓

ADG Ref.	Item Description	Notes	Compliance								
	Design Guidance										
	Landscape design is environmentally sustainable & can enhance environmental performance by incorporating: <ul style="list-style-type: none">Diverse & appropriate plantingBio-filtration gardensAppropriately planted shading treesAreas for residents to plant vegetables & herbsCompostingGreen roofs or walls	Capable of complying.	YES								
	Ongoing maintenance plans are prepared	Capable of complying.	YES								
	Microclimate is enhanced by: <ul style="list-style-type: none">Appropriately scaled trees near the eastern & western elevations for shadeBalance of evergreen & deciduous trees to provide shading in summer & sunlight access in winterShade 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								
	40-2 p115 Objective: Landscape design contributes to streetscape & amenity										
	Design Guidance										
	Landscape design responds to the existing site conditions including: <ul style="list-style-type: none">Changes of levelsViewsSignificant landscape features including trees & rock outcrops	Capable of complying. Refer to indicative reference landscape design.	YES								
	Significant landscape features are protected by: <ul style="list-style-type: none">Tree protection zonesAppropriate signage & fencing during construction	Refer to accompanying Biodiversity report undertaken by Eco Logical.	YES								
	Plants selected are endemic to region & reflect local ecology	Capable of complying. Refer to indicative reference landscape design.	YES								
	4P PLANTING ON STRUCTURES										
	4P-1 p117 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: <ul style="list-style-type: none">Modifying depths & widths according to planting mix & irrigation frequencyFree draining & long soil life spanTree anchorage	Capable of complying.	YES								
	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>	Site Area (sqm)	Recommended Tree Planting	Up to 850	1 medium tree per 50sqm of deep soil zone	850 - 1,500	1 large tree or 2 medium trees per 90sqm of deep soil zone	Greater than 1,500	1 large tree or 2 medium trees per 80sqm of deep soil zone	Capable of complying.	YES
	Site Area (sqm)	Recommended Tree Planting									
	Up to 850	1 medium tree per 50sqm of deep soil zone									
	850 - 1,500	1 large tree or 2 medium trees per 90sqm of deep soil zone									
Greater than 1,500	1 large tree or 2 medium trees per 80sqm of deep soil zone										
4P-2 p117 Objective: Plant growth is optimised with appropriate selection & maintenance											
Design Guidance											
Plants are suited to site conditions, considerations include: <ul style="list-style-type: none">Drought & wind toleranceSeasonal changes in solar accessModified substrate depths for a diverse range of plantsPlant longevity	Capable of complying.	YES									
A landscape maintenance plan is prepared	Capable of complying.	YES									

ADG Ref.	Item Description	Notes	Compliance
	Irrigation & drainage systems respond to:	Capable of complying.	
	<ul style="list-style-type: none">Changing site conditionsSoil profile & planting regimeWhether rainwater, stormwater or recycled grey water is used		YES
	4P-3 p117	Objective: Planting on structures contributes to the quality & amenity of communal & public open spaces	✓
	Design Guidance		
	Building design incorporates opportunities for planting on structures. Design solutions include:	Capable of complying.	
	<ul style="list-style-type: none">Green walls with specialised lighting for indoor green wallsWall design that incorporates plantingGreen roofs, particularly where roofs are visible from the public domainPlanter boxes		YES
	Note: structures designed to accommodate green walls should be integrated into the building facade & consider the ability of the facade to change over time		
	4Q	UNIVERSAL DESIGN	
4Q-1 p119	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 Livable Housing Guideline's silver level universal design features	30% of apartments will achieve Silver level.	YES
	4Q-2 p119	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. Refer to design guidelines	YES
	Design solutions for adaptable apartments include:	Capable of complying.	
	<ul style="list-style-type: none">Convenient access to communal & public areasHigh level of solar accessMinimal structural change & residential amenity loss when adaptedLarger car parking spaces for accessibilityParking titled separately from apartments or shared car parking arrangements		YES
	4Q-3 p119	Objective: Apartment layouts are flexible & accommodate a range of lifestyle needs	✓
	Design Guidance		
	Flexible design solutions include:	Capable of complying.	
	<ul style="list-style-type: none">Rooms with multiple functionsDual master bedroom apartments with separate bathroomsLarger apartments with various living space optionsOpen plan 'loft' style apartments with only a fixed kitchen, laundry & bathroom		YES
	4R	ADAPTIVE REUSE	
4R-1 p121	Objective: New additions to existing buildings are contemporary, complementary & enhance area's identity & sense of place		✓
	Design Guidance		
	Design solutions include:		
	<ul style="list-style-type: none">New elements align with the existing buildingAdditions complement the existing character, siting, scale, proportion, pattern, form & detailingContemporary & complementary materials, finishes, textures & colours		NA
	Additions to heritage items are clearly identifiable from the original building		NA

STAGE 1 SSDA DESIGN REPORT

ADG Ref.	Item Description	Notes	Compliance
	New additions allow for interpretation & future evolution of the building		NA
4R-2 p121	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:		
	<ul style="list-style-type: none">Generously sized voids in deeper buildingsAlternative apartment types when orientation is poorAdditions to expand the existing building envelope	NA	
	Where developments are unable to achieve Design Criteria, alternatives are considered in the following areas:		
	<ul style="list-style-type: none">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 siteBuilding & visual separation subject to demonstrating alternative design approaches to achieving privacyCommon circulationCar parkingAlternative approaches to private open space & balconies	NA	
4S	MIXED USE		
4S-1 p123	Objective: Mixed use developments are provided in appropriate locations & provide active street frontages that encourage pedestrian movement.		✓
	Design Guidance		
	Mixed use development are concentrated around public transport & centres	Non residential uses are located in buildings A1, B3, C1, C2, C3 and D3 with active frontages facing both the village green and retail street to create a vibrant and legible town centre.	YES
	Mixed use developments positively contribute to the public domain. Design solutions include:		
	<ul style="list-style-type: none">Development addresses the streetActive frontages providedDiverse activities & usesAvoiding blank walls at the ground levelLive/work apartments on the ground floor level, rather than commercial		YES
4S-2 p123	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:	Capable of complying.	
	<ul style="list-style-type: none">Residential entries separated from commercial entries & directly accessible from the streetCommercial service areas separated from residential componentsResidential car parking & communal facilities separated or securedSecurity at entries & safe pedestrian routes are providedConcealment opportunities are avoided		YES
	Landscaped communal open space are provided at podium or roof		YES
4T	AWNING & SIGNAGE		
4T-1 p125	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	Capable of complying.	YES

ADG Ref.	Item Description	Notes	Compliance
	A number of the following design solutions are used:	Capable of complying.	
	<ul style="list-style-type: none">Continuous awnings are maintained & provided in areas with an existing patternHeight, depth, material & form complements existing street characterProtection from sun & rain is providedAwnings are wrapped around secondary frontages of corner sitesAwnings are retractable in areas without an established pattern		YES
	Awnings are located over building entries for building address & public domain amenity	Capable of complying.	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 p125	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 facade sign on primary street frontages	Capable of complying.	YES
4U	ENERGY EFFICIENCY		
4U-1 p127	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 p127	Objective: Passive solar design is incorporated to optimise heat storage in winter & reduce heat transfer in summer.		✓
	Design Guidance		
	A number of the following design solutions are used:	Capable of complying.	
	<ul style="list-style-type: none">Use of smart glass or other on north & west elevationsThermal mass maximised in floors & walls of north facing roomsPolished concrete floors, tiles or timber rather than carpetInsulated roofs, walls & floors. Seals on window & door openingsOverhangs & shading devices such as awnings, blinds & screens		YES
	Provision of consolidated heating & cooling infrastructure is located in a centralised location (eg basement)	Capable of complying.	YES
4U-3 p127	Objective: Adequate natural ventilation to minimise the need for mechanical ventilation.		✓
	Design Guidance		
	A number of the following design solutions are used:	Capable of complying.	
	<ul style="list-style-type: none">Rooms with similar usage are grouped togetherNatural cross ventilation for apartments is optimisedNatural ventilation is provided to all habitable rooms & as many non-habitable rooms, common areas & circulation spaces as possible		YES
4V	WATER MANAGEMENT & CONSERVATION		
4V-1 p129	Objective: Potable water use is minimised.		✓
	Design Guidance		
	Water efficient fittings, appliances & wastewater reuse are incorporated	Capable of complying.	YES

STAGE 1 SSDA DESIGN REPORT

ADG Ref.	Item Description	Notes	Compliance
	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 p129	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	Capable of complying.	YES
	A number of the following design solutions are used: <ul style="list-style-type: none">Runoff is collected from roofs & balconies in water tanks and plumbed into toilets, laundry & irrigationPorous & open paving materials is maximisedOn site stormwater & infiltration, including bio-retention systems such as rain gardens or street tree pits	Capable of complying.	YES
4V-3 p129	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 spaces are designed to provide temporary on site detention basins	Capable of complying.	YES
4W	WASTE MANAGEMENT		
4W-1 p131	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	Capable of complying.	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 p131	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
	Alternative waste disposal methods such as composting is provided	Capable of complying.	YES
4X	BUILDING MAINTENANCE		
4X-1 p133	Objective: Building design detail provides protection from weathering.		✓
	Design Guidance		
	A number of the following design solutions are used: <ul style="list-style-type: none">Roof overhangs to protect wallsHoods over windows & doors to protect openingsDetailing horizontal edges with drip lines to avoid staining surfacesMethods to eliminate or reduce planter box leachingAppropriate design & material selection for hostile locations	Capable of complying.	YES

ADG Ref.	Item Description	Notes	Compliance
4X-2 p133	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 p133	Objective: Material selection reduces ongoing maintenance costs.		✓
	Design Guidance		
	A number of the following design solutions are used: <ul style="list-style-type: none">Sensors to control artificial lighting in common circulation & spacesNatural materials that weather well & improve with time, such as face brickworkEasily cleaned surfaces that are graffiti resistantRobust & durable materials & finishes in locations which receive heavy wear & tear such as common circulation areas & lift interiors	Capable of complying.	YES



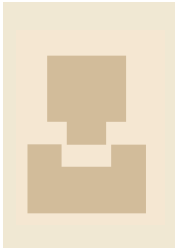
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APPENDIX F

DESIGN EXCELLENCE

DESIGN EXCELLENCE

A commitment to delivering design excellence has been considered through all aspects of the design right through to the life of the project. While there is no reference to any specific design excellence criteria within the State Environmental Planning Policy (State and Regional Development) 2011, the project has been designed in accordance with the seven distinct objectives from the 'Better Placed - An integrated design policy for the built environment of New South Wales.' Prepared by the Government Architect NSW, 2017, Better Placed will form part of the terms of reference to support the delivery of state-led design excellence processes. Through a collaborative design process , the proposed re-development of the Ivanhoe Estate has been continually considered and assessed against this set of objectives, ensuring the best possible design outcome is achieved for all aspects of the project.



OBJECTIVE 1

Better fit

Contextual, local and of its place

Good design in the built environment is informed by and derived from its location, context and social setting. It is place-based and relevant to and resonant with local character, heritage and communal aspirations. It also contributes to evolving and future character and setting.

RESPONSE

- / Designed with a strong social, environmental and community agenda in mind, engaging people to the place, both in the present, and through memories to the past.
- / Creation a local neighbourhood character that residents are proud to call their home - from the quiet neighbourhood streets, to the urban heart of the precinct.
- / Existing forest and riparian corridor is preserved and regenerated along the site's edges where possible. This informal vegetated landscape is proposed to infiltrate the urban grid particularly along the proposed Green Link and at key entry thresholds to the site.
- / Stitched into the fabric of the surrounding neighbourhood to maximise access to and enjoyment of existing local assets and amenity.
- / Buildings designed to be responsive to place, and characterise a high quality and diversity that is designed by a variety of well known and award winning architectural practices.
- / The public domain will be of a similar quality, connected to place through landscape, materiality, uses and opportunities for interpretation that retains the unique qualities and character of the environment.



OBJECTIVE 2

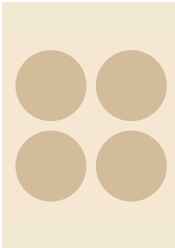
Better performance

Sustainable, adaptable and durable

Environmental sustainability and responsiveness is essential to meet the highest performance standards for living and working. Sustainability is no longer an optional extra, but a fundamental aspect of functional, whole of life design.

RESPONSE

- / Designed to be leading in terms of sustainable design, both environmentally and socially. It will have a strong focus on community health and wellbeing through a commitment to walkability, outdoor recreation and the creation of high amenity places for social engagement.
- / Urban heat island effect mitigated through extensive landscaped public domain, light coloured roofs, landscaped rooftops and solar PV.
- / Designed to achieve four key sustainability commitments for Ivanhoe, including:
 - 5 Star Green Star Design and
 - As Built v1.1 minimum for all buildings;
 - 6 Star Green Star Communities v1 for the Ivanhoe precinct;
 - An optimised integrated infrastructure solution via 'Real Utilities' through improved efficiencies.
- / Buildings designed to be consistent with fundamental sustainable principles related to sunlight, natural ventilation, wind, reflectivity, visual and acoustic privacy, safety and security, and resource, energy and water efficiency.



OBJECTIVE 3

Better for community

Inclusive, connected and diverse

The design of the built environment must seek to address growing economic and social disparity and inequity, by creating inclusive, welcoming and equitable environments. Incorporating diverse uses, housing types and economic frameworks will support engaging places and resilient communities.

RESPONSE

- / The vision for the redevelopment of the Ivanhoe Estate is for a real place that is open, inclusive and highly connected. The design response is focused around fulfilling this vision.
- / A mixed tenure community where social dwellings have been designed to be indistinguishable from the market dwellings and are mixed through the development, creating a sense of equality and social integration.
- / Inclusion of a mix of active community and social uses across the entire precinct to support the local neighbourhood.
- / A shared, public domain that is designed to encourage social interaction, has activated street frontages, is adaptable and comfortable, has a range of recreation activities for different ages and abilities, and is pedestrian-oriented.
- / Community hubs and facilities are provided at key destinations across the precinct to host community programs and engagement



OBJECTIVE 4

Better
for people

Safe, comfortable and liveable

The built environment must be designed for people with a focus on safety, comfort and the basic requirement of using public space. The many aspects of human comfort which affect the usability of a place must be addressed to support good places for people.

RESPONSE

- / The Master Plan structure considers clear lines of sight and passive surveillance of key public spaces to create a safe and legible precinct, including better connections with the surroundings.
- / Creation of an active, walkable neighbourhood, where the community feels encouraged to spend time outdoors and engage in activities that attract others
- / While the steep topography presents significant challenges to movement across the precinct, accessibility has been a key consideration through the design of the public realm, placement of community and social facilities, and location of entries.
- / Active social hubs, including the Town Square and Village Green, have been designed to host a vibrant and diverse program of uses to meet individual needs and interests. These key public spaces are designed to be places where people want to spend time and engage with the local neighbourhood.



OBJECTIVE 5

Better
working

Functional, efficient and fit for purpose

Having a considered, tailored response to the program or requirements of a building or place, allows for efficiency and usability with the potential to adapt to changes over time. Buildings and spaces which work well for their proposed use will remain valuable and well-utilised.

RESPONSE

- / Designed to set a new Australian benchmark for a socially diverse, mixed tenure, inclusive community.
- / Architectural diversity is a key principle of the built form response, ensuring a range of living environments that suit the needs and evolving lifestyles of a diverse population. The design of the public domain is also designed cater for the wide spectrum of ages living at Ivanhoe.
- / Buildings and public open spaces designed to be durable featuring low maintenance materials that are intended to improve with age.



OBJECTIVE 6

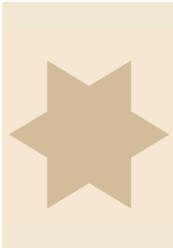
Better
value

Creating and adding value

Good design generates ongoing value for people and communities and minimises costs over time. Creating shared value of place in the built environment raises standards and quality of life for users, as well as adding return on investment for industry.

RESPONSE

- / Optimises value to the community through connection to the unique, natural assets of the site and surrounding local amenities including proximity to key public transport, commercial, retail, health and education infrastructure.
- / Ongoing access to a mix of important social assets at the heart of the precinct including child care centres, residential aged care facility, school with a publicly accessible multi-purpose hall at ground level, a publicly accessible swimming pool and a diverse mix of open space, both public and private.
- / Socially inclusive development underpinned by the principle of tenure blindness with no external indicators of tenure type in the design and layout of the community ensures social integration and ongoing market value.



OBJECTIVE 7

Better look
and feel

Engaging, inviting and attractive

The built environment should be welcoming and aesthetically pleasing, encouraging communities to use and enjoy local places. The feel of a place, and how we use and relate to our environments is dependent upon the aesthetic quality of our places, spaces and buildings. The visual environment should contribute to its surroundings and promote positive engagement.

RESPONSE

- / The public domain features a diverse mix of attractive and socially engaging public spaces at the heart of the precinct which are activated by retail and community uses
- / The private domain equally features high quality areas of communal open space
- / Creation of an inviting precinct that is stitched into its surrounding context. A number of entry thresholds feature a particular expression where the site's informal forested edges and topography infiltrate the urban grid, pulling people in from the surrounding environment.
- / Apartment buildings have been designed with duplex typologies at ground level, along with the townhouses, providing regular front doors with gardens overlooking the street and maximum street frontage activity This creates a sense of ownership encouraging residents to provide genuine care and maintenance over their private dwellings.
- / Buildings are designed to positively contribute to the physical definition of the public domain, while appropriate street wall heights and upper level setbacks mitigate the scale and overall height creating a comfortable scaled development.