

# STATEMENT OF ENVIRONMENTAL EFFECTS

## 86 CASTLEREAGH STREET, LIVERPOOL



16 APRIL 2018  
SA7152  
FINAL  
PREPARED FOR IL CAPITANO



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# 1. INTRODUCTION

This Statement of Environmental Effects (SEE) accompanies a Development Application (DA) submitted to Liverpool Council (Council) for a mixed-use development at 86-88, 90 and 92-92 Castlereagh Street; and 77 and 79 Bathurst Street, Liverpool. The DA is prepared on behalf of Il Capitano (the applicant) and involves a the demolition of existing buildings and structures, and erection of a development comprising a commercial and retail podium and residential apartments above within two tower forms; and basement car parking.

The SEE provides the information required under Section 4.15 of the Environmental Planning and Assessment Act 1979 (the EP&A Act).

## 1.1. REPORT STRUCTURE

This SEE identifies the subject site and surrounding locality, describes the proposed development and provides an assessment it against the relevant matters for consideration, pursuant to Section 4.15 of the *Environmental Planning and Assessment Act 1979* (the EP&A Act).

This report is structured, as outlined below:

- **Section 1:** Introduction
- **Section 2:** Site and surrounding context
- **Section 3:** Background
- **Section 4:** Proposed Development
- **Section 5:** Statutory Planning Framework
- **Section 6:** Assessment of Key Environmental Impacts
- **Section 7:** Section 4.15 Assessment
- **Section 8:** Conclusion

## 1.2. PROJECT TEAM

This Statement of Environmental Effects should be read in conjunction with the following architectural plans and specialist reports:

Table 1 – Supporting Documentation

Document title	Consultant	Appendix
Survey Plan	Burton & Field	Appendix A
Urban Context & Built form Principles Report	Urbis	Appendix B
Architectural Plans	AJ+C Architects	Appendix C
Traffic Report	GTA Consultants	Appendix D
SEPP 65 Design Report and Design Verification Letter	AJ+C Architects	Appendix E
Social Impact Assessment	Urbis	Appendix F
BCA Report	Blackett Maguire & Goldsmith	Appendix G

<b>Document title</b>	<b>Consultant</b>	<b>Appendix</b>
Conceptual Drawings for 60 Memorial Avenue and 3 -5 Norfolk Avenue	AJ+C Architects	Appendix H
Landscape and Public Domain Plan	Oculus	Appendix I
Preliminary Site Investigation Report (Contamination)	Douglas Partners	Appendix J
BASIX Certificate and NatHERS Certificate	SLR Consulting	Appendix K
Civil and Stormwater Report and Plans	AT&L	Appendix L
Heritage Impact Statement	Biosis	Appendix M
Liverpool DCP Compliance Table	Urbis	Appendix N
Arborist Report	Tree Technics	Appendix O
Section J Energy Efficiency Report	SLR Consulting	Appendix P
Acoustic Report	Acouras Consultancy	Appendix Q
Accessibility Report	Accessibility Solutions	Appendix R
Wind Report	SLR Consulting	Appendix S
Geotechnical Report	Douglas Partners	Appendix T
Waste Management Plan	Elephants Foot	Appendix U



## 2. SITE AND SURROUNDING LOCALITY

### 2.1. THE SITE AND SURROUNDS

The site is located towards the western fringe of the Liverpool centre on the corner of Castlereagh Street and Memorial Avenue. The site is approximately 4,333sqm and has three street frontages comprising a 45m frontage to Memorial Avenue on the northern boundary; a 60m frontage to Castlereagh Street on the western boundary; and a 37m frontage to Bathurst Street to the east.

The site comprises the following land parcels:

- 86-88 Castlereagh Street;
- 90 Castlereagh Street;
- 92-94 Castlereagh Street;
- 79 Bathurst Street; and
- 77 Bathurst Street.

The legal description of these land parcels is as follows: Lot 7,8,9,10,11 DP 7451, Lot 4 DP 800326 and SP 38492 (also known as Lot 5 DP 800326).

The site is currently occupied by a service station and automotive repair shop fronting Memorial Avenue at the north of the site. A two-storey commercial building that includes a two storey restaurant fronts onto Bathurst street in the south east corner of the site. Associated at grade car parking is accessed from Bathurst Street and extends to the site's Castlereagh Street frontage in which vehicular entry/exit is also available.

The site is generally level with only a slight gradient to the north-west corner towards Memorial Avenue. The survey plan attached in **Appendix A** provides further site details.

Figure 1 – The Site



Source: Urbis



Figure 2 – Site photographs



Picture 1 – View from Bathurst Street looking to the restaurant and car park



Picture 2 – View from Castlereagh Street looking to the car park



Picture 3 – View from corner of Memorial Avenue and Bathurst Street looking to the service station

Source: Google Maps



The site is immediately adjoined by the following development:

- To the north-east, an older single storey shop building at 60 Memorial Avenue. The building accommodates various small scale tenancies and provides at-grade car parking. The applicant has sought to purchase this land but has been unable to secure the land. This is further discussed in Section 3.
- South of the site, a two storey commercial building with zero front and side setbacks at 3 – 5 Norfolk Avenue adjoins the eastern portion of the site. The applicant has also sought to purchase this land but has not been unable to secure the land; and
- A 3 – 4 storey residential flat building at 96 -98 Castlereagh Street situated along the western portion of the site's southern boundary adjacent to the site's car park. This building is not consistent with the Apartment Design Guide (ADG) separation requirements.

Figure 3 – Adjoining land developments



Picture 4 – 60 Memorial Avenue looking east from corner of Bathurst Street and Memorial Avenue

Source: Google Maps



Picture 5 – 3 – 5 Norfolk Street viewed from corner of Bathurst Street and Norfolk Street.

Source: Google Maps



Picture 6 – 96 – 98 Castlereagh Street

Source: Google Maps



Picture 7 – 60 Memorial Avenue

Source: Google Maps

Opposite the site are low rise residential apartment buildings along Castlereagh Street and a range of commercial uses as well as future mixed-use developments incorporating tower forms currently under construction along Norfolk Street, Memorial Avenue and Bathurst Street.

Driveways front Memorial Avenue at the service station and shops along Memorial Avenue and Bathurst Street.

Figure 4 – Developments opposite the site



Picture 8 – Low rise apartments on Castlereagh Street

Source: Google Maps



Picture 9 – Higher rise tower forms currently under construction in the vicinity of the junction of Norfolk Street and Castlereagh Street

Source: Urbis



Picture 10 – Norfolk Street and commercial uses and higher rise tower forms

Source: Urbis



Picture 11 – Bathurst Street commercial uses opposite the site

Source: Google Maps

## 2.2. THE LOCALITY

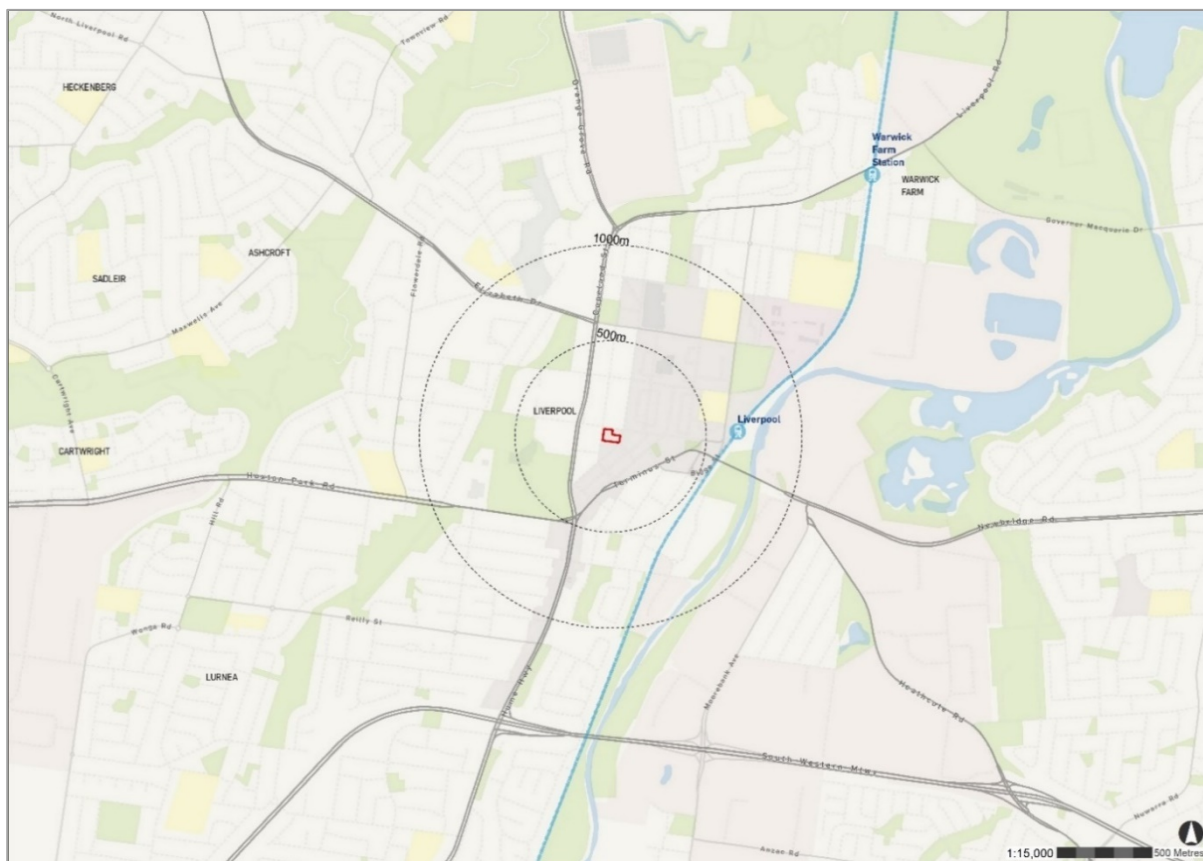
The site is located at the southern gateway of the Liverpool City Centre within an urban block bounded by Castlereagh Street, Memorial Avenue and Bathurst Street. The site has frontages on these three streets and is situated within an emerging precinct characterised by newly constructed mixeduse, high-density residential towers with commercial podium/ground-floor uses.

Key destinations located within an 800m or 10 minute walking catchment of the site includes:

- Liverpool train station.
- Retail, cafe and services located at Liverpool Westfield, Eat Street on Terminus Street and the revitalised promenade on Macquarie Mall.
- Significant areas of public open space such as the regional waterway of the Georges River to the east, Woodward Park and Brickmakers Creek to the west and the revitalised Bigge Park to the north-east.
- Community facilities including the Whitlam Leisure Centre, The Civic Precinct, Inspire Community Youth Centre new library, and future civic public space.



Figure 5 – Site Context



Source: Urbis GIS

## 2.3. TRANSPORT NETWORK

The site is situated within a 1.3 kilometre radius of major transportation hub including Liverpool Train Station which services the Sydney Trains T2 Inner West & South Line, the T3 Bankstown line and the T5 Cumberland and South West Rail Link services and a bus interchange with extensive services to Casula (865, 866), Campbelltown (870, 871 & 872), Carnes Hill (853), West Hoxton (854). A local bus stop with regular services to Liverpool is located approximately 50m west of the subject site on Memorial Avenue providing services to Parramatta, Edensor Park and Hinchinbrook.

## 2.4. URBAN CONTEXT KEY FINDINGS

A separate Urban Design report has been prepared by Urbis and is attached as **Appendix B**. The report provides a detailed site and local context analysis. Key findings are:

- The site is generally flat with minimal level change.
- The site has good northern orientation and frontage to Memorial Avenue and is well positioned to optimise solar access and cooling breezes.
- Vehicle access to the site could be facilitated on the southern boundary from Castlereagh Street.
- The site is set within a legible mixed-use precinct.
- Emerging mixed-use and high density developments comprise tower forms to the south on Norfolk Street.
- The proximity of the site to Liverpool CBD supports State Government policies for a '30-minute city'.
- The site adjoins the southern edge of the historic and walkable Hoddle Grid.
- Key pedestrian connections are situated along Memorial Avenue and along Bathurst Street.

- The site forms part of the southern gateway to Liverpool City Centre, demarcated by tall urban towers.
- The site has direct access to the train station and Hume Highway.
- The site is within easy walking distance to regional open space amenities and waterways.
- There is opportunity to provide a comfortable, canopied pedestrian experience along Memorial Avenue linking Woodward Park, Brickmakers Creek to the Georges River east of the site.
- The site has the potential for retail services uses to service a large residential catchment south of the main core demarcating the southern gateway redevelopment site.
- The site has potential to extend active street frontage along Memorial Avenue and Bathurst Street as primary and secondary retail frontage; Castlereagh Street frontage is a residential interface;
- There is opportunity to provide an activated edge within the sites' block to Memorial Avenue and Bathurst Street to optimise the pedestrian experience, passive surveillance and legibility of the site.
- There is opportunity to optimise the east-west pedestrian link on Memorial Avenue.
- There is opportunity to extend street activation to the western side of Bathurst Street and the southern side of Memorial Avenue.
- Recent mixed-use developments on 7-13 Norfolk Street and 100 Castlereagh Street illustrates that a tower typology can be easily delivered on large sites under single ownership.
- Surrounding sites and adjacent neighbours are limited in the ability to redevelop or amalgamate given its ownership constraints (strata) and the size of these blocks.
- Memorial Avenue has two street conditions:
  - West of Bathurst Street has various setbacks range from 3-12m, which create opportunities for public domain enhancements to provide pedestrian comfort along this important east-west spine.
  - East of Bathurst Street has a single 0m setback, which create a consistent street demarcating retail street frontage.
- A 10m setback on Memorial Avenue reflects the current condition of the site and could provide improved landscape and public domain outcomes.

Refer to **Appendix C** for further details.

## 3. BACKGROUND

### 3.1. PRE-LODGEEMENT MEETING

A pre-lodgement meeting with Council planning officers and engineers occurred on 18 July 2018. The comments raised by council were mainly centred upon the scale and size which was considered to represent a significant departure from Council's development controls; the isolation of adjoining sites; and concerns with the range of uses and potential conflicts associated with servicing and access.

The scheme has been amended to reduce the scale of the development to comply with the FSR standard and has reduced the extent of commercial and retail floor space. A copy of the architectural drawings by AJ+C Architects are attached in **Appendix C**. Conceptual design planning of the adjacent sites also identify that these sites can be redeveloped in accordance with Council development controls.

The table below provides a summary of the written feedback received from Council officers following the pre-lodgement meeting and the applicant's response and changes to the scheme.

Table 2 – Pre-lodgement Meeting Matters

Matter	Response
<b>Development Planning</b>	
<p><b>Amalgamation</b></p> <p>Concerns to the isolation of adjoining sites and required the amalgamation of the adjoining sites at 60 Memorial Avenue and 3-5 Norfolk Street, so as to enable a cohesive development of the remainder of the block.</p> <p>If amalgamation is unable to be achieved, evidence to be provided demonstrate the adjoining sites can be re-developed to the same intensity and scale of the proposal, and achieves the objectives and controls for development within the Liverpool City Centre.</p>	<p>The applicant has undertaken negotiations with these landowners but has not been able to secure the sites. This is further discussed in Section 3.3.</p> <p>AJ+C Architects have undertaken conceptual planning of these sites to investigate the development potential of these sites in isolation. These sites are able to be redeveloped as a mixed use scheme within a 4 – 5 storey form that represents a visual extension of the proposed building podium. This is further discussed in Section 3.3.</p>
<p><b>Floor Space Ratio</b></p> <p>Pursuant to Clause 4.4 of LLEP 2008, the maximum FSR for the subject site is 6:1. The plans provided for the proposed development indicate that the FSR will be 7.5:1. A variation to the development standard would not be supported.</p>	<p>The scheme has been revised to comply with the 6:1 FSR.</p>
<p><b>Ground Floor Retail</b></p> <p>Concerns associated with a supermarket use, along with other traffic generating land uses, although permitted with consent in the B4 zone, may not be suitable for the site and the locality. Competing traffic and servicing arrangements are unlikely to be adequately resolved unless the applicant reconsiders the mix and scale of ground floor retail premises so that it is suitable for the site and locality.</p>	<p>The scheme has been revised to reduce the extent of commercial floor space but retain space for a two storey restaurant fronting Memorial Avenue and retail spaces fronting Bathurst Street.</p>

Matter	Response
<p><b>Memorial Avenue</b></p> <p>The setback of the proposal from Memorial Avenue is inconsistent with the desired nil setback to Memorial Avenue under the development control plan. This nil setback applies to properties along Memorial Avenue.</p> <p>Acknowledges the pedestrian activation opportunities associated with the proposed restaurant and the setback but Council seeks to implement a consistent building alignment in the streetscape and reinforce the geometry of the street grid pattern.</p>	<p>The revised scheme maintains the proposed setback from Memorial Avenue. This is further discussed in Section 6.1.</p>
<p><b>Height of Buildings</b></p> <p>Pursuant to Clause 4.3 of the LLEP 2008, the maximum building height for the subject site is 80m. Any future designs shall comply with the maximum height requirements of the LLEP 2008.</p>	<p>The revised scheme has been amended to comply. The maximum height is now below 80m. The West Tower is 79.8m and East Tower is 63m.</p>
<p><b>Built Form</b></p> <p>The proposed built form is consistent with the envisioned built form design sought under the DCP of a podium level of four to six storeys up to the street frontage and tower structures above, recessed further back from the street in order to provide a human scale for the locality.</p>	<p>No changes are proposed to the street setback of the tower forms. This is to maximise the extent of solar access to the adjacent southern apartments at 96 – 98 Castlereagh Street.</p> <p>The distinction between tower forms and the podium will differentiate and break the scale of the building. This is further discussed in Section 6.1.</p>
<p><b>Building Separation</b></p> <p>Insufficient setback of the eastern tower from the northern and southern property boundary, proposed at 6m with respect to ADG setback and building separation requirements. Concerns with potential restriction for the ability of the southern and northern adjoining sites to re-develop to full maximum potential in accordance with the LLEP and LDCP, unless greater setbacks are provided from the adjoining sites.</p>	<p>Proposed setback of the eastern tower from the northern boundary have been marginally increased by some 600mm; and to a lesser extent 36mm from the southern boundary.</p> <p>The adjacent sites would not be able to accommodate tower forms as these sites are limited to a maximum FSR of 2.61:1 (60 Memorial Avenue) and 2.5:1 (3-5 Norfolk Avenue).</p> <p>Having regard to the 4 – 5 storey podium form as sought in the DCP, the future built form on these sites would be limited to a 4 – 5 storey building envelope that could be visually integrated with the proposed building envelope.</p> <p>This is discussed further in Section 3.3.</p>
<p><b>Drive Thru</b></p> <p>Part 4 of LDCP states that no vehicular access is permitted on Bathurst Street and Memorial Avenue. The proposed drop-off zone within the proposed setback</p>	<p>The scheme has been revised to remove the Bathurst Street drop off zone.</p>



Matter	Response
<p>from Bathurst Street is inconsistent with this requirement.</p>	
<p><b>Car Parking</b></p> <p>The car parking required for the development is to comply with Clause 7.3 Car Parking in Liverpool city centre of LLEP 2008;</p> <p>The car parking required for the residential component of the development shall be consistent with the applicable parking rate in Part 4 of the LDCP 2008; and</p> <p>Any car parking in excess of the minimum requirements above or below ground level is to be included as part of a building's gross floor area</p>	<p>As detailed in the Traffic Assessment at <b>Appendix D</b>. The proposed development requires 318 car spaces and 318 car spaces are proposed, meeting this requirement.</p>
<p><b>Apartment Mix</b></p> <p>Studio and one bedroom units must not be less than 10% of the total mix of units within each development; and</p> <p>Three or more bedroom units must not to be less than 10% of the total mix of units within each development</p>	<p>The proposal provides:</p> <p>28 One-bedroom units (10.6%)</p> <p>206 Two-bedroom units (78%)</p> <p>30 Three-bedroom units (11.4%)</p> <p>The proposal is therefore compliant.</p>
<p><b>Communal Open Space</b></p> <p>3D of SEPP 65 requires that a minimum of 25% of the site is designated as communal open space. Having regard to the submitted plans, an open landscape area is located on Level 1 which does not equate to 25% of the site.</p> <p>Residents of the eastern tower fronting Bathurst Street will not have satisfactory access to this area of communal open space. This is not acceptable and direct, equitable access should be provided to communal open space for all residents of the proposed development.</p>	<p>1,805 sqm of the site is provided as communal open space (including 450sqm of plaza space). This accounts for 41.6% of the total site area.</p> <p>The proposal has been redesigned to enable residents from both towers to access the open space at Level 1.</p>
<p><b>Adaptable Housing</b></p> <p>For residential flat buildings and multi-unit housing, 10% of all dwellings must be designed to be capable of adaptation for disabled or elderly residents. Dwellings must be designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995), which includes "pre-adaptation" design details to ensure visitability is achieved.</p>	<p>The proposed development provides 9% adaptable units but provides 23% of Liveable apartments which is greater than the minimum 20% required under the Apartment Design Guidelines. The development comprises satisfactory arrangements for flexible living. Refer to the Accessibility report under <b>Appendix R</b> for further details.</p>
<p><b>Child Care Centre</b></p>	<p>A child care centre has been removed from the scheme as part of the revised proposal following</p>

Matter	Response
Design to ensure no significant noise impacts to adjoining properties.  Design to meet maximum numbers of children; minimum indoor and outdoor play areas; and solar access to outdoor play areas.	Council concerns in regard to competing traffic and servicing arrangements between the extent of previously proposed retail and commercial spaces.
<b>Design Excellence Panel (DEP)</b>  Recommend to present the scheme to Council's Design Excellence Panel.  All SEPP 65 apartment buildings must be designed by a qualified architect and their registration number is to be shown on all drawings.	The scheme was presented to the Design Excellence Panel on the 13 September as discussed in Section 3.2 below.  Plans have been prepared by AJ+C, qualified architects.
<b>State Environmental Planning Policy No 65 – Design Quality of Residential Apartment Development</b>  The development is to be compliant with SEPP 65 and the accompanying Apartment Design Guide.	AJ+C has prepared SEPP 65 and ADG compliance table which identifies general compliance with SEPP 65 and ADG standard requirements. This is attached at <b>Appendix E</b> .

## 3.2. DESIGN EXCELLENCE PANEL FEEDBACK

On 13 September 2018, the applicant and AJ+C and Urbis attended a Design Excellence Panel (DEP) at Council. The nine design principles associated with Apartment Design Guide were considered by the panel in discussion of the concept plans. In summary, the DEP mainly raised concerns in regard to the scale and intensity of uses and recommended reducing the FSR. The following matters identified in the DEP minutes are summarised and responded to in the table below.

Table 3 – Design Excellence Panel Matters

Matter	Response
The panel noted that the proposal is within the permissible building height limit but were also advised that the proposal exceeded the maximum permissible FSR for the site. The Panel recommends that the proposal be amended to comply with the permissible FSR	The revised scheme complies with the FSR.
The proponent advised that the built form, mass and scale of the scheme have been influenced by the objective of minimising the overshadowing impact upon neighbouring sites, particularly the RFB to the south.  The Panel supports the aim of protecting the solar access of adjacent sites.	Noted.
The Panel raised concerns about the isolation of adjoining sites as discussed during the Pre-DA meeting with Council officers and recommended amalgamation of the sites.	Refer to discussion above and in Section 3.3.  All facades of the buildings will be appropriately articulated.

Matter	Response
<p>If the sites cannot be amalgamated the proponent should propose a development that acknowledges and responds to the adjoining sites limited future potential development in terms of urban design, scale, boundary treatment and view lines.</p> <p>Unarticulated zero lot line buildings are not acceptable where the adjacent sites will not likely be developed in a similar way</p>	
<p>The Panel appreciated that the plaza to Memorial Avenue provides for a greater setback than that identified in the Liverpool LEP.</p> <p>The Panel considered that the departure from the guideline needed to be appropriately detailed and justified.</p> <p>The future development of the adjacent site, and the potential for this site to develop to the DCP set back, must be taken into account.</p>	<p>Noted. Refer to discussion in Section 6.1</p>
<p>The Panel questioned how the demands of the diversity of proposed land uses (including supermarket, restaurant, child care centre, office tower and two residential towers) will be addressed particularly in terms of servicing access to car parking via a single point from Castlereagh Street.</p> <p>The Panel supports the single entry point but questions the diversity of functions that will require car access via this entry. Confusion between supermarket customers, child care customers, office and residential uses is likely.</p> <p>The proponent should make a clearer strategy for addressing the use of the car park.</p>	<p>This is addressed by reducing the extent of commercial floor space. Child care and the supermarket has been removed from the proposed development.</p>
<p>The proponent indicated that discussions have taken place with the prospective supermarket operator. Smaller sized trucks, capable of utilising the proposed turntable, will be used instead of semi-trailers to deliver goods.</p>	<p>The supermarket use is removed from the scheme.</p>
<p>Resident access to COS and the swimming pool is inequitable.</p> <p>Residents in the east tower will be required to walk around the building or going down to the basement carpark and then up to the first floor COS.</p> <p>The Panel did not support such arrangements.</p>	<p>The scheme has been amended to allow access for residents from both towers to the communal open space and swimming pool from the eastern tower on level 1.</p>

Matter	Response
<p><b>General</b></p> <p>Note: All SEPP 65 apartment buildings must be designed by an architect and their registration number is to be on all drawings.</p> <p>The architect is to attend the DEP presentations.</p>	Noted.
<p><b>Quality of construction and Material Selection</b></p> <p>Consideration must be given by the applicant to the quality of materials and finishes. All apartment buildings are to be made of robust, low maintenance materials and be detailed to avoid staining weathering and failure of applied finishes. Render is discouraged.</p>	As discussed in Section 4.2.1, the proposed building materials and finishes will be of high quality creating a robust, modern and visually appealing scheme.
<p><b>Floor-to-floor height</b></p> <p>The panel recommends a minimum 3050 to 3100mm floor-to-floor height so as to comfortably achieve the minimum 2700mm floor-to-ceiling height as required by the ADG.</p>	A 3100mm floor to floor height has been provided please refer to Drawing no. DA3203, at <b>Appendix A</b> .
<p><b>Sectional Drawings</b></p> <p>Sectional drawings at a scale of 1:20 of wall section through with all materials, brickwork, edging details to be submitted.</p>	Sectional drawings have been included in the Architectural Plans at <b>Appendix A</b> , Drawing No. DA4101 and DA4102.

### 3.3. OTHER MEETINGS WITH COUNCIL

Following the formal pre-DA meeting and DEP, further consultation was undertaken with Council:

- Between Urbis' social planning consultants, AJ+C and Council officers for the purpose of preparing a Social Impact Assessment was carried out on the 14 January 2019. The matters raised during his consultation are discussed in the attached Social Impact Assessment under **Appendix F**.
- Between Urbis' urban design consultants AJ+C and Council officers including the Manager of City Design & Public Domain on 5<sup>th</sup> of February 2019 to discuss the proposed setback from Memorial Avenue and the associated plaza space. The following table provides a summary of matters raised and the applicant's response.

Table 4 – Urban design comments

Matter	Response
Concerns that the setback and design would not result in a good public domain for the street and community. The interface with neighbouring properties will need to be carefully considered and a design must include the ability to develop the neighbouring property and have a successful public domain on both sites.	<p>Several options have been included in the Urban Design Report in <b>Appendix B</b> which consider how the adjoining site at 60 Memorial could integrate with the plaza.</p> <p>This includes establishing a 'green wall' to the eastern boundary or a public art / mural piece. Another option includes the potential for the ground floor of 60 Memorial Avenue to</p>

Matter	Response
	incorporate a glazing at the eastern interface to the plaza if this site was redeveloped.
Further justification to the setback will be required but it was expressed that a 10m setback was excessive and that smaller setbacks have been evident with high quality landscape features.	Examples of 10m wide plazas are provided in the report which demonstrate that the width suitably accommodates landscaping and useful areas for the community to meet and passively use. It is not intended to provide a reduced public domain space that does not provide a significant benefit to the community.
Concerns with an exhaust from the proposed restaurant venting onto the podium landscape.	There is no exhaust associated with a restaurant that vents onto the podium landscape.
Incorporation of an additional tree in the streetscape design along Castlereagh Street.	This can be incorporated as part of the detailed landscape design plan.
Review the setback and design of the entrance and public domain along Bathurst Street. Incorporate public domain elements including street furniture.	No changes have been incorporated.

- Receipt of additional comments from Council officers on the 15 February 2019 in respect to community planning; waste management; environmental health; and economic impacts as summarised in the table below.

Table 5 – Additional Council comments received 15 February 2019

Matter	Response
<p>Community Planning</p> <ul style="list-style-type: none"> <li>• Preference for a mixed use development that provides a range of services to the community such as a child care centre and supermarket use.</li> <li>• A minimum of 10% of dwellings shall be capable of adaptation with associated accessible parking spaces.</li> <li>• Consider increasing the number of 1 bedroom units.</li> <li>• Exploring passive cooling - heating, and especially green roof and wall incentives.</li> </ul>	<ul style="list-style-type: none"> <li>• DA has deleted the originally planned child care centre and supermarket due to site constraints and to address the concerns raised by planning officers and the DEP on the potential vehicular conflict between land uses.</li> <li>• It is proposed to include 9% adaptable dwellings which is consistent with the intent of Council's DCP requirement of 10% and 23% of the dwellings will include design features complying with the Silver Level Livable Housing Guidelines.</li> <li>• The dwelling mix includes a range of dwelling types to meet varied needs whilst green roofs are incorporated over podium level and amongst other levels and areas of the building.</li> </ul>
<p>Waste Management</p> <ul style="list-style-type: none"> <li>• Council will only be collecting the waste from the residential portion of the property. Council does not provide commercial waste services. The commercial entities in the building will need to engage private waste contractors.</li> </ul>	Noted.

Matter	Response
<ul style="list-style-type: none"> <li>Waste streams will from the residential and commercial portions of the building will be kept separate at all times.</li> <li>Council will be requiring all waste to be collected from within the building, bins on the street will not be an option for such a high profile CBD location.</li> </ul>	
<p>Environmental Health</p> <ul style="list-style-type: none"> <li>An acoustic assessment is required with consideration to the impact of road traffic noise, patron noise from diners, mechanical plant and the like.</li> <li>Compliance with relevant Australian Standards and, the Food Act 2003 and the Food Standards Code for the restaurant and kitchen design.</li> <li>An air quality assessment will need to be submitted if charcoal is used for cooking.</li> <li>All retail premises shall have the required provisions (mechanical exhaust penetrations and discharge locations) to enable the future use of food premises in accordance with AS 1668.</li> <li>Adequate size and number of grease traps (and their locations) should be incorporated in the development in accordance with Sydney Water's requirements.</li> </ul>	<p>An acoustic report is lodged with the DA under <b>Appendix Q</b>.</p> <p>Other matters are noted.</p>
<p>Economic impacts</p> <ul style="list-style-type: none"> <li>Submission of an Economic Impact Assessment if the DA includes a new supermarket.</li> </ul>	<p>A supermarket does not form part of the DA.</p>

### 3.4. SOUGHT AMALGAMATION OF SITES

The adjacent site, 60 Memorial Avenue on the corner of Memorial Avenue and Bathurst Street comprises an older strata titled retail / commercial development and immediately adjoins the site to the north. The inclusion of this property as part of the site would provide an opportunity to revitalise this corner and provide for a larger and logical extension of the site.

The landowner of the site has undertaken processes to purchase this land, in addition to the property immediately to the south, which comprises a two storey commercial building at 3 – 5 Norfolk Street. Despite the best efforts of the landowner of the site to make a reasonable offer to the owners of the isolated sites at the level of a market valuation, an agreement has not been able to be reached between parties.

The developer has therefore sought to proceed with preparing a development scheme that excludes these properties but is designed in a manner that could integrate visually as an extended 4 - 5 storey podium form and operationally at a basement level.

The Land and Environment Court has established 'planning principles' describing the desired outcome, and list of appropriate matters to consider, for the potential isolation of sites by the redevelopment of adjacent sites. These principles are set out in the following cases:

- *Melissa Grech v Auburn Council [2004] NSWLEC 40 at 51; and*
- *Cornerstone Property Group Pty Ltd v Warringah Council [2004] NSWLEC 189 at 31-34.*
- *Karavellas v Sutherland Shire Council [2004] NSWLEC 251*

The law under these planning principle decisions set out what is required when dealing with any site isolation issue for an assessment of whether the purchase and amalgamation of the site is feasible.

Each of these matters in respect of the steps established in the Planning Principles are addressed below:

**1. Is amalgamation of the DA site with 60 Memorial Avenue and 3 – 5 Norfolk Street feasible?**

- *Firstly, where a property will be isolated by a proposed development and that property cannot satisfy the minimum lot requirements then negotiations between the owners of the properties should commence at an early stage and prior to the lodgement of the development application.*

**Response:** In accordance with Liverpool Local Environmental Plan 2008 (LLEP 2008), Clause 7.14 provides a minimum building street frontage of 24m for the redevelopment of sites zoned B4 Mixed Use.

The frontage to Memorial Avenue of No. 60 measures approximately 42m and as such meets the minimum requirement and includes a depth of 24m such that a redevelopment of the site is possible. Similarly, the dimensions of 3 – 5 Norfolk Street with a street frontage of 33m and variable dimensions of 24m to the rear; 17m to the south and 39m to the north, adjoining the site provides for potential redevelopment opportunities. This is further discussed below.

- *Secondly, and where no satisfactory result is achieved from the negotiations, the development application should include details of the negotiations between the owners of the properties. These details should include offers to the owner of the isolated property. A reasonable offer, for the purposes of determining the development application and addressing the planning implications of an isolated lot, is to be based on at least one recent independent valuation and may include other reasonable expenses likely to be incurred by the owner of the isolated property in the sale of the property.*

**Response:** From December 2017, the owner of the subject site undertook market valuation and processes towards purchasing the properties at 60 Memorial Avenue and 3 – 5 Norfolk Street. This includes independent valuations prepared by MJ Davis Realty Appraisals commissioned by the owner of the site; as well as the requested purchase price of parties that were interested in selling.

- *Thirdly, the level of negotiation and any offers made for the isolated site are matters that can be given weight in the consideration of the development application. The amount of weight will depend on the level of negotiations, whether any offers are deemed reasonable or unreasonable, any relevant planning requirements and the provisions of s 79C of the Environmental Planning and Assessment Act 1979.*

**Response:** Despite the best efforts of the landowner of the site to make a reasonable offer to the owners of the isolated sites at the level of a market valuation, an agreement has not been able to be reached between parties.

**2. Can orderly and economic use and development of the separate sites be achieved if amalgamations is not feasible?**

- *In answering this question the key principle is whether both sites can achieve a development that is consistent with the planning controls. If variations to the planning controls would be required, such as non-compliance with minimum allotment size, will both sites be able to achieve a development of appropriate urban form and with acceptable level of amenity.*
- *To assist in this assessment, an envelope for the isolated site may be prepared which indicates height, setbacks, resultant site coverage (both building and basement). This should be schematic but of sufficient detail to understand the relationship between the subject application and the isolated site and the likely impacts the development will have on each other, particularly solar access and privacy impacts for residential development and the traffic impacts of separate driveways if the development is on a main road.*

**Response:**

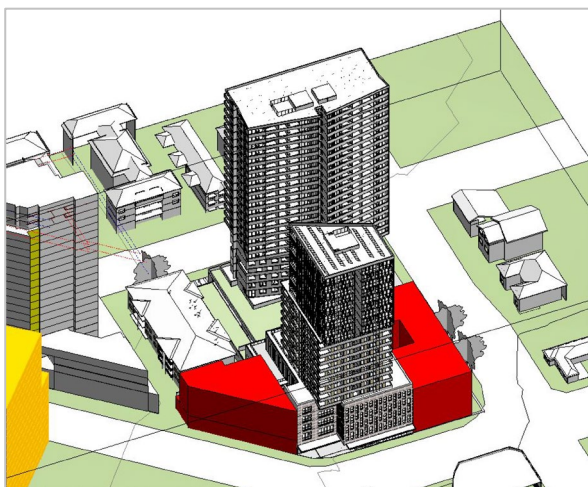


Conceptual planning by AJ+C Architects, as submitted with this DA demonstrate that No. 60 Memorial Avenue is able to accommodate a mixed use building of 4 - 5 storeys comprising 842sqm of retail floor space and 24 residential dwellings. Refer to **Appendix H** for conceptual drawings.

As part of the basement drawings for the subject project, the basement level is designed to provide opportunity for future connection to a future basement with 60 Memorial Avenue. This property currently has vehicular access off Memorial Avenue but is situated within close proximity to the busy intersection of Memorial Avenue and Bathurst Street and is not ideal for accommodating the intensification of cars and service vehicles utilising this access point. In addition, a sufficient 'dive depth' into a basement from Memorial Avenue would not be achieved.

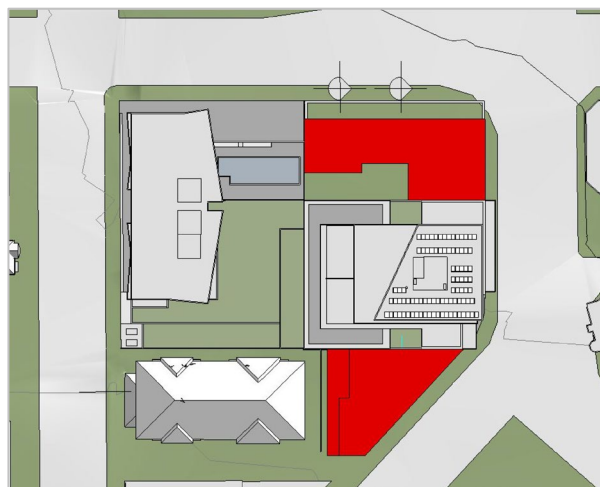
As part of the conceptual planning exercises, a future envelope was also investigated for the irregular shaped lot, immediately south of the site at 3 – 5 Norfolk Street which identifies a potential mixed use development up to a height of 4 - 5 storeys comprising 478sqm of retail spaces and 14 residential dwellings. Refer to **Appendix H** for conceptual drawings.

Figure 6 – Conceptual planning adjacent sites shaded in red



Picture 12 – Potential future building massing forms adjacent sites

Source: AJ+C Architects



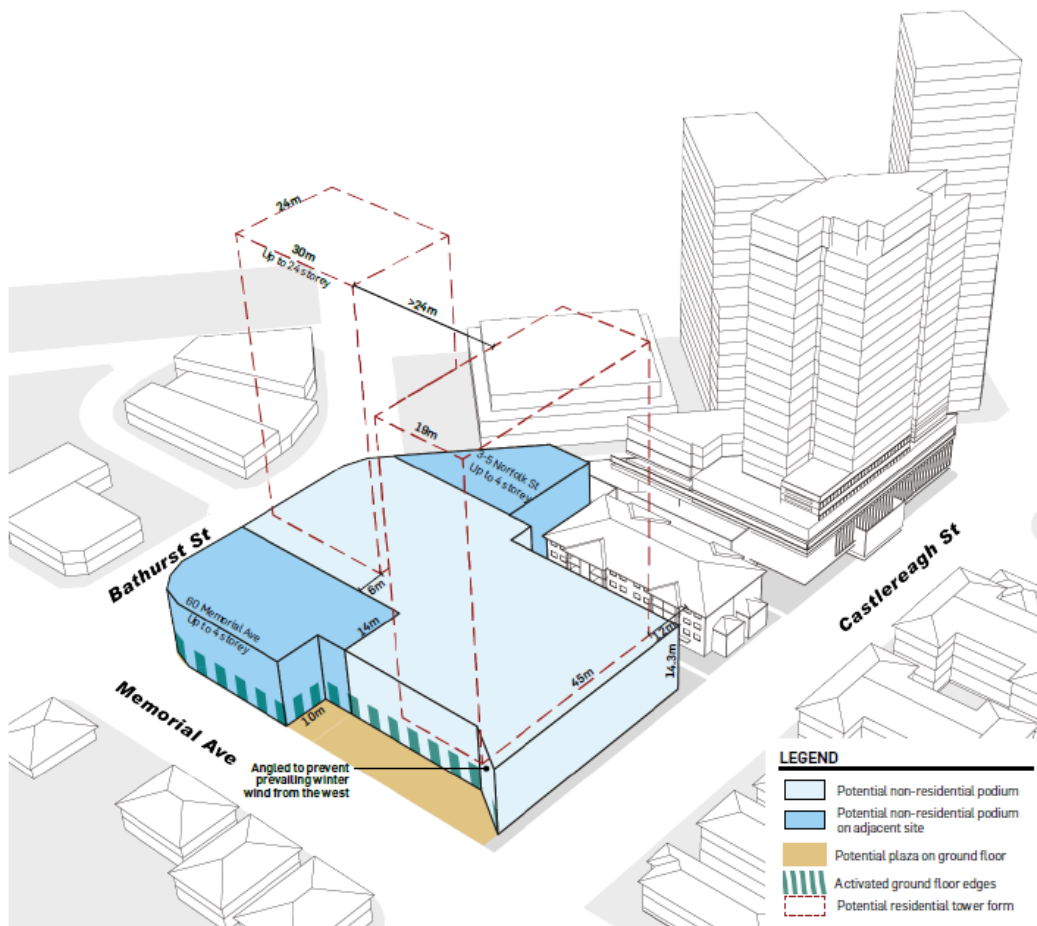
Picture 13 – Potential future floor plans of adjacent sites

Source: AJ+C Architects

The Urban Design report by Urbis also undertook an analysis of the potential built form for these adjacent sites which identified maximum development potential can be readily achieved within a consistent podium height as illustrated below as well as responding to the proposed plaza. Further detail is available in **Appendix B**.



Figure 7 – Development potential for adjacent sites



Source: Urbis

- The subject application may need to be amended, such as by a further setback than a minimum in the planning controls, or the development potential of both sites reduced to enable reasonable development of the isolated site to occur while maintaining the amenity of both developments.

**Response:** The conceptual planning of the future built forms is designed to reflect a 4 - 5 storey equivalent form. When viewed in context with the subject site, all three sites are visually perceived as a cohesive and integrated built podium form with a two storey tower above. This is the most appropriate design outcome.

Internal planning for the residential dwellings of the isolated sites indicate that reasonable separation may be achieved between sites with further detailed planning to be undertaken for these sites if were sought to be redeveloped.

## 4. PROPOSED DEVELOPMENT

### 4.1. DEVELOPMENT SUMMARY

The proposed development comprises:

- Demolition of all buildings and structures on the site and excavation to accommodate three levels of basement car parking.
- A podium form of 4 storeys that includes retail and commercial spaces at ground level, including two level restaurant that is partly located on Level 1 and dwellings on Levels 1 to 3.
- Two residential towers comprising a total of 264 dwellings comprising of the following dwelling mix:
  - 28 One-bedroom units (10.6%).
  - 206 Two-bedroom units (78%).
  - 30 Three-bedroom units (11.4%).
- The western tower off Castlereagh Street comprises 20 storeys (measured above the 4 storey podium); and the eastern tower, off Bathurst Street comprises 14 storeys (measured above the 4 storey podium).
- A gross floor area of 25,998sqm and floor space ratio of 6.00:1.
- Three levels of basement car parking which includes opportunity for future connection with a basement associated with a future redevelopment at 60 Memorial Avenue.
- The proposed development adopts a zero-street alignment to Bathurst Street as required by the DCP and provides a 10m setback along Memorial Avenue to create a publicly accessible plaza with dimensions 42.7m and 10m.
- Street alignment from Castlereagh Street is 2.5m, consistent with the Liverpool DCP.
- Tower forms that are distinct from the lower level podiums by building articulation and design treatment as opposed to adopting 6m setbacks above street frontage heights.
- Communal landscaping and recreational spaces on the upper podium level; as well as outdoor area associated with a child care centre.
- 318 carparking spaces accessed from Castlereagh Street towards the southern boundary of the site.
- Landscaping works including deep soil planting along Memorial Avenue, a landscape buffer to 90-92 Castlereagh Street and appropriate landscaping on level 1 of the development, landscaped terrace on level 4 of the West Tower and level 8 of the East Tower.
- Opportunity for future connection with a basement associated with a future redevelopment at 60 Memorial Avenue.
- Required infrastructure and servicing.

Architectural Plans prepared by AJ+C Architects are included at **Appendix C**. Key numeric aspects of the proposal are provided below and the various components of the proposed development are described in the following sections.

Table 6 – Numeric Overview of Proposal

Parameter	Proposed
Site Area	4,333sqm
Land Use	Commercial, retail, residential dwellings

Parameter	Proposed
Height	Western tower 79.8m and Eastern Tower 59.8m
Floor Space Ratio	6:1 FSR
Number of apartments	264
Dwelling mix	28 One-bedroom units (10.6%) 206 Two-bedroom units (78%) 30 Three-bedroom units (11.4%)
Landscape area	2,218sqm (ground level, level 1 and level 4)
Communal open space	1,335sqm approximately 31.3% of the site
Deep Soil Planting	142sqm approximately 3.2% of the site
Parking	<ul style="list-style-type: none"> <li>318 car parking spaces including: <ul style="list-style-type: none"> <li>306 residential spaces including 27 visitor spaces</li> <li>12 retail/commercial and restaurant spaces</li> </ul> </li> <li>16 motorbike spaces</li> <li>182 bicycle spaces.</li> </ul>

## 4.2. BUILDING DESIGN

The rationale for the design of the project is expressed by AJ+C, the architects below:

*We envisage this to be a high quality and attractive precinct to revitalize the surrounding area, and propose an active and human scaled street presence along all street frontages that enhance and complement the existing context and public domain.*

*The proposed street wall at the lower levels relates to the immediate context and aims to unify the city block bounded by Memorial Avenue, Castlereagh, Bathurst and Norfolk Streets into a coherent whole. Building entries activate each frontage, with awnings and overhangs to ensure a comfortable and safe public domain.*

*Above the street, two distinctive residential towers are proposed; the western tower marks the corner of Memorial Avenue and Castlereagh Street, framing vistas along these streets, and the eastern tower marks the corner of Bathurst and Norfolk Streets, marking the entry point to the suburb from the south west.*

*The two towers have distinct forms and expressions which reflect the unique site influences acting on each building and together create a dynamic and mixed precinct, avoiding the monotonous appearance of some recent development in the area. They have been shaped by sun and view angles to and from neighbouring properties, which ensures that existing amenity is respected and at the same time creating distinctive forms.*

*The western tower benefits from views to the west over parklands to the Blue Mountains beyond; the design aesthetic is generated by the need to provide outlook and solar protection to the west, with broad balconies covering the majority of the western elevation. These have been subtly angled and inflected to create a visually interesting and dynamic aesthetic.*

*The eastern tower has been shaped to incorporate a more commercial aesthetic with a smaller residential floor plate above, with further stepping and angling on the upper levels to respect sun and view angles to and from neighbouring properties. The design aesthetic reflects the commercial nature of Bathurst Street with the residential uses combined into a coherent whole using a language*

*of vertical sun-shading blades and a stepped and angled form to read as a series of stacked volumes with subtle shifts creating visual tension in the elevation.*

*Resident outdoor areas and amenities have been placed between the two towers on the roof of the retail spaces, creating a private, protected space with good solar access for the residents. The landscaped courtyard recognizes the likelihood of family demographic with a kid-friendly 'urban backyard' quality.*

*The design recognises the status of Memorial Avenue as a shopping street by locating retail spaces on the Memorial Avenue frontage. The proposed plaza extends the public domain into the site and addresses a lack of public spaces in this part of Liverpool. The plaza offers planting and street furniture, creating a comfortable and inviting place to sit and gather with potential for outdoor seating for future restaurants or cafes.*

*The plaza is sheltered from prevailing westerlies by extending the lower levels of the building out to the Memorial Avenue and Castlereagh Street corner. The western tower extends over the western part of the plaza to offer shade in the prevailing hot and dry microclimate and potential for all weather use of the outdoor space.*

#### **4.2.1. Finishes and Materials**

Architectural Plans at **Appendix C** provides a schedule of finishes, as well as details and diagrams of the proposed colours and materials. The material selection is considerate of the total lifecycle and longevity of products. The colour selection is strong but elegant with a mix of light and dark colours, avoiding strong colours which may date. This includes:

- Dulux Electro Fresh Gold Louvre Screens
- Pearl white Aluminium white fins
- Shoji white balcony frames
- Magnolia exterior wall
- Tuscan sunset blade walls to balconies
- Silver slide exterior walls
- Light and dark coloured brick walls
- Precast concrete panels with shaded line painted

Figure 8 – Built form and Material Schedule



Source: AJ+C Architects

### 4.3. ACCESS AND CAR PARKING

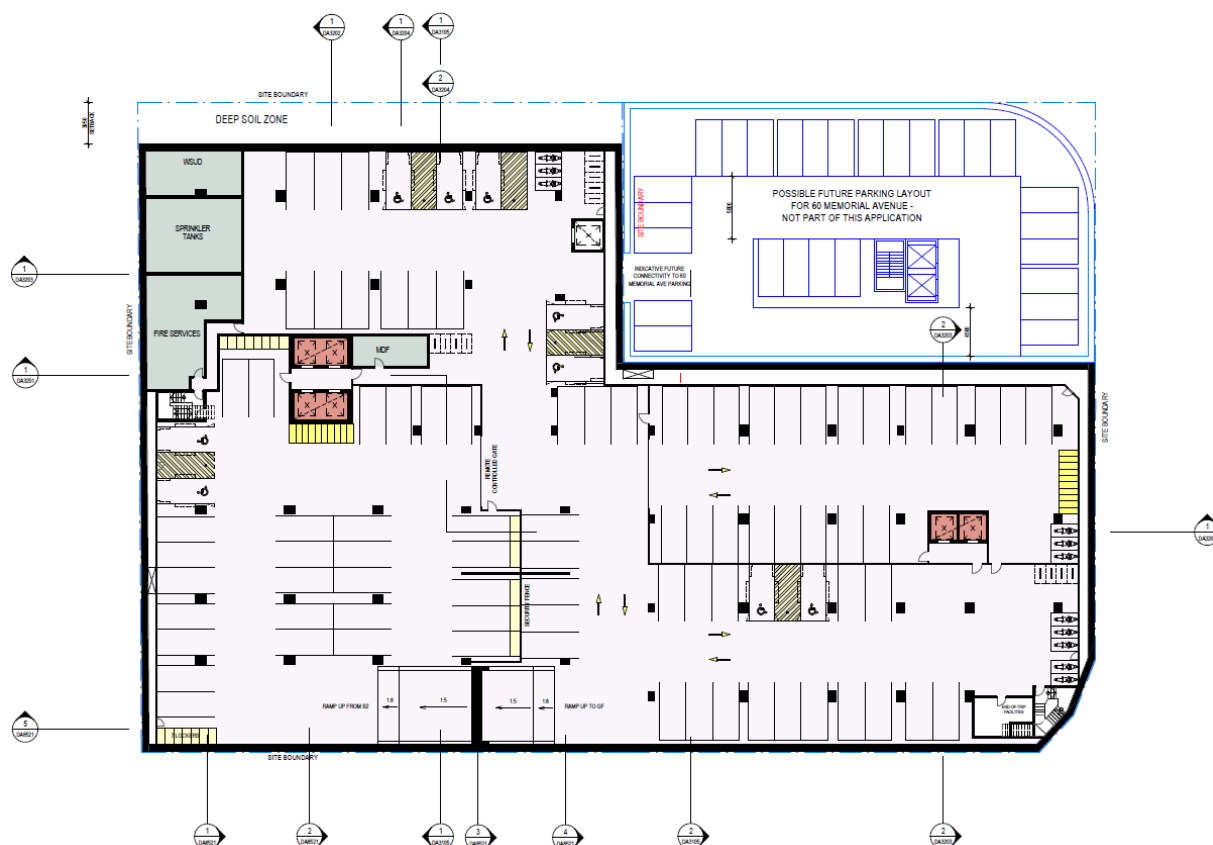
Car parking will be provided over 3 basement levels. 318 car parking spaces including 27 accessible spaces, as well as 16 motorcycle spaces and 182 bicycling parking with associated lockers.

Access is provided via a ramp on the south side of the site on Castlereagh Street. This is a two-way vehicle access arrangement.

Lift access is provided to the basement car parking on each level. Two lifts are available for East Tower and 4 lifts are provided for the West Tower.

The architectural plans demonstrate that the potential for future connection to a basement parking level with 60 Memorial Avenue.

Figure 9 – Car Parking Arrangement for Basement 1 and proposed for connectivity to 60 Memorial Avenue



Source: AJ+C Architects

## 4.4. LANDSCAPING

The proposed scheme has been designed to incorporate a range of landscaped spaces to provide for a range of passive recreational opportunities including a publicly accessible plaza. Extensive landscaping will be provided on Level 1 which includes a 1,052sqm common area with swimming pool; and a landscaped buffer zone to 90-98 Castlereagh Street of some 271 sqm (6.2% of the site).

A landscaped roof terrace is proposed on level 4 of the West Tower fronting Memorial Avenue providing a residential common outdoor area of some 303 sqm in size. Further landscaped area will be provided on Level 8 of the East Tower.

A total of 142sqm of deep soil planting will be provided fronting Memorial Avenue which will provide landscaped elements amongst a paved publicly accessible plaza of 450sqm.

Refer to **Appendix I** for proposed landscape plans.



Figure 10 – Landscape Plan



Source: Oculus

Figure 11 – Photomontage of level 1 landscaped area



Source: AJ+C Architects

## 5. STRATEGIC PLANNING CONTEXT

### 5.1. GREATER SYDNEY REGION PLAN 2018

There is a clear alignment between high-level strategic policy and the proposal for the site. The redevelopment of the site will respond positively towards State Policies for increasing the availability and mix of housing within the 'Western Parkland City', with housing targets of up to 39,850 dwellings by 2021 and 184,500 dwellings by 2036.

The proposed development also represents an opportunity to:

- Facilitate housing in an accessible and convenient location to deliver a '30 minute city' in the Western District;
- Contribute towards the urban renewal of the Liverpool CBD and facilitate 'place-making' by the introduction of street activation and publicly accessible spaces; and
- Provided added sustainability to the Liverpool CBD by the introduction of green spaces and increased tree canopy cover.

### 5.2. WESTERN CITY DISTRICT PLAN 2018

Liverpool CBD is a key strategic centre of the Western City District, accommodating medical and educational facilities such as "... *Liverpool Hospital, the Ingham Institute of Applied Medical Research and the clinical schools of the University of NSW and Western Sydney University, South West Private Hospital and South Western Sydney TAFE*" as well as significant retail and business precincts. Complimenting these uses are a range of older and recently constructed dwellings which provide housing close to employment precincts as well as public transport.

The proposal aligns with the Planning Priorities for the Western City District particularly in respect to:

- *Fostering healthy, creative, culturally rich and socially connected cities.*
- *Providing housing supply, choice and affordability with access to jobs, services and public transport.*
- *Creating and renewing great places and local centres, and respecting the District's heritage.*
- *Increasing urban tree canopy cover and delivering Green Grid connections.*



## 6. STATUTORY PLANNING ASSESSMENT

### 6.1. STATE ENVIRONMENTAL PLANNING POLICY

#### 6.1.1. State Environmental Planning Policy (Infrastructure) 2007

*State Environmental Planning Policy (Infrastructure) 2007 (ISEPP 2007)* aims to facilitate the effective delivery of infrastructure across the State by identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure development, such as classified roads, and providing for consultation with relevant public authorities about certain development during the assessment process or prior to development commencing. As outlined in Schedule 3 of the ISEPP the proposal will need to be referred to RMS as it has more than 200 car parking spaces.

#### 6.1.2. State Environmental Planning Policy 55 – Remediation of land

SEPP 55 aims to promote a state-wide approach for the remediation of land to reduce the risk of harm to human health or any other aspect of the environment. Clause 7(1) requires the consent authority to consider whether land is contaminated prior to determining a development application.

Douglas & Partners (DP) have undertaken a Preliminary Site Investigation of the site and has prepared a report which accompanies this DA in **Appendix J**.

The potential sources of contamination and associated contaminants are:

- Imported contaminated filling used to form/ level the site;
- Hazardous building materials from demolition of previous structures;
- Leaks from underground storage tanks (USTs) and associated infrastructure at the service station, as well as other potential contaminants such as from waste oil or diesel tanks;
- Spills or leaks of chemicals and oils used at the service station workshop; and
- Off-site (Jolly Frog) dry cleaners and associated potential contaminants including chlorinated solvents.

Based upon soil sampling results, it is revealed that:

- TRH and zinc soil contamination is present at the service station site however the soil contamination does not appear widespread and the concentrations encountered were not significantly in excess of the site assessment criteria (SAC).
- Groundwater at the service station has been impacted by petroleum hydrocarbons however the recorded concentrations of these contaminants are generally low. It is considered that the petroleum hydrocarbons in groundwater do not pose an ecological risk at these concentrations.
- The potential vapour intrusion health risk from naphthalene and TRH C<sub>6</sub>-C<sub>10</sub> in groundwater is not known for the proposed development given that the proposed basement will contact groundwater. It is noted, however, that appropriate remediation of the service station property as part of site redevelopment would remove primary sources (USTs and associated infrastructure) and secondary sources (petroleum impacted soil and rock) of groundwater contaminants within the site.

It is considered from findings and results that the site can be made suitable for the proposed development subject to:

- *Detailed investigation of the site including sampling of soil and groundwater (focusing on areas that have not been investigated). Soil sampling and analysis may also be used for waste classification purposes for bulk excavation. The investigation should also include an assessment of the vapour intrusion risk from potential contamination from the neighbouring dry cleaners.*
- *Further investigation of potential soil and groundwater contamination at the proposed deep soil zone may be beneficial to determine if the soil may remain in place for the proposed development (from a contamination perspective) as well as to better understand the petroleum impacts on groundwater which could pose a vapour intrusion risk;*

- *Preparation of a Remediation Action Plan (RAP) for remediation of the service station and any other areas of contamination identified from the detailed investigation; and*
- *Implementation of the RAP. The remediation of the service station will include the removal of USTs, separator pits and associated infrastructure as well as contaminated soil. It is noted that contaminated soil and groundwater may be present at the area of the proposed deep soil zone and so the remediation of the service station property should be undertaken at an early stage of development. Validation of the remediation will need to be done by an environmental consultant.*

### 6.1.3. State Environmental Planning Policy (Building Sustainability Index Basix) 2004

The Proposal is accompanied by a BASIX certificate at **Appendix K**. The certificate confirms that the proposed development meets the NSW government's requirements for sustainability. The BASIX assessment indicates that the proposal as follows:

- Water – Achieves a score of 44 passing the target of 40.
- Thermal Comfort – Achieves a pass.
- Energy – Achieves a score of 27 passing the target of 25.

### 6.1.4. State Environmental Planning Policy 65 and Apartment Design Guide (ADG)

State Environmental Planning Policy No 65 (Design Quality of Residential Apartment Development) (SEPP 65) applies to development for the purposes of a building that comprises three or more storeys and four or more self-contained dwellings.

The project has been designed by registered architects of AJ+C and the DA is accompanied by an assessment under the 9 design principles and the Apartment Design Guide contained in **Appendix B**.

Key design matters of the ADG are further discussed below in which the objectives are met in the following ways:

- **Communal open space provision** – Objective: An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping
- Proposal: Communal open space areas exceed the minimum required and are located on Levels 1 and 4, as well as a plaza area off Memorial Avenue. Over 2 hours of solar access is achieved to the communal open space and the plaza area in mid-winter. The dimensions of the communal areas will allow the spaces to be utilised by residents for passive recreation as well as incorporating a swimming pool that will be accessible to both tower residents.
- **Solar Access** - Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid-winter.
- Proposal: 226 apartments receive a minimum of 2 hours direct sunlight, this accounts for 85% of the total development
- **Cross Ventilation** - At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed
- Proposal: 194 apartments are naturally cross ventilated. This accounts for 73.5% of the proposed development.

### 6.1.5. Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment

This plan applies to the Georges River Catchment, known as the Greater Metropolitan Region. Liverpool City Council is included in the Catchment. The aim of the plan is to preserve, enhance and protect environmental quality in the Georges River Catchment. The proposed works will be undertaken in accordance with a construction management plan and implementation of erosion and sediment control measures to mitigate

impacts to the environmental quality of the Georges River. Refer to **Appendix L** for erosion and sediment control measures.

## 6.2. LIVERPOOL LOCAL ENVIRONMENTAL PLAN 2008 (LLEP 2008)

### 6.2.1. Zoning, Permissibility and Objectives

The site is within the 'B4 Mixed Use' zone and permissible uses include 'shop top housing' and 'commercial premises'. The relevant objectives of the B4 zone are:

- *To provide a mixture of compatible land uses.*
- *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.*
- *To allow for residential and other accommodation in the Liverpool city centre, while maintaining active retail, business or other non-residential uses at street level.*
- *To facilitate a high standard of urban design, convenient urban living and exceptional public amenity.*

The proposed restaurant, commercial spaces and dwellings are permissible.

The proposal achieves these objectives by providing a retail/commercial floor space and residential land uses within a highly accessible location, being within walking distance to Liverpool Train Station. The proposal increases the number of residential apartments in the Liverpool Town Centre which provides opportunity for people to live within an area highly accessible to recreational, shopping and business services. The proposed scheme has developed in response to Council's planning officers and the members of Council's Design Excellence Panel and represents a high standard of urban design, convenient urban living and public amenity.

### 6.2.2. LEP Provisions

The following table provides an assessment of the proposed development against the relevant clauses contained within the LLEP 2008. In summary, the relevant provisions are complied with.

Table 7 - LLEP 2008 Compliance Table

Relevant Clause	Provision	Proposal	Complies
<b>Clause 4.1 – Minimum subdivision lot size</b>	1000sqm	The proposal is consistent with this clause the total site area is 4,333 sqm.	Yes
<b>Clause 4.3 – Building Height</b>	80m	The proposal is below this height limit. The West Tower is approximately 79.8m (including architectural roof feature) and East Tower is approximately 63m (including architectural roof feature).	Yes
<b>Clause 4.4 – Floor Space Ratio (FSR)</b>	6:1	The proposed development has a total GFA of 25,998sqm. The FSR of the development is 6:1.	Yes
<b>Clause 5.10 – Heritage Conservation</b>	Conserve the heritage significance of heritage	The site is adjacent to Memorial Avenue which is a locally listed heritage item and is within the	Yes

Relevant Clause	Provision	Proposal	Complies
	items and heritage conservation areas	vicinity of other heritage items. A Heritage Impact Statement has been included at <b>Appendix M</b> . The assessment concludes that the development will have no negligible impact on Memorial Avenue.	
<b>Cl. 7.3 Car Parking in Liverpool City Centre</b>	<p>12 car spaces required for the ground level GFA (comprising commercial space; retail space and restaurant space) and first level GFA (comprising restaurant space) based on:</p> <ul style="list-style-type: none"> <li>– 1 space per 200sqm for new GFA at ground level; and</li> <li>– 1 space per 100sqm for new retail GFA above ground level.</li> </ul> <p>Ground level GFA also includes garbage areas which generates 1 car space.</p>	<p>12 carparking spaces are to be allocated for the commercial, retail and restaurant uses.</p> <p>No car parking is allocated to the garbage areas on ground level.</p>	<p>Yes.</p> <p>Clause 7.3.3 allows the Council to consider a reduced amount of car parking.</p> <p>The shortfall of one car space attributed by the garbage rooms is not considered to be required. Refer to further discussion in section 7.5 of this report.</p>
<b>Cl 7.4 Building Separation Liverpool City Centre</b>	<p>B4 Zone – Separation between towers</p> <p>(d) 12 metres between 25 metres and 45 metres above ground level (finished)</p> <p>(e) 28 metres for above 45 metres or more above ground level (finished).</p>	<p>Tower separation between proposed buildings on the site:</p> <ul style="list-style-type: none"> <li>• Building separation between towers is 31.3m for parts of the towers between 25m and 45m in height.</li> <li>• Building separation between towers is at least 39.4m for parts of the towers between above 45m in height.</li> </ul> <p>Not applicable to adjacent residential flat buildings at 96 – 98 Castlereagh and opposite on Castlereagh Street as these buildings are less than 25m in height.</p>	Yes

Relevant Clause	Provision	Proposal	Complies
<b>CI 7.5 Design Excellence in Liverpool City Centre</b>	Development consent must not be granted to development involving the construction of a new building or external alterations to an existing building in the Liverpool city centre unless the consent authority considers that the development exhibits design excellence	The proposal has developed in response to the comments from panel members of Council's Design Excellence Panel and Council officer's comments. Matters raised at the meeting are addressed in Section 3.2.	Yes
<b>7.14 – Minimum building street frontage</b>	At least one street frontage of 24m in the B4 Zone.	The development has a building street frontage to Memorial Avenue of 42.7m.	Yes
<b>7.16 – Ground floor development in Zone B4</b>	Ground floor in B4 zone must not be used for residential.  Must have at least one entrance and at least one other door or window facing a street other than a service lane.	No residential uses are proposed at ground level other than the entry lobbies.  Access to Memorial Avenue is provided in the north eastern corner of the restaurant fronting Memorial Avenue.  The commercial tenancy fronts Castlereagh Street providing access to the Street.  Two retail tenancies in the eastern tower front Bathurst Street. Appropriate access it provides from these tenancies.	Yes

## 6.3. LIVERPOOL DEVELOPMENT CONTROL PLAN 2008

The proposed development is generally consistent with the provisions in the Liverpool Development Control Plan 2008 (LDCP 2008). Of note, the proposal:

- Is consistent with the DCP provisions in the Liverpool City Centre and corresponds with surrounding land uses, streetscape and building design including the adjacent high density residential flat buildings under development.
- A minor non-compliance exists in the western tower and the amount of GFA per residential level. A number of residential levels have greater than 700sqm of GFA. Despite this minor non-compliance the development still complies with overall FSR as outlined in Section 5.2.
- A minor non-compliance exists in the building depth of the East Tower being greater than 24m. However, the building has been appropriately recessed and indented providing a varied built form allowing apartments to have appropriate solar access and ventilation compliant with the ADG.

- Is generally consistent with setbacks identified for the Liverpool City Centre. A non-compliance exists in the 10m setback fronting Memorial Avenue. This is further discussed in Section 6.1.
- Is consistent with the design guidelines in the DCP, which correspond with the Apartment Design Guide.
- Provides active street frontages contributing to the streetscape character and amenity, including landscaping and deep soil zones providing shaded area for residents and visitors improving energy efficiency.
- Will meet required BCA and accessibility standards, including car parking access and pedestrian access to the entrance of the building.
- A waste management plan has been included illustrating that the proposed development is consistent with DCP guidelines.
- Is accompanied with appropriate contamination information as required.

A full assessment against relevant provisions of the LDCP 2008 is provided at **Appendix N**.

## 7. ASSESSMENT OF KEY ENVIRONMENTAL IMPACTS

### 7.1. BUILT FORM AND URBAN DESIGN

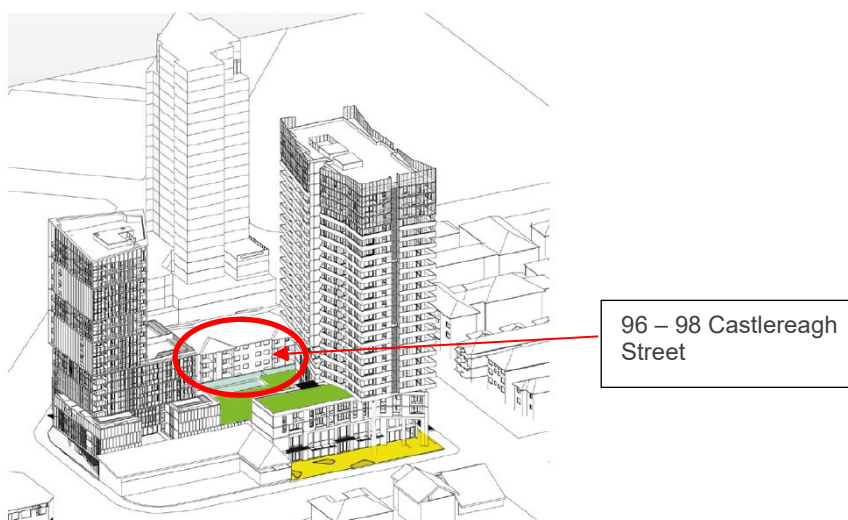
The proposed scheme has been derived from detailed conceptual planning and design between AJ+C architects and Urbis urban designers, as well as consultation with panel members of Council's Design Excellence Panel, Council's urban designer officers and planners. The resultant design will facilitate:

- Enhanced public domain opportunities by providing a generous setback from Memorial Avenue. Situated along a key pedestrian spine, the setback will provide a shaded corridor of trees, gathering and meeting spaces contributing to the life of the city.
- The ground floor interface along Memorial Avenue, Castlereagh Street and Bathurst will provide activation of the ground level by introducing retail, commercial and food and beverage spaces. These uses will enable casual surveillance, activity and vibrancy to the western periphery of the CBD.
- A visually dynamic skyline by the introduction of varied and taller building heights that correspond to the emerging built form at Liverpool's southern gateway, characterised by newly constructed mixed-use and high-density residential apartments in a podium-tower typology.
- Enhancing the desired character of Memorial Avenue by removal of existing driveways associated with the service station and locating vehicular access and servicing off Castlereagh Street.
- Flexibility for a future corner development of the adjoining site at 60 Memorial Avenue. Conceptual planning by AJ+C and Urbis identifies development opportunities for this adjoining site and 3 – 5 Norfolk Avenue with a building envelope of 4 – 5 storeys which would provide an integrated visual extension of the proposed podium form.
- Maximised opportunities for communal interaction, fostering a sense of belonging as result of a variety of generous communal open spaces with good solar access.

### 7.2. TOWER SETBACKS

Pre-DA lodgement meetings highlighted the non-compliance with setbacks of tower forms above the podium. This aspect of the design is maintained in the submitted design where the tower forms are sited towards the street frontages. This design is in response to ensuring that solar access is maximised to the southern adjoining residential flat building where living room windows and balconies face north, towards the site and also the approved development at 7 – 13 Norfolk Street.

Figure 12 – Separation between towers



Source: Urbis



As stated by AJ+C architects “... *They have been shaped by sun and view angles...*” and by adopting different materiality between the podium and tower; distinct forms and expressions the podium form will be readily perceived. This treatment further reduces the bulk of the building and in-conjunction with the ground plane activation an appropriate pedestrian scale is achieved.

Figure 13 – Photomontage



Source: AJ+C Architects

### 7.2.1. Setback to Memorial Avenue

The proposed 10m setback to Memorial Avenue provides for a wider footpath and incorporation of a publicly accessible plaza. The setback is consistent with existing setbacks along Memorial Avenue, particularly west of Bathurst Street where it is evident that setbacks range from 3 -12m, while east of Bathurst Street has a single 0m setback providing a consistent retail street frontage. This is illustrated in Figure 14 below.



Figure 14 – Memorial Avenue Street Setbacks



Figure 16 Memorial Avenue street setback pattern

Source: Urbis

There is a lack of public spaces in the vicinity of the site which allows the community and visitors to the city centre to rest and meet. The depth of this space allows for deep soil planting, street tree planting and the ability to enjoy this space with adjacent food and beverage offerings. This opportunity will enhance the character and importance of Memorial Avenue.

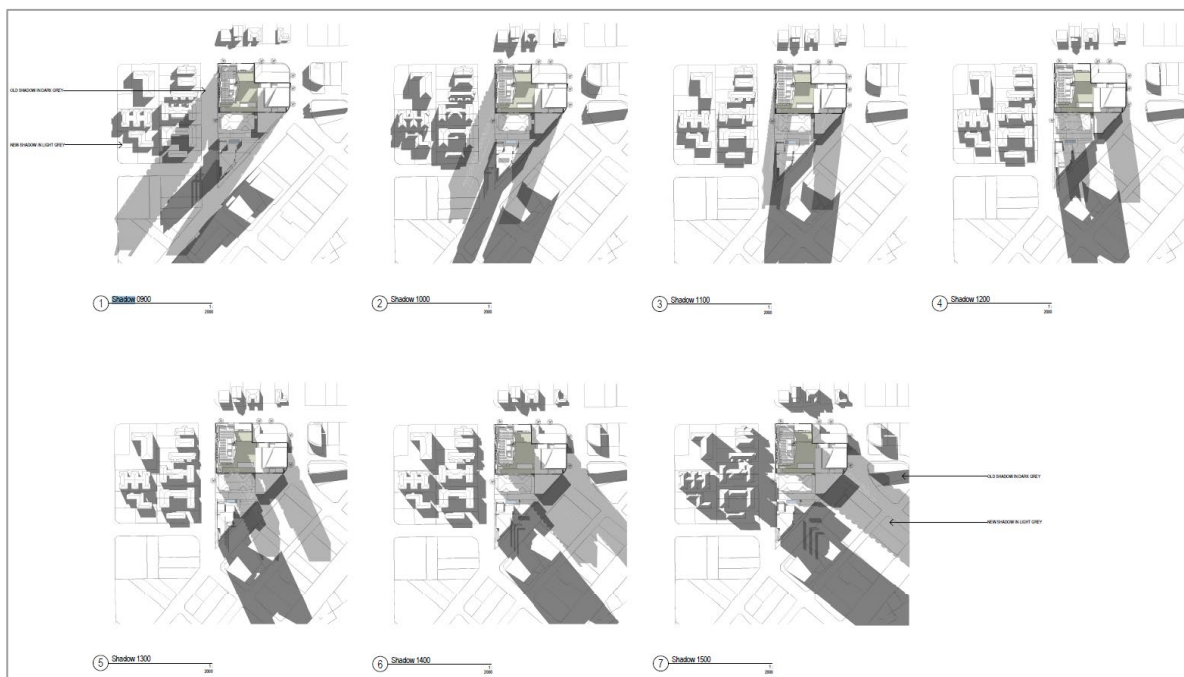
A range of stimulating interfacing options with 60 Memorial Avenue are also contained within the submitted Urban Context & Built Form Principles report to further celebrate this space and how it can enhance the vibrancy of Memorial Avenue whilst adding a new space between two regionally significant green nodes of Woodward Park to the west and Georges River to the east.

### 7.3. OVERSHADOWING

Shadow diagrams provided at **Appendix C** have been prepared to assess the proposed impact on solar access to neighbouring properties between 9am and 3pm for the Winter Solstice (June 21) and Spring Equinox (September) periods. An assessment of shadow impact during the winter solstice to the affected areas is described below:

- The proposed development will have minimal overshadowing impacts.
- The proposed development minimises overshadowing to the approved development at 7-13 Norfolk Street through building design, including building separation and the arrangement of buildings.

Figure 15 – Shadow Diagrams



Source: AJ+C Architects

## 7.4. HERITAGE

A heritage assessment and statement of heritage impact by Biosis Pty Ltd is submitted with the DA. The site does not contain any heritage items. Adjacent and surrounding heritage items are:

- Plan of Town of Liverpool (early town centre street layout – Hoddle 1827) (Item No. 89). Streets in the area bounded by the Hume Highway, Copeland Street, Memorial Avenue, Scott Street, Georges River and Main Southern Railway Line (excluding Tindall Avenue and service ways). Locally listed and adjacent to the site.
- Dwelling (Item No. 77). 115 Castlereagh Street, Lot 4, SP 39972. Locally listed.

The site is also in the vicinity of five heritage items, but these are located two streets away from the site and will not be impacted by the proposal.

The assessment identifies that the proposal will have minimal heritage impacts, stating that ‘... *the Plan of Town of Liverpool (Item No. 89) is located adjacent to the development and the development will not visually dominate the heritage item. Furthermore, the proposed development does not encroach on the curtilage of the heritage item and will have minimal impact upon the significance of the early town centre street layout.*’

In respect to the dwelling on Castlereagh Street, the proposed development is located outside of the curtilage of this dwelling and therefore any perceived impacts from the development would be limited to visual in nature. A visual inspection of lines of sight associated with the heritage item revealed that the visual appreciation of the heritage item may be affected. The current streetscape of Castlereagh Street consists of mature trees, which currently block any visual lines of sight to the study area. As such it is considered the heritage value will not be impacted.

The report provides recommendations stating that:

- *No further heritage or archaeological assessment is required.*
- *If unexpected archaeological items are discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find.*

## 7.5. TRAFFIC, ACCESS AND PARKING

A Traffic and Parking Assessment has been undertaken by GTA Consultants, this is attached at **Appendix D**.

### 7.5.1. Parking

The development proposes a total of 318 car parking spaces which is considered to satisfy LLEP 2008 and DCP requirements. An additional car space is required due to the location of the garbage rooms at ground level which are required to be included as gross floor area. However, it is sought waiver the necessity to provide this additional car space under the provisions of section 7.3(3) of LLEP 2008 due to the nature of this portion of the basement.

The development also meets other parking provisions as follows:

- 24 accessible parking spaces across the three levels of basement car park which exceeds the minimum of seven (7) accessible parking spaces required under LDCP 2008.
- 16 motorcycle spaces, meeting the required 16 motorcycle parking spaces.
- 182 bicycle parking spaces, meeting 130 bicycle parking spaces, including 20 visitor spaces.
- 5 loading bays that accommodate MRV and SRV vehicles, satisfying 4 service bay requirements.

### 7.5.2. Access

Access to the site for service vehicles and resident cars will share the proposed access off Castlereagh Street. However, upon entry into the site, resident cars and visitors will proceed to a dedicated ramp down to the basement levels.

The revised submitted scheme has significantly the land uses on the site in response to Council concerns for reduced potential conflict in traffic and servicing arrangements. Many of the service vehicles are expected to deliver small loads with a short duration of stay. It is expected that many of these vehicles will likely be cars/utes/ vans and small rigid trucks. It is recommended that a loading dock/service bay management plan be prepared to assist the understanding and operational efficiency of these facilities as well as minimising peak period conflicts between land uses. GTA traffic consultants have concluded that the proposed access would operate safely and efficiently but noting that street trees have the potential to restrict sight lines."

### 7.5.3. Traffic Generation

The Traffic and Parking Assessment concludes that the net trip generation for the site is 221 person-trips in the AM peak and 407 in the PM peak. This includes linked trips. The assessment states that the development is not expected that the site will significantly impact the wider road network.

In reference to intersections the traffic assessment concludes:

*"The proposed development would not generate any significant impact on the operation of the surrounding intersections. Intersections are anticipated to operate at a similar level of service to the Future Base Case (without development).*

*Given the proximity of the proposed development to Liverpool Railway Station and connections to public transport system, the proposed development is likely to generate more multimodal trips and is not expected to materially alter the surrounding intersection operations."*

## 7.6. ARBORICULTURAL

There are no trees present on the site but 14 trees are located on the street footpath in proximity to the site boundaries. The Arboricultural Impact Assessment, Tree Survey and Tree Management Plan by Tree Technics identifies 9 trees as considered to be the most relevant for assessment. These trees relate to 4 liquid amber styraciflua; 2 Hedge Maple Acer campestre; and 3 Brush Box Lophostemon confertus.

The arborist has identified Brushbox trees 7 – 9 to be potentially impacted by future excavation processes. To provide safe vehicular egress onto Castlereagh Street, trees 8 and 9 are proposed to be removed. In respect to the remaining Tree 7, the Arborist is satisfied that the impacts can be managed subject to adhering to recommended measures provided in the attached Tree Management Plan and having regard to



the resistant nature of this species in respect to root pruning. Other recommendations are also included for the general protection of the remaining street trees adjacent to the site. These recommendations include:

- *Retain trees 1,2,3,4,5,6,7 according to AS 4970, and 4373. Pay particular attention to roots, trunk and canopy. All efforts for retention are to be influenced by and exceed methods of protection by AS 4970.*
- *Removal of specimens 8 and 9 as per best practice and code of conduct.*
- *Prior to commencement of works, all tree protection fencing (if necessary) and measures are to be witnessed, documented and certified to ensure they are congruent with AS 4970.*
- *The site arborist is to oversee and document the manual excavation within any of the Tree Protection Zones (particularly Trees 7,8, and 9) and sign off that no attrition to any structural roots occur. Should roots greater than 50 mm be encountered, then hand pruning and excavation must be the method deployed by the site arborist.*
- *It is prohibited to store materials and wash out chemicals of any kind within the TPZ's. Alternative options are to be discussed prior to engagement.*
- *Replacement of Trees 8 and 9 with 2 x 75 L Brush box specimens. The specimens are to be grown with NATSPEC standards, and installed by a L3 Arborist.*

Refer to **Appendix O** for further detail.

## 7.7. ECOLOGICAL SUSTAINABLE DEVELOPMENT

A BASIX Certificate (942368M) has been prepared by BASIX Report and is attached at **Appendix K**. The certificate confirms that the proposed development will meet the NSW government requirements for sustainability, if it is built in accordance with the commitments set out in the BASIX certificate. The BASIX assessment confirms the following:

- Water – Achieves a score of 44 passing the target of 40.
- Thermal Comfort – Achieves a pass.
- Energy – Achieves a score of 27 passing the target of 25.

A Section J Energy Efficiency report by SLR Consulting it also submitted at **Appendix P** which provides advice about each subsection under Section J and identifies how compliance with the NCC can be achieved.

## 7.8. ACOUSTIC

An acoustic assessment of the proposed development has been carried out by Acouras Consultancy and is attached at **Appendix Q**. The report assesses the proposed development against relevant standards and guidelines that are applicable to the project.

The report provides a number of key recommendations to reduce noise impact to internal occupants:

- Acoustic glazing for the apartments should result in noise levels within such units in accordance with the Department of Planning Noise Guidelines and AS/NZS 2107:2016.
- To provide sufficient acoustic attention of noise, the external construction of the building should include appropriate materials and insulation as per BASIX requirements.
- The wall partition and floor slab separating the retail/commercial space and the residential apartment is to be of solid masonry/concrete construction with a minimum sound insulation performance of  $R_w + C_{tr}$  50 for airborne noise.

The report also provides recommendations to minimise traffic noise generation:

- Commercial delivery and waste collection vehicles should follow time restrictions.
- Delivery and rubbish vehicles should minimise noise to ground floor residents by using up-to-date equipment that uses 'quieter' technology such as low-noise bin lifters as well as educating drivers.

The Acoustic assessment outlines that construction for glazing, external walls and the roof/ceiling systems have been provided to achieve the internal noise criteria.

The Acoustic assessment concludes:

*Providing the recommendations in this report are implemented, the noise from the proposed development is predicted to comply with acoustic requirements of the Liverpool City Council DCP, EPA noise limits, Department of Planning, BCA Part F5 and relevant Australian standards.*

## 7.9. ACCESSIBILITY

An Access Report has been prepared by Accessibility Solutions at **Appendix R** which concludes that the proposal meets the relevant objectives and design code requirements of BCA 2016/DDA Premises Standard and the Adaptable Housing standard AS2499. In particular, the design achieves:

- Retail areas that incorporate on-grade access from the public domain; and level threshold entry to the commercial tenancy and residential lift lobby.
- Principal entrance lobbies and lift access within the two towers that provide direct and equitable access to all apartments.
- Internal foyers, corridor accessways and lifts that facilitate universal access to all storeys and apartment entrance doorway entrances.
- Communal recreational areas designed with wheelchair accessible path of travels and various accessible features.
- Appropriate amounts of parking bays for adaptable units and accessible parking for retail and visitor spaces.
- At least twenty-four (24) adaptable units (9.1% of 264) with designs complying with AS4299 – Adaptable Housing which is consistent with the intent of Council's DCP requirement of 10%.
- With respect to the Universal Access requirements of the SEPP 65 Apartment Design Guide the development can provide at least 62 apartments or 23.5% of the 264 apartments that will include design features complying with the Silver Level Livable Housing Guidelines, which exceeds the 20% minimum.

## 7.10. CRIME PREVENTION THROUGH SAFETY AND DESIGN

Four key principles of 'crime prevention through environmental design' (CPTED) are centred upon natural surveillance; access control; territorial reinforcement; and space management. Consideration to these principles are provided below and with regards to the existing building and its site surrounds.

- The site surrounds generally feature street lighting to adjacent footpaths which will discourage criminals the advantage of being unable to operate in the dark.
- The proposed location of the restaurant will provide casual surveillance to Castlereagh Street.
- The proposed plaza area will significantly contribute to casual surveillance measures to Memorial Avenue and Castlereagh Street. This publicly accessible space is potential focal point for the community to gather and foster a sense of 'community'.
- Provision of two separate residential lobbies and commercial / retail spaces off Castlereagh Street and Bathurst Street together with the Memorial Avenue plaza space will provide active frontages to building frontages and will contribute towards territorial reinforcement.
- Regular maintenance of the plaza space and the interfaces of the building with the street frontages will be required to ensure that these areas are kept free from rubbish and maintained to an appropriate standard which will contribute towards discouraging crime occurrences. This could be incorporated as part of a future management plan for the buildings.
- The design has minimised the presence of large blank walls facing the street such that opportunities for the occurrence of graffiti are minimised.

- Shopfront presentations with generous window display areas are incorporated along Bathurst Street to encourage attractive street front displays and casual surveillance.
- The building design allows for passive surveillance of communal spaces, accessways, entries and driveways by:
  - Providing active uses adjacent to the lobby entry points and the driveway.
  - The centrally located communal open space is overlooked by apartments.
  - The residential towers are designed with windows and balconies oriented to all streets.
- Internal corridors throughout the residential towers are limited in length to maximise access to lifts and communal open spaces.
- The car park is designed in a manner that avoids concealed areas and blind corners, with access to two sets of lifts located at different ends of the basement car park for ease of access.
- Incorporation of lighting throughout the development will be incorporated as part of construction drawings with consideration to ensuring appropriate levels of safety.

## 7.11. WIND EFFECT

A Wind Effect report has been prepared by SLR and is attached at **Appendix S**. The study has adopted the so-called “Melbourne” criteria for the present assessment, currently referenced by many Australian Local Government Development Control Plans in relation to wind impact. Two scenarios were tested including a “Baseline” scenario and “Future” scenario.

The report found the following impacts:

- Ground level locations surrounding the site (to the west, north and east) have the potential to experience increases in wind speed for key prevailing wind directions (northeast, southeast, south and west). A number of these locations have the potential to exceed the 16 m/s walking comfort criterion, but remain below the 23 m/s safety criterion. However, the report notes that the wind conditions predicted did not have the advantage of mature and extensive vegetation and trees. These are mitigation treatments that will reduce the impact.
- Almost all podium locations may potentially exceed the 13 m/standing-waiting-window shopping criterion. However, this is without proposed landscaping and pergolas. Furthermore, the podium prevents these impacts from travelling to ground level.
- The report details further wind mitigation treatments in various areas of the proposed development that will reduce wind effects. These include:
  - *All of the currently planned extensive landscaping and horizontal windbreaks (shadecloth, pergolas, awnings, etc) should be retained;*
  - *Seating areas in particular should be provided with such horizontal windbreaks;*
  - *A full perimeter 1.8 m high balustrade should be provided along any open perimeter areas of the Podium (northeast section and southern perimeter).*

The report concludes:

*“...It is believed that the proposed development will comply with the adopted wind acceptability criteria at all pedestrian and public access locations within and around the development.”*

## 7.12. STORMWATER, EROSION AND SEDIMENT CONTROL

A Stormwater Management and Erosion and Sediment Control Report has been prepared by AT&L at **Appendix L**. All proposed stormwater drainage from the development will be designed in accordance with Liverpool City Council requirements. All stormwater is proposed to drain to a Water Sensitive Urban Design (WSUD) tank and connect into the existing council stormwater network located in Memorial Avenue.



Stormwater generated within the proposed site will be treated to the Liverpool DCP water treatment rates through the use of proprietary treatment devices. The proposed development will also incorporate the use of a rainwater harvest tank to assist with the water treatment and BASIX requirements.

The proposed development will use Water Sensitive Urban Design (WSUD) in the proposed development. The report details that:

*Tertiary treatment devices located within the proposed WSUD tank will treat the water to Council standards. These devices have been modelled as Psorb 690mm cartridge storm filter system manufactured by Stormwater360. By utilising these treatment devices, stormwater draining from each building will meet the required Liverpool DCP treatment rates before discharging into the road stormwater network.*

As illustrated in Council's correspondence no On-Site Detention (OSD) is required as the pre-development site is fully currently impervious.

Furthermore, a Soil and Water Management Plan has been prepared, with the following overall strategy:

- *Diversion of "clean" water away from the disturbed areas and discharge via suitable scour protection;*
- *Provision of hay bale type flow diverters to catch drainage and divert to "clean" water*
- *Provision of construction traffic shaker grids and wash-down to prevent vehicles carrying soils beyond the site;*
- *Provision of silt fences to filter and retain sediments at source;*
- *Rapid stabilisation of disturbed and exposed ground surfaces with hydro-seeding areas where future construction and building works are not currently proposed;*

All appropriate services including sewer, water, power, telecommunications and gas can be made available to the site.

## 7.13. GEOTECHNICAL

A Geotechnical Report has been prepared by Douglas Partners and is attached at **Appendix T**. Appropriate field work has occurred and supervised by a geotechnical engineer. The investigation included the drilling of four cored boreholes to a maximum depth of 10.2m across the site. The results of this field work concluded:

*The boreholes have indicated that subsurface conditions underlying the site generally comprise variable depths of filling overlying silty clay and clay of very stiff to hard consistency. Bedrock comprising shale of variable strength and weathering condition were encountered in all boreholes.*

The report provides a number of recommendations relating to bearing capacity, site preparation, earthworks and excavation support that should be undertaken. These include but are not limited to the following:

Earthworks and Site Preparation:

*Stripping of existing pavement and filling and inspection of the stripped surface by a geotechnical engineer*

*Compaction of the exposed surface with at least of 8 passes of a 12 tonne (minimum dead weight) roller, followed by test rolling the presence of a geotechnical engineer. Where soft spots are identified, they should be excavated and then backfilled using a suitable granular material.*

*Surface drainage should be maintained at all times by adopting appropriate surface cross-falls. Surface drainage should be installed as soon as is practicable in order to capture and remove surface flows to prevent erosion and softening of the exposed surface.*

Excavation Support:

*Bulk excavations should be constructed to the suggested safe batters and considering the nominated design level, this may not be achievable around the perimeter of the building.*

*Any groundwater inflows during the excavation should be removed by pumping from sumps within the excavations.*

## 7.14. CONTAMINATION

A Contamination Assessment has been prepared by Douglas Partners at **Appendix J**. The Assessment concluded the following:

*“Analysis of results for soil sampling for DP (2013) has revealed TRH and zinc soil contamination at the service station property. The soil contamination does not appear to have been widespread and the concentrations encountered were not significantly in excess of the SAC”*

*It is considered that the TRH and BTEX concentrations (above the PQL) are likely to be sourced from fuel storage at the site. Isopropylbenzene, n-butylbenzene and n-propylbenzene were above the PQL in the primary sample from Borehole 3, depth 1.2-1.5 m, and these petroleum hydrocarbons are also considered to be sourced from fuel storage at the site. Isopropylbenzene and n-propylbenzene are part of the TRH C<sub>6</sub>-C<sub>10</sub> fraction and n-butylbenzene is part of the TRH >C<sub>10</sub>-C<sub>16</sub> fraction (listed above for samples from Borehole 3, depth 1.2-1.5 m).*

## 7.15. WASTE MANAGEMENT

Two residential garbage rooms have been provided these are located on the ground floor of each tower in close proximity to the loading dock and collection point. The residential garbage holding room has been located at Ground Floor close to the proposed collection point. These areas are appropriately screened and enclosed by a roller shutter door.

Council will be engaged to collect the residential garbage and recycling. Prior to the collection day, the building manager will be responsible for ensuring that all recycling bins located on each residential levels have been transferred into the recycling 660L MGBS located in the Bin Holding Room. The waste collection vehicle will enter the site from Castlereagh Rd and Park in the designated loading bay. Servicing will occur directly from the Bin Holding Room.

A private contractor will be engaged to collect the garbage and recycling bin for the retail and commercial component of the site to an agreed schedule. The waste collection vehicle will enter the site from Castlereagh Rd and access the loading bay.

All areas have been designed and sited in accordance with the relevant guidelines. A Waste Management Plan is prepared at **Appendix U**.

## 7.16. BUILDING CODE OF AUSTRALIA & DISABILITY STANDARDS

All new buildings are required to comply with the design and operational requirements of the BCA as in force at the time of the issuing of a relevant construction certificate.

A Building Code of Australia (BCA) Compliance Statement has been prepared by Blackett Maguire and Goldsmith and is provided at **Appendix G**.

The assessment concludes that the proposed development is capable of complying with the relevant provisions of the BCA. Where there are areas that do not comply with the deemed to satisfy provisions, an alternate solution prepared by a suitable qualified person will be prepared to ensure compliance with the Performance Requirements of the BCA.

## 7.17. SOCIAL IMPACT

A Social Impact Assessment has been undertaken by Urbis to assess the potential social impacts of the proposal. As part of the SIA, Urbis undertook stakeholder consultation to gain an understanding of the potential positive and negative impacts associated with the proposal.

Urbis consulted with Liverpool Council in January 2019 as well as phone interviews with several members of the local community including residents and local business owners. The consultation provided insight into

opinions of the local community regarding the proposed development and cumulative developments in the locality. In general feedback regarding the proposed development was positive and supportive of the mixed-use development. Key areas of concern were in relation to the provision of commercial and retail space, private and public open space, additional opportunity for social infrastructure and potential traffic and parking impacts.

Following the assessment of the proposal and relevant technical studies, the following is a summary of the potential positive impacts:

- Improved access to housing.
- Generation of local business opportunities.
- Improved street activation.

The following is a summary of the potential negative impacts:

- Pressure on local road network.
- Pressure on community services and facilities.
- Noise impacts during construction and operation.
- Cumulative impacts of development in Liverpool CBD.

Overall, it is concluded that the proposal “... will deliver long term positive impacts for residents of the Liverpool LGA by delivering appropriate housing and business opportunities in a location that has access to a range of local services and transport. The proposed development is within a supportive environment that encourages social interaction and connection to many localities. The proposed development will improve activation and streetscape, increasing opportunities for casual surveillance and the perceptions of safety for existing residents and the incoming community. The proposed development will contribute to the State and local government’s aims of revitalising Liverpool CBD and encourage its development as the ‘Western City’.”

To mitigate potential impacts, the SIA recommends:

- Preparation of a Construction Management Plan (CMP) prior to commencement of work to regulate safe traffic movements and parking during construction.
- Implementation of a maintenance schedule for the landscaping strategy that might include cutting back tree canopies, clearing groundcovers to road verges and maintaining lighting to ensure sightlines are maintained within publicly accessible areas for improved amenity.

Refer to **Appendix F** for further detail.

## **8. SECTION 4.15 ASSESSMENT**

### **8.1. STATUTORY POLICY AND COMPLIANCE**

The following assessment has been structured in accordance with Section 4.15(1)(a) of the *Environmental Planning & Assessment Act 1979 (EP&A Act)*.

The proposed development has been assessed in accordance with the relevant state, regional and local planning policies, as follows:

- *State Environmental Planning Policy (Infrastructure) 2007.*
- *State Environmental Planning Policy 55 – Remediation of land.*
- *State Environmental Planning Policy (Building Sustainability Index Basix) 2004.*
- *State Environmental Planning Policy 65.*
- *Liverpool Local Environmental Plan 2008.*
- *Liverpool Development Control Plan 2008.*

This SEE demonstrates that the proposed development is consistent with the relevant statutory planning policies and achieves the objectives of the relevant provisions.

### **8.2. DRAFT ENVIRONMENTAL PLANNING INSTRUMENT**

There are no draft environmental planning instruments applicable to the proposed concept proposal.

### **8.3. DEVELOPMENT CONTROL PLAN**

Each of the relevant provisions within LDGP2008 has been incorporated into the architectural drawings and the specialist documentation which accompanies the development application. Where the design does not meet LDGP2008 provisions, these have been discussed in the preceding sections of this SEE.

### **8.4. PLANNING AGREEMENT**

No planning agreements have been entered into in respect of the proposed development.

### **8.5. REGULATIONS**

The application has been prepared in accordance with the relevant provisions of the *EP&A Regulations*.

### **8.6. LIKELY IMPACTS**

There will be minimal adverse social or environmental impacts resulting from the proposed development, including:

- All appropriate measures will be implemented during the construction phase to ensure that there is no adverse amenity impacts to surrounding properties in terms of dust, soil erosion, air and noise.
- The proposed development provides for increased social and economic outcomes through the provision of jobs during construction and operation and housing. This will meet the demographic demand of the area.
- The traffic impact statement confirms the development would not generate any significant impact on the operation of the surrounding intersections. Given the proximity of the proposed development to Liverpool Railway Station and connections to public transport system, the proposed development is likely to generate more multimodal trips and is not expected to materially alter the surrounding intersection operations.
- The proposal will not result in the removal of significant flora and fauna on the site.

- The proposal presents a wide range of sustainability initiatives that will be implemented in the development to maximise energy and water efficiency.
- The proposal will have no negligible impacts on nearby heritage items.

## **8.7. SUITABILITY OF THE SITE FOR DEVELOPMENT**

The site is well suited to accommodate the proposed development for the following reasons:

- It is on land zoned for mixed use purposes and is located adjacent to compatible land uses.
- The site and surrounding locality is capable of accommodating higher density and mixed use development which integrates commercial land uses to service the needs of the local residential population.
- The proposed development provides for a well-planned precinct which clearly distinguishes between the public and private domain. This encourages a high amenity outcome for future residents.
- The site is in close proximity to existing services and infrastructure. Buses and Liverpool train station are within close proximity to the site.
- The site is not within an area recognised as being subject to landslip, bushfires, acid sulphate soils, or any other particular hazards. The proposal will not increase the likelihood of hazards occurring on site or within the surrounding vicinity.

## **8.8. THE PUBLIC INTEREST**

The proposed development is considered to be in the public interest for the following reasons:

- The site is well placed to accommodate uplift in development yield, being ideally placed within the Liverpool LGA in close proximity to essential services.
- The site is well serviced by public transport, which is in close proximity to Liverpool Shopping Centre, bus interchange and Liverpool Train Station. The site will have adequate car parking provision and access the surrounding road network and no intersection upgrades are required, as stated in the Traffic Impact Assessment.
- The proposed development will contribute to the much-needed housing supply in Sydney on a site that is able to accommodate increased height and density.

## 9. CONCLUSION

This proposal represents a significant and positive opportunity enhance a key corner site in the Liverpool CBD. The scheme has been developed to achieve urban design outcomes that will facilitate and celebrate the important Memorial Avenue spine as well as vibrant ground plane activation to all street frontages. Maximising the retention of residential amenity to the adjoining neighbours; and designing tower forms with distinct architectural expressions above podium forms to positively contribute towards a visually dynamic skyline were also fundamental principles in the design development of the scheme.

Overall, the proposal is appropriate for the site and the locality because:

- The proposal is consistent with State and subregional strategic planning objectives.
- The proposal satisfies the applicable local and state planning policies. The proposed development is permissible with consent and demonstrates compliance with the key controls of SEPP 65 and the ADG, in some cases the proposal provides greater than the minimum amenity criteria required by the ADG.
- The proposed built form, scale and character is appropriate in the context of the existing development and the level of impact is also appropriate. The proposed development demonstrates that adjacent sites including 3-5 Norfolk Street and 60 Memorial Avenue are capable of future development.
- It has been demonstrated that for each of the likely impacts identified in the assessment of the key issues will either be positive or can be appropriately mitigated. In many cases, the environmental management controls and operational protocols inherent to operation of the mixed use development adequately manage and/or mitigate the potential impacts.

For the reasons outlined within this SEE, the proposal is in the public interest and should be approved.



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