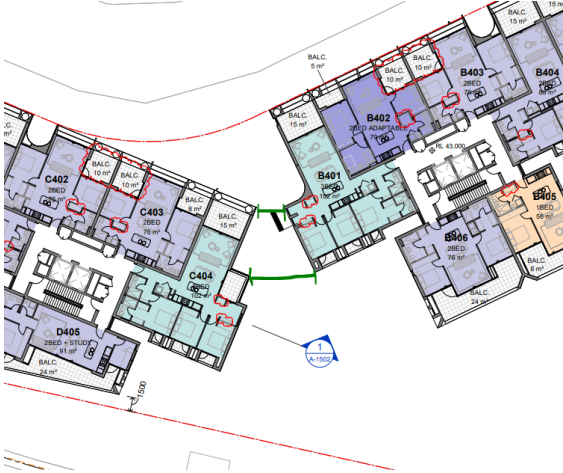



Assessment Against Apartment Design Guide (ADG)			
Part	Objective	Discussion	Compliance
3A-1	Design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context.	A detailed site analysis has been undertaken and addresses the elements specified in Appendix 1 of the ADG.	Yes
3B-1	Buildings types and layouts respond to the streetscape and site while optimising solar access.	The design has optimised solar access with the majority of apartments facing north or east. Most apartments facing south have dual aspects (e.g. south-west or south-east).	Yes
3B-2	Overshadowing of neighbouring properties is minimised during mid winter.	<p>The discussion below under Parts 3D and 4A demonstrates that the proposed apartments meet the design guidance of the ADG, with 200 of the proposed 287 apartments achieving solar compliance.</p> <p>The application includes detailed information about which apartments receive sunlight at what times and elevational 'views from the sun'.</p> <p>The development will have no impact on solar access to other residential properties.</p>	Yes
3C-1	Transition between private and public domain is achieved without compromising safety and security.	<p>There are no residential apartments at the ground level. Upper level apartments overlook the public domain to the west, north, south and east.</p> <p>A pedestrian colonnade is expressed along the street frontage at Lord Sheffield Circuit with activated retail tenancies.</p> <p>Residential lobbies are incorporated into the colonnade and provide opportunity for casual interactions between residents and the public.</p> <p>A condition of consent is recommended for wayfinding signage.</p>	Yes
3C-2	Amenity of the public domain is retained and enhanced.	<p>Landscaping is proposed in colonnade planters and along podium and roof top edges.</p> <p>Mailboxes are proposed within secure lobby areas.</p> <p>All services are located within the basement.</p> <p>Accessible ramps are integrated into the pedestrian colonnade. No further ramping is required at lobby entries or retail tenancies.</p>	Yes
3D-1	An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping.	<p>The ADG suggests a design criteria of communal open space equal to 25% of the site. The proposed development provides a total of 2,607sqm (31.4%) of communal open space at the roof top. In addition, 721sqm (8.7%) is provided at ground level. The ground floor community garden space is a shared space with the broader Thornton Estate community.</p> <p>The second design criteria is that at least 50% of the principal open space achieves 2 hours of sunlight between 9am and 3pm at winter solstice. The residential</p>	Yes

		<p>communal open space at the roof top is north facing and therefore achieves this criteria.</p> <p>In addition, the communal area has widths greater than 3m, canopy planting and landscaping and direct accessible access from the residential towers.</p> <p>Deep soil is not available given the City Centre location and roof top open space. The roof top communal space provides a high quality open space for residents to recreate and relax and gives relief from the rail corridor adjoining.</p> <p>Deep soil is located within the ground floor community garden communal space.</p>	
3D-2	Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting.	<p>The design guidance in the ADG makes reference to providing seating for individuals and groups, barbeque and play areas and common rooms (amongst other suggestions). It also references winter sun, summer shade and concealing services.</p> <p>The proposed development meets these objectives. The primary communal open space is located on the roof top. There are multiple zones with seating (covered and uncovered) and a pool area, all set in a landscaped setting.</p>	Yes
3D-3	Communal open space is designed to maximise safety.	<p>The public domain and community garden is visible from habitable rooms and POS of apartments.</p> <p>The roof top communal space is secure and not accessible by the public. The space itself is visually permeable from lift cores.</p> <p>Conditions of consent is recommended regarding lighting across common areas.</p>	Yes
3D-4	Public open space is responsive to the existing pattern and uses of the neighbourhood.	The public domain along the colonnade is connected to the Station Plaza and public street along Lord Sheffield Circuit. The colonnade provides weather protection and the retail frontages provide an activated and connected public domain. The forecourt provides a meeting place for the public and residents.	Yes
3E-1	Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. The design criteria for this site is to provide deep soil zones equal to 7% of the site area and having a minimum dimension of 6m.	<p>A total of 850sqm of deep soil is available across the site. This equates to 10.3% of the site area, which exceeds the ADG design criteria, 3.5% of which has deep soil that has a depth of &lt;6m.</p> <p>The deep soil zone is mostly along the eastern side boundary and southern rear boundary.</p> <p>The south rear boundary is limited in its planting ability given the strict criteria associated with the rail corridor easement.</p> <p>The eastern boundary is also limited in its planting ability given TfNSW has restricted structures and planting above ground within the required easement for a potential further cycleway. Given this cycleway study is only now being undertaken, leaving this edge bare is not desirable. Minimal tree planting at ground level is proposed and should the cycleway be required the plantings can be removed.</p>	Yes

		The eastern boundary is proposed to include a community garden which is outside of TfNSW's required cycleway easement.	
3F-1	<p>Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy.</p> <p>The design criteria requires:</p> <ul style="list-style-type: none"> <li>Up to 12m (4 storeys) - 6m to habitable (H) and 3m to non-habitable (NH);</li> <li>Up to 25m (5-8 storeys) - 9m (H) and 4.5m (NH); and</li> <li>Over for 25m (9+ storeys) - 12m (H) and 6m (NH).</li> </ul>	<p>Separation distances are as follows:</p> <ul style="list-style-type: none"> <li>0m to Lord Sheffield Circuit. The road reserve provides the required separation.</li> <li>0m to western boundary. No development on the public space of the plaza.</li> <li>1.5m to the railway corridor to the south. No development on the rail corridor.</li> <li>12m minimum separation to the eastern boundary. Future development potential on the adjoining site.</li> </ul> <p>The separation distance between the two residential towers from level 2 to level 9 is at the narrowest point approximately 3.5m, up to 7m as depicted in the image below.</p> <p>At the narrowest point of 3.5m at levels 2-9 (12.75m to 31.35m) there is a technical non-compliance. The 4.5m-6m separation distance required from the non-habitable room (in this case a corridor/hallway) in the east tower to a blank wall of the west tower is not achieved.</p> <p>It has however been assessed to be acceptable in this instance as no privacy or acoustic impacts are anticipated from the non-compliance.</p> 	<p>Yes - to site boundary.</p> <p>Partly - separation between building on same site.</p>
3F-2	<p>Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space.</p> <p>The design guidance references:</p> <ul style="list-style-type: none"> <li>Separating communal open space areas from private areas;</li> </ul>	<p>The primary communal open space is located on the roof level, with the community garden located on the ground level along the eastern boundary edge. There are no apartments at the ground or roof level.</p>	Yes

	<ul style="list-style-type: none"> <li>• Separating habitable rooms (bedrooms, living rooms) from other open gallery access spaces within the apartment;</li> <li>• Positioning balconies in front of living rooms;</li> <li>• Offsetting windows from adjacent developments; and</li> <li>• Recessing balconies or using fins between adjacent balconies.</li> </ul>		
3G-1	Building entries and pedestrian access connects to and addresses the public domain.	<p>There are four residential and two commercial building entry points along Lord Sheffield Circuit. These entry points are connected to the activated colonnade.</p> <p>Both the commercial and residential components of the building are visible from the public domain and will be identifiable for their individual uses by way of signage. A condition of consent for wayfinding signage has been recommended.</p>	Yes
3G-2	Access, entries and pathways are accessible and easy to identify.	The entry points for both the residential and commercial space is clearly identifiable from Lord Sheffield Circuit. Accessible ramps are integrated at the colonnade level and therefore no further ramping at lobby entries is required. The lobby spaces are large which provides good visibility to lifts from the public domain.	Yes
3H-1	Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes.	<p>Vehicle access is via a driveway access along the eastern edge of the subject site. The entry to the basement car park is in the eastern facade of the building and is adequately integrated into the building design.</p> <p>The basement ramp is located within the built form. The loading bay for waste collection and service vehicles is located in the basement at ground level. Loading activities within the basement will not be visible from the public domain.</p> <p>Sight lines at the driveway entry are assessed to meet required Australian Standards. Conditions of consent have been recommended in this regard.</p> <p>A change in pavement design has been incorporated at the vehicle entry point of the driveway.</p>	Yes
3J-1	Car parking is provided based on proximity to public transport.	<p>The car parking spaces provided meet the requirements of Chapter E11, Part B of Penrith DCP and are located within the basement levels.</p> <p>The proposal includes 331 residential spaces and 79 retail/commercial spaces.</p> <p>Four EV charging stations are also provided.</p>	Yes
3J-2	Parking and facilities are provided for other modes of transport.	The proposal has provision for the storage of 119 residential bicycles and 14 retail/commercial bicycles within the basement. End of trip facilities are also proposed.	Yes

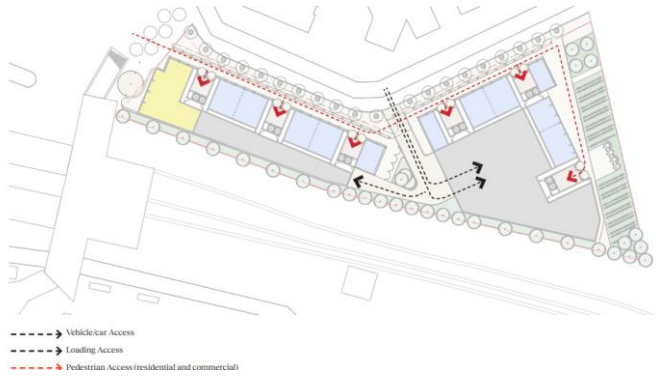
3J-3	Car park design and access is safe and secure.	<p>The lift lobby areas within the basement levels have adequate circulation space and are safely located.</p> <p>The storage cages within the basement and the bicycle racks are positioned away from vehicle circulation areas.</p> <p>A condition of consent has been recommended for adequate lighting within all common areas.</p> <p>Waste collection, plant and switch rooms, etc within the basement are located to have no conflicts with active vehicle carriage ways.</p>	Yes
3J-4	Visual and environmental impacts of underground car parking are minimised.	The car parking layout is well organised and logical, with aisles clear of structure. The basement levels 1, 2 and 3 are below ground with a ground floor basement to the rear of the building for servicing.	Yes
4A-1	<p>To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space.</p> <p>The design criteria then states that:</p> <ul style="list-style-type: none"> <li>Living rooms and private open spaces of at least 70% of apartments to receive 2 hours direct sunlight between 9am and 3pm mid-winter; and</li> <li>A maximum of 15% of apartments receive no direct sunlight.</li> </ul>	<p>The architectural plans include plans showing solar access to individual apartments, a solar access schedule and views from the sun. These show that 200 of the total 287 apartments will achieve compliance with the design criteria. This equates to 69.9%. Although this is technically a non-compliance with the 70% requirement, it is marginal in the context of the overall development.</p> <p>A total of 62 of the 287 apartments do not receive solar access in mid-winter. This equates to 21.6%, which is more than the 15% maximum under the ADG.</p> <p>The majority of apartments are north or east facing. There are no south facing single aspect apartments proposed.</p> <p>The apartments that do not receive solar access in mid-winter (seen in the image below) are shallow dual or triple aspect (south-west or south-east) apartments, which allows secondary light in mid-winter and solar access at other times of the year.</p>  <p>This is the result of the design strategy used for the built form, particularly as an acoustic shield and maximises northerly aspect to the majority of apartments.</p> <p>Given other amenity benefits offered by the development, including north facing roof top communal open space, ground floor community garden on the eastern side of the development and the physical acoustic barrier the building provides to other developments within the area, this is assessed to be acceptable in this instance.</p>	Yes - partly

4A-2	<p>Daylight access is maximised where sunlight is limited.</p> <p>The design guidance makes reference to only using courtyards, skylights and high level windows as secondary light sources for habitable rooms, and using reflective and light coloured materials.</p>	<p>The apartments that do not receive solar access in mid-winter are dual aspect (south-west or south-east) which allows secondary light in mid-winter and solar access at other times of the year.</p> <p>Internal finishes of the building are light in colour and will reflect light into apartments.</p>	Yes
4A-3	Design incorporates shading and glare control, particularly for warmer months.	Glazing is setback and the northern facade is used as a brise soleil which reduces heat gains within the building.	Yes
4B-1	All habitable rooms are naturally ventilated.	The apartments are designed to maximise cross ventilation whilst addressing acoustic impacts from the rail corridor. Habitable rooms have operable windows to allow natural breezes to flow through the spaces. The majority of apartments are reliant on passive acoustic plenums due to the acoustic impact from the rail corridor adjoining.	Yes
4B-2	<p>The layout and design of single aspect apartments maximises natural ventilation.</p> <p>The design guidance then references limiting apartment depths relative to ceiling heights and that 8m is the maximum depth for a single aspect apartment (in an open plan scenario).</p>	The single aspect apartments are no deeper than 8m in the areas that are open plan living (combining living, dining and kitchen areas).	Yes
4B-3	<p>The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents.</p> <p>The design criteria then states that 60% of apartments are naturally ventilated and that inlet and outlet windows are approximately of the same size.</p>	<p>The cross ventilation diagram shows 175 of the 287 apartments achieve cross ventilation (60.6%). The majority of apartments are reliant on passive acoustic plenums.</p> <p>The size of the proposed plenums (inlet/outlet - internal/external) are provided on architectural drawings A-4401 to 4406 to demonstrate they achieve the requirements of 5% of the floor area of the room requirement for ventilation.</p> <p>Plenums in cross through apartments do not have the same opening size as the balcony doors as they are different rooms (e.g. living to the north verses two bedrooms to the south - rail corridor).</p> <p>The passive acoustic plenums are provided as an alternative source of outside air in the event internal noise levels within windows open for ventilation do not achieve noise levels +10dB(A). This is the result of the constraints of the site.</p>	Yes
4C-1	Ceiling height achieves sufficient natural ventilation and daylight	The drawings show floor to floor heights of 3.1m to achieve a floor to ceiling height of 2.7m for habitable rooms.	Yes

	<p>access.</p> <p>The design criteria references habitable rooms achieving a finished floor to ceiling height of 2.7m.</p>		
4C-2	<p>Ceiling height increases the sense of space in apartments and provides for well proportioned rooms.</p>	<p>The vertical planning is stacked allowing ceiling heights to be maximised. Floor to ceiling heights of 2.7m for habitable rooms and 2.4m for non-habitable rooms are proposed.</p>	Yes
4D-1	<p>The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity.</p> <p>The design criteria states the following minimum internal floor areas:</p> <ul style="list-style-type: none"> <li>• 1 bedroom - 50sqm</li> <li>• 2 bedroom - 70sqm</li> <li>• 3 bedroom - 90sqm</li> </ul> <p>Additional bathrooms increase minimum areas by 5sqm and all habitable rooms are to have BCA compliant windows in terms of size (glass area of not less than 10% of room size).</p>	<p>The proposed development includes 1, 2 and 3 bedroom apartments.</p> <p>All proposed apartments meet the design criteria set out in the ADG.</p>	Yes
4D-2	<p>Environmental performance of the apartment is maximised.</p> <p>The design criteria references habitable room depths limited to 2.5 x ceiling height, and open plan layouts have a maximum depth of 8m from the window.</p>	<p>The proposed apartment depths comply with this requirement. Apartment depth in the open plan layout is not greater than 8m, measured from the window to the kitchen bench.</p>	Yes
4D-3	<p>Apartment layouts are designed to accommodate a variety of household activities and needs.</p> <p>The design criteria specifies:</p> <ul style="list-style-type: none"> <li>• Master bedrooms to be 10sqm and other bedrooms to be 9sqm;</li> </ul>	<p>All apartments comply with this requirement.</p>	Yes

	<ul style="list-style-type: none"> <li>Bedrooms have minimum dimensions of 3m;</li> <li>Living rooms have minimum widths of 3.6m (for 1 bedders) and 4m (for 2/3 bedders); and</li> <li>Cross-through apartments are at least 4m wide.</li> </ul>		
4E-1	<p>Apartments provide appropriately sized private open space and balconies to enhance residential amenity.</p> <p>The design criteria states that all apartments are to have primary balcony areas of the following size:</p> <ul style="list-style-type: none"> <li>1 bed - 8sqm (2m deep);</li> <li>2 bed - 10sqm (2m deep); and</li> <li>3 bed - 12sqm (2.4m deep).</li> </ul>	<p>All apartments either comply with or exceed the private open space size and area requirements.</p> <p>Podium apartments are provided with increased balcony sizes.</p> <p>Balconies are proposed on the southern side of the development along the rail corridor. Noise constraints may limit their usability however a large communal open space is provided on the roof which is away from the noise source.</p>	Yes
4E-2	Primary private open space and balconies are appropriately located to enhance liveability for residents.	Balconies are located adjacent to living areas, they predominantly face north and east and are suitably proportioned.	Yes
4E-3	<p>Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building.</p> <p>The design guide suggests that front fence are visually permeable, full width-full height glass balustrades are avoided, operable screens are used, air-conditioning should be located on roofs or screened if on balconies.</p>	<p>POS and balconies are integrated into the overall architecture of the building and are of solid construction (no glass) for acoustic and privacy reasons particularly on the southern side of the development.</p> <p>Additional screening (mesh) is provided to the southern side balconies as a protective measure for the rail corridor.</p> <p>Individual air conditioning units are provided on balconies. Given the solid construction of the balconies the air conditioning will not be visual.</p>	Yes
4F-1	Common circulation spaces achieve good amenity and properly service the number of apartments.	<p>Circulation area around lift cores is between approximately 1.8m to 2.2m. Lift cores have 2 to 3 lifts. Lift cores with two lifts service 48 apartments and the eastern lift core with three lifts services 104 apartments.</p> <p>The eastern lift core with three lifts services 13 apartments per floor. This is more than the ADG</p>	Yes - partly



	<p>The design criteria states that no more than 8 apartments can be accessed off a circulation core.</p> <p>The design guidance suggests that greater corridor widths improve amenity, daylight and natural ventilation should be provided, and primary windows should not open onto the corridor.</p>	<p>requirement of 8. The current design is a direct result of feedback from the Design Jury and refined recommended to relocate the vehicles asses to the eastern edge of the site to avoid conflict through the centre colonnade as per the design competition scheme. The design competition scheme also did not allow direct street access to the eastern residential lobby from Lord Sheffield Circuit and raised potential safety/passive surveillance issues. The image below reflects the design competition scheme access points.</p> <p>For these reasons, the proposal is assessed to be acceptable in this regard.</p> 	
4F-2	<p>Common circulation spaces promote safety and provide for social interaction between residents.</p>	<p>Lobby areas are short, direct and provide legible access to all apartments. Lobby areas are generous in size.</p> <p>A condition of consent is recommended for wayfinding.</p>	Yes
4G-1	<p>Adequate, well designed storage is provided in each apartment.</p> <p>The design criteria requires additional storage as follows:</p> <ul style="list-style-type: none"> <li>• 1 bed - 4 cubic metres;</li> <li>• 2 bed - 6 cubic metres; and</li> <li>• 3 bed - 10m cubic metres,</li> </ul> <p>with 50% of that space in the apartment.</p>	<p>A Storage Schedule has been submitted with the application demonstrating compliance can be achieved. A condition of consent is recommended in this regard.</p>	Yes
4G-2	<p>Additional storage is conveniently located, accessible and nominated for individual apartments.</p>	<p>Additional storage for each apartment is provided in storage cages within the basement level. Storage cages are easily accessed away from car circulation spaces. No storage is proposed on balconies.</p>	Yes
4H-1 and 4H-2	<p>Noise transfer is minimised through the siting of buildings and building layout. Noise impacts are mitigated with apartments through</p>	<p>Windows within apartments, particularly living room windows, are generally orientated to the north and east away from the rail corridor.</p> <p>Plenums are used for acoustic attenuation for living and bedroom windows facing the rail corridor.</p>	Yes

	layout and acoustic treatments.	Bedrooms along the east are located at level 2 or above and 3m from the vehicle access driveway.	
4J-1 and 4J-2	<p>In noisy and hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings.</p> <p>Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission.</p>	<p>The design strategy used has given significant consideration to the noise impacts from the rail corridor adjoining.</p> <p>This is reflected via various elements of the design including:</p> <ul style="list-style-type: none"> <li>• A long north facing facade to act as a noise shield to surrounding development while living spaces of apartments can be oriented (north and east) away from the noise source.</li> <li>• The use of a solid material to the external envelope of the building to protect the internal living areas.</li> <li>• Balconies and landscaping provide a buffer to the south.</li> <li>• The use of passive plenums to windows of living and bedrooms to the south which allow natural ventilation and acoustic benefits.</li> </ul>	Yes
4K-1 and 4K-2	<p>A range of apartment types and sizes is provided to cater for different household types and into the future.</p> <p>The apartment mix is distributed to suitable locations within the building.</p>	<p>The development proposes a range of apartment sizes and configurations, the mix being:</p> <ul style="list-style-type: none"> <li>• 58 x 1 bedroom;</li> <li>• 182 x 2 bedroom; and</li> <li>• 47 x 3 bedroom apartments.</li> </ul>	Yes
4L-1 and 4L-2	<p>Street frontage activity is maximised where ground floor apartments are located.</p> <p>Design of ground floor apartments delivers amenity and safety for residents.</p>	No ground floor apartments are proposed.	N/A
4M-1 and 4M-2	<p>Building facades provide visual interest along the street while respecting the character of the local area.</p> <p>Building functions are expressed by the facade.</p>	<p>A double storey pedestrian colonnade is proposed to Lord Sheffield Circuit. Above the colonnade is an aligned street wall which incorporates a series of vertical cuts to articulate the overall building form. Glazing is setback from the edge of the facade.</p> <p>Building entries are marked within the colonnade with a scooped form and awning.</p>	Yes
4N-1, 4N-2 and 4N-3	<p>Roof treatments are integrated into the building design and positively respond to the street.</p> <p>Opportunities to use roof space for residential accommodation and open space are maximised.</p>	<p>Two communal open spaces are proposed on the roof of the east and west residential tower and have an arched rooftop feature which relates to the arched colonnade at ground level. Lift/stair overruns are integrated into the arched roof feature.</p> <p>BASIX requires an 80kW PV system to be installed. Six potential locations have been nominated on the roof top however it is subject to further design.</p>	Yes

	Roof design incorporates sustainability features.		
4O-1 and 4O-2	Landscape design is viable and sustainable.  Landscape design contributes to the streetscape and amenity.	A detailed landscape plan has been submitted in support of the proposal. The landscape plan has been reviewed by Council's Landscape Architect and is assessed as suitable for the development.	Yes
4P-1, 4P-2, and 4P-3	Planting on structures contributes to the quality and amenity of communal and public open spaces.		
4Q-1, 4Q-2 and 4Q-3	Universal design features are included in apartment design to promote flexible housing for all community members.  The design guidance makes references to a 'silver level' in the Livable Housing Guideline and seven core design features.	A total of 20.9% of the units (60 units) are designed as 'Livable'.  There are 29 adaptable units provided along with 29 accessible car spaces in accordance with AS 4299.  An Accessibility Compliance Report has supported the application and notes compliance in this regard can be achieved.	Yes
4U-1, 4U-2 and 4U-3	Development incorporates passive environmental design.  Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer.	Adequate natural daylight, sunlight and ventilation is provided to apartments as per the design criteria of the ADG discussed above.  Shading is provided by balcony overhangs; landscaping is provided to the communal open spaces.	Yes
4V-1, 4V-2, and 4V-3	Potable water is minimised. Urban stormwater is treated on site before being discharged to receiving waters. Flood management systems are integrated into site design.	The development's stormwater will be managed via the Thornton Estate community stormwater treatment system and therefore no on-site devices are required.  Council's Waterways and Development Engineering officers have reviewed the proposal with regard to stormwater management and treatment and flooding; no objection was raised subject to recommended conditions of consent.	Yes
4W-1 and 4W-2	Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents.  Domestic waste is minimised by providing safe and convenient source separation and recycling.	The proposed development includes provision for on-site waste collection by Council's waste trucks.  Council's Waste Officer raises no objection to the proposed arrangement for waste collection.  In addition, the building includes waste chutes on all upper floors, a bulky waste room and other waste infrastructure in the basement.	Yes
4X-1, 4X-2	Building design detail provides protection from	To assist with long term maintenance, the proposal includes glazing that is recessed and protected by the	Yes

and 4X-3	<p>weathering.</p> <p>Systems and access enable ease of maintenance.</p> <p>Material selection reduces ongoing maintenance costs.</p>	<p>facade with ledges and balconies. Any glazing not recessed will be cleaned by the building manager.</p>	
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