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Proposed Mixed Use Development
Stages 2 & 3, 1 Australia Avenue Sydney Olympic Park

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Table of Planning Consistency

- SEPP Major Development (Schedule 3)
- Sydney Olympic Park Master Plan 2030

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1 Tables of Planning Compliance

1.1 Introduction

This report provides a summary of compliance with the relevant provisions of the SEPP (Major Development) 2005 and the Sydney Olympic Park Master Plan 2030. Key non-compliances with the relevant provisions of these planning instruments and policies are addressed in further detail in the main body of the Environmental Assessment.

1.2 SEPP (Major Development) 2005

Development controls for Sydney Olympic Park are listed under Part 23 of Schedule 3 of the Major Development SEPP. Schedule 3 includes specific development controls for 'State Significant Sites. **Table 1** provides a summary of the planning controls of the proposed development with the controls in Part 23 of Schedule 3 of the Major Development SEPP.

Table 1. Consistency with SEPP (Major Developments) 2005

Clause	Consistency	Comments
9. Zone B4 Mixed Use – objectives of the zone are: (a) to protect and promote the major events capability of the Sydney Olympic Park site and to ensure that it becomes a premium destination for major events, (b) to integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling, (c) to ensure that the Sydney Olympic Park site becomes an active and vibrant town centre within metropolitan Sydney, (d) to provide for a mixture of compatible land uses, (e) to encourage diverse employment opportunities, (f) to promote ecologically sustainable development and minimise any adverse effect of land uses on the environment, (g) to encourage the provision and maintenance of affordable housing.	Yes	The proposal is consistent with the objectives of the B4 Zone. The capacity of the Sydney Olympic Park to hold major events, as a result of the approval of the proposed development. Impacts on traffic capacity of the local road network have considered Major events and concluded that there will be not adverse effects of events. Residential and retail uses are suitably integrated to contribute to the 24 hour use of the Town Centre. Having residents living within the Sydney Olympic Park will provide greater support6 for existing facilities outside of major events times, which will contribute to a lively and liveable town centre. Bicycle facilities are provided within the development for residents and visitors to promo9te use of the network of local cycle ways. The site is also well services by rail and bus services and providing increasing the residential population of the area will provide greater support to enhance these existing services to increase train and bus frequency. The proposed residential with ground floor retail uses are compatible and consistent with the preferred land uses for the site nominated in the Sydney Olympic Park Master Plan. Employment opportunities are available in the local retail units fronting Australia Avenue and the building manager's position. All operational impacts from the residential retail uses are manageable in terms of traffic, noise, and waste generation. The proposed retail units are not proposes as affordable rental housing, however the size of units including a high proportion of 1 and 2 bedroom units will provide affordable alternatives to single detached dwelling houses.
18. Height of buildings – not to exceed 90 metres.	No. refer to comment	The proposed development has a maximum height of 99m measured in accordance with the definition of building height under Part 23 of Schedule 3 of the Major Development SEPP. The maximum height is measured to the top of the southern tower (Tower 2). Building height is defined as: **"building height** (or height of building) means the vertical distance, measured in metres, between

Clause	Consistency	Comments
		ground level (existing) at any point to the highest point of the highest habitable floor (including above ground car parking) of the building, excluding plant and lift overruns, communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like". The proposal varies from the maximum height by 9 metres. The additional 9m metres in the height of Tower 2 will not have a significant adverse environmental impact on the surrounding land uses including Bicentennial Parklands. Shadow diagrams have been prepared by Windtech and submitted with the Design Report, the shadow diagrams shows that the shadow of the Tower 2 (South) will be generally caste within the shadow of the future tower building to the south west on Site 68, which is permitted to a height of up to 30 storeys under the Master Plan 2030 and 90 metres under the Major Development SEPP. The additional 9 metres, the equivalent of 3 storeys will not have any significant adverse bulk and scale impacts, having regard to the overall permitted height of the development and the proposed massing strategy for buildings on the site. The proposal complies with the maximum height in terms of the number of storeys (maximum 30 storeys) of the Master Plan 2030. Refer to the main body of the Environmental Assessment for further justification for the variation in the maximum height limit under the Major Development SEPP.
19. Floor Space Ratio – not to exceed 5.25:1.	Refer to comment	The proposed GFA for the development is 56,266m^2 which is consistent with the Design Competition brief. Combined with the total FSR is 5.277:1 across the entire site, which exceeds the maximum FSR under the Major Development SEPP by 300m^2, which is considered a negligible difference and will have no significant bulk and scale or traffic-related impacts.
24. Major Events – objective is to protect and promote the major events capability of the Sydney Olympic Park site and to ensure that it remains a premium destination for major events. Consent not to be granted to development on land within the Sydney Olympic Park site, if the consent authority is satisfied that during major events held within the Sydney Olympic Park site: (a) traffic generated by the development is likely to cause the local road network and connections to the regional road network to become saturated or otherwise fail, and (b) the development is likely to prevent the effective management of crowd movement and transport services, and (c) the development is likely to compromise the effective functioning of major event infrastructure, and (d) the development conflicts with the emergency management plans of government agencies or the emergency evacuation plans of major event venues.	Yes	An assessment of traffic generated by the proposed development has been provided in the Traffic and Transport assessment by CBHK at **Appendix M**.
25. Transport – consent not to be granted unless development includes measures to promote public transport use, cycling and walking.	Yes	The proposed development promotes cycling through the provision of bicycle parking spaces for residents and visitors. The site is located within easy walking distance of the Olympic Park Railway Station and bus stops are located on Australia Avenue adjacent to site and Herb Elliot

Clause	Consistency	Comments
		Avenue close to the railway station. The proximity of the site to these public transport services will encourage the use of these services.
26. Master Plan – consent not to be granted for development on land to which a master plan applies unless the consent authority has considered that master plan, except as provided by subclauses (2) and (3). (2) Consideration of a master plan is not required if the consent authority is satisfied that the development involves a temporary use of the land, and the development is of a minor nature. (3) Development consent must not be granted for development on land within 400 metres of the Olympic Park Train Station unless the consent authority has considered whether the car parking requirements specified in the master plan should be reduced in respect of that development.	Yes	The following table in this appendix to the Environmental Assessment provides an assessment of the proposed mixed use development against the relevant objectives and controls of the Sydney Olympic Park Master Plan 2030. The car parking rates for residential and retail development form Master Plan 2030 have been applied to the proposed development.
30. Design excellence – consent is not to be granted for erection of a new building or external alterations to an existing building unless the consent authority has considered whether the proposed development exhibits design excellence, and in the case of a building that will attain the maximum height shown for that land on the Height of Buildings Map or the Reduced Level Map (whichever is the lesser), is satisfied that the development exhibits design excellence. In considering whether proposed development exhibits design excellence, the consent authority must have regard to the following matters: (a) whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved, (b) whether the form and external appearance of the building will improve the quality and amenity of the public domain, (c) whether the building meets sustainable design principles in terms of sunlight, natural ventilation, wind, reflectivity, visual and acoustic privacy, safety and security and resource, energy and water efficiency, (d) if a competition is held in relation to the development, the results of the competition. (2) Development consent must not be granted to the following development unless a design competition has been held in relation to the proposed development: (a) the erection of a new building with a building height greater than 42 metres above ground level (existing), (b) the erection of a new building identified as requiring a design competition in a master plan.	Yes	A design competition was held prior to the lodgement of this Environmental Assessment. The proposed development exhibits design excellence through the achievement of high standard of design presented to the SOPA Design Review Panel prior to the lodgement of this Environmental Assessment. The external appearance of the building has been reviewed on a number of occasions by the SOPA Design Review Panel, and has been accepted to satisfy the recommendations of the Design Competition Jury. Refer to the Design Report prepared by Bates Smart, submitted under separate cover, which explains how design excellence has been achieved in the proposed development.

1.3 Sydney Olympic Park Master Plan 2030

Master Plan 2030 accompanying the Major Development SEPP development standards provide provides more detailed provisions in relation to the development of the public and private domain.

Table 2. Consistency with SOP Master Plan 2030

Controls	Consistency	Comments
Section 4.0 General controls		
4.2 Sustainability **4.2.1 Controls** • Engage an Ecologically Sustainable Design (ESD) consultant as a core member of the project team. • Connect all new development to the Park's recycled water system for all approved uses of recycled water. **Environmentally Sustainable Materials** • Prioritise sustainable materials selection. **Required Ratings** • All residential development must comply with BASIX. • Mixed use developments are to comply with the required rating of the dominant use where the smaller use is less than 1000 sqm, etc. • All non residential developments are to achieve the minimum ratings set out in Table 4.1 of the Master Plan.	Yes	The proposal is consistent with the provisions of the Master Plan 2030 in relation to sustainability. The ESD consultant, Windtech has been a core member of the design team, having also prepared the natural day lighting and solar analysis, wind impact, natural ventilation assessments in support of the proposal. The proposed waster services to the building will be connected to the Sydney Olympic Park WRAMS recycled water system. The primary constriction material will be concrete, which is a low maintenance, long life material with a low embodied energy. Aluminium spandrel panels are also constructed of a low maintenance, long life material. Aluminium of a recyclable material. The proposed residential units have been assessed for energy and water efficiency performance using the BASIX rating tool. Refer to results at **Appendix N**.
4.3 Public Domain **4.3.1 Controls** • Design and build streets and public spaces in accordance with: - the documents, codes and standards listed in the Master Plan. **Building Interface with the Public Domain** • Provide weather protection at communal entrances. • Maximise surveillance of the public domain and views of the public areas from the building. **Ground Floor of Non-Residential Buildings** • Introduce multiple entrances to buildings to activate the public domain wherever possible. • Ensure shops and food outlets have a display window measuring at least 5m or 80 per cent of the frontage, whichever is the larger. Food outlet counters should be within the shop area as queuing on footpaths and public thoroughfares is not permitted. • Divide large facades into smaller sections to modulate the street frontage and ensure architectural detailing incorporates good materials and details of interest to pedestrians. • Glaze ground floor windows and doors for retail uses with clear glass and provide good lighting at night. • Commercial outdoor seating to support food and beverage outlets is encouraged to activate the public domain. This will require a separate consent and in all cases pedestrian circulation and amenity will take priority over outdoor	Yes	No new streets are proposed within the development. The vehicle driveways have been designed following consultation with SOPA with a simple palette of pavement materials and bollades for pedestrian safety. The primary frontage is along Australia Avenue at the western edge of the site. The street pathway provides an important link for pedestrians (and cyclists) moving between SOP town centre and Bicentennial Park. The proposal includes the following works: - repaving the existing footpath (unit paving to match SOP Town Centre and Stage 1 works); and - combining the existing footpath with private land to create an unobstructed minimum width of 3 metres for pedestrian movement. Weather protection is provided at the common entries to the residential tower buildings, afforded by the overhanging residential tower buildings. The commercial/retail units fronting Australia Avenue have a strip in front of the tenancies, which has weather protection. Surveillance of the public domain along Australia Avenue, as well as the communal building entries and the vehicle access ways into the site are provided from upper floor residential balconies. Three building entrances along Australia Avenue are proposed to the residential towers. The communal entry at the centre of the Australia Avenue frontage links to each residential tower lobby and accesses the central building managers desk as well a mail rooms and change room facilities for the Level 1 gymnasium and communal facilities. Commercial/ retail tenancies have included individual entrances.

Controls	Consistency	Comments
Section 4.0 General controls		
seating. **Public Domain Safety and Security** • Ensure trees and vegetation do not block lighting or the field of vision of pedestrians in the public domain. • Improve the safety of pedestrian bridges, enclosed pathways and stairways by creating good visibility, lighting and adjacent activity at these places. • Promote good surveillance of parks and public spaces by making them attractive and comfortable: - incorporate well placed seating with good shade and interesting views - design and locate public furniture, lighting, bubblers, public information, public toilets and play equipment to encourage informal use - provide generous, well positioned seating opportunities throughout all public open space.		Shops and commercial suites are designed to front Australia Avenue. The elevations and 3D montages illustrate that transparency of the frontages. A minimum of 80% of the shops are to e transparent/glazed. The Australia Avenue frontage is divided into multiple tenancies providing smaller scale and finer grained tenancies for local convenience retail uses. Outdoor seating opportunities may be possible on the northern side of Tower 1 (North) and southern side of Tower 2 (South). A separate consent will be sought for outdoor dining in these locations. Street trees exist along Australia Avenue and are to be retained. The Fig Tree Place will provide an additional publicly accessible private space. Seating in this area of the site is provided in the form of large concrete steps between the vehicle driveway and the infiltration garden to the south. Refer to Landscape Drawing No. 1102 5 A submitted with the design report under separate cover. Good shale will be provided with the planting of native trees and the relocation of the fig tree.
4.4 Event Access and Closures **4.4.1 Controls** **4.4.1.7 Development and Project Application Requirements** • Developers must provide an Event Impact Statement that includes the information set out in Appendix A of the Master Plan. SOPA will assess the event impact of each development proposal in accordance with the Major Event Impact Assessment Guidelines for Sydney Olympic Park.	Yes	Impacts on events held at Sydney Olympic Park have been considered having regard to traffic and parking, access and public transport Refer to Traffic and Transport Assessment by CBHK at **Appendix M**. A series of transport, road and intersection works have been identified to accommodate future development Sydney Olympic park, including development of the subject site. The local road network will be able to cater for the additional traffic from the proposed development at all times including during major events. Access to the site is view two driveways from Australia Avenue and will not be impacted significantly by major events. It is understood that temporary closures of Australia Avenue occur during the Easter Show and the V8 Super Car race. It is known however the closures impact Australia Avenue further north of the subject site, from the intersection of Australia Avenue and Herb Elliot Avenue, therefore impacts on access to the subject site during these times will be negligible.
4.5 Land Uses and Density **4.5.1 Land Use Controls** • Permitted land uses are to comply with Figure 4.1 Retail Uses Plan and Figure 4.4 Land Uses Plan and Table 4.2 Allowable Land Uses for the relevant precinct. [Site 3 is Residential] • Ground level active uses are to have a minimum depth of 3m. • The following developments and uses are allowed for the residential land use category. Additional development and uses may be permitted within the category as specified in the Precinct Controls: **Table 4.2 Allowable Land Uses** <u>Residential</u>:	Yes	The proposed retail tenancies locations comply with the Master Plan locations in Figure 4.4 and Allowable Land Uses in Table 4.2 of the Master Plan 2030. Ground floor active non-residential uses comply with the minimum 3m depth requirements of the Master Plan 2030. The total retail uses is 474sqm or 0.84%, which complies with the maximum 10% retail uses permitted in Table 4.2 of the Master Plan 2030. The proposed GFA of 56,266sqm combined with the GFA for Stage 1 complies with the maximum FSR permitted across Site 3 of 5.25:1. No land is proposed to be dedicated to SOPA.

Controls	Consistency	Comments
Section 4.0 General controls		
Multi-unit housing Residential accommodation Seniors housing Ancillary home office uses (maximum 20% of total dwelling) Retail uses (maximum 10% of total GFA) Childcare All residential uses not covered under hotels and serviced apartments **4.5.2 Floor Space Ratio Controls** • The maximum floor space ratio achievable for each development site is nominated in the Site Floor Space Ratio Plan for the relevant precinct. • Where identified, land will be required to be dedicated to the Authority for use as a public street, public open space or public domain. • 4. The maximum floor space ratio will only be granted when the following controls are complied with: Building Zone, Building Depth, Building Heights, Building Separation, Building Setbacks, Open Space and Deep Soil Zone.		
4.6 Building Form and Amenity **4.6.2 Building Zone Controls** • Locate buildings within the building zone indicated on the relevant precinct Building Zones and Setbacks Plan in Section 5. • Provide through-site links and view corridors where indicated on the relevant precinct control plan in Section 5. • Ensure building layouts optimise solar access, natural light, cross-ventilation, usable communal outdoor areas and views.	Yes	The two tower buildings are located generally in accordance with the Building Zones and setbacks plan in Section 5 of the Master Plan 2030. The design competition resulted in two, rather than 3 tower buildings. The southern tower building approved in the Stage 1 Master Plan DA has been replaced with a communal open space area. Through site links can be achieved if desired in the locations shown in the Master Plan 2030 if connections beyond the site across the railway line and to Bennelong Road can be constructed.
4.6.3 Building Depth Controls • Ensure the maximum apartment depth is 18m (glass line to glass line) for all residential buildings. • 4. Underground car parking is to be concentrated under the building footprint.	No. Refer to comment	The proposed building depths are as follows: - Tower 1 (North): 12m – 27.6m - Tower 2 (South): 12m – 27m Refer to Design report submitted under separate cover for justification for variation to building depth controls of the Master Plan 2030. Underground car parking is located generally beneath and behind the buildings. The change in level on the site callows the aboveground parking to be concealed behind the street front podium, which has retail and communal facilities and residential entries fronting Australia Avenue.

Controls	Consistency	Comments
Section 4.0 General controls		
4.6.4 Building Height Controls • Comply with the heights nominated in the Building Heights Plan for the relevant precinct. • Minor increases to the heights nominated in the Building Heights Plans may be considered if: - special site conditions make strict compliance with the controls unworkable - there are demonstrable improvements to urban form and height transition - resident amenity in terms of privacy and solar access is not adversely affected - there is no impact on public open space and Parklands. • For sites adjoining sloping streets, the maximum number of storeys is to be calculated from the highest finished footpath level, and recalculated a minimum of every 1.5m vertical change in slope. • For sites adjoining two or more streets, the maximum number of storeys is not to exceed a plane created by joining the number of storeys measured along each street frontage. • For south and west facing buildings over eight stories high, setbacks and other treatments may be required to minimise wind turbulence. All developments over 25m high will require assessment by a wind consultant. • Comply with the minimum floor to ceiling heights listed in Table 4.3, Minimum Ceiling Heights below:	Yes	The proposed development has the following building heights: - Tower 1 (North): 24 storeys plus roof plant - Tower 2 (South): 30 storeys plus proof plant The proposed height in terms of number of storeys complies with the Master Plan 2030. The proposed height of Tower 2 (South) seeks to vary the maximum height limit under the Major Development SEPP in terms of metres. Refer to comment in Table 1 above. The Wind Environment Study at **Appendix X** identifies measures including strategically planting large trees at the perimeter of the tower buildings to mitigate wind impacts on pedestrians and visitors to the site. The proposed development has the following minimum floor to ceiling heights: - Ground floor retail and commercial tenancies: 3.8m - Residential Living rooms and bedrooms: 2.7m

Table 4.3 Minimum Ceiling Heights

	All Habitable Rooms	All non-Habitable rooms	Ground Floors	Above Ground Floors
Community Uses **Public Buildings** **Commercial Buildings** **Retail Uses** **Educational Uses**	NA	NA	3.3m except for storage and service areas	2.7m
Mixed Use Buildings	2.7m	2.25m	3.3m except for storage and service areas	2.7m
Temporary Accommodation **Kiosks** **Small pavilions**	NA	NA	3.0m	2.7m
Residential Uses	2.7m	2.25m	NA	NA

4.6.5 Rooftop Services Zone Controls • The maximum roof top service zone height is 5m. • Set back the roof top service zone 3m from the parapet.	Refer to comment	The roof top plant of each tower building is as follows: - Tower 1 (North): 5m - Tower 2 (South): 6.1m The roof top plant areas of both towers are setback from the floors below and are screened behind a glazed

• The total area in plan above the maximum building height for services may not exceed 80 per cent of the building footprint area. • Design lift towers, machinery plant rooms, chimneys, stacks, vent pipes and television antennae to minimize their visibility and size. • The design of rooftop structures is to be integral with the overall building design.		screen, which carries the curved form of the towers through to the top of the building. The roof top area of each tower is less than 80% of the building footprint area. Lift overruns, and roof top plant including solar devices are screened behind the curved rooftop screen element.
4.6.6 Building Separation Controls **Residential Buildings** • For facing residential buildings up to eight storeys with openings in one wall a minimum 6m setback is required. • For facing residential buildings up to eight storeys with openings in one wall a minimum 6m setback is required. • For facing residential buildings with openings in both walls separation distances Table 4.4 below:	Yes	The towers are 24 metres apart at their closest point. No controls are contained in the Master Plan 2030 for residential buildings separation distances for buildings of the height proposed. The NSW Residential Flat Design Code Rules of Thumb suggest that the separation distance for buildings above 9 storeys should be 24 metres with habitable rooms opposing habitable rooms.

Table 4.4 Building Separation

Building Height	Room Types	Minimum Separation Required
Up to 4 storeys	Between facing non-habitable rooms	6m
	Between facing habitable rooms/balcony and non habitable rooms	9m
	Between facing habitable rooms/balconies	12m
5 to 8 storeys	Between facing non-habitable rooms	6m
	Between facing habitable rooms/balcony and non habitable rooms	9m
	Between facing habitable rooms/balconies	18m

Controls	Consistency	Comments
4.6.7 Building Setbacks • Ensure building facades reinforce the street alignment.	Yes	The lower two levels create a strong definition to the Australia Avenue alignment. Tower buildings are skewed to the street alignment to avoid creating a tall building wall to the street and to provide visual interest in the skyline.
4.6.8 Accessibility Controls • With each application, prepare and submit a Disability Access Strategy to the satisfaction of Sydney Olympic Park Authority and the consent authority that will satisfy: - The Sydney Olympic Park Access Guidelines (2008), and where appropriate - AS 4299-1995: Adaptable Housing (for residential developments). • Ensure that 30 per cent of ground floor apartments in each residential development are visitable as defined in AS 4299. • Ensure equitable access is provided to the main building entrance from both the street and car parking areas.	Refer to comment	Morris Goding Accessibility Consultants have undertaken an access review of the proposed development, at **Appendix I** providing advice and strategies to maximise reasonable provisions of access for people with disabilities. The proposal has been reviewed to ensure that ingress and egress, paths of travel, circulation areas, paths of travel to residential apartments, retail outlets and toilets comply with the relevant statutory guidelines. No ground floor units are proposed. There is an accessible path of pedestrian travel within the entry foyer compliant with AS1428.1:2009. From the lift entry doors there s appropriate paths of travel to all residential levels above via the passenger lift compliant with ASS1428.1:2009 and the DD Premises

Controls	Consistency	Comments
• Ensure carparking provisions comply with the listed Australian standards. • Locate accessible car parking spaces at the most convenient place for users, taking into account proximity to pedestrian entries and exits, lifts and ramps, accessible toilets and pay stations.		Standards. An accessible path of travel is provided from the three levels of basement car parking to the lift lobbies of both towers via two sets of three lifts, compliant with AS1428.1:2009. Two car space spaces are provided to each of the 59 adaptable units. In the event that the units are fully adapted, the two car spaces can be adapted into a single adaptable car parking space. Adaptable car parking spaces, show on the architectural drawings marked with "AD", are conveniently located on Basement Level 1 and the Ground Floor Level parking area.
4.6.9 Design Excellence Controls • If the consent authority is satisfied that the proposed development exhibits design excellence and is based upon the preferred competition scheme resulting from a competitive design competition, it can approve a bonus floor space allocation of up to 10 per cent for buildings over eight stories in height.	Yes. Refer to comment	It is understood that the proposed development is considered by the SOPA Design Jury to exhibit design excellence. No additional floor space is permitted to be achieved on this site.
4.6.10 Building Expression Controls • Ensure building facades are well modulated and scaled to reflect the aspect, uses and streetscape. • Design building facades to create a well defined and integrated streetscape. • Ensure prominent elements are well articulated including the ground floor, roofs, windows, doors, balconies and shading devices. • Provide modulation such as thickened walls, blade walls, fenestration, and sun shading elements to building frontages. • Provide appropriate forms of sun shading to screen eastern, northern and western sun such as external adjustable vertical shading, sliding screens and brise-soleil. • Ensure the main building entrances are level with adjacent footpaths. • Provide individual entry to at least 75 per cent of ground floor apartments in mixed use zones and 50 per cent of ground floor apartments in residential zones.	Yes	The proposed building facades are well modulated in plan and in elevation. The 'slots' in each tower building break up the floor plates to create vertical elements which accentuate the vertical proportions of the building to appear slender in form. The curved forms of the towers also assist to minimise the bulk impacts of the development. The stepping of the building masses assist to articulate the building forms. The square forms step from Herb Elliot Avenue forming a relationship with the adjacent Stage 1 Tower building. The elliptical forms step up from the 24 storey Tower 1 (North) to the 30 storey Tower 2 (South). This provided the taller building elements at either end of Site 3, creating a comfortable relationship between the tower buildings. The Architectural Design Statement submitted under separate cover describes the facade articulation strategy for the development, as follows: *"To avoid a homogenous elevation, a façade strategy based on spandrel variation has been employed. Façade variety and articulation is achieved through the variation of the depth of the spandrels. The depth of the bands varies between 1 and 3 panels. This panelised system consists of three tones, further contributing to the variation, depth and complexity of the façade. Whilst variation of the spandrel contributes to the building aesthetically each spandrel band also addresses three functional requirements:* *1. The upper band creates an up-stand. Employed primarily on the lower levels, this up-stand increases privacy to balconies and living spaces.* *2. The middle band hides the floor slab. The middle spandrel defines the band and is always the same tone at each floor.* *3. The lower band helps shade balconies and living spaces. This lower band is concentrated on East and West elevations to reduce glazing sizes, and thus reduce solar gain when the sun*

Controls	Consistency	Comments
		is at its lowest. *Large glazing panels to the living spaces help maximise the views from each apartment. Each living space has a louvered glass window located at the opposite end to the balcony. This window will encourage airflow through the apartments and will enable the single aspect apartments to have cross ventilation across the living space".* The podium design and the towers are the unifying elements to the building when views along the Australia Avenue streetscape. The podium comprises a two level street frontage with retail and commercial suites and community facilities at Level 1, which contribute to a pedestrian scaled streetscape. The linked tower lobbies provide the intersection between different functions of the building. The three entries from Australia Avenue articulate the podium levels and successfully break up the building form along the streetscape. Retail and commercial entrances are level with the adjoining public domain on Australia Avenue. Open landscape space at the southern end of the site provides soft landscaped space for residents and visitors to the site. Tis landscaped space, being located at the southern end of the suite related to the pedestrian and cycle link under the railway line to Bicentennial Parklands. No ground level residential dwellings are proposed, consistent with the Master Plan 2030 active street requirements.
4.6.11 Safety and Security Controls • Ensure buildings are designed to contribute to the natural surveillance of adjacent streets and public space. • Promote casual views from residences to common internal areas such as lobbies, foyers, hallways, recreation areas and car parks. • Provide direct and well-lit access between car parks and dwellings in car parks and lift lobbies, and to all apartment entrances. • Ensure ramps have direct access to building entrances from the street and are visible from the street. • Ensure that residential building entry points are within clear site of a public street frontage. • For residential building sites, provide clearly defined and defensible separation between public and private areas. • For residential buildings, locate the most active rooms, living rooms and kitchens to overlook the public domain and communal outdoor spaces. • For commercial and mixed-use buildings, ensure retail or active uses on the ground floor open directly onto the street and have a clear visual connection with the street. Street level windows are to be clear glazed.	Yes	The proposed residential towers contain units which face Australia Avenue and the building vehicle and pedestrian entries providing sufficient natural surveillance to these places. Direct and well lit access is provided between car parking levels and lift lobbies. Common corridors will be well lit with nature day lighting afforded from the slots in the buildings and supplemented by artificial lighting. No ramps are required to be provided to building entrances for equitable access as a easy level threshold is provided between Australia Avenue footpath and all building entries. Public and private areas are appropriately defined by entries doors into the private lobbies of each tower and the gymnasium and commercial uses. Living rooms of units in both towers are located on the building perimeter so that good surveillance of the public domain is provided. The proposal included retail and commercial tenancies fronting Australia Avenue. The tenancy facades are predominantly glazed.
4.6.12 Light Well Controls • Ensure light wells are fully open to the sky. • Ensure light wells comply with minimum building separation	Yes	A light well is proposed in the podium levels ground floor and First floor levels. A glazed roof is proposed to the communal pedestrian link, proposed between the residential lobbies. This light well is open to the sky for natural daylight access.

Controls	Consistency	Comments
controls. • Ensure light wells in residential buildings are not the primary source of daylight for any habitable room.		The lightwell is located in the podium levels and building separation controls are therefore not an appropriate guide of privacy. The spaces served by the lightwell and non-residential.
4.6.13 Cross Ventilation Controls • Design the site, building layout and individual apartments to promote, capture and guide natural breezes. • Select and locate doors and operable windows to maximize natural ventilation opportunities established by the apartment layout. • Minimise mechanically ventilated bathrooms and laundries.	Yes	Apartments have been arranged to maximise cross ventilation through dual orientation, utilising the ends of the billing and the deep slots to provide two aspects. The slots cut into the building to provide natural ventilation and light to the common lobbies as well as increasing the proportion of units with dual orientation to optimise natural cross flow of air. The Architecture Design Statement provides that: *"The elliptical geometry provides a laminar flow of prevailing winds around the surface of the building. This flow can be used to provide differential pressure between the façade and the balcony and this induce a cross ventilation through the living areas".* A total of 389 or 66.2% of units are naturally cross ventilated. The Architectural Design Statement also states that: *"Excluding the linear flow the development still surpasses the Residential Flat Design Code requirement, with 62% of apartments benefiting from cross-ventilation".*
4.6.14 Noise Controls • New development is to acknowledge that it will be located within a major sport and entertainment events precinct that may be subject to high noise events from time to time. • Applicants for a new development must prepare a report by a suitably qualified acoustic consultant assessing the possibility of land use conflicts as a result of the development. The suitability of the development for the site is the responsibility of the applicant who is required to assess the noise impact and to incorporate appropriate measures into the development. • All noise impact assessments require ambient noise levels measured at the noise sensitive premises during representative periods to ensure all major intermittent noises are measured and quantified. **Residential Development** • In the Substantial Noise Mitigation and Minor Noise Mitigation Zones in Figures 4.6 and 4.7 residential uses will only be permitted where they can comply with the maximum internal noise criteria shown in Table 4.7 Maximum Noise Criteria – Residential Development below:	Refer to comment	Noise generate by major events at Sydney Olympic Park is not considered to have a significant adverse effect on building occupants. Major events will have temporary impacts, which can be addressed by residents closing external windows and doors during these periods. Air conditioning systems for each unit are available to control internal thermal comfort during these times, if required. The focus of the acoustic impact assessment BY Renzo Tonin & Associates at **Appendix L** has been on the impact of rail-related airborne and ground noise on building occupants. The assessment has considered the Department of Planning's "Development Near Rail Corridors & Busy Roads – Interim Guideline" 2008.

Table 4.7 Maximum Noise Criteria – Residential Development

Internal Space	Noise Criterion	Time Period	Noise Measure
Living Rooms	45dBA	Day and Evening	LAeq, 15min
Working Areas			
Sleeping Rooms	40dBA	Night time 1	

Controls	Consistency	Comments
• Arrange apartments within a development to minimize noise transition between apartments by consolidating noisy active areas away from quieter areas. • Use storage or circulation zones to buffer noise from adjacent apartments, mechanical services or corridors and lobby areas. • Resolve conflicts between noise, outlook and views with appropriate barriers including double-glazing, operable screens, screened balconies and terraces. • Wherever practicable, residential developments shall be sited, orientated and treated to mitigate noise and maximize natural ventilation while avoiding the use of air conditioning. • Where residential development is located in the area marked 'Substantial Noise Mitigation Required', air conditioning and double-glazed windows and doors are required to reduce noise impact at certain times by closing all doors and windows. • Where residential development is located in the areas marked 'Some Noise Mitigation Required', air conditioning or mechanical ventilation will be required to allow doors and windows to be closed some of the time.	Yes	Generally, kitchens, bathrooms and laundries are located adjoining the common corridors within both residential tower buildings. Renzo Tonin & Associates was engaged to prepare an assessment of rail airborne and ground borne noise intrusion into the proposed residential towers. Rail airborne noise was predicted at the eastern façade of the development with direct line of site to the Olympic Park rail line. It was concluded that façade noise levels were relatively low and compliance with the project noise criteria was achievable with the installation of suitable glazing. Typical complying glazing configurations would be window or sliding doors comprising of 6.38mm laminated glass with acoustic perimeter seals.
4.6.15 Waste Management Controls **For Development Application** • Submit a Waste Management Plan with all Development Applications to the satisfaction of the Sydney Olympic Park Authority. • Waste Management Plans are to demonstrate application of the principles of the waste management hierarchy of waste avoidance, reduction, re-use and recycling, and are to refer to the Environmental Guidelines for Sydney Olympic Park 2008. **Design and Construction** • Minimise waste during the design of a building by coordinating building dimensions to the standard size of building materials and utilizing components that can easily be replaced. • Prioritise the procurement of: - modular and prefabricated building and fitout components. - sustainable building materials (based on material life cycle assessment). - incorporate re-used or recycled materials such as steel and concrete. • A minimum of 80 per cent of construction and demolition waste must be recycled or re-used. • Include space for on site waste management infrastructure that maximizes the opportunities for the sorting and segregation of waste materials. • Locate waste management areas, including collection points, out of public areas so as to not cause offence to the general public, adjoining properties or occupants with regard to smell, visual amenity and noise.	Yes. Refer to comment	**Demolition and construction waste management** A Waste Management Plan has been prepared by Lucas Consulting Engineers for the demolition, site clearing, excavation and construction phases. This plan will be expanded on with input from the contractor prior to the commencement of construction. Waste generated during demolition and construction shall primarily consist of: • Cleared vegetation; • Spoil; • Concrete and bitumen • Soil and water from bunded areas, sedimentation basins, etc, • Oils, greases and lubricants; • Sanitary wastes and rubbish form construction; and • Building materials including timber, glass and metal. Waste minimisation and recycled materials have been incorporated into the design wherever possible. The management and disposal of wastes during demolition and construction shall be in accordance with the EPA Guidelines for Assessment, Management and Classification of Liquid Waste Avoidance and Resource Recovery Act 2001. All material form the demolition of structures or buildings is to be recycled as far as practical this includes excavated concrete and bitumen which shall be crushed and used as backfill or base; bricks shall be cleaned and reused or crushed; timber shall be cleaned and reused or ground and recycled; doors, windows and fittings which shall be cleaned and reused by selling to second hand market; glass which is to e

Controls	Consistency	Comments
• Locate waste management areas wholly within the building. • Design waste management areas to allow collection vehicles to enter and exit the development in a forward direction. **Retail Developments** • Ensure that all retail developments designate on site communal waste management areas for the sorting, storage and recycling of back of house waste. • Include provision for the collection and recycling of back of house food collection. **Residential Developments** • Design waste management infrastructure to be consistent with the NSW Department of Environment and Conservation's Best Practice for Waste Management in Multi-Unit Dwellings. • Locate garbage and recycling areas away from openable windows to habitable rooms and away from street frontages. • Sink food waste disposal units are not permitted due to the high organic load they place on the water recycling system.		crushed and recycled; metals which shall be recycled; carpets which shall be reused as mulch or landscaping and trees which shall be relocated to the maximum extent possible). Paper generated in a site office shall be reused where practicable and recycled by placement in an appropriate segregated bin for removal from site to an appropriate recycling depot. Domestic wastes generated from the site staff during construction shall be collected. Staff will be encouraged to recycle appropriate waste materials by making a separate recycling bin available. Effluent form amenities for which the Contractor is responsible shall be discharged into the local sewerage system,. Contractors will remove all waste oils and fuels from the site, where practical. Any waste soils and fuels that remain on site shall be collected and processed by an approved oil recycler. Contaminated soil shall be transported to an approved waste facility. Contaminated water shall be contained on-site and either treated or disposed by pump-out tankers to an approved facility. All vegetation waste (excluding weeds) shall be mulched and used onsite, where practical. A site plan showing stockpile areas and site access will be prepared by the Contractor when appointed, prior to commencement of construction. **Operational waste management** Waste streams generated during the operation of the development will include: • Residential general waste • Residential recyclables • Green waste from communal gardens • Commercial/retail general waste • Commercial/retail recyclables Waste generated by the proposed development will transported to a central garbage room at the base of both residential towers. These rooms are accessible by garbage collection contractors via the two loading docks. The residential waste will be deposited in the garbage chute accessed in the garbage room located on each floor level. The waste will be collected in the compactor rooms at the base of each tower at Ground Floor Level where compaction of waste into 660 Litre bins is provided. Residential recyclables will be transported to the garbage room via lifts by residents, where designated recycling bins are to be provided. Green waste from the maintenance of common landscape areas is to be removed from the site by the garden maintenance contractor.

Controls	Consistency	Comments
4.6.16 Residential Building Controls **SEPP 65 Residential Flat Design Code** • The SEPP 65 Residential Flat Design Code Principles of Better Design Practice Part 02 and Part 03 are to be applied to all residential and mixed use developments. **Affordable Housing** • Provide three per cent of affordable housing or in accordance with the relevant State planning policy or instrument in force at the time of development, whichever is greater. • Affordable housing is to be distributed throughout the township and developments. • Affordable housing must be constructed to a standard consistent with other dwellings within that development. • The final form and location of the affordable housing contribution will be determined through the detailed design and approval process. **Minimum Apartment Sizes** • Comply with the minimum apartment sizes in Table 4.9 Minimum Residential Apartment Sizes below:	Yes	Bates Smart, the project Architects have provided an assessment of the proposal against the relevant RFDC rules of thumb guidelines in the Architectural Design Statement submitted under separate cover. At this stage no affordable housing is to be provided within the development. A range of smaller 1 and 2 bedroom units have been provided in both residential towers, which can be suitable for affordable housing. Apartment sizes generally comply the minimum size requirements of the Master Pan 2030. The apartments range in size are as follows: • 1 bedroom units – 50m^2 to 64m^2 • 2 bedroom units – 73m^2 to 86m^2 • 3 bedroom units – 104m^2 to 124m^2 • 4 bedroom – 135m^2

Table 4.9 Minimum Residential Apartment Sizes

	Minimum Size with External Balcony	Minimum Size with Balcony Included Within the Apartment
Studio and 1 bedroom apartment	50m^2	59m^2
2 bedroom apartment	70m^2	82m2
3 bedroom apartment	95m^2	110m2

Controls	Consistency	Comments
Apartment Mix • Provide the following quantities of apartment types to all residential and mixed use developments: - a minimum of 15 per cent studio or one bedroom apartments - a minimum of 15 per cent of three or more bedroom apartments - for developments less than 25 m high, 60 per cent of three bedroom apartments are to be at ground floor with direct access to open space suitable for family use. Balconies • Provide each above ground floor apartment with a primary balcony, terrace or deck that is directly accessible from the main living room or kitchen and complies with the minimum open space sizes for apartments in Table 4.13 Minimum Open Space Provision – Residential uses. • Provide a northern, eastern or western aspect to primary balconies. • A minimum dimension of 1.5m is required to primary balconies however a minimum depth of 2.4m is preferred.	Refer to comment	The proposed apartment mix is as follows: - 1 Bedroom: 36.6% - 2 Bedroom: 50.3% - 3 Bedroom: 9.3% - 4 Bedroom: 3.2% The number of 1 bedroom units complies with the Master Plan 2030 requirement. The number of 3 plus bedroom units at 12.2% varies fro the minimum 15% requirement of the Master Plan. The variation is considered minor and equates to 16 units out of a total of 588 units. A mix of units types is proposed throughout both tower buildings. A high proportion of 1 and 2 bedroom units are proposed which satisfies the objective for smaller more affordable dwellings. No ground level residential units are proposed, which is consistent with the Master Plan active street requirements to provide non-residential uses at ground floor level in mixed use developments. In relation to balconies, each units has a primary balcony accessible off a living room. Balconies generally have northern, eastern and western aspects. Generally all units have balconies with at least one zone with dimensions in excess of 2.4 metres and allow

Controls	Consistency	Comments
• Secondary balconies are encouraged as service areas, to alleviate uses dependant on the primary balcony and to increase connection between inside and outside. • For architectural reasons it may be desirable to include the balcony area as part of the main living room. The following controls apply: - ensure the apartment size is increased – refer to Table 4.9 Minimum Residential Apartment Sizes. - Provide a balustrade that allows the open doors to create a minimum aperture of 2.4m wide and 2.1m high. - Provide an eave, awning or weather protection sufficiently wide to shelter the aperture and enable it to remain open during rain. **Visual Privacy** • Design building layouts to minimize direct overlooking from apartments to other rooms and private open spaces. • Incorporate screening devices to retain views and privacy from rooms and outdoor spaces. • Stagger doors, windows and primary balconies to block direct views between apartments. **Solar Access** • To achieve high quality living environments: - provide a minimum of three hours of direct sunlight per day to living rooms and private open spaces in at least 75 per cent of dwellings within a residential development on 22 June. **Daylight Access** • All residential apartments must have daylight access to habitable rooms. • Limit the depth of single aspect apartments to maximum 10m. • Limit the number of south facing apartments and provide generous windows. **Mail Boxes** • Provide lockable mailboxes close to the street and building entrances. • Integrate mailboxes with front fences, building entrances and lobbies. **Storage and Clothes Drying Facilities – Residential Buildings** • In addition to kitchen cupboards and bedroom wardrobes, provide accessible storage facilities at the following rates: - Studio apartments and one bedroom apartments – 6m3; - Two bedroom apartments – 8m3; - Three plus bedroom apartments – 10m3. These areas are in addition to the minimum apartment sizes specified in Table 4.9 Minimum Residential Apartment Sizes. • Storage areas located within apartments are preferred. • Ensure storage separated from apartments is secure for		flexible outdoor furniture layouts. Some of the proposed units have secondary balconies accessible off bedrooms. The proposed tower buildings are sited and oriented to minimise direct overlooking opportunities. The buildings are skewed from the alignment of Australia Avenue. The curved forms of the buildings taper at their ends which minimises the number of units with direct overlooking opportunities. The buildings are predominantly have an east and west orientation which directs views in these directions. The buildings are 24m apart at their closest, which complies with the NSW RFDC 2002 Rules of Thumb Standards. The proposed development is consistent with the principles set out in the NSW RFDC 2002 in terms of solar access. The proposal seeks to maximise the number of apartments that achieves 3 hours of direct sunlight throughout the year. Living rooms, bedrooms and private opens pace are given priority and are located at the building's façade. Non habitable rooms are located to the rear of each unit. Apartments are arranged to maximise north and east orientation, resulting in at total of 72.1% of living areas and 72.4% of private open space areas achieving more than 3 hours of direct sunlight access. It is noted that the performance is slightly less than the minimum 75% Master Plan 2030 requirement, however the proposal coming both towers complies with the NSW RFDC 2002 rule of thumb of 70% of units achieving the minimum 3 hours direct sunlight access. Mail rooms are proposed for each building in the bound floor level, which are directly accessible for Australia Post from the Australia Avenue frontage. The mail rooms are accessible to residential as well as the building manager from inside the building entry located at the centre of the building. Mailboxes are to be lockable. Each apartment is to be provided with storage in accordance with the minimum Master Plan 2030 requirements. A least 50% of the storage has been allocated in the units and 50% within the basement levels in cages for the storage of bulky items, in accordance with the NSW RFDC rules of thumb. Dedicated areas within the basement garbage rooms will be made available for the storage of common garden waste. Dedicated drying areas are not provided in the common open space areas of the development. Each balcony is

Controls	Consistency	Comments
individual use. • Facilitate communal open space maintenance by providing garden maintenance storage that includes connections to water and drainage for each communal area. • Provide a screened outdoor clothes drying area either as a private service balcony or designated common drying areas for each dwelling.		capable of accommodating clothes drying racks setback from the balustrade and against the window to avoid visual clutter. Clothes drying units fitted to each units will be energy efficient with a minimum of 3 stars. Refer to BASIX Assessment at **Appendix N**.
4.7 Access and Parking **4.7.1 Controls** **Vehicular Access and Servicing** • All parking is to be underground. • Garages and parking structures are not permitted forward of the building line and must be screened from the public domain by active uses. • Design vehicle access points and paths to satisfy the relevant Australian Standards as listed. • Locate vehicle access points as indicated on the relevant precinct control drawing. • For safety and public domain amenity, vehicle access points are to be: - physically separate and clearly distinguished from pedestrian entrances and access ways - located within secondary streets and laneways where possible - designed and built with clear sight lines for drivers and pedestrians at pedestrian and vehicular crossings. • To minimize visual intrusion and optimize active street frontages, vehicle driveways are to be as narrow as possible and have a garage door at the building line. • Minimise the width of driveways and blank walls to the public domain by consolidating car access, docks, servicing and waste disposal. **Vehicle Parking** • Provide car parking for non-residential developments at the rates in Table 4.10 Maximum Vehicle Parking Rates – Non-Residential Uses, below, except where marked *:	Refer to comment	The site slopes from west to east and adjoins the railway line. The car parking levels are cut into the side of the slope, with some under natural ground level and some above ground level. The proposed car parking areas are located behind the general front building line to Australia Avenue, which will limit views of the above ground parking levels. Vehicle access points are designed in accordance with the relevant Australian Standards. Access points for vehicles are located in accordance with the Master Plan 2030 requirements at the north of Tower 1 (North) and tot hr south of Tower 2(South) to avoid impacting the proposed pedestrian-scaled streetscape. These access points are physically separated from pedestrian points of access to the building. The northern access point, which is currently under construction, will provide access to the Stage 1 building to the north, as well as Tower 1. Bollards are provided to direct vehicles entering and exiting the site and to provide safe separation from pedestrians. Blank walls are avoided where vehicle access points are proposed in both tower buildings. Refer to North and South Elevations (DA05.01(A) submitted under separate cover. Loading docks and vehicle access to parking areas are minimise where possible to the minimum function requirements to comply with the relevant Australia Standards. Vehicle parking is provided in accordance with the maximum rates of the Master Plan 2030. A total of 868 parking spaces are required for the proposed 558 dwellings, 770m^2 gymnasium, 605m^2 of commercial space and 434m^2 of retail space. The proposal provides a total of 800 car spaces. The proposed parking provision is considered by the project traffic and transport consultants CBHK to be appropriate. The proposed parking provision includes two spaces for each of the adaptable apartments, which are able to be converted to a single disabled parking space is required.

Table 4.10 Maximum Vehicle Parking Rates – Non-Residential Uses

Land Use	Type	Rate
Commercial	All*	1 space/55m2
Retail	Supermarkets Local Retail* Themed Retail*	4 spaces/100m^2 1 space/50m^2 1 space/50m^2
Restaurant*		1 space/50m^2
Childcare	Visitors/set down Staff	1 space/4children and suitable drop-off 1 space/2 staff

*Sites located within 800m of the Sydney Olympic Park Station must provide car parking at a minimum rate of 1 space per 80m^2 as shown in Figure 4.8.

Provide car parking for residential developments at the maximum rates in Table 4.11 Maximum Vehicle Parking Rates – Residential uses below:

Table 4.11 Maximum Vehicle Parking Rates – Residential uses

Land Use	Type	Rate
Residential General	1 bedroom 2 bedroom 3 bedroom 4 bedroom Visitors	1 space/dwelling 1.2 spaces/dwelling 1.5 spaces/dwelling 2 spaces/dwelling 0.2 spaces/dwelling

Controls	Consistency	Comments
Bicycle Access and Servicing • Bike parking facilities are to comply with AS 2890.3 – 1993 Parking facilities – Bicycle parking facilities. • Build bicycle lanes as shown in the street sections and plans. • Provide change rooms, showers and lockers for people walking, running or cycling to work on all employment generating development. Locate facilities close to bike parking facilities to encourage sustainable transport options. • Provide secure, conveniently located bike parking facilities at the minimum in Table 4.12 Minimum Bicycle Parking Rates below:	No. Refer to comment	The proposed bicycle parking is provided at a rate of: - Resident: 1 space per 3 residential units - Visitor: 1 space per 12 residential units This provision differs from the Master Plan requirements, which are the same as the car parking requirements. The Master Plan rates are in appropriately high and would result in excessive areas of bicycle storage be provided in the car parking levels. The proposed rates are the same or similar to locations sch as Rhodes, Macquarie Park, Chatswood and the City of Sydney. Further justification for the proposed rate of resident parking provision is provided in the main body of the Environmental Assessment.

Table 4.12 Minimum Bicycle Parking Rates

Land Use	Type	Rate
Commercial	1 space per 150m2 GFA	1 space per 750m2 GFA
Residential	At the same rate as car parking spaces outlined in 9 above	

Controls	Consistency	Comments
4.9 Landscape and Site **4.9.1 Controls** • Retain existing ground levels, significant mature trees identified in the Sydney Olympic Park 2030 Significant Tree Register and other significant site features where indicated on precinct control drawings. • Where significant mature trees must be moved to accommodate new street design levels or development, they are to be transplanted and incorporated into new courtyards or landscaped areas within the site. **Open Space** • Design open space to create a high quality address and setting for buildings, and to complement the adjacent public domain. • A minimum of 50 per cent of the front setback area is to be planted. **Residential Open Space** • A minimum of 30 per cent of the residential site area is to be open space, ground level private open space and/or ground level communal open space and/or setbacks. • Provide communal open space to all residential apartment buildings at a minimum size of 60m2 with a minimum dimension of 6m. • Ensure minimum of 50 per cent of the communal open space area is unpaved and planted. • Ensure communal open space is designed to provide: - a balance of sunshine and shade. - accessible and safe routes through the area between buildings. - privacy for dwellings and their associated outdoor spaces addressing the larger communal space. - service areas that are accessible and screened. • Provide private open space area to all apartments to comply with Table 4.13 Minimum Open Space Provision – Residential Uses below:	Refer to comment	Street trees along Australia Avenue are proposed to be retained. Additional planting is proposed to the north of Tower 1 (North) and to the south of Tower 2 (South) to assist in mitigating downward wind impacts from the towers to maintain pedestrian amenity around the base of the buildings. The significant Fig in the centre of the site has approval under the previous Staged Master Plan DA to be relocated to the common open space to the south of Tower 2 (South), a space referred to on the landscape drawings submitted with the Design Report compiled by Bates Smart under separate cover as Fig Tree Place. The Australia avenue frontage to the buildings will be enhanced with a clear zone of 1.2 metres in order to widen the existing pedestrian connections into Bicentennial Park to 3 metres (currently 1.8 metres). An additional 3 Eucalyptus microcorys trees are proposed within the verge to maintain the special rhythm of the existing street trees. The pavement to the publicly access private open space areas are to complement the town centre paving materials implemented by SOPA. The setback area to Australia Avenue is paved so achieve an urban character, which is appropriate for the active street requirements of the Master Plan and enables easy access and clear visibility to the commercial and retail fronts. No residential private open space is provided at ground floor level. Ground floor level communal open space is predominately landscaped with trees, shrubs, and lawn. Common open space with have good access to sunlight either in the morning or the afternoon. Access to the common areas is safe and will surveyed by upper level residential dwellings. Private and common open space areas are clearly defined with fencing to the podium level courtyard units. Private open space is generally less than the minimum requirement. The provision of opens pace is appropriate and will enable flexible outdoor seating arrangements to be accommodated. All apartments have are zones with a minimum 2.4m dimension for a table and chairs to be provided.

Table 4.13 Minimum Open Space Provision – Residential Uses

	Minimum Open Space Size
Studio and 1 bedroom apartment	9m2
2 bedroom apartment	12m2
3 bedroom apartment	15m2

Larger private open space areas encouraged especially at gardens on the ground floor.

Controls	Consistency	Comments
Safety and Security • Carry out a formal risk assessment in accordance with NSW Police Safer by Design protocols for all residential developments of more than 20 new dwellings. Crime risk assessment is to extend beyond the site boundaries to include the relationship of the building to public space areas. • To reinforce territory, ensure site boundaries and private and communal space boundaries are clearly defined and secure. • Ensure common internal areas such as lobbies and foyers, hallways, recreation areas and car parks are overlooked to provide passive surveillance. • Provide direct, well-lit access between car parks and dwellings, car parks and lift lobbies, and to all apartment entrances. • Ensure all communal and public site areas have clear sight lines and minimize opportunities for concealment. **Deep Soil** • A minimum of 20 per cent of the site's open space area is to be deep soil. • Areas included as deep soil are to have a minimum dimension of 2m. • Consolidate areas of deep soil within sites and between adjacent sites to increase the benefits. • Locate basement car parks predominantly within the building footprint. • Plant a minimum of one large tree with a mature minimum height of 12 m in deep soil, per 60m2 of courtyard space. **Stormwater Management for Open Space** • Retain stormwater on site by: - collecting and storing water from roofs and hard surfaces - maximizing porous surfaces and deep soil - draining paved surfaces to adjacent vegetation. • Protect stormwater quality by providing for: - sediment filters, traps or basins for hard surfaces - treatment of stormwater collected in sediment traps on soils containing dispersive clays. **Planting** • Prioritise drought tolerant plant species that enhance habitat and ecology. • Create optimum growing conditions by: - specifying appropriate soil conditions, drainage and irrigation - designing planters to support the appropriate soil depth and plant selection and to accommodate the largest volume of soil possible to a minimum depth of 1.5m. - providing minimum soil dimensions in Table 4.14 Minimum Soil Depth Provisions below:	Yes	A CPTED assessment has been undertaken by Architectus and is provided in the main body of the Environmental Assessment In summary, the proposed design meets with has been designed in accordance with the CEPTD principles. The proposal has a three entries along Australia Avenue, each are surveyed by the residential units in the upper levels of the two towers. There is clear separation and demarcation between public and private areas of the site. Direct and well lit access is to be provided from car parking areas to residential levels via secure lifts. Opportunities for concealment are avoided by providing clear sightlines in common landscape areas. Common open space area to that southern end of the site is visible from the railway lien, railway bridge and from Australia Avenue and is overlooked by residential units in Tower 2 (South). The deep soil landscape areas is located in the southern common open space area. Soil depths in the part of the site are unimpeded with no built structures beneath. A landscape drawings submitted with the Design Report has been prepared by Turf Design Studio, which shows that areas of different soil depths on the podium level gardens ranging in depth from 0.6m to 1.2m. The volumes of soil are noted. Turf is confident that adequate soil volumes are provided on the common gardens for the mature and stable growth of trees and shrubs to their maturity. Large trees are proposed in the common opens pace areas of the site in the podium garden as well as the southern area of the site. Large trees have the capacity to grow to a minimum 12 in height. Refer to landscape drawings. Stormwater will not be detained on site. It is understood from discussions with SOPA that there is no stormwater detention requirements for the site. Stormwater will discharge to Australia Avenue via a gross pollutant trap at Ground Level on Australia Avenue. The existing stormwater water line traversing the south eastern corner of the site will possibly require diversion around the building if the footings conflict with the line. This detail will be determined during the design development and prior to the issue of a Construction Certificate. Planting is detailed in the Landscape Drawings with a panting schedule submitted with the design report under separate cover. Soil depths on the podium garden are generally designed to comply with the Master Plan 2030 requirements. The general different of 900mm between the podium base structure and finished level is provided thus offering significant reservoirs of soil to enable large trees and shrubs to grow to maturity. The Landscape Architects, Turf are confident that the areas and depths of sols are suitable for the species elected in terms of stability and the provision of an appropriate growing medium.

Table 4.14 Minimum Soil Depth Provisions

	Minimum Soil Volume	Minimum Soil Depth	Minimum Soil Area
Large trees diameter up to 16m	150m3	1.3m	10m x 10m
Medium trees diameter up to 8m	35m3	1m	10m x 10m
Small trees diameter up to 4m	9m3	800mm	3.5m x 3.5m
Shrubs		500 – 600mm	
Ground Cover		300 – 450mm	

Controls	Consistency	Comments
Fences and Walls • Unless otherwise stated in the precinct controls the maximum height for a front fence is 1.2 m from the finished footpath level of the adjoining street. • Design fences to be durable, easily cleaned and graffiti resistant. • Do not create long, blank fences. • Design fences to highlight building entrances and allow for outlook and casual street surveillance. • Design fences to be integrated with the building and landscape design through the use of common materials and detailing and be part of a suite of fences in the street. • Innovative landscaped and planted solutions are encouraged for sustainability and to create pleasant, shady ambience.	Refer to comment	No front fences are proposed to Australia Avenue due to the requirements to provide an active streetscape. Commercial and retail tenancies and the pedestrian entrances to the residential towers are proposed to line Australia Avenue. Fences are not functionally required. Fences to the podium level units have fences to provide privacy. These fences are to be softened by podium level gardens. Refer to Landscape Drawings submitted in the Design Report under separate cover.