NSW GOVERNMENT | Planning & Environment

STATE SIGNIFICANT DEVELOPMENT ASSESSMENT REPORT: Site 68 Sydney Olympic Park (SSD 6603)

Secretary's Environmental Assessment Report
Section 89H of the *Environmental Planning and Assessment Act 1979*

June 2015

ABBREVIATIONS

Applicant	Ecove Group Pty Ltd
CIV	Capital Investment Value
Consent	Development Consent
Council	Auburn City Council
Department	Department of Planning and Environment
EIS	Environmental Impact Statement
EPA	Environmental Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPI	Environmental Planning Instrument
Minister	Minister for Planning
OEH	Office of Environment and Heritage
RMS	Roads and Maritime Services
RtS	Response to Submissions
SEARs	Secretary's Environmental Assessment Requirements
Secretary	Secretary of the Department of Planning and Environment
SEPP	State Environmental Planning Policy
SRD SEPP	State Environmental Planning Policy (State and Regional Development) 2011
SSD	State Significant Development
SOPA	Sydney Olympic Park Authority
TfNSW	Transport for New South Wales
WRAMS	Water Reclamation and Management Scheme

Cover Photograph: Perspective view of the proposed residential tower (foreground)

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EXECUTIVE SUMMARY

This report is an assessment of a State significant development application (SSD 6603) lodged by Ecove Group Pty Ltd (the applicant) seeking approval for the construction of a residential tower building, comprising 33 residential floors above retail/commercial uses at ground floor. The proposal includes the provision of a child care centre in the northern part of the site, which is currently being assessed by the Sydney Olympic Park Authority (SOPA) as a local development application. The project has a CIV of approximately $130 million.

The proposal is State significant development because it is development with a capital investment value (CIV) in excess of $10 million on land identified as being within the Sydney Olympic Park site, under clause 2(f) of Schedule 2 of State Environmental Planning Policy (State and Regional Development) 2011. Therefore the Minister for Planning is the consent authority.

The Department publicly exhibited the application from 20 November 2014 to 19 December 2014, and received seven submissions from public authorities and no public submissions. Key issues raised in the submissions relate to ecological impacts, internal amenity, landscape/public domain, traffic and transport.

The applicant submitted a Response to Submissions (RtS), which included amended plans providing additional information to address the concerns raised during the exhibition and to respond to key issues raised by the public authorities.

The Department has considered the merits of the proposal in accordance with relevant matters under Section 79C, the objects of the Environmental Planning and Assessment Act 1979 (the Act) and Ecologically Sustainable Development. The Department has also considered the issues raised in the submissions. The Department considers the key issues associated with the proposal to be built form; design quality; residential amenity; parking; traffic; and ecological impacts.

Despite the departure from the building height and floor space ratio (FSR) development standards in State Environmental Planning Policy (Major Development) 2005 (MD SEPP), the Department is satisfied that the height, bulk and scale of the proposed development is appropriate and would not result in any unreasonable visual or amenity impacts to adjoining residential properties or Bicentennial Park. The proposed building exhibits design excellence and was the subject of a design competition process and is supported by SOPA. The Department's assessment concludes it has a strong urban presence at the southern gateway to the town centre and would positively contribute to SOP.

The proposed development provides the opportunity for associated public domain works, including a new neighbourhood park, pedestrian/cyclist shared paths and infrastructure, and the provision for a future on-site childcare centre that would result in positive social impacts.

The proposed development would also contribute to the establishment of a vibrant residential neighbourhood with significant benefits for the community by improving connectivity to key transport nodes and Bicentennial Park.

Based on the cumulative traffic generated by the proposal and adjoining sites to the north, the future intersection at the proposed new road and Bennelong Parkway is expected to operate at a satisfactory level of service and there would not be any adverse impact on the wider road network.

The Department is satisfied the proposed range of water management measures would improve water quality compared to the existing situation, and the decommissioning of the existing stormwater detention pond on the site would have no adverse impact on the

downstream receiving waters in Bicentennial Park. The applicant has also provided a Biodiversity Offset Strategy (BOS) to offset any potential biodiversity impacts, which is supported by the Office of Environment and Heritage (OEH).

The Department is satisfied the high standard of design and internal layout of the building would provide good amenity for future occupants.

The proposed development is consistent with the wider strategy to improve access and increase amenity to the surrounding area. The Department is therefore satisfied the proposed development is generally consistent with the Sydney Olympic Park Master Plan 2030 (SOP Master Plan).

The proposal is therefore in the public interest, and is recommended for approval subject to conditions.

1. PROPOSED DEVELOPMENT AND SITE DESCRIPTION

1.1 The Proposal

The applicant proposes to construct a residential development in a single tower consisting of 33 residential floors above retail/commercial uses at ground floor and three basement car parking levels, rooftop plant and associated stormwater and landscaping works at the northern intersection of Australia Avenue and Bennelong Parkway, Sydney Olympic Park.

The project location and layout is shown in **Figures 1** and **2**.

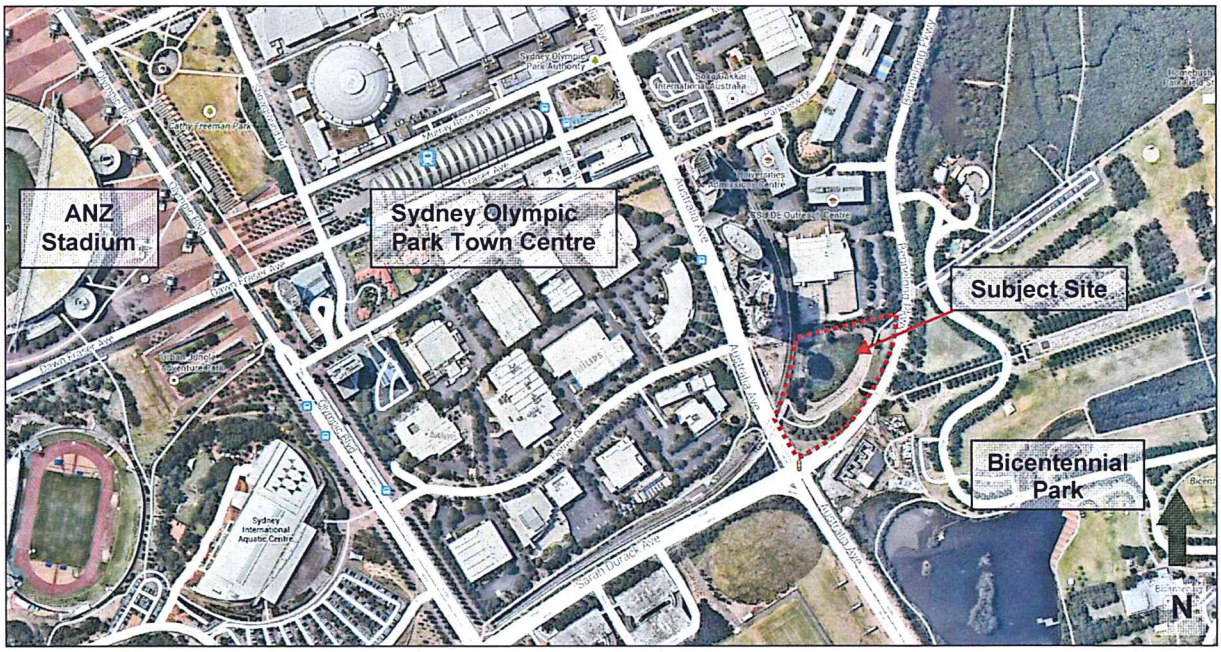

Figure 1: Project Location

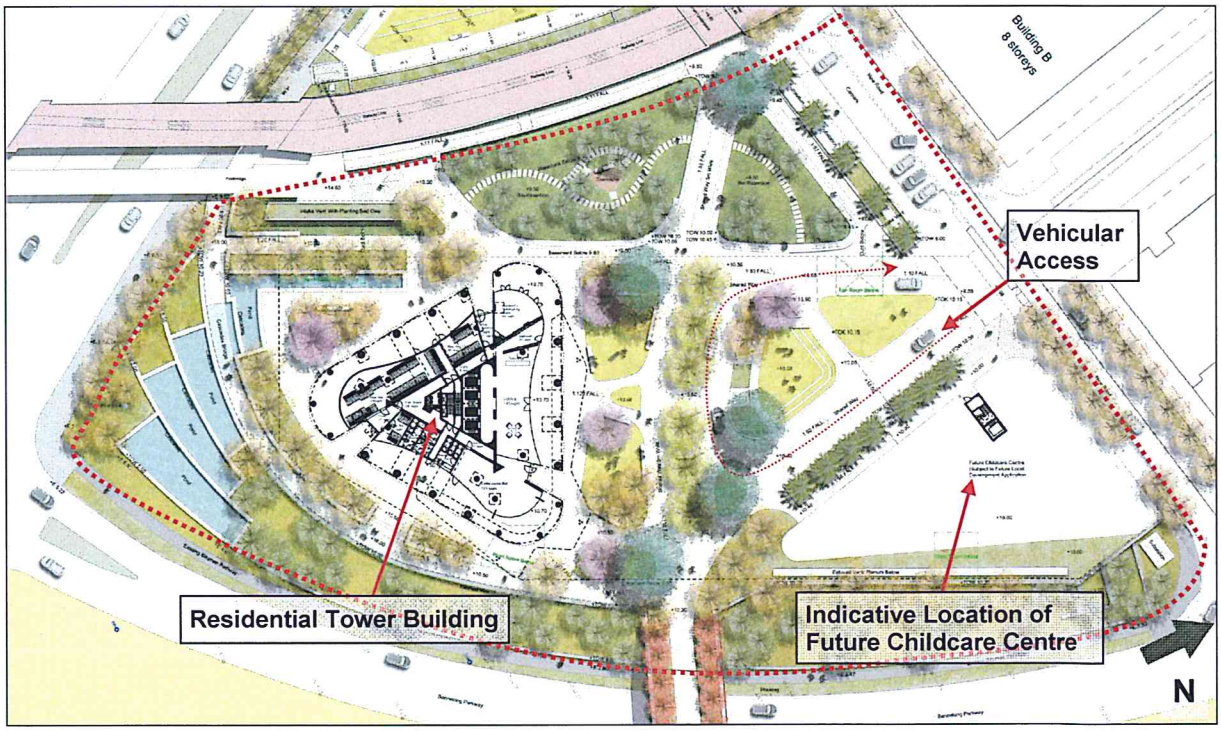

Figure 2: Project Layout

1.2 Site Description and Surrounding Development

The site is located within Sydney Olympic Park (SOP), 500 m south-east of the town centre on the corner of Australia Avenue and Bennelong Parkway, adjacent to Bicentennial Park. The site is known as Site 68 Bennelong Parkway, SOP and is legally described as Part Lots 73 and 75 DP 1134933. Works are also proposed in part of Lot 10 DP 1185060. The subject site is irregular in shape with a total area of 13,998 sqm. The topography of the site is characterised by a steep embankment approximately six metres above Bennelong Parkway, which accommodates an existing shared pedestrian/cycle path. The site falls inwards, due to the presence of a stormwater detention pond, which was constructed in 1997. The pond and its fringing vegetation occupies a substantial portion of the site (refer to **Figure 3**).

The western boundary of the site is formed by the elevated SOP railway line, which is the main outbound route for trains departing SOP, bound for the Sydney CBD. To the north-west is Site 3, which contains two residential towers (between 20-30 storeys) currently under construction known as Australia Tower 2 and 3. Land further north-west contains a residential building comprising 16 and 24 storeys known as Australia Tower 1. The applicant has lodged a local development application (DA 07-08-2014), which is currently being assessed by Sydney Olympic Park Authority (SOPA), seeking approval for a landscaped neighbourhood park and accessible pedestrian railway underpass connecting Site 3 and the town centre with the subject site (refer to **Figures 3** and **11**).

The northern boundary of the site adjoins a new access road, currently being constructed by SOPA. This road separates the subject site from Site 67, which contains an existing commercial/light industrial building. On 27 February 2015, the Planning Assessment Commission approved a residential development in two separate buildings, ranging in height from 4 to 8 storeys and eight to ten storeys, on Site 67 to the north.

To the east is Bicentennial Park, which features a wetland ecosystem and a range of recreation facilities adjoining Homebush Bay. Bicentennial Park is currently connected to the subject site by an existing pedestrian/cyclist bridge over Bennelong Parkway. The applicant intends to lodge a local development application with SOPA, seeking approval for the upgrade of this existing connection with Bicentennial Park. An electrical substation is currently under construction at the intersection on Australia Avenue and Bennelong Parkway.

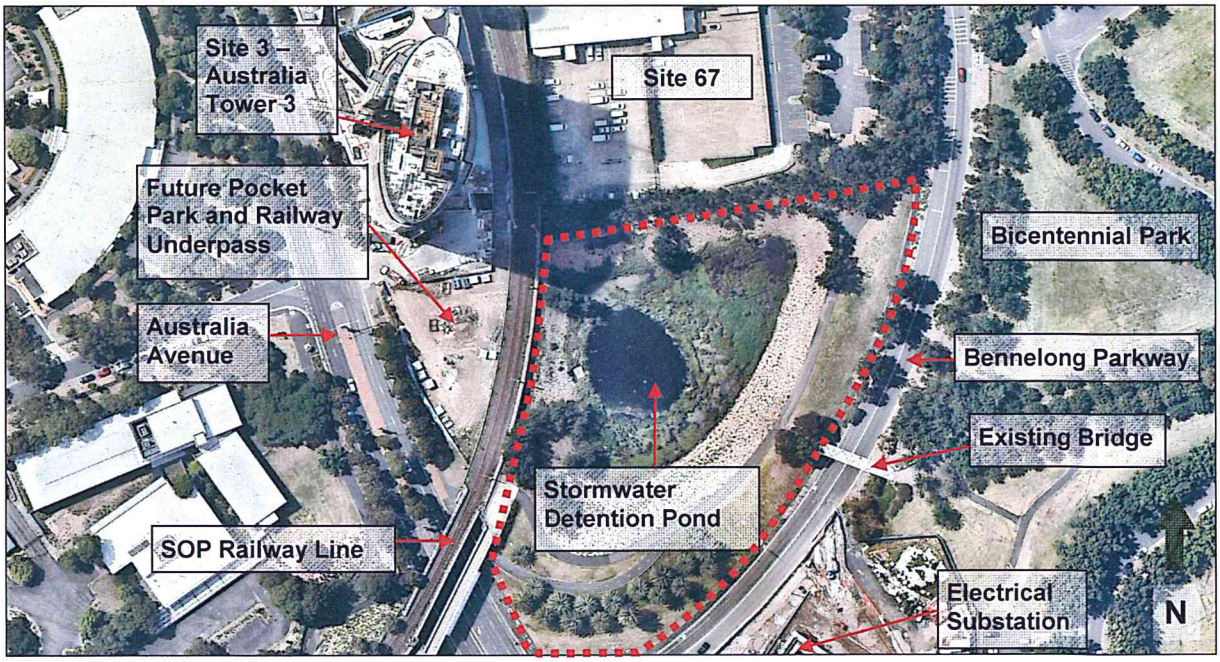

Figure 3: Locational Context

1.3 Sydney Olympic Park Master Plan 2030

The SOP Master Plan sets out the planning controls to guide the future development of SOP. SOPA is the agency responsible for managing the future development of SOP in accordance with the SOP Master Plan. The subject site is located in the Parkview Precinct, which is an emerging mixed use, commercial and residential neighbourhood located between the town centre and Bicentennial Park. The subject site is identified as Site 68 (refer to **Figure 4**).

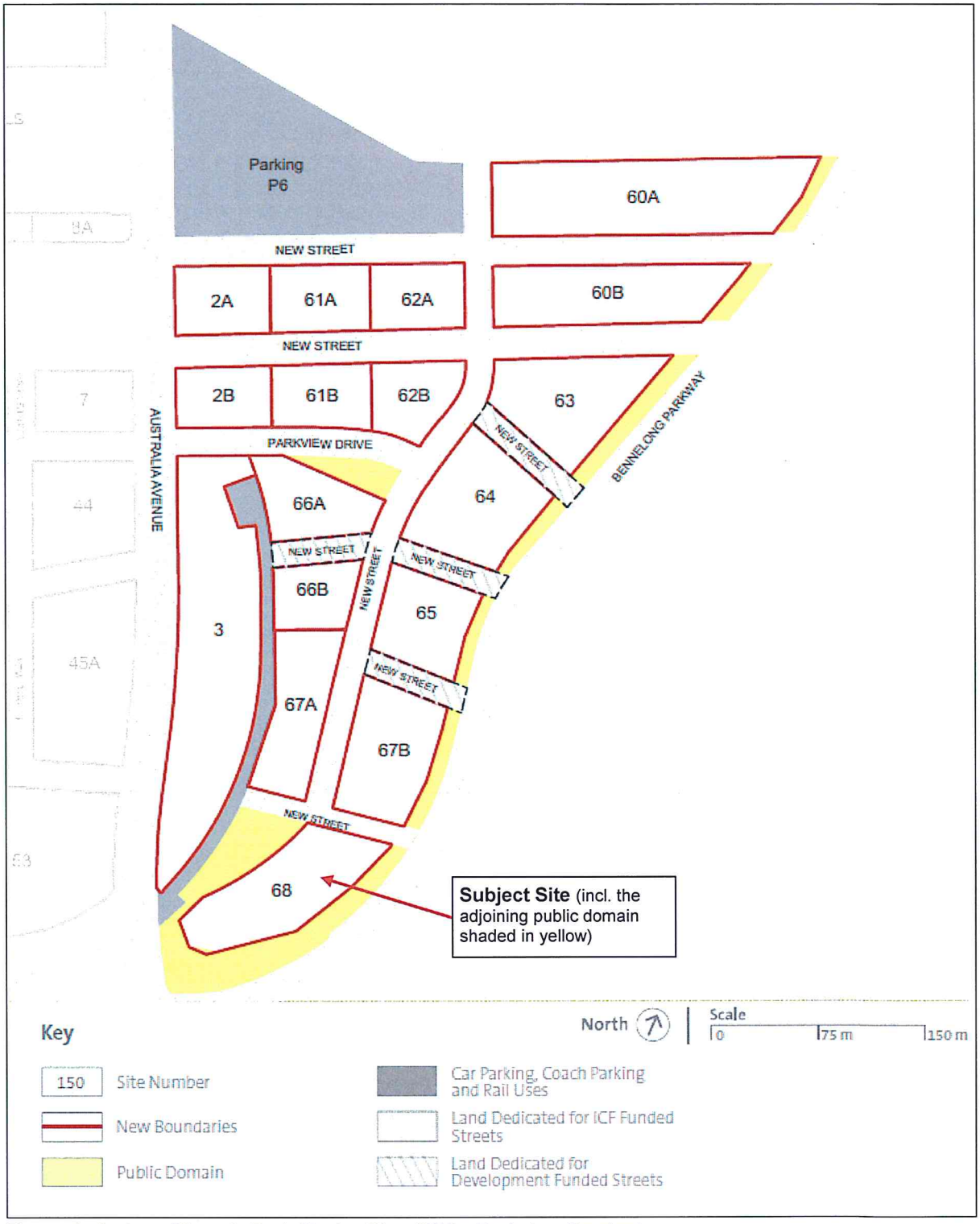

Figure 4: Sydney Olympic Park Master Plan 2030 – Parkview Precinct

1.4 Key Development Components and Features

Table 1 provides a summary of the development proposal's key components and features.

Table 1: Key Development Components

Development Summary	- Construction of a 34 storey mixed use tower building plus rooftop plant (116.7 m), consisting of 33,167 sqm of gross floor area (GFA), with ground floor retail/commercial and 33 residential floors; - three basement car parking levels, providing resident, visitor, childcare, commercial and accessible spaces; - landscaping and public domain works, including bio-retention ponds, pedestrian/cyclist share paths and plantings; and - a stormwater detention tank.
Residential Use *Retail Use*	- 32,347 sqm of GFA; - ground floor lobby; - 369 residential apartments, comprising: • 171 one bedroom apartments (46%); • 162 two bedroom apartments (44%); • 27 three bedroom apartments (7.5%); and • 9 four bedroom apartments (2.5%); - 120 sqm of retail GFA with associated outdoor seating.
Landscaping	- Pedestrian and cyclists through-site links; - 3,587 sqm of landscaping (including 1,573 sqm of planting on structure) including a new neighbourhood park with a selection of plantings; and - 2,458 sqm of water sensitive urban design measures including bio-retention ponds, terraced ponds and cascading waterfall.
Access and Parking	- Provision of site access from new road (to be constructed by SOPA) located between Site 68 and Site 67; - three level basement car park comprising: • 408 residential spaces (37 accessible spaces); • 52 visitor spaces (two accessible spaces); • 20 dedicated spaces for a future childcare centre (one accessible space); • two spaces for retail uses; and • loading dock facilities; - integrated 'shared way' loop road from new road, providing at-grade drop-off/pick-up for the residential development and future childcare centre; - provision of 10 at-grade 'indented' car parking spaces on the new road; and - 246 bicycle parking spaces (132 spaces at the ground level and 156 spaces on basement level one).
CIV and Jobs	- $130,241,000 capital investment value; and - 512 full time equivalent construction jobs and 20 full time operational jobs.

The proposed building design has resulted from a design competition process and adopts a triangular shaped tower with rounded corners to reflect the elliptical residential towers further north fronting Australia Avenue. The building has a central core with vertical slots, incorporating gardens and communal open space adjacent to the corners to maximise light and ventilation.

At ground level, the building comprises a large lobby and entrance circulation area orientated north towards the new public domain area and Bicentennial Park. The ground level also includes retail/commercial floor area for a future envisaged café, with associated outdoor seating. A large canopy is also proposed at ground level to provide weather protection at the building's entrance and outdoor seating area of the envisaged retail/commercial activity. A

bicycle storage area is also provided at the western edge of the ground level, providing up to 132 visitor and staff bicycle parking spaces.

Each upper level residential floor plate comprises three groupings of apartments, separated by the vertical slot openings, accessed via a central lift/services core. One and two bedroom apartments are located up to level 24 in a variety of orientations, with two to four bedroom apartments located from levels 25 to 33. Refer to **Figures 5** and **6**, which provide a perspective illustration and section of the residential tower.

Figure 5: Perspective looking south-west

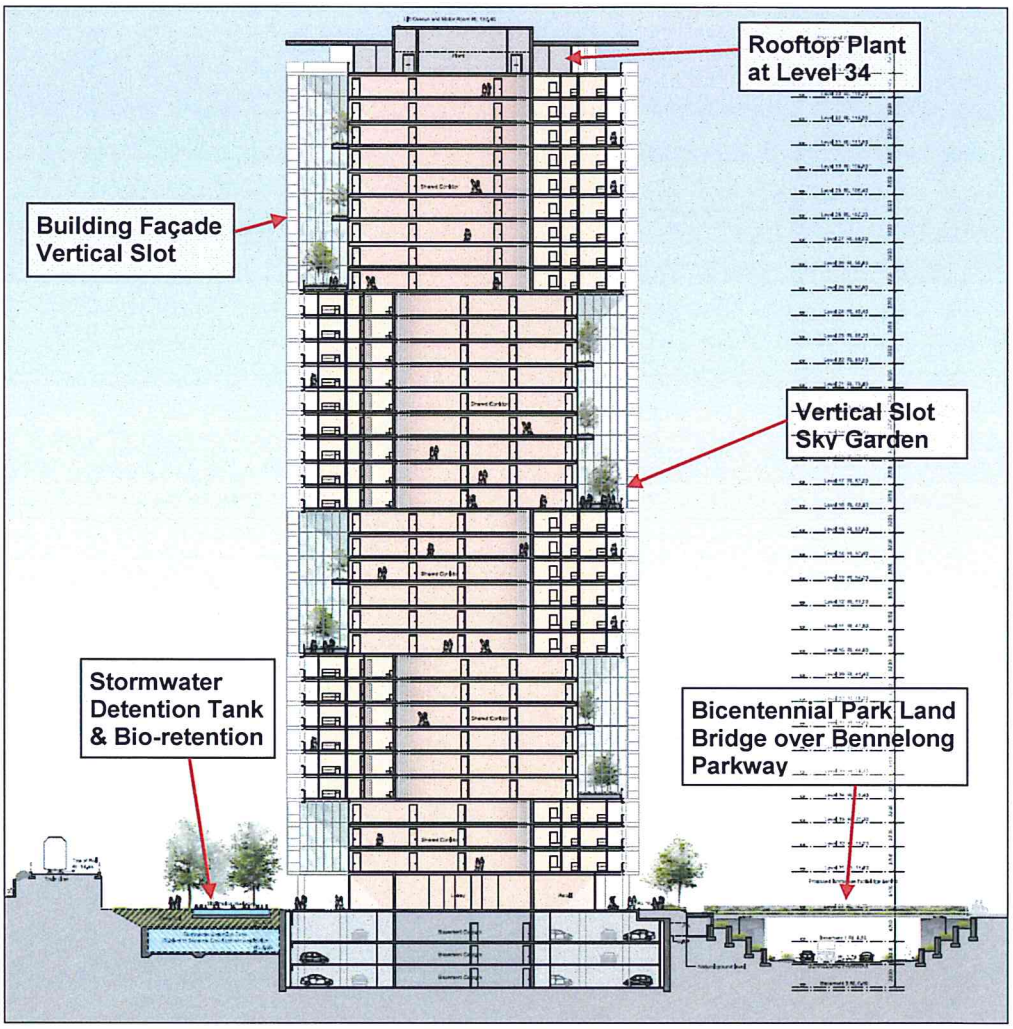

Figure 6: East–West Section

Future Child Care Centre

The subject site is also envisaged to accommodate a future child care centre, for which a separate local development application (DA) for its construction, fit-out and operation has been lodged with SOPA. The architectural plans submitted with this SSD application illustrate the indicative location and footprint of the future child care centre in the northern part of the site (see **Figure 2**). The footprint allows for an 80 place centre with a gross floor area of 700 sqm and associated outdoor play space.

Notwithstanding the separate DA lodged with SOPA, the subject SSD proposal makes provision for the future child care centre's parking and access arrangements, with a total of 20 car parking spaces allocated in the basement as well as pick-up/drop-off facilities at ground level. However, the proposed construction, fit-out and operation of the centre does not form part of this SSD application.

Public Domain

The public domain and landscape initiatives include a publicly accessible shared pedestrian and bicycle link through the site, and associated landscaping, bio-retention wetlands and a cascading waterfall feature.

The proposed development also includes public domain improvements external to the site including a new landscaped neighbourhood park and pedestrian link under the railway line between Australia Avenue and the subject site and the upgrade of the existing pedestrian bridge over Bennelong Parkway, connecting to Bicentennial Park. These elements are subject to separate approval by SOPA.

Figure 7 illustrates the key public domain and landscape elements.

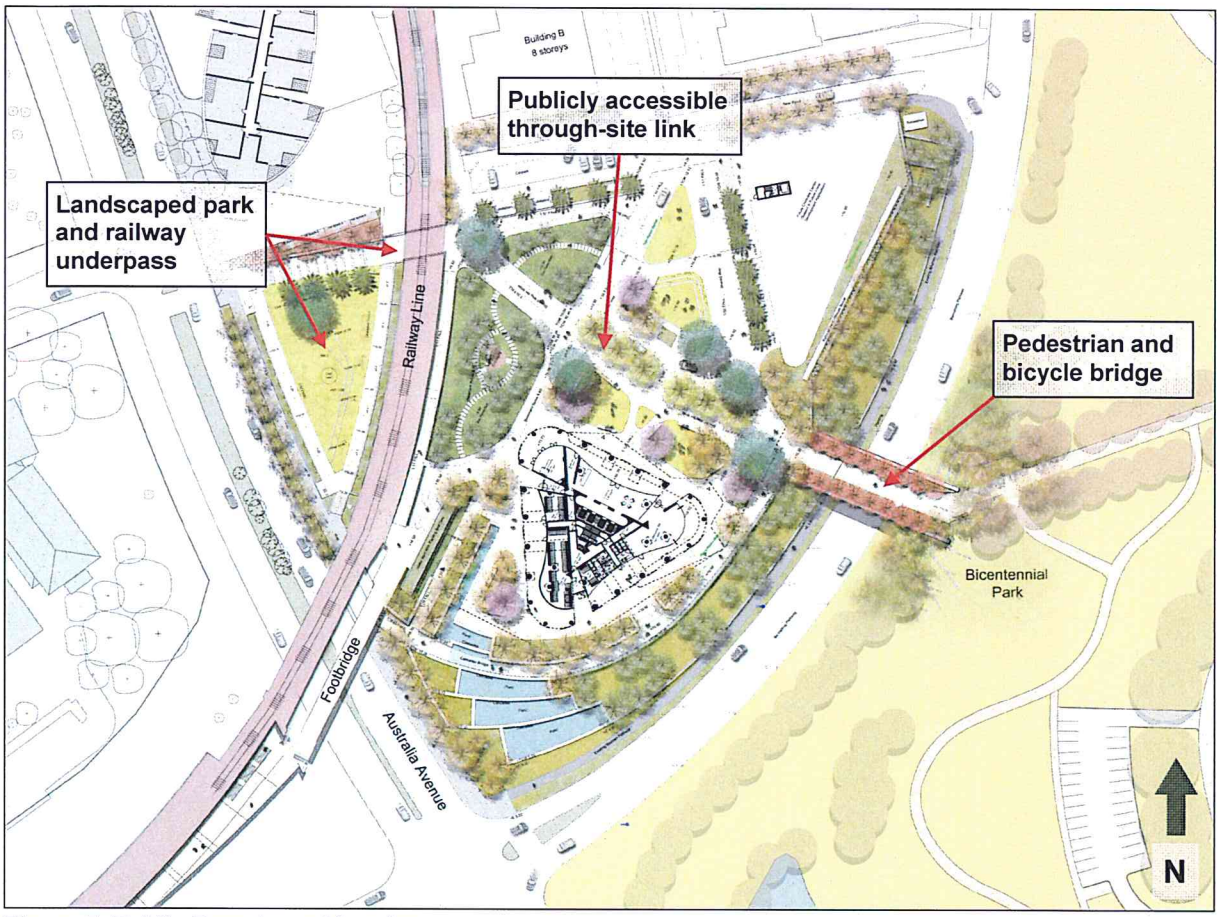

Figure 7: Public Domain and Landscape

Car Parking

The proposed three level basement car park provides a total of 472 parking spaces, 455 of which are located behind access controlled boom gates and allocated for residents, resident visitors and occupants of the retail/commercial floorspace. The remaining 17 spaces located in front of the boom gate are to be allocated for the future childcare centre. Ten indented at-grade car parking spaces for communal visitor and childcare centre use are proposed to be provided on the new northern road, to be constructed by SOPA.

Servicing

A loading dock will be provided inside the main building near the carpark entrance on Basement 2. The loading dock is designed to accommodate two trucks for garbage collection and bulky residential deliveries and would also service the non-residential uses such as the café and childcare centre.

Access

A publicly accessible shared pedestrian and bicycle link through the site connects to the future railway underpass to adjoining Site 3 and the bridge over Bennelong Parkway. The proposed new road adjoining the northern boundary, to be constructed by SOPA, will separate the subject site from site 67 to the north and provide vehicle access to both sites. The site will contain an internal shared loop road providing vehicular access to the residential tower and childcare centre (refer to **Figure 8**).

Vehicular access to the basement will be from the new road. All visitor and childcare centre parking is located at basement 2 and the four main tower lifts serve all basement floors to provide direct vertical connection to the residential floors above.

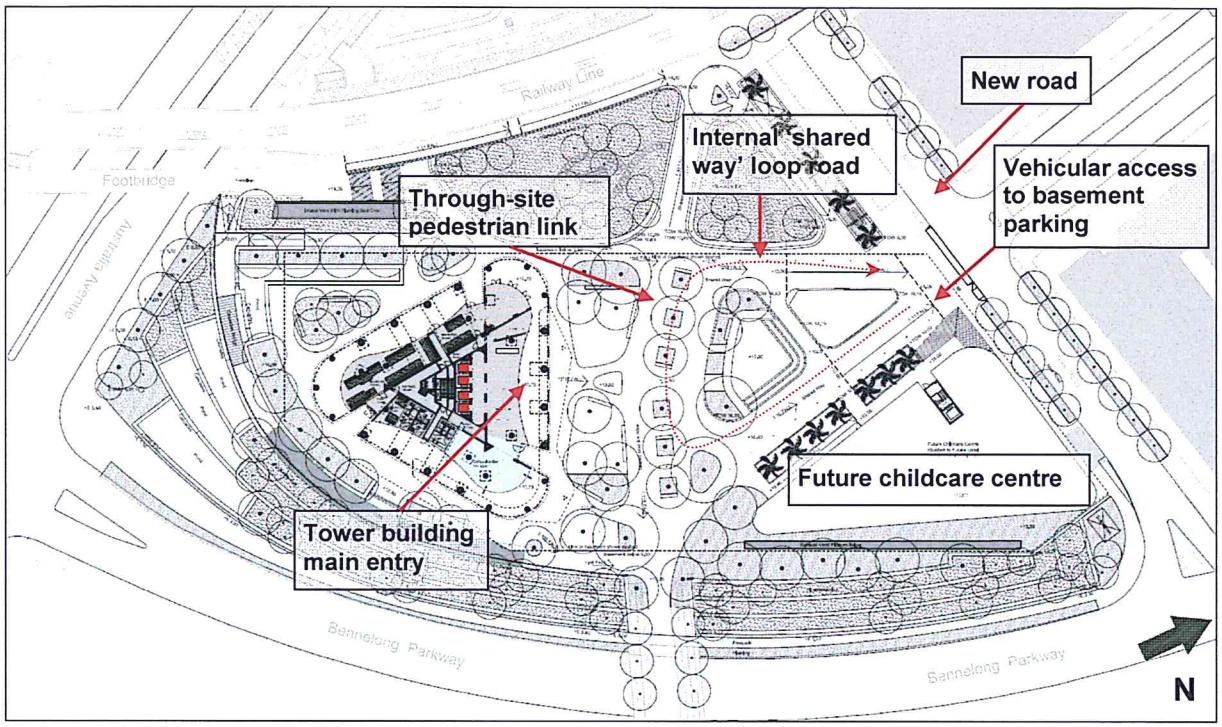

Figure 8: Vehicular Access

2. STATUTORY AND STRATEGIC CONTEXT

2.1 SEPP (State and Regional Development) 2011

The proposal is State significant development because it is development with a capital investment value (CIV) in excess of $10 million on land identified as being within the Sydney Olympic Park site, under clause 2(f) of Schedule 2 of State Environmental Planning Policy (State and Regional Development) 2011. The Minister for Planning is therefore the consent authority.

2.2 Delegated Authority

In accordance with the Minister's delegation dated 16 February 2015, the Executive Director, Infrastructure and Industry Assessments, can determine the application as Council has not objected to the proposal, no political disclosure statement has been made and less than 25 public submissions have been received objecting to the proposal.

2.3 Permissibility and Zoning

The site is zoned B4 Mixed Use under the MD SEPP. The proposed retail and residential development is permissible with consent.

Further consideration of the MD SEPP is also provided in **Appendix B**.

2.4 Environmental Planning Instruments

The Department's consideration of relevant EPIs (including SEPPs) is provided in **Appendix B**. The proposal is consistent with the relevant requirements of the EPIs.

2.5 Objects of the EP&A Act

Decisions made under the EP&A Act must have regard to the objects of the EP&A Act, as set out in Section 5 of the Act as follows:

(a) to encourage:

(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities,

towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,

(ii) the promotion and co-ordination of the orderly and economic use and development of land,

(iii) the protection, provision and co-ordination of communication and utility services,

(iv) the provision of land for public purposes,

(v) the provision and co-ordination of community services and facilities, and

(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and

(vii) ecologically sustainable development, and

(viii) the provision and maintenance of affordable housing, and

(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and

(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.

The proposal is consistent with the objects (a)(ii), (vi) and (vii) of the EP&A Act in that:

- the proposed use and layout of the site and its connectivity to adjoining properties is generally consistent with SOP Master Plan, resulting in orderly and economic use of the land;
- the range of water management measures would improve water quality to receiving waters in Bennelong Pond; and
- the design of the building includes measures to deliver ecologically sustainable development (refer to Section 2.6).

2.6 Ecologically Sustainable Development

The EP&A Act adopts the definition of Ecologically Sustainable Development (ESD) found in the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

(a) the precautionary principle,

(b) inter-generational equity,

(c) conservation of biological diversity and ecological integrity,

(d) improved valuation, pricing and incentive mechanisms.

The Department has considered the project in relation to the ESD principles. The Precautionary and Inter-generational Equity Principles have been applied in the decision making process via a thorough assessment of the environmental impacts of the project. In addition to achieving the minimum BASIX energy efficiency requirements, the applicant has also identified a range of ESD initiatives within the design of the project, including:

- a building orientation that maximises solar access to apartments to provide passive heating and reduce reliance on mechanical heating systems;
- provision of vertical gardens and automated louvres that allow for cross ventilation and reduced reliance on mechanical cooling systems;
- provision of efficient fixtures and installation of double glazed windows to improve the heating and cooling efficiencies of apartments; and
- the use of water efficient fixtures, rainwater re-use tanks and connection to SOP's Water Reclamation and Management Scheme (WRAM) to improve the development's water efficiency.

The Department has considered the development in relation to the ESD principles and is satisfied that the proposed sustainability initiatives would encourage ESD, in accordance with the objects of the EP&A Act and EP&A Regulation.

2.7 Strategic Context

NSW 2021

NSW 2021 is the NSW Government's key strategic planning document, providing a ten year plan to guide policy and budget decisions to assist with the rebuilding of NSW. Key targets of the Plan applicable to the proposal include: increasing walking and cycling; increasing the percentage of the population living within 30 minutes by public transport of a city or major centre in metro Sydney; and facilitating the delivery of 25,000 new dwellings in Sydney per year.

The proposal would contribute to these targets by upgrading and improving the pedestrian and cyclist networks and connections through the site, surrounding SOP and adjoining Bicentennial Park. The proposed development would also provide a positive contribution towards the delivery of 25,000 new dwellings within Sydney, and be located within close proximity to public transport and employment centres, including SOP town centre and Parramatta.

A Plan for Growing Sydney

A Plan for Growing Sydney provides guidance for land use planning over the next 20 years and a clear strategy for accommodating and supporting Sydney's future population and framework to strengthen its global competiveness and delivery of investment and job growth.

The proposed development represents the continued transformation and growth of the SOP precinct and would positively contribute to SOP's role as a strategic centre, and its relationship with the development of Parramatta as Sydney's second CBD, as part of the Greater Parramatta to Olympic Peninsula Growth Area.

The provision of 369 new dwellings within the proposed development supports the accelerated provision of new housing supply within an established urban area, which is also supported by local infrastructure and services. The proposal would also provide a range of apartment types, with one to four bedroom options available, but also capable of being adapted for accessible needs.

As part of the proposed development of Site 68, the applicant also proposes to invest in biodiversity measures and improve walking and cycling connections to SOP railway station.

Sydney Olympic Park Master Plan 2030

SOP Master Plan provides a comprehensive guide to the redevelopment and transformation of SOP to ensure that it becomes and active and vibrant centre within Sydney. Site 68 is located in the 'Parkview Precinct', which is an area that will progressively transition to higher density mixed use development, creating a compact neighbourhood.

The proposed development is generally consistent with the tower building form and proposed mixed use/residential land use in alignment with the vision outlined within the SOP Master Plan. Furthermore, the applicant will pursue separate approval for the identified public domain improvements, including the creation of a through-site link beneath the SOP rail line and upgrades to the existing bridge over Bennelong Parkway connecting to Bicentennial Park.

The Master Plan also provides detailed planning and design controls, an assessment of which in provided in Section 5 and **Appendix B** of this report.

2.8 Secretary's Environmental Assessment Requirements

The EIS is compliant with the Secretary's Environmental Assessment Requirements and is sufficient to enable an adequate consideration and assessment of the proposal for determination purposes.

3. EXHIBITION CONSULTATION AND SUBMISSIONS

3.1 Exhibition

In accordance with section 89F of the EP&A Act and clause 83 of the EP&A Regulation, the Secretary publically exhibited the application and accompanying information for 30 days following the date of first publication. The application was publically exhibited:

- on the Department's website from 20 November 2014 until 19 December 2014;
- at the Department's Information Centre and Auburn Council's offices from 20 November 2014; and
- published in the Sydney Morning Herald and Daily Telegraph on 20 November 2014.

The Department received seven submissions from Government agencies, including: the Sydney Olympic Park Authority (SOPA), Office of Environment and Heritage (OEH); Roads and Maritime Services (RMS); Transport for NSW (TfNSW); Sydney Trains, NSW Office of Water (NOW); and the NSW Environment Protection Authority (EPA). No submission was received from Auburn City Council or any members of the public. A summary of the issues raised in agency submissions is provided below.

3.2 Public Authority Submissions

A summary of issues raised in public authority submissions in response to the exhibition of the EIS, and where relevant, the RtS, is contained in **Table 2** below.

Table 2: Summary of Issues Raised in Agency Submissions

Sydney Olympic Park Authority (SOPA)	
Environmental Impact Statement	SOPA supports the proposal and considers it to generally comply with the SOP Master Plan. The following comments were also raised for consideration: • the unit mix should increase number of 3 and 4 bedroom apartments in accordance with SOP Master Plan; • an assessment of solar access between 9 am and 3 pm should be undertaken and justification provided if the 70 per cent target is not achieved; • the proposed storage for certain types of units is less than the minimum requirements in SOP Master Plan and the RFDC and no details are given on the amount of basement storage provided for each unit; • the number of bicycle spaces shown on the plans does not comply with SOP Master Plan; • appropriate design details in terms of signage and paving materials are to be identified for the shared cycle and pedestrian access; • the 'shared way' loop road needs clear delineation of paving and bollards to manage vehicular traffic and reduce vehicle/pedestrian conflicts; • the landscaping requires further refinement to improve spatial cohesion, site lines through the site and to improve passive surveillance at ground level; • the landscape elements including trees, outdoor lighting, location of substations and mechanical ventilation are to be addressed; • the flora and fauna assessment should consider off-site impacts from the proposed development including overshadowing of Lake Belvedere and changes in stormwater flows; • the options in the Biodiversity Offset Strategy (BOS) need further refinement; • the stormwater and flooding assessment report should be revised to consider SOPA's water sensitive urban design policy and the ecological impacts on Bennelong Pond; • the recommendations in the contamination report should be implemented; and • address compliance with disability access requirements and BCA.
Response to Submissions	SOPA provided further comments and suggested conditions of consent in relation to stormwater management and peak flow volumes to Bennelong Pond, decommissioning of the stormwater detention pond, overshadowing of Lake Belvedere, contamination and geo-technical impacts, a public domain plan and existing trees.

Office of Environment and Heritage (OEH)	
Environmental Impact Statement	OEH provided comments in relation to biodiversity issues and indicated support for the BOS subject to confirming details in relation to a like-for-like offset or a species of a higher conservation value, and the legal mechanism to secure the offset site such as a biobanking agreement or the purchase and retirement of appropriate biodiversity credits. OEH also requested further details in relation to mitigation measures; a survey of any threatened aquatic plants; details of the stormwater treatment system in accordance with SOPAs best practice targets; and conditions in relation to the BOS and mitigation measures.
Response to Submissions	OEH considers most of the comments provided in relation to the BOS have been adequately addressed. OEH reiterated the need for a survey of a threatened aquatic plant species and advised that it is appropriate as a condition of consent.
Transport for NSW (TfNSW)	
Environmental Impact Statement	TfNSW stated that it was unable to support the proposed development until the following issues in the SEARs are addressed: • details of existing pedestrian and cycle movements and increased demand for public transport; • measures to promote travel choices; • wider intersection analysis; • the reduction in bicycle spaces; • details of service vehicle movements; • access and parking arrangements during construction; and • impacts of major events. TfNSW also suggested conditions requiring compliance with the bicycle controls in SOP Master Plan 2030 and the provision of a Construction Management Plan.
Response to Submissions	TfNSW advised the issues raised to the EIS have been addressed and recommends conditions in relation to the provision of: bicycle parking facilities; internal bicycle storage; end of trip facilities; a Green Travel Plan; and a Construction Management Plan.
Roads and Maritime Services (RMS)	
Environmental Impact Statement	RMS raised no objections to the proposed development. It recommended that the proposal comply with SOP Master Plan 2030 and the design and layout of parking and access areas comply with the relevant Australian Standards and a Construction Management Traffic Plan be imposed as a condition of consent prior to issue of a Construction Certificate.
Sydney Trains	
Environmental Impact Statement	Sydney Trains has advised the proposed development may impact on the adjoining rail corridor and rail operations, if not properly controlled or mitigated, and therefore recommended the imposition of conditions which address a range of matters at various stages of construction.
Environment Protection Authority (EPA)	
Environmental Impact Statement	The EPA recommended conditions to address construction noise and vibration, groundwater and surface water management, contamination, waste management and extraction activities.
NSW Office of Water (NOW)	
Environmental Impact Statement	NOW provided comments in relation to groundwater and requested information in relation to total volumes of groundwater likely to be dewatered to minimise impact on Bennelong Pond.
Response to Submissions	NOW advised that the work undertaken to date is inadequate for the purpose of assessing groundwater impacts. The main issues raised relate to: • the use of only two monitoring bores to determine representative groundwater quality; • there being no assessment of the volumes of water likely to be dewatered to assess the water licensing requirements; and • previous comments, which support a sealed option as a first preference for basements intersecting with groundwater.

3.3 Applicant's Response to Submissions

The applicant provided a Response to Submissions report (RtS) to the Department on 12 March 2015, responding to issues and concerns raised by the agencies. The RtS includes revised plans, which incorporate further information in response to the key issues raised by the agencies. The Department made the RtS publicly available on its website. The RtS was not re-exhibited or re-notified as the Department considered there would be no additional impact on the locality given the amendments resulted in no changes to the design or layout of the development. The Department is satisfied that the RtS satisfactorily addresses the issues raised in the submissions. Key issues have been further considered in Section 4 of this report.

4. ASSESSMENT

4.1 Section 79C Evaluation

Table 3 identifies the matters for consideration under section 79C of the EP&A Act that apply to SSD, in accordance with section 89H of the EP&A Act. The table also represents a summary for which additional information and consideration is provided in Section 4 (Key and Other Issues) and relevant appendices or other sections of this report and the EIS, referenced in the table. The EIS has been prepared by the applicant to consider these matters and those required to be considered in the SEARs and in accordance with the requirements of section 78(8A) of the EP&A Act and Schedule 2 of the EP&A Regulation.

Table 3: Section 79C(1) Matters for Consideration

s. 79C(1) Evaluation	Consideration
(a)(i) any environmental planning instrument	Consideration of relevant EPI's has been undertaken at **Appendix B**. The proposed development satisfactorily complies.
(a)(ii) any proposed instrument	Not applicable.
(a)(iii) any development control plan	Clause 11 of State Environmental Planning Policy (State and Regional Development) 2011 provides that development control plans do not apply to SSD. Notwithstanding, consideration of the SOP Master Plan (deemed a DCP) has been undertaken in **Appendix B**.
(a)(iiia) any planning agreement	Not applicable.
(a)(iv) the regulations	The development application satisfactorily meets the relevant requirements of the EP&A Regulation, including the procedures relating to development applications (Part 6 of the EP&A Regulation), public participation procedures for SSD's and schedule 2 of the EP&A Regulation relating to environmental impact statements.
(a)(v) any coastal zone management plan	Not applicable.
(b) the likely impacts of that development	Appropriately mitigated or conditioned - refer to **Section 4.2**.
(c) the suitability of the site for the development	Suitable - refer to **Section 4.2**.
(d) any submissions	Consideration has been given to submissions received during the exhibition in Section 3 of this report. Key issues raised in submissions have been considered further in **Section 4.2** of this report.
(e) the public interest.	Refer to **Section 5**.

4.2 Key Issues

The Department has considered the EIS, the issues raised in the submissions and the applicant's response to these issues in its assessment of the proposed development. The Department considers the key assessment issues relate to:

- built form;
- design quality;
- residential amenity;
- parking and traffic; and
- ecological impacts.

4.2.1 Built Form

The Department has carefully considered the key development parameters relating to building height and FSR to assess the built form of the proposal.

The MD SEPP contains two principle development standards in relation to building height and FSR that apply to the subject site. The proposed development exceeds both these development standards as detailed below. Clause 22 (4) of the MD SEPP provides flexibility in the application of the development standards if it can be demonstrated that compliance is unreasonable or unnecessary, and there is sufficient planning justification for contravention of the development standard.

In support of the proposed height and bulk of the development, the applicant has submitted written justification to vary the development standards in the form of two 'exception to the development standard' statements, which are considered below.

Building Height

The MD SEPP prescribes two height limits for the subject site. The maximum height in the northern part of the site is 15 m; stepping up to 90 m in the southern part of the site (refer to an extract of the MD height control map at **Figure 9**).

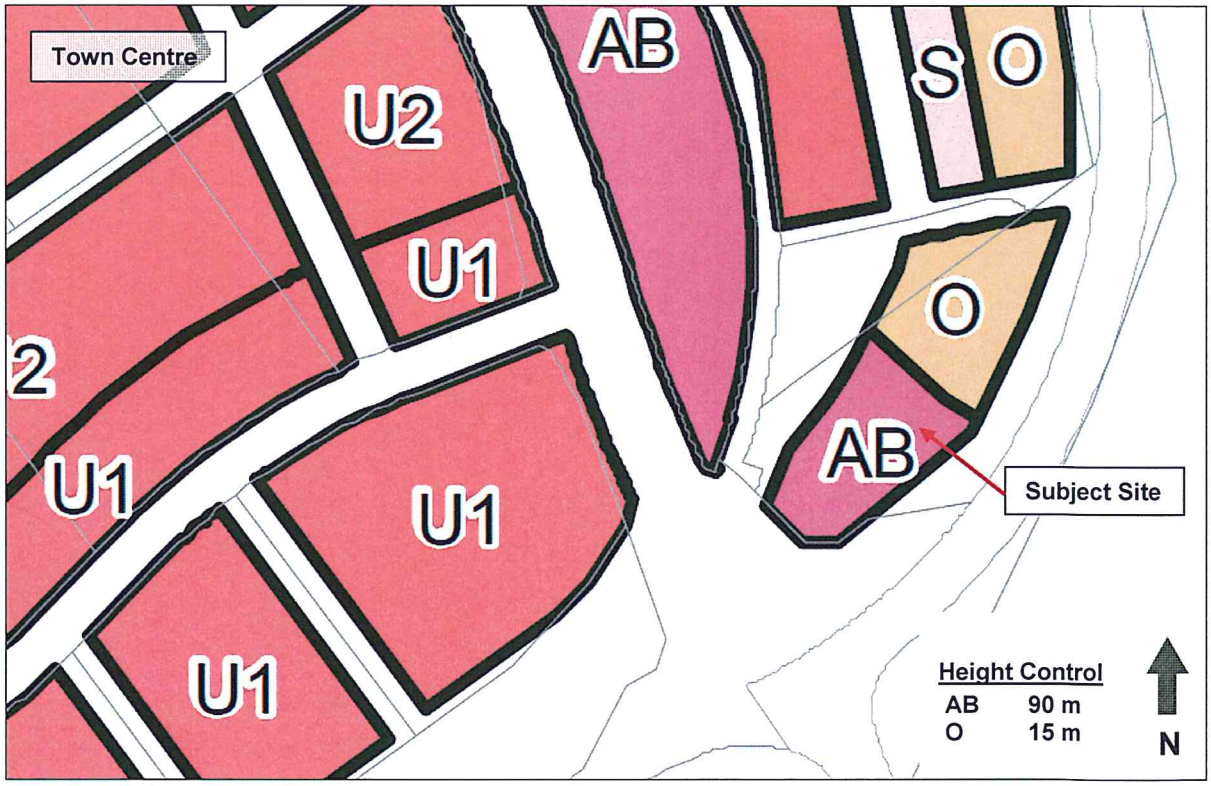

Figure 9: Extract of the Height Control Map under the MD SEPP

The proposed residential tower in the southern part of the site has a maximum building height of 110.7 m and therefore exceeds the maximum 90 m height control by 20.7 m, representing a variation of 23 per cent above the height control. The extent of the variation is illustrated in **Figure 10**. The rooftop plant is excluded from the building height in accordance with the definition of building height under the MD SEPP.

The applicant considers the variation above the building height control to be reasonable on the basis that the proposal has been subject to on-going consultation with SOPA and the SOPA Design Review Panel, who have provided support for the proposed re-distribution of floor space from the four-storey podium and thirty-storey tower building envisaged under the SOP Master Plan 2030, to a slender tower with landscaped ground plane and separate child care centre. The applicant also contends the proposal is the direct result of a design competition, in which recommendations were made by the SOPA Design Review Panel to increase the size of the vertical slots and redistribute the lost residential floor space to the top of the building, thus increasing the overall height of the building. The Department notes that the additional height and FSR and the separated built form arrangement (between the residential tower and future childcare centre) is generally supported by SOPA.

The applicant's justification for the variation above the building height control is also based on the need for an iconic building at a gateway location to SOP for those approaching the precinct from the south on Australia Avenue. The applicant also considers the proposed development is consistent with the desired future character of the precinct and would not result in any unreasonable amenity impacts to the surrounding area.

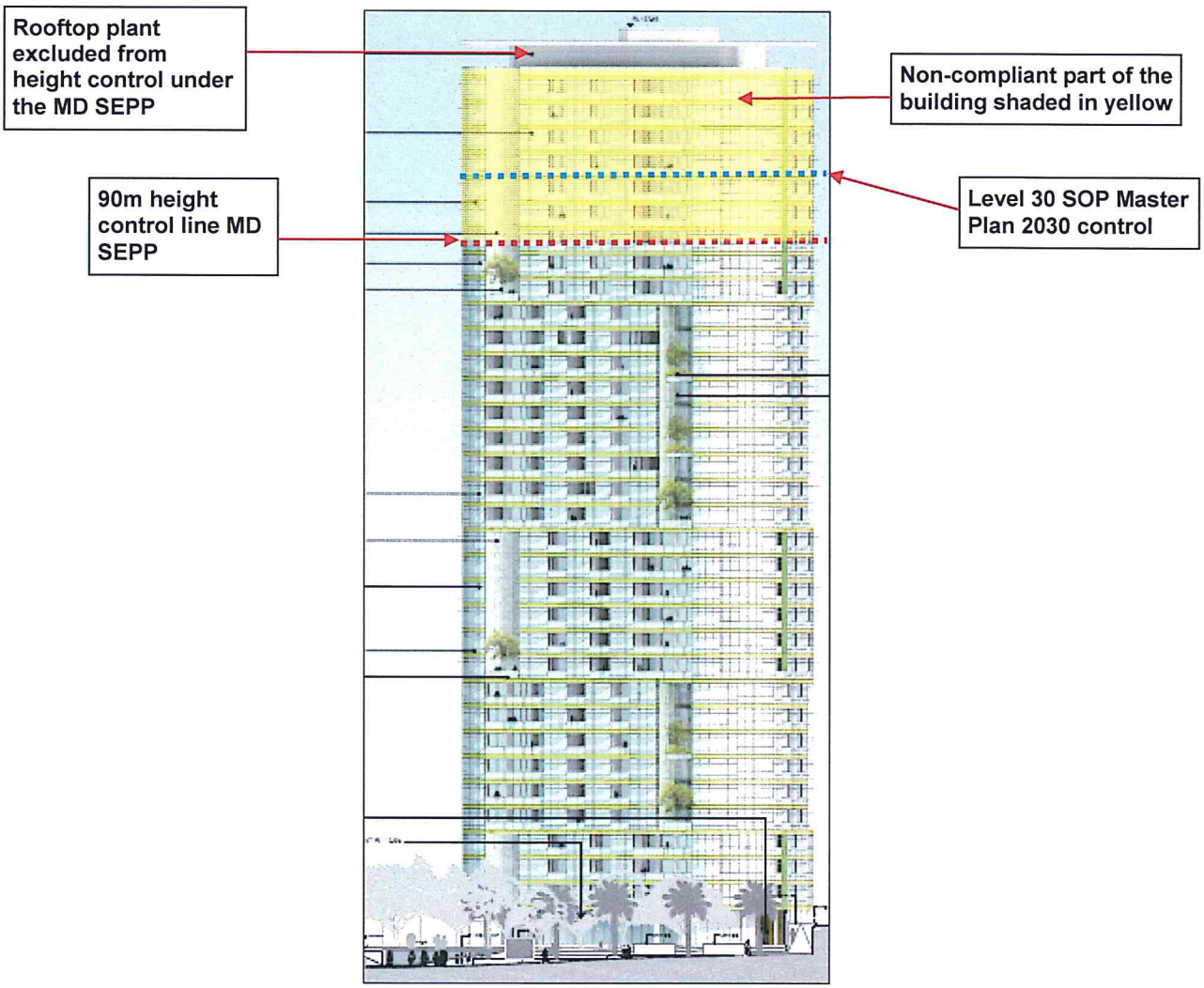

Figure 10: North elevation illustrating the variation to the height control

In the absence of any specific objectives for the height standard under the MD SEPP, the applicant has stated that the proposal has been designed in accordance with the planning principles for *Building Form and Height* in SOP Master Plan 2030, which seek to minimise amenity impacts to residential development and the parklands and locate taller buildings along the eastern edge of Australia Avenue. The Department accepts that the proposal is generally consistent with these design principles.

The Department notes that a maximum building height of 20-30 storeys also applies to the southern part of the site under the SOP Master Plan. The proposed residential tower is 34 storeys (habitable levels) and therefore exceeds the maximum height under Master Plan by four storeys (approximately 12 metres). The SOP Master Plan contains relevant objectives for the height control which seek to create consistent building heights along the main streets whilst maintaining solar access to the public domain and reinforcing the SOP skyline.

The Department considers the proposed building would successfully identify the southern gateway to the town centre at the end of a row of towers along Australia Avenue, which would reinforce the SOP skyline (refer to **Figure 11**). The non-compliant part of the building above the height control would result in some additional overshadowing to the south and east of the site, which equates to approximately 17.5 per cent of the total shadow cast by the building. However, the Department considers that the building's curved triangular design and the short duration of shadow would result in acceptable shadow impacts on Bicentennial Park (refer to discussion in **Section 4.2.6**). The Department is therefore satisfied the proposed development is consistent with the objectives of the height control in SOP Master Plan 2030.

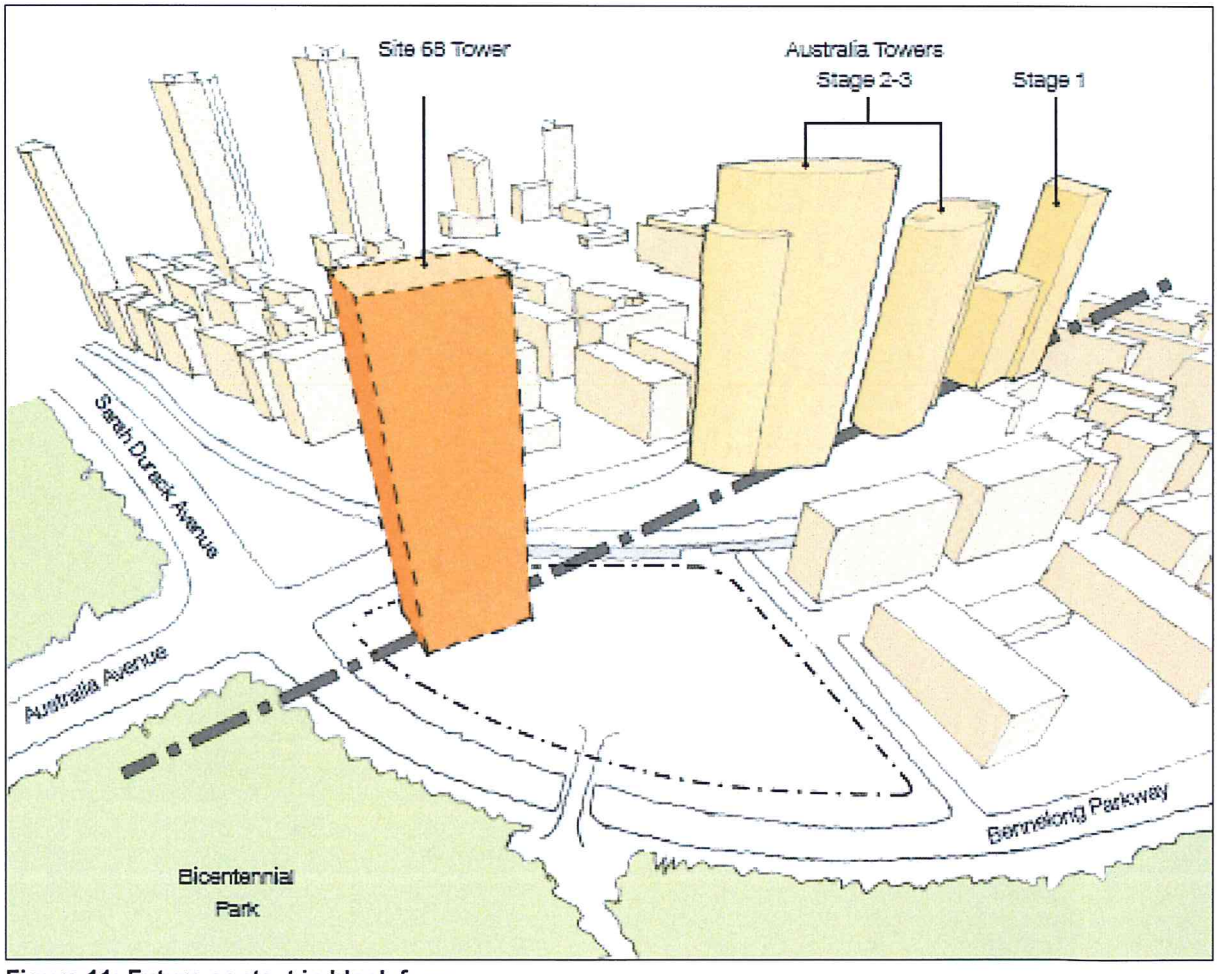

Figure 11: Future context in block form

The Parkview Precinct is identified in the SOP Master Plan as an area characterised by a transition from larger, more urban building forms to lower buildings along Bennelong Parkway. The subject site's location at the southern edge of SOP defines it as a gateway when entering SOP and when viewed from the adjoining Bicentennial Park (see **Figure 11**). In this respect, the Department supports the notion that the development of an iconic building on this site would provide a marker between the urban area of SOP and Bicentennial Park. The Department is satisfied the proposed development is consistent with the future dense urban character of the Parkview Precinct in the SOP Master Plan.

The Department also notes there would be no adverse amenity impacts in terms of solar access, privacy or view impacts to residential neighbours (existing and future) along Australia Avenue and Bennelong Parkway due to a generous building separation of 60 to 90 metres to residential development under construction on Site 3 and approved on Site 67.

The objectives of the B4 Mixed Use zone applicable to the subject site under the MD SEPP include a broader range of considerations for the locality and seek to reinforce SOP's status as a premium destination for events and to ensure development maximises public transport usage and a mix of land uses to contribute to a vibrant Town Centre. The Department is satisfied the proposed development would contribute to SOP being a vibrant town centre by providing high density residential accommodation with good access to public transport. The Department notes the proposed development would satisfy the objectives of the B4 zone regardless of the exceedence of the height control.

Noting the above, the Department's assessment concludes that compliance with the height development standard is unnecessary in this particular case, and that there are sufficient environmental planning grounds to justify the variation to the height control. In particular, the Department considers the:

- additional height would not result in any detrimental amenity impacts (overshadowing, views or privacy) to surrounding development or Bicentennial Park compared to a complying design;
- proposed development is consistent with the dense future character of the Parkview Precinct;
- proposal exhibits design excellence at the prominent southern gateway to SOP; and
- extent of the non-compliance would not result in any adverse visual impact on the locality in the context of existing and future development at SOP.

In this regard, it is appropriate to vary the control as it would result in a better design outcome by providing new iconic built form that defines the southern gateway to SOP and provides a legible pedestrian public domain environment. The variation of the height development standard does not raise any matter of significance for State or regional environmental planning and the public benefit of the proposal would not be compromised.

Floor Space Ratio

A maximum FSR of 2.2:1 (inclusive of a design excellence incentive of 10 per cent) applies to the site in the MD SEPP (consistent with the SOP Master Plan), which equates to a gross floor area (GFA) of 30,796 sqm. The site's proposed development has a total GFA of 33,167 sqm, including the proposed 700 sqm child care centre, which equates to an FSR of 2.37:1 and exceeds the maximum FSR control by 2,371 sqm (or eight per cent).

The applicant's justification for the variation above the FSR control is based on the refinements to the design as a result of the design competition process, such as extensions to the internal corridors at each level to improve ventilation as well as changes to the vertical slots to improve amenity and activation of the ground floor, which increased the total floorspace by 1,620 sqm. The applicant has also stated that through further consultation with SOPA, the GFA of the separately proposed child care centre increased from 500 sqm to 700 sqm.

The Department is satisfied that the proposal is consistent with the general built form envisaged under the SOP Master Plan and is an appropriate bulk and scale for the site, also noting that the proposal is generally consistent with the setback controls and spatial arrangement for the site envisaged under SOP Master Plan 2030. The rounded triangular geometry of the building design maximises the favourable gateway qualities of the site in creating a distinct modern built form that conveys an iconic presence when viewed from all perspectives. The apparent bulk and mass of the proposed building is also softened through the integration of vertical slots and gardens into the facade design.

Furthermore, the applicant has demonstrated that the proposed development does not result in any significant adverse amenity impacts to adjoining properties or the public domain in terms of overshadowing, view impacts and privacy.

The Department has also assessed the traffic impacts associated with the proposal and the additional floorspace above the control, which would generate 11 vehicle movements during the AM and PM peak periods on the surrounding road network. Notwithstanding the additional traffic, the Department notes the surrounding intersections would continue to operate at satisfactory levels. The Department therefore concludes that the additional density above the FSR control would not adversely impact the performance of surrounding intersections. The traffic impacts are discussed in detailed in **Section 4.1.4**.

The Department's assessment concludes that compliance with the FSR development standard is unreasonable and unnecessary in this particular case as there are sufficient environmental planning grounds to justify the variation. In particular the:

- proposal is generally consistent with the setback controls and spatial arrangement for the site envisaged under SOP Master Plan;
- proposal is consistent with the dense future character of the Parkview Precinct;
- height, bulk and scale reinforces the site's pivotal location at the southern gateway to SOP;
- proposed development would provide acceptable visual and amenity impacts to the surrounding area;
- the proposed development would provide for improved public domain, pedestrian/cyclist linkages and community facilities (e.g. child care centre, which is the subject of a separate local DA with SOPA); and
- additional density would not result in any adverse traffic impacts.

In this regard, the Department considers it acceptable to allow a variation to the control as the building exhibits design excellence on a prominent site at the main southern gateway to SOP. The variation of the FSR development standard does not raise any matter of significance for State or regional environmental planning and the public benefit of the proposal would not be compromised.

4.2.2 Design Quality

The design quality of the proposal is an important consideration given the site is at the southern gateway of SOP and the interface of Bicentennial Park. Clause 30 of the MD SEPP requires the Department to be satisfied the building exhibits design excellence having regard to the standard of architectural design and materials, relationship to the public domain and sustainable design principles.

The subject site is identified in SOP Master Plan as a design competition site, which requires a design competition to generate alternative design options for development proposals. The design brief sought architectural schemes for one residential tower building and associated landscape/urban design works. The current design was selected by the competition jury as the preferred design for the site and was subsequently reviewed by the SOPA's Design Review Panel (DRP), who supported the building design and the general form and massing

of the development. In providing its support for the scheme, the DRP also recommended that the vertical slots within the building façade be further refined and that further resolution on façade material, balcony design and amenity, slot garden walls and garbage/waste management was still needed.

The Department considers that the development is well articulated with glazing and balconies, and the apparent visual mass of the building is reduced by introducing shifting slots and changes in apartment types and balcony locations. The design also incorporates a variety of building elements such as green terracotta spandrels to define each floor, black/charcoal coloured aluminium glazing frames, aluminium horizontal shading fins and integrated planting to provide a high level of texture to the building form and create visual interest.

The proposed development would also improve the quality and amenity of the public domain by providing landscaped setbacks around the perimeter of the building and a landscaped public pedestrian thoroughfare connection between Site 3 and Bicentennial Park.

Having regard to the high standard of architectural design and the improved connectivity and amenity to the locality, the Department's assessment concludes that the proposed development exhibits design excellence.

4.2.3 Internal Residential Amenity

The residential amenity provided for the proposed apartments has been considered against relevant policies including *State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Buildings* (SEPP 65) and the accompanying Residential Flat Design Code (RFDC). A detailed assessment is provided at **Appendix D**.

The Department has also considered the relevant amenity criteria within the recently exhibited amendment to SEPP 65 and accompanying *Draft Apartment Design Guide* (ADG), which is proposed to replace the RFDC when adopted. Generally, the proposal satisfies the principles of SEPP 65 and meets the recommendations of the RFDC and ADG, with the exception of variations to solar access, apartment and building depths, deep soil zones and apartment layout. These variations are discussed below.

Solar Access

The applicant's solar access analysis concludes that 78 per cent of apartments achieve two hours of solar access and 68 per cent of apartments receive three hours of solar access between 9 am and 4 pm at the winter solstice. In accordance with the RFDC, the expectation for solar access is lower in dense urban areas, which are generally characterised by higher buildings resulting in less opportunity to access sunlight and a greater potential for overshadowing of adjoining properties. The RFDC recommends that 70 per cent of living rooms and private open spaces of apartments receive a minimum of three hours direct sunlight between 9 am and 3 pm at winter solstice, and that in dense urban areas a minimum of two hours direct sunlight is acceptable.

In its submission on the original EIS, SOPA commented that the applicant's analysis should be reduced to between 9 am and 3 pm and justification provided for any departure from the solar access requirements in the SOP Master Plan 2030. The Department notes that the controls in SOP Master Plan require a minimum of three hours solar access to at least 75 per cent at the winter solstice, and the 70 per cent target nominated by SOPA is the requirement under the RFDC.

The updated solar access analysis submitted with the applicant's RtS identifies that 42 per cent of apartments achieve three hours of solar access and 60 per cent of apartments achieve two hours of solar access between 9 am and 3 pm at the winter solstice. **Table 4** provides an overview of solar access at the winter solstice.

Table 4: Solar access at the winter solstice between 9 am and 3 pm

Total Number of apartments	Number of apartments with at least 3 hours direct sunlight	Number of apartments with at least 2 hours direct sunlight	Percentage of apartments with at least 3 hours direct sunlight	Percentage of apartments with at least 2 hours direct sunlight
369	155	221	42%	60%

The applicant is of the opinion that SOP is a dense urban environment and the less onerous two hour solar access requirement in the RFDC should apply to the proposal. The applicant also notes that solar access is affected by the existing towers to the north of the site (Site 3), which overshadow the subject site between 2 pm and 3 pm at mid-winter.

Consistent with its approach on other developments within SOP, the Department accepts that the minimum two hour solar access requirement should apply given the emerging dense residential character of the locality, which currently contains multi-storey buildings up to 25 storeys.

Despite the shortfall of 10 per cent, the Department is satisfied that the design maximises the number of apartments receiving solar access as illustrated in **Figure 12**. In addition, an acceptable number of apartments are still able to achieve satisfactory levels of amenity, with the building design and layout maximising high quality views and minimising the number of apartments exposed to rail and major event noise sources. Apartment layouts have also been designed to place non-habitable rooms towards the inside of apartments (i.e. kitchens, bathrooms etc.) so as to maximise natural light, ventilation and views for habitable rooms.

Further, the presence of the open vertical slots in the building's façade helps achieve higher levels of amenity by conveying natural light and ventilation on every floor, as well as additional view aspects from the internal building core through the vertical slots. The Department's assessment concludes there would be adequate solar access and amenity for future occupants of the development.

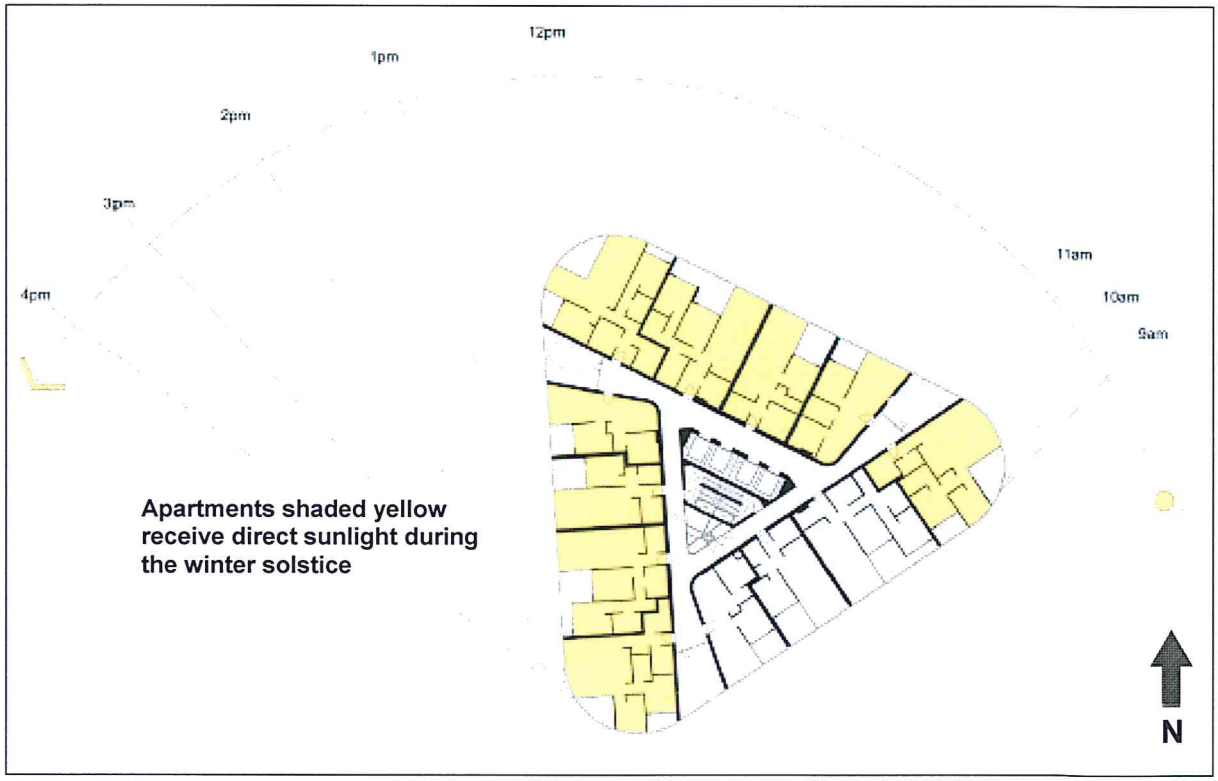

Figure 12: Solar Access

Building Depth

The RFDC recommends an apartment building depth of 10 m to 18 m and buildings wider than 18 m need to demonstrate how satisfactory daylighting and natural ventilation are to be achieved. The applicant has advised that in order to maximise the efficiency of the tower and reduce building bulk, a central core design has been adopted, which creates a deeper building and a depth between 43 to 47 m.

The Department notes that the RFDC building depth 'rule of thumb' doesn't envisage a unique triangular building design as is proposed. The proposed building and floorplate design still achieves high levels of amenity through the location of habitable living floorspace at the front of each apartment, achieving 60 per cent cross ventilation for the development in accordance with the RFDC, maximising high quality views and increasing penetration of natural light and ventilation into the building's core through the vertical slots proposed in the building's façade. The Department's assessment concludes that despite the deep floor plate design, which is supported by SOPA's DRP, the proposal would achieve satisfactory levels of amenity for the building occupants.

Apartment Depth

The RFDC recommends single aspects apartments should be limited to eight metres in depth to maintain internal amenity. The RFDC contains flexibility in the application of the 'rules of thumb' and variations can be justified subject to demonstrating appropriate residential amenity for the apartments. The single aspect apartments exceed these recommended depths with a maximum depth of 10 m to 11 m. The applicant has justified the variations on the basis that the rooms planned beyond the eight metre depth are non-habitable rooms such as bathrooms and storage areas, which do not require natural light. The Department accepts this rationale and concludes that the configuration of apartments would not compromise the residential amenity for future occupants of the development.

Single Aspect Apartments

The RFDC recommends limiting the number of single aspect apartments with a southerly aspect (SW-SE) to a maximum of 10 per cent of the total units proposed. In this instance, 21 per cent of apartments have a single aspect with a south-east orientation. The applicant's Design Report submitted with the RtS indicates the south-east facing apartments have excellent views of the Sydney CBD skyline, which would contribute to the amenity for future occupants. The Department acknowledges that while a number of these single aspect apartments have limited direct sunlight access, the vertical slots in the building façade provide natural light and ventilation into the core of the building and apartment amenity is further enhanced by their uninterrupted city outlook.

Deep Soil

The RFDC recommends a minimum of 25 per cent of the open space area of the site should be deep soil zone. The proposal provides 3,260 sqm of deep soil zones, which equates to 23.3 per cent of the open space area (representing a minor shortfall of 1.7 per cent). The site currently operates as a stormwater detention basin, which will be removed to make way for the development and replaced with a 1,800 sqm below grade tank and a 1,200 sqm of bio-filtration wetlands at ground level, which restricts the ability to provide deep soil planting. Noting the spatial and infrastructure constraints associated with the site, the Department considers the amount of deep soil is sufficient and provides the opportunity for good quality landscaped areas suitable for and range of smaller plants and trees.

4.2.4 Parking and Traffic

The applicant submitted a Traffic and Transport Assessment (TTA) as part of the EIS which reviewed the traffic, transport and parking implications for the proposed development.

Parking

Bicycle parking

The SOP Master Plan 2030 requires the provision of a minimum 519 bicycle parking spaces, including 424 resident spaces, 93 spaces for apartment visitors and two spaces for staff associated with the ground floor retail space.

The proposed development provides 246 designated bicycle parking spaces on the site, comprising a total of 156 resident spaces in basement level 1 and 90 spaces at ground level for staff and visitors using vertically hung bicycle racks. This represents a shortfall of 273 spaces in comparison with the Master Plan 2030 requirements. It should also be noted that space for an additional 42 bike spaces at ground level has been set aside to enable the envisaged future retail tenancy (most likely a café) to offer bicycle rental facilities to the general public if desired.

The shortfall of bicycle parking was raised as a concern by SOPA during the exhibition of the EIS. SOPA is of the opinion that additional bicycle parking facilities should be provided at basement level 2 as it is at-grade with the street level.

The applicant considers the bicycle parking rates of one and two bicycle spaces per apartment required by the Master Plan 2030 to be excessive; particularly considering the parking rate is the same as the rate used to determine the maximum number of car parking spaces for the residential component. The applicant also contends some residents may not own or physically be able to ride a bike or may not feel comfortable storing their bikes in areas of the basement that are accessible to all occupants.

The provision of 90 bicycle spaces for staff and apartment visitors at ground level is deficient by five spaces. These five spaces could easily be taken from the 42 space allocation set aside for the bike rental business to meet the SOP Master Plan requirements and satisfactorily cater for the demand of apartment visitors, retail staff and potentially the future child care centre. A condition to this effect is recommended accordingly.

The provision of 156 resident bicycle spaces equates to 0.42 bicycle spaces per apartment. The applicant contends that a lower rate of one per three apartments has been used for Site 3 to the north, and other similar high density residential development at Rhodes. The applicant advises that vertically hung bicycle racks are a more efficient use of space to park bicycles compared to the requirements in Australian Standard for Bicycle Parking Facilities (AS2890.3 1993). The applicant has also advised that the storage lockers in all basement levels have been designed to provide internal dimensions that satisfy the minimum requirements in AS 2890.3 1993 to allow for the storage of bicycles. In this respect, basement storage lockers are provided for 292 (80 per cent) of apartments.

The Department considers that additional bicycle parking should be provided in the basement for residents in accordance with the Master Plan 2030 requirements. An additional 268 resident spaces are required, and these spaces could be provided in communal bike storage areas or within enlarged unit storage lockers. This would allow owner/occupiers of units with basement storage lockers to securely store a bicycle if they choose to do so. This approach is consistent with the Minister's recent approval of a residential apartment development on the adjoining site (known as 'Site 67'). A condition to this effect is recommended in the development consent.

Car spaces

Based on the parking rates in the SOP Master Plan 2030, the proposal is permitted to have a maximum of 545 car spaces, which includes 27 car spaces for a childcare centre, two spaces for the retail component and 516 car spaces for the residential component. The development

provides a total of 482 car spaces, which is under the maximum parking space cap specified in SOP Master Plan 2030.

The Department is satisfied that the total parking provisions proposed within the development is sufficient and would cater to the parking demand generated by the future occupants, whilst supporting the growth and use of public transport in SOP and non-car travel modes of transport.

Traffic

The proposed development is estimated to generate 251 vehicle movements during the morning peak period and 211 vehicle movements during the afternoon peak period. Vehicular access to the site is proposed via the new east-west road adjoining the northern boundary of the site. The applicant's traffic report estimates that 40 per cent of outbound vehicle movements from the site will depart via the intersection of the new road and Bennelong Parkway, which would be restricted to left-in and left-out. The remaining 60 per cent of outbound vehicle movements would depart via the future new north-south road to Australia Avenue. The report also assumes that 80 per cent of inbound vehicle movements will approach the site from Bennelong Parkway, providing the most direct inbound route from the arterial road network, while 20 per cent will approach the site from the future north-south road (see **Figure 13**).

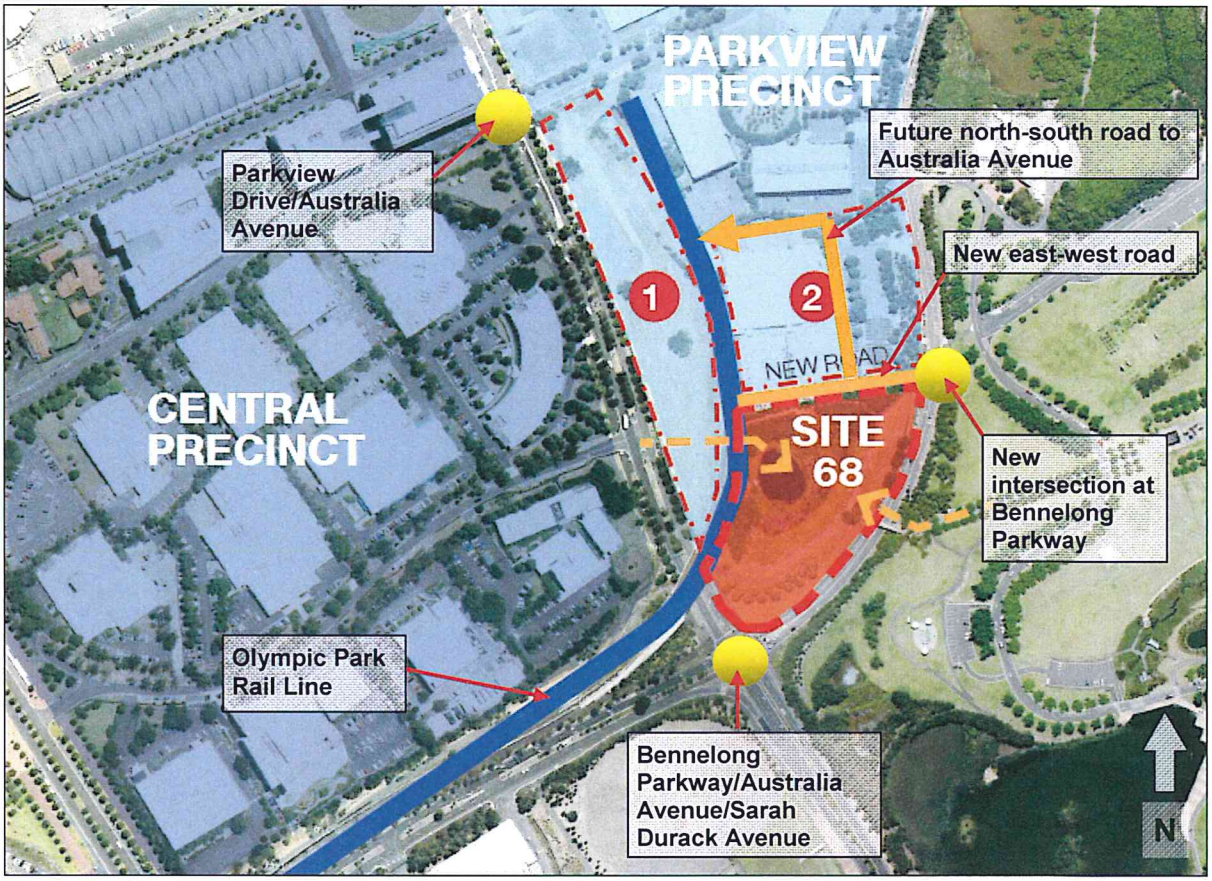

Figure 13: Key intersections surrounding the site

The operation of the intersection where the new road intersects with Bennelong Parkway has been analysed using SIDRA intersection software. The Department notes that the traffic analysis also takes into account the traffic generated by future residential development approved to the north at Site 67, which also has frontage to the new road. The intersection analysis indicates the new intersection at Bennelong Parkway will operate with a good level of service A as a result of the proposed development and the vehicles queued on the approach to the intersection would not queue beyond the proposed access point to the basement levels, which confirms that the location of the vehicle access point to the site is appropriate. The left-in and left-out arrangement

at the Bennelong Parkway intersection would ensure that the southbound traffic flow along Bennelong Parkway remains uninterrupted. The Department is satisfied the proposed development would not have any adverse impacts on the safety or operation of the new road intersection with Bennelong Parkway.

The Department notes the surrounding roads and intersections beyond the immediate vicinity of the site have been designed to accommodate the anticipated traffic volumes generated by the renewal of SOP under SOP Master Plan 2030. Also, the RMS and TfNSW raised no concerns in relation to traffic generation and the capacity of the surrounding road network. Furthermore, the subject site would not be impacted by potential road closures during major events at SOP. The Department's assessment concludes the proposed development is acceptable in terms of traffic generation.

4.2.5 Ecological Impacts

The subject site contains a stormwater detention pond (constructed in 1997) that drains to Bennelong Pond and the Badu Mangroves estuarine wetland system on the eastern side of Bennelong Parkway. The pond is formed by a large embankment along the Bennelong Parkway, which creates a basin fringed with native vegetation (see **Figure 3**).

The subject site is identified in the SOPA Biodiversity Management Plan as potential habitat for the endangered Green and Golden Bell Frog (GGBF) under the *NSW Threatened Species and Conservation Act 1995 (TSC Act)*. As no potential GGBF habitat is proposed to be retained on the site as a result of the proposed development, the applicant submitted a Biodiversity Offset Strategy (BOS) for the GGBF which identifies two options for the purchase and retirement of 21 GGBF credits from: a biobank site near Crescent Head NSW; or on land administered by SOPA within Sydney Olympic Park (Homebush Bay Precinct). OEH supports the BOS and recommends a condition of consent requiring the purchase and retirement of 21 GGBF credits from a registered biobank site, prior to commencement of construction works. A condition to this effect is recommended in the development consent.

In addition, Sydney Olympic Park and its surrounds have extensive wetland areas that offer habitat for numerous migratory bird species. This includes the Latham's Snipe and Cattle Egret, which are listed as protected species under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*, which were both recorded at the site during species surveys. As both the Latham's Snipe and Cattle Egret are listed as a protected migratory species, a separate application has been made by the applicant to the Commonwealth Environment Minister in accordance with the EPBC Act. This referral is still being considered by the Commonwealth Department of the Environment.

In its submission on the original EIS and subsequent RtS, SOPA raised concern regarding the potential shadow impacts from the proposed residential tower on island nesting sites for bird species such as darters, cormorants and spoonbills known to be present within Lake Belvedere. In response, the applicant has provided shadow diagrams which illustrate that the mid-winter shadow cast by the tower building has an average duration of only one to 1.5 hours maximum at only given point, resulting in minimal impact on existing habitat. In a subsequent letter to the Department dated 16 June 2015, SOPA concurred with these findings and raises no further issues regarding impacts on Lake Belvedere. The Department is satisfied the overshadowing impacts to Lake Belvedere have been lessened by the proposed slender building form and resulting short duration of shadow (refer to Section 4.2.6 Overshadowing).

SOPA also raised concern in relation to peak stormwater flows to the ecology of Bennelong Pond. The Department's assessment concludes there would be no adverse impacts to Bennelong Pond during storm events (refer to Section 4.2.6 Stormwater/Flooding).

The Flora and Fauna Assessment identified the need for a survey of the threatened aquatic plant *Zanichella palustris*. OEH have advised that the survey should be undertaken at an appropriate time of the year (i.e. not summer when it dies back) and agreed it could be required as a condition of consent. In the event the plant species is found on site, the applicant would be required to consult with OEH in accordance with the Biodiversity Offsetting Principles and relevant guidelines prior to the commencement of works. A condition to this effect is recommended in the development consent.

The Department is satisfied the applicant has addressed the issues raised by OEH in relation to the BOS to offset the decommissioning of the pond and the clearing of vegetation on the site. Subject to the imposition of recommended conditions in the development consent, the Department is satisfied that the ecological impacts have been adequately addressed.

4.2.6 Other Matters

Overshadowing

To illustrate the potential overshadowing impact associated with the proposal, the applicant submitted hourly shadow diagrams between 9 am and 3 pm, representing the worst case scenario at the winter solstice (refer to **Figures 14** to **16**). Between 9 am and 12 noon the shadow cast by the proposed building affects the existing car park station and an elevated grassed area on the south-western side of Australia Avenue. Between midday and 3 pm the shadow cast by the proposed building affects the parklands on the north-eastern side of Australia Avenue, which includes an electricity substation at the corner of Australia Avenue and Bennelong Parkway, and Lake Belvedere further south. The applicant's BOS concluded that the overshadowing impacts to potential off-site GGBF habitat are minor given the short duration of the shadow (the shadow falling on Lake Belvedere and adjacent parklands has an average duration of only one to 1.5 hours).

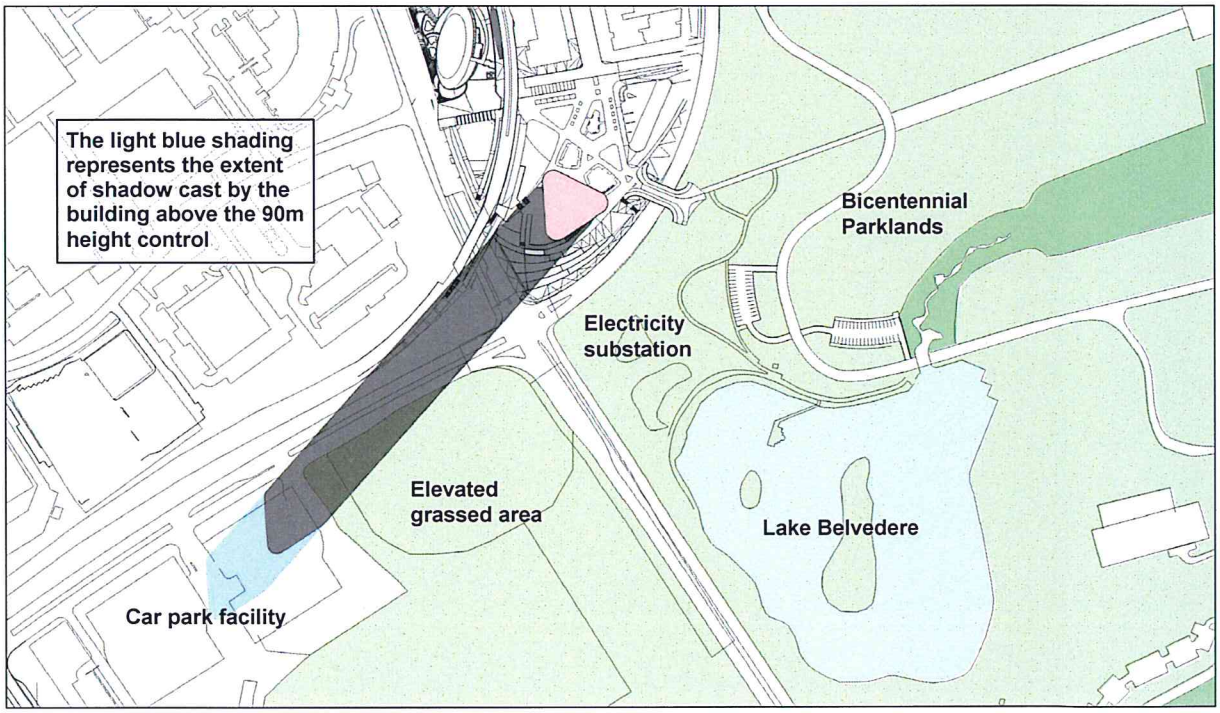

Figure 14: Shadow Impacts – 9 am winter solstice

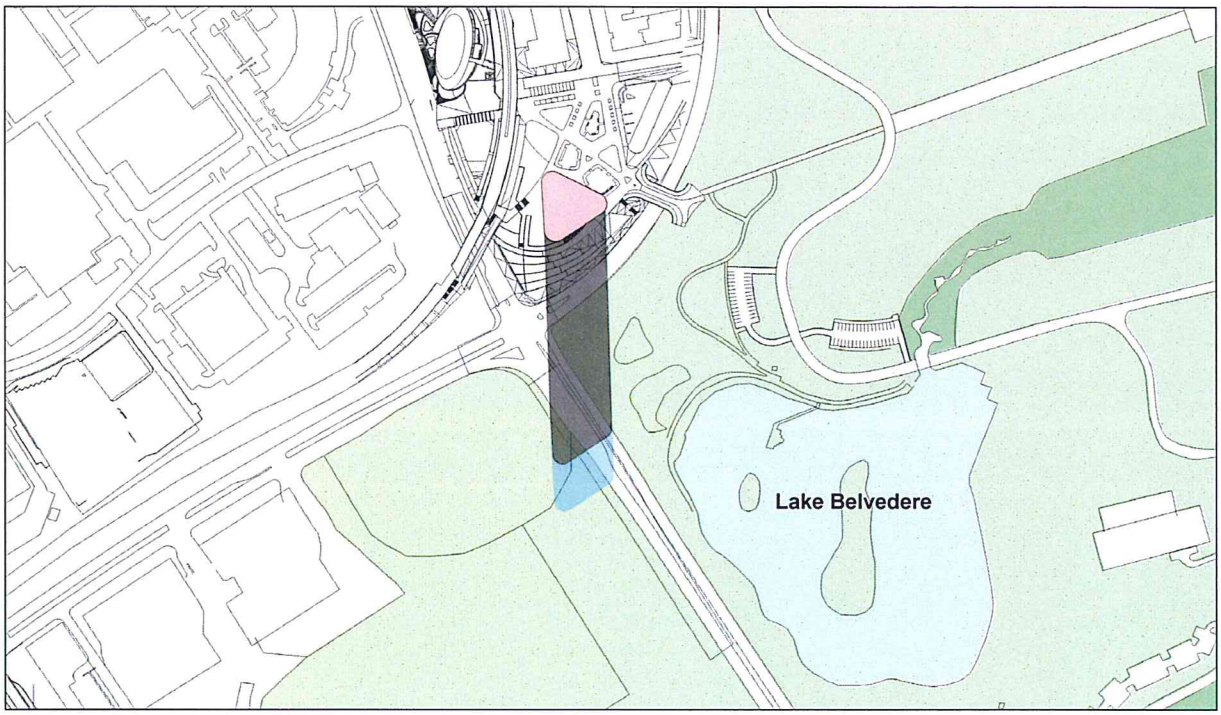

Figure 15: Shadow Impacts – midday winter solstice

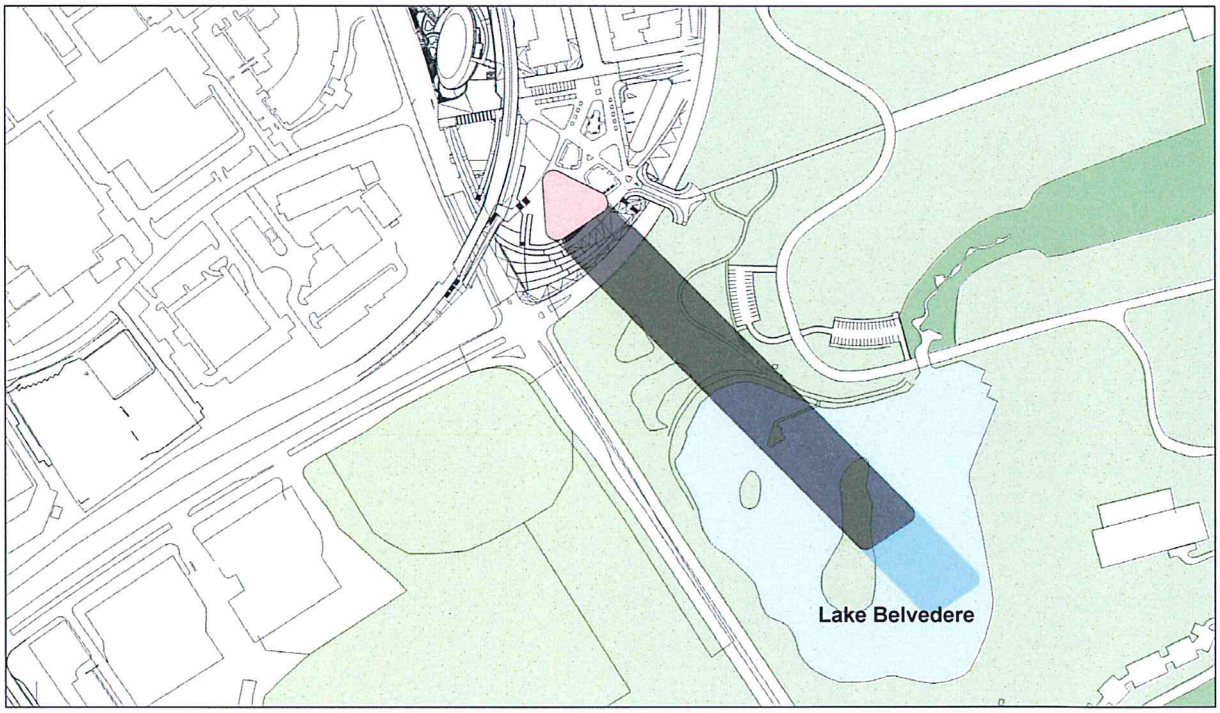

Figure 16: Shadow Impacts – 3 pm winter solstice

The Department notes the overshadowing impacts to Bicentennial Parklands have been minimised by the unique tower building form. The shadow diagrams illustrate the islands in Lake Belvedere are affected for approximately one hour between 2 pm and 3 pm at the winter solstice. The Department is therefore satisfied that the proposed development would not result in any unreasonable overshadowing impacts to Lake Belvedere.

Due to the expansive nature of the parklands, the Department does not consider there would be any adverse overshadowing impacts on the nearby recreational areas used for activities such as walking or picnicking. The Department's assessment concludes the shadow impacts

to be reasonable in the context of what would be expected under the envisaged layout of buildings approved in SOP Master Plan.

Contamination

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) is the primary environmental planning instrument guiding the remediation of contaminated land in NSW. SEPP 55 requires a consent authority to consider whether the land is contaminated, and if so, whether the land will be remediated before the land is used for the intended purpose.

The Preliminary Contamination Investigation (PCI) submitted with the application indicates there is no evidence to suggest contaminating activities have been undertaken on the site, based on a review of the historical land uses and the Contaminated Lands Register. The applicant's PCI included field investigations involving a series of boreholes drilled at varying depths across the site (refer to **Figure 17**). A groundwater monitoring well was also installed at boreholes 105 and 106. The field investigations found that potentially contaminating activities have occurred on or near the site, including: the placement of fill; leaching of contaminants from adjacent areas; residual contamination from stormwater storage; contaminants associated with the maintenance of the site (e.g. use of herbicides or pesticides); and naturally occurring elements in the soils and rock underlying the site.

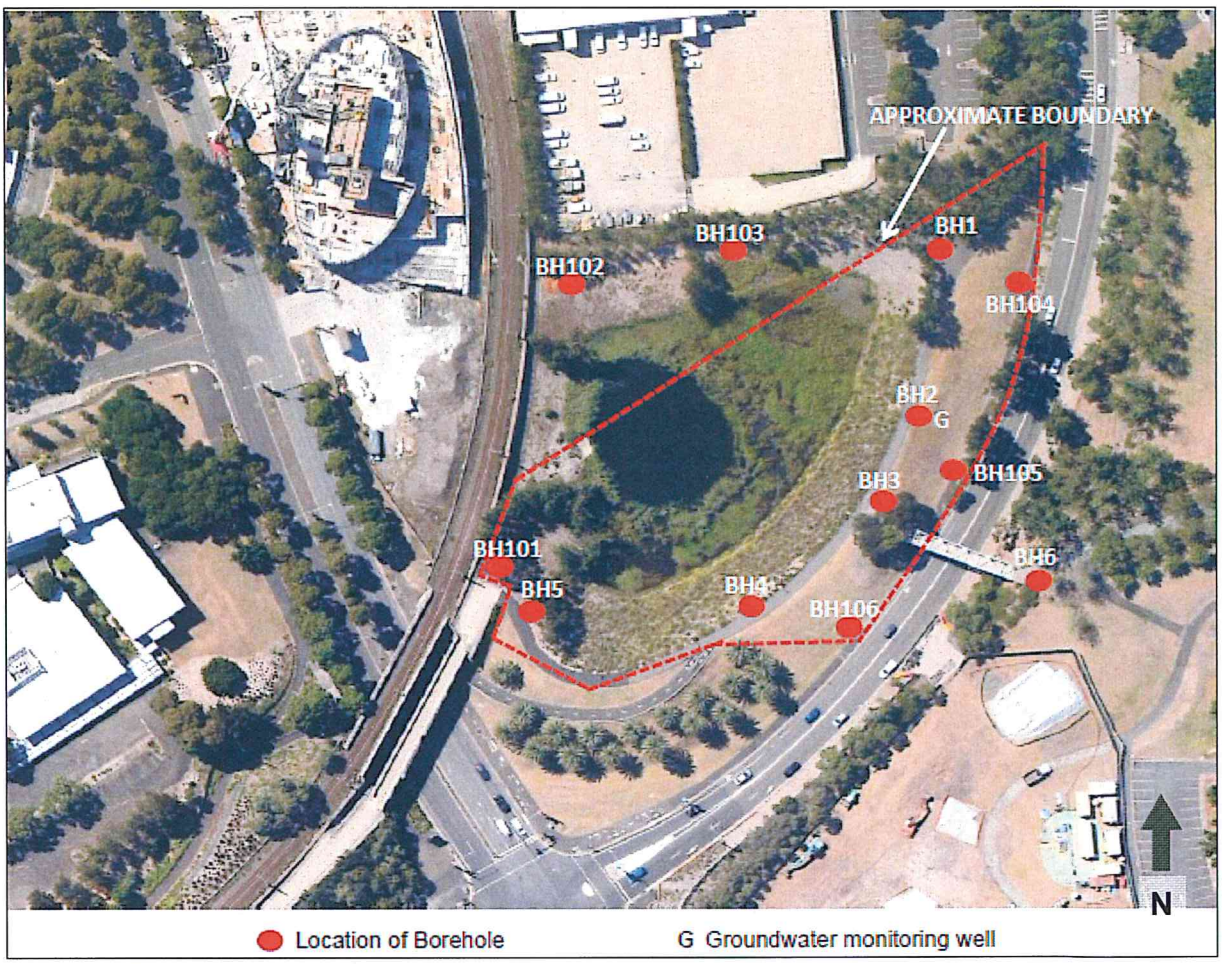

Figure 17: Contamination testing locations

The analysis of soil samples for contaminants indicated concentrations of hydrocarbons and some heavy metals, but at a level below health based criteria for high density residential sites in the *National Environment Protection (Assessment of Site Contamination) Measure* (NEPM). Some asbestos containing material was also detected on the site. The PCI contends that the contamination concentrations are irrelevant from a land use perspective as

the proposed development involves the excavation of a basement into rock and the removal of existing filling and soil from the area of the proposed redevelopment works.

The PCI acknowledges that contaminated groundwater may be present below the site due to the known poor groundwater quality in other areas of SOP, and that mitigation measures can be incorporated into the structure at the detailed design stage to reduce the impacts of contaminated groundwater on the future occupants of the building.

The PCI recommends further assessment of the contaminant levels in material that will remain on site (i.e. outside the excavation area) post application approval, and analysis of groundwater to determine what drainage measures would need to be considered in the building design. The PCI concludes the site can be made suitable for the proposed residential development.

The Department notes that in this particular circumstance the subject site is considered habitat for the endangered GGBF and no further works can occur on the site until such time as a BOS is established. In view of the current site restrictions, the Department is satisfied that no further investigation is warranted prior to determination of the subject development application given the basement excavation covers a substantial portion of the site, and the levels of contamination identified in the PCI are below the relevant NEPM criteria.

The Department's assessment concludes that further groundwater analysis should be undertaken and if required, mitigation measures incorporated into the detailed design of the building, prior to the issue of a construction certificate. A condition to this effect is recommended in the development consent.

Groundwater

The groundwater observed in the monitoring wells at RL 2.4 and RL 3.2 is two to three metres above the proposed lowest basement level. The Geo-technical Investigation submitted with the application indicates there is likely to be minor seepage into the basement through joints and defects in rock, and that a drained basement would be suitable. In the event that flow rates are excessive or contaminated water is an issue then a tanked basement may be required. The Geo-technical Investigation recommends this aspect to be determined prior to commencement of the detailed design of the project.

NSW Office of Water (NOW) considered the information provided in the Geo-technical Investigation accompanying the EIS insufficient to assess the groundwater impacts. The main concern raised by NOW relates to the use of only two samples to determine representative groundwater quality and the lack of information in relation to the volumes of water likely to be dewatered.

The applicant submitted a supplementary geo-technical report with the RtS, which included additional testing of the existing monitoring wells in relation to groundwater quality and rock permeability. The analysis indicated the quality of the groundwater was within the adopted guideline levels and the rock permeability measured was low. However, in view of the environmental restrictions associated with the site, NOW has advised the Department that a condition should be imposed requiring either the basement to be sealed or that further groundwater assessment work be undertaken as part of a Groundwater Management Plan. The Department considers that further groundwater assessment should be undertaken to inform the detailed design of the basement. A condition to this effect is recommended in the development consent.

Stormwater/ Flooding

Water Quality

The stormwater detention pond on the site was constructed to reduce peak flows and improve the quality of stormwater discharge to the downstream environment, which includes Bennelong

Pond. The detention pond has a catchment of 20.45 hectares, which includes the SOP town centre to the west of the site. The three trunk drainage lines that currently drain to the pond will be directed to a new stormwater storage tank on the site. It is proposed to discharge stormwater via a drainage line to the existing culvert outlet to Bennelong Pond.

The applicant's Stormwater and Flooding Assessment includes an Integrated Water Management Plan identifying a range of water management measures, including detention storage, bio-retention systems, water reuse, rainwater harvesting, gross pollutant traps and a sediment basin. The water quality modelling undertaken in the Stormwater and Flooding Assessment indicates that there would be a significant pollutant load improvement for the downstream receiving waters (Bennelong Pond) compared to the existing situation. The Department notes that stormwater drainage will be designed to achieve the reduction targets in accordance with SOPA's Stormwater Management and Water Sensitive Urban Design Policy 2013. A condition to this effect is recommended in the development consent.

The disturbance to vegetation in receiving waters (Bennelong Pond) is predominantly caused by frequent storm events up to the 1 in 2 year average recurrence interval (ARI). For these frequent flow events, the peak flows are managed by the detention system resulting in minimal changes to peak velocities to Bennelong Pond. The applicant's Stormwater and Flooding Assessment states there would be no disturbance to the vegetation with the implementation of the proposed water management during frequent flows. The proposed detention tank has been designed to manage stormwater flows up to the 1 in 5 year ARI, which complies with SOPA's discharge flow rates to Bennelong Pond. The Department is therefore satisfied there would be no adverse impacts to Bennelong Pond during frequent storm events.

The applicant's stormwater consultant commented that larger flood events are typically not events that permanently damage vegetation, as these events only occur rarely and vegetation can typically recover. Notwithstanding, the Stormwater and Flooding Assessment considered the velocity of flows through Bennelong Pond modelled for extreme events. The existing 100 year ARI peak flow velocity through the central zone of Bennelong Pond is approximately 0.6 metres per second. The peak flow velocity for the 100 year ARI as a result of the proposed development would be approximately 0.7 metres per second. The applicant's Stormwater and Flooding Assessment considers that established vegetation can withstand velocities up to 1.5 metres per second and that the proposed increase in peak flows would not create any adverse impacts to Bennelong Pond. The Department is therefore satisfied there would be no adverse impacts to Bennelong Pond during extreme storm events.

The Department considers that interim stormwater management measures should be in place prior to decommissioning the detention pond to maintain water quality to receiving waters in Bennelong Pond during the construction phase. Subject to the imposition of a condition to this effect on the approval, the Department's assessment concludes that the removal of the detention pond would not have an adverse impact on the downstream receiving waters.

Flooding

The surface level of Bennelong Parkway drops from RL 5.2 AHD near its intersection with Australia Avenue to RL 3.0 AHD near the corner of the new road with Bennelong Parkway. The 1 in 100 year flood level at this location is approximately RL 3.6 AHD. The ground floor level of the residential tower is RL 10.7, which is seven metres higher than the 1 in 100 year flood. The level of the vehicular entrance to the basement is approximately RL 4.5 AHD, which is approximately 0.9 m above the 1 in 100 year flood level in Bennelong Parkway. All the flows from the site up to the 1 in 100 year flood will be contained within the augmented downstream drainage line and as a result there is not expected to be any flooding impacts on Bennelong Parkway. The Department is satisfied that the flood impacts have been adequately addressed to minimise the risk of flooding on the site and to adjoining properties.

Public Domain

The key public domain and landscape initiatives include a shared pedestrian and bicycle link through the site, which provides a connection between the proposed pedestrian access under the railway and the bridge over Bennelong Parkway. The Department considers the proposal would provide direct public access through the site, which would strengthen the connections between the SOP town centre and Bicentennial Park (refer to **Figure 7**).

The Department also considers the new neighbourhood park with a combination of native tree species and relocated palm trees from the corner of Australia Avenue and Bennelong Parkway would improve amenity for the public.

The Department is therefore satisfied the development would improve the public domain and provide a suitable landscape connection to Bicentennial Parklands. The Department recommends that the applicant consults with SOPA prior to finalising the detailed design of the public domain works. A condition to this effect is recommended in the development consent.

Railway Corridor

The subject site adjoins the SOP rail corridor, which is elevated above the site and supported by retaining walls. The western wall of the below ground stormwater detention tank would be within 16 metres of the railway line. The applicant's geo-technical investigation concludes that the proposed excavation and construction works can be designed and undertaken in such a way that it would not have a detrimental impact on the railway corridor or associated infrastructure. The Department referred the application to TfNSW during the public exhibition process. Sydney Trains (previously Railcorp), which is a subsidiary of TfNSW, recommended a suite of conditions to mitigate potential impacts on the rail corridor and rail operations. These conditions are provided in the recommended development consent where appropriate.

Development Contributions

The applicant has advised that the landowner has entered into a Planning Agreement with SOPA in accordance with Section 93F of the EP&A Act 1979. The planning agreement requires the developer to make a monetary contribution that would contribute to the SOPA Infrastructure Contribution Framework, which provides appropriate funding for the delivery of SOP infrastructure, such as new and upgraded streets, open space and recreation, community facilities, public transport services, traffic management and utility services.

5. CONCLUSION

The Department has undertaken a merit assessment of the proposal taking into consideration the issues raised in the public submissions and is satisfied that the impacts have been addressed in the EIS and the RtS. The Department is of the view that the recommended conditions would adequately mitigate any environmental impacts of the proposal.

Despite the departure from the building height and FSR development standards in the MD SEPP, the Department is satisfied that the height, bulk and scale of the proposed development is appropriate, and would not result in any unreasonable visual or amenity impacts to adjoining residential properties or Bicentennial Park. The proposed building exhibits design excellence, was the subject of a design competition process and is supported by SOPA. The Department's assessment concludes it has a strong urban presence at the southern gateway to the town centre and would positively contribute to SOP.

The Department is satisfied that the range of proposed water management measures would improve water quality and the decommissioning of the existing detention pond on the site would have no adverse impact on the downstream receiving waters in Bicentennial Parklands.

The applicant has also provided a Biodiversity Offset Strategy (BOS) to offset any potential biodiversity impacts, which is supported by the Office of Environment and Heritage (OEH).

The proposed development would result in positive social impacts through the provision of associated public domain works, including a new neighbourhood park, pedestrian/cyclist shared paths and infrastructure that are designed to connect to and integrate with the adjoining Bicentennial Park and SOP town centre.

Based on the cumulative traffic generated by the proposal and adjoining sites to the north, the future intersection at the proposed new road and Bennelong Parkway is expected to operate at satisfactory level of service and there would not be any adverse impact on the wider road network.

The proposed development is consistent with the wider strategy to improve access and increase amenity to the surrounding area. The proposed development would also contribute to the establishment of a vibrant residential neighbourhood with significant benefits for the community by improving connectivity to key transport nodes and Bicentennial Park.

The Department is therefore satisfied the proposed development is generally consistent with the SOP Master Plan.

The proposal is therefore in the public interest. Accordingly, the Department recommends that the application be approved, subject to conditions.

6. RECOMMENDATION

In accordance with section 89E of the *Environmental Planning and Assessment Act 1979*, it is recommended that the Executive Director, Infrastructure and Industry Assessments:

(a) **consider** the finding and recommendations of this report;
(b) **approve** the development by granting consent for the mixed use development, subject to the recommended conditions; subject to conditions of consent set out in the attached development consent at **Appendix D**; and
(c) **signs** the attached development consent at **Appendix D**.

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18/6/15

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