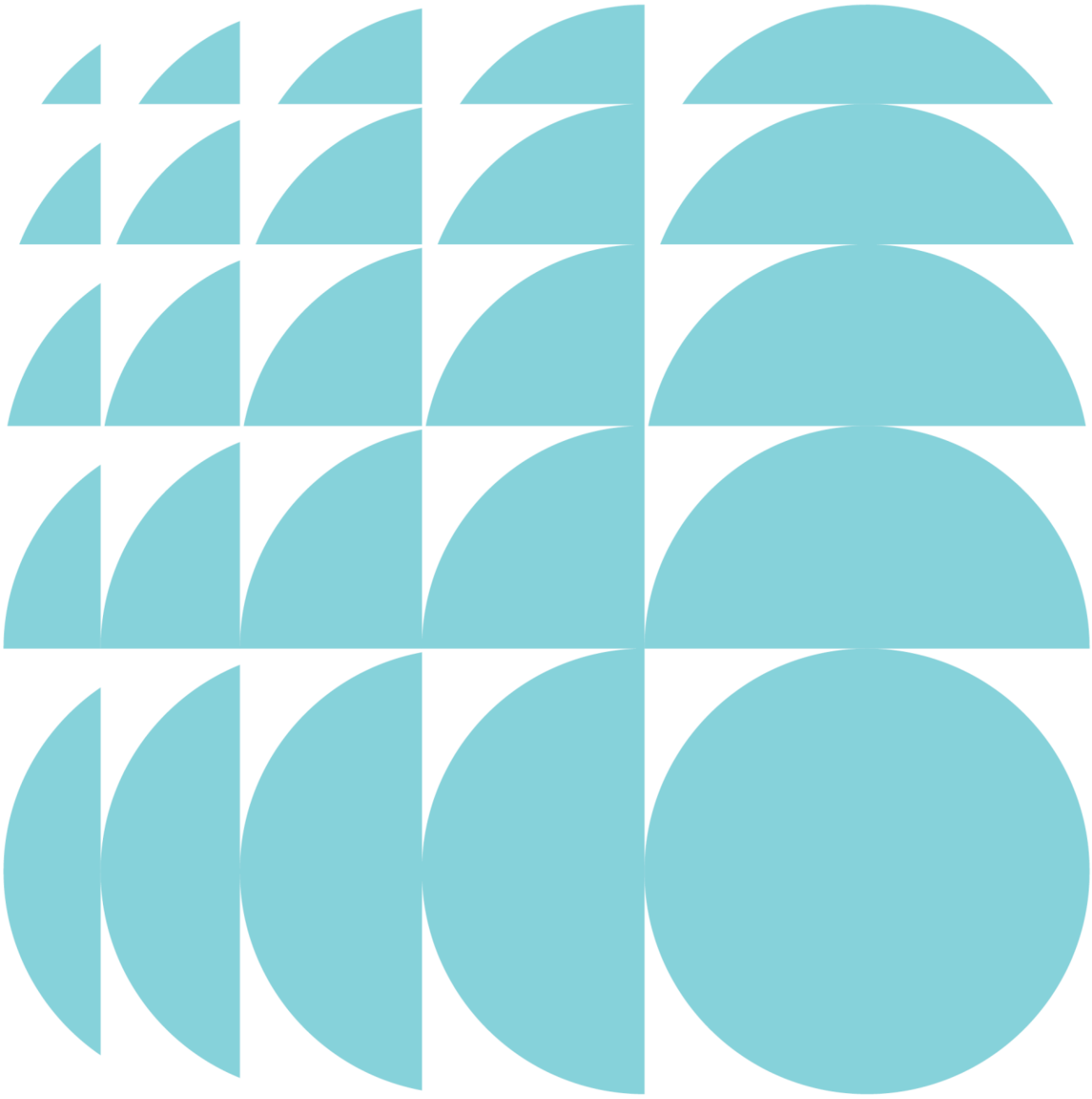
ETHOS URBAN

Environmental Impact Statement
State Significant Development Application

2-6 Hassall Street, Parramatta
Western Sydney University Innovation Hub (SSD 18_9670)

Submitted to the NSW Department of Planning and Environment
On behalf of Western Sydney University

8 May 2019 | 218990



CONTACT

Clare Swan Director cswan@ethosurban.com +61 2 9956 6962

Reproduction of this document or any part thereof is not permitted without prior written permission of Ethos Urban Pty Ltd.

This document has been prepared by:

Luke Feltis 7 May 2019

This document has been reviewed by:

Daniel Howard and Chris Ferreira

Clare Swan 7 May 2019

Reproduction of this document or any part thereof is not permitted without written permission of Ethos Urban Pty Ltd. Ethos Urban operates under a Quality Management System. This report has been prepared and reviewed in accordance with that system. If the report is not signed, it is a preliminary draft.

VERSION NO.	DATE OF ISSUE	REVISION BY	APPROVED BY
Rev 1	12.04.2019	LF	CFe
Rev 2	07.05.2019	LF	CS

Ethos Urban Pty Ltd
ABN 13 615 087 931.
www.ethosurban.com
173 Sussex Street, Sydney
NSW 2000 t 61 2 9956 6952

Contents

Contents

Figures

Contents

Tables

Contents

Appendices

Contents

Statement of Validity

Development Application Details	
Applicant name	Western Sydney University
Applicant address	Locked Bag 1797, Penrith, NSW, 2751
Land to be developed	2-6 Hassall Street, Parramatta
Proposed development	New 19 storey multi-purpose building known as the Western Sydney University Innovation Hub
Prepared by	
Name	Luke Feltis and Chris Ferreira
Qualifications	BPlan (Honours Class 1) MPIA / BPlan (Honours), MPIA
Address	173 Sussex Street, Sydney
In respect of	2-6 Hassall Street, Parramatta Environmental Impact Statement
Certification	
	I certify that I have prepared the content of this EIS and to the best of my knowledge: • it is in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000; • all available information that is relevant to the environmental assessment of the development to which the statement relates; and • the information contained in the statement is neither false nor misleading.
Signature	
Name	Luke Feltis and Chris Ferreira
Date	8/05/2019

Executive Summary

Purpose of this Report

This Environmental Impact Statement (EIS) is submitted to the NSW Department of Planning and Environment (the Department) on behalf of Western Sydney University (WSU) in support of a State Significant Development Application (SSDA) for the redevelopment of 2-6 Hassall Street, Parramatta also known as the Western Sydney University Innovation Hub.

This SSDA will encompass the detailed development of the site, including retail, commercial and tertiary education uses across a single building together with associated car parking, landscaping, public domain improvements, signage and infrastructure augmentation.

Overview of the Project

Clause 226(1) of the *Environmental Planning and Assessment Regulation 2000* provides that a development carried out by an Australian University (under the meaning of *Higher Education Act 2001*) is a Crown development. Whilst WSU is the Applicant for the subject SSDA, the redevelopment of the site will be delivered as a joint venture between WSU and Charter Hall. As such, the site represents an opportunity for the joint venture partners to immediately further the urban regeneration of the site in accordance with its strategic importance within Sydney's growing Central CBD.

The proponents aspire to establish a state-of the-art facility for engineering innovation and will offer programs across engineering, architecture and entrepreneurship. This project aims to bring together key WSU Institutes and provide opportunities for co-location and collaboration with complementary commercial partners.

Through the proposed development, WSU will leverage its distinctive education and research strengths and serve as a focal point for co-creation, exchange and translation with business, industry and community within a highly serviced location. The overall project timeframe is centred on the delivery of a completed project and the opening of the WSU tertiary institution by Quarter 1 2021, in time for the first semester of 2021.

Specifically, the proposal will seek approval for:

- Construction and use of a 19 storey building comprising:
  - Basement / Lower Ground level including car and bicycle parking, a loading dock, back-of-house storage and plant, and tertiary institution floorspace;
  - Ground level including retail tenancies, tertiary institution lobby floorspace, a commercial office lobby, plant equipment, end of trip facilities and driveway ramp;
  - Above ground levels comprising tertiary institution and commercial floorspace;
  - Podium terraces and rooftop plant equipment;
- Landscaping and public domain works including the provision of a ground level through-site link; and
- Extension and augmentation of services and infrastructure as required.

The Site and Background

The site is located at 2-6 Hassall Street, Parramatta within the City of Parramatta Local Government Area (LGA). The site is located at the eastern end of the Parramatta CBD and is in proximity to the Parramatta Rail Station and Transport Interchange (100m to the west) and the Parramatta Square urban renewal precinct (250m to the north west).

In order for consent to be granted, the proposal is reliant on gazettal of a Planning Proposal, which seeks an expedited implementation of the City of Parramatta's growth objectives for the Parramatta CBD, specific to the Hassall Street site. Once gazetted, the proposal will be compliant with the new planning controls intended for the site, inclusive of the 15% design excellence bonus available under Clause 7.10(8) of the LEP. At the time of writing, the Department is processing the site-specific Planning Proposal following Council's endorsement on 11 March 2019.

The site is not identified as a heritage item, however, adjoins the Commonwealth and State heritage listed Lancer Barracks Precinct to the north and the locally listed Commercial Hotel to the west. Site preparation works have commenced pursuant to an early works development consent (DA/714/2018), as such the site is currently free of existing vegetation and structures and is bound by an A class hoarding. Archaeological investigations, piling/shoring and excavation works are subject of DA/66/2019.

Objectives of the Proposal

The proposed development as outlined above, has been subject to rigorous urban design testing and assessment throughout the Planning Proposal and design excellence process to develop the optimal built form and urban design outcome for this prominent Parramatta CBD site. The architectural design has had to balance a number of design considerations, including but not limited to:

- The need to facilitate market appropriate floor plates to meet the functional requirements of WSU as a tertiary education;
- The need to develop a significantly underutilised site in accordance with local and State Governments' aspirations for the Parramatta CBD which includes the growth of Greater Western Sydney through the delivery of internationally competitive business, education and innovation precincts;
- The need to provide a contemporary CBD tower that is sympathetic to the site's rich surrounding heritage; and
- The need to minimise the impact of the built form on surrounding developments, thereby making a positive contribution of the Parramatta CBD.

The project has undergone an extensive design excellence process from inception through to the preparation of the SSDA, which has involved Government Architect New South Wales, City of Parramatta Council and the joint proponents. Accordingly, the Government Architect has confirmed that the project is not subject to the requirements of the State Design Review Panel and that design excellence has been achieved and has been maintained to date.

The proposal as viewed from Station Street (left) and from the Lancer Barracks (right)

Source: Tzannes + Blight Rayner

Planning Context

As the proposal includes development for the purpose of a tertiary institution (within the meaning of the State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017) that has a capital investment value (CIV) in excess of $30 million, it is designated as SSD for the purposes of the EP&A Act, as a consequence of the operation of Clause 15(3) of Schedule 1 of the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP).

Environmental Impacts and Mitigation Measures

The EIS provides an assessment of the environmental impacts of the project. Key environmental assessment considerations identified include:

- Built form and urban design;
- Impact on adjoining properties;
- Transport and accessibility;
- Heritage;
- Geotechnical and structural conditions;
- Contamination;
- Wind impacts;
- Water cycle management;
- Waste management;
- Acoustic impact;
- Tree removal;
- Crime and public safety;
- Environmentally sustainable development;
- Aeronautical impacts;
- Construction impacts; and
- BCA, fire and accessibility.

All identified impacts are addressed in this EIS and are capable of being ameliorated through the implementation of appropriate mitigation measures as detailed at **Section 7.0** and within the supporting documentation.

Conclusion and Justification

The EIS has addressed the issues outlined in the SEARs and accords with Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* with regards to consideration of relevant environmental planning instruments, built form and design excellence, social and environmental impacts including heritage, traffic, noise, construction impacts and stormwater management.

Having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development, the carrying out of the project is justified.

Given the planning merits and the significant public benefits associated with the proposed development, it is recommended that this application be approved.

1.0 Introduction

This Environmental Impact Statement (EIS) is submitted to the NSW Department of Planning and Environment (the Department) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) in support of an application for State Significant Development (SSD).

As the proposal includes development for the purpose of a tertiary institution (within the meaning of the *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* (Education SEPP) that has a capital investment value (CIV) in excess of $30 million, it is designated as SSD for the purposes of the EP&A Act, as a consequence of the operation of Clause 15(3) of Schedule 1 of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP).

The report has been prepared by Ethos Urban on behalf of Western Sydney University and is based on the Architectural Plans provided by Tzannes + Blight Rayner (see **Appendix B**) and other supporting technical information appended to the report (see Table of Contents).

This EIS has been prepared in accordance with the requirements of Part 4 of the EP&A Act, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), and the Secretary's Environmental Assessment Requirements (SEARs) for the preparation of the EIS, which are included in **Appendix A**. This EIS should be read in conjunction with the supporting information and plans appended to and accompanying this report.

1.1 Overview of Proposed Development

This application seeks consent for the redevelopment of the site as a mixed-use development comprising a tertiary institution, commercial office and retail uses, to be known as the Western Sydney University Innovation Hub. Specifically, the proposal seeks approval for:

- Construction and use of a 19 storey building comprising:
  - Basement / Lower Ground level including car and bicycle parking, a loading dock, back-of-house storage and plant, and tertiary institution floor space;
  - Ground level retail tenancies, tertiary institution lobby floor space, a commercial office lobby, plant equipment, end of trip facilities and driveway ramp;
  - Above ground levels comprising tertiary institution and commercial floor space;
  - Podium terraces and rooftop plant equipment;
- Landscaping and public domain works including the provision of a pedestrian plaza fronting the retail premises and University lobby; and
- Extension and augmentation of services and infrastructure as required.

1.2 Background to the Development

1.2.1 Planning Context

Site Specific Planning Proposal

On 22 December 2017, Charter Hall submitted a Planning Proposal to the City of Parramatta requesting amendments to the *Parramatta Local Environmental Plan 2011* (Parramatta LEP 2011) as it relates to the subject site. The amendments sought to align the height and floor space ratio (FSR) controls with the strategic context and controls recommended for the site in the Parramatta CBD Planning Proposal, which received a Gateway Determination in December 2018, and will be subject of public exhibition in 2019/2020.

Due to the significant quantity of studies required to inform the Parramatta CBD Planning Proposal and therefore, the timeframe associated with its gazettal, the proponent sought to expedite the process of amending the planning controls for the site in accordance with the City of Parramatta's growth objectives for the Parramatta CBD. At the Council meeting of 9 April 2018, the City of Parramatta resolved to endorse the Planning Proposal and forward it to the Department for a Gateway Determination.

On 14 June 2018, the Department issued a Gateway Determination in respect of the Planning Proposal to achieve an increase in the FSR control from 6:1 to 10:1 and an increase in the height of buildings control from 72m to 86m (approximately 22 storeys). The Department's Gateway Determination Assessment Report noted that:

> "*The planning proposal should proceed subject to conditions as it reflects the strategic aims of the Parramatta CBD. It will enable a high-density commercial development with corresponding economic benefit. The proposed provisions are generally consistent with the intent of the Parramatta CBD planning strategy and subsequent CBD planning proposal currently under assessment for a Gateway determination".*

At the City of Parramatta Council meeting of 13 August 2018, the elected Council resolved to place the Planning Proposal on public exhibition. The Planning Proposal was exhibited from 5 September 2018 to 5 October 2018, during which Council received no public submissions. There were however, agency submissions from the Office of Environment and Heritage (OEH), OEH Heritage Division, Roads and Maritime Services (RMS) and Transport for NSW (TfNSW). Following additional input provided by the proponent including further traffic and pedestrian generation analysis as well as Visual Impact Assessment, Council officers resolved to forward the Planning Proposal to the elected Council at the meeting of the 11 March 2019, where the Planning Proposal was endorsed to be sent to the Department for finalisation.

The proposal is reliant on gazettal of the Planning Proposal for consent to be granted, given the proposal varies the height and FSR development standards on the site at the time of writing. Once gazetted, the proposal will be compliant with the new planning controls on the site, inclusive of the 15% design excellence bonus for FSR under Clause 7.10. At the time of writing, the Department is processing the Planning Proposal to be forwarded to Parliamentary Counsel for publishing. The proposal is therefore reliant on the finalisation of the Planning Proposal, which is expected to be finalised and the Parramatta LEP 2011 amended in May 2019.

Competitive Design Process

Clause 7.10 of the Parramatta LEP 2011 stipulates that development consent for any new building with a height of over 55m must not be granted unless a competitive design process has been held in relation to the proposed development. Pursuant to this, and as the proposal is classified as SSD, the proponent commenced detailed discussions with the Office of the Government Architect NSW (GANSW) and City of Parramatta Council as key stakeholders to develop a robust design competition brief to issue to the invited competitors.

The competitive design process was undertaken in accordance with the requirements of the Director General's Design Excellence Guidelines and the Draft Government Architect's Design Excellence Competition Guidelines. The following architectural firms were invited to submit design proposals for the competition which was held from October 2018 to December 2018:

- Architectus;
- Cox;
- Tzannes + Blight Rayner; and
- Woods Bagot.

The four invited teams were chosen because of their distinctive and innovative approach to architecture, experience in designing commercial and educational buildings and industry reputation. A design competition jury of five members assessed the submitted designs and decided on the winning design of Tzannes + Blight Rayner following three rounds of deliberations. The jury members all have expertise and experience in the design and construction industry. Furthermore, the jury members have appropriate design expertise and are recognised advocates for design excellence. The jury included:

- Lee Hillam (Chair) – A/ Director of Design Excellence, GANSW;
- Kim Crestani – City Architect, City of Parramatta Council;
- David Logan – Partner, GML Heritage;
- David McCracken – Director, VODA Management; and
- Chris Knapp – Chair of Architecture, Western Sydney University.

As detailed within the Jury Report in **Appendix C**, the jury confirmed that the competitive process was held in a fair and professional manner and produced a building that exhibits the potential to achieve the design excellence criteria of the City of Parramatta Council and GANSW, with the refinement of a number of design detail items to occur through the Development Application (DA) preparation process and through design development.

Following the design competition process, and in accordance with the Design Competition Brief, the proposal underwent a design integrity process. This was to ensure that the detailed design development would maintain design excellence and exhibit general consistency with the jury's recommendations and winning design. This involved forming a Design Integrity Panel with members including Lee Hillam (GANSW), Kim Crestani (City of Parramatta) and David McCracken (VODA Management). At the Panel's meeting on 14 March 2019, it was determined that the design as detailed in the Architectural Drawings in **Appendix B** maintained design excellence and did not depart from the jury's final recommendations.

In this regard, as chair of the competitive design process, GANSW confirmed that the proposal is not required to go before the State Design Review Panel (refer to **Appendix C**). In lieu of this and in accordance with Clause D.17 of the Design Competition Brief, the proposal is required to be presented to the appointed Design Integrity Panel at the following stages:

- Prior to lodgement of the Development Application stage;
- Prior to issue of the Construction Certificate;
- Prior to issue of the Occupation Certificate; and
- Prior to lodgement of any Section 4.55 which modifies the design.

The way in which the proposed design has responded to the recommendations of the jury and panel is provided in greater detail in **Section 5.2**.

Accordingly, the proposal relies on the 15% FSR bonus available under Clause 7.10(8)(a) given it is the winner of a competitive design process.

Early Works Development Applications

The overall project timeframe is centred on the delivery of a completed project and the opening of the WSU tertiary institution by Quarter 1 2021, in time for the first semester of 2021. In order to meet this critical time frame, two 'early works' DAs (separate to this SSD DA) have been prepared and submitted to the City of Parramatta Council. The early works DA strategy will allow site preparation and early works to commence prior to the determination of the base building SSD DA.

The first early works DA (EW DA1) (DA/714/2018), was submitted to the City of Parramatta Council in October 2018 and sought consent for the demolition of existing structures, the removal of two trees fronting Hassall Street and the undertaking of archaeological investigations and archaeological salvage works. EW DA1 was approved in December 2018 subject to conditions, and subsequently, the approved works have physically commenced.

The second early works DA (EW DA2), was submitted to Council in February 2019 and has sought approval for earthworks (excavation) including shoring through the use of piles. EW DA2 (DA/66/2019) is under assessment at the time of writing.

1.2.2 Western Sydney University's Vision

Western Sydney University is one of Australia's largest universities. Its mission is to be a university of international standing and outlook, achieving excellence through scholarship, teaching, learning, research and service to local and international communities, beginning with the people of Greater Western Sydney. Ranked amongst the top three per cent of universities in the world, WSU is globally focused, research-led and committed to making a positive impact at a regional, national and international level.

WSU is embarking on a large-scale transformative program that will bring the highest quality educational opportunities and world-class research expertise to Western Sydney. WSU is reshaping its campus network, to combine existing campuses with CBD vertical campuses and is committed to developing campus precincts that connect with and embed business, industry and community partners.

WSU's vertical campuses deliver high amenity, technology-rich facilities for education and research, supporting innovation, improving community well-being and providing greater accessibility across the region. Refer to the WSU Campus Strategy provided by WSU and provided in **Appendix O** for further details of the University's plan to transform their campuses.

Following the Gateway Determination issued for the Planning Proposal, WSU entered into a joint venture partnership with Charter Hall to deliver a mixed-use development on the site incorporating a new university facility.

WSU has also struck a partnership with the University of New South Wales to deliver a state-of the-art vertical hub through this proposal, intended to house a joint undergraduate engineering program alongside WSU' architecture and business courses with broader opportunity for additional programs offered by the School of Computing, Engineering and Mathematics. The facility will provide for both education and research at the undergraduate and postgraduate levels and accommodate Launchpad, the University's business and innovation support program. Launchpad has an established presence in Parramatta city and will co-locate as part of this facility fostering collaboration between students, start-ups and tenants that will be co-located in the building, which is further explained in **Appendix O**.

Through the proposed new facility, WSU will leverage its distinctive education and research strengths and serve as a focal point for co-creation, exchange and translation with business, industry and community. This project will build on the success of the University's existing Parramatta City campus (1 Parramatta Square, developed with Charter Hall) and concentrate WSU's facilities along with the new vertical primary and high schools at Macquarie and Smith Streets, respectively(currently under development) to form an education cluster in the heart of the Parramatta CBD.

WSU's plan is to open the new facility for the first semester of 2021. This compressed timeframe has necessitated the involvement of Charter Hall as commercial development partner, to deliver the campus in order to meet the projected forecast of student demand by WSU. As a result, the pressing need by WSU to open has necessitated the need for separate 'early works' DAs, as described above to ensure certain preparatory works are able to commence and progress ahead of the SSDA.

1.3 Objectives of the Development

The objectives of the WSU Innovation Hub are to:

- Provide a new mixed-use development that attracts educational and commercial partners reaffirming Parramatta as Sydney's central CBD;
- Create a development that attracts staff, students, residents, researchers and visitors from all over the world to present significant employment opportunities for the Greater Parramatta and Western Sydney region;
- Provide 'world class' facilities and contemporary learning spaces to link to the WSU's existing CBD campus network;
- Deliver a building that is flexible and can address both the current needs of the University as well as offer future flexibility by readily adapting to future academic needs and shortfalls within an evolving campus;
- Create a development that is consistent with transit-oriented development principles, to reflect the scale and density appropriate for a site within the Parramatta CBD;
- Achieve a built form outcome for the site that is appropriate for its location and positively responds to surrounding buildings;
- Deliver an architecturally distinct building that will achieve design excellence and enhance the overall built environment; and
- Create a vibrant, permeable, accessible and well-connected ground plane.

1.4 Crown Development Application

Clause 226(1) of the EP&A Regulation provides that a development carried out by an Australian University (under the meaning of *Higher Education Act 2001*) is a Crown development. Western Sydney University is recognised as an Australian University under Schedule 1 of the *Higher Education Act 2001* and so the development is a Crown development for the purpose of Part 4 of the EP&A Act.

1.5 Analysis of Alternatives

1.5.1 Strategic need for the proposal

Sydney's universities rank highly in national and international comparisons, creating strong demand from regional, interstate and international students. Further to this, the NSW Government has placed a strategic focus on the growth and development of Greater Western Sydney, through the announcement of Parramatta as Sydney's second central business district, also known as the Central City. This requires collaboration from complementary stakeholders to create opportunities for investment, business and jobs growth and internationally competitive industry sectors.

The Central City is the fastest growing district in Greater Sydney, with record levels of population growth, infrastructure and investment transforming the economy. This requires new services and infrastructure to provide further support for this growth.

In this regard, WSU has embarked on a large-scale transformative program that will bring the highest quality educational opportunities and world-class research expertise to Western Sydney. WSU is reshaping its campus network, to combine existing campuses with CBD vertical campuses and is committed to developing campus precincts that connect with and embed business, industry and community partners. The proposed development is optimally located to support industry partnerships and link with WSU's existing CBD network which includes 1 Parramatta Square, approximately 200m to the north-west of the site.

The proposed development strategically aligns with the NSW Government's vision for the Central City by providing tertiary and vocational education and training facilities that allow people to gain and refine skills for employment and connect with complementary industry and community partners. The proposed development will maximise the site's locational and strategic potential to deliver an internationally competitive education and innovation hub to contribute to the growth and development of Sydney Central City and the Sydney region at large.

1.5.2 Alternative Options

The applicant's intent is to provide a mixed use commercial and educational development to facilitate an innovation hub based on strong demand for this use in Greater Western Sydney. Notwithstanding this, the EP&A Regulation requires an analysis of any feasible alternatives to the carrying out of the development, which is discussed below.

Option 1 – Do Nothing

Under the 'Do Nothing' scenario, an innovative use such as the proposal is not provided. This option does not provide a desirable outcome as it fails to adequately plan for future growth and opportunities for an integrated business, education and innovation hub in Greater Western Sydney. It is also inconsistent with the broader strategic planning policies including the Greater Sydney Region Plan and the Central City District Plan as outlined in **Section 1.5.1** above. The 'Do Nothing' approach would represent a missed opportunity to align the future of the site with Council and the State Government's strategic vision for the Parramatta CBD.

Further to this, the 'Do Nothing' approach would require the applicant to acquire another CBD site to deliver their vision. Given the subject site is highly serviced, is approximately 150m from the Parramatta Railway Station and is well connected to the existing WSU facility at 1 Parramatta Square, other locations may be sub-optimal.

Option 2 – Alternative Site Use

If the site is not used for the proposed tertiary, commercial office and retail uses, the most likely alternate development option involves a commercial office development in accordance with the site's B3 Commercial Core zone. The Parramatta CBD commercial core is currently in a state of transformation, which notably includes the redevelopment of Parramatta Square, to include high grade commercial office floor space at 3, 4 and 6 Parramatta Square. As such, there is influx of high-quality commercial floor space in close proximity to the site.

Whilst there is strong demand for high quality office floor space within the Parramatta CBD, the Greater Sydney Region Plan and the Central City District Plan both place a strong emphasis on developing education and innovation precincts within the Parramatta CBD. The proposal is strategically located to contribute to this and build on the success of the University's existing Parramatta City campus and concentrate WSU's facilities along with the new vertical primary and high schools that are respectively located at Macquarie and Smith Streets (currently under development) to form an education cluster in the heart of the CBD.

Whist the proposal does include a commercial office component, developing the site for exclusively commercial purposes would be a lost opportunity to contribute to strengthen the Parramatta education cluster and foster direct collaboration and innovation with industry partners. Accordingly, there is a clear strategic need for the proposed mixed use development, and alternatives are considered to be less desirable.

1.6 Secretary's Requirements

In accordance with section 4.39 of the EP&A Act, the Secretary of the Department issued the requirements for the preparation of the EIS. A copy of the SEARs is included in **Appendix A**. **Table 1** provides a detailed summary of the individual matters listed in the SEARs and identifies where each of these requirements has been addressed in this report and the accompanying technical studies.

Table 1: Secretary's requirements

Requirement	**Location in EIS**	
General Requirements		
The Environmental Impact Statement (EIS) must be prepared in accordance with and meet the minimum requirements of clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*	Environmental Impact Statement	
Key Issues	**Report / EIS**	**Technical Study**
1. Statutory and Strategic Context Consideration of the relevant statutory provisions contained within the applicable EPIs, including: • *State Environmental Planning Policy (State & Regional Development) 2011;* • *State Environmental Planning Policy (Infrastructure) 2007;* • *State Environmental Planning Policy No 64 - Advertising and Signage;* • *State Environmental Planning Policy No.55 - Remediation of Land;* • *State Environmental Planning Policy No.33 - Hazardous and Offensive* • *Development;* • *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017;* • *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005;* • *Draft State Environmental Planning Policy (Remediation of Land);* • *Draft State Environmental Planning Policy (Environment); and* • *Parramatta Local Environmental Plan 2011.* <u>Permissibility</u> • Detail the nature and extent of any prohibitions that apply to the development. <u>Development Standards</u> • Identify compliance with the development standards applying to the site and provide justification for any contravention of the development standards.	**Section 5.1**	N/A
2. Policies Consideration of the relevant provisions, goals and objectives in the following: • NSW State Priorities; • A Metropolis of Three Cities – the Greater Sydney Region Plan; • Central City District Plan; • Future Transport Strategy 2056; • State Infrastructure Strategy 2018 – 2038 Building the Momentum; • Crime Prevention Through Environmental Design (CPTED) Principles; • Better Placed: An integrated design policy for the built environment of New South Wales (GANSW, 2017); and • Parramatta DCP 2011 or other relevant DCP for the site.	**Section 5.1**	N/A

Requirement	Location in EIS	
3. Built Form and Urban Design Ensure that the proposal demonstrates design quality through consideration of the following: • consistency with the outcomes of any design competition held for the site; • site and context including planning and massing options and preferred strategy for future development; • contextual fit including height, bulk and scale, setbacks and interface of the proposal with surrounding development, topography, streetscape and public open spaces; • incorporation of green walls, green roof and/or cool roof into the design; • visual impact including views to and from the site and any adjoining heritage items, including but not limited to the Train Station, Lancer Barracks and Parramatta Square; • built form including overall site layout, planning and massing, façades, building articulation and scale, materials, colours; • Crime Prevention Through Environmental Design Principles; • environmental amenity including access to natural daylight and ventilation, acoustic separation, access to landscape and outdoor spaces and future flexibility; • landscape design, including consideration of equity and amenity of spaces, and integration with built form, security, shade, topography and existing vegetation; • ESD principles including sustainability targets and integration of these in design approach; • integration of services including waste management, loading zones, and mechanical plant; and • details of any signage boards, including size, location and finishes.	**Section 5.3**	**Appendix B** Design Report **Appendix E** Landscape Plans **Appendix F** Visual Impact Assessment **Appendix Y** CPTED Report **Appendix Q** ESD Report
4. Environmental Amenity • Assess amenity impacts on the surrounding locality including solar access, acoustic impacts, visual privacy, visual amenity, view loss, overshadowing and wind impacts. A high level of environmental amenity for any surrounding residential units or areas of open public space must be demonstrated; • Conduct a view analysis to the site from key vantage points and streetscape locations; and • Include a lighting strategy and measures to reduce spill into any surrounding sensitive receivers.	**Section 5.4** **Section 5.7** **Section 5.17**	**Appendix B** Design Report **Appendix T** Acoustic Impact Assessment **Appendix F** Visual Impact Assessment **Appendix U** Lighting Impact Assessment
5. Transport and Accessibility Include a transport and accessibility impact assessment, which details, but not limited to the following: • accurate details of the current daily and peak hour vehicle, existing and future public transport networks and pedestrian and cycle movement provided on the road network located adjacent to the proposed development; • details of estimated total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycle trips based on surveys within the local area • the adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site, pedestrian and bicycle networks and associated infrastructure to meet the likely future demand of the proposed development; • measures to integrate the development with the existing/future public transport network; • the impact of trips generated by the development on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for, and details of, upgrades or road improvement works, if required (Traffic modelling is to be undertaken using SIDRA network modelling for current and future years);	**Section 5.5**	**Appendix G** Transport and Access Impact Statement

Requirement	Location in EIS	
• the identification of infrastructure required to ameliorate any impacts on traffic efficiency and road safety impacts associated with the proposed development, including details on improvements required to affected intersections; • details of travel demand management measures to minimise the impact on general traffic and bus operations, including details of a location specific sustainable travel plan (Green Travel Plan and specific Workplace travel plan) and the provision of facilities to increase the non-car mode share for travel to and from the site; • the proposed walking and cycling access arrangements and connections to public transport services; • the proposed access arrangements, including car and bus pick-up/drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and bicycle networks, including pedestrian crossings and refuges and speed control devices and zones; • proposed bicycle parking provision, including end of trip facilities, in secure, convenient, accessible areas close to main entries incorporating lighting and passive surveillance; • proposed number of car parking spaces for staff and visitors and corresponding compliance with existing parking codes and justification for the level of car parking provided as part of the proposed development; • an assessment of the cumulative on-street parking impacts of cars, staff parking and any other parking demands associated with the development; • an assessment of road and pedestrian safety adjacent to the proposed development and the details of required road safety measures and personal safety in line with CPTED; • emergency vehicle access, service vehicle access, service vehicle parking, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times for the delivery of goods to any retail, commercial and educational facilities within the development). • the preparation of a preliminary Construction Traffic and Pedestrian Management Plan to demonstrate the proposed management of the impact in relation to construction traffic addressing the following: - assessment of cumulative impacts associated with other construction activities, including but not limited to Parramatta Square and the Parramatta Light Rail (PLR) project; - an assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity; - measures proposed to mitigate any associated general traffic, public transport, pedestrian and cyclist impacts; - details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process; - details of anticipated peak hour and daily construction vehicle movements to and from the site; - proposed haulage routes and location of work zones (if any); - details of on-site car parking and access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicles; and - details of temporary cycling and pedestrian access during construction.		
Relevant Policies and Guidelines: • Guide to Traffic Generating Developments (Roads and Maritime Services); • EIS Guidelines – Road and Related Facilities (DoPI); • Cycling Aspects of Austroads Guides; • NSW Planning Guidelines for Walking and Cycling; • Austroads Guide to Traffic Management Part 12: Traffic Impacts of • Development; and • Standards Australia AS2890.3 (Bicycle Parking Facilities).	N/A	**Appendix G** Transport and Access Impact Statement

Requirement	Location in EIS	
6. Staging • Provide details regarding the staging of the proposed development (if any).	**Section 3.11**	**Appendix Z** Construction Management Plan
7. Ecologically Sustainable Development (ESD) • Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Regulation) will be incorporated in the design and ongoing operation phases of the development; • Include a framework for how the future development will be designed to consider and reflect national best practice sustainable building principles to improve environmental performance and reduce ecological impact. This should be based on a materiality assessment and include waste reduction design measures, future proofing, use of sustainable and low-carbon materials, energy and water efficient design (including water sensitive urban design) and technology and use of renewable energy; • Include preliminary consideration of building performance and mitigation of climate change, including consideration of Green Star Performance. • Provide a statement regarding how the design of the future development is responsive to the CSIRO projected impacts of climate change, specifically: - hotter days and more frequent heatwave events; - extended drought periods; - more extreme rainfall events; - gustier wind conditions; and - how these will inform landscape design, material selection and social equity aspects (respite/shelter areas). Relevant Policies and Guidelines: • NSW and ACT Government Regional Climate Modelling (NARCliM) climate change projections.	**Section 3.9** **Section 8.3**	**Appendix Q** Ecologically Sustainable Report
8. Heritage • Provide a statement of significance and an assessment of the impact on the heritage significance of any adjacent heritage items or conservation area in accordance with the guidelines in the NSW Heritage Manual. The assessment is to is to address the impacts of the proposal on the heritage significance of the site and adjacent areas and is to identify the following: - all heritage items (state and local) within the vicinity of the site including built heritage, landscapes and archaeology detailed mapping of these items, and assessment of why the items and site(s) are of heritage significance; - compliance with any relevant Conservation Management Plan; - the impacts of the proposal on heritage item(s) including visual impacts; - the attempts to avoid and/or mitigate the impact on the heritage significance or cultural heritage values of the surrounding heritage items. • Address any archaeological potential and significance on the site and the impacts the development may have on this significance, and preparation of a historical • archaeological assessment by a suitably qualified archaeologist, if required. • Where archaeological impacts are addressed in a separate early works development application, the EIS is to detail the status of the assessment at the time of lodgement of the subject SSD application.	**Section 5.6**	**Appendix H** Heritage Impact Statement **Appendix I** Archaeological Impact Assessment **Appendix J** Aboriginal Cultural Heritage Assessment Report
9. Noise and Vibration • Identify and provide a quantitative assessment of the main noise and vibration generating sources during demolition, site preparation, bulk excavation, construction and operation. Outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land. **Relevant Policies and Guidelines:** • NSW Noise Policy for Industry 2017 (EPA); • Interim Construction Noise Guideline (DECC);	**Section 5.7**	**Appendix T** Noise and Vibration Impact Assessment

Requirement	Location in EIS	
• Assessing Vibration: A Technical Guideline 2006; • Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning 2008).		
10. Social and Economic Impact Include an assessment of the social and economic impacts of the development, including: • the economic feasibility and suitability of the innovation hub; • the social impacts on the local community, including how the proposal adds to the social sustainability of the broader community; and • adequacy of open space, sport and recreation facilities to support the student and academic population.	**Section 5.18**	**Appendix R** Social and Economic Impact Assessment
11. Utilities • Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation and easement requirements of the development for the provision of utilities including staging of infrastructure; • Prepare an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design.	**Section 5.8**	**Appendix AA** Infrastructure and Water Management Plan
12. Contributions • Address Council's 'Section 94/94A Contribution Plan' and/or details of any Voluntary Planning Agreement, which may be required to be amended because of the proposed development.	**Section 5.19**	
13. Biodiversity Assessment • Biodiversity impacts related to the proposed development are to be assessed in accordance with the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the Biodiversity Conservation Act 2016 (s6.12), Biodiversity Conservation Regulation 2017 (s6.8) and Biodiversity Assessment Method (BAM); • The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the BAM; • The BDAR must include details of the measures proposed to address the offset obligation as follows: - the total number and classes of biodiversity credits required to be retired for the development/project; - the number and classes of like-for-like biodiversity credits proposed to be retired; - the number and classes of biodiversity credits proposed to be retired in accordance with the variation rules; - any proposal to fund a biodiversity conservation action; - any proposal to make a payment to the Biodiversity Conservation Fund. • If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits. • The BDAR must be submitted with all spatial data associated with the survey and assessment as per Appendix 11 of the BAM. • The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the Biodiversity Conservation Act 2016. • Where a Biodiversity Assessment Report is not required under the Biodiversity Conservation Act 2016, engage a suitably qualified person to assess and document the flora and fauna impacts related to the proposal.	**Section 5.9**	**Appendix DD** BDAR Waiver

Requirement	Location in EIS	
Note: Notwithstanding these requirements, the Biodiversity Conservation Act 2016 requires that State Significant Development Applications be accompanied by a Biodiversity Development Assessment Report unless otherwise specified under the Act.		
14. Contamination and Hazardous Material • Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55. • Undertake a hazardous materials survey of all existing structures and infrastructure prior to any demolition or site preparation works. → Relevant Policies and Guidelines: - Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP).	**Section 5.10**	**Appendix N** Detailed Site Investigation
15. Drainage • Detail measures to minimise operational water quality impacts on surface waters and groundwater. • Stormwater plans detailing the proposed methods of drainage without impacting on the downstream properties. **Relevant Policies and Guidelines:** • Guidelines for development adjoining land and water managed by DECCW (OEH, 2013).	**Section 5.11**	**Appendix K** Stormwater Management Plan
16. Flooding • Identify flood risk on-site (detailing the most recent flood studies for the project area) and consideration of any relevant provisions of the NSW Floodplain Development Manual (2005), including the potential effects of climate change, sea level rise and an increase in rainfall intensity. If there is a material flood risk, include design solutions for mitigation.	**Section 5.11**	**Appendix L** Flooding and Overland Flow Management Plan
17. Sediment, Erosion and Dust Controls • Detail measures and procedures to minimise and manage the generation and offsite transmission of sediment, dust and fine particles. **Relevant Policies and Guidelines:** • Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom); • Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA); and • Guidelines for development adjoining land and water managed by DECCW (OEH, 2013).	**Section 5.11**	**Appendix K** Stormwater Management Plan
18. Waste • Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site for any for retail, commercial and educational facilities.	**Section 5.12**	**Appendix CC** Waste Management Plan
19. Construction Hours • Identify proposed construction hours and provide details of the instances where it is expected that works will be required to be carried out outside the standard construction hours.	N/A	**Appendix Z** Construction Management Plan
Plans and Documents		
• Jury Report and any subsequent Design Integrity Panel Reports from the competitive design process	N/A	**Appendix C** Design Competition Jury Report and Design Integrity Report

Requirement	Location in EIS	
• Architectural drawings to a usable scale at A3 (showing key dimensions, RLs, scale bar and north point), including: - plans, sections and elevations - illustrated materials schedule including physical or digital samples board with correct proportional representation of materials, nominated colours and finishes - details of proposed signage, including size, location and finishes - site plan	N/A	**Appendix B** Architectural Drawings and Design Report
• Site Survey Plan, showing existing levels, location and height of existing and adjacent structures / buildings and site boundaries	N/A	**Appendix D** Site Survey
• Site Analysis Plan, including: - site and context plans that demonstrate principles for future development and expansion, built form character and open space network - active transport linkages with existing, proposed and potential footpaths and bicycle paths and public transport links - site and context plans that demonstrate principles for future network, active transport linkages with existing, proposed and potential footpaths and bicycle paths and public transport links	N/A	**Appendix B** Architectural Drawings and Design Report
• Shadow Diagrams at hourly intervals	N/A	**Appendix B** Architectural Drawings and Design Report
• View analysis, photomontages and architectural renders, including from those from public vantage points	N/A	**Appendix F** Visual Impact Assessment
• Public Domain Plan	N/A	**Appendix E** Landscape and Public Domain Plans
• Landscape architectural drawings showing key dimensions, RLs, scale bar and north point, including: - integrated landscape plans at appropriate scale, with detail of new and retained planting, shade structures, materials and finishes proposed - plan identifying significant trees, trees to be removed and trees to be retained or transplanted	N/A	**Appendix E** Landscape and Public Domain Plans
• Design report to demonstrate how design quality will be achieved in accordance with the above Key Issues including: - architectural design statement diagrams, structure plan, illustrations and drawings to clarify the design intent of the proposal - detailed site and context analysis - analysis of options considered including building envelope study to justify the proposed site planning and design approach - visual impact assessment identifying potential impacts on the surrounding built environment and adjoining heritage items - summary of feedback provided by GANSW and responses to this advice - summary report of consultation with the community and response to any feedback provided	N/A	**Appendix B** Architectural Drawings and Design Report
Consultation		
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups, special interest groups including local Aboriginal land councils and registered Aboriginal stakeholders and affected landowners. In particular, you must consult with: • Parramatta City Council; • Government Architect NSW; • Heritage Division of the Office of Environment and Heritage; • Transport for NSW; and • Roads and Maritime Services. The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	**Section 5.0**	**Appendix BB** Consultation Outcomes Report

2.0 Site Analysis

2.1 Site Location and Context

The site is located at 2-6 Hassall Street, Parramatta within the City of Parramatta Local Government Area (LGA).

The site is located at the eastern end of the Parramatta CBD and is in close proximity to Parramatta Railway Station and Transport Interchange (100m to the west) and the Parramatta Square urban renewal precinct (250m to the north-west).

The site is located in proximity to a number of regionally significant facilities and amenities including the Parramatta Westfield Shopping Centre, the existing Western Sydney University (WSU) Parramatta City Campus, the Council Civic building and Public Library as well as a range of other recreational services provided along the Parramatta River Foreshore.

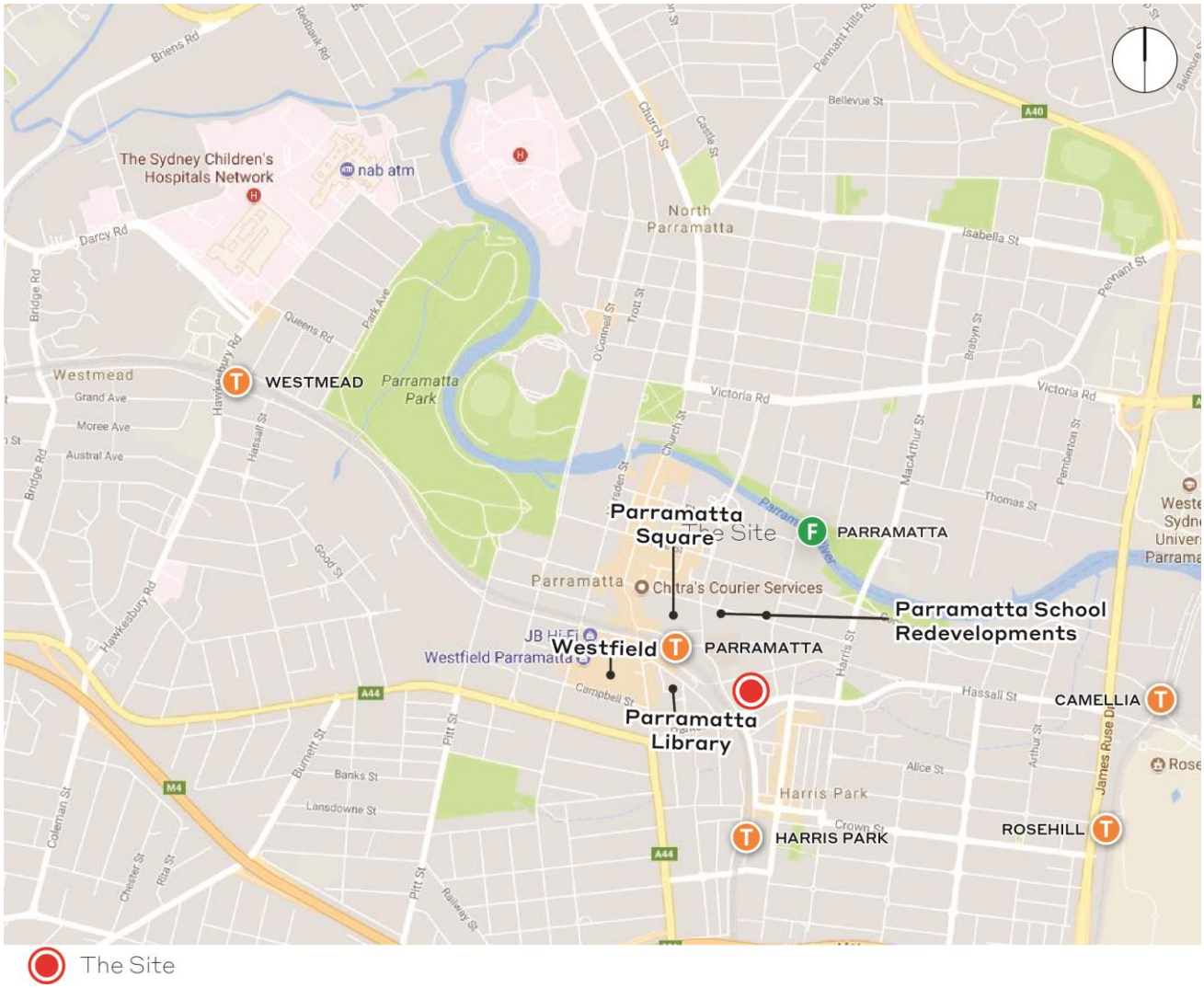


Figure 1: Site location

Source: Google Maps and Ethos Urban

2.2 Site Description

The site is generally rectangular in shape and comprises three allotments of land with a combined area of 2,647m^2 and dimensions of approximately 62m along the northern and southern boundaries and 45m along the eastern and western boundaries. The site is legally described as Lot 22 in DP608861, Lot 62 in DP1006215 and Lot 7 in DP128820. The site is co-owned by The Trust Company (Australia) Limited and (Western Growth Developments (Innovation Hub Parramatta) Pty Limited as controlled entities for Charter Hall and WSU respectively.

The site was previously occupied by two buildings separated by a central vacant lot. The western lot contained a two-storey commercial building. The eastern lot contained a three-storey residential flat building. These buildings were demolished in accordance with the terms of EW DA1.

An aerial image of the site is provided in **Figure 2** and site images are provided in **Figure 3** and **Figure 4**.

Figure 2: Aerial photo

Source: Nearmap and Ethos Urban

Figure 3: Current site view from Hassall Street

Figure 4: 2 Hassall Street building during demolition

2.2.1 Transport, Access and Connectivity

Vehicular Access and Parking

The site is situated near the junction of two CBD streets being the Hassall Street and Station Street intersection, with vehicle access to the site currently obtained via the single road frontage to Hassall Street (refer to **Figure 4**). Hassall Street is a one-way westbound street and as such, vehicle entry and exit is restricted to right turn only.

Pedestrian Access

Hassall Street is a well-established pedestrian route, with the Parramatta Rail Station to the west being a major generator of foot traffic along the Hassall Street frontage. The Hassall Street and Station Street intersection is signalised to facilitate pedestrian movements between the station and the site.

Public Transport

The site is well serviced by public transport with the Parramatta Bus Interchange and Rail Station located approximately 100m to the west (**Figure 5** and **Figure 6**). The site will also benefit from future public transport infrastructure including the Parramatta Light Rail, with a planned stop to the north east on Harris Street and the Sydney West Metro station likely to be located in the vicinity of the site.

Figure 5: Parramatta Bus Interchange to the west

Figure 6: Parramatta Rail Station entrance to the west

2.2.2 Heritage

The site does not contain a heritage item, nor is it located within a heritage conservation area, however as illustrated in **Figure 7** below, the site is in the vicinity of several heritage items identified within the Parramatta LEP 2011, and the State and Commonwealth heritage registers. Notable amongst these heritage items includes:

- I751: Lancer Barracks Precinct (local and Commonwealth significance) – to the immediate north of the site;
- I00586: Old Government House and the Government Domain (local, state, World heritage item) – 800m to the north-west of the site;
- I1824: First/15 Royal NSW Lancer Museum collection (State significance);
- I707: Commercial Hotel (local significance) – to the immediate west of the site;
- I00696: Parramatta Railway Station (State significance) – 100m to the west; and
- I720: Arthur Phillip High School (and potential archaeological site) (local significance) – 150m to the north.

The site is mapped as an area of high aboriginal sensitivity under the Parramatta Aboriginal Cultural Heritage Study Review as illustrated in **Figure 8**. The EW DA1 development consent authorises archaeological investigations and salvage of any artefacts and historical material that may be located within sub-surface areas of the site.

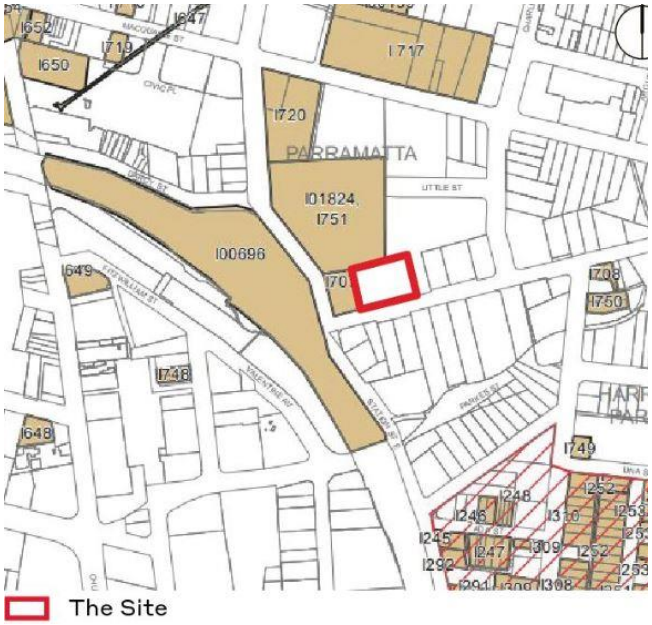


Figure 7: Heritage items in the vicinity of the site

Source: Parramatta LEP 2011

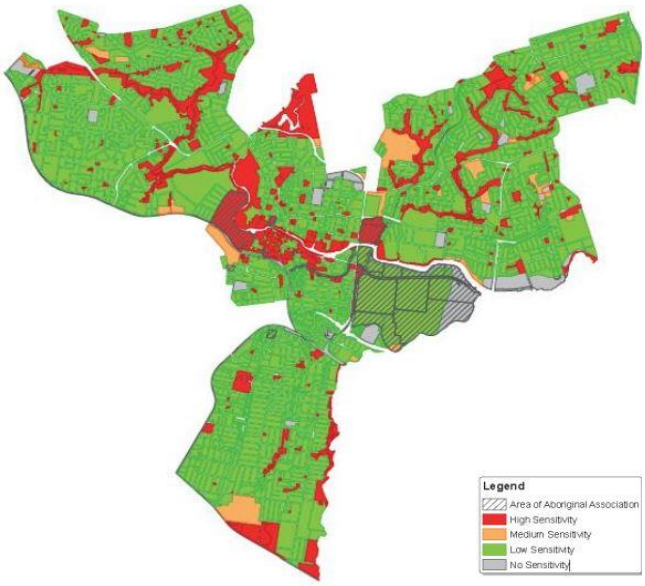


Figure 8: Aboriginal Cultural Heritage Study

Source: Mary Dallas Consulting

2.2.3 Soil and Ground Conditions

A Geotechnical Investigation has been carried out by Douglas Partners and is included in **Appendix M**. The report presents the findings of the investigation involving the drilling of three rock cored boreholes and the installation of one groundwater monitoring well. The report also draws upon previous geotechnical investigations carried out at the site in making its assessment.

The geotechnical investigations have indicated that the site is initially underlain by asphalt and road base to depths of 0.2m – 0.4m with some sandstone gravel and tile fragments to a maximum depth of 0.6m. Below this, stiff to very stiff clay, generally increasing to a hard shaly clay with depth. Below this, extremely low and very low strength shale to approximately 0.9m – 1.2m depth, becoming low strength below about 3.6m – 5.5m depth. Medium strength siltstone was encountered below approximately 5.5m – 7.5m in depth. Below 13m – 14 m in depth, high strength laminite was encountered.

The levels measured in one of the boreholes (at just below RL 0m AHD) are expected to be the regional groundwater table.

Based on the water level monitoring undertaken in November 2018, the regional groundwater table is expected to be below the proposed lift pit bulk excavation (RL 1.6 m). However, groundwater seepage through defects in the rock mass can be expected and some pumping of water may be required during construction.

2.2.4 Infrastructure and Services

An Infrastructure and Water Management Plan has been prepared by Floth and is provided in **Appendix AA**. Floth has determined that there is an existing network of services running to and surrounding the site including:

- Endeavour Energy: Existing Endeavour Energy high-voltage and low-voltage network assets lie within Hassall Street.
- Communications: Telstra have existing copper and fibre optic services on both sides of Hassall Street. Optus and Uecomm have existing fibre optic services on the south side of Hassall Street.
- Sydney Water: Sewer mains including 225 mm VC sewer main in Hassall Street.
- Sydney Water: Potable water mains including 200 mm mPVC potable water main in Hassall Street and 200mm uPVC potable water main in Hassall Street.
- Jemena: 50mm nylon natural gas main (7kPa) in Hassall Street.

The extension and augmentation of these services (as necessary) is further detailed in **Section 3.10**.

2.3 Surrounding Development

The site's CBD location provides for a range of residential, commercial, retail, civic and open space uses within close proximity. Open space in the vicinity of the site includes Jubilee Park, Rosella Park, the Robin Thomas Reserve, the Parramatta River Foreshore and James Ruse Reserve (illustrated in **Figure 9**). The site is also located within close walking proximity (370m) of the Parramatta Westfield, a large regional retail and employment facility. The site is also located in close proximity (250m) to Parramatta Square which will provide a range of educational, civic, residential entertainment and employment uses, as outlined below.

Overall, the locality surrounding the site is undergoing substantial change with underutilised sites transitioning to higher density CBD scale developments. This transition is in line with the City of Parramatta's and the State Government's vision for Parramatta as Sydney's Central City. The growth of the Parramatta CBD will further improve the range of amenities and facilities in close proximity to the site. Significant development that will contribute to this change includes:

- Parramatta Square redevelopment:
  - 1 Parramatta Square, Western Sydney University campus comprising 10 storeys of post graduate educational facilities;
  - 3 Parramatta Square, NAB office comprising 16 storeys of high-grade commercial office space;
  - 4-6 Parramatta Square, commercial towers to a maximum of 52 storeys comprising high grade commercial office space;
  - 5 Parramatta Square, comprising Council, civic and community uses;
  - 9 Parramatta Square, 'Aspire tower' comprising a landmark city centre tower.
- Western Sydney Stadium containing 30,000 new seats;
- The Powerhouse Museum, located at 30B Phillip Street, Parramatta;
- The new Arthur Phillip High School and Parramatta Public School situated at Smith and Macquarie Streets, comprising:
  - a new high-rise high school for Arthur Phillip High School for up to 2,000 students on the existing school site; and
  - a new multi-storey Parramatta Public School for up to 1,000 students on the existing school site.

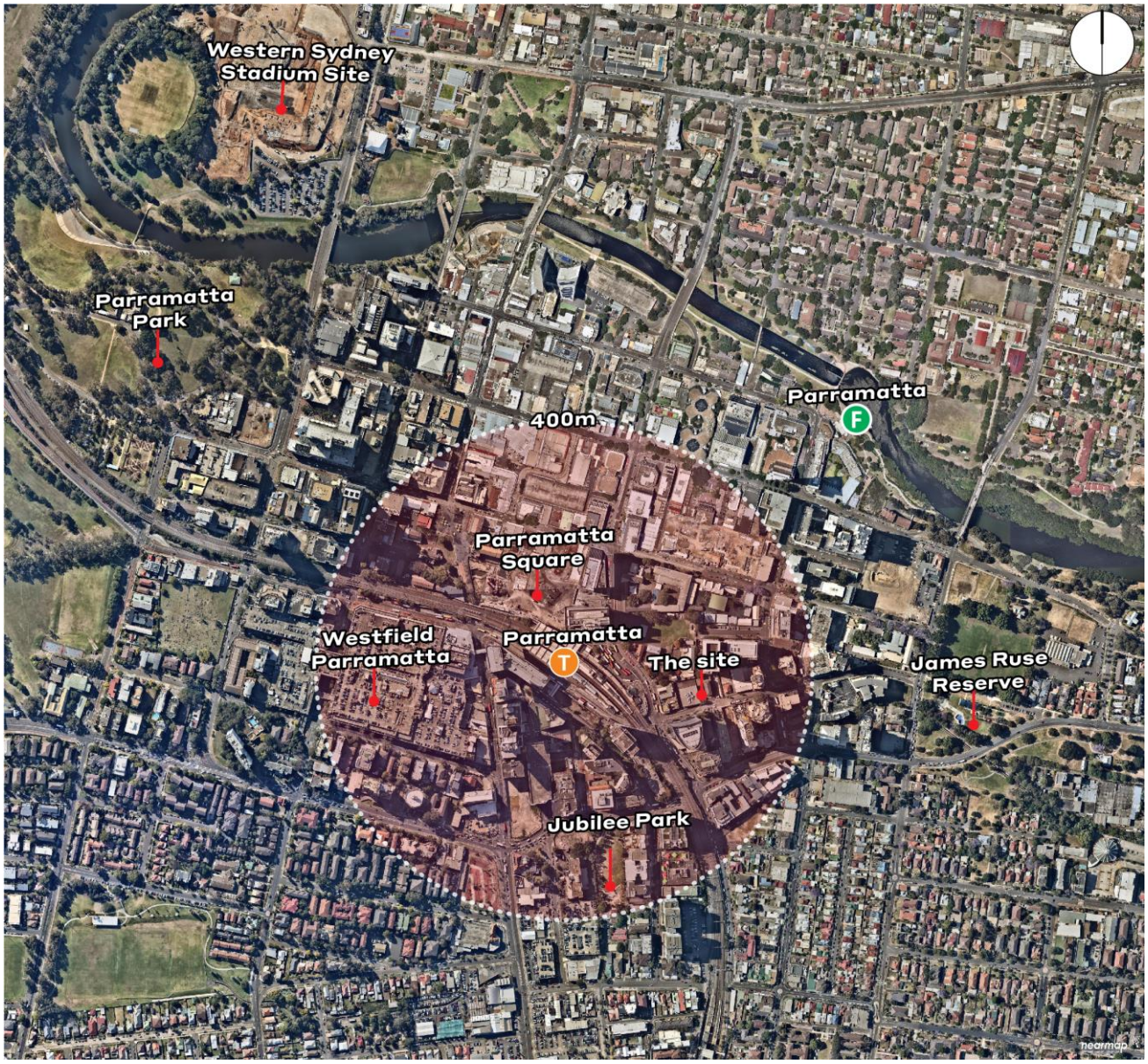


Figure 9: Broader surrounding development

Source: Ethos Urban

2.3.1 Immediate surrounding development

North

Development to the north of the site includes the Lancer Barracks campus (**Figure 10**) and the Curtis Cheng Centre (**Figure 11**) containing the NSW Police Headquarters which is approximately 15 storeys in height. Development further to the north comprises the current Arthur Phillip High School and Parramatta Public School.

Figure 10: Lancer Barracks entrance

Figure 11: Curtis Cheng Centre – NSW Police Headquarters

South

Directly to the south-east of the site is a three storey residential flat building at 5 Hassall Street (**Figure 12**) and directly south of the site at the at the corner of Hassall Street and Station Street is a 20 storey commercial building known as 'Eclipse Tower' (**Figure 13**). Also to the south of the site at 7 Hassall Street is a part two and part four storey commercial building (**Figure 12**).

The sites at 9-11 Hassall Street are currently undergoing redevelopment and are in the construction phase. Construction at 9 Hassall Street has commenced to facilitate the basement car parking associated with the 17 storey mixed use residential tower (**Figure 13**). Construction at 11 Hassall Street is nearing completion and will facilitate a 42 storey residential tower (**Figure 14**). The site at 13-15 Hassall Street comprises an existing residential development consisting of a two-storey podium element built to the boundary and an 18 and a 22 storey residential tower above (**Figure 15**).

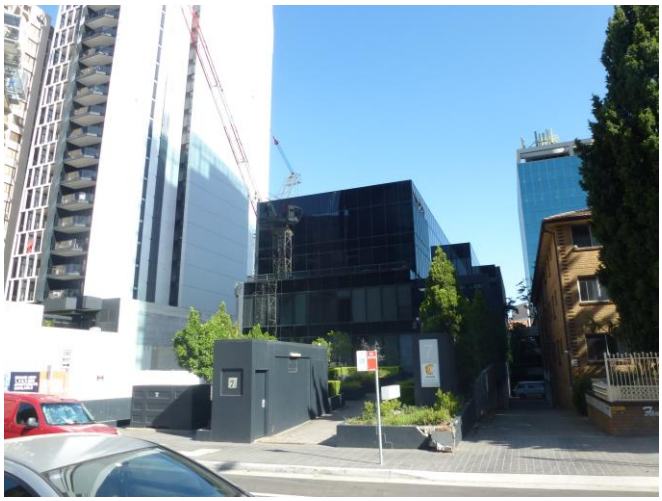


Figure 12: Commercial building at 7 Hassall Street (residential building at 5 Hassall Street to the right)

Figure 13: Eclipse building at 60 Station Street (corner of Hassall Street)

Figure 14: 41 storey residential tower at 11 Hassall Street

Figure 15: Northern 22 storey tower at 13 Hassall Street

East

The site's eastern boundary adjoins the driveway entrance to the Curtis Cheng Centre (NSW Police Headquarters building) (**Figure 16**). Beyond this lies a single storey detached residential building (**Figure 17**) and the Parramatta PCYC (**Figure 18**). The PCYC site is currently subject to a Planning Proposal for a mixed use development with a maximum floor space ratio of 15:1 and a maximum height of 192 metres. The Proposal is currently with the Department for Gateway determination. The eastern end of the street block, at the corner of Hassall Street and Charles Street, contains a mixed-use tower known as the 'Elma Apartments' which includes ground floor retail with podium parking and approximately 15 storeys of residential above (**Figure 19**).

Figure 16: Basement entrance to the Curtis Cheng Centre

Figure 17: Single detached dwelling currently used for commercial purposes at 10 Hassall Street

Figure 18: The existing PCYC at 10 Hassall Street (planned to be demolished)

Figure 19: Mixed use tower at 14 Hassall Street

West

The site's western boundary adjoins a local heritage item, the Commercial Hotel (I707). This hotel is a two storey Victorian era pub with a frontage to both Hassall and Station Street (refer to **Figure 20** and **Figure 21**). Further to the west of the site is the entrance to the Parramatta Rail Station and the Parramatta Transport Interchange.

Figure 20: Western façade of the Commercial Hotel

Figure 21: Corner frontage to the Commercial Hotel

3.0 Description of the Development

This chapter of the report provides a detailed description of the proposed development. Architectural Drawings prepared by Tzannes + Blight Rayner detailing the proposed building design are provided in **Appendix B**, and an Architectural Design Report is also in **Appendix B**.

This SSD DA seeks consent for the redevelopment of the site as a mixed-use development comprising a tertiary institution, commercial office and retail uses. Specifically, the proposal involves:

- Construction and use of a 19 storey building comprising:
  - Basement / Lower Ground level including car and bicycle parking, a loading dock, back-of-house storage and plant, and tertiary institution floor space;
  - Ground level including retail tenancies, tertiary institution lobby floor space, a commercial office lobby, plant equipment, end of trip facilities and driveway ramp;
  - Above round levels comprising tertiary institution and commercial floor space;
  - Podium terraces and rooftop plant equipment;
- Landscaping and public domain works including the provision of a pedestrian plaza fronting the retail premises and University lobby; and
- Extension and augmentation of services and infrastructure as required.

3.1 Development/Urban Design Principles

The planning and design principles adopted for the proposed development of the site are as follows:

- Create a development that is consistent with transit-oriented development principles, to reflect the scale and density appropriate for a site within the Parramatta CBD and proximity to the Railway Station;
- Provide a new mixed-use development that attracts educational and commercial partners reaffirming Parramatta as Sydney's thriving central city;
- Create a development that attracts staff, students, residents, researchers and visitors from all over the world to present significant employment opportunities for the Greater Parramatta and Western Sydney region;
- Provide 'world class' facilities and contemporary learning spaces to link to the WSU's existing CBD campus network;
- Make an outstanding contribution to Parramatta's urban realm both in terms of its fit into the existing and emerging built fabric, and in terms of its public experience;
- Provide the University with a spatial configuration which maximises public engagement with engineering, and which inspires engineers of the future;
- Deliver a building that is flexible and can address both the current needs of the University as well as offer future flexibility by readily adapting to future academic needs and shortfalls within an evolving campus;
- Achieve a built form outcome for the site that is appropriate for its location and positively responds to surrounding buildings;
- Deliver an architecturally distinct building that will achieve design excellence and showcase the engineering use; and
- Create a vibrant, permeable, accessible and well-connected ground plane.

Photomontages of the proposed development are provided in **Figure 22** and **Figure 23**.

Figure 22: Proposal as viewed from the Hassall Street and Station Street corner

Source: Tzannes + Blight Rayner

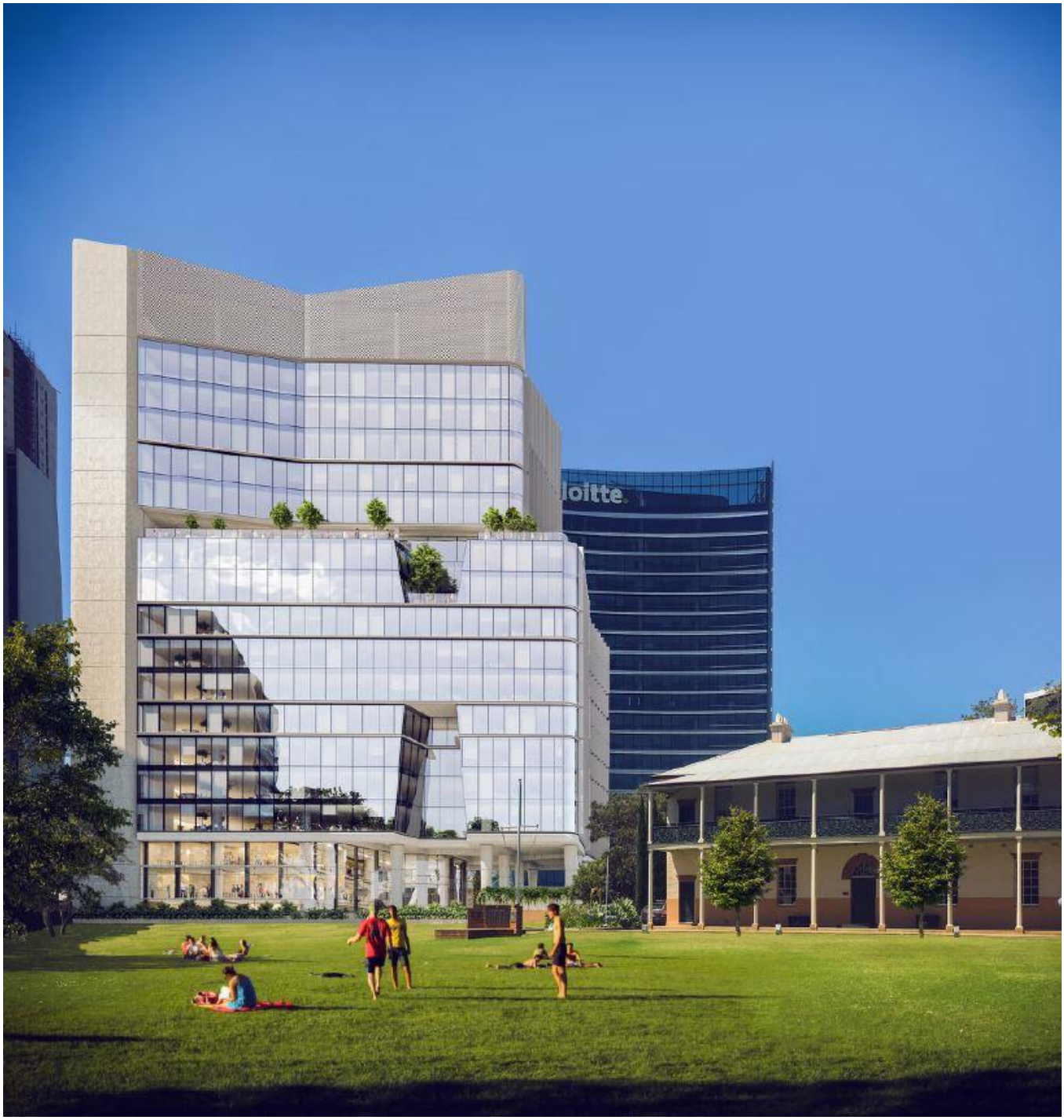


Figure 23: Proposal as viewed from the Lancer Barracks

Source: Tzannes + Blight Rayner

3.2 Numerical Overview

The key numeric development information is summarised in **Table 2**.

Table 2: Key development information

Component	Proposal
Site area	2,647m^2
GFA • Retail • Educational • Commecial • Other • Total	 • 210m^2 • 15,945m^2 • 12,980m^2 • 1,305m^2 • 30,440m^2
FSR	11.5:1
Maximum height	82.1m (RL 94.3)
Number of storeys	19 storeys
Boundary setbacks (mid-rise) • North • South • East • West	 • 1.89m – 3.3m • 2.9m • 0m • 3.3m – 5.5m
Tower setbacks (high-rise) • North • South • East • West	 • 2.3m – 6.9m • 2.9m • 0m • 10m – 13.5m
Parking • Car • Motorcycle • Bicycle • Service	 • 14 (including 1 accessible space) • 3 • 188 • 2 (Small Rigid Vehicle)
End of trip facilities	• 170 lockers • 19 showers • 3 WC

3.3 Site Preparation

At the time of writing, the proponent is progressing with demolition and archaeological investigation works in accordance with the development consent obtained for early works (EW DA1). Similarly, approval for site excavation and piling has been sought under EW DA2 and it is intended to commence these works prior to determination of the SSD DA. As demolition, archaeological investigation works and bulk earthworks will be undertaken in accordance with the abovementioned consent/applications, this SSD DA does not seek consent for these works.

3.4 Built Form

The proposed built form is articulated into three main components, including the base and open podium, mid-rise and high-rise as illustrated in **Figure 24.** The proposal presents with a grand three storey open podium, extending to a 12 storey mid-rise and a six storey high-rise (constituting a maximum 19 storey tower), as shown in **Figure 24**. The building achieves a maximum height of 82.1m. An additional single storey structure housing retail premises and end of trip facilities is also proposed within the three storey open podium along the western edge of the site, which abuts the Commercial Hotel to the west.

The proposed built form provides a stepped transition from the low scale Commercial Hotel adjoining the site to the west to the taller towers (existing and proposed) to the east. Specifically, the main mid-rise structure is set back 3.2m-5.5m from the western boundary, and the high-rise component is setback between 10m and 13.5m through an articulated façade. These setbacks, in particular the substantial high-rise setback, effectively create a building 'step' from the Commercial Hotel and stagger the height of the proposal.

The proposal has been designed to create a strong street address with a high level of street front activation. This is facilitated by the large north-south plaza which is three-storeys in scale and which extends from 9.2m to 22m in width. The plaza includes active edges through the provision of ground floor retail tenancies along the western boundary and full height glazing along the eastern boundary encouraging site lines to the lower ground floor educational 'makers space' space and ground floor lobby of the University. Removing mass from this portion of the building enhances site permeability and provides a highly legible and defining site entry.

The main structure is set back from the northern and southern boundaries, which facilitates a large and generous pedestrian frontage along Hassall Street and a landscaped area to the rear (adjacent to the Lancer Barracks).

The mid-rise section of the northern façade is provided with large 'cut-out' voids to provide relief and articulation in the vertical form. The building core has been offset to the eastern boundary which provides large contiguous floor plates (approximately 2,020m^2 for the mid-rise and 1,600m^2 for the high-rise) and an eastern interface which orientates all views from the proposal away from future residential development to the east. The north-east corner of the high-rise northern façade is also splayed, orientating the high-rise towards the Lancer Barracks.

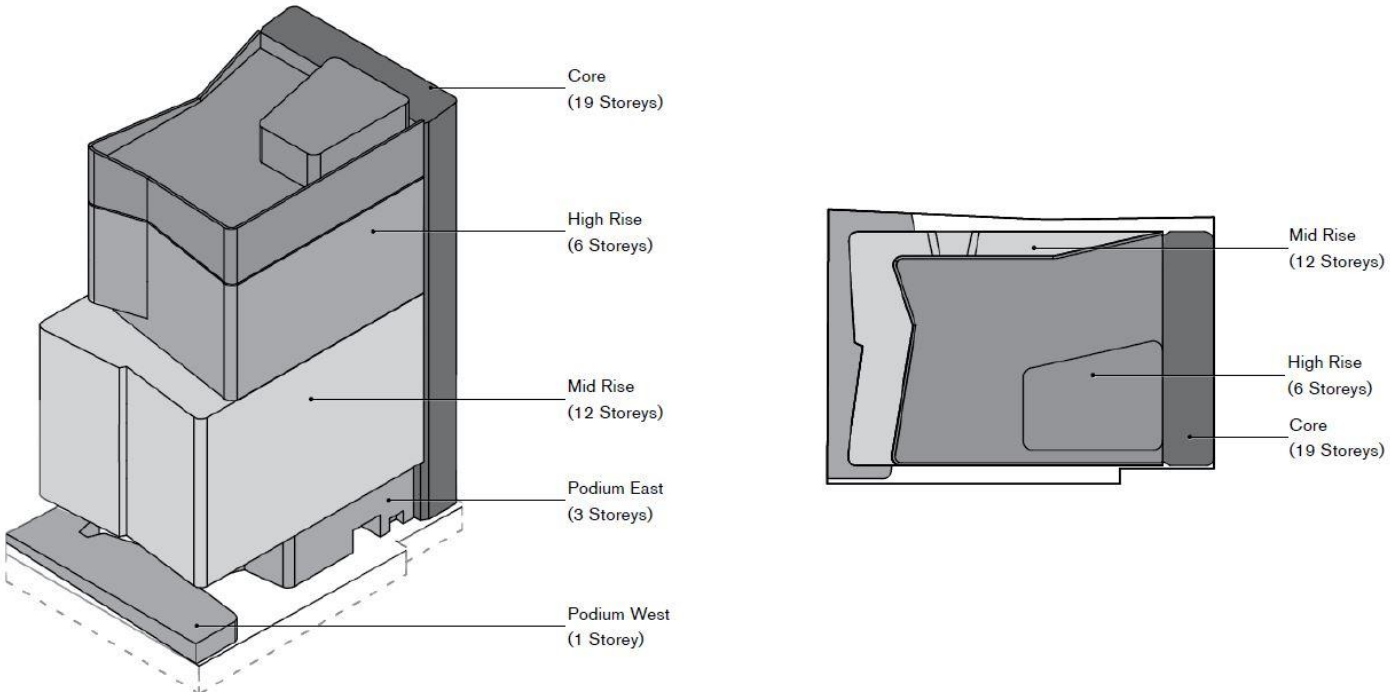


Figure 24: Proposed built form

Source: Tzannes + Blight Rayner

3.4.1 Ground Plane and Building Entries

The proposal comprises a unique ground plane in response to the diverse mix of uses. From the western boundary, a standalone single storey retail/end of trip building abuts the rear boundary of the Commercial Hotel, providing an active frontage to Hassall Street which wraps around into the central public plaza. The form of the standalone building is sculpted at the Hassall Street frontage to soften the entry into the plaza. The large north south plaza divides the retail frontage and western glazing line of the primary building form's lobby achieving a highly visible space to encourage activation.

The proposed design elevates the mid-rise component above the ground plane by way of exposed vertical concrete columns, an acknowledgement of the engineering education intentions of the innovation hub. This design move optimises the ability of the ground plane to interconnect Hassall Street with the Lancer Barracks (refer to **Section 3.4.2** and **Figure 25** below).

Figure 25: Elevated mid-rise component

Source: Tzannes + Blight Rayner

The ground plane includes a clear and legible dual lobby arrangement which is highly permeable to encourage interaction and integration. The commercial office entry and lobby is provided from Hassall Street extending to the north adjacent to the bank of lifts along the eastern boundary. The university entry is provided within the northern section of the site via the central plaza. The university lobby provides direct stair access down to the Lower Ground amphitheatre and 'makers space' via internal stairs, which also provides vertical access to public-facing university Levels 1 and 2.

The northern section of the building also provides for a shared lobby café space which opens up to the lobby. Whilst there is a proposed dual entrance design, the lift core and lift lobby are consolidated to promote tenant and student interaction. **Figure 26** below illustrates the ground plane.

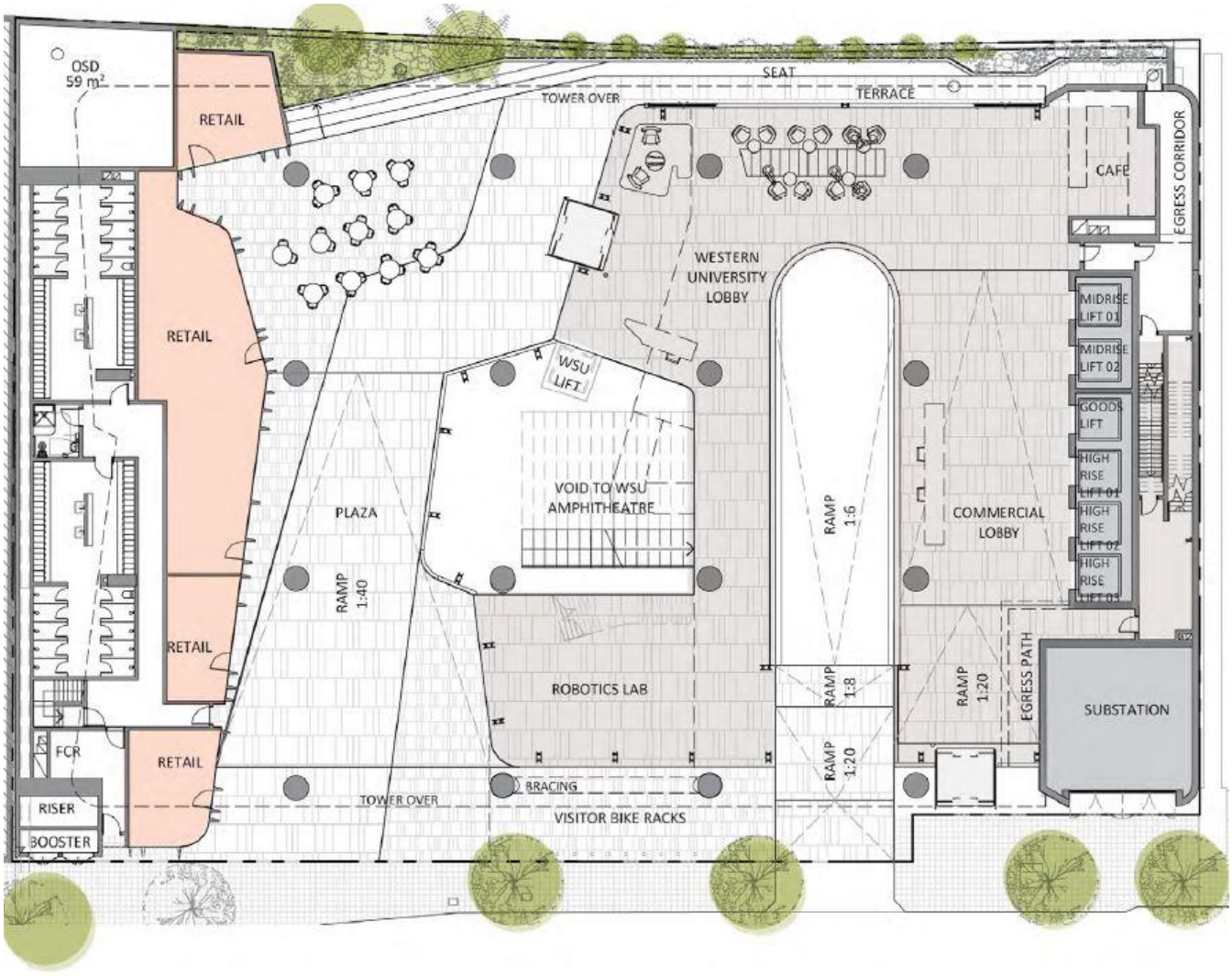


Figure 26: Ground floor plane and building entry points

Source: Tzannes + Blight Rayner

The University lobby comprises a unique design feature by including a lower ground exhibition space for the university use which was determined as a key contributor to the design excellence of the proposal (**Figure 27**). Elevating the tower three levels above ground and carving out a lower ground space creates a public and university realm with potential to showcase multiple engineering activities including robotics, maker spaces, collaborative spaces, exhibition spaces.

Figure 27: Proposed ground plane and lower ground exhibition space

Source: Tzannes + Blight Rayner

As the building will accommodate WSU's Engineering and Innovation Hub, it was a key design principle to characterise the complex structural engineering of the building. As such, when approached from Hassall Street, the large columns and the structural bracing are showcased to create a strong building identity as detailed at **Section 3.4.1** and illustrated at **Figure 25** and **Figure 27** above.

3.4.2 Potential for through-site link to Lancer Barracks

Throughout the refinement of the Planning Proposal and the Design Competition Brief and in consultation with the City of Parramatta Council, a key consideration was future proofing the proposal to enable a potential connection to the adjacent Lancer Barracks in the event that it was repurposed as public open space in the future. As there is no certainty on this outcome, any through-site link design must to be flexible to function internally if this outcome never eventuates.

The proposal includes a large north south plaza which extends from 9.2m to 22m in width as illustrated in **Figure 28** below. The plaza includes active edges through the provision of ground floor retail tenancies along the western boundary and full height glazing along the eastern boundary encouraging site lines to the lower ground floor educational space and ground floor lobby.

At the Hassall Street frontage, a clear and legible entrance is provided which tapers in before expanding in width towards the rear boundary. At the Lancer Barracks interface, the plaza steps up to a landscaped area providing a transition to the Lancer Barracks boundary. The angled stairs will serve as a breakout space for students and office workers utilising the plaza and retail areas. The rear boundary can be easily adapted in the event that the Lancer Barracks is released as public open space in the future.

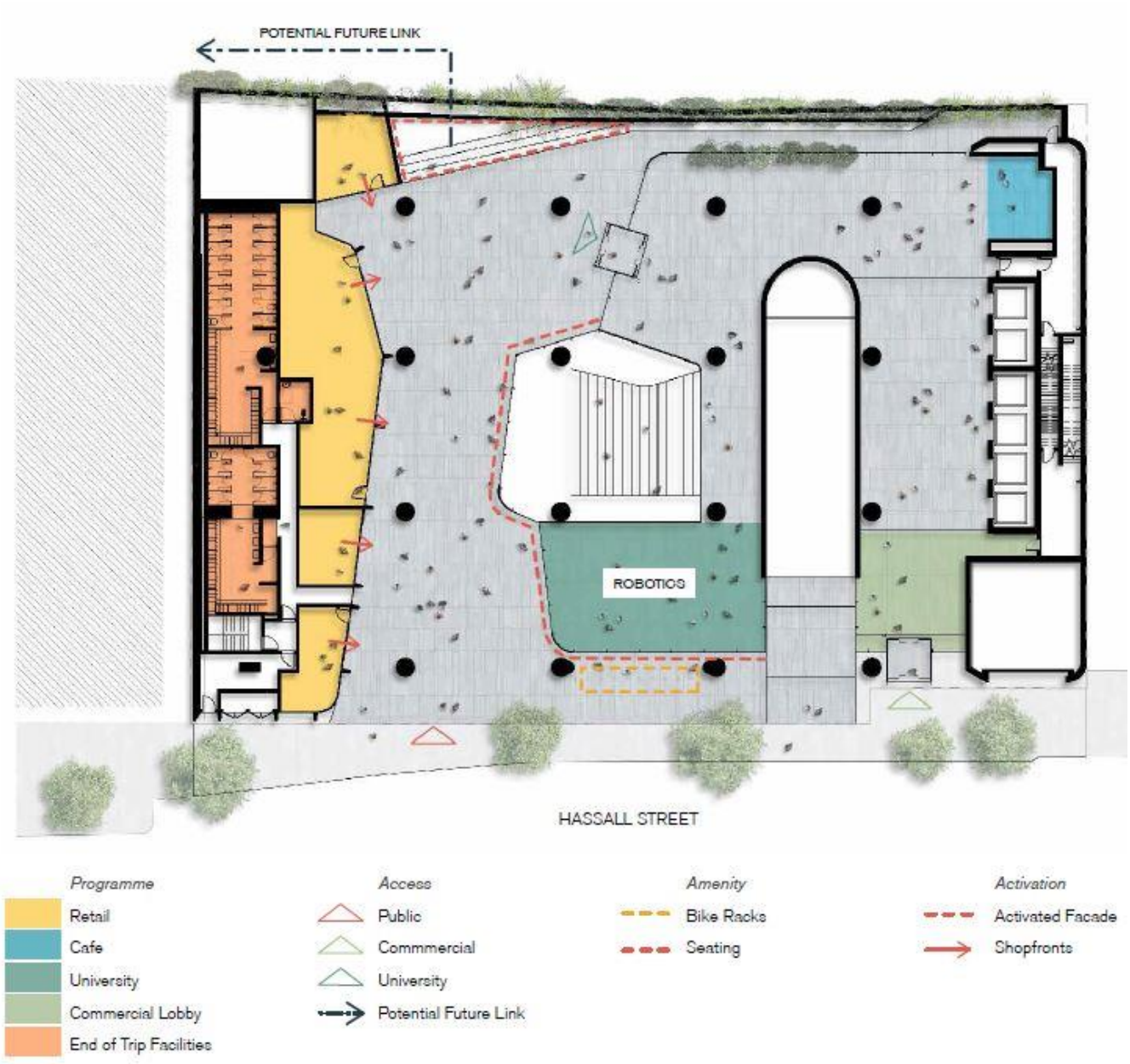


Figure 28: Ground level design

Source: Tzannes + Blight Rayner

3.4.3 Expressed Level 3 Soffit, Columns and Structural Bracing

Through the design development process, key attributes contributing to the design excellence of the proposal were further considered and refined in discussions with the Design Integrity Panel. These elements of the building include an expressed Level 3 soffit, exposed vertical low-rise columns and visible structural bracing which collectively contribute to the achievement of design excellence.

- Level 3 Soffit – The large public plaza has been provided with a triple height space, which is highlighted visually by the inclusion of a highly detailed underside of the Level 3 slab. This has been achieved through off-form sculpturing of the concrete slab to expose the structural lines within it.
- Exposed Vertical Columns – Exposed columns within the public plaza and amphitheatre space have been treated with sculpted top elements and slab joint lines to convey the strong engineering sentiment of the proposal.
- Visible Structural Bracing – A key objective of the design integrity process was to demonstrate 'engineering on show' given the proposed engineering and architectural education programs within the building. In lieu of the angled ground plane columns presented in the original submission, structural bracing was introduced within the internal face of the façade with full height bracing to the south elevation and mid-rise to ground bracing to the northern section of west elevation. The bracing has been detailed as a large-scale element that speaks to both the immediate streetscape but also to and from further afield.

The above elements are visible within the architectural render of the public plaza and southern elevation at **Figure 29** below.

Figure 29: Expressed Level 3 Soffit, Columns and Structural Bracing

Source: Tzannes + Blight Rayner

3.4.4 Land Use and Floor Space by Level

A level by level summary of the proposed development is provided in **Table 3** and illustrated at **Figure 30**. The design of each level is illustrated on the Architectural Drawings in **Appendix B**.

Table 3: Level by level description of the proposal

Level	Use
Basement/Mezzanine	Parking, loading bay, storage, plant and services, tertiary education floor space
Ground Level	5 x retail tenancies including a café, commercial and educational lobbies and tertiary education
Level 1 - Level 9	Tertiary education
Level 10 - Level 17	Commercial offices
Level 18 - Level 19	Plant and services

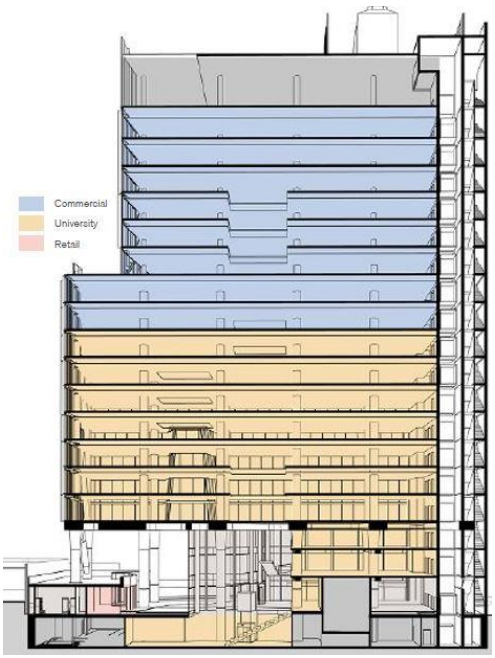


Figure 30: Building Program and use

Source: Tzannes + Blight Rayner

WSU Floor Space

As WSU will be the main anchor tenant, the proposal includes 15,950m^2 of tertiary education floor space located across the Lower Ground Floor, Ground Floor, and Level 1 to Level 9 as illustrated in **Figure 30** above.

WSU will establish a state-of the-art facility for engineering innovation and will offer programs across engineering, architecture and entrepreneurship with broader opportunity for additional programs offered by the School of Computing, Engineering and Mathematics (SCEM). The facility will provide for both education and research at undergraduate and postgraduate level and accommodate Launchpad, the University's business and innovation support program.

Through the design of the base building, WSU will be afforded maximum internal flexibility to ensure the space is innovative in its design and future proofed to meet evolving workplace and educational requirements. The specific fit out of the tertiary education floor space will be undertaken via a separate development consent.

Retail Tenancies

The proposal includes four retail tenancies at ground level to activate the ground plane and service the future employment and student population. The retail tenancies range from 28m^2 to 121m^2 in size but have been arranged to offer final sizing/divisible flexibility based on end-tenant needs. The specific fit out and first uses will be undertaken via separate development consents.

Commercial Office Floor Space

The proposal includes 12,980m^2 of commercial floor space within tower Level 10 to Level 17. This allocated area will achieve the PCA A-grade office space category, which has been targeted to attract key tenants to Parramatta which will achieve the ambition of WSU to foster direct engagement and innovation with market leaders within the building. The specific fit out of the commercial floor space will be undertaken via separate development consent.

3.4.5 Internal Voids and Vertical Connectivity

As part of the base building SSDA, the proposal incorporates an internal void space which runs vertically from the Lower Ground to Level 3, which are the public-facing and visible WSU floors of the building. These levels will benefit from an architecturally-designed vertical staircase within the void space. This staircase was committed to during the design excellence process (refer **Appendix C**) and will be delivered as part of the separate WSU fit-out process to ensure it is coordinated with the University's proposed interior design.

WSU Levels 4 to 6 are also provided with a base building allowance for an internal void for inter-level connectivity, with the aim to reduce demand on lift utilisation. This allowance totals 250m^2 across two floors (connecting three floors). Provided within the architectural plans at **Appendix B**, are indications of zones where these voids may occur, which is dependent on the final fit-out design for these floors.

Levels 7 to 17 are capable of supporting an internal void, with indicative locations provided on the architectural plans. The take up and installation of voids between these levels are dependent on the needs of the tenant, which will be determined at a later date.

3.4.6 External Materials and Finishes

A simple, sleek and sympathetic palette of materials and finishes has been selected for the new building as detailed within the Design Report in **Appendix B** and illustrated in **Figure 31** below.

The mid-rise is made up of a triple height aluminium framed, glazed window wall system. The main facade of the tower is of unitised, insulated glass unit aluminium curtain wall construction. The curtain wall panelling is inclined and facetted in specific areas between levels moving up and around the tower. The unitised system provides increased quality assurance in panel performance, fabrication and installation while also assisting construction speed.

Specific features are spread across the curtain wall with:

- Horizontal recessed zones in the panel to express façade bands and horizontal shading profiles;
- Horizontal sunshade features on northern elevation to protect from overhead sun and mitigate reflection onto adjacent Lancer Barracks;
- Vertical and horizontal sun shading elements on the Western facade to protect from end of day sun; and
- Glazed balustrades are provided to the Level 12 landscaped terrace areas.

Architectural mesh screening is provided above the curtain wall at roof level as a transition from glazed facade to open space above. This also serves to conceal from view plant and access/maintenance infrastructure.

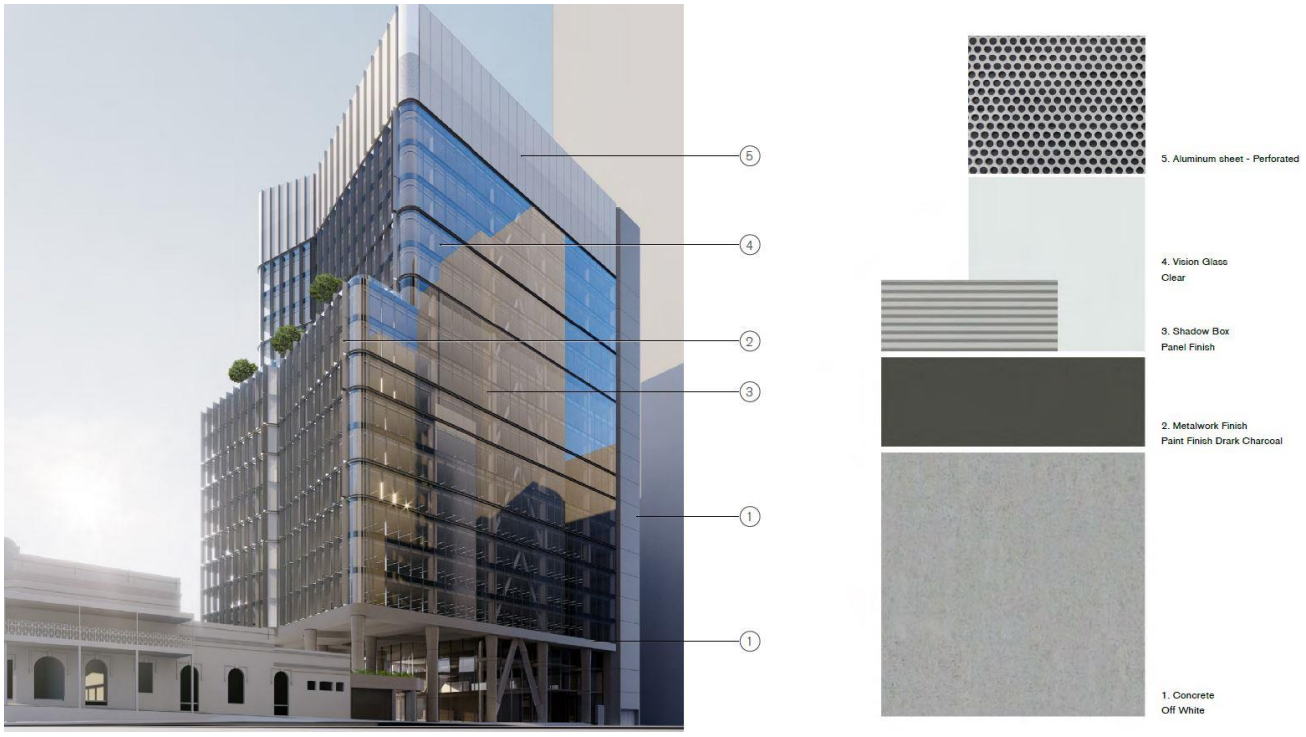


Figure 31: Proposed materiality

Source: Tzannes + Blight Rayner

3.5 Signage zones

The proposal seeks approval for signages zones for business identification purposes, as identified on the elevation plans in **Appendix B**. Specifically, the proposal identifies 9 signage zones applied to building plant, parapets, corners and entrances as illustrated at **Figure 32** and **Figure 33** below**.** These signage zones will identify the anchor tenant of the building and define the location and maximum extent of signs to be mounted on the building façade.

Details of the exact content, materiality, and illumination of signs within these zones will be the subject of approval by the Secretary prior to the issue of the relevant construction certificate, which will inform a condition of consent (in the event that consent is granted).

Figure 32 Proposed signage zones, north and south elevation

Source: Tzannes + Blight Rayner

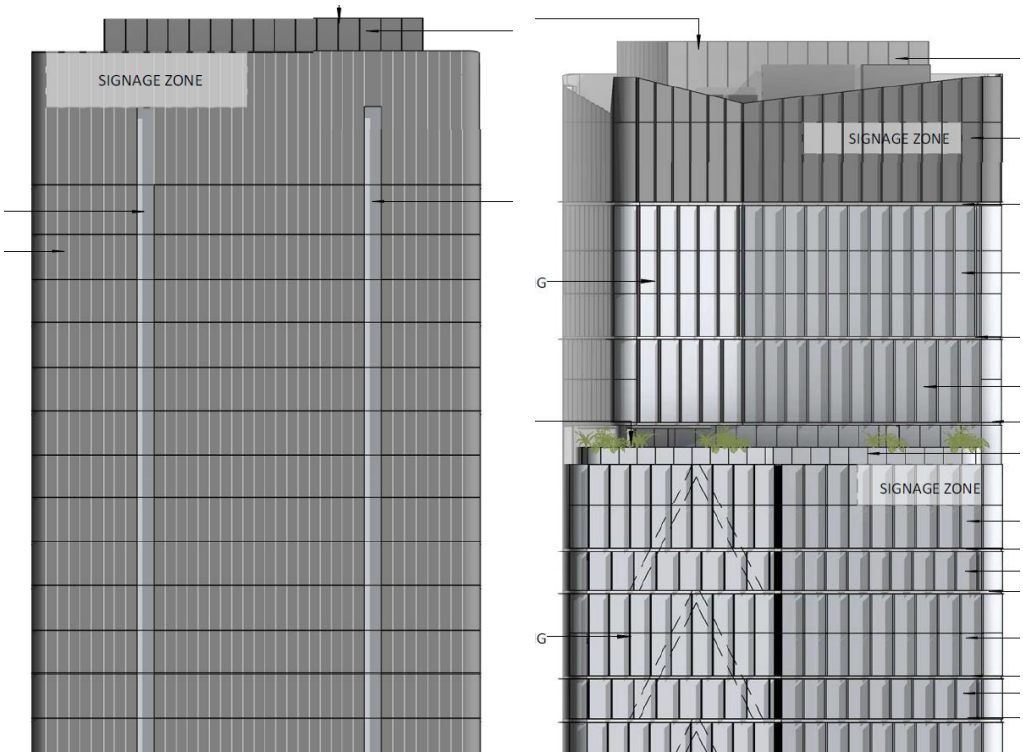


Figure 33 Proposed signage zones, east and west elevation

Source: Tzannes + Blight Rayner

3.6 Landscaping and Public Domain

A Landscape Design Statement and Landscape Drawings have been prepared by Aspect and are provided at **Appendix E.** Landscaping has been integrated at the Hassall Street frontage, public plaza, rear boundary, retail building rooftop and the Level 10 and Level 12 terraces as illustrated at **Figure 34** below. The landscape scheme is both responsive to the existing site conditions and heritage, but also integrates and supports the new building and other site enhancements.

To soften the street frontage and enhance pedestrian amenity, the proposal includes the provision of five in grate 'Flindersia australis' street trees consistent with Parramatta's public domain guidelines. Transitioning into the public plaza, this area is provided with large raised planters with integrated seating. These planters can be complemented by additional smaller pots with planting and movable retail furniture (shown indicatively) to be provided and maintained by the future retail tenants. At the northern end of the public plaza is a landscaped terrace screened by 1.8m high planting buffer to soften the northern boundary interface.

The retail building roof garden includes lush green cascading plants along the edge of the rooftop. The Level 10 and Level 12 terraces are provided with a simple landscaping scheme that can adapt to meet the future tenants needs. This includes circular planters with low maintenance mass planting and integrated seating will serve as a popular break out space for future tenants. The retail building and terrace landscaping softens the edges of the vertical built form and contributes to wind protection and visual privacy.

Figure 34: Proposed ground level, retail building, Level 10 and 12 terrace landscape schemes

Source: Aspect

3.7 Transport, Access and Parking

3.7.1 Pedestrian Access

Pedestrian footpaths are provided on both sides of Hassall Street which provide connections to the Parramatta CBD and Station precinct and local pedestrian network. The ground plane has been designed to enhance permeability by providing a large pedestrian plaza and setting back the building from the Hassall Street boundary. In conjunction with the existing Hassall Street footpath width in front of the site, the public domain area at the Hassall Street frontage will be ample.

The building lobby can be accessed from Hassall Street for future commercial tenants, and at the rear of the pedestrian plaza for University students as detailed at **Section 3.4.1**. Vertical connectivity is provided by the consolidated lifts with the shared lift lobby located to the east of the ground plane.

3.7.2 Vehicular Access and Parking

Vehicular access to the building is provided via a driveway located adjacent to the commercial lobby entry towards the eastern end of the Hassall Street frontage. The driveway has been located away from the eastern boundary to avoid a large consolidated area of driveway with the Curtis Cheng Centre. The driveway will provide a security controlled two-way ramped entrance to the educational, retail and commercial parking within the basement. The development provides 14 car parking spaces across a single basement level and the parking allocation is detailed in **Table 4** below.

Table 4: Parking Schedule

Type	Number of Spaces
Commercial	14 including 1 accessible space
Retail	
Tertiary Institution	
Motorcycle	3
Bicycle	188

3.7.3 Loading and Servicing

Service vehicles will enter the site via the Hassall Street driveway and are directed to two small rigid vehicle parking spaces to the west of the driveway ramp. In response to the provision of a lower ground level exhibition area, the basement circulation area has been restricted and therefore, the essential building services are contained within the eastern portion of the basement and the service and parking spaces are located within the western portion as illustrated in **Figure 35** below.

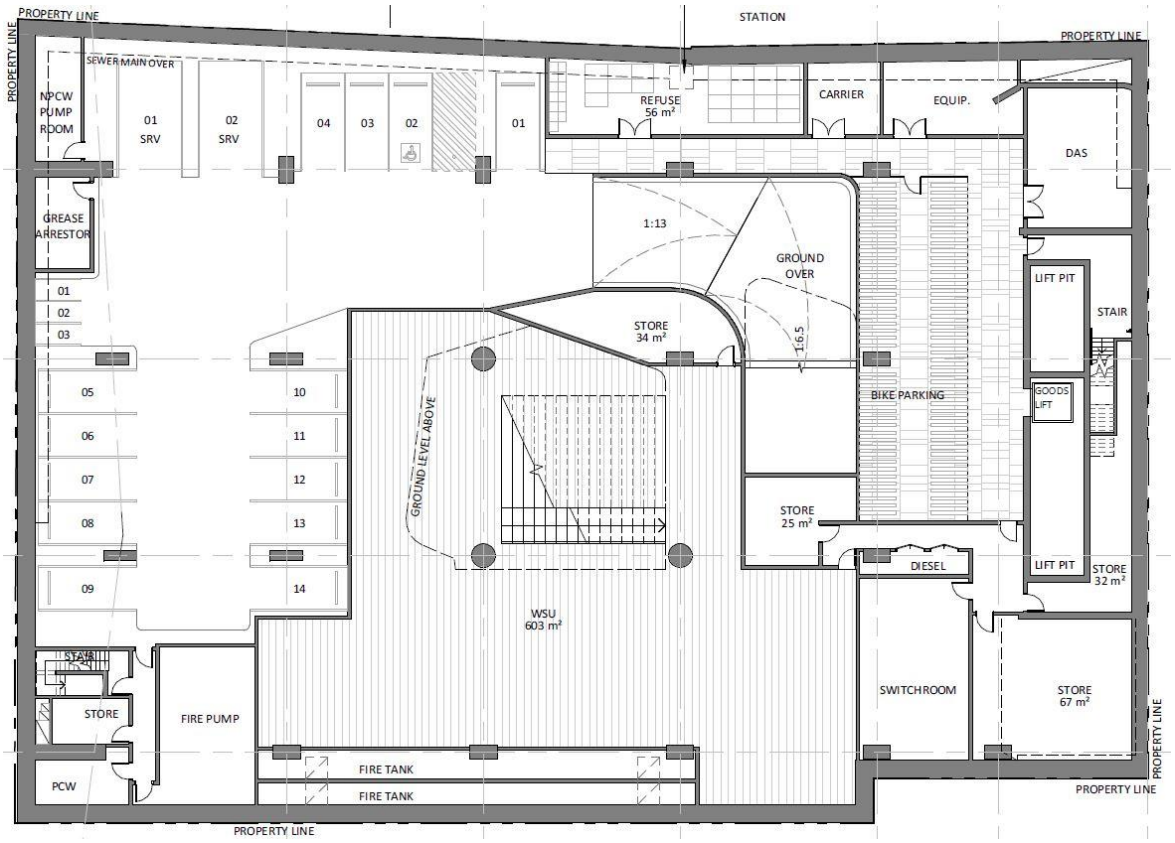


Figure 35: Proposed basement circulation

Source: Tzannes + Blight Rayner

3.7.4 End of Trip Facilities

To maximise tenant wellbeing and building amenity, the proposal includes an end of trip (EOT) facility located at Ground Level within the standalone retail building which includes access from the central public plaza. The EOT facilities are also accessible from the basement via lift from the secure bike parking facilities contained within the basement. The Hassall Street frontage will provide public short stay or visitor bicycle loops. The proposed EOT facilities are summarised in **Table 5** below.

Table 5: End of Trip facilities summary

Component	Eastern Building
Access	Hassall Street
Bicycle spaces	188
Showers	18
Lockers	170

3.8 Waste Management

Eccell Environmental Management has prepared a Waste Management Plan (WMP) and a Construction Waste Management Plan (CWMP) and they are available in **Appendix CC**. These plans are outlined below.

Operational Waste

The WMP details various provisions for waste management within the proposed development. Based on Eccell Environmental Management calculations, the expected weekly quantity of waste generated by the proposed development will be 31,263L of general waste, 75,790L of mixed recycling and 10,245L of organics. The waste will be initially collected in bins located within each tenancy/level. The tenants will be responsible for providing suitable store areas in the design of their fit-out. Waste contractors or building management will then transfer waste to the main waste storage area which is located in the basement via the goods lift. Waste collection will be arranged by a private contractor and it is envisaged that on average, five semi-rigid waste vehicles will service the site daily.

Construction Waste

The CWMP details various provisions to address waste minimisation, waste estimation, reusing or recycling methods. Based on Eccell Environmental Management calculations, the proposal will generate approximately 3,607m^3 of construction waste. Construction waste will be dealt with both on and off site and recycled where possible. The CWMP is a responsive document and will be refined throughout the detailed design and builder procurement process.

3.9 Environmentally Sustainable Development

The incorporation of Environmentally Sustainable Development (ESD) principles into the proposal has been ongoing during the design of the building and will continue through the detailed design. An ESD report has been prepared by Floth and is provided in **Appendix Q**. The report addresses the ESD principles and outlines the sustainable development initiatives that will be incorporated into the future development, including:

- **Energy:** Reduce energy use and greenhouse gas emissions. The buildings' envelopes and services have been integrated to ensure the building is controlled to maintain the desired conditions whilst optimising the energy efficiency of the complex;
- **Indoor Environmental Quality:** Design the buildings to maximise occupant comfort addressing issues of thermal and visual comfort and indoor air quality;
- **Water:** Minimise potable water consumption and optimise the water efficiency of the development;
- **Materials:** Minimise waste, encourage reuse and recycling of materials and use low environmental impact materials;
- **Transport:** Encourage more energy efficient and less polluting forms of transport to and from the site; and
- **Benchmarking:** The buildings is designed to achieve a minimum NABERS performance requirement of 4 star rating and an aspiration target of 5 stars.

3.10 Infrastructure and Services

As outlined at **Section 2.2.4**, the site is well serviced by existing infrastructure, however Floth has confirmed the following infrastructure and service upgrades or connections are required to accommodate the density of the proposal:

- **Electrical Services:** The existing low-voltage Endeavour Energy assets are not adequate to service the development. A new 2 x 1500 kVA indoor substation will be established by the developer to Endeavour Energy's requirements. Endeavour Energy requires the substation to be located at ground level and on the street frontage and accordingly this has been located adjacent to the building's eastern core. Endeavour Energy has advised that the zone substation has adequate capacity to supply the development.
- **Communications:** The site is capable of being serviced by multiple carriers. The existing services are considered adequate to service the proposed development, and as such no augmentation is proposed. Connections can be actioned by future tenants as necessary.
- **Sydney Water (sewer):** The sewer connections size for the development will be at least 150mm. The existing 150mm sewer main that reticulates within the property will need to be permanently maintained.

The existing 150mm sewer main within the property will need to be diverted to accommodate the future building structure, new sewer and water loads and the upstream properties sewer connections. The proposed building will connect to the diverted sewer.

- **Sydney Water (potable water):** The probable potable water connection size for the development will be at least 150 mm diameter and can connect to either the 200 mm mPVC potable water main or 200mm uPVC potable water main in Hassall Street.

All services infrastructure connection requirements will be confirmed with the relevant authorities prior to construction certificate, with the exception of telecommunications services, which tenants will confirm with their carrier of choice once their fit-out is complete. Further information is provided within the Infrastructure and Water Management Plan prepared by Floth in **Appendix AA**.

3.11 Construction and Occupation Staging

The site redevelopment is being delivered in four construction sequences all subject to general development consents as outlined in **Section 1.2.1** and within **Table 6** below. The overall construction timeframe is centred on the delivery of a completed project and the opening of the WSU tertiary institution by Q1 2021, ready for the first semester of that year.

Table 6: Construction Staging

Stage	Scope	Timing/Status (at lodgement)
1. Site preparation works	The first early works DA (EW DA1) was submitted to Council in October 2018 and sought development approval for demolition of existing structures, removal of two trees fronting Hassall Street and archaeological investigations and archaeological salvage works. EW DA1 was approved in December 2018 (DA/714/2018), and subsequently, the approved works have physically commenced.	Commenced
2. Early works	The second early works DA (EW DA2), was submitted to Council in February 2019 and has sought approval for earthworks (excavation) including shoring through the use of piles. EW DA2 (DA/66/2019) is under assessment at the time of lodgement	Under Assessment
3. Base building including basement	Construction and use of a 19 storey building comprising and a single basement level (the proposal). Practical completion of the WSU lower floors first to allow fit out is anticipated, before practical completion of the high-rise.	Subject to Approval
4. Fit out	Individual tenant fit outs.	Subject to Separate Development Consent

4.0 Consultation

In accordance with the SEARs issued for this project, formal agency consultation was undertaken with City of Parramatta, GANSW, Heritage Division of the OEH, TfNSW and RMS.

Further additional consultation activities extended to include the Department of Education, surrounding landowners such as the Commercial Hotel, Lancer Barracks, Curtis Cheng Police HQ, Eclipse Tower building, staff and students of WSU and the local community.

The consultation undertaken to date is detailed within the Consultation Outcomes Report prepared by Ethos Urban in **Appendix BB** and summarised in **Table 7**. Several consultants have undertaken additional consultation with relevant parties during the preparation of their reports.

The proposed development will be placed on public exhibition for 28 days in accordance with Clause 83 of the EP&A Regulation. During the public exhibition period the City of Parramatta, State agencies and the public will have an opportunity to make submissions on the project.

Table 7: Summary of Issues Raised and Response

Stakeholder	Consultation	Feedback
City of Parramatta Council	Meeting with project team on 13 February 2019 at WSU Parramatta Square Campus and invited to Community Information Session.	• Council was generally supportive of the proposal. • No explicit feedback received.
GANSW	Meeting requested by project team and invited to Community Information Session.	• Meeting declined by Government Architect Office due to ongoing involvement in the design competition.
Heritage Division of OEH	Meeting requested by project team and invited to Community Information Session.	• Feedback was received on 11 April 2019 from the Heritage Division, who were supportive of the proposal. In particular, OEH noted that: *"It is recognised that the building form has evolved and responded to the Design Jury and consultant team.* *The proposal includes a number of positive aspects that respond to its immediate heritage context, including the alignment of the tower soffit datum with the rooftop of the Commercial Hotel and the potential connection with the Lancer Barracks."* • OEH noted that the SSD application should include: – Heritage Impact Statement to address the SEARs input; – Historical Archaeological Assessment to address the SEARs input; – design details of the junctions with the adjoining heritage fabric, including materials and physical impacts; – consideration of any future/potential uses or works at the Lancer Barracks, immediately adjoining the site; – detailed assessment of the variations to the building setback, especially where they do not comply with the draft DCP, or have adverse heritage impacts.
TfNSW	Meeting requested by project team and invited to Community Information Session.	• TfNSW did not have any specific comments.
RMS	Meeting requested by project team and invited to Community Information Session.	• RMS did not have any specific comments.
Department of Education	Meeting requested by project team and invited to Community Information Session.	• No response received.
Commercial Hotel	Meeting requested by project team and invited to Community Information Session.	• No response received.
Lancer Barracks	Meeting requested by project team and invited to Community Information Session.	• Copy of display boards sent.
Curtis Cheng Police HQ	Meeting requested by project team and invited to Community Information Session.	• Response indicated no meeting required.
Staff and Students	WSU internal communications has consulted with staff and students.	• Positive feedback received during Community Information Session.
Local Community	Invited to Community Information Session.	• Strong positive resolve from the community towards the project. • Feedback included "it looks fabulous and very exciting", and "looks great. Can't wait". • No planning or design issues were flagged with the project team.

5.0 Environmental Assessment

This section of the report assesses and responds to the environmental impacts of the proposed SSD DA. It addresses the matters for consideration set out in the SEARs (see **Section 1.6**). The mitigation measures in **Section 7.0** complement the findings of this section.

5.1 Relevant EPIs, Policies and Guidelines

The relevant strategies, environmental planning instruments, policies and guidelines as set out in the SEARs are addressed in the following subsections.

5.1.1 Strategic Plans and Policies

Table 8: Summary of consistency with relevant Strategic Plans and Polices

Instrument/Strategy	Comments
Strategic Plans	
NSW State Priorities	The NSW State Priorities are a series of reforms designed to grow the economy, deliver infrastructure, and improve health, education and other services across NSW. Whilst not directly related to the proposed development, the project will facilitate the delivery of high quality commercial and education infrastructure, noting that the NSW State Priorities seek to improve economic competitiveness and educational results. The proposal is consistent with the NSW State Priorities in that it will: • Create additional employment opportunities within the tertiary education, commercial and retail uses; and • Increase tertiary education opportunities in a highly serviced location.
The Greater Sydney Region Plan 'A Metropolis of Three Cities'	The Greater Sydney Region Plan is the current metropolitan planning strategy that establishes a vision for the future growth of Sydney to 2056. The proposal broadly supports the ten directions outlined in the Strategy in that it: • Enable a high quality mixed use development on the site by facilitating a built form that is appropriate, considering the surrounding development and can contribute to the significant employment growth targets for Parramatta; • Enable more commercial, retail and tertiary education floorspace on a site that is in close proximity to regionally significant existing and proposed transport infrastructure including the Parramatta Rail Station and Bus Interchange, as well as the future Parramatta Light Rail and Sydney Metro West projects; • Facilitate an increase in commercial density that is in close proximity to new residential development, services and amenities within the Parramatta CBD; and • Revitalise an underutilised city centre block by enabling a built form outcome that respects the desired CBD skyline, is consistent with the locality's transitional status, and will provide increased employment floorspace capacity.
Central City District Plan	The Greater Sydney Regional Plan comprises of six districts. The District Plans identify the overarching strategic directions and goals for each of the six districts. The site is located within the Central City District and the proposal supports the objectives of the district by: • Contributes to the growth and improvement of the GPOP corridor; • Will improve the competitiveness of Sydney's Central City by delivering a new state of the art educational facility that will support the achievement of an internationally competitive education precinct; and • Key economic sectors identified with the District Plan includes financial and professional services, public and /government administration, health and education. The proposal will facilitate a development that directly achieves his through additional employment opportunities in a well serviced location.
Future Transport Strategy 2056	The proposal provides a high-density mixed-use development which has been appropriately integrated in an area which is well served by public transport. The site is approximately 150m from the Parramatta Rail Station and Bus Interchange. Further to this the site is in the vicinity of future transport infrastructure such as the Parramatta Light Rail and the Sydney West Metro. Accordingly, the provision of a high-density mixed-use development within a short distance of existing and planned transport infrastructure is consistent with key goals within the Future Transport Strategy 2056.

Instrument/Strategy	Comments
State Infrastructure Strategy 2018 – 2038 Building the Momentum	The State Infrastructure Strategy outlines a 20 year strategy for infrastructure development in NSW in order to address a number of key challenges and opportunities, including population growth, demographic change, climate change and an emerging fiscal gap. The Strategy identifies that the NSW economy is expected to grow from $539 million to $1.4 trillion over the next 40 years. The projected economic growth will increase the demand for economic and social infrastructure. The proposal will deliver a new mixed use educational and commercial facility and consequently will provide state of the art infrastructure to meet the needs of a growing population and a growing economy.
Crime Prevention Through Environmental Design (CPTED) Principles	Refer to the CPTED Report prepared by Ethos Urban in **Appendix Y** and **Section 5.15** for further detail.
Better Placed: An integrated design policy for the built environment of New South Wales	The proposal's consistency with the objectives and principles contained under Better Placed is demonstrated in the Architectural Design Report prepared by Tzannes and Blight Rayner in **Appendix B.** In addition, the proposal has been subject to a competitive design process in accordance with the Director General's Design Excellence Guidelines and the Government Architect's Design Excellence Competition Guidelines as outlined in **Section 1.2.1** and the Jury Report prepared by Ethos Urban in **Appendix C.** As detailed in the Jury Report and the supporting letter prepared by GANSW, the proposal achieves design excellence, and is therefore consistent with the principles established within Better Placed.

5.1.2 State Legislation

Table 9: Summary of consistency with relevant State Legislation

Instrument	Assessment
EP&A Act	The proposed development is consistent with the objects of the EP&A Act for the following reasons: • The proposal seeks consent for a state of the art mixed use development that will promote the social and economic welfare of the community. • The proposal will facilitate the ecologically sustainable redevelopment of land by ensuring minimal impact to the site's ecology whilst delivering a facility that addresses the teaching needs of the university. • The proposal allows for the orderly and economic development of land. • It will have no impact to the heritage items and heritage conservation areas in proximity to the site. • The scheme will deliver an educational facility that exhibits design excellence and will contribute to the amenity of the surrounding built environment. • Throughout the design development phase opportunities for public involvement and participation have been provided. • Throughout the design development phase opportunities for public comment by local and State planning authorities have been provided and addressed by the application, therefore facilitating the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State. • Measures outlined in the supporting documentation are proposed in order to promote the proper construction and maintenance of the building along with the health and safety of the occupants and those responsible for its construction. The proposed development is consistent with Division 4.7 of the EP&A Act, particularly for the following reasons: • The development has been declared to have State significance; • The development is not prohibited by an environmental planning instrument; and • The development has been evaluated and assessed against the relevant heads of consideration under section 4.15(1).
EP&A Regulation	The EIS has addressed the specification criteria within clause 6 and clause 7 of Schedule 2 of the EP&A Regulation. Similarly, the EIS has addressed the principles of ecologically sustainable development through the precautionary principle (and other considerations), which assesses the threats of any serious or irreversible environmental damage (see **Section 8.3**).

<table>
<tr><th>Instrument</th><th>Assessment</th></tr>
<tr><td></td><td>As required by clause 7(1)(d)(v) of Schedule 2, the following additional approvals will be required in order to permit the proposed development to occur.

<table>
<tr><th>Act</th><th>Approval Required</th></tr>
<tr><td colspan="2">Legislation that does not apply to State Significant Development</td></tr>
<tr><td>Coastal Protection Act 1979</td><td>N/A</td></tr>
<tr><td>Fisheries Management Act 1994</td><td>N/A</td></tr>
<tr><td>Heritage Act 1977</td><td>N/A</td></tr>
<tr><td>National Parks and Wildlife Act 1974</td><td>N/A</td></tr>
<tr><td>Native Vegetation Act 2003</td><td>N/A</td></tr>
<tr><td>Rural Fires Act 1997</td><td>N/A</td></tr>
<tr><td>Water Management Act 2000</td><td>N/A</td></tr>
<tr><td colspan="2">Legislation that must be applied consistently</td></tr>
<tr><td>Fisheries Management Act 1994</td><td>No</td></tr>
<tr><td>Mine Subsidence Compensation Act 1961</td><td>No</td></tr>
<tr><td>Mining Act 1992</td><td>No</td></tr>
<tr><td>Petroleum (Onshore) Act 1991</td><td>No</td></tr>
<tr><td>Protection of the Environment Operations Act 1997</td><td>No</td></tr>
<tr><td>Roads Act 1993</td><td>No</td></tr>
<tr><td>Pipelines Act 1967</td><td>No</td></tr>
</table></td></tr>
<tr><td>State Environmental Planning Policy (State & Regional Development) 2011</td><td>Under Schedule 1 clause 15, development for the purpose of Educational Establishments with a capital investment value of more than $30 million is SSD. As the proposed development will have a capital investment value of approximately $120.5m (see Appendix EE), it is as classified as SSD.</td></tr>
<tr><td>State Environmental Planning Policy (Infrastructure 2007)</td><td>The proposal is deemed to be ‘traffic generating development’ under Part 3 Clause 104 of the Infrastructure SEPP as it seeks approval for commercial premises greater than 10,000m^2 in area. The application therefore must to be referred to RMS for comment.</td></tr>
<tr><td>State Environmental Planning Policy No.33 – Hazardous and Offensive Development</td><td>The proposed development is not identified as a potentially hazardous industry or a potentially offensive industry as described under this SEPP or relevant guidelines. Therefore, the preparation of a preliminary hazard analysis is not warranted for this DA.

It is noted that the first early works DA (DA/714/2018) was accompanied by an intrusive asbestos and hazardous materials survey undertaken by Coffey. The results of the survey indicated that asbestos, synthetic mineral fibres and polychlorinated biphenyls occur in some locations throughout the existing buildings. The hazardous materials are being removed by a licenced contractor in accordance with the DA/714/2018 conditions of consent.</td></tr>
<tr><td>State Environmental Planning Policy No.55 – Remediation of Land</td><td>A Detailed Site Investigation (DSI) has been prepared by Douglas Partners and is provided in Appendix N. The DSI confirms that the site can be made suitable for the proposed development subject to the recommendations of the report (refer to Section 5.10 below).</td></tr>
<tr><td>State Environmental Planning Policy No.64 – Advertising and Signage</td><td>Refer to the assessment within Table 10 below.</td></tr>
<tr><td>State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017</td><td>The proposed development is consistent with the aims of the SEPP for the following reasons:

• The proposal provides for the efficient redevelopment and use of land;
• The proposal will deliver a state of the art educational facility that will contribute to improving the quality of the infrastructure provided by the university; and
• Opportunities for consultation with all relevant public authorities have been provided.</td></tr>
</table>

Instrument	Assessment
Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005	The site is not located in the Foreshore and Waterways Area, is not a strategic foreshore site, and is not 'zoned' under the SREP, where the majority of the plan's aims/provisions apply. The proposal is consistent with the aims of the SREP in that the development will: • Create a high quality and ecologically sustainable urban environment on the site; • Ensure a healthy, sustainable environment by effectively managing all environmental impacts associated with the development (erosion, sediment control, stormwater, etc.); • Contribute to the vibrancy of the CBD through the provision of additional retail, commercial and educational facilities, with active publicly accessible spaces at ground level; • Will not impede public access to the foreshore; and • Maintains a high-quality urban environment through urban design and will not detract from long distance views and vistas that may be available from the surrounding public domain to and from the harbour.
Draft State Environmental Planning Policy (Remediation of Land)	The Draft SEPP Remediation of Land is currently under review and was released for public exhibition in January 2018. The objectives of the draft SEPP along with its key operational framework remain consistent with SEPP 55. The draft SEPP differs in that it contains new provisions that: • Require all remediation work that is to carried out without development consent, to be reviewed and certified by a certified contaminated land consultant; • Categorisation of remediation work based on the scale, risk and complexity of the work; and • Require environmental management plans relating to post-remediation management of sites or ongoing operation, maintenance and management of on-site remediation measures (such as a containment cell) to be provided to council. Refer to assessment provided within the detailed site investigation prepared by Douglas Partners in **Appendix N.**
Draft State Environmental Planning Policy (Environment)	The Draft SEPP Environment was released for public exhibition in October 2017 and aims to repeal and replace a number of State Environmental Planning Policies and Sydney Regional Environment Plans that currently apply in NSW. The proposed development does not require further assessment under this Draft SEPP given the site is not zoned for the purposes of public open space, does not contain and is not in proximity to bushland, and is not subject to the SEPPs to which the draft EPI seeks to consolidate.

State Environmental Planning Policy No.64 – Advertising and Signage

State Environmental Planning Policy No 64 – Advertising and Signage (SEPP 64) applies to all signage that under an environmental planning instrument can be displayed with or without development consent and is visible from any public place or public reserve.

The proposed signage zones are considered to be building / business identification signage for the purpose of assessment under SEPP 64, in that that will contain signage which indicates the name and business being carried out by the major tenant in the new building. The provisions within Part 3 of SEPP 64 therefore do not apply. Only the objectives of SEPP 64 and the criteria in Schedule 1 – Assessment Criteria of SEPP 64 requires consideration.

The proposal will remain compliant with the aims and objectives of this SEPP, which are:

(a) to ensure that signage (including advertising):
(i) is compatible with the desired amenity and visual character of an area, and
(ii) provides effective communication in suitable locations, and
(iii) is of high quality design and finish, and
(b) to regulate signage (but not content) under Part 4 of the Act, and
(c) to provide time-limited consents for the display of certain advertisements.
(d) to regulate the display of advertisements in transport corridors, and
(e) to ensure that public benefits may be derived from advertising in and adjacent to transport corridors.

Under clause 8 of SEPP 64, a consent authority must not grant consent for any signage application unless the consent authority is satisfied that the proposal is consistent with the objectives of the SEPP and with the assessment criteria which are contained in Schedule 1. **Table 10** below demonstrates the consistency of the proposed signage with these assessment criteria.

Table 10: SEPP No. 64 – Advertising and Signage Controls

Assessment Criteria	Comments	Compliant
1. Character of the area		
Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	The proposed signage zones are compatible with the character of Parramatta's CBD, reinforcing the commercial and educational uses which are prominent in the CBD. The new building, supported by signage within the proposed signage zones, will contribute to the reinforcing the locality as the commercial heart of Greater Western Sydney.	Yes
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	There is no particular theme for signage in the locality. The proposal is consistent with other commercial buildings in the Parramatta CBD, including the commercial building opposite the site where signage at the parapet is provided.	Yes
2. Special areas		
Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	The proposal does not detract from the visual quality of any surrounding heritage items and has been carefully designed to include high-quality materials that contribute to the aesthetic quality of the area. In addition, the signage allows an appropriate functional balance by supporting the future use of the site for renewed commercial and educational use. The signage does not detract from the heritage item due to its physical separation.	Yes
3. Views and vistas		
Does the proposal obscure or compromise important views?	The proposed signage zones are located on the building elevations and do not project off the building envelope, therefore will not obscure or compromise any important views.	Yes
Does the proposal dominate the skyline and reduce the quality of vistas?	The proposed signage zones are appropriately located and scaled to not dominate the skyline and will offer an ability for future signage to enhance the quality of the city skyline through reinforcing the commercial use of the site.	Yes
Does the proposal respect the viewing rights of other advertisers?	Since the proposed signage zones are of a similar nature to signage within the broader locality, it will not impact on the viewing rights of any of the surrounding advertisers.	Yes
4. Streetscape, setting or landscape		
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	The scale, proportion and form of the proposed signage zones are appropriate for the existing context of the site.	Yes
Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	The proposed signage zones provide an opportunity for future signage which will provide visual interest to the setting of the site. These zones are sufficiently located and sized to allow for signage which contributes to the landscape of Parramatta's skyline.	Yes
Does the proposal reduce clutter by rationalising and simplifying existing advertising?	N/A	N/A
Does the proposal screen unsightliness?	The proposed signage zones do not screen unsightliness but offer opportunities for future signage to add visual interest and further design quality to the new mixed use building.	Yes
Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	The signage zones do not protrude beyond the height of the new commercial building.	Yes
Does the proposal require ongoing vegetation management?	The proposal does not require any ongoing vegetation management.	Yes

Assessment Criteria	Comments	Compliant
5. Site and building		
Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	The proposed signage zones have been carefully developed to be compatible with the scale, proportions, and presentation of the building. The scale of the proposal is considered to be appropriate for the context of the site and will support the educational, commercial precinct character of the area.	Yes
Does the proposal respect important features of the site or building, or both?	The proposed signage zones will allow for signage which respects the character of the site's location in Parramatta's CBD and reinforces the commercial use of the building	Yes
Does the proposal show innovation and imagination in its relationship to the site or building, or both?	The signage zones will facilitate future detailed signage which is capable of showing innovation and imagination. The location and positioning of the signage zones ensures prominent exposure at the parapet of the building, allowing for the commercial use of the building to be showcased within the Parramatta CBD.	Yes
6. Associated devices and logos with advertisements and advertising Structures		
Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	All future signage will be fully integrated with the structures on which they are displayed.	N/A
7. Illumination		
Would illumination result in unacceptable glare?	Subject to detailed design of the future signage. This proposal only seeks approval for signage zones and no illumination or lighting.	N/A
Would illumination affect safety for pedestrians, vehicles or aircraft?		
Would illumination detract from the amenity of any residence or other form of accommodation?		
Can the intensity of the illumination be adjusted, if necessary?		
Is the illumination subject to a curfew?		
8. Safety		
Would the proposal reduce the safety for any public road?	Due to the placement, scale, and intensity of the proposal, it will not reduce road safety.	Yes
Would the proposal reduce the safety for pedestrians or bicyclists?	Due to the placement, scale, and intensity of the proposal, pedestrian or cyclist safety will not be reduced.	Yes
Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	As discussed above, the proposal will not obscure sightlines, and thus will not reduce safety for pedestrians.	Yes

5.1.3 Local Planning Instruments and Controls

The proposal's consistency with the relevant local plans including the Parramatta LEP 2011 and Parramatta DCP 2011 is set out in **Table 11** below. In regard to the Parramatta DCP 2011 (including any site-specific amendments) the proposal is generally consistent with the objectives of the DCP. The provisions of a DCP do not apply to SSD in accordance with Clause 11 of the SRD SEPP. Notwithstanding this, the following section sets out a high-level assessment against the key Parramatta DCP 2011 provisions.

Table 11: Summary of consistency with relevant local plans

Component	Comments
Parramatta Local Environmental Plan 2011	
Clause 2.1 – Land Use Zone	The site is zoned B3 Commercial Core. The proposed development comprising retail premises, commercial premises and tertiary education are permissible with consent and consistent with the zone objectives as it: • Provides a diverse mix of land uses on a suitable site to meet the needs of the local and wider community; • Supports increased employment opportunities in proximity to existing and planned transport infrastructure; • Contributes to the strengthening of Parramatta CBD as the business, retail and cultural centre of Western Sydney; • Enhances the public domain through the provision of a high-quality building with a large public through-site link; • Does not impede any significant view corridors; • Protects and appropriately responds to the surrounding heritage context; and • Provides a highly activated and pedestrian friendly street frontage.
Clause 4.3 – Height of Buildings	The proposal is 82.1m in height and breaches the currently mapped maximum building height of 72m. However, as outlined in **Section 1.1**, the site-specific Parramatta LEP 2011 amendments which relate to the site are to be gazetted prior to determination of the SSD DA. Once the LEP is amended, the proposal will comply with the LEP provisions and will allow the determination of the proposed SSD DA. The maximum building height control will be amended from 72m to 86m. The proposed development is entirely consistent with the maximum height parameters established in the impending site-specific Parramatta LEP 2011 amendment by achieving by achieving a maximum height of 82.1m.
Clause 4.4 – Floor Space Ratio	The proposal constitutes an FSR of 11.5:1 and therefore breaches the currently mapped FSR of 6:1. As detailed above, the site-specific Parramatta LEP 2011 amendments are imminent which, once made, will allow for the current maximum FSR of 6:1 to be amended to a base FSR of 10:1 with an additional 1.5:1 (15%) allowable for development achieving design excellence in accordance with Clause 7.10 of the LEP. The proposed development is entirely consistent with the maximum FSR established in the impending site-specific Parramatta LEP 2011 by providing a maximum GFA of 30,440m^2 which equates to an FSR of 11.5:1 (inclusive of design excellence).
Clause 5.10 – Heritage Conservation	The site does not contain a heritage item nor is it located within a Heritage Conservation Area however, it is proximate to a number of heritage items of Commonwealth, State and local heritage significant. Specifically, it adjoins the Commonwealth and State heritage listed Lancer Barracks to the north and the locally heritage listed Commercial Hotel to the west. A Heritage Impact Statement has therefore been prepared by Weir Phillips and is provided in **Appendix H.** The report assesses the potential impacts of the proposal in the context of the surrounding heritage listed items. Further discussion is provided in **Section 5.6**.
Clause 6.1 – Acid Sulfate Soils	The DSI prepared by Douglas at **Appendix N** has provided a preliminary assessment of the site and notes that there is an extremely low probability of Acid Sulfate Soils Occurrence with a 1-5% chance of occurrence with occurrences in small localised areas.
Clause 6.3 – Flood Planning	A Flood Impact and Overland Flow Management Plan has been prepared by Robert Bird Group and is provided in **Appendix L**. Further discussion is provided within **Section 5.1.2**.
Clause 6.12 and 6.13 – Design Excellence	Refer to **Section 5.2**.
Clause 7.3 – Car Parking	Refer to **Section 5.5**. The proposal complies with the maximum parking rate under the existing and LEP Amendment (future) controls.
Clause 7.4 – Sun Access	The site is located to the south of the Lancer Barracks, as such will not contribute any additional overshading to this site.
Clause 7.10 – Design Excellence – Parramatta City Centre	Refer to **Section 5.2**. A competitive design process has been undertaken in which the Jury Report at **Appendix C** confirms the proposal achieves design excellence. As such the proposal incorporates an additional 15% of GFA pursuant to Clause 7.10(8)(b).

Parramatta Development Control Plan 2011	
The provisions of a DCP do not apply to SSD in accordance with Clause 11 of *State Environmental Planning Policy (State and Regional Development) 2011*. Notwithstanding this, the following section sets out a high-level assessment against the key Parramatta DCP provisions.	
Part 2 – Site Planning	
2.4.1 Views and Vistas	The proposal does not impact on any significant view corridors and has been designed to encourage view sharing between properties. To reinforce this, a Visual Impact Assessment has been prepared by Tzannes + Blight Rayner and Arterra Interactive and is provided in **Appendix F.** Further discussion is provided in **Section 5.4.**
2.4.2 Water Management 2.4.3 Soil Management	The site is not identified as being flood prone and Stormwater, Erosion and Sediment Control Plans have been prepared by Floth and are provided in **Appendix K.** Refer to **Section 5.11** for further discussion.
2.4.4 Land Contamination	A DSI has been prepared by Douglas Partners and is provided in **Appendix N.** Further discussion is provided in **Section 5.10.**
2.4.5 Air Quality	The proposal is not anticipated to have an adverse impact on air quality. Dust control measures will be implemented throughout the construction phase (refer to the Construction Management Plan at **Appendix Z**. Plant equipment will comply with the relevant air quality standards.
2.4.6 Development on Sloping Land	As shown on the Site Survey prepared by Usher in **Appendix D**, the site is generally flat.
2.4.7 Biodiversity	The proposed site is already developed for urban purposes, has no significant existing vegetation present and is located within the highly urbanised setting of Parramatta CBD. Further detail is provided within the Biodiversity Development Assessment Report Waiver Request at **Appendix DD.**
2.4.8 Public Domain	Landscape Plans have been prepared by Oculus and are provided in **Appendix E.** The proposed development incorporates landscape and public domain elements which have been designed to ensure it is attractive, safe, interesting, comfortable, readily understood and easily accessed. Refer to **Section 5.3.6** for further discussion.
Part 3 – Development Principles	
3.2.1 Building Form and Massing	The impending amendments to the Parramatta DCP 2011 contain site specific objectives and provisions related to built form and massing. The proposed development is generally consistent with the relevant provisions as set out at the back of this table and in **Section 5.3.**
3.2.2 Building Facades and Articulation	The proposed building facades and articulation are outlined within the Design Report at **Appendix B** and discussed further at **Section 5.3.5**.
3.2.3 Roof Design	The proposal incorporates an expressive roof form that contributes to an interesting skyline. Dynamic in its expression, the roof line creates varying profiles and enhances the perspective geometry when viewed from different angles and distant views. The roof form is distinct in its materiality including aluminium and perforation apertures and expresses an industrial and modern character for the building. The screening element integrates and provides ventilation to plant equipment for the building services.
3.2.4 Energy Efficient Design	An ESD Report has been prepared by Floth and is provided in **Appendix Q.** Further discussion is provided in **Section 8.3.**
3.2.5 Streetscape	The proposal enhances the streetscape as it: • contains active and accessible retail uses at ground floor; • involves minimal use of solid walls at ground level, incorporating glazing elements for activation and transparency; • protects pedestrian amenity by incorporating an undercover plaza; and • allows ground level uses to be directed to the central plaza.
3.3.1 Landscaping	To support the proposal, Aspect has prepared a comprehensive landscape scheme including deep planters, street trees to soften the built form and enhance the natural amenity of the site. The site is also in proximity to large expanses of public open space including the Parramatta River foreshore to the north and James Ruse Reserve to the east. Refer to **Section 5.3.6**.
3.3.3 Visual and Acoustic Privacy	The acoustic amenity of nearby sensitive receivers will be preserved, as discussed in the Acoustic Impact Assessment prepared by Floth in **Appendix T.** Further discussion is provided in **Section 5.7.** Visual Privacy is discussed in **Section 5.4.3.**

3.3.5 Solar Access & Cross Ventilation	The floor to floor heights are typically 3.7m and the building has a large northern frontage and western frontage, therefore the development allows ample solar access to the building.
3.3.6 Water Sensitive Urban Design	A WSUD strategy is proposed and is discussed and detailed in the Stormwater Management Plan in **Appendix K** and **Section 5.11**.
3.3.7 Waste Management	A WMP has been prepared and is provided in **Appendix CC.** Further discussion is provided in **Section 5.12.**
3.4.1 Culture and Public Art	A public art plan is required for all new development having a CIV of over $5m in the Parramatta City Centre. The development of a public art plan is considered an appropriate condition on any development consent.
3.4.2 Access for People with Disabilities	Refer to the Accessibility Report in **Appendix S**. The proposed drawings demonstrate that accessibility requirements, pertaining to external site linkages, building access, common area access, sanitary facilities and parking can be readily achieved.
3.4.4 Safety and Security	Safety and security principles have been considered as part of the design of the proposal. Refer to the CPTED Assessment Report in **Appendix Y** and **Section 5.15.**
3.5 Heritage and Archaeology	An assessment of the proposal's impact on heritage items and archaeology is provided in the Heritage Impact Statement (**Appendix H**), the Historical Archaeological Assessment Report (**Appendix I**) and the Aboriginal Cultural Heritage Assessment Report (**Appendix J**). Further discussion is provided in **Section 5.6.**
3.6 Movement and Circulation	An assessment of the proposal's traffic impacts (and movement and circulation) is provided in the Traffic Impact Assessment in **Appendix G,** and further discussion is provided in **Section 5.5.**
Part 4 – Special Precincts, Parramatta City Centre	
4.3.3.1 Building Form	The proposed development has departed from the current DCP built form controls and has been informed by the site specific DCP. Further discussion is provided in **Section 5.1.4** and **Section 5.3**.
Building Form and Wind Mitigation	A Wind Impact Assessment has been prepared by Windtech and is provided in **Appendix Y.** Further discussion is provided in **Section 5.4.4.**
Building Exteriors	The proposed materials and treatments have been subject to rigorous assessment throughout the design excellence process. The proposal integrates high quality materials commensurate with the site's highly visible location and the treatments are considered to be sympathetic to the surrounding heritage context as detailed within the Heritage Impact Statement prepared by Weir Phillips in **Appendix H.** Further discussion is provided in **Section 5.3.5.**
Sun Access to Public Spaces	The proposed development does not impede on the Lancer Barracks or Jubilee Park sun access planes.
4.3.3.2 Mixed Use Buildings	As discussed in **Section 3.4**, the proposal has a highly activated ground plane through the provision of a retail strip, central plaza, and highly glazed building lobby. The proposal is provided with a double height lobby which is well in excess of the minimum ground level floor to ceiling height of 3.6m. Furthermore, the upper level floor to ceiling heights are generally 3.7m which is well in excess of the 2.7m minimum.
4.3.3.3 Public Domain and Pedestrian Amenity	The central plaza is publicly accessible and provides significant visual interest through the provision of ground floor retail, and glazed lobby entry with sight lines to the exhibition space at the lower ground floor. The Hassall Street frontage is highly activated beyond the 50% requirement. Awnings are not required along the Hassall Street frontage.
4.3.3.4 Views and View Corridors	The proposed development does not impede on any significant or historic view corridors stipulated in the DCP. The proposed built form has been carefully designed to equitably share views among surrounding sites as detailed in **Section 5.4.2.**
4.3.3.5 Access and Parking	Refer to the Traffic Impact Assessment prepared by Ason Group in **Appendix G** and **Section 5.5** for further detail.
4.3.3.6 Environmental Management Landscape Design	A comprehensive landscape Design has been prepared by Aspect and is illustrated on the Landscape Plans in **Appendix E.**
Part 5 – Other Provisions, Signage	
General Requirements Business Zones	The proposal seeks consent for 9 signage zones only. Details of the exact content, materiality, and illumination of signs within these zones will be the subject of approval by the Secretary prior to the issue of the relevant construction certificate. As illustrated on the building elevations at **Appendix B**, the proposed signage zones are commensurate with the scale of the building and appropriately located as not to dominate or obscure other signs or result in visual clutter.

5.1.4 Parramatta DCP 2011 Site Specific Provisions

The current built form controls embedded within the Parramatta DCP 2011 – City Centre envisage a podium tower development as identified in **Figure 36** below.

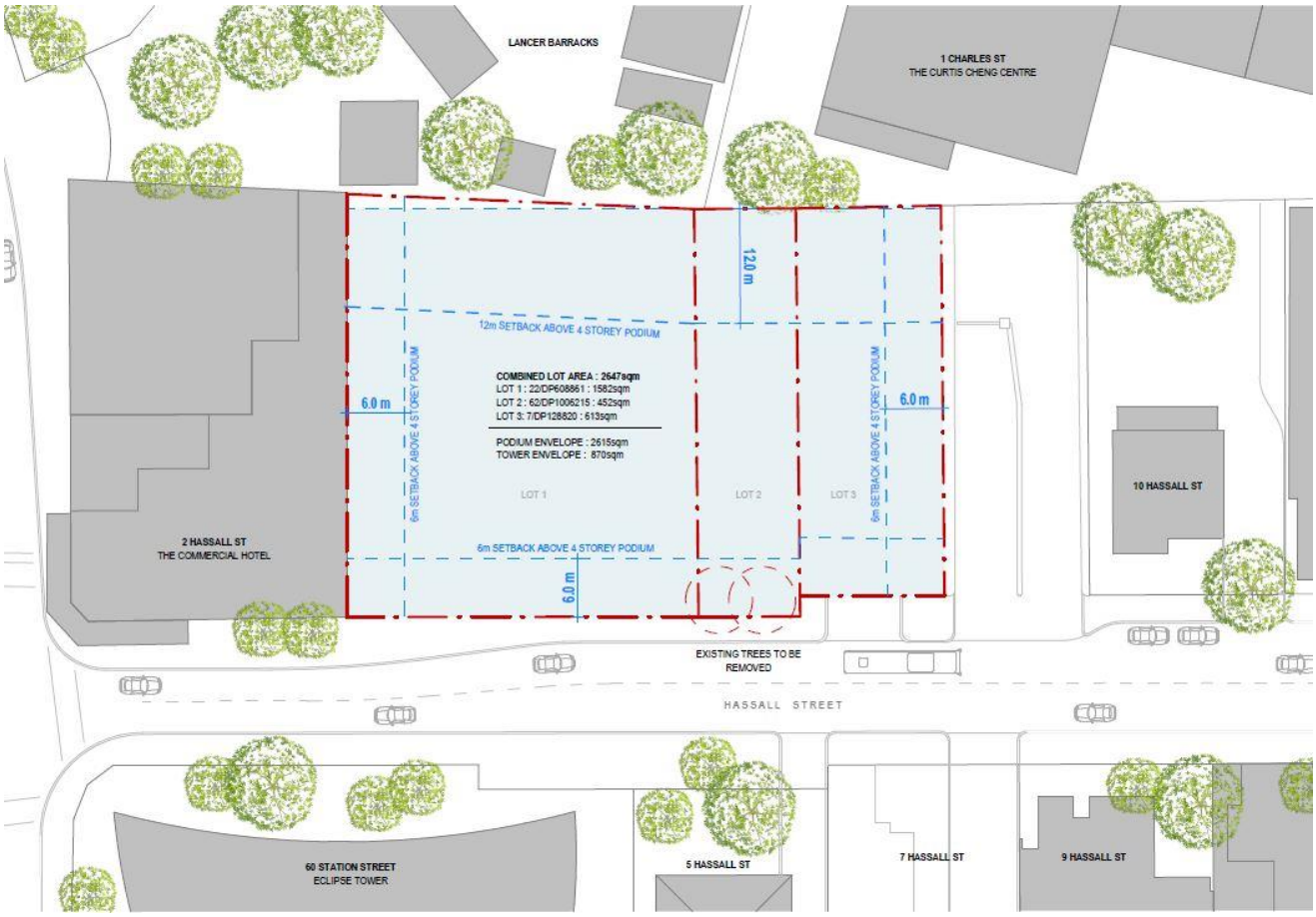


Figure 36: Current DCP built form controls

Source: Architectus

As outlined in **Section 1.1.1**, a draft site-specific Parramatta DCP 2011 amendment for the site was prepared as part of the Planning Proposal process to supersede the built form controls illustrated in **Figure 36**. At the time of writing this site specific DCP remains a draft. Whilst consideration has been given to the draft site-specific built form controls through the design of the proposal, it is reiterated that the provisions of a DCP do not apply to SSD in accordance with Clause 11 of the SRD SEPP. Furthermore, the proposed design is the outcome of a competitive design process and is supported by the jury. **Section 5.2** demonstrates that design excellence has been achieved and discusses how the proposed design best suits the characteristics of the site and surrounds.

In any case, under Section 4.15(3A) of the EP&A Act, a consent authority is required to apply DCP provisions flexibly and allow reasonable alternative solutions that achieve the objects of those standards. Where alternate solutions to the provisions are proposed, they are identified in **Table 12** below and discussed in the following sections of this environmental assessment.

Table 12: Draft Site-Specific DCP Compliance

Component	Comments
Desired Future Character	The proposal is consistent with the desired future character as set out in the draft Site Specific DCP in that it: • Will contribute to the revitalisation of Hassall Street by providing a diverse mixed-use development emphasising innovation, business and education; • Will provide significant employment opportunities in proximity to existing a future transport infrastructure; • Has gone through a competitive design process to ensure the scheme achieves design excellence and is not only sympathetic to the surrounding heritage context but achieves a superior built form outcome as discussed further at **Section 5.3;** • Provides a development scale commensurate with the site's strategic and locational attributes; and • Provides ground floor retail, a central plaza and a glazed lobby entry to achieve a highly activated and permeable street front and ground plane.
Street Wall and Building Height • A maximum street wall height of 3 storeys, to align with the parapet of the Commercial Hotel to the east • Above the podium, a 19 storey tower	The proposal does not include a conventional street wall, as a large open plaza has been provided creating a central void space commensurate with the intent to provide a grand scale entrance to the University. Notwithstanding this, the datum of the base podium height has been designed to generally align with the upper parapet of the Commercial Hotel and be a height of 3 storeys. The standalone retail building is commensurate in height with the lower/rear portion of the Commercial Hotel to which it abuts. The proposal does not extend to the maximum building height and comprises 19 storeys in total. The proposal is not a conventional podium and tower form, rather the massing is stepped from the western boundary providing a base, mid-rise and tower. This is further discussed in **Section 5.3**.
Building Setbacks and Envelope • Provide a 3m podium setback from Lancer Barracks to the north, and a 2m podium setback to the southern boundary (Hassall Street) to match the predominant street boundary alignment to the east and aligning with the ground level façade • Provide zero setbacks to the east and west boundary for the podium.	The proposed northern setback varies due to the base design and the varied rear property line, however, the proposal contains an average setback of approximately 2.6m at the ground level to facilitate a rear landscaped zone. This is generally consistent with the 3m setback envisaged in the draft site specific DCP, with further justification provided at **Section 5.3** and The mid-rise is setback from the Hassall Street (southern) boundary by 2.9m, which exceeds the podium setback of the draft site specific DCP. At the high-rise levels, the northern setback ranges from 2.3m – 6.9m but is largely 6.9m (the north-east corner is angled towards the Lancer Barracks for a small portion of the façade), which is also in excess of the draft site specific DCP. A zero setback is provided to the east boundary which is consistent with the draft site specific DCP envelope for the podium. A 3.3 – 5.5m setback is proposed to the western boundary for the mid-rise, which is well in excess of the setback required under the draft site specific DCP for the podium (being zero). At the Hassall Street frontage, the retail building is built to boundary to align with the contemporary rear addition of the Commercial Hotel.
• Above the podium, the minimum tower setbacks are to be: - 3m from the edge of the podium to the north (6m to the northern boundary) - 3m from the east boundary (and podium edge) - 6m to Hassall Street (4m from the edge of the podium to the south) - 6m from the west boundary (and podium edge)	The proposal does not present a typical podium/tower form, and the envelope departs from the tower controls prescribed in the draft site specific DCP, with lesser setbacks in some circumstances, and greater setbacks in others. Notwithstanding the variation to the draft site-specific setback provisions, the proposal is considered an improved built form outcome as discussed in **Section 5.3** and is the result of a competitive process and design integrity panel review.

Component	Comments
Street Activation and Through Site Link • A high level of permeability through and around the site is to be achieved • Ground level uses should activate the street frontage to Hassall Street • A through site link should be created providing a connection between Hassall Street and the Lancer Barracks	The proposal is consistent with this draft DCP control. The intent of this draft DCP control is to future-proof the proposal in the event that the Lancer Barracks site is repurposed as public land. Whilst this is currently not the case, the proposal has made provision for a future through site link by opening the pedestrian plaza to the rear boundary as outlined in **Section 3.4.2.** As discussed in **Section 3.4,** the ground plane is highly activated including ground floor retail tenancies, a public plaza and a glazed dual lobby which allows sight lines to the lower ground floor exhibition space.
Vehicle Access and Parking • Vehicular access may be from the eastern portion of the Hassall Street frontage • Development on the site is not permitted to exceed the car parking rate outlined below: - Commercial: If the FSR > 3.5:1, M = (G x A) / (50 x T) where: M = maximum number of parking spaces; G = GFA of all office/business premises in the building (m²); A = Site Area (m²); T = Total GFA of all buildings on the site (m²).	The proposal is consistent with this draft DCP control. The proposed driveway is located at the eastern portion of Hassall Street. The driveway is not directly on the eastern boundary as this would present a consolidated driveway with the Curtis Cheng Centre which is an undesirable streetscape outcome. Given the location immediately to the east of Parramatta Transport Interchange, the proposed development contains 14 car parking spaces within the Lower Ground/Basement. As such, the proposal is consistent with this maximum car parking rate.
Roof design • The roof design may consider a staggered profile and a varying skyline in order to better articulate and modulate the built form.	The proposed roof design is consistent with this draft site specific DCP control. The proposed built form is highly modulated, transitioning up from the low scale Commercial Hotel to the future residential tower to the east. The roof design is of an angled form, designed to form a relationship with the angled geometry of the northern and western façades, and to appropriately graduate upwards in height to screen rooftop plant adjacent to the eastern core.
Landscaping • The setback on the northern boundary is to be used as a deep soil zone for new planting and tree roots protection zone for the existing tree on the adjacent site. • The 2 large palm trees on Hassall Stare are relocated to the deep soil zone at the northern boundary.	The proposed basement design constrains the deep soil provision within the site. As detailed within the Landscape Plans at **Appendix E,** the approximate 2.6m rear ground level setback allows for a high quality landscaped zone. This space has been designed to appropriately screen the rear boundary in the interim but in future it is capable of providing for a pedestrian transition directly into the Lancer Barracks. The two large palm trees have been removed pursuant to the early works DA consent under DA/714/2018.

5.2 Design Excellence

Clause 7.10 of the Parramatta LEP 2011 requires that the consent authority consider whether a proposed development exhibits design excellence. The Design Competition Jury Report submitted to GANSW in **Appendix C** outlines in detail the rationale for selecting Tzannes + Blight Rayner as the winning scheme. **Table 13** below provides an itemised assessment of the proposal against the design excellence provisions contained in clause 7.10 of the Parramatta LEP 2011.

Table 13: Compliance with the Parramatta LEP 2011 Design Excellence Provisions

Component	Comments
In considering whether development to which this clause applies exhibits design excellence, the consent authority must have regard to the following matters:	
Whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved	The proposal incorporates high quality design, materials and finishes commensurate with the site's highly prominent location. This is further detailed within the Design Report in **Appendix B.**
Whether the form and external appearance of the proposed development will improve the quality and amenity of the public domain	The proposal will significantly improve the quality and amenity of the public domain, particularly considering the current site situation. The proposal provides a generous public plaza and street front setback to enhance pedestrian amenity. The ground plane is highly activated and dynamic to celebrate the university use and engage students, staff, and visitors. In particular, the lower ground exhibition space and robotics lab encourages viewing from the public domain to create an active and vibrant ground plane.
Whether the proposed development detrimentally impacts on view corridors	The proposal does not detrimentally impact on any significant views. The proposal is only 82.1m and therefore does not extend to the draft LEP 86m maximum building height and removes massing from the western portion of the tower to retain northern view lines from the commercial building on the opposite side of Hassall Street, and retain daylight access looking up from the Lancer Barracks open space. Further detail is provided within the VIA in **Appendix F.**
How the proposed development addresses the following matters: • the suitability of the land for development	The land is suitable for the proposal as it is a highly prominent and highly serviced CBD site. The proposal will comprise a mix of retail, educational and commercial uses, creating significant employment opportunities. The proposed development on this site is consistent with transit-oriented development principles of locating commercial and educational floorspace in proximity to transport and aligns with the strategic vision for the Parramatta CBD.
• the existing and proposed uses and use mix	The proposal will comprise a unique mix of uses including retail, educational and commercial. A large portion of the existing and emerging development within the Parramatta CBD is commercial and residential in nature, as such the incorporation of the educational use complements these uses whilst strengthening the Parramatta CBD educational cluster which includes the existing WSU building to the north west and the contemporary school development to the north.
• any heritage and archaeological issues and streetscape constraints or opportunities	The proposal is appropriate from a heritage, archaeology and streetscape perspective as detailed in **Section 5.6.**
• the location of any tower proposed, having regard to the need to achieve an acceptable relationship with other towers (existing or proposed) on the same site or on neighbouring sites in terms of separation, setbacks, amenity and urban form	The proposal is highly responsive to the existing and future surrounding built form. The proposed base aligns with the scale of the Commercial Hotel to the west and then steps up to a 12 storey mid-rise, extending to a 19 storey tower. This effectively transitions the height from the small scale development to the west to the future residential tower on the PCYC site to the east. Further discussion is provided in **Section 5.3** below.
• the bulk, massing and modulation of buildings	Refer to **Section 5.3** below.
• street frontage heights	Refer to **Section 5.3** below.
• environmental impacts, such as sustainable design, overshadowing and solar access, visual and acoustic privacy, noise, wind and reflectivity	Refer to **Section 5.4** below.

Component	Comments
• the achievement of the principles of ecologically sustainable development	Refer to **Section 8.3** below.
• pedestrian, cycle, vehicular and service access and circulation requirements, including the permeability of any pedestrian network	The proposal enhances the pedestrian and cyclist experience by providing a large open and active ground plane including an EOT. The EOT area will comprise a high quality fit out to enhance building amenity and tenant. Additional bike parking areas are provided within the basement level and the Hassall Street frontage.
• the impact on, and any proposed improvements to, the public domain	The proposal makes a significant contribution to the public domain by elevating the building onto piloti which enhances opportunities for public space at the ground level. This is facilitated by a large open plaza and an approximate 2.9m Hassall Street setback to allow additional pedestrian circulation space. In addition, the proposed architectural language is of a high quality and significantly improves upon the previous site situation which includes deteriorating commercial and residential buildings.
• the impact on any special character area	The site is not located within a Special Character Area identified in the LEP.
• achieving appropriate interfaces at ground level between the building and the public domain	The proposal places an important focus on the pedestrian experience by creating an open and active ground plane. The building is predominantly setback 2.9m from the Hassall Street boundary to allow footpath widening and to improve pedestrian circulation. The north south public plaza is activated by the retail edge to the west and the glazed lobby to the east which allows sight lines into the ground level university exhibition/amphitheatre space.
• excellence and integration of landscape design	The site is within a highly urbanised location, however opportunities to integrate landscaped elements have been maximised. At the ground level, the retail building roof includes a landscaped edge with cascading planting, as well as perimeter screen plantings within the rear landscaped setback zone. At the upper levels, the proposal is provided with terraces which will include landscaping to soften the built form, which will be coordinated by the end tenants according to their individual needs for the space. Further detail is provided on the Landscaped Plans in **Attachment E**.

5.3 Built Form and Urban Design

Summary

- The proposal has been subject to rigorous urban design testing and assessment throughout the Planning Proposal and design excellence process to develop the optimal built form and urban design outcome. The key drivers for the proposed built form and its evolution are detailed in the following sub sections.
- The Draft Site Specific DCP building envelope and an alternative building envelope were both tested during the preparation of the site specific DCP and through the design competition. Council officers (planning and urban design) and the Competition Jury agreed that the alternative building envelope resulted in superior urban design outcomes through both processes.
- The proposed building form is a further evolution of the alternative building envelope, with building mass removed from the podium up into the tower, creating the opportunity for a grand reverse podium which forms an extension to the public domain and creates a distinct address for the University's Engineering faculty.
- The proposed building envelope retains the essence of the alternative building envelope, is supported by the Design Competition Jury and responds to the context of the site through appropriate setbacks and building articulation.

5.3.1 Planning Proposal Building Envelope Evolution

In December 2017, Charter Hall submitted a site-specific Planning Proposal to the City of Parramatta. As discussed in **Section 1.2**, the Planning Proposal sought to amend the Parramatta LEP 2011 to align with the strategic context and controls recommended for the site in the CBD Planning Proposal.

The Planning Proposal was accompanied by an initial proponent preferred reference design which Council officers determined required further refinement before it could be supported. The preferred reference design sought a building envelope with large, continuous floor plates generally in the order of 1,300m^2 – 2,400m^2 to meet future A Grade tenant demand.

In order to progress the Planning Proposal, a 'baseline proof of concept' was developed with Council officers to be reported with the Planning Proposal at the 9 April 2018 Council meeting. The baseline proof of concept reference design was a conventional podium and tower form prepared for the sole purpose of demonstrating that an FSR of 10:1 and a height of 86m could be achieved on the site and to allow the Planning Proposal to progress to the DPE for a Gateway Determination. However, it did not achieve the required floor plates to meet preferred market demand. **Figure 37** below illustrates the baseline proof of concept reference design.

The proponent and officers agreed to work collaboratively to further develop a new reference design which satisfied both the proponent's and officers' requirements to inform a site-specific DCP, whilst the Planning Proposal was being considered by DPE for a Gateway Determination. This strategy was clearly set out in the report to Council for the 9 April 2018 meeting.

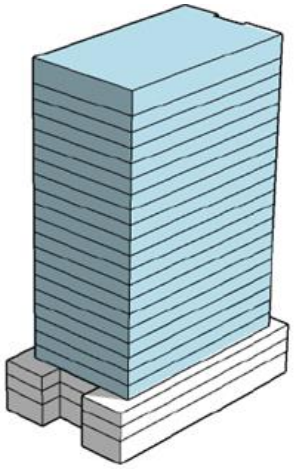


Figure 37: Baseline proof of concept reference design.

Source: Architectus

However, at the Council meeting held on 9 April 2018, the Councillors resolved that the site-specific DCP be prepared to reflect the building envelope shown in the baseline proof of concept reference design, which was prior to a more comprehensive urban design study which followed and is discussed below.

On 14 June 2018, the Department issued a Gateway Determination in respect of the Planning Proposal. In regard to the proof of concept reference design, the Gateway Assessment Report noted that:

> *Further detailed design resolution is required regarding tower setbacks, the relationship of the future development to adjoining heritage items and the treatment of the built form in proximity to the Curtis Cheng building to the north-east. A site-specific DCP is proposed to inform suitable building form in the context of the adjoining development".*

Following receipt of the Gateway Determination, the proponent prepared a comprehensive urban design study to develop a building envelope which would ensure future development could respond to the Department's comments, achieve the proponent's commercial objectives and protect the heritage values of the locality. The outcome of the study was the development of a building envelope which was compatible with the site's context also met WSU's functional requirements as a pre-committed tertiary education tenant (refer to **Figure 38**).

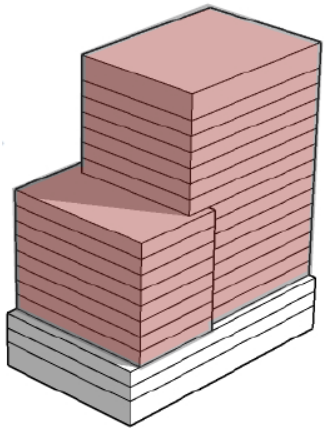


Figure 38: Alternate concept reference design

Source: Architectus

The baseline proof of concept and the alternate building envelope controls are compared below in **Table 14**.

Table 14: Summary and comparison of the baseline proof of concept and alternate building envelope

Baseline proof of concept	Alternate building envelope
Podium setbacks: • North: 3m minimum setback to Lancer Barracks • South: 2m setback to Hassall Street • East: 0m setback to the adjoining driveway • West: 0m setback to the Commercial Hotel **Tower setbacks:** • North: 3m from the edge of the podium to the north (6m to the northern boundary) • South: 6m to Hassall Street (4m from the edge of the podium to the south) • East: 3m from the east boundary (and podium edge) • West: 6m from the west boundary (and podium edge)	**Podium setbacks:** • North: 2m podium setback to the Lancer Barracks • South: 2m setback to Hassall Street • East: 0m setback to the adjoining driveway • West: 0m setback to the Commercial Hotel **Tower setbacks:** • For the shorter (western) component of the tower, 2m tower setbacks from the northern and southern boundaries (aligning with the podium edge), and a 3m setback to the western boundary. • For the taller (eastern) component of the tower, 5m tower setbacks from the northern and southern boundaries, and a 0m tower setback to the east (aligning with the podium edge)
	
Figure 39: Baseline proof of concept envelope	**Figure 40: Alternate building envelope, from urban design study**

As illustrated above, the main difference between the two building envelopes is that the alternate envelope has been divided into part 12 storey and part 19 storey components. The setbacks of the 12 storey mid-rise to the western, northern and southern boundaries, whilst marginally reduced, are generally consistent and are contextually responsive to neighbouring properties. Whilst the taller high-rise component maintains similar but with slightly reduced setbacks to the northern and southern boundaries, it includes a substantially larger western setback (well over 10 metres), effectively creating a 'stepped' building envelope.

The alternate (and preferred) envelope was presented to Council staff on 28 June 2018. Written feedback issued by Council's planning, urban design and heritage officers to the proponent on 5 July 2018, confirmed support and preference for the alternate building envelope. This building envelope was reported to Council at the 13 August 2018 meeting as an alternative for consideration, with the officers' Assessment Report noting the following:

> *"Council's Urban Design team **supports the alternative site specific DCP**, that incorporates a modified design concept, as it will provide **improved urban design outcomes** for the site as follows:*
>
> - ***Better articulates the building envelope**, reducing the perceived bulk and scale of the development;*
> - *Creates a **better relationship with the Commercial Hotel** proposing a lower development on the western boundary.*
> - ***Creates an opportunity of developing the Commercial Hotel** site with party wall (lower scale, similar to the lower tower);*
> - ***Improves the building separation** between the proposed new tower and the existing NSW Police Headquarter tower;*

- ***Does not inhibit the future potential development*** *on the NSW Police driveway site using a party wall."*

(Council Assessment Report 13 August 2018, Page 190)

"Council staff consider that an alternative site specific DCP prepared by the applicant ***would achieve superior urban design outcomes and acceptable heritage outcomes****. The alternate site specific DCP controls are recommended as the preferred option."*

(Council Assessment Report 13 August 2018, Page 192)

At the meeting of Council on the 13 August 2018, the elected Councillors resolved to endorse the baseline proof of concept envelope as the draft site-specific DCP. However, as assessed under **Section 5.1.4** it was acknowledged that there would be a subsequent Competitive Design Process to further resolve the detailed design and test the building envelope to ensure the best contextual fit for the site.

5.3.2 Design Competition Building Envelope Evolution

Within the Design Competition Brief endorsed by Council and GANSW, it was noted that for the sake of equity, all entries must generally comply with draft site-specific DCP building envelope. However, as agreed with the City of Parramatta, competitors were also permitted to identify opportunities for a "non-conforming" scheme which varied from the draft site-specific provisions. Any such entry departing from the Council's endorsed draft site-specific DCP was required to be supported by a strong urban design and design excellence rationale and was to demonstrate suitable design progression.

All four entries departed from the draft site-specific DCP in favour of the alternate envelope (as presented in the Final Jury Report in **Appendix C**) on the basis of mitigating built form, amenity and heritage impacts.

As the winning scheme, Tzannes + Blight Rayner applied careful urban design rationale to demonstrate that their proposed scheme warranted departures from the draft site-specific DCP building envelope. A high-level representation of the building envelope design evolution is illustrated in **Figure 41** below, and the merits of the proposal's building envelope, including the design development to DA stage are further outlined in the subsections that follow.

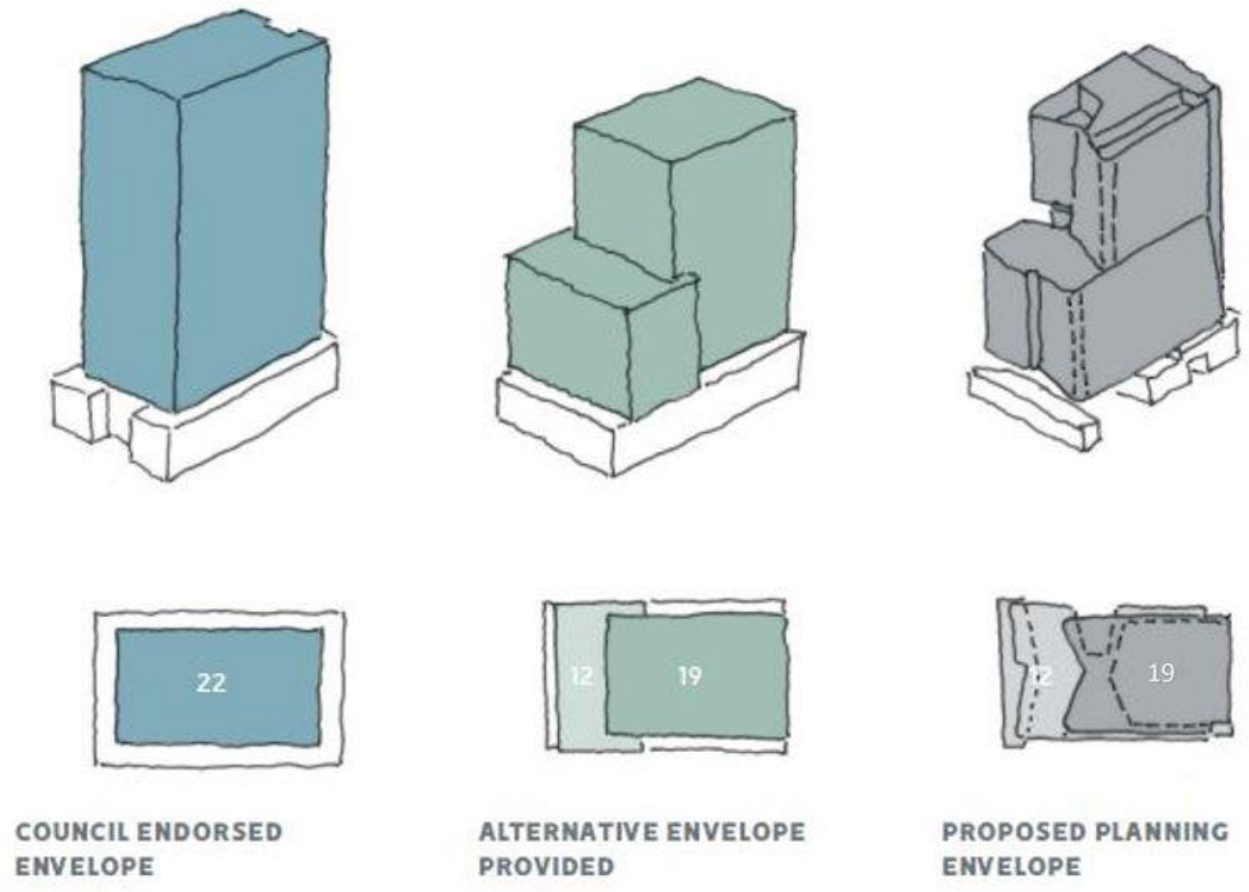


Figure 41: Building Envelope Design Evolution

Source: Tzannes + Blight Rayner

5.3.3 Building Height, Street Wall and Setbacks

The proposed built form has departed from the draft site-specific DCP to present an improved outcome in relation to the site's context, the heritage values of the locality, the amenity of the surrounding uses, the envisaged role of the Parramatta CBD and WSU's functional requirements as a pre-committed tertiary education tenant. The proposal generally aligns with the alternative building envelope explored through the Planning Proposal and Design Competition process whilst achieving the same floor space allowable under the draft site-specific Parramatta LEP 2011 FSR amendment.

In developing this response, it has been identified that Hassall Street is experiencing significant urban renewal and is in a state of transition between historic land uses and future development consistent with envisaged uplift under the CBD Planning Proposal. As a result, the building heights and street frontage heights within the locality are mixed and there is no prevailing or established building height or street wall height to respond to.

Notwithstanding the complexity of responding to the surrounding built form, the proposal establishes an appropriate relationship with the surrounding development through an alternate design solution, which has been developed through the rigour of a competitive design process. The proposed building height has been modulated, providing a 3 storey open podium, a 12-storey midrise and a 19 storey tower. The proposed height complies with the impending draft site-specific Parramatta LEP 2011 amendments which allow a maximum building height of 86m.

This proposal provides a transition in building height from the 2-storey scale of the Commercial Hotel to the west to the proposed 192m residential tower to the east on the PCYC site as illustrated in **Figure 42**. The stepped nature of the built form allows for a landscaped retail rooftop and a large mid-rise landscaped terrace to soften the vertical built form and enhance the building's amenity. These elements would be unachievable or underwhelming under the draft site-specific DCP envelope. The western mid-rise setback of approximately 3m above the base does not inhibit any future tower on the Commercial Hotel site, in the unlikely event that it was redeveloped, as illustrated in **Figure 42** below.

The eastern nil setback is also considered appropriate by virtue of the core location and configuration as well as the separation created by the Curtis Cheng driveway adjoining the eastern boundary. This design solution ensures a large 21m separation is provided to the proposed residential tower on the PCYC site, and the interface is improved with the core on the eastern boundary as it obstructs sight lines to the future residential apartments. In the unlikely event that the area containing the Curtis Cheng Centre Driveway is redeveloped, it does not inhibit the future potential development using a party wall.

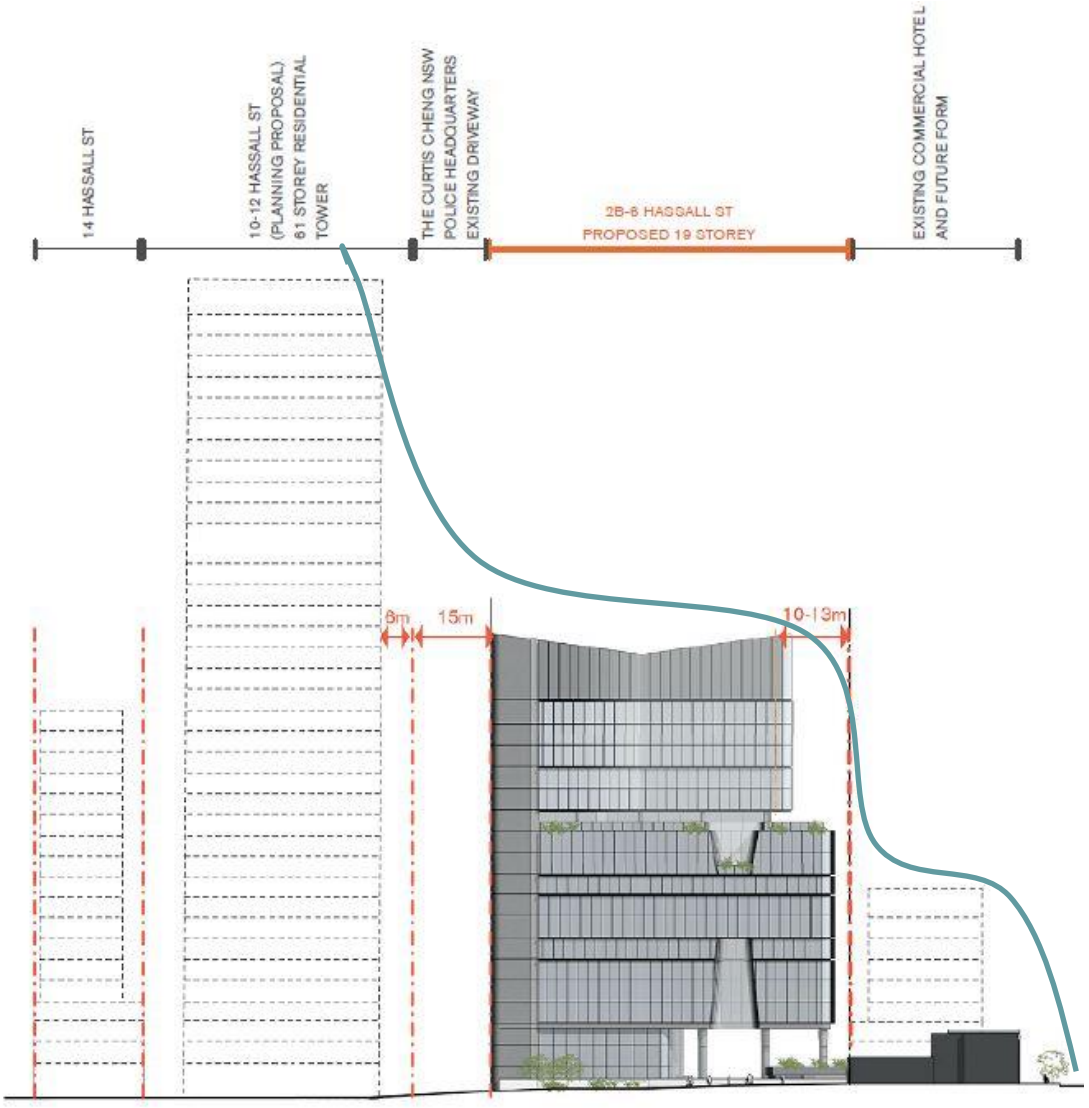


Figure 42: Transition in building scale from the east to the west

Source: Tzannes + Blight Rayner (with additions)

As outlined above, there is no prevailing street wall along Hassall Street for the proposed development to respond to. Accordingly, the proposed building base has taken cues from the varied datums of the Commercial Hotel to the west as illustrated in **Figure 43** below. The solidity of the retail building and the lobby as well as the void space created by the central plaza has been informed by the varied datums of the Commercial Hotel. The result is a built form that is responsive to the current heritage context and future surrounding built form.

Under both the draft site-specific DCP and the alternate building envelope, a 2m ground level setback to the Hassall Street boundary is envisaged. The proposal achieves a predominant 2.9m setback to provide additional pedestrian circulation area and a generous footpath width along the Hassall Street frontage. At the rear, the base achieves a varying setback with a 2.6m average. This presents a soft landscaped interface to the Lancer Barracks and does not preclude a rear site connection if the Lancer Barracks is ever repurposed for public access.

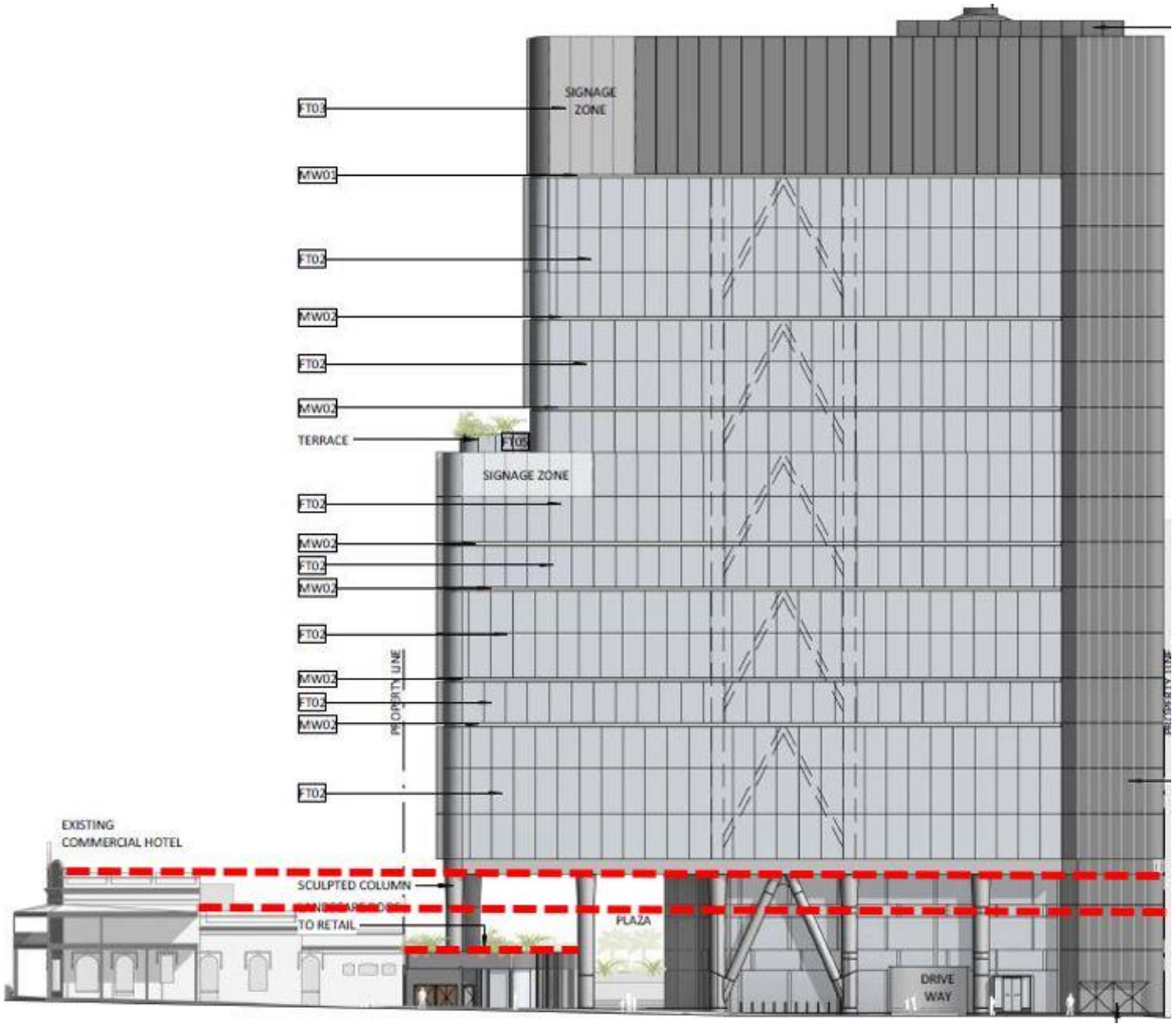


Figure 43: Proposed base relationship with the datums of the Commercial Hotel

Source: Tzannes + Blight Rayner with additions

The general building massing and setbacks proposed within this SSD DA were carefully considered throughout the design excellence process, with the alternative building massing approach given support from the Jury, as documented in **Appendix C**. Further, it is noted that Section C5.2 and Appendix 3 of the Design Competition Brief issued to all competitors acknowledged that alterative schemes were capable of being put forward in the design excellence process, subject to the Jury being convinced that:

- The relevant objectives are achieved, notwithstanding the variation;
- The variation adds value by resulting in a better outcome, in terms of planning, heritage impact and design excellence; and
- The objectives of the Brief are better satisfied by the non-conforming scheme.

Relationship with Lancer Barracks

At the mid-rise and high-rise levels, the proposal provides various setbacks which are articulated and respond to the Lancer Barracks in a sympathetic manner. A key focus of the Tzannes + Blight Rayner scheme is to ensure that the proposal sympathetically relates to the Lancer Barracks through modulated height and the materiality and expression of the northern façade, with void cut outs and an angled north-east corner of the high-rise.

The proposed massing creates a stepped form of 12 storeys up to 19 storeys which effectively provides a calm and consistent backdrop at the mid-rise levels, whilst opening views to daylight from the Lancer Barracks through the tower location.

The proposed fine grain design takes draw cues from the Lancer Barracks buildings. In particular:

- the solid to void relationship of the Lancer Barracks buildings was explored to inform the scale and geometry of the openings in the northern façade as illustrated in **Figure 44**.
- the datum of the base establishes a scale relationship with the datums of the Lancer Barracks buildings as illustrated in **Figure 45**.
- the northern façade has been softened with landscaped terraces to relate to the landscaped open space within the Lancer Barracks as illustrated in **Figure 46.**

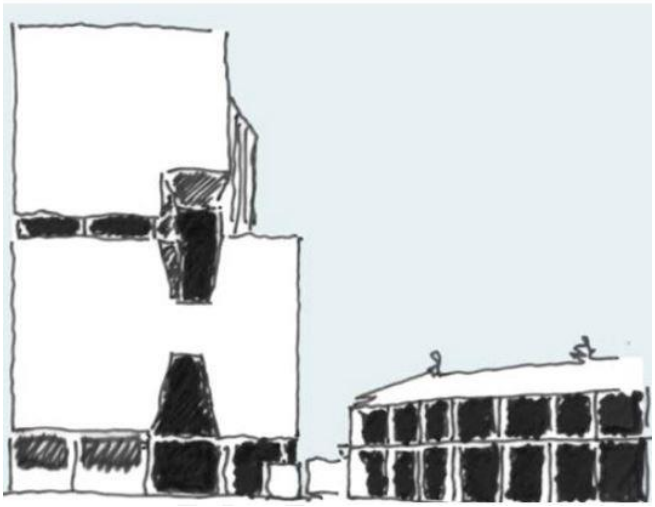


Figure 44: Proposed solid to void relationship with the Lancer Barracks building

Source: Tzannes + Blight Rayner

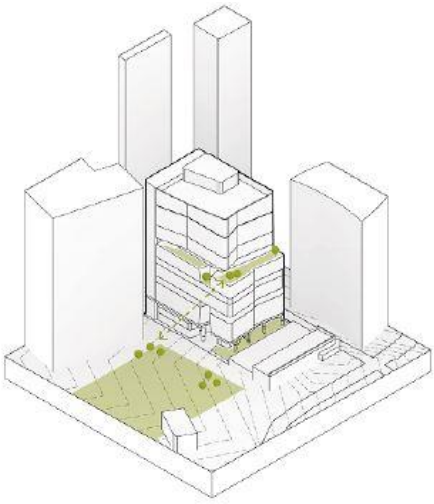


Figure 45: Proposed landscape relationship with the Lancer Barracks open space

Source: Tzannes + Blight Rayner

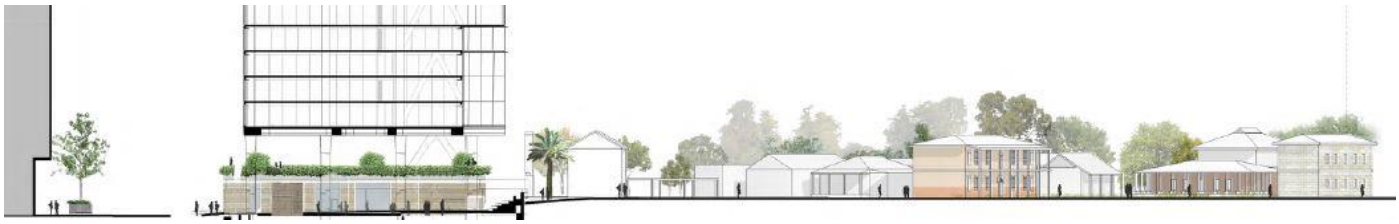


Figure 46: Proposed base relationship with the datums of the Lancer Barracks buildings

Source: Tzannes + Blight Rayner

Market Appropriate Floor Plates

The proposed massing of the development has also been driven by the delivery of appropriate floor plates to meet WSU's functional requirements and the demands of the Parramatta commercial office market. Through the release of *The Greater Sydney Region Plan 'A Metropolis of Three Cities'* and the Central City District Plan, it is abundantly clear that the GSC in conjunction with the NSW State Government is prioritising the growth of Greater Western Sydney through the delivery of internationally competitive business, education and innovation precincts. Key to achieving this is delivering floor plates that will attract and retain targeted industry sectors.

During the preparation of the CBD Planning Proposal, the City of Parramatta commissioned an Economic Review – Achieving A-Grade Office 2015 to ensure the Parramatta CBD can fulfil all its functions as Sydney's dual CBD, and that appropriate policies are in place to achieve A-Grade commercial office space development and retain a commercial core. The findings of this review are reinforced by the proposed floor plates, with the Review noting that:

"New A-Grade office space generally needs to have a floorplate size of at least 1,300sq.m, with most major tenants likely to want a floorplate of over 1,500 sqm."

(Parramatta CBD Planning Proposal, Page 14)

The proposed development seeks to provide 30,440m^2 of tertiary, commercial and retail floor space, which is a significant contribution to the growth and transformation of Parramatta and Greater Western Sydney at large. As detailed in **Section 3.4.4,** WSU has committed to 15,950m^2 of floor space and is seeking to bring together key WSU institutes and provide opportunities for colocation with education and commercial partners.

In developing the proposed floor plates (approximately 2,020m^2 for the mid-rise and 1,600m^2 for the high-rise), the proponent and the design team has noted that office workplace and educational teaching space design and strategy is constantly evolving, as such floor plates must be future proofed to attract and maintain key tenants. Key future proofing strategies that have driven the proposed floor plates include:

- Large contiguous spaces;
- Ability to subdivide;
- Ability to connect vertically; and
- Access to outdoor spaces.

As a result, the floor plates delivered are large and contiguous, which requires balanced urban design and planning to ensure the functional requirements are met within an appropriate building envelope. This complex relationship is highlighted in Council's assessment report of D/808/2017 for a 33-storey commercial office tower at 130-150 George Street, Parramatta whereby typical tower floor plates of 1,780m^2 were achieved. Specifically, Council noted:

"There is a tension between the urban design preference for slenderer towers and the commercial preference for large office floor plates. The proposal is considered to be acceptable in this instance as the floorplate is consistent with commercial development recently approved in the locality (4 & 6 Parramatta Square) and the building is the winner of a design excellence process and is considered to exhibit design excellence."

(Council Assessment Report D/808/2017, Page 19)

As discussed in the previous section, the proposal appropriately balances a number of urban design considerations with the need to deliver market driven large and contiguous floor plates, key to achieving the University's needs and that of commercial tenants in the Parramatta market.

5.3.4 Summary

As discussed above, there are varying street frontage heights and setbacks within the surrounding streetscape and the proposal provides an appropriate built form response to its context. Notwithstanding the proposal's departure from the controls contained in the draft site specific DCP, the proposal provides an appropriate built form outcome as it:

- provides an articulated and stepped building form, relating the building to the Lancer Barracks to the north and the adjoining Commercial Hotel heritage item to the west;
- retains substantial sky view in the context of an emerging CBD context, ensuring the viewing experience from Lancer Barracks and the Commercial Hotel remains positive;
- adopts setbacks to the podium and tower on all sides which allows a flexible building envelope, whilst minimising the visual impact of the development;
- modulates the tower form, creating a sympathetic transition from the Commercial Hotel heritage item through to the large-scale proposal envisaged for the PCYC site to the east;
- does not inhibit the any future re-development potential of the Commercial Hotel or the Curtis Cheng building driveway in the unlikely scenario where either of these sites are redeveloped;
- meets the functional requirements of the pre-committed tertiary education tenant, including large, flexible and efficient floor plates for the building;

- is future proofed to accommodate a through site link to the Lancer Barracks in the event it is ever repurposed;
- responds to the competition brief and is the result of a competitive process which required rigorous justification for alternate designs;
- allows for a large ground level street and rear setback to provide opportunities for pedestrian circulation and landscape softening; and
- retains the public domain improvements at the Hassall Street frontage while providing a larger footprint with indiscernible visual impact to the Hassall Street interface.

5.3.5 Building Facades and Articulation

A building façade strategy has been developed by Tzannes + Blight Rayner and is detailed within the Design Report in **Appendix B.** The building facades and expressions have undergone design development in consultation with Weir Phillips Heritage to ensure the proposal appropriately responds to the heritage significant items in the vicinity of the development.

The proposed façade design and articulation is considered appropriate as it:

- includes varied treatments applied to the base, mid-rise, high-rise and plant to articulate the massing and express the elements of the building's architecture;
- incorporates a balance of horizontal and vertical elements;
- provides subtle cues to the adjoining heritage items through façade articulation;
- integrates louvres to manage solar access and heat gain and provide visual interest;
- provides an expressive roof form with the raking geometry accentuating the sculpted façade lines;
- provides a roof line that creates varying profiles and enhances the perspective geometry when viewed from different angles and distant views; and
- provides building frontages and entries with a strong sense of address and visual interest from the street.

Accordingly, the proposed façade design is highly responsive to the site's CBD and heritage context and will make a positive contribution to the Parramatta streetscape.

5.3.6 Landscaping and Public Domain

A detailed landscape scheme has been prepared by Aspect and is illustrated in the Landscape Design Report and Landscape Plans at **Appendix E**. The landscape scheme has been designed with the flexibility to integrate with the Lancer Barracks open space if it is ever released for public use.

The proposal makes a significant contribution to the public domain through the provision of a public plaza. The orientation of the public plaza with an open northern and southern linkage ensures the space is permeable, achieves good solar access and views and vistas internally and externally of the site, which are key objectives within Section 4.3 of the Landscape and Public Domain provisions contained within Section 4.3 of the Parramatta DCP 2011.

The landscape quality of the development will be further enhanced through the provision of landscaped rooftop terraces to be delivered as part of the tenant fit out approvals. As a proposed interim strategy, the landscape design includes a rear landscaped boundary to soften this interface and add visual interest to the ground plane.

5.4 Impact on Adjoining Properties

5.4.1 Overshadowing

Tzannes + Blight Rayner has prepared a shadow analysis of the proposal which is provided in **Appendix B**. This detailed analysis illustrates the shadow cast by the proposal at hourly intervals between 9am-3pm at the winter and summer solstices. For the purposes of this assessment, the winter solstice diagrams have been analysed as they demonstrate the worst-case scenario.

It is noted that the site is not affected by the Lancer Barracks, Jubilee Park or Parramatta Square sun access planes, nor does the proposal cast a shadow on these protected areas.

As can be seen on the shadow diagrams, the shadow cast by the proposed building does not result in any additional overshadowing of the adjoining Commercial Hotel as this building is already overshadowed by the Curtis Cheng building (during the morning hours only). The proposed form will cast a shadow to the lower to mid portion of the 'Eclipse tower' northern façade throughout the day. The proposal does not contribute any significant additional overshadowing to the new high-density residential developments under construction at 9 and 11 Hassall Street, thereby not inhibiting their compliance with ADG solar access design criteria.

The shadow diagrams indicate that the proposal will be acceptable from an overshadowing perspective as it:

- allows greater solar penetration through the site by presenting a modulated building height up to 19 storeys which is well below the 22 storeys permitted under the proposed maximum building height control;
- does not contribute to any significant additional overshadowing due to the existing high-density development within the street block which includes buildings greater in height and massing than the proposal;
- does not contribute any overshadowing to significant areas and public spaces including the Lancer Barracks, Jubilee Park or Parramatta Square; and
- will not directly inhibit surrounding residential developments 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.

Considering the site's CBD context and the absence of additional overshadowing to significant public places, the proposal is considered appropriate from an overshadowing perspective.

5.4.2 Visual Impact

A Visual Impact Assessment (VIA) has been prepared by Tzannes + Blight Rayner and is provided in **Appendix F**. The VIA has been prepared in accordance with the SEARs requirements in terms of methodology and approach and considers the impact of the proposed building compared to the existing situation (existing buildings on the site prior to demolition) when viewed from the public domain and key vantage points around the site. The views used as part of the assessment are consistent with the views selected as part of the VIA prepared for the Planning Proposal and have been selected in consultation and Weir Phillips Heritage.

As detailed throughout this EIS, the proposed development has been subject to rigorous design testing throughout the competitive design process. In addition, extensive consultation with key stakeholders has taken place including community feedback, jury scrutiny and multiple design revisions (refer to **Section 4.0** and **Appendix BB**). The Applicant and the design team has placed an intense focus on presenting an appropriate visual outcome for the site and the surrounding context and it is through these intensive processes that the proposed development has emerged.

The existing development on site (prior to demolition under DA/714/2018) comprised two low scale buildings separated by a vacant lot in the centre of the site. The western lot contained a two storey commercial building with vehicle access from Hassall Street directly to an at grade car park at the rear of the site, with the eastern lot containing a three storey walk up residential flat building (refer to **Appendix F**).

As noted in the EIS, the architectural design of the proposal has had regard to a number of design considerations in addition to view impacts, including the need to facilitate market appropriate floor plates (refer to **Section 5.3.2**), reflect the high accessibility and amenity of the locality, minimise overshadowing, provide adequate setbacks and visual privacy to adjoining sites and make a positive contribution to the heritage and future built form context of the Parramatta CBD. The design outcome by Tzannes + Blight Rayner is considered to be the most appropriate balance of these considerations and the proposal will have an overall positive visual impact on the locality, providing a new mixed-use tower which will contribute to the revitalisation of a prominent Parramatta CBD site.

In light of the above and with reference to the VIA in **Appendix F,** the impact of the proposal is assessed as follows:

- The proposed development is not tall enough to contribute to the Parramatta skyline when seen from Parramatta Park (Old Government House);
- The heritage significant architectural elements of the Lancer Barracks buildings will not be dominated by the proposal. The proposal provides a calm and restrained backdrop with the northern façade exhibiting subtle cues to the scale and geometry negative spaces within the Lancer Barracks building (refer to **Figure 44**);
- The high scale podium as a public space respects the heritage hotel in a converse way by creating a “soft datum” aligned with the heritage hotel rooftop; and
- The proposal is not out of character or inconsistent with the massing and scale of new and existing development within the Parramatta CBD. Specifically, the proposals articulated folding glass façade and modulated roof form creates a dynamic and interesting skyline.

It is also noted that the site has significant strategic potential, and this is reflected in the uplift recommended in the Parramatta CBD Planning Proposal. Having regard to the above, it is not reasonable for existing residents and owners of the surrounding developments that currently receive views over the subject site to expect that these views will be maintained in perpetuity. The retention of these views is only contingent on the subject site not being redeveloped pursuant to Council’s vision under the Parramatta CBD Planning Proposal.

In view of the above, and with regard to the detailed renders in the VIA, the visual impact of the proposal is considered to be acceptable, having regard to its built form and materials, when viewed from the locations tested.

5.4.3 Privacy

Maintaining privacy internally as well as to surrounding developments has been a key consideration throughout the design process. Whilst the site does not currently directly adjoin any residential development, the PCYC site to the east is subject to a Planning Proposal for a mixed use residential tower with a maximum building height of 192m. In addition, the residential towers opposite the site at 9-11 Hassall Street are at varying stages of construction.

Figure 47 below illustrates the approximate separation distances to the surrounding buildings. The proposal is built to the eastern boundary, however, the Curtis Cheng Centre driveway ensures that there is an approximate 15m separation to the PCYC site boundary. Understanding that the PCYC site may one day contain residential dwellings, there was a conscious design decision to locate the proposal’s service core to the eastern boundary. This effectively removes direct sight lines into any future dwellings and allows a party wall if the Curtis Cheng Centre driveway area is ever developed.

The proposal includes a partial direct interface with the Curtis Cheng Centre to the north east. As illustrated at **Figure 47**, there is a 6.5m building separation at this pinch point, however, the orientation of the building generally encourages outlook over the Lancer Barracks and to the west and the southern elevation of the Curtis Cheng Centre presents a largely blank, inactive façade.

In terms of the residential towers at 9-11 Hassall Street, the site benefits from the large separation created across Hassall Street. In addition, these residential towers are much taller than the proposal (up to 43 storeys) therefore there will be no internal visual privacy to the upper level residential units.

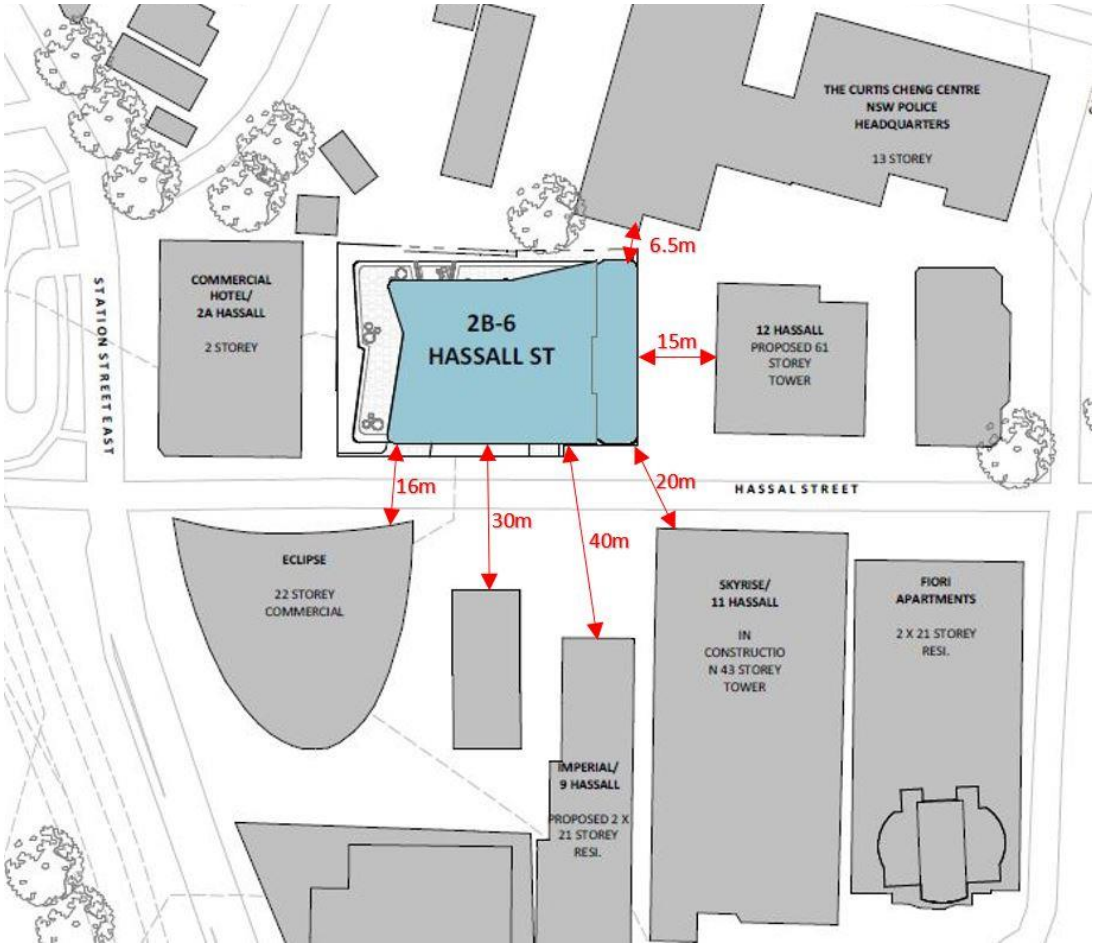


Figure 47: Approximate separation distances to surrounding land uses

Source: Tzannes + Blight Rayner with additions

5.4.4 Wind Impact

A Wind Impact Assessment (WIA) has been prepared by Windtech and is provided in **Appendix V**. This assessment has studied the existing wind conditions in the locality and the potential effect of the proposed building on wind conditions. In particular, the assessment considers the likely effect of wind on the various trafficable pedestrian outdoor areas within and surrounding the site. The assessment is based on a visual inspection and analysis of the proposed design.

Assessment

The acceptability of the wind conditions of an area is determined by comparing the measured wind speeds against an appropriate criterion. The WIA measured wind conditions for the various critical outdoor trafficable pedestrian areas around the subject development and compared them against the industry accepted criteria presented in 'Summary of Wind Effects on People (A.D. Penwarden, 1973)'.

The results of the analysis indicate that wind conditions for the majority of trafficable pedestrian outdoor locations within and around the development will be suitable for their intended uses. However, some areas will experience the wind impacts detailed below:

- The south to south easterly winds will impact the tower and downwash onto the pedestrian footpath at Hassall Street and into the plaza area.
- The westerly winds are also expected to downwash off the western face of the tower onto the top of the retail premises and combine with the direct westerly winds coming over the Commercial Hotel directly to the west to flow into the plaza.
- The prevailing westerly winds are anticipated to side stream along the northern and southern sides of the Commercial Hotel to the west and accelerate around the corners of the retail premises into the plaza.

In relation to the ground plane, the assessment concludes that the majority of wind conditions at ground level surrounding the development and through the plaza will be acceptable for their intended use and the wind comfort in these areas will be enhanced with the inclusion of the mitigation measures discussed below.

In relation to the terraces, the assessment concludes that the wind conditions are not expected to exceed safety levels and, as they are private terraces generally associated with the proposed commercial and university uses, are expected to be acceptable for their intended uses. The conditions experienced on the terraces are likely to be similar to conditions experienced on comparable terraces in the Parramatta CBD. Further treatments may be required should the future tenant wish to use the terraces for alternative purposes, such as short or long-term sedentary activities such as outdoor dining.

Mitigation Measures

In order to improve the pedestrian wind comfort in the plaza and Level 12 terraces and increase the usability of these areas, the following mitigation measures are recommended:

- Inclusion of horizontal screening, such as a canopy or art work, elevated above ground level through the plaza.
- Inclusion of planting or localised screening, such as an art work, signage or baffle screens, throughout the plaza.
- Inclusion of 1.5m impermeable balustrades surrounding the Level 12 terraces.

In relation to the above mitigation measures, landscaping has been provided within the proposed ground level plaza as demonstrated on the Landscape Plans in **Appendix E**, 1.5m impermeable balustrades have been applied Level 12 terraces, staggered baffle screens have been provided along the frontage of the proposed retail building, and a zone for a future art work at the height of the Level 1 slab above the plaza is proposed to mitigate potential downwash from the tower above, in accordance with the recommended mitigation measures. The design of the artwork will be developed in consultation with the wind expert at a later stage.

5.5 Transport and Accessibility

A Traffic Impact Assessment has been prepared by Ason and is provided in **Appendix G.** A summary of the assessment and proposed mitigation measures are provided below.

Existing Traffic Conditions

Key intersections within the surrounding road network comprise:

- Station Street / Hassall Street / Argyle Street; and
- Hassall Street / Charles Street.

These intersections were selected based on proximity to the site and as they form the intended route of vehicle travel to and from the site. The operational performance of the key surrounding intersections under the existing traffic flows, geometry and traffic signal phasing circumstances has been assessed using SIDRA modelling and **Table 15** below summarises the results of the modelling.

Table 15: Existing Intersection Performance

Intersection	Control Type	Period	Degree of Saturation	Average Delay	Level of Service
Station Street / Hassall Street / Argyle Street	Signals	AM	0.568	26.0	B - Acceptable delays & spare capacity
		PM	0.544	27.4	B - Acceptable delays & spare capacity
Hassall Street / Charles Street	Signals	AM	0.712	31.1	C - Satisfactory, but accident study required
		PM	0.497	28.1	B - Acceptable delays & spare capacity

The results of the SIDRA assessment indicate that these intersections generally operate satisfactorily level of service at present.

Operational Daily Trip Generation

From the outset, it is important to note that the educational component of the Site is not expected to generate any significant number of vehicle trips, specifically given that no car parking would be provided for WSU students. The following assessment therefore focuses on the commercial component of the site.

The proposal's traffic generation has been reviewed having regard to the RMS Guide to Traffic Generating Developments Updated Traffic Surveys (2013). The following vehicle-based generation rates are applicable for development in Parramatta:

- 0.69 AM peak hour trips per 100m^2 of commercial GFA;
- 0.61 PM peak hour trips per 100m^2 of commercial GFA; and
- 6.06 daily trips per 100m^2 of commercial GFA.

Application of these trip rates to the commercial yield of 12,981m^2 GFA results in a forecast peak hour traffic generation of:

- 90 morning peak hour trips;
- 79 evening peak hour trips; and
- 787 daily trips.

This traffic volume represents the maximum traffic generating potential of a future proposal based on the indicative yield and assuming full compliance with current LEP parking controls. However, this does not account for the trips being restrained by the number of parking spaces on-site which is consistent with the CBD Transport Study recommendations. Accordingly, based on the RMS Guide the following trip rates are applicable for Parramatta commercial developments:

- 0.73 AM peak trips per parking;
- 0.66 PM peak trips per parking space; and
- 6.5 daily trips per parking space.

When applying the above trip rates to the proposed parking provision of 14 spaces, it would result in:

- 10 morning peak hour trips;
- 9 evening peak hour trips; and
- 91 daily trips.

Ason conclude that this represents an additional 1 vehicle every 6-7 minutes during the peak periods and is a minor traffic volume. Further to this, the site is highly serviced by existing and future transport infrastructure as identified at **Section 2.2.1**. As such, the proposal's impact on the operation of the current road network has been assessed as minimal.

Cumulative Traffic Generation

A cumulative assessment of nearby known developments/proposals has been taken into consideration as part of the SIDRA analysis. This has included future approved developments in the vicinity of the site along Hassall Street, Macquarie Street, Charles Street and Parkes Street.

Based on the SIDRA modelling, the traffic assessment has determined that the key surrounding intersections including Station Street / Hassall Street / Argyle Street and Hassall Street / Charles Street are expected to continue to operate well, with primarily acceptable delays and spare capacity level of service.

Furthermore, the SIDRA analysis indicates that the 'net' traffic volumes arising from the relevant developments in the area are of a sufficiently low order, and that the impacts of these volumes would not result in material increases in average delay per vehicle or level of service once distributed across the network.

Parking, Loading and Servicing

The required and proposed parking provisions are set out in **Table 16** and loading and servicing is discussed below.

Table 16: Required rate and proposed provision

Policy	Parking Rate	Required	Proposed	Complies
Parramatta LEP 2011 Car Parking	**Maximum** 1 space per 100m^2 GFA	304 maximum	14	Yes
Parramatta CBD Strategic Transport Study + site specific LEP amendment Car Parking	M = (G x A) / (50 x T) Where: M = **maximum number** of parking spaces; G = GFA of all office/business premises in the building (m²); A = Site Area (m²); T = Total GFA of all buildings on the site (m²).	23 maximum for the commercial office component	14	Yes
Parramatta DCP Accessible Car Parking	1-2% readily accessible parking spaces	>1	1	Yes
Parramatta DCP Motorcycle Parking	one motorcycle space per 50 car parking spaces	1	3	Yes
Parramatta DCP Bicycle Parking	1 bicycle space per 200m^2 of GFA	152	188	Yes

The loading bay requirement for the proposal has been based on the now operational 1 Parramatta Square (1PSQ) development. 1PSQ is another of WSUs campuses (in conjunction with Charter Hall) within Parramatta CBD which was recently completed and provides a similar level of GFA to that of the Proposal (approximately 27,000m^2). The operational requirements of the proposal are therefore already well understood. The 1PSQ development provides 2 servicing bays and therefore 2 serving bays are also to be provided as part of the proposal. The loading bay spaces would be provided with a clear width of 3.5m and a length of up to 6.4m, which meets the minimum requirements of AS 2890.2 for 6.4m SRVs.

Pedestrian Impacts

The Traffic Impact Assessment assesses the impact of pedestrian generation (both the tertiary education use and the commercial use) on the surrounding street network. The purpose of the analysis is to identify potential pinch-points for the future pedestrian route to the based on the predicted level of pedestrian demand. The analysis assesses circulation areas including queuing areas at the key intersection of Station Street and Hassall Street.

The pedestrian trip generation for the tertiary education component of the proposal has been determined having regard to the expected student and staff population (approximately 1,610 students and 426 staff members) and also having regard to operational data of the nearby WSU campus at 1 Parramatta Square, where it is understood that the maximum number of these staff and students on-site at any one time would be 75% of the population. Known travel study data from an equivalent campus in the Sydney metropolitan area has also been used to determine general arrival and departure profiles for staff and students.

The pedestrian trip generation of the commercial component of the proposal has been assessed having regard to the RMS Guide Update.

Application of the trip rates above to the proposal results in the following forecast peak hour and daily generation:

- Tertiary education use:
  - 713 morning peak hour person-based trips (08.00-09.00AM); and
  - 398 evening peak hour person-based trips (05.00-0600PM).
- Commercial use:
  - 186 morning peak hour person-based trips;
  - 168 evening peak hour person-based trips; and

- 2,459 daily person-based trips.

- **Total (tertiary and commercial use):**
  - 899 morning peak hour person-based trips; and
  - 566 evening peak hour person-based trips.

Based on a conservative scenario in the morning peak (worst case), there would be 1,340 pedestrians (existing plus development pedestrians) travelling from the Parramatta Rail Station in the direction of the site. Application of the pedestrian flow rate and queue storage area at the crossing as per the JJ Fruin Principles represents 0.82m^2/ped and LOS C for the pedestrian area on the western side of the intersection. The JJ Fruin LOS B ranges from 0.65 to 0.93m^2/ped and defines the performance criteria as:

> *"Space is provided for standing and restricted circulation through the queuing area by disturbing others. It is within the range of personal comfort body buffer zone established by psychological experiments"*

Therefore, the Proposal would not create unacceptable levels of overcrowding at the intersection. It is also worthy of note that, as part of the recently completed works to make Hassall Street one-way, the footpath was widened on the northern side of Hassall Street from the intersection to the western side of the Site and thus, more waiting area has been provided at the intersection and the pedestrian amenity along Hassall Street has been the further enhanced to facilitate high pedestrian flow.

Mitigation Measures

As identified by Ason, sufficient car parking has been provided and the level of service for vehicles and pedestrians at the key surrounding intersections will essentially remain unchanged as a result of the proposed development. In order to reduce the impact of the proposal the following mitigation measures are proposed:

- The promotion of student and tenant travel by existing public transport networks and raising awareness of the future public transport options including the Parramatta Light Rail and the Sydney West Metro.
- Preparation of a Loading Dock Management Plan (LDMP) to limit servicing to outside peak commuter periods, therefore minimising the interaction of peak pedestrian flows with servicing vehicles.

5.6 Heritage and Archaeology

5.6.1 Heritage

A Heritage Impact Statement (HIS) has been prepared by Weir Philips and is provided in **Appendix H**. The HIS includes a description of the history of the site, the established significance of the locality and important heritage items and an assessment of the potential heritage impact of the proposal on surrounding items of heritage significance, including those items identified in **Section 2.2.2.** Of particular sensitivity are the adjoining heritage items including the Lancer Barracks Precinct and the Commercial Hotel. The HIS also considers heritage sensitive items within the broader locality including Old Government House and the Parramatta Railway Station.

Assessment of Impacts on Heritage Items

Weir Philips has assessed the impact of the proposed development on the Commercial Hotel and confirms the following:

- The stepped form of the tower (lower scale mid-rise to the west and taller eastern high-rise) acknowledges the adjoining Commercial Hotel. The lowered western mid-rise is of a relatable scale to the scale of the Commercial Hotel.
- The Commercial Hotel presents as having a high degree of exterior intactness. Its prominence in the streetscape is enhanced by its corner location, resulting in the hotel strongly contributing to the townscape character.
- The proposed mid-rise setbacks to the north and west are generally consistent with that of the draft site specific DCP, which provide adequate separation from the heritage items at lower levels. The high-rise setbacks of the proposal to the north and west are on the whole much greater than the draft site specific DCP setbacks, particularly to the west, where a substantial 10-13m setback is proposed (draft site specific DCP required 6m).

These setbacks create a stepped building form which help reduce the overall massing of the tower and create respectful relationships to the adjoining heritage items.

- The overall lowered height of the proposal compared to the achievable height under the planning controls gives the Commercial Hotel increased breathing space and prominence at street level. It also reduces the visual impact on the hotel when seen from Hassall Street, Parramatta Station and from Station Street, and when viewing the proposed tower from the Lancer Barracks.
- The 'reverse' podium (i.e. the Ground Floor 3-storey space) creates a relatable scale to the upper parapet to the Commercial Hotel. It also allows for view lines through the proposed development towards the Commercial Hotel, further enhancing its visual prominence. By edging the presently blank wall of the Commercial Hotel with retail outlets, the scheme provides opportunity for integration and connection from the public space with the Hotel. The new public open space creates a separation between the Hotel and the tower while landscaped roof terraces above the retail further softens the impact
- The subject site is separated from the significant two storey corner section of the hotel by a later, single storey addition in the style of the original hotel. This setback allows the corner prominence of the hotel is to be retained, particularly when traveling in a north/south direction along Station Street East.
- The proposed design of the open podium has taken cues from the varied datums of the southern elevation of the Commercial Hotel. The solidity of the retail building and the lobby, as well as the void space created by the central plaza, has been informed by the varied elements (parapet, eave and parapet of the secondary wing) of the Commercial Hotel.
- The height of the podium forms a clear relationship with the Hotel allowing the lower scale streetscape rhythm to be retained. The lower western mid-rise component of the proposal provides a relatable scale to the Commercial Hotel which was dwarfed by the solid massing of the baseline proof building envelope. The result is a built form that is responsive to the current heritage context and future surrounding built form.

Weir Philips has assessed the impact of the proposed development on the Lancer Barracks and confirms the following:

- The setback on the northern elevation fronting Lancer Barracks as approved in the Planning Proposal is generally retained under the current proposal. This continues to provide visual and physical separation, giving breathing space between proposed buildings and the Lancer Barracks.
- The ground floor layout of the proposal allows the provision for a through site link to the Lancer Barracks from Hassall Street. Council's master planning of the surrounding area has identified the Lancer Barracks as a site which may become open to the public in the future.
- The articulation of the tower through the geometry of the facades and its small-scale elements and landscaped terraces breaks up its massing and scale, softening it as a backdrop to the Lancer Barracks.
- The in-built flexibility of a through-site link for the potential future public activation of Lancer Barracks will have a positive impact.
- The solid to void relationship of the Lancer Barracks buildings has assisted in informing the scale and geometry of the openings of the proposed northern façade. Users of the space are encouraged to interact both visually and physically, allowing to the tower to better relate to the Lancer Barracks.
- The proposal will constitute a new backdrop to the Lancer Barracks, namely to the Main Barracks (Men's Barracks) building. When considered in the context of the current (and future) skyline, which includes much taller built form, there will be a negligible heritage impact on the Lancer Barracks and its visual setting either from a building built to the amended height controls or the proposal itself.

Weir Philips has assessed the impact of the proposed development on Old Government House and the Parramatta Rail Station and confirms the following:

- There will be no impact on the important views from Old Government House because the proposal will read as part of the existing Parramatta Skyline in conjunction with current high-rise development surrounding the site;
- The proposal will not have undue prominence from Old Government House within the city skyline;

- There will be no additional heritage impact on the Parramatta Railway Station which is located to the north west of the site as a result of the proposal. According to the shadow studies produced by Tzannes and Blight Rayner, there will be some minor overshadowing of the southern section of the railway station. Although part of the State Heritage Register curtilage, the southern section of the station does not contain elements that contribute to the State significance of the site.

5.6.2 Archaeology

The early works development programme for the site which is separately approved and/or under assessment with the City of Parramatta through EW DA1 and EW DA2 has necessarily addressed the archaeological potential of the site, given the works associated with those applications include demolition, archaeological investigations and salvage, and excavation. Accordingly, the proposal the subject of this SSD DA is not likely to result in further archaeological considerations or require further archaeological assessment. However, for completeness, the archaeological assessment reports prepared and submitted with the early works applications are included in this EIS, including a summary of those assessments, provided below.

European Archaeology

As part of the staged site redevelopment, Casey and Lowe prepared a Historical Archaeological Assessment Report (HAAR) which is provided in **Appendix I**. This HAAR accompanied the approved early works DA (DA/714/2018) for demolition of existing structures, removal of two trees fronting Hassall Street and archaeological investigations. The HAAR concluded that there is potential for relics of local significance to be located within the site. As local relics are protected under the relics provisions of the *Heritage Act 1977*, a Section 140 Permit is required to undertake any archaeological investigations or conduct any works which have the potential to harm relics.

Pursuant to the above, the proponent has been issued a Section 140 Permit from the Heritage Division of OEH. Archaeological investigations will commence in accordance with the Section 140 Permit conditions, with investigation works and any required salvage expected to have been completed prior to the determination of this SSD DA in accordance with the approved early works DA/714/2018).

Aboriginal Archaeology

Similarly, during the preparation of the now approved early works DA (DA/714/2018) an Aboriginal Cultural Heritage Assessment Report (ACHAR) was prepared by Comber Consultants (**Appendix J**). The ACHAR concluded that there is potential for Aboriginal relics to be located within the site. Subsequently, it was recommended that Aboriginal consultation be undertaken and an application for an Aboriginal Heritage Impact Permit (AHIP) be made to undertake any archaeological investigations or conduct any works which have the potential to harm relics.

Pursuant to the above, the proponent has been issued an AHIP from OEH. Archaeological investigations will commence in accordance with the AHIP conditions, with investigation works and any required salvage expected to have been completed prior to the determination of this SSD DA in accordance with the approved early works DA/714/2018).

5.7 Noise and Vibration

An Acoustic Impact Assessment has been prepared by Floth and is provided in **Appendix T**. The assessment considers the likely impacts of noise and vibration both received by and generated from the proposed development.

Internal Amenity – Acoustic

The existing ambient noise levels at the site were measured over the course of a week with the unattended noise logger placed in the site's south west corner. Noise monitoring was conducted with reference to the NSW Noise Policy for Industry, NSW Road Noise Policy and Australian Standard 1055.1 "Acoustics – Description and measurement of environmental noise. Part 1: General Procedures". Based on this, Floth has identified that the primary external noise sources impacting the subject development includes:

- Road traffic noise from Hassall Street and Station Street; and
- Noise from the existing heavy rail network (i.e. Parramatta Station) located approximately 70 metres west of the proposed site.

Floth concludes that the proposal is capable of compliance with the established amenity criteria provided minimum glazing performances meet the requirements of the AS/NZS 210.

Potential Noise Emissions

Floth has identified that the environmental noise emission sources from the proposed development will consist of:

- Mechanical plant and equipment in the Level 18 plant room and rooftop;
- Entertainment noise associated with any patronage noise from retail tenancies (e.g. potential alfresco dining), and
- Potential noise impact on surrounding noise sensitive receivers from additional road traffic associated with the proposed development.

The noise predictions contained within this report show that the mechanical plant noise emissions can be controlled to acceptable levels at the nearest noise sensitive receivers with attenuation to the Level 18 plant room intake and discharge paths. Detailed noise predictions shall be conducted during the design phases of the project to ensure that the mechanical plant noise emissions satisfy the noise limits at the noise sensitive receivers.

Noise emission from any potential alfresco dining areas associated with the ground level retail tenancies was found to comply with the daytime limits (i.e. 7am to midnight) defined by the NSW Office of Liquor, Gaming and Racing, even for a 'worst-case' noise scenario. However, it was found that the noise criteria during the night period (i.e. midnight to 7am) was predicted to be exceeded for this 'worst-case' noise scenario, and as such, it is recommended that any outdoor alfresco dining be limited to 7am to midnight unless an acoustic assessment is conducted during the fit-out stage that considers additional noise control measures.

Noise from additional traffic on local roads associated with the proposed development was found to be acceptable in accordance with the Road Noise Policy.

Mitigation Measures

In order to manage the impacts of noise and vibration both received by and generated from the proposed development, the following mitigation measures are proposed:

- Internal:
  - The proposal is to provide the recommended minimum glazing construction set out within **Appendix T**.
- Emissions:
  - Mechanical plant noise emissions can be controlled to acceptable levels at the nearest noise sensitive receivers with attenuation to the intake and discharge paths to the Level 18 plant room.
  - Any outdoor alfresco dining be limited to 7am to midnight unless an acoustic assessment is conducted during the fit-out stage that considers additional noise control measures.

5.8 Infrastructure and Utilities

Floth has examined the location of existing utilities infrastructure in the vicinity of the site and provided an assessment of the potential impact of the proposal on this existing infrastructure (see **Appendix AA**). As detailed at **Section 3.11**, the site is well serviced by existing infrastructure as it is within the highly urbanised Parramatta CBD.

Floth has confirmed that the proposed development is not expected to have any adverse impacts on the existing utilities infrastructure subject to the below mitigation measures being put in place. It is also confirmed that the proposal will be adequately serviced subject to the detailed refinement of utilities extension/augmentation with the relevant utility providers.

Mitigation Measures

All services infrastructure connection requirements will be confirmed with the relevant authorities prior to construction certificate, with the exception of telecommunications services which tenants will confirm with their carrier of choice once the development is complete and/or fit-out known. As design progresses or as new information becomes available, the above process will be adjusted or supplemented as required to ensure existing infrastructure assets are adequately protected. Ongoing consultation and design development with the relevant utility providers should continue to be undertaken throughout the process.

5.9 Biodiversity

The site does not contain any significant vegetation, having been previously cleared and historically used for commercial and residential development in an urbanised context. Accordingly, the proposal will not cause any significant impacts on biodiversity or the natural environment as recognised by the Department and OEH in their granting of waivers for the preparation of a Biodiversity Development Assessment Report (BDAR) on 14 February 2019 (refer to **Appendix DD**).

5.10 Contamination and Hazardous Material

The DSI prepared for the site (refer to **Appendix N**) confirms that the site is suitable for the proposed education and commercial uses and that there is not likely to be any significant contamination risks to human health or ecology within the site. This DSI was submitted with EW DA2, which seeks approval for the excavation of the site (and is under assessment by the City of Parramatta at the time of writing).

The preparation of the DSI involved collecting and analysing soil samples from seven boreholes across the site, which identified that all potential contaminants were within the relevant site assessment criteria. As a result of this investigation, the DSI recommends that the following is undertaken:

- Post demolition inspection and clearance for hazardous building materials by a qualified occupational hygienist (scope completed as part of EW DA1 works).
- Inspection of building footprints, once demolished, by an environmental consultant for any signs of contamination (scope completed as part of EW DA1 works).
- Additional sampling and testing in the demolished footprint areas as a confirmation of the waste classification prior to excavation and off-site disposal (scope completed as part of EW DA1 works).
- Visual confirmation of the removal of all fill, once completed, with a limited regime of sampling and testing to (a) confirm the virgin excavated natural material (VENM) classification of the natural soils and (b) validate the removal of fill from the site, and the subsequent suitability of the site for the proposed development.

The preparation of the DSI has informed two separate early works development applications to the City of Parramatta. EW DA1 (DA/714/2018) sought approval for demolition of all structures on site and archaeological testing and was approved by the City of Parramatta on 20 December 2018. Works in accordance with this consent have commenced on site, with all structures demolished and the relevant permits issued to commence archaeological testing and salvage (if required). To facilitate the archaeological testing, a portion of surface soil was removed from the site. This soil contained some potentially contaminated material, and has been tested and disposed of in accordance with the recommendations of the DSI outlined above.

Early Works DA 2 (DA/66/2019) seeks approval for excavation and is currently under assessment by the City of Parramatta. Upon completion of these works, a Site Audit Statement will be prepared to confirm that the site is suitable in accordance with the findings of the DSI. As a result, all investigations and work related to contamination will be completed prior to the commencement of construction work on the proposed Engineering Innovation Hub.

5.11 Water Cycle Management

An Overland Flow Assessment and Stormwater Management Report has been prepared by Robert Bird Group (RBG) and is available in **Appendix L**. In conjunction with this, the Ecologically Sustainable Development Report, prepared by Floth (**Appendix Q**) provides a full assessment of the proposed water cycle management methodologies for the site in conjunction with the proposed development. The key sections of these reports are addressed below.

Stormwater Management

The majority of the runoff from the development is to be captured and detained by an onsite detention (OSD) system using gravity flow. This system is comprised of rainwater gutters, inlets, pipes and pits. In accordance with Council standards, Floth has designed the OSD system to cater for all storm durations up to and including the 1% Annual Exceedance Probability (AEP). Accordingly, the OSD system comprises:

- WSUD chamber volume 9.58m^3;
- OSD Total Volume 120m^3; and
- Site Discharge 28.21L/s.

Stormwater Quality

A proprietary water quality treatment system has been utilised to ensure that the development improves the quality of stormwater leaving the site the project. Floth has modelled the proposed treatment train performance using MUSIC modelling. The findings confirm that the stormwater discharge quality will significantly exceed the Green Star Target reduction requirements as set out below:

- Gross Pollutants (GPs) reduction of 95%, which exceeds the Green Star Target Reduction of 90%;
- Total Suspended Solids (TSS) reduction of 85%, which equals the Green Star Target Reduction of 85%;
- Total Phosphorus (TP) reduction of 86.9%, which exceeds the Green Star Target Reduction of 60%; and
- Total Nitrogen (TN) reduction of 80%, which exceeds the Green Star Target Reduction of 45%.

Sediment, Erosion and Dust Controls

A Sediment and Erosion Control Plan is also proposed for the site to manage and mitigate sedimentation and erosion during the construction phase of the development. Soil management measures shall follow the Landcom guidelines Managing Urban Stormwater Runoff: Soils and Construction (“Blue Book”), City of Parramatta DCP and Drainage Standards.

Sediment and erosion control measures during demolition and excavation will be undertaken in accordance with the conditions detailed on the early works developments consents. The following additional erosion and sediment control measures for the development are also required throughout the duration of the project to protect downstream infrastructure:

- Sediment fences around stockpiles and construction zones where soils are exposed;
- Sediment basin with sediment storage volume;
- Sediment protection devices on existing and proposed inlet pits i.e. filter socks; and
- Truck Wash/Shaker Grid at all site access/egress points.

Flooding and Overland Flow Impacts

Based on City of Parramatta flood maps the subject site is not located within any of the low, medium or high flood zones. Consultation with Council has confirmed that freeboard is not required as the development is outside of the floodplain. For absolute clarity, RBG have completed an upstream and local catchment review along Hassall Street to assess whether any external overland flow paths may impact the development. It was found that the proposed development is located at the crest of Hassall Street and that the adjoining roads (Station Street and Charles Street) fall away from the development. Hence the project is not impacted by any significant external overland flow paths.

Mitigation Measures

In order to mitigate against any adverse water cycle management impacts, the recommendations of the Stormwater Management Report (**Appendix K**) and the Ecologically Sustainable Development Report (**Appendix Q**) will be implemented into the detailed design and construction phases of the proposal.

5.12 Waste Management

Operational Waste Management Assessment

An Operational Waste Management Plan (OWMP) has been prepared by Eccell Environmental Management and is provided in **Appendix CC**. This OWMP has been prepared to comply with the City of Parramatta Waste Management Guidelines for new Development Applications 2016, the Green Building Council of Australia (GBCA) Criteria Green Star Design & As Built 08A and 08B and benchmarked against the City of Sydney's 'Guidelines for Waste Management In New Developments 2018'.

As noted in **Section 3.8**, the expected weekly quantity of waste generated by the proposed development will be 31,263L of general waste, 75,790L of mixed recycling and 10,245L of organics. In order to appropriately group and accommodate these waste volumes, Eccell Environmental Management recommend the following bin provision:

- 9 x MGB - 660L for general waste;
- 21 x MGB - 660L for recycling; and
- 13 x MGB - 120L for organics.

The waste storage room at the basement level contains approximately 46m^2 which exceeds the minimum requirement of 43m^2 to accommodate the required bin provision. The collection of waste by a private contractor will allow the removal of waste to be tailored to suit the final operational characteristics of the building. As such no adverse impacts are anticipated as a result of waste storage and collection from the site.

Construction Waste Management Assessment

A Construction Waste Management Plan (CWMP) has been prepared by Eccell Environmental Management and is provided at **Appendix CC**. The CWMP has been informed by Parramatta Waste Management Guidelines for new Development Applications 2016.

As noted at **Section 3.8**, Eccell Environmental Management anticipate that the proposal will generate approximately 3,607m^3 of construction waste. Construction waste will be dealt with both on and off site and recycled where possible. The CWMP is a responsive document and will be refined throughout the detailed design and builder procurement process, however, the avoid, reuse, reduce, recycle principles will remain consistent throughout the waste management procedures.

Mitigation Measures

In order to appropriately manage and mitigate any adverse impacts arising from waste, the different components of the OWMP and the CWMP should be implemented into the operation of the proposed development.

5.13 Construction Impact

A Construction Management Plan (CMP) has been prepared by Solutions Consulting Australia and is included at **Appendix Z**. The CMP details the full range of actions and staging of construction to be undertaken in order to ameliorate potential impacts on the relevant stakeholders whilst maintaining a safe, productive and efficient construction site. In summary, the CMP addresses:

- Materials handling;
- Site access, accommodation and amenities;
- Protection of surrounding buildings;
- Public amenity, safety and pedestrian management;
- Community management;
- Workplace health and safety;
- Traffic management; and
- Environmental management.

The CMP will be a responsive document which continues to be refined throughout the construction phases with the appointed building contractor.

Mitigation Measures

In order to mitigate against any adverse impacts during the construction phase of the proposal, the management measures provided in the CMP (**Appendix Z**) should be implemented. The CMP will be a responsive document which continues to be refined throughout the detailed design, builder procurement, demolition and construction phases of the proposed development.

5.14 Geotechnical Impact and Structural Adequacy

Assessment

The soil and geotechnical conditions of the site are summarised in **Section 2.2.3** of this EIS, and detailed in Douglas Partner's Geotechnical Report included in **Appendix M**. The Geotechnical Report determines that the proposal is feasible from a geotechnical perspective, subject to the appropriate additional site investigation, design assessments, and construction monitoring.

A Structural Statement has been prepared by Robert Bird Group to assess the structural adequacy of the new building and also assess any potential impacts of the construction of the building on existing infrastructure in the vicinity of the site (refer to **Appendix P**). Robert Bird Group concludes that the proposed works are structurally feasible.

Groundwater

The geotechnical assessment confirms the following in relation to groundwater:

- Based on the water level monitoring undertaken in November 2018, the regional groundwater table is expected to be below the proposed lift pit bulk excavation (RL 1.6 m). However, groundwater seepage through defects in the rock mass can be expected and some pumping of water may be required during construction.
- No significant groundwater changes are expected to occur from the proposed works that would adversely impact surrounding property and/or infrastructure.
- During construction and in the long term, it is anticipated that seepage into the excavation should be readily controlled by perimeter drains connected to a "sump-and-pump" system. A drained basement will require permanent subfloor drainage below the basement floor slab to direct seepage to the stormwater drainage system.

It is noted that the proposal includes a sump in the goods lift pit and a sump pump, and in addition, the lift pit construction will be tanked.

Mitigation Measures

No specific mitigation measures are required as the proposal is considered geotechnically and structurally feasible. Douglas Partners does however provide specific recommendations during the excavation and piling stages of construction to minimise damage to adjacent property and infrastructure. Furthermore, Robert Bird Group detail the design criteria the development will comply with.

5.15 Crime and Public Safety

A Crime Prevention Through Environmental Design Report (CPTED) has been prepared by Ethos Urban and is provided in **Appendix Y**. The assessment has been prepared in accordance with the CPTED framework and Australian and New Zealand Risk Management Standard AS/NZS 31000:2009.

Assessment

The Crime Risk Assessment Rating of the proposed development is rated within the 'moderate' category. An assessment of the proposal using the CPTED principles has found that, with the implementation of the recommendations, the rating would still remain within the 'moderate' category. We note that this is a product of the dense urban environment rather than the design itself, and the design is considered generally consistent with the principles of CPTED.

Mitigation Measures

These recommendations relate to specific detailed design components to mitigate the impacts of crime and ensure occupants of the development are accommodated in a safe and positive environment.

Surveillance

- Maintain sightlines to and from the proposed development and the surrounds by ensuring signage and equipment do not create a significant visual obstruction.
- Ensure circulation spaces are unobstructed by structures, to remove opportunities for concealment and ensure that pedestrian can move freely with clear sightlines of their surrounds.
- The glazed facades of the building at street level should be free of clutter and signage to allow sightlines between and development and the public domain.
- Ensure the concierge desks within the lobbies are visible from the street frontage to assist in maximising surveillance.

Lighting and Technical Supervision

- A CCTV network is essential for the back of house areas and the overall development. The CCTV network is to be designed in consultation with a suitably qualified security consultant with a Class 2A licence under the Security Industry Act 1997 who can provide specific advice on the placement, installation, monitoring and maintenance of the CCTV network.
- The CCTV network should endeavour to ensure blackspots of coverage are not created.
- The CCTV network strategy should be partnered with the internal and external lighting strategy to ensure facial recognition is achieved in all lighting conditions and a minimum colour rendering index of 60 is achieved.
- Discrete CCTV systems such as small dome cameras are recommended.

Territorial Reinforcement

- Ensure public furniture is durable and of high quality design.
- Maintain that building entrances remain free of clutter to ensure entry points are highly visible from the street frontages.
- Provide signage within the concourse to direct pedestrian movements and deter loitering.
- Ensure that pathways within lobbies and corridors are unobstructed at all times to avoid blind spots.
- Provide wayfinding signage and building / business identification signage where appropriate to reinforce perceptions of safety and legibility.

Environmental Maintenance

- Ensure mechanisms are in place to facilitate the on-going maintenance of the building, including the implementation of a rapid removal policy for vandalism repair and the removal of graffiti.

Activity and Space Management

- Ensure business, building and wayfinding signage is appropriate to deter access to private spaces and direct pedestrian movements to desired locations.
- Maximise the inclusion of glazed facades with anti-graffiti coatings wherever possible to maximise lines of sight and mitigate the risk of damage.

Access Control

- Provide secure electronic access (card, key controlled entries / lifts etc.)) to all entrances of the building and lifts to facilitate in demarcating the uses of the building and providing a delineation between public and private spaces.
- Ensure the entrances to the individual retail tenancies are equipped with secure access arrangements.
- Provide secure access arrangements to the external W/C facilities located along the western boundary.

- Install an appropriate bollard / barrier system at the main entrance to the plaza to prevent vehicles from accessing the site from Hassall Street. A security consultant with a Class 2A licence under the *Security Industry Act 1997* is recommended to be engaged to provide specific advice on the type, placement and installation of this bollard / barrier system to ensure vehicles moving at high velocity cannot enter the site.
- Ensure concierges / receptions and formal guardians occupy the lobbies.

Design, Definition and Designation

- Security and general station personal are advised to parole / occupy the site to minimise opportunities for anti-social behaviour.

5.16 BCA and Accessibility

Building Code of Australia Assessment

A review of the proposal against the applicable requirements of the BCA has been undertaken by Steve Watson & Partners (**Appendix W**). The BCA Report concludes that the design is capable of meeting the requirements of the BCA, subject to the inclusion of the report's recommendations as part of detailed design. Where compliance with the Deemed to Satisfy provisions of the BCA cannot be achieved, an alternative solution will be developed prior to the issue of a Construction Certificate. The proposed design is considered to be capable of complying and compliance with the BCA is not deemed to have any likely significant impacts on the current design.

Fire Safety Assessment

A Fire Engineering Statement has been prepared by Wood and Grieve and is provided in **Appendix Q**. Wood and Grieve conclude that fire safety aspects of the development appear to be compliant with the Deemed to Satisfy Provisions of the BCA. However, it is expected that performance-based fire engineering solutions will be required during detailed design.

Accessibility Assessment

An Accessibility Report has been prepared by MGAC and is provided in **Appendix S.** The report has been developed to ensure that ingress and egress, paths of travel, circulation areas and sanitary facilities comply with the relevant statutory guidelines. The proposed design is considered to be capable of complying with the relevant Australian Standard and compliance with these standards is not deemed to have any likely significant impacts on the current design.

Mitigation Measures

The detailed design of the development must ensure that the proposal complies with the applicable requirements of the BCA or appropriate alternative solutions should be developed and verified by a qualified BCA Consultant and the Access Consultant.

5.17 Lighting

A Lighting Impact Assessment (LIA) has been prepared by Floth and is provided in **Appendix U**. The LIA outlines the lighting strategy and measures to reduce spill into any surrounding sensitive receivers.

The proposal integrates lighting to present safe and legible circulation areas including public activity areas, the vehicular entrance and terraces, in addition to internal lighting. All lighting emissions from the site will be controlled in order to comply with the requirements of Australian Standards AS 4282 and AS/NZS 1158.3.1. Luminaires will be selected and installed to ensure no direct upward light emissions are generated in order to minimise light pollution. Select lighting will be dimmed after curfew hours and will increase in illumination in response to movement to ensure safety and security are not compromised.

5.18 Social and Economic Impact

A Social and Economic Impact Assessment Report has been prepared by Ethos Urban and is provided in **Appendix R**. It incorporates a social impact assessment and social and economic strategies, addressing means to enhance the proposal's benefits and mitigate any potential negative social impacts associated with the scheme.

Social Impact Assessment

Ethos Urban has considered the potential social impacts of the development – both positive and negative – during construction and operation of the proposed development, and finds the proposal facilitates the following:

- Increased highly skilled job opportunities within the Parramatta CBD, leading to decreased social and economic costs of commuting for skilled workers living in Western Sydney. Increasing and diversifying the range of highly skilled employment opportunities in the Parramatta CBD is a community and Council priority.
- Increased activation of Hassall Street due to provision of retail spaces, commercial entry lobby, WSU lobby, amphitheatre and robotics lab. This contributes to a vibrant streetscape and is a significant improvement on the previous site situation.
- Improved perceptions of safety in this area of the Parramatta CBD. Students are more likely than office workers to access the proposed development outside of conventional working hours.
- Increased activation and vibrancy in the Parramatta CBD due to increased numbers of students and workers in the area. Students and workers associated with the proposed development are likely to spend time in the public domain within Parramatta CBD.
- Opportunities for students and workers to interact in shared spaces within the proposed development, including terraces and the public domain. Conversely this has the potential for additional pressure public realm areas, however, will be relieved as the City preserves and facilitates new public open space.

Economic Impact Assessment

Ethos Urban has considered the potential economic impacts of the development – both positive and negative – during the construction and operation of the proposed development. The assessment demonstrates that:

- The success and sustainability of the proposed engineering offer at the new Hassall Street campus is supported by generally positive trends in student enrolments.
- With planned enrolments from UNSW, the new engineering innovation hub at Hassall Street is unlikely to have difficulties in attracting students, especially given its central location and easy accessibility via public transport.
- The likely ongoing growth of Parramatta CBD as a key office location in Sydney, backed by strong policy commitments, is highly positive for the development of the new Hassall Street vertical campus.
- Construction and ongoing operations of the Hassall Street campus and associated office space will provide significant employment opportunities and increased economic output.
- The multifunctional campus and engineering innovation hub will further enhance the reputation of the NSW higher education sector.

5.19 Development Contributions

The relevant contributions plan for the site is the Parramatta City Centre S94A Development Contribution Plan (Amendment No. 4) which came into effect in August 2015. Exemptions from payments under the Plan are not specifically listed, however, may be considered by Council or the relevant consent authority.

Whilst developments by the Crown are not automatically exempt from development contribution payments, development that in the opinion of the consent authority does not increase the demand for the categories of public facilities and services addressed by the Plan should warrant a merit-based exemption. It is noted that the payment of any contribution on the University component of this development is discretionary, and that the Minister for Planning is not required to impose the requirement for payment under either the EP&A Act or the Plan.

Justifications for the exemption of contributions include:

- That WSU is a registered not-for-profit organisation; and
- That WSU is an education facility and a nominated charity.

The University as the Crown and Public Educational Institution

WSU is recognised as the Crown by virtue of Clause 226 of the EP&A Regulation. Section 4.33 of the EP&A Act provides that in relation to Crown applications, a consent authority is unable to impose a condition of consent without the approval of the University or the Minister. However, the University is conscious of its central position in the Parramatta City Centre and its ongoing relationship with Council and the local community. The University also understands the need to continue to work cooperatively with Council to reach agreement on an appropriate balance of development conditions that meets Council's planning responsibilities, whilst also meeting the University's need to provide critical infrastructure.

The Public Nature of the Proposed Development, and the Parramatta City Centre Section 94A Development Contributions Plan

The University and its functions are inherently of a public nature, providing educational and employment opportunities to the Western Sydney community and to the public at large. The proposed construction of a new research and teaching facility through the Engineering and Innovation Hub is part of the University's core academic functions.

The underlying purpose of Council's Contributions Plan is to raise funds from private, commercially driven developments to be put towards the cost of public facilities and infrastructure which are burdened by those developments. To this end, the development is calculated as providing for a dominant University use, with the balance as commercial development. Accordingly, it is requested that development contributions be levied on the commercial development component, as would be expected in typical circumstances for developments within the LGA.

Imposing a levy on the University's own public infrastructure (and in doing so financially compromising the University's ability to perform its teaching and research functions) conflicts with the public tenet of the Contributions Plan. Indeed, to do so would be simply diverting education-based funding away from the University for other unrelated purposes, potentially with no nexus to WSU and their partner UNSW.

Whilst Council's Contributions Plan does not make explicit that Crown developments are automatically excluded from the payment of development contributions, the consent authority (in this instance the Minister for Planning) is able to apply an exemption on a merit basis. An exemption is considered appropriate as the University is a not-for-profit public institution which relies on government grants, donations, and community funding to provide new facilities for both the University community, and the wider public at large. The levying of a development contribution would divert a portion of these public funds, which have been specifically provided for an educational purpose, to local services without any direct nexus to the impact on those services.

Crown Applications – Department of Planning Circular D6

The Department's Circular D6 sets out the reasons why Crown developments should be able to seek exemptions from contributions payments. Whilst Circular D6 *"Crown Development Applications and Conditions of Consent"* was formulated in 1995, it still remains the guiding document in relation to Crown applications and development contributions.

The effect of this circular is, that where the applicant is a Crown authority and the development is for educational services, no contributions should be collected for open space, community facilities, parking, and general local and main road upgrades. As the proposed development is integral to supporting the University's academic functions it is clearly part of the University's educational services.

As stated in Circular D6:

> *"Crown Activities providing a public service or facility lead to significant benefits for the public, in terms of essential community services and employment opportunities. Therefore, it is important that these essential community services are not delayed by unnecessary disputes over conditions of consent. These activities are not likely to require the provision of public services and amenities in the same way as developments undertaken with a commercial objective."*

Taking into account the significant public benefits which the proposed development, and the presence the University generally, provides, and the minimal impact this development has on local infrastructure, it is considered that no development contributions should be levied against this portion of the development. As stated previously, it is acknowledged that the commercial office component of the proposal is considered private development and it is therefore agreed that contributions should be levied on that particular component. This component will total some $1,735,200 directly contributing to achieving Council's vision for the Parramatta CBD in terms of supporting infrastructure upgrades.

In accordance with Section 1(9) of the Plan, the proponent requests that a periodic payment schedule of the contributions arising from the commercial office component be granted. This arrangement is allowable as the component meets the following criteria: it is commercial development, it does not contain any residential components, it has undergone an architectural design competition, it achieves a '5 star' NABERS rating and achieves an 'A-grade' property rating. Accordingly, the proponent requests that 50% of the above contribution amount is required to be paid prior to the issue of the initial Construction Certificate and the remaining 50% to be paid prior to the issue of the final Occupation Certificate on the site.

5.20 Site Suitability

Having regard to the characteristics of the site and its location, the proposed development is considered suitable for the site as it:

- Will contribute to the urban renewal of Parramatta as Sydney's growing second CBD;
- Will provide a building height and FSR recommended for the site under Council's CBD planning strategy;
- Will contribute to the urban regeneration of a highly underutilised site strategic site;
- Is capable of being developed in a manner that will minimise impacts to the natural, historical, and environmental qualities of the site; and
- Will result in only minor environmental impacts that can be appropriately managed and mitigated.

Conversely, the site is considered suitable for the proposed development in that:

- It is zoned to accommodate the proposal;
- Consistent with height and FSR recommended for the site under Council's CBD strategy;
- It is located within the emerging Parramatta educational cluster which includes WSU building within Parramatta Square and the Arthur Phillip High School and Parramatta Public School redevelopment to the north;
- The location of the site within the CBD which is highly serviced by existing and future transport infrastructure;
- The current development on site is in poor condition and is not commensurate with the site's strategic and locational attributes;
- It is well served by frequent existing and planned public transport; and
- Is in proximity to high quality public open space to encourage a healthy environment for staff, students and tenants.

5.21 Public Interest

The proposed development is in the public interest because it will:

- deliver a high-quality building that achieves design excellence which has been developed through a rigorous competitive design process endorsed by the NSW Government Architect, ensuring that the future building and public domain will achieve a high standard of architecture and landscape architecture;
- deliver a significant piece of economic and social infrastructure that will support 942 jobs (construction and supply industry) during the construction phase and potential to accommodate 1,330 full-time equivalent (FTE) jobs on an ongoing basis during the operational phase;
- achieve a high level of environmental performance by reducing energy, water and resources consumption;

- increase activation at the key street interfaces, providing an improved level of public amenity within the Westmead Precinct with the injection of additional students and staff who will contribute to activity throughout the day and evening;
- facilitate increased visitation by non-car travel modes, including by public transport, cycling and walking through the provision of appropriate end-of-trip facilities;
- deliver significant social, cultural and economic benefits to the local, Greater Parramatta and NSW community by providing an educational facility which contributes to the welfare and social capital of the region; and
- not result in any significant environmental impacts that cannot be managed through adherence to the Mitigation Measures outlined in this EIS and standard conditions of development consent.

6.0 Environmental Risk Assessment

The Environmental Risk Assessment (ERA) establishes a residual risk by reviewing the significance of environmental impacts and the ability to manage those impacts. The ERA for the proposed Western Sydney University Innovation Hub has been adapted from Australian Standard AS4369.1999 Risk Management and Environmental Risk Tools.

In accordance with the SEARs, the ERA addresses the following significant risk issues:

- the adequacy of baseline data;
- the potential cumulative impacts arising from other developments in the vicinity of the Site; and
- measures to avoid, minimise, offset the predicted impacts where necessary involving the preparation of detailed contingency plans for managing any significant risk to the environment.

Figure 48 indicates the significance of environmental impacts and assigns a value between 1 and 10 based on:

- the receiving environment;
- the level of understanding of the type and extent of impacts; and
- the likely community response to the environmental consequence of the project;

The manageability of environmental impact is assigned a value between 1 and 5 based on:

- the complexity of mitigation measures;
- the known level of performance of the safeguards proposed; and
- the opportunity for adaptive management.

The sum of the values assigned provides an indicative ranking of potential residual impacts after the mitigation measures are implemented.

Significance of impact	Manageability of impact				
	5 Complex	4 Substantial	3 Elementary	2 Standard	1 Simple
1 – Low	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)	2 (Low)
2 – Minor	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)
3 – Moderate	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)
4 – High	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)
5 – Extreme	10 (High)	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)

Figure 48: Risk Assessment Matrix

				Risk Assessment		
Item	**Phase**	**Potential Environmental Impact**	**Proposed Mitigation Measures and / or Comment**	**Significance of Impact**	**Manageability of Impact**	**Residual Impact**
Visual Impact	O	• Visual impact to views to and from the site and adjoining heritage items	• The proposal achieves a reasonable balance between the protection of private views and the protection of public domain views. • The proposal does not impede on any identified significant view corridors and makes a significant contribution to the streetscape through the provision of a contemporary building that has achieved design excellence.	3	2	5 Low/Medium
Wind Impacts	O	• Adverse wind environment and pedestrian discomfort	• Inclusion of horizontal screening, such as a canopy or art work, elevated above ground level through the plaza. • Inclusion of planting or localised screening, such as an art work, signage or baffle screens, throughout the plaza. • Inclusion of 1.5m impermeable balustrades surrounding the Level 12 terraces.	2	3	5 Low
Transport, traffic, parking and access	C + O	• Increased traffic generation • Increased parking on local roads	• Based on the existing intersection performance and the likely traffic to be generated from the proposed development, all key intersections will perform at an acceptable level of service during the peak periods. • Sufficient parking is accommodated within the development to meet the needs of the proposal and the number of parking space is less than the maximum number permissible under the LEP and the Parramatta CBD Strategic Transport Study. • WSU will encourage student travel by existing public transport networks and raise awareness of the future public transport options including the Parramatta Light Rail and the Sydney West Metro. • A Loading Dock Management Plan (LDMP) can be prepared to limit servicing to outside peak commuter periods, therefore minimising the interaction of peak pedestrian flows with servicing vehicles. • Construction traffic will be managed in accordance with the management principles outlined within the Traffic Impact Assessment in **Appendix G**.	2	2	4 Low/Medium
Heritage and historical archaeology	C / O	• Impact on heritage items within the site and the surrounds • Impact on archaeological heritage (Aboriginal and European)	• The proposed development will not result in any unreasonable or significant impact on the significance or value of the surrounding Items of Heritage Significance. • An unexpected finds protocol will be implemented throughout construction. Depending on the nature of the find and its confirmation as a European or Aboriginal object, then the relevant regulatory authorities would be contacted for further advice.	3	2	5 Low/Medium

				Risk Assessment		
Noise and vibration	C + O	• Increase in noise levels during construction activities • Adverse noise impacts on proposed uses, such as traffic noise • Adverse noise impacts from proposed uses on surrounding receivers	• The proposal is to provide the recommended minimum glazing construction set out within **Appendix I**. • Mechanical plant noise emissions can be controlled to acceptable levels at the nearest noise sensitive receivers with attenuation to the intake and discharge paths to the Level 18 plant room. A detailed review of all external mechanical plant and equipment will be undertaken at CC stage (once plant selections and locations are finalised). • Any outdoor alfresco dining be limited to 7am to midnight unless an acoustic assessment is conducted during the fit-out stage that considers additional noise control measures. • Acoustic and vibration management measures will be implemented through refinement of the CMP at the construction stage.	3	2	5 Low/Medium
Infrastructure and Utilities	C + O	• Adequate connection to infrastructure and utilities • Impacting on existing infrastructure below the site	• Ongoing consultation and design development with the relevant utility providers will be undertaken throughout the design development and construction process.	1	1	2 Low
Biodiversity	C	• Loss of biodiversity	• Given the developed nature of the site, there are not likely to be any impacts on threatened species, populations or ecological communities or their habitats.	1	1	2 Low
Contamination and hazardous material	C + O	• Exposure of contamination or hazardous materials during construction and operation	• The DSI prepared for the site (refer to **Appendix N**) confirms that the site is suitable for the proposed education and commercial uses and that there is not likely to be any significant contamination risks to human health or ecology within the site.	3	2	5 Low/Medium
Water Cycle Management	C + O	• Potential stormwater impacts • Potential geotechnical impacts and instability of future development	• The site is not flood prone. • Stormwater and water quality measures will be implemented in accordance with the Overland Flow Assessment and Stormwater Management Report at **Appendix L** in conjunction with this, the Ecologically Sustainable Development Report at **Appendix Q.**	3	2	5 Low/Medium
Waste Management	C + O	• Generation of waste and pollutants	• Adequate waste storage facilities will be provided to service the mix of uses. • Waste management and minimisation principles outlined within OWMP and the CWMP will be implemented (**Appendix CC**).	2	2	4 Low/Medium

				Risk Assessment		
Construction Management	C	• Noise, dust, air quality and traffic impacts	• Construction activities will be performed in accordance with the Construction Management Plan (**Appendix Z**) and the Construction Traffic Management Plan (**Appendix G**) which details full mitigation measures to manage environmental impacts.	3	2	5 Low/Medium`
Geotechnical Impact and Structural Adequacy	C + O	• Instability of future development	• The detailed design will be informed by the Geotechnical Report (**Appendix M**) and the detailed structural design will be developed in accordance with the NCC and the BCA.	3	2	5 Low/Medium`
Crime and Public Safety	O	• Anti-social intimidating behaviour, increased crime	• Operate in accordance with WSU's security measures and integrate recommendations of the CPTED report into the detailed design.	2	1	3 Low
Lighting	O	• Light spill into any surrounding sensitive receivers	• All lighting emissions from the site will be control in order to comply with the requirements of Australian Standards AS 4282 and AS/NZS 1158.3.1. • Select lighting will be dimmed after curfew hours and will increase in illumination in response to movement to ensure safety and security are not compromised.	2	1	3 Low

7.0 Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 17** below. These measures have been derived from the previous assessment in **Section 5.0** and those detailed in appended consultants' reports.

Table 17: Mitigation Measures

Mitigation Measures
Wind Impacts
• Inclusion of horizontal screening, such as a canopy or art work, elevated above ground level through the plaza. • Inclusion of planting or localised screening, such as an art work, signage or baffle screens, throughout the plaza. • Inclusion of 1.5m impermeable balustrades surrounding the Level 12 terraces.
Transport, traffic, parking and access
• WSU will encourage student travel by existing public transport networks and raise awareness of the future public transport options including the Parramatta Light Rail and the Sydney West Metro. • A Loading Dock Management Plan (LDMP) can be prepared to limit servicing to outside peak commuter periods, therefore minimising the interaction of peak pedestrian flows with servicing vehicles. • Construction traffic will be managed in accordance with the management principles outlined within the Traffic Impact Assessment at **Appendix G.**
Heritage and historical archaeology
• An unexpected finds protocol will be implemented throughout construction. Depending on the nature of the find and its confirmation as an European or Aboriginal object, then the relevant regulatory authorities would be contacted for further advice.
Noise and vibration
• The proposal is to provide the recommended minimum glazing construction set out within **Appendix I.** • Mechanical plant noise emissions can be controlled to acceptable levels at the nearest noise sensitive receivers with attenuation to the intake and discharge paths to the Level 18 plant room. A detailed review of all external mechanical plant and equipment will be undertaken at CC stage (once plant selections and locations are finalised). • Any outdoor alfresco dining be limited to 7am to midnight unless an acoustic assessment is conducted during the fit-out stage that considers additional noise control measures. • Acoustic and vibration management measures will be implemented through refinement of the CMP at the construction stage.
Infrastructure and Utilities
• Ongoing consultation and design development with the relevant utility providers will be undertaken throughout the design development and construction process.
Water Cycle Management
• Stormwater and water quality measures will be implemented in accordance with the Overland Flow Assessment and Stormwater Management Report at Appendix L in conjunction with this, the Ecologically Sustainable Development Report at **Appendix Q.**
Waste Management
• Adequate waste storage facilities will be provided to service the mix of uses • Waste management and minimisation principles outlined within OWMP and the CWMP will be implemented (**Appendix CC**).
Construction Management
• Construction activities will be performed in accordance with the Construction Management Plan (**Appendix Z**) and the Construction Traffic Management Plan (**Appendix G**) which details full mitigation measures to manage environmental impacts.

Mitigation Measures
Geotechnical Impact and Structural Adequacy
• The detailed design will be informed by the Geotechnical Report (**Appendix M**) and the detailed structural design will be developed in accordance with the NCC and the BCA.
Crime and Public Safety
• Operate in accordance with WSU's security measures and integrate recommendations of the CPTED report into the detailed design.
Lighting
• All lighting emissions from the site will be control in order to comply with the requirements of Australian Standards AS 4282 and AS/NZS 1158.3.1. • Select lighting will be dimmed after curfew hours and will increase in illumination in response to movement to ensure safety and security are not compromised.

8.0 Justification of the Proposal

In general, investment in major projects can only be justified if the benefits of doing so exceed the costs. Such an assessment must consider all costs and benefits, and not simply those that can be easily quantified. As a result, the EP&A Act specifies that such a justification must be made having regard to biophysical, economic and social considerations and the principles of ecologically sustainable development.

This means that the decision on whether a project can proceed or not needs to be made in the full knowledge of its effects, both positive and negative, whether those impacts can be quantified or not.

The proposed development involves the delivery of the proposed Western Sydney University Innovation Hub. The assessment must therefore focus on the identification and appraisal of the effects of the proposed change over the site's existing condition.

Various components of the biophysical, social and economic environments have been examined in this EIS and are summarised below.

8.1 Social and Economic

The proposed Engineering and Innovation Hub will deliver a new development with contemporary facilities for the use of university students and staff of WSU. The building provides learning spaces for students including new format learning environments that aim to promote student interaction, creative thinking and innovation. The overall development is designed to provide an improved urban design and architectural response for the immediate site, its surrounds and the broader campus area. The ground plane promotes permeability and connectivity as well as equitable access to facilities.

While the development is designed specifically to address current university needs for additional learning space and faculty seating areas, the modular design of the development promotes future flexibility, allowing the building to easily adapt to the changing demands of an evolving and growing university. In this regard the development promotes sustainability and allows the university to address both short and long term educational, academic and operational needs of a premier Australian university.

8.2 Biophysical

Section 5.0 of this EIS contains a thorough assessment of the likely biophysical impacts of the proposed development. The environmental risk assessment contained at **Section 6.0** demonstrates that the proposed development will not result in any significant environmental impacts that cannot be appropriately addressed through standard conditions of consent or the current mitigation measures included at **Section 7.0**.

The environmental impact assessment of the proposed development has demonstrated that responsive measures will ensure noise and vibration impacts, air quality impacts and construction traffic and pedestrian conflicts are adequately managed during the construction phase. Further, no adverse biodiversity or ecological impacts are considered to arise from the proposed development. On this basis, the development is not anticipated to result in adverse biophysical impacts.

8.3 Ecologically Sustainable Development

The EP&A Regulation lists 4 principles of ecologically sustainable development to be considered in assessing a project. They are:

- The precautionary principle;
- Intergenerational equity;
- Conservation of biological diversity and ecological integrity; and
- Improved valuation and pricing of environmental resources.

An analysis of these principles follows.

Precautionary Principle

The precautionary principle is utilised when uncertainty exists about potential environmental impacts. It provides that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. The precautionary principle requires careful evaluation of potential environmental impacts in order to avoid, wherever practicable, serious or irreversible damage to the environment.

Given the location of the subject site within an urban and metropolitan context, this EIS has not identified any uncertain or serious threat or irreversible damage to the environment.

Intergenerational Equity

Intergenerational equity is concerned with ensuring that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. The proposal has been designed to benefit both the existing and future generations by:

- providing a building that exceeds industry best practice in environmental performance;
- implementing safeguards and management measures to protect environmental values;
- high grade office floor space;
- educating the future generations;
- delivering a state of the art educational facility that will contribute to the creation of knowledge based employment opportunities that will benefit the local economy for generations to come; and
- providing a high-quality design that will contribute to the revitalisation of the locality and improve street front activation.

The proposal has integrated short and long-term social, financial and environmental considerations so that any foreseeable impacts are not left to be addressed by future generations. Issues with potential long-term implications such as climate change, will be avoided and/or minimised by design and through the application of safeguards and management measures described in this EIS and the appended technical reports.

Conservation of biological diversity and ecological integrity

The principle of biological diversity upholds that the conservation of biological diversity and ecological integrity should be a fundamental consideration.

This EIS has demonstrated that the proposal will not have any significant effect on the biological diversity and ecological integrity of the site and surrounding area. The potential impacts associated with the development identified in the expert consultant reports (see **Section 5.0**) have been incorporated into the mitigation measures at **Section 7.0** of this EIS.

Improved valuation, pricing and incentive mechanisms

The principles of improved valuation and pricing of environmental resources requires consideration of all environmental resources which may be affected by a proposal, including air, water, land and living things. Mitigation measures for avoiding, reusing, recycling and managing waste during construction and operation would be implemented to ensure resources are used responsibly in the first instance.

Additional measures will be implemented to ensure no environmental resources in the locality are adversely impacted during the construction or operational phases.

9.0 Conclusion

The Environmental Impact Statement (EIS) has been prepared to consider the environmental, social and economic impacts of the proposed Western Sydney University Innovation Hub at 2-6 Hassall Street, Parramatta. The EIS has addressed the issues outlined in the SEARs (**Appendix A**) and accords with Schedule 2 of the EP&A Regulation with regards to consideration of the proposed development's social, economic and biophysical impacts.

The proposal will deliver a significant piece of economic and social infrastructure that will support 942 jobs (construction and supply industry) during the construction phase and potential to accommodate 1,330 full-time equivalent (FTE) jobs on an ongoing basis during the operational phase.

The assessment has demonstrated that the proposal will not give rise to any significant environmental effects that cannot be effectively managed through the normal conditions of consent and the implementation of the mitigation measures identified in **Section 7.0** of the EIS.

Having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development, the carrying out of the project is justified for the following reasons:

- it will facilitate WSU's large-scale transformative program and assist in delivering a world-class research facility and therefore contribute to the generation of knowledge-based employment opportunities for the local economy;
- it will facilitate a development consistent with the draft height and FSR controls proposed within Council's CBD Planning Strategy;
- it will facilitate the developer of a high-quality building capable of hosting progressive and world class engineering courses;
- the project will contribute to the delivery of high quality commercial floorspace in a locality well serviced by public transport;
- it relates to the deliver a state-of-the-art educational establishment for students, employees and the local community;
- it has the capacity to create new jobs during the construction and operational phase of the development;
- It has been subject to a competitive design process in which a jury has determined that it achieves design excellence and a high level of environmental sustainability; and
- it will facilitate the economic and orderly development of land.

Given the merits described above it is requested that the application be approved.