NSW GOVERNMENT

Sydney University Stage 1 of Engineering and Technology Precinct

State Significant Development Assessment (SSD 8636)

February 2019

Cover image: Proposed Building (Source: Response to Submissions)

Glossary

Abbreviation	Definition
AHCP	Redfern Waterloo Authority Affordable Housing Contributions Plan
AHD	Australian Height Datum
BCA	Building Code of Australia
CIV	Capital Investment Value
CIP	Campus Improvement Program
Consent	Development Consent
Council	City of Sydney Council
Department	Department of Planning and Environment
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPI	Environmental Planning Instrument
ESD	Ecologically Sustainable Development
LEP	Local Environmental Plan
Minister	Minister for Planning
OEH	Office of Environment and Heritage
RMS	Roads and Maritime Services
RtS	Response to Submissions
RWACP	Redfern Waterloo Authority Contributions Plan
SEARs	Secretary's Environmental Assessment Requirements
Secretary	Secretary of the Department of Planning and Environment
SEPP	State Environmental Planning Policy
SHR	State Heritage Register
SLEP 2012	*Sydney Local Environmental Plan 2012*
SRD SEPP	*State Environmental Planning Policy (State and Regional Development) 2011*
SRtS	Supplementary Response to Submissions
SSD	State Significant Development

Executive Summary

This report provides an assessment of a State significant development (SSD) application for the first stage of the redevelopment of the Engineering and Technology Precinct within the Darlington Campus of the University of Sydney (SSD 8636). The Applicant is The University of Sydney and the proposal is located within the City of Sydney local government area (LGA).

The proposal seeks approval for redevelopment of the existing Electrical Engineering Building and surrounds including an upgrade of the existing retained southern tower and integration of a new eight storey northern building for educational purposes as part of the Faculty of Engineering and Information Technologies.

The proposal has a Capital Investment Value (CIV) of $116 million and would generate 150 construction jobs and 14 additional operational jobs. The proposal is SSD under clause 15 of Schedule 1 of the *State and Environmental Planning Policy (State and Regional Development) 2011*, as it is development for the purpose of tertiary institution with a CIV of more than $30 million. Therefore, the Minister for Planning is the consent authority.

The application was publicly exhibited between 19 April 2018 and 18 May 2018. The Department of Planning and Environment (the Department) received a total of 18 submissions, including nine from public authorities and nine from members of the public (including six objections). An additional seven submissions from public authorities were received in response to the Applicant's Response to Submissions (RtS).

The key issues raised in the submissions include impact on the existing streetscape, construction and operational noise impacts and traffic impacts on local roads.

The Department has considered the above issues in its assessment, along with the requirements of the Campus Improvement Program (CIP) Concept Approval for the site, including design excellence provisions. The Department has considered the merits of the proposal in accordance with relevant matters under Section 4.15(1), the objects of the *Environmental Planning and Assessment Act 1979*, the principles of Ecologically Sustainable Development, and issues raised in all submissions as well as the Applicant's response to these. The Department identified urban design and landscaping, traffic and noise as the key assessment issues.

The Department's assessment concludes that the proposal exhibits design excellence and is generally consistent with the built form controls in the approved Campus Improvement Program (CIP) Concept Approval. The design has evolved through a competitive design process and demonstrates integrity due to the ongoing review and involvement from a Design Excellence Review Committee. The proposed development is suitable for the site and would not result in any significant adverse amenity impacts.

Streetscape impacts have been addressed by provision of screening and landscaping to ensure mechanical plant areas visible from outside of the campus would not result in unacceptable impacts to the streetscape or character of the adjoining heritage conservation area.

The Department concludes that the proposed development would not result in adverse traffic outcomes outside of the campus, noting overall traffic movements would be reduced as a result of removal of 30 on-site parking spaces. As all medium and large service vehicles would be required to access the site from the west, there is no impact on the adjoining residential area.

Traffic impacts within the campus would also be reduced, however conditions are recommended to manage safety and amenity impacts associated with service vehicles within the campus. These include a requirement for a

loading dock management plan, measures to manage swept path conflicts and a revision of loading dock arrangements in the future when a new precinct service distribution centre is constructed.

The Department considers that noise and vibration impacts can be satisfactorily mitigated during construction and operation. This will require the Applicant to consult with the surrounding sensitive receivers, develop work programs to ensure construction works would minimise disruptions to neighbours and to carry out noise monitoring to verify use of the site does not result in unacceptable noise impacts.

The development would deliver educational infrastructure facilities to address the needs of the region. The facilities provide further investment in social infrastructure and supports a total of 150 construction jobs and 14 additional operational jobs. The Department is satisfied that the subject site is suitable for the proposal.

The Department concludes the proposal is in the public interest and recommends that the application be approved subject to conditions.

Contents

1. Introduction

This report provides an assessment of a State significant development (SSD) application for development within the Engineering Precinct at the University of Sydney, Darlington Campus (SSD 8636) (see **Figure 1**).

The proposal seeks approval for redevelopment of the existing Electrical Engineering Building and surrounds to create a new eight storey building (excluding mechanical plant), integrated with an upgraded retained southern tower, creation and embellishment of associated open plazas and use of both buildings for education and research purposes.

The application has been lodged by The University of Sydney (the Applicant). The site is located within the City of Sydney local government area (LGA).

1.1 Site description

Sydney University is located approximately three kilometres south-west of the Sydney central business district. The University campuses in Camperdown and Darlington cover a combined area of approximately 49 hectares and are divided by City Road. The University has been developed progressively since its inception in the early 1850's, with the wider campus now containing over 230 buildings of varying architectural styles that house the University's 16 educational faculties. The campus is characterised by various low-scale and multi-storey education and ancillary buildings and expansive open space areas.

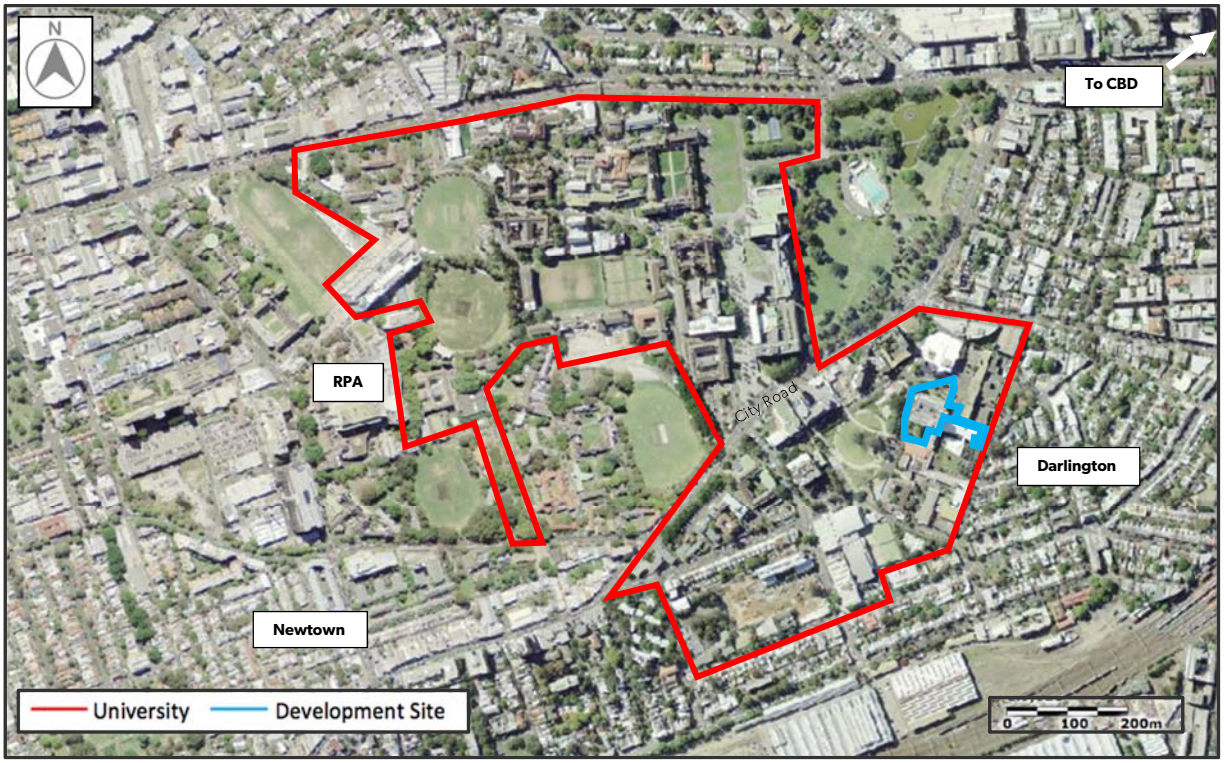

Figure 1 | Site location (Base source: Six Maps)

The development site, the subject of this application, is located on the eastern side of the Darlington campus within the Engineering Precinct of the University (see **Figures 1** and **2**). It is legally described as Lot 1 in DP 790620. Within the campus, it has frontages to Maze Crescent to the west and Blackwattle Creek Lane to the north and

includes a service corridor between the Link Building Engineering Services Building and Mechanical Engineering Building which links the site to the Shepherd Street frontage to the east.

Currently on the site is the three to ten storey building known as the J03 Electrical Engineering Building. The building is designed in late twentieth century Brutalist style and is constructed of off-form concrete, with white paint finish as well as face brickwork. It includes two main elements:

- three storey northern wing.
- seven storey southern tower, which steps up to ten storeys at its eastern end.

The site also includes adjacent car parking and landscaped areas (see **Figures 2** to **6**).

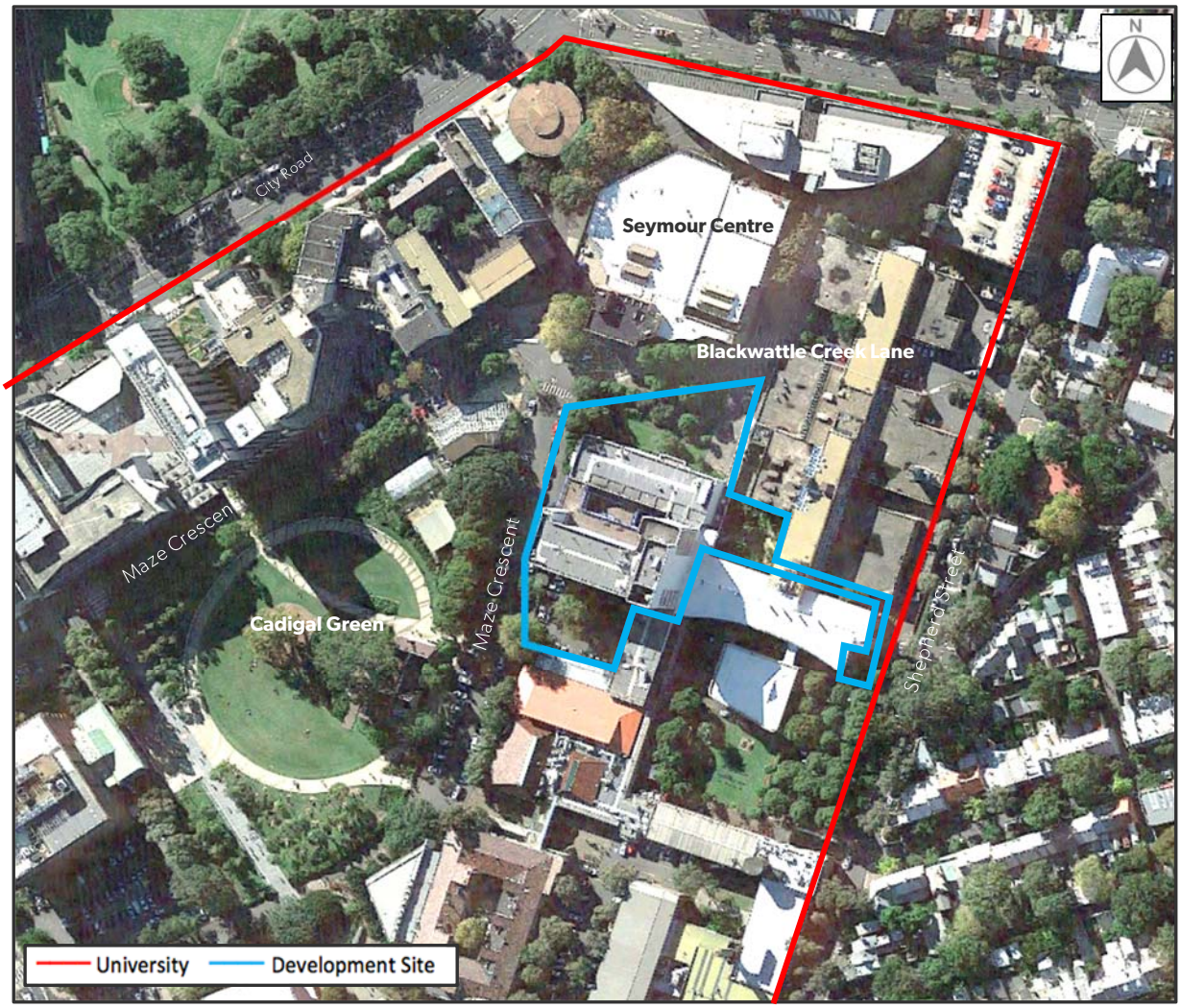

Figure 2 | Existing Site Layout (Base source: Google Maps)

The three storey northern wing of J03 was recently demolished and 33 trees removed under a separate REF approval granted on 25 May 2018 under Part 5 of the Environmental Planning and Assessment Act 1979.

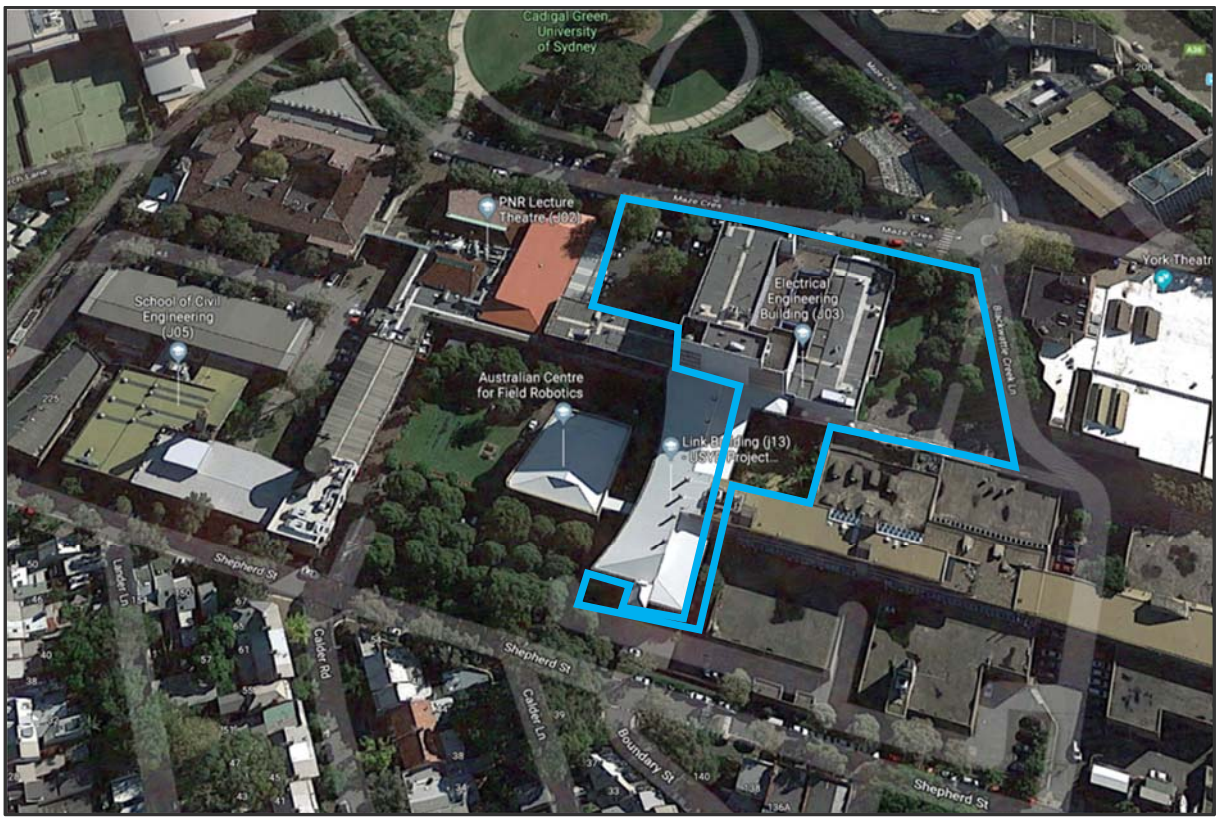

Figure 3 | Aerial view of site (Base source: Google Maps)

Figure 4 | Existing Building and northern plaza as viewed from Maze Crescent (source: Google Maps)

Figure 5 | Existing Building and southern car park as viewed from Maze Crescent (source: Google Maps)

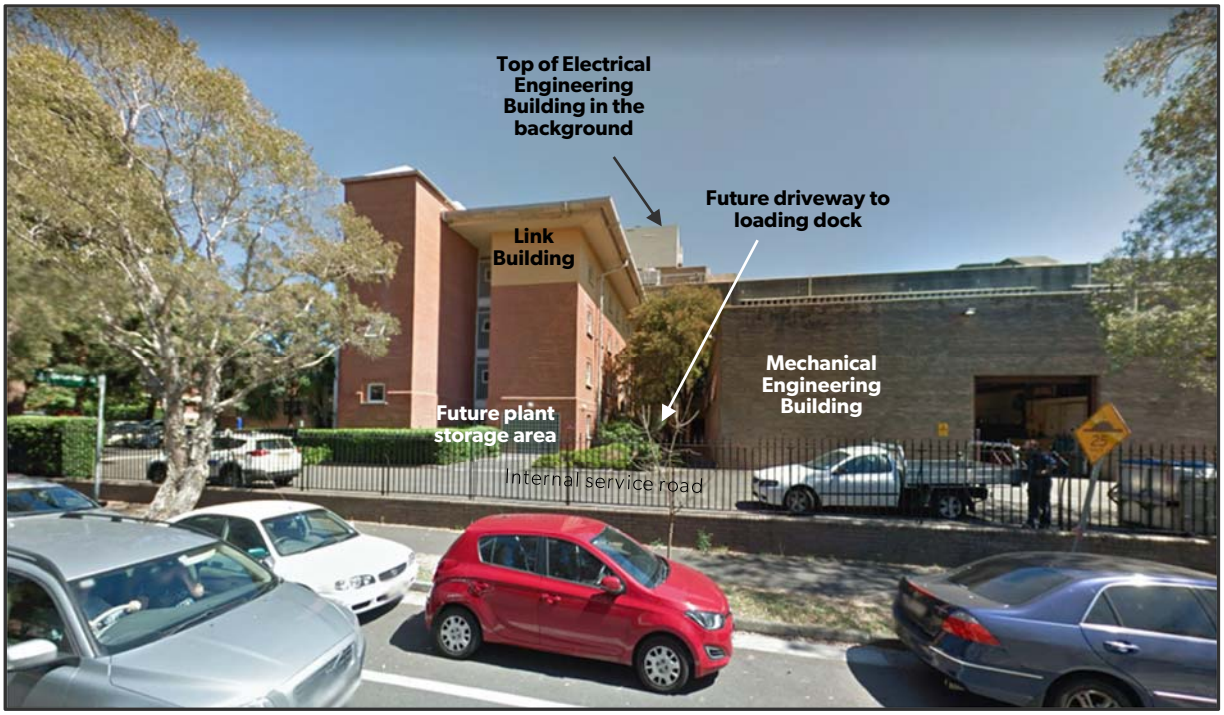

Figure 6 | Site as viewed from Shepherd Street (source: Google Maps)

1.2 Previous Approvals: Campus Improvement Program Concept Proposal

On 16 February 2015, the then Minister for Planning approved an SSD application (SSD 6123) for the University's Campus Improvement Program (CIP) concept proposal. The CIP concept proposal approved new educational establishment building envelopes of varying height and scale within six identified precincts. Any new built form within these precincts requires detailed development applications to be lodged with and assessed by the relevant consent authority.

The CIP approval allows for a maximum additional gross floor area (GFA) of 264,650 sqm within the approved building envelopes and an increase of approximately 10,000 new students and 400 new staff.

The subject application is within Precinct C (Engineering Precinct) of the approved CIP precincts plan. The CIP approval allows for extension and refurbishment of the Electrical Engineering Building to a maximum height of RL 57, with existing taller elements to also be retained (see **Figures 7** to **9**).

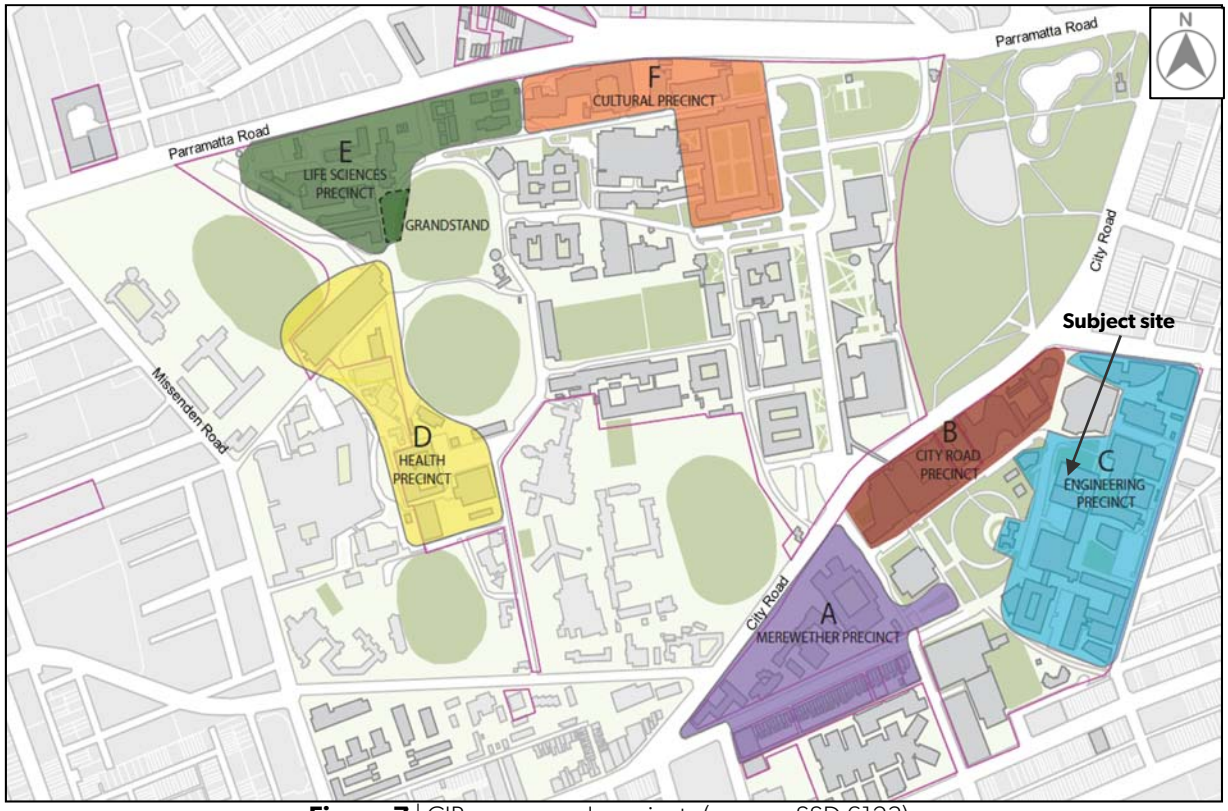

Figure 7 | CIP – approved precincts (source: SSD 6123)

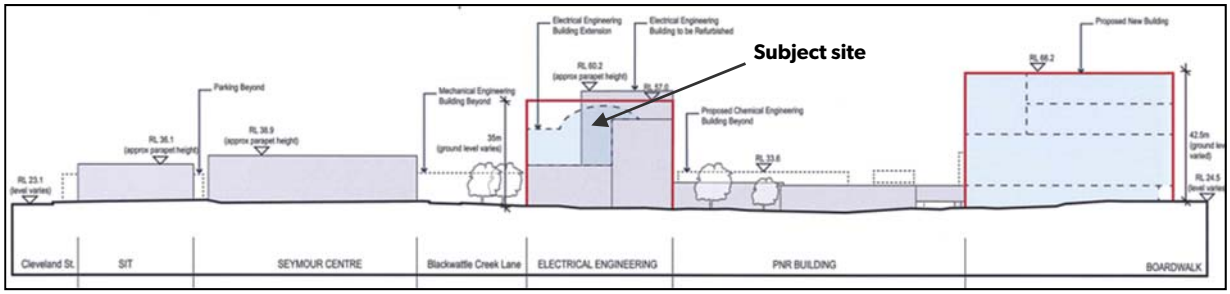

Figure 8 | CIP – approved building envelopes for Engineering Precinct (western / Maze Crescent Elevation (source: SSD 6123)

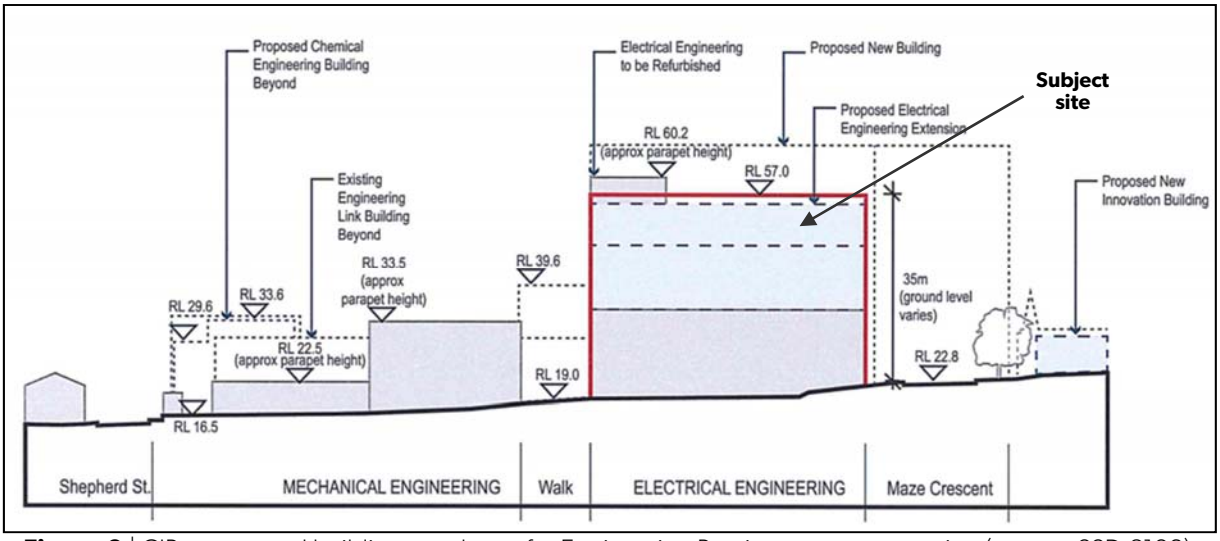

Figure 9 | CIP – approved building envelopes for Engineering Precinct east–west section (source: SSD 6123)

The CIP approval has been modified on one occasion. On 9 June 2015, the then Director, Infrastructure, as delegate of the Minister for Planning, approved a modification which clarified that approved additional GFA is contained within the approved precinct building envelopes and that the consent does not preclude other minor development within CIP precincts outside of the building envelopes.

1.3 Surrounding development

Within the university campus, the Electrical Engineering building is adjoined by Maze Crescent to the west, on the opposite side of which is Cadigal Green, a large open space area (see **Figure 10**) incorporating the former Darlington Primary School, a locally listed heritage item under Sydney Local Environmental Plan 2012 (SLEP 2012). North of the site is Blackwattle Crescent, beyond which is the Seymour Centre, a performing arts centre owned by the University. Blackwattle Crescent connects to Shepherd Street at the University boundary to the east (see **Figure 11**). East of the Electrical Engineering Building are the Mechanical Engineering and Link Buildings, both of which have frontages to Shepherd Street (see **Figure 6**). A service road runs between these buildings and the western site boundary. West of the site are other low scale university buildings including the PNR Lecture Theatre.

Outside of the campus, on the eastern side of Shepherd Street and adjoining streets is the residential area of Darlington, predominantly characterised by terrace form housing (see **Figure 12**). The area is a conservation area under Sydney Local Environmental Plan 2012 (SLEP).

Figure 10 | View across Cadigal Green with subject site in the background (source: Google Maps)

Figure 11 | Campus entrance at Blackwattle Creek Lane / Shepherd Street (source: Google Maps)

Figure 12 | Terrace housing on Shepherd Street (source: Google Maps)

2. Project

The proposed development is the first stage in the redevelopment of the Engineering Precinct as approved by the CIP Concept Approval. The key components and features of the proposal (as refined in the Response to Submissions (RtS) and Supplementary Response to Submissions (SRtS)) are provided in **Table 1** and shown in **Figures 13** to **16**.

Table 1 | Main components of the project

Aspect	Description
Project Summary	Redevelopment of the existing Electrical Engineering Building and surrounds and use by the Faculty of Engineering and Information Technologies.
Built form	• Upgrade of retained seven to ten storey southern tower of existing Electrical Engineering Building. • Construction of new eight level (excluding plant) northern wing of Electrical Engineering Building and integration with retained southern tower. • Integration with adjacent Link Building including new loading dock.
Gross floor area (GFA)	Additional GFA of 6,071sqm and total GFA of 13,567sqm.
Building Population	Additional 97 students and 14 staff. Total 966 students and 138 staff.
Uses	Educational uses, including: research laboratories, teaching laboratories, library, informal learning spaces, meeting rooms, offices associated with electrical engineering, chemical engineering and molecular bioscience.
Access	Service Vehicle access will predominantly be via Butlin Avenue / Maze Cresent. Cars and vans may leave the site via Blackwattle Creek Lane / Shepherd Street.
Car parking	No new spaces. Removal of 30 existing spaces.
Bicycle parking	48 additional spaces, resulting in total of 70 spaces.
Public domain and landscaping	• Replacement of existing carpark with new southern plaza open space area. • Embellishment and upgrading of open space north of the building. • Embellishment and upgrading of small open space east of the building. • Removal of 10 trees as part of this application (33 removed under separate Part 5 REF approval). Replacement planting of 44 trees.
Associated plant	Plant and gas storage areas and enclosure on Shepherd Street frontage.
Signage	No signage proposed.
Jobs	• 150 construction jobs. • Additional 14 full time operational jobs.

CIV	$116 million.
Construction period	Feb 2019 - July 2020.
Proposed construction hours	Monday-Friday 7am - 6pm; Saturdays 7am - 3.30pm.

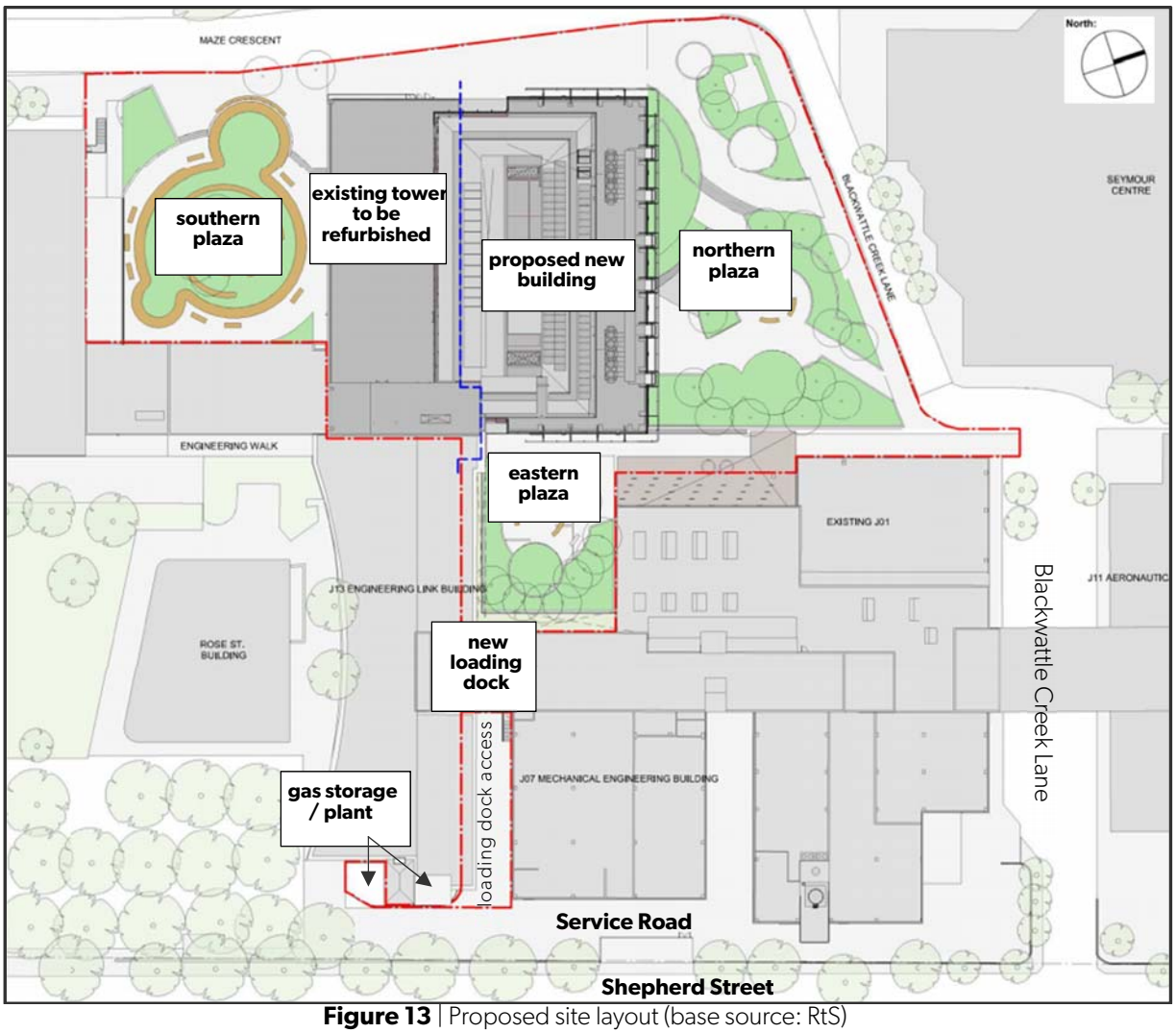

Figure 13 | Proposed site layout (base source: RtS)

Figure 14 | Visual perspective of the northern and western elevations as viewed from corner of Maze Crescent and Blackwattle Creek Lane (Base source: RtS)

Figure 15 | Visual perspective of the western elevation as viewed from corner of Cadigal Green (source: RtS)

Figure 16 | Visual perspective of the northern elevation and proposed northern plaza as viewed from Blackwattle Creek Lane (source: RtS)

3. Strategic Context

The Applicant states that the proposed development is required to continue to deliver upgraded facilities, to ensure the University's facilities remain world class and continue to attract the highest calibre of teaching and resource staff.

The proposal would improve use of this part of the campus and would deliver a contemporary, flexible and collaborative facility to support the role of the University of Sydney as a research innovator and educator in engineering.

The proposal would strengthen the University's role in contributing to the growth of the Sydney Education and Health Precinct within the Central Sydney Subregion, and more broadly the NSW economy.

The Department considers that the proposal is appropriate for the site given it:

- is consistent with A Metropolis of Three Cities – the Greater Sydney Region Plan, as it seeks to enhance education land uses at the University of Sydney, being a key asset of the Innovation and Eastern Economic Corridors identified under the plan.
- is consistent with the relevant priorities of the Greater Sydney Commission's Eastern City District Plan, as it would as it would support the continuing growth of the Camperdown-Ultimo Health and Education Precinct fostering growth in internationally competitive economic sectors and precincts; knowledge-intensive jobs; supports changing technologies and helps create a 30-minute city.
- is consistent with NSW Future Transport Strategy 2056 as it does not provide additional on-site parking and provides facilities to support active transport travel options, and therefore encourages the use of accessible public transport options.
- would provide direct investment in the region of approximately $116 million and would support 150 construction jobs and 14 new operational jobs.

4. Statutory Context

4.1 State significant development

The proposal is SSD under section 4.36 (development declared SSD) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as the development has a CIV in excess of $30 million and is for the purpose of a tertiary institution under clause 15 of Schedule 1 of the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP).

The Minister is the consent authority under section 4.5 of the EP&A Act.

In accordance with the then Minister for Planning's delegation to determine SSD applications, signed on 11 October 2017, the Executive Director, Priority Projects may determine this application as:

- the relevant Council has not made an objection (subject to the imposition of developer contributions or alternative public domain works).
- there are less than 25 public submissions in the nature of objection.
- a political disclosure statement has not been made.

4.2 Permissibility

The site is zoned SP2 Infrastructure (Educational Establishment) under SLEP 2012. The objectives of the zone are to provide for infrastructure and related uses. The proposed development is permitted with consent. It is also consistent with the objectives of the zone as it seeks to provide new educational establishment infrastructure that is compatible with and supported by the existing functions of the University of Sydney.

4.3 Mandatory matters for consideration

Environmental planning instruments

Under section 4.15 of the EP&A Act, the consent authority is required to take into consideration any environmental planning instrument (EPI) that is of relevance to the development the subject of the development application. Therefore, the assessment report must include a copy of, or reference to, the provisions of any EPIs that substantially govern the project and that have been taken into account in the assessment of the project.

The Department has undertaken a detailed assessment of these EPIs in **Appendix B** and is satisfied the application is consistent with the requirements of the EPIs.

Objects of the EP&A Act

The objects of the EP&A Act are the underpinning principles upon which the assessment is conducted. The statutory powers in the EP&A Act (such as the power to grant consent/ approval) are to be understood as powers to advance the objects of the legislation, and limits on those powers are set by reference to those objects. Therefore, in making an assessment, the objects should be considered to the extent they are relevant. A response to the Objects of the EP&A Act is provided at **Table 2**.

Table 2 | Response to the objects of section 1.3 of the EP&A Act

Objects of the EP&A Act		Consideration
(a)	to promote the social and economic welfare of the community and a better environment by the	The development would ensure the proper management and development of suitably zoned

	proper management, development and conservation of the State's natural and other resources	land for the social welfare of the community and State.
(b)	to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,	The proposal includes measures to deliver ecologically sustainable development as described below.
(c)	to promote the orderly and economic use and development of land,	The development would meet the objectives of the zone and deliver improved tertiary infrastructure for the State. The development would economically serve the community through new jobs and infrastructure investment.
(d)	to promote the delivery and maintenance of affordable housing,	The proposal achieves this aim through payment of developer contributions towards affordable housing.
(e)	to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,	The proposed development would not result in the loss of any threatened or vulnerable species, populations, communities or significant habitats.
(f)	to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	The proposed development is not anticipated to result in any impacts upon built and cultural heritage, including Aboriginal cultural heritage.
(g)	to promote good design and amenity of the built environment,	The proposal has evolved from a competitive design process and been reviewed by the GANSW throughout the assessment of the proposed development. The Department considers the application, with the implementation of the Department's recommendations (refer to **Section 6.1**) would provide for good design and amenity of the built environment.
(h)	to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,	The Department has considered the proposed development and has recommended a number of conditions of consent to ensure the construction and maintenance is undertaken in accordance with legislation, guidelines, policies and procedures (refer to **Appendix C**)
(i)	to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,	The Department publicly exhibited the proposal (**Section 5.1**), which included consultation with Council and other public authorities and consideration of their responses (**Sections 5.2, 5.4** and **6**).

(j)	to provide increased opportunity for community participation in environmental planning and assessment.	The Department publicly exhibited the proposal (as outlined in **Section 5.1**), which included notifying adjoining landowners, placing a notice in newspapers and displaying the proposal on the Department's website and at Council during the exhibition period.

Ecologically sustainable development

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

- the precautionary principle.
- inter-generational equity.
- conservation of biological diversity and ecological integrity.
- improved valuation, pricing and incentive mechanisms.

The development has been designed in accordance with the University of Sydney Sustainability Framework as described in the Applicant's EIS.

ESD initiatives and sustainability measures are proposed to be incorporated into the design including:

- installation of energy and water efficient fixtures and fittings.
- solar photovoltaic system to be located on the roof.
- roof mounted solar hot water system.
- water conservation measures, recycling and reuse.
- water sensitive urban design.
- support facilities for sustainable travel.

The development would not result in the loss of any threatened or vulnerable species, populations, communities or significant habitats. Ten trees are proposed for removal as part of the application. New landscaping forms part of the proposal and would offset the loss of vegetation across the site.

The Department has considered the proposed development in relation to the ESD principles. The precautionary and inter-generational equity principles have been applied in the decision-making process via a thorough and rigorous assessment of the environmental impacts of the proposed development. The proposed development is consistent with ESD principles as described in Section 5.7 of the Applicant's EIS, which has been prepared in accordance with the requirements of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). To ensure a minimum 4 Star Green Star Rating is achieved, a condition requiring the development be designed and certified to this standard has been recommended.

Overall, the proposal is consistent with ESD principles and the Department is satisfied the proposed sustainability initiatives will encourage ESD, in accordance with the objects of the EP&A Act.

Environmental Planning and Assessment Regulation 2000

Subject to any other references to compliance with the EP&A Regulation cited in this report, the requirements for Notification (Part 6, Division 6) and Fees (Part 15, Division 1AA) have been complied with.

Planning Secretary's Environmental Assessment Requirements

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

Section 4.15(1) matters for consideration

Table 3 identifies the matters for consideration under section 4.15 of the EP&A Act that apply to SSD in accordance with section 4.40 of the EP&A Act. The table represents a summary for which additional information and consideration is provided for in **Section 6** (Assessment) and relevant appendices or other sections of this report and EIS, referenced in the table.

Table 3 | Section 4.15(1) matters for consideration

Section 4.15(1) Evaluation	Consideration
(a)(i) any environmental planning instrument	Satisfactorily complies. The Department's consideration of the relevant EPIs is provided in **Appendix B** of this report.
(a)(ii) any proposed instrument	Satisfactorily complies. The Department's consideration of relevant draft EPIs is provided in **Appendix B** of this report.
(a)(iii) any development control plan (DCP)	Under clause 11 of the SRD SEPP, DCPs do not apply to SSD. Notwithstanding, consideration has been given to relevant DCPs at **Appendix B**.
(a)(iiia) any planning agreement	Not applicable.
(a)(iv) the regulations Refer Division 8 of the EP&A Regulation	The application satisfactorily meets the relevant requirements of the EP&A Regulation, including the procedures relating to applications (Part 6 of the EP&A Regulation), public participation procedures for SSD and Schedule 2 of the EP&A Regulation relating to EIS.
(b) the likely impacts of that development including environmental impacts on both the natural and built environments, and social and economic impacts in the locality	Appropriately mitigated or conditioned - refer to **Section 6** of this report.
(c) the suitability of the site for the development	The site is suitable for the development as discussed in **Sections 3** and **6** of this report.
(d) any submissions	Consideration has been given to the submissions received during the exhibition period. See **Sections 5** and **6** of this report.
(e) the public interest	Refer to **Section 6** of this report.
Biodiversity values impact assessment not required if: (a) On biodiversity certified land (b) Biobanking Statement exists	Not applicable.

5. Engagement

5.1 Department's engagement

In accordance with Schedule 1 of the EP&A Act, the Department publicly exhibited the application from 19 April until 18 May 2018 (30 days.) The application was exhibited at the Department and on its website, at Service NSW Centres and at the City of Sydney Council's office.

The Department placed a public exhibition notice in the Sydney Morning Herald and Daily Telegraph on 18 April 2018, and in the Inner West Courier on 17 April 2018. Adjoining landholders and relevant State and local government authorities were also notified in writing. The Department representatives visited the site to provide an informed assessment of the development.

The Department has considered the comments raised in the public authority and public submissions during the assessment of the application (**Section 6**) and/or by way of recommended conditions in the instrument of consent at **Appendix C**.

The Department received a total of 18 submissions, comprising nine submissions from public authorities and nine submissions from the general public (including six objections). Copies of the submissions may be viewed at **Appendix A**.

5.2 Public authority submissions

A summary of the issues raised in the public authority submissions is provided at **Table 4** below and copies of the submissions may be viewed at **Appendix A**.

Table 4 | Summary of public authority submissions to the EIS exhibition

City of Sydney Council (Council)
Council advised it objects to the proposal if a condition is not imposed requiring payment of contributions to Council under the City of Sydney Development Contributions Plan (2015). It also provided the following comments in relation to recommended design improvements: • the loading dock should be redesigned to improve safety and allow vehicles to enter and leave in a forward direction. • the proposed service infrastructure results in a poor back of house presentation to Shepherd Street and should be redesigned. • any original Brutalist style features in the retained section of the building should be preserved as part of the upgrade works. Council also requested additional information including: • detailed landscape plans and arboricultural assessment. • more detailed information on the proposed flood storage basin. • plans to show how roof level renewable energy system will be accommodated.

- information on pedestrian links, end of trip facilities and bicycle paths.

Council also recommended conditions be imposed to confirm recommendations of the acoustic and hazard reports and an archival record of the existing building be made prior to works commencing.

Transport for NSW (TfNSW)

TfNSW does not object to the proposal and provided the following comments:

- As there is a potential conflict with pedestrians and service vehicles reversing into the loading dock, a loading dock management plan should be prepared to demonstrate how conflicts would be managed, or the design should be modified to eliminate reversing vehicles. Further information is also needed on access from Shepherd Street and adequacy of the loading dock to accommodate future demand.
- A Construction Pedestrian and Traffic Management Plan (CPTMP) be prepared in consultation with TFNSW (Sydney Coordination Office) and RMS to address construction impacts, including cumulative impacts.

Office of Environment and Heritage (OEH)

OEH does not object to the proposal and made the following recommendations:

- the six Bangalow Palms proposed for removal be relocated on the site as they provide a food resource for the threatened Grey-headed Flying Fox.
- on-site replacement planting should include a diversity of local species indigenous to the locality.
- the Aboriginal cultural heritage impacts of the proposed new flood storage basin be considered.
- if possible, the new building should incorporate a green roof or cool roof.

The Heritage Division of OEH does not object to the proposal. OEH notes the site is not listed on the State Heritage Register, nor is it in the vicinity of a SHR listed item and therefore no additional information is required.

NSW Environment Protection Authority (EPA)

The EPA does not object to the proposal, and provided the following comments:

- noise:
  - operational noise impacts to off-campus receivers have not been properly considered.
  - waste and garbage collection hours should be restricted to minimise noise impacts.
  - construction hours should be amended to be consistent with the EPA's Interim Construction Noise Guideline and should include intra-day respite periods.
  - measures to reduce noise from idling/queing construction vehicles and reversing or movement alarms are recommended.
- contamination:
  - there is a need to:
  - undertake further investigations following demolition of existing structures, and to update the remedial action plan (RAP) accordingly.
  - develop an unexpected find protocol for asbestos, lead-based paint and other contaminants.

- undertake asbestos waste removal in accordance with guidelines and in consultation with Safework NSW and an Asbestos Works Management Plan.
- site auditor to review investigations, unexpected finds protocol, RAP and asbestos management plan.
- implement the recommendations of the RAP and provide a site audit statement and site audit following completion of remediation and validation.

- measures to reduce dust, sediment and waste from the site are recommended.
- the University radiation management plan and source security plan should be amended, based on changes to material being stored or used.
- any underground petroleum storage system for the back-up generator must be installed and operated in accordance with regulatory requirements.
- the proposed ESD initiatives being delivered as part of the proposal are acknowledged.

Sydney Water

Sydney Water initially objected to the proposal on the basis it would impact on Sydney Water's stormwater channel. It requested the development be revised to ensure there would be no buildings over or within 1 metre from the outside face of the channel.

Ausgrid

Ausgrid does not object to the proposal and recommended conditions to ensure appropriate capacity and connections to the Ausgrid network.

Sydney Airport

Sydney Airport does not object to the proposal and notes:

- approval is given to development to a maximum height of 66.2 metres AHD.
- separate approval is required for any temporary structures which exceed 45.72 metres in height.

Roads and Maritime Services (RMS)

RMS does not object to the application and has no comments.

5.3 Public submissions

Nine public submission were received, of which six objected to the proposal, two made comments and one supported the proposal. The objections to the proposal related to perceived amenity impacts on existing residents in Darlington (adjoining the university campus), with key concerns being:

- construction noise impacts to surrounding residents.
- increased vehicle movements, traffic and access issues.
- noise impacts of the loading dock and service vehicle traffic.
- streetscape impacts, particularly plant and gas storage adjacent to Shepherd Street.
- increased pedestrian movements with associated safety, noise and environmental impacts.
- amenity impacts, including overshadowing, overlooking, and light spill impacts for residential premises east of Shepherd Street.
- removal of existing trees.

- developer contributions should be paid and University facilities made available to the community.
- current problems with the Blackwattle Creek Lane entrance to the site.
- insufficient community consultation.

5.4 Response to Submissions and supplementary information

Following the exhibition of the application the Department placed copies of all submissions received on its website and requested the Applicant provide a response to the issues raised in the submissions.

On 28 September 2018 the Applicant provided a Response to Submissions (RtS) (**Appendix A**) on the issues raised during the exhibition of the proposal. The RtS included additional landscaping details, modifications to the location and design of plant on the Shepherd Street frontage, minor internal amendments to address the connection between the old and new buildings, minor changes to roof and materials as well as additional information in relation to access, noise, dangerous and hazardous goods, and Sydney Water infrastructure.

The RtS was made publicly available on the Department website and was referred to the relevant public authorities. An additional seven submissions were received from public authorities, including Council, TfNSW, OEH, EPA, RMS, Sydney Water, and UrbanGrowth NSW.

A summary of the issues raised in the submissions is provided at **Table 5** and copies of the submissions may be viewed at **Appendix A**.

Table 5 | Summary of public authority submissions to the RtS

Council
• advised that it maintains its objection to the proposal unless conditions of consent are imposed requiring payment of development contributions under the Redfern Waterloo Authority Contributions Plan and Affordable Housing Contributions Plan. • advised the updated landscaping, tree removal and tree replacement details were not sufficient to adequately assess the application. • provided updated recommended conditions should the application be recommended for approval.
TfNSW
• recommended a condition requiring a loading dock management plan to manage safety and conflicts on site and reiterated its earlier advice that a CPTMP should be prepared.
OEH
• advised its comments in relation to replanting of six Bangalow Palms have not been adequately addressed, and further advice from an Arborist should be provided in relation to the trees. • requested clarification as to whether the Aboriginal Cultural Heritage Management Plan included an Aboriginal Cultural Heritage Survey Assessment.
EPA
• advises its recommendations in relation to contamination should be included as conditions of consent, including an unexpected finds procedure.

- reiterated that it did not support the proposed extended Saturday construction hours.
- confirmed its earlier advice and recommended additional conditions in relation to radiation control.

Sydney Water

- advised the RtS has satisfied its requirements and that it no longer had concerns with the proposal.

RMS

- RMS confirmed it has no further comments.

UrbanGrowth NSW Development Corporation

- advised contributions should be paid in accordance with the requirements of the Redfern-Waterloo Authority Contributions Plan and Redfern-Waterloo Authority Affordable Housing Contributions Plan. A credit could be applied to the required contributions for public domain improvement works for works undertaken by the Applicant.

In response to submissions to the RtS and the Department's request for further information, the Applicant provided a Supplementary RtS (SRtS) which provided further clarifications and details in relation to landscaping and civil works, tree removal and replacement, noise impacts, hazards and dangerous goods, flooding and Aboriginal heritage. It also included the following further amendments:

- additional screening and landscaping to plant and service areas on Shepherd Street frontage.
- confirmation it was no longer seeking an exemption from payment of developer contributions and was agreeable to conditions recommended by UrbanGrowth NSW requiring payment.

Council subsequently withdrew its earlier objection on the basis that developer contributions will be paid. It confirmed that earlier recommended conditions in relation to flooding and transport are still requested and made a number of recommendations in relation to tree protection and retention, tree size, safety in landscaping detail and irrigation.

6. Assessment

The Department has considered the EIS, the issues raised in submissions and the Applicant's RtS in its assessment of the proposal. The Department considers the key issues associated with the proposal are:

- built form and urban design.
- traffic and access.
- noise impacts.
- amenity impacts

Each of these issues is discussed in the following sections of this report. Other issues were taken into consideration during the assessment of the application and are discussed at **Section 6.5**.

6.1 Built form and urban design

Key matters for consideration in terms of the proposed built form and urban design impacts include:

- the controls established by the Campus Improvement Program (CIP) Concept Approval.
- the achievement of design excellence and a high-quality built form.
- the streetscape impacts to Shepherd Street.
- and the landscape design.

Campus Improvement Program Controls

Built form across the University and the Engineering Precinct was carefully considered in the assessment of the CIP approval, which included approval of building envelopes and design principles for the site. The CIP approval requires future development to be undertaken generally in accordance with the approved CIP plans and documents, including the approved building envelopes and design principles.

The proposal is located within the approved building envelope, which has maximum building height of RL 57, with the exception of minor protrusions including architectural screening on the east and west elevations and exhaust stacks to a maximum height of RL 59.77 (see **Figure 17**). The Applicant argues the protrusions are acceptable and are still generally consistent with the approved plans, noting:

- the screening does not represent additional GFA and provides overall benefits such as improved environmental performance from sun shading and visual interest to the external elevations. It also does not result in any inconsistencies with the intent of the CIP Concept Approval.

- the exhaust stacks are a functional requirement of the building, would usually be excluded from considerations of building height under the standard definitions as set out in SLEP 2012, and result in no adverse impacts in terms of views, overshadowing or streetscape.

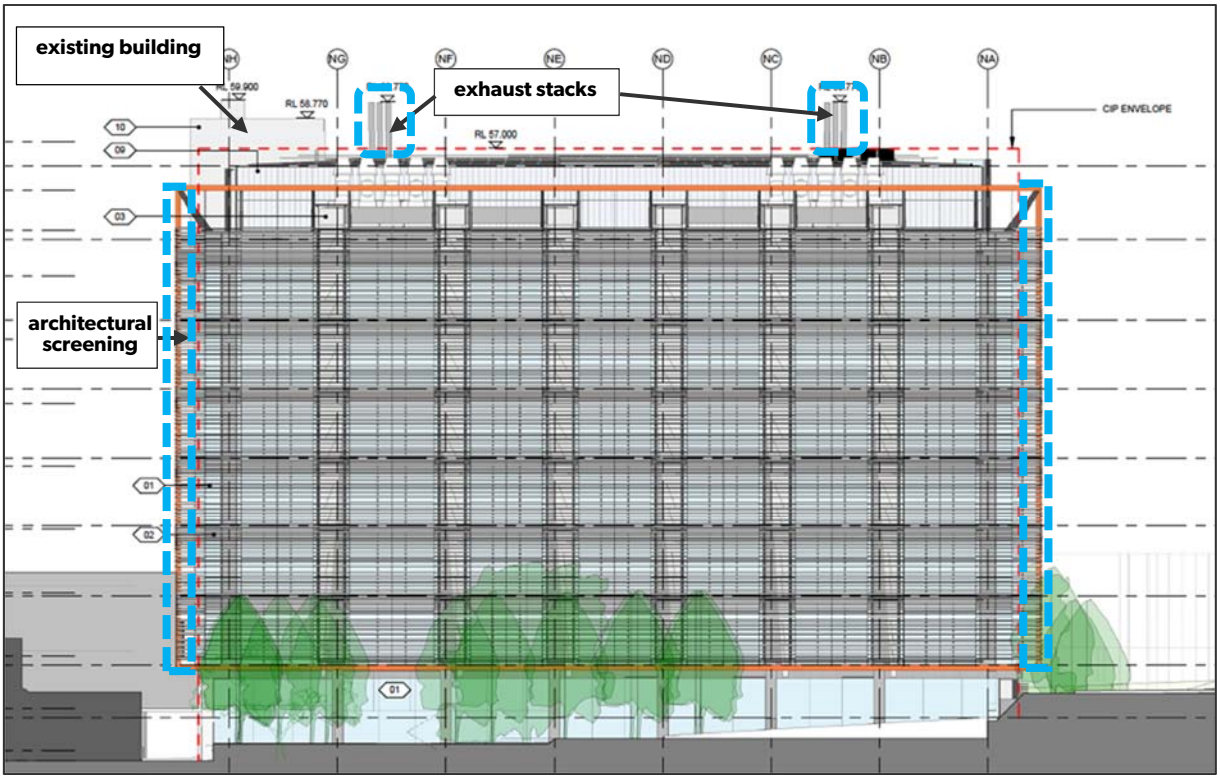

Figure 17 | Northern elevation of proposed building. CIP envelope shown dashed red, protrusions shown dashed blue (base image source: Applicant's supplementary RtS)

The Department considers that in the context of the entire building, the variation from the CIP building envelope by the external screening would not be discernible and would not materially add to the perceived bulk of the building. Further, the Department considers the screening provides an architectural element which adds visual interest and improves the building's appearance. In this regard, the proposal is considered to achieve the objectives of the CIP approval, despite the minor protrusion beyond the approved envelope.

The Department also considers the exhaust stacks, which are centrally located on the roof, well away from the façade, would not be dominant visible elements on the building and would meet the intention of condition B4 of the Concept Approval which requires rooftop plant to be setback at least three metres from the building parapet and designed to minimise its visibility.

The Department therefore considers the protrusions beyond the approved envelope would be minor and is satisfied the proposal would be generally in accordance with the approved CIP building envelope plans.

A maximum total 42,500sqm of additional GFA is permitted within the Engineering Precinct under the CIP Concept Approval. The proposal complies with this requirement, being the first building in the precinct and resulting in an additional GFA of 6,071sqm.

The CIP Concept Approval also sets out requirements to ensure design excellence is achieved and to ensure the built form is designed to minimise amenity impacts, maximise safety, respect heritage values, and incorporate appropriate landscaping.

The Department has carefully considered the proposed building against the requirements of the CIP Concept Approval. Design excellence, landscaping, and safety through design are discussed below. Amenity impacts, and heritage are considered in **Section 6.4**. The Department is satisfied the proposal is consistent with the built form and urban design requirements of the CIP Concept Approval.

Design Excellence

The CIP Concept Approval requires future development to demonstrate design excellence, having regard to whether:

- a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved.
- the form and external appearance will improve the quality and amenity of the public domain.
- the building incorporates sustainable design principles.
- a competitive design process has been held in accordance with SLEP 2012.

Clause 6.21 of SLEP 2012 requires the proposal to demonstrate design excellence to ensure that the highest standard of architectural, urban and landscape design is achieved. In addition to the proposed building's form, appearance and mass, consideration is also to be given to potential environmental amenity impacts (view loss, privacy and overshadowing) and impacts on the public domain. Clause 6.21 (5) also requires a competitive design process due to the height and value of the proposed building. However, clause 6.21 (6) provides that a competitive design process under subclause (5) is not required if a consent authority is satisfied that such a process would be unreasonable or unnecessary.

Within SLEP 2012, a "building demonstrating design excellence" is defined as a building where the design of the building is the winner of a competitive design process and the consent authority is satisfied that the building or alteration exhibits design excellence. In this regard, a "competitive design process" is defined as an architectural design competition, or the preparation of design alternatives on a competitive basis, carried out in accordance with the City of Sydney Competitive Design Policy.

A competitive design process was initiated by the Applicant in accordance with the requirements of SLEP 2012 and the City of Sydney Competitive Design Policy, which included an invited design competition and the assessment and review of the entries by a Design Excellence Review Committee (DERC) established by the University. The process was endorsed by the Government Architect NSW (GANSW) on 17 January 2018. During the competition, one of the three invited entrants withdrew. Nevertheless, the GANSW was satisfied a rigorous competitive design process was undertaken, consistent with the objectives of the CIP approval and the objectives of clause 6.21 of SLEP 2012.

The Cox Architecture scheme was selected as the preferred entry by the DERC to proceed to SSD application stage. The scheme was subsequently refined to address design excellence matters through ongoing design review by the DERC. The process was finalised in November 2017, when the DERC confirmed that it considered design excellence had been achieved. The Applicant has acknowledged and agreed that the DERC will continue to be involved with ongoing review through the design development phase to ensure confirmation of design excellence throughout the process.

The application was also referred to the GANSW for comment. GANSW advises it supports the proposal, subject to the ongoing involvement and endorsement of the DERC and the competition winning architects. GANSW also requested additional information and confirmation of materials, accessibility, use of the roof for open space, signage and Aboriginal cultural heritage in the design. Additional information was provided by the Applicant and GANSW subsequently advised that it was satisfied with the information and restated its support for the proposal.

Whilst not specifically commenting on the design excellence process itself, Council suggested that any original Brutalist style features of the retained electrical engineering building should be preserved as part of the upgrade works, and a recommended that the design of plant and infrastructure fronting Shepherd Street be improved. The Applicant amended the plans to address the streetscape concerns (discussed below) and confirmed the design

retains and reveals existing elements of the electrical engineering building that exemplify the Brutalist style, including repeated modular elements expressing functional zones, timber shutter concrete and brick infills.

The Department considers that architecturally, the new building and associated landscaping has been designed to respond to its site constraints, to the future development of the precinct as envisaged by the CIP Concept Approval and to interface with the surrounding area.

Overall the building presents as a contemporary educational facility, suitable in its location within the University and the Engineering Precinct.

The building massing and façade has been designed to distinguish but unite the new and existing structures, through recessing and separate façade treatments. The new element utilises a curtain wall system with modern external screening incorporating louvres to control glare but retain views. The elements of the existing building will be upgraded to meet current thermal performance regulations and repainted to complement the new building elements, but otherwise will retain much of its existing character.

Activation is promoted at the ground level through the landscape design and courtyard spaces, internal open plan learning and meeting spaces and a through-site link. The transparent building façade along the ground level on all elevations expresses the internal activities onto the improved surrounding public domain areas and invites pedestrian connections through the building.

The Department is satisfied that a high standard of architectural and landscape design has been incorporated into the proposal and that the external appearance of the building would improve the quality and amenity of the public domain, would not detract from established views and would not result in any unacceptable amenity impacts.

The proposal would also integrate ESD measures into its design and operation, such as environmentally responsive measures to improve the energy efficiency of the building's functions. Such measures include rooftop solar photovoltaic panels, solar hot water, passive design principles (i.e. double glazing along the building's upper façade to reduce heat loss and prevent heat gain), natural ventilation and the selection of energy efficient equipment and fixtures. The design also incorporates water conservation measures, including recycling and reuse as well as water sensitive urban design.

Having regard to the above and the further detailed analysis provided in subsequent sections of this report and Appendix B, the Department is satisfied that: the proposed building exhibits design excellence with a high architectural design standard achieved; the building and associated landscaping (discussed below) will improve the quality and amenity of the public domain within the university; the building incorporates design initiatives to ensure an acceptable level of sustainability is achieved; and an appropriate competitive design process has been held. The principles and intent of clause 6.21 of SLEP and the CIP Concept Approval have therefore been achieved. The Department has recommended conditions requiring the DERC review any significant design changes and that final design plans be submitted to DERC for endorsement.

Streetscape

The proposed new building is located centrally within the Darlington Campus surrounded by other structures and therefore will not result in significant streetscape impacts outside of the site. However, the proposal incorporates new gas storage tanks and a new loading dock access point on the Shepherd Street frontage. Concerns were raised by Council and surrounding residents that the proposed plant presents an unattractive 'back-of-house' appearance to the street with adverse impacts on the heritage character of the local area.

To address these concerns the Applicant redesigned the gas storage, to a consolidated location with improved screening including vertical aluminum louvre screen fencing and new landscaping (see **Figure 18**).

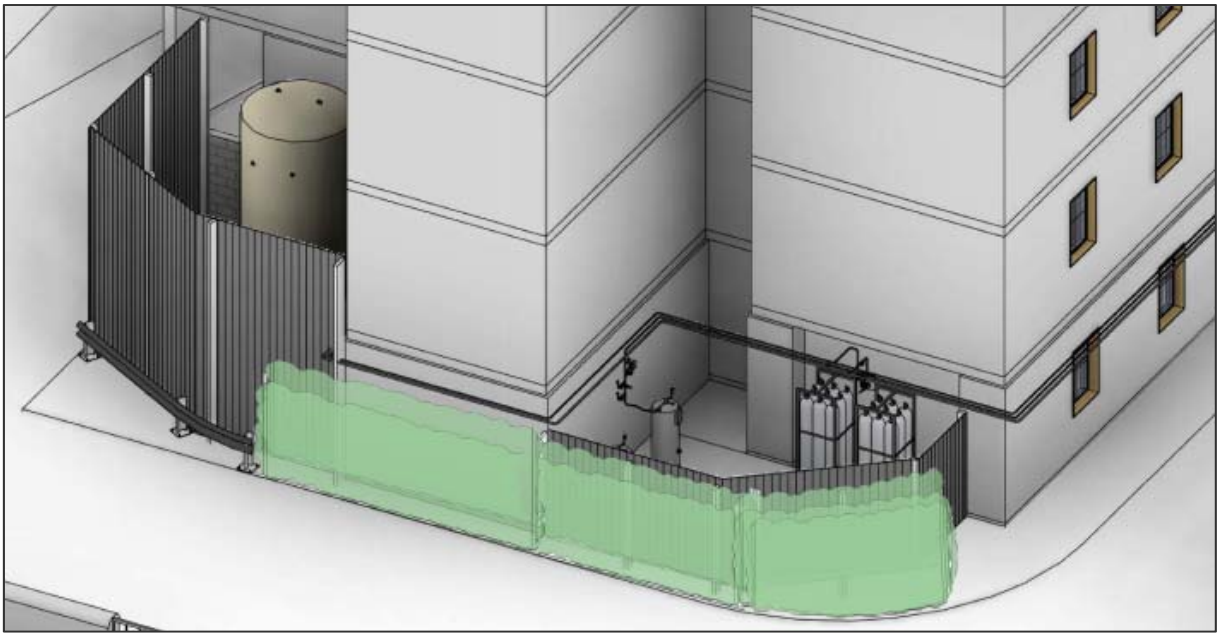

Figure 18 | Isometric drawing of plant area and screening (source: SRtS)

The Department considers the proposed screening will ensure the storage areas will not be highly discernible elements within the streetscape. In the context of the tall adjoining building, the screened enclosures will not be obtrusive elements and in conjunction with associated proposed landscaping and existing boundary plantings, which will assist to further screen this area, the Department is satisfied the proposed structures will not result in any adverse streetscape or heritage character impacts on the conservation area, located on the opposite side of Shepherd Street.

Landscaping Design and Tree Removal

Proposed landscaping for the site includes: the establishment of a new outdoor plaza area to the south of the proposed building in place of an existing carpark; improvement and embellishment of an existing open area fronting Blackwattle Lane to the north of the building; improvements to an existing small plaza to the east of the building; and improved setback landscaping to the west of the building fronting Maze Crescent (see **Figure 19**).

The landscape design for the building and surrounds has been developed having regard to the approved CIP concept landscape plan and aims to incorporate Aboriginal values, culture and art through the implementation of principles found in the University's 'Wingara Mura Strategy'. The landscape design has also been designed to integrate with Cadigal Green to the east and with the conceptual representation of the constellation of stars above Sydney.

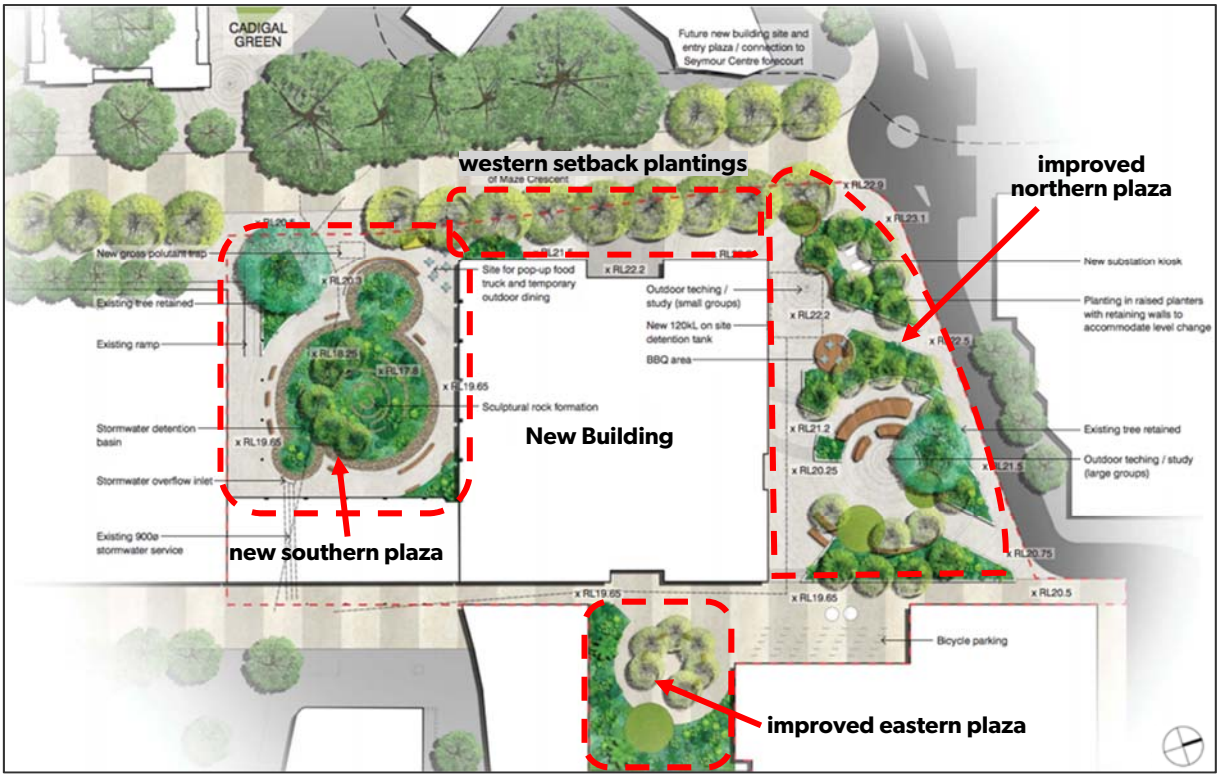

Figure 19 | Concept landscape design (source: EIS, Landscape Design Report)

In order to accommodate the new landscaping scheme, the proposal requires the removal of 43 existing trees, including a mixture of exotic and native species. As 33 of the trees have already been removed under a separate Part 5 REF approval for the demolition of the J03 northern wing, this application only seeks the removal of 10 trees, including six Bangalow Palms in the eastern plaza and four trees in the proposed driveway to the loading dock. The Bangalow Palms are considered to have moderate significance, while the other four trees have low retention value. Replacement planting of 44 new trees is proposed to offset tree removal associated with the development. Two existing trees will be retained and protected during the works.

GANSW raised no concerns with the proposed landscaping scheme.

OEH recommended the Bangalow Palms proposed for removal be relocated on the site if possible. It also recommended on-site replacement planting should include a diversity of local provenance species indigenous to the locality.

Council raised no objections to the proposed landscape design, however it requested additional information be provided, including details on level changes, illumination, irrigation and drainage, further details on materials, furniture and fixtures and integration with the building entrances. Details and assessment of proposed tree removal were also requested.

The Applicant provided additional details with the RtS and SRtS and responded to the comments raised by Council and OEH. It advised that although it is necessary to remove the six Bangalow Palms (as the machinery for transplanting cannot access the site of the Palms in the enclosed eastern plaza), it is proposed to provide replacement planting of eight Bangalow Palms upon completion of the works. Landscape Plans also demonstrated that 43 of the 44 replacement trees would be species local to the Sydney Region.

In response to review of the revised landscape design, Council advised pot sizes of trees should be increased to reduce the timeframe before the trees provide meaningful shade, canopy and amenity. It also recommended the

Bangalow Palms be retained and transplanted and suggested incorporation of conditions in relation to the arborist recommendations, provision of irrigation, compliance with safety and disability access requirements.

The Department has considered the proposed landscaping scheme. In addition to the overall quantity of open space being improved as a result of the conversion of the carpark area to a plaza, the Department considers that the quality of the open space areas will also be improved. The plazas will be generous and flexible outdoor areas which will allow for a variety of uses as meeting areas, outdoor learning spaces, places for study and reflection, as well as making a significant contribution to the landscape character and appearance of the Engineering Precinct. The design of the spaces, incorporating gently curved forms, provide a unifying element for the open space areas, relate to the design of Cadigal Green, and provide a contrast to the rectilinear forms of surrounding buildings.

The proposed landscaping is also generally consistent with the approved CIP, as:

- the proposal would not result in removal of any exceptional trees as identified in the Grounds Conservation Management Plan (GCMP).
- landscaping works would improve pedestrian amenity and pedestrian connections through these spaces.
- the western (Maze Crescent) frontage would incorporate a distinctive row of trees to reinforce the identified importance of the pedestrian route along Maze Crescent.
- the safety of the public domain areas will be significantly improved through the incorporation of principles of CPTED into the building design and landscaping. In particular, improved natural surveillance of the surrounding spaces due to the proposed glazed curtain wall façade system and design of the ground floor to encourage activities along building edges and common spaces that promote causal surveillance and a sense of safety.

In terms of tree removal, the Department considers that in the long term, the proposed plantings will offset the trees to be removed and the quality of plantings will be improved, as exotic species will be replaced with more appropriate indigenous species. The replacement of six removed Bangalow Palms with eight new Bangalow Palms is also considered appropriate, given the difficulty of transplanting the existing palms due to their location.

However, the Department agrees with Council that the size of proposed trees at initial planting (100 to 200 litre pot size) is too small and larger trees would ensure quicker establishment of a canopy to provide meaningful shade and amenity. The Department therefore recommends a condition requiring new trees have a pot size of at least 400 litres at installation. Other conditions have also been recommended to ensure compliance with arborist recommendations, safety and access standards, and provision of irrigation.

Subject to these conditions, the Department is satisfied the proposed landscaping and public domain design would provide a high-quality landscape setting for the proposed building and would make a positive contribution to the character of the Campus.

6.2 Traffic and Access Impacts

Traffic and access impacts relate to:

- construction traffic impacts.
- loading dock and associated service access.
- proposed removal of 30 on-site parking spaces.
- provision of bicycle parking and facilities.
- impacts to pedestrian access.

Each of these issues is considered below.

Construction traffic

The Applicant's draft construction management plan identifies that the primary construction vehicle route and access point will be via Maze Crescent from Butlin Avenue/City Road. To reduce congestion further a one way road approach may be considered entering the campus from Butlin Avenue and exiting on Shepherd Street. Access routes and vehicle number will vary depending on the stage of construction.

TfNSW advised that a CPTMP should be developed in consultation with the Sydney Coordination Office and RMS, to ensure that construction traffic impacts are minimised and appropriately managed, including any cumulative construction impacts and access arrangements.

The Department has recommended conditions of consent requiring the Applicant to prepare and implement a CPTMP, in consultation with RMS and TfNSW (Sydney Coordination Office). Subject to approval and implementation of the CPTMP, the Department is satisfied that construction traffic impacts will be appropriately managed.

Loading dock and on-site vehicle movements

The application includes a new loading dock and associated new driveway between the Link Building (J13) and Mechanical Engineering Building (J07) accessed via a service road fronting Shepherd Street. Vehicle movements associated with the loading dock would average 13 deliveries per day and on a weekly basis would include: 3 – 4 deliveries by Heavy Rigid Vehicles per week; 10 – 15 deliveries by Medium Rigid Vehicles per week; and 50 deliveries by light vehicles (cars and vans) per week.

Vehicle access to the loading dock originally included access from Shepherd Street, but following concerns raised in public and agency submissions, access routes were amended to clarify that access to and from the site would be primarily via the Butlin Avenue/Maze Crescent intersection, with all heavy and medium rigid vehicles required to adopt this route (see **Figure 20**).

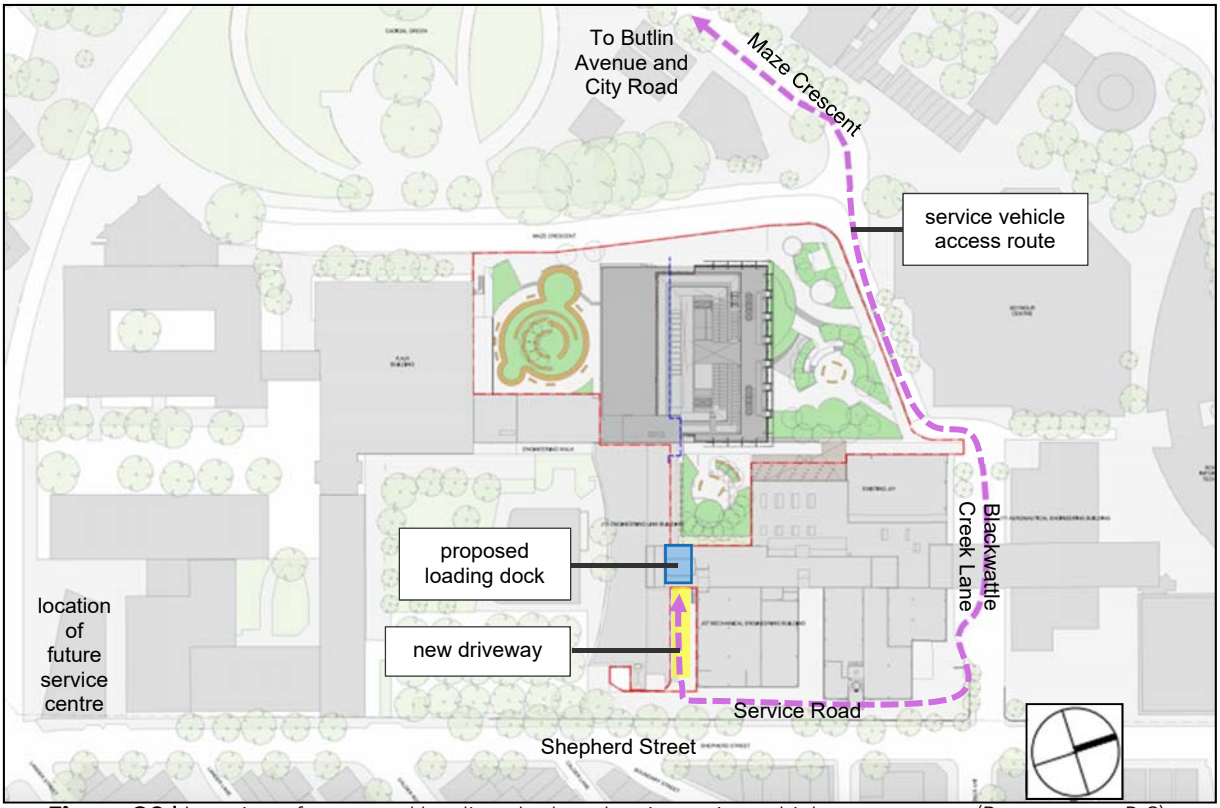

Figure 20 | Location of proposed loading dock and main service vehicle access route (Base source: RtS)

Council and TfNSW identified safety concerns as a result of trucks reversing into the loading dock, and potential for conflict with pedestrians.

The Applicant advised that the service road is an existing back-of-house service area that is used for deliveries to/from the adjoining buildings, where trucks also reverse in. There is no authorised pedestrian access to adjacent buildings provided in this area and it is proposed to erect pedestrian prohibition signs at each end of the service road, reinforced by control points and qualified loading dock personnel to minimise unauthorised pedestrian access in this area. The Applicant also advised that vehicle reverse manoeuvres will be managed by qualified loading dock personnel.

On this basis, TfNSW did not raise any concerns with the application, subject to preparation of a loading and servicing management plan to ensure conflicts would be managed. A condition has been recommended requiring preparation and implementation of a loading management plan, in consultation with TfNSW. Subject to the implementation of this condition, the Department is satisfied the loading arrangements would not result in unacceptable safety impacts.

Concerns raised in public submissions relate to traffic impacts in the residential areas, particularly from large service vehicles accessing the site from Shepherd Street, noting that Shepherd Street is a narrow residential street, designed for light traffic where vehicles over three tonnes are prohibited. As described above, the Applicant subsequently advised access would be primarily via City Road, Butlin Avenue, Maze Crescent, with all heavy and medium rigid vehicles required to adopt this route.

The Department considers the revised service vehicle route would ensure the proposal would not result in unacceptable traffic impacts to Shepherd Street and the adjoining residential area. However, the Department raised two concerns with the route:

- the Access Strategy approved by the CIP aims to reduce service vehicle movements through the campus. To achieve this, four new transfer stations were proposed adjacent to the site boundaries, which would be responsible for all loading and unloading, with distribution of goods from the service centres to individual buildings by small electric vehicles. The proposed vehicle access route to the loading dock would require vehicles to travel extensively through the campus, contrary to the intentions of the CIP Access Strategy.
- swept paths for heavy and medium rigid vehicles identify a number of minor conflicts with existing structures along the proposed access routes.

In response to these concerns, the Applicant advised the proposed transfer station for the Engineering Precinct has not yet been developed and will form part of a future application related to the redevelopment of the Chemical Engineering Building. Further, in this case a separate loading dock is required for safety reasons to allow direct delivery of dangerous and hazardous materials to the building rather than double handling via the future service centre. Conflicts for vehicle swept paths will be managed by requiring delivery vehicles to meet identified height restrictions, making minor adjustments to road infrastructure and by corrective manoeuvres overseen by loading dock personnel.

The Department notes the CIP Access Strategy makes allowances for service vehicles to drive through the campus where direct delivery to buildings is required, such as delivery of sensitive materials which cannot be accommodated at the transfer stations. The Department also considers that subject to the measures identified by the Applicant, vehicle swept path conflicts can be adequately managed. However, the Department also considers that service vehicle movements through the site should be limited as much as possible to improve pedestrian amenity and safety throughout the campus. The Department therefore recommends inclusion of a condition which permits service deliveries in accordance with the proposed vehicle access routes until such time as the Engineering Precinct transfer station is constructed. Following construction of the transfer station, all

deliveries would be required to be made to the transfer station, unless direct delivery to the building is required for safety reasons. The recommended conditions also prohibit heavy and medium service vehicles from accessing the subject site from Shepherd Street.

Subject to these conditions, the Department is satisfied the proposal would not result in unacceptable service vehicle traffic impacts outside the site and would minimise conflicts and the potential for safety and amenity impacts inside the site as far as possible and in line with available facilities.

Car parking

The proposal results in the removal of 30 existing on-site car parking spaces and conversion of the carpark to an area of passive open space. The removal of the parking spaces is not considered to result in any adverse consequences, noting:

- the University is well serviced by public transport.
- reduced on-site parking is consistent with strategic planning objectives and the CIP transport strategy seeking to reduce reliance on private vehicles and maximise walking, cycling and use of public transport.
- the proposed removal of parking is consistent with the parking strategy of the CIP approval which seeks to remove small on-site parking areas (and consolidate parking to new future basement parking stations to be located at the periphery of the campuses).
- ample car parking is still available for those who require it, with more than 2000 car parking spaces within the University, including a number of accessible spaces in close proximity to the site.
- the proposal would not materially effect on-street parking surrounding the site which is subject to regulatory parking restrictions.

Traffic generation

Concerns were raised in public submissions that the proposal would result in increased vehicle movements with associated safety and traffic impacts. However, as the proposal results in removal of on-site parking spaces there would be in a decrease in vehicle movements associated with the building. Whilst a new loading dock is proposed, the number of traffic movement associated with the loading dock (average 13 deliveries per day) is less than the traffic movements associated with the 30 car parking spaces being removed, and the majority of the service vehicle movements would not affect the adjoining residential area, as discussed above.

Bicycle parking and end-of-trip facilities

Condition B18 of the CIP Concept Approval requires that bicycle parking and associated end-of-trip facilities be provided in accordance with relevant policies and controls. Sydney DCP 2012 requires bicycle parking to be provided at the rate of one space per ten staff or students.

Based on a final building population of 1104 (966 students and 138 staff), there would be a requirement for 111 bicycle spaces (97 student and 14 staff spaces). However, based only the population uplift created by the proposed development (14 staff and 94 students), there would only be a requirement for 11 additional bicycle spaces and associated facilities.

The Applicant advises that the proposal would include 48 new bicycle parking spaces, as well as end-of-trip facilities (two showers and 48 lockers) in addition to 22 existing spaces, resulting on a total of 70 spaces.

Council raised concern that the bicycle parking and facilities are not shown on the plans and therefore requested a condition be imposed requiring facilities in accordance with its DCP.

The Department considers that as the proposal is for alterations and additions to an existing building, rather than a new building, it is reasonable to apply the bicycle parking requirements only to the new elements of the

development. The provision of 48 additional spaces would more than adequately cater for the population uplift created by the proposal and would therefore significantly improve access to bicycle parking and facilities for users of the building. The Department is therefore satisfied adequate bicycle parking and facilities would be provided to cater for demand and to encourage active transport to the site, consistent with the intention of the CIP approval.

To ensure end-of-trip facilities such as lockers are provided in accordance with DCP requirements, a condition is recommended requiring details in accordance with the DCP to be included on detailed construction plans submitted to the Certifying Authority prior to works commencing.

Pedestrian and cyclist access

Council requested further information on pedestrian links and bicycle paths to the site. Public submissions requested Blackwattle Creek Lane be upgraded to improve amenity and safety for pedestrians and cyclists. Concerns were also raised in relation to increased pedestrian foot traffic in the area, with associated safety and amenity impacts.

The proposal retains and improves pedestrian links through the building and adjoining open space plazas. However, other improvements to bicycle and pedestrian links in the vicinity of the site do not form part of this application. Proposed improvements are outlined in the CIP Access Strategy, which includes future shared zones and improved links along Maze Crescent and Blackwattle Creek Lane adjacent to the site. As the current application does not extend to the roadways, and future upgrading of Maze Crescent and Blackwattle Creek Lane will be carried out under separate approvals, as required in the future.

However, the Applicant did provide indicative plans for the potential future upgrading of Blackwattle Creek Lane and the footpath on Shepherd Street adjacent to the site entrance with an offer to carry out these works in lieu of payment of developer contributions. The indicative plans include new paving, tree planting, lighting and seating to create a shared zone with pedestrian priority that would significantly improve amenity and safety for pedestrians and cyclists (see **Figure 21**).

Figure 21: Visual perspective of proposed upgrade works to Blackwattle Creek Lane as viewed from Shepherd Street entrance (Base source: RtS)

The road upgrades suggested by the Applicant would be of public benefit and would significantly improve the quality of pedestrian and cycle connections adjacent to the site. UrbanGrowth NSW have suggested inclusion of a condition which would allow for public domain works to offset developer contributions. Contributions are discussed below in **Section 6.4** and a condition has been recommended consistent with advice from UrbanGrowth NSW. A condition has also been recommended to clarify that any such road upgrade works do not form part of this approval (they are not sought by the Applicant and sufficient detail has not been provided for an assessment) and separate approval/s as necessary must be obtained for those works.

The Department is satisfied the proposal incorporates appropriate pedestrian connections through the site. Improved pedestrian and cycle connections adjacent to the site can be provided, either in conjunction with future applications in the Precinct, or, if agreed with UrbanGrowth NSW and Council, to offset developer contributions associated with the current development.

6.3 Noise Impacts

A revised Noise and Vibration Assessment (NVA) was submitted with the SRtS that assessed the potential construction and operational noise and vibration impacts on nearby sensitive land receivers, including residential premises, existing University educational establishments, the Seymour Centre and Cadigal Green. The NVA covers all stages of the development, including the demolition works that were approved separately under an REF. The NVA identified four residential noise catchment areas (NCA 1 – 4) around the site (see **Figure 22**). The revised NVA was submitted to address the matters raised by the EPA and the Department, including undertaking further background noise monitoring at off-campus sensitive receivers in accordance with the *NSW Industrial Noise Policy* (INP) and further explanation of methodology used for predicting noise levels during construction.

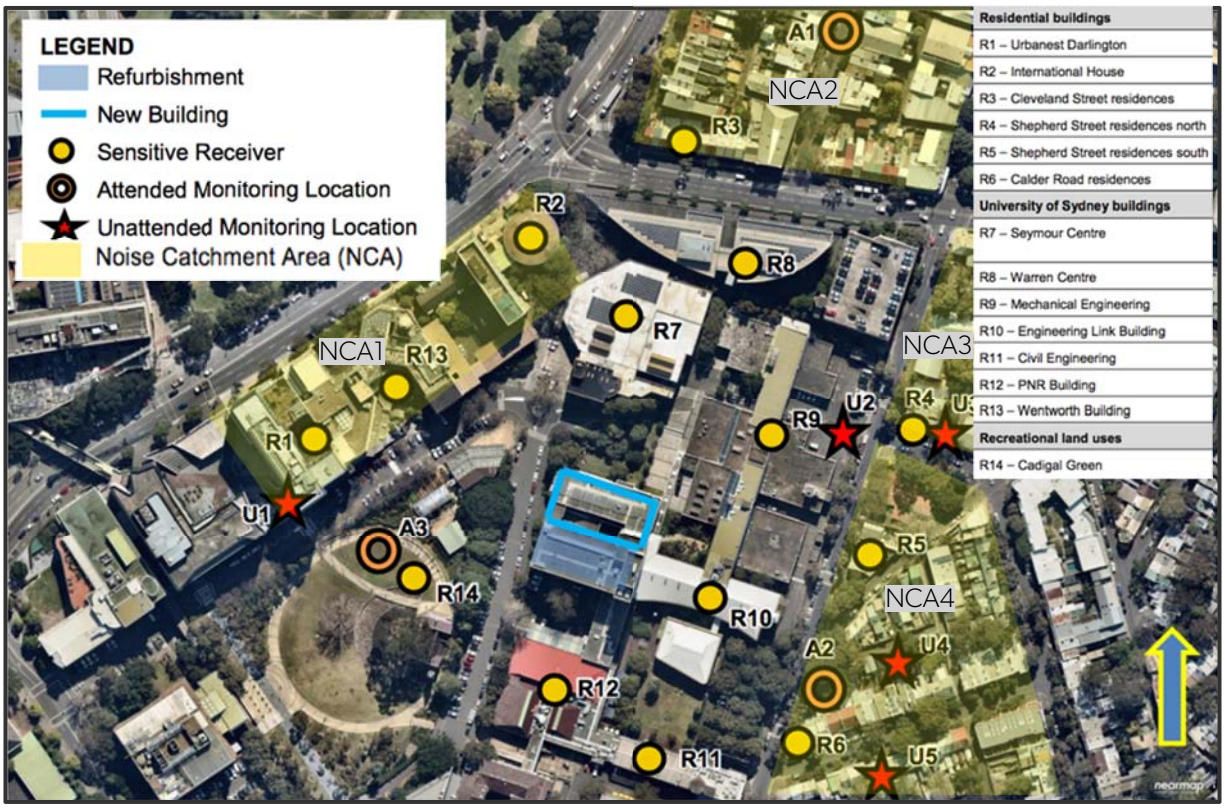

Figure 22: Monitoring locations and sensitive receivers (base source: NVA)

Construction Impacts

The EPA's *Interim Construction Noise Guideline* (ICNG) outlines the process of establishing construction noise management levels for surrounding sensitive receivers. Based on the established background noise levels and

ICNG recommended day time noise management levels (NMLs), construction noise and vibration management levels for the residential colleges, dwelling houses, educational land uses and recreation areas have been established for construction activities, which are outlined in **Table 6**.

Table 6 | Summary Construction Noise Management Levels

Sensitive Receiver	NMLs (dB(A) L_{eq}) Day (7am – 6pm Mon - Fri)
NCA 1: Student Accommodation (Urbanest Darlington and International House)	64 (RBL + 10 dB) (external noise level)
NCA 2 and NCA 3: Residential dwellings north of Ivy Street	58 (external noise level)
NCA 4: Residential dwellings south of Ivy Street	53 (external noise level)
Sydney University classrooms and Seymour Centre	70 (external noise level)
Cadigal Green	60

The NVA identified construction vibration was expected to comply with criteria for the surrounding sensitive receivers, but that noise generated from all works except internal works is expected to result in exceedance of the NMLs at some sensitive receivers if no mitigation measures are implemented. Residential premises affected include Shepherd Street dwellings south of Ivy Street and student accommodation to the north-west of the site with predicted maximum construction noise levels of 72 dB(A) during the demolition phase. Construction works (excluding internal works) would also exceed the NML at the Seymour Centre and in classrooms adjoining the proposed new building. The NVA also identifies that in addition to standard construction hours as per the ICNG (i.e. 8am to 1pm), the Applicant proposes to carry out extended construction on Saturdays from 7.30am to 8am and from 1pm to 3.30pm to expedite the overall construction time and that NMLs would also be exceeded during these extended hours.

To manage noise impacts, the NVA recommends a number of mitigation measures, including:

- preparation of a Construction Noise and Vibration Management Plan (CNVMP), including implementation of noise complaint handling procedures.
- consultation with nearby sensitive receivers.
- managing truck access and movements and associated activities.
- appropriate plant and equipment selection and maintenance.
- avoiding high noise generating activities in the extended Saturday construction hours.

The EPA advised that Saturday construction hours should be limited to 8am to 1pm in accordance with the ICNG. It also recommended the Applicant schedule intra-day respite periods for construction activities identified as annoying to sensitive receivers, ensure construction related vehicles and associated activities do not arrive on-site prior to the designated construction hours and where possible, incorporate less intrusive reversing alarms on construction vehicles.

To ensure compliance with the ICNG is achieved and maintained throughout the construction, and given the proximity of sensitive receivers, the Department recommends conditions requiring the Applicant to implement the mitigation measures outlined in the NVP, including preparation and implementation of a CNVMP which is to:

- be prepared in consultation with the affected sensitive receivers.
- identify appropriate measures to mitigate the noise impact.
- monitor noise and vibration impacts.
- establish a complaints management system.

The Department is satisfied that, subject to the preparation and implementation of a CNVMP that has been prepared in consultation with the closest sensitive receivers, construction noise and vibration impacts can be satisfactorily managed and mitigated to ensure the amenity and operations of surrounding sensitive receivers is not adversely impacted upon. The CNVMP would ensure that potential impacts on human comfort and buildings and structures are minimised. On this basis, the Department is satisfied that the proposed construction hours, including Saturday hours of 7.30am to 3.30pm would not result in unacceptable impacts to adjoining premises, noting the extended hours would enable the overall construction timeframe and its associated noise impacts, to be expedited.

Operational Impacts

Operational noise generated from the proposal would be associated with the operation of mechanical plant and vehicle deliveries. Based on the measured background noise levels and the NSW Industrial Noise Policy (INP), project specific noise levels for the proposal have been established, which are the most stringent of the intrusive and amenity criteria for adjoining sensitive receivers in accordance with the INP. The project specific noise levels for the residential receivers are presented in **Table 7**.

Table 7 | Project Specific Noise Criteria for the residential receivers

INP noise emission criteria, dB(A) Leq,15min			
Location	Day 7am - 6pm	Evening 6pm - 10pm	Night 10pm - 7am
NCA1:Urbanest Darlington, International House	52	42	42
NCA2 and NCA3: Cleveland Street and Shepherd Street north	53	40	40
NCA4: Shepherd Street south and Calder Road	48	37	35

The NVA advises that based on the currently selected plant and expected traffic, the following mitigation measures are recommended:

- the chillers should be located within an enclosed plantroom with solid roof.
- the generator should be installed in an acoustic enclosure.
- fans should be fitted with acoustic attenuators.
- loading dock activities, gas deliveries and grounds maintenance should be restricted to 7.30am to 6pm Monday to Friday.

With the incorporation of these measures, the NVP concludes operational noise would achieve the INP criterion but notes noise mitigation techniques may need to be reassessed as the rooftop plant design and selection progresses.

Conditions are recommended requiring the Applicant to identify the required mitigation measures to attenuate the mechanical plant noise prior to commencement of works, to ensure compliance with the project specific noise levels, including those recommended above. The Department has also recommended conditions requiring the Applicant undertake a noise monitoring program of the mechanical plant within three months of occupation of the building to verify that the measured noise levels of the mechanical plant do not exceed the established noise criteria and loading dock activities are restricted to the abovementioned hours.

The Department is satisfied that, subject to recommended conditions, the potential noise generated from operation of the proposal can be managed to comply with the relevant criteria.

6.4 Amenity Impacts

Concerns were raised in public submissions that the proposal would result in overshadowing, overlooking and light spill impacts to neighbours east of Shepherd Street.

As the proposed building would be located more than 100m from the nearest residential properties on Shepherd Street, and separated from those properties by existing university buildings, the Department is satisfied the proposed new building would not result in any unacceptable privacy, overlooking or light spill impacts. Shadow diagrams submitted with the application demonstrate that additional shadows would be limited to the rear of four properties (48-54 Calder Road) for one hour (2pm to 3pm) in mid-winter. At all other times of the day and at all other times of the year, the proposal would not result in any overshadowing of residential premises.

The Department is satisfied the extent of the overshadowing is minor, would be consistent with the extent of shadowing expected by the approved building envelopes under the Concept Approval, and would not materially affect the amenity of adjoining neighbours. A condition is recommended to ensure that lighting associated with the proposal does not result in unacceptable light spill impacts on residential properties.

6.5 Other Issues

The Department's consideration of other issues is provided at **Table 8**.

Table 8 | Department's assessment of other issues

Issue	Findings	Recommended Condition
Developer Contributions	• The Redfern-Waterloo Authority Contributions Plan 2006 (RWACP) and the Redfern-Waterloo Authority Affordable Housing Contributions Plan 2006 (AHCP), administered by UrbanGrowth NSW, allow the Minister to impose conditions of consent on developments within the Redfern-Waterloo Operational Area requiring payment of contributions under sections 7.12 and 7.33 of the EP&A Act, respectively. Funds collected are allocated toward public facilities and provision of affordable housing within the Redfern-Waterloo area. • Based on a development cost of $128,967,832 and additional floor space of 6,072 sqm, contributions payable under the RWACP and AHCP would be $2,579,357 and $527,535, respectively. • The Applicant originally sought an exemption to the payment of contributions under the RWACP and AHCP on the basis that it is a Crown Development and provides a public service and public infrastructure. It also undertook to carry out some additional works in lieu of development contributions: o upgrade to the footpath on the western side of Shepherd Street adjacent to the University entrance at Blackwattle Creek Lane.	The Department has recommended conditions requiring payment of contributions or (in the case of infrastructure contributions), public domain works to be agreed with UrbanGrowth NSW and Council and endorsed by the Planning Secretary.

- upgrade to Blackwattle Creek Lane and pathway within the site to improve pedestrian access, safety and amenity.

- Council initially advised that it considers that the City of Sydney Development Contributions Plan 2015 applies to the site, rather than the RWACP and AHCP. It also advised that regardless of which contributions plan/s apply, development contributions should be levied in accordance with the relevant plans given the development would increase demand for local services and infrastructure.
- The Department subsequently confirmed that the RWACP and AHCP are the applicable development contributions plans for all SSD proposals within the Redfern-Waterloo Operational Area. This was explained to Council and in its RtS comments, Council stated that the Applicant should pay contributions in accordance with the RWACP and AHCP.
- UrbanGrowth NSW has replaced the Redfern-Waterloo Authority as the current administrator of both the RWACP and AHCP. It has advised that development contributions should be paid in accordance with both the RWACP and AHCP, but also suggested inclusion of a condition which would allow the Applicant to undertake public domain works in lieu of monetary contributions under the RWACP.
- The Applicant subsequently advised that it agreed to conditions requiring payment of the contributions with a credit for public domain works as suggested by UrbanGrowth NSW.
- The Applicant advised that it would meet with Council and UrbanGrowth NSW to discuss appropriate public and campus domain improvements in and around the Darlington and Camperdown precincts, and which could be validated to offset direct monetary contributions. Council responded that it was satisfied with these arrangements and withdrew its objection to the proposal.
- The Department considers that subject to the works being agreed to by Council and UrbanGrowth NSW, the development will result in appropriate contributions to both affordable housing provision, as well as local infrastructure, either through monetary contributions or direct provision of public domain works.

European Heritage and Archaeology	• The site not a heritage item, nor is it within a heritage conservation area under SLEP 2012. However, the CIP requires the application be accompanied by a Heritage Impact Statement (HIS) that outlines how the recommendations of The University of Sydney Grounds Conservation Management Plan (GCMP), are incorporated into the proposal. • A HIS has been prepared and submitted with the application and demonstrates the proposal will not result in any adverse heritage impacts and would be consistent with the GCMP, noting the majority of the existing building (assessed as having 'moderate' significance under the GCMP) would be retained. • The Applicant also submitted an archaeological assessment which considers potential for archaeology on the site. The report concludes that the site is of low to nil archaeological potential. • The Heritage Division of OEH raised no concerns with the proposed development. • Council recommended that a photographic archival record of the existing building be made prior to commencement of works and the Applicant subsequently submitted an archival photographic record as part of the RtS. • The Department is satisfied that heritage impacts have been satisfactorily considered and the proposal will be consistent with the GCMP. However, the Department considers an unexpected find protocol should be prepared and should deposits or relics be found on site works should cease and the Applicant should consult with OEH.	The Department has recommended conditions requiring a protocol for identifying and dealing with unexpected finds, and works are to stop if any objects are found and appropriate strategies developed to manage the unexpected find.
Aboriginal Cultural Heritage	• OEH recommended consideration be given to the impacts of the excavation for the new flood storage basin to Aboriginal Cultural Heritage. • Aboriginal Cultural Heritage was considered as part of the assessment of the CIP and the Engineering Precinct was assessed as being "heavily disturbed" and having "low" archaeological potential for Aboriginal heritage. • The Proponent also advised that University's Aboriginal Cultural Heritage Management Plan (August 2018) found that the subject site has low-nil potential for Aboriginal Objects and no further archaeological mitigation measures are required, other than an unexpected finds protocol.	The Department has recommended conditions requiring a protocol for identifying and dealing with unexpected Aboriginal Cultural Heritage finds and works are to stop if any objects are found and appropriate strategies developed to manage the unexpected find.

	• The Department considers that subject to appropriate procedures for unexpected finds on the site, the proposal would not result in unacceptable archaeological Aboriginal Cultural Heritage impacts.	
Contamination	• The application was supported by a detailed site investigation, which comprised of a review of the site history and laboratory analysis of soil samples collected from nine boreholes. The investigation concluded that contaminant concentration levels are below the adopted health and ecological investigation and screening levels, but noted that there are data gaps beneath the existing building and carpark footprints and groundwater testing was not carried out. As such, further testing will be required following demolition on the site. A Remediation Action Plan (RAP) was prepared to ensure any contamination subsequently discovered can be appropriately assessed and dealt with. • The EPA raised no objections on contamination grounds, though recommended: o an unexpected find protocol for site contamination be prepared and any finds reported in accordance with relevant contamination guidelines. o the Applicant be required to satisfy the requirements of the *Protection of the Environment Operations (Waste) Regulation* 2014 and consult with Safework NSW concerning the handling of any asbestos waste. o further site investigations be carried out after structures have been demolished and the RAP be updated to address any identified contamination and then implemented. o the Applicant is to prepare an Asbestos Works Management Plan (AWMP). o a site auditor is to review the adequacy of the additional investigations, RAP and AWMP, unexpected finds protocol and provide a site audit statement and site audit report on completion of remediation and validation. • The Department is satisfied that subject to the imposition of conditions as recommended by the EPA, the site will remain, or can be made suitable for the continued use and intended purpose and will not result in unacceptable contamination risks.	The Department has recommended conditions suggested by the EPA relating to unexpected finds protocol, asbestos management, additional contamination and groundwater investigations, remediation, validation and site auditor requirements.

Hazards and Risk	• The proposed development includes storage and handling of gas, chemicals and flammable liquids. It is potentially hazardous under *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP 33), given that the storage of flammable gases (pressurised) (Dangerous Goods (DG) Class 2.1) and toxic gases (DG Class 3.1) would exceed the relevant threshold quantities in the Department's Applying SEPP 33 guideline. As such, a Preliminary Hazard Analysis (PHA) was submitted as part of the application. The PHA was revised and additional information was provided as part of the SRtS to respond to concerns raised by the Department's hazards specialist. • The PHA identified the hazards associated with the development along with the relevant safeguards to address those hazards. • Given that the total storage of Dangerous Goods within the SSD is comparatively lower than a typical potential hazardous development generally considered under SEPP 33, the Department considers that the qualitative approach adopted in the PHA to be appropriate and in accordance with the Department's *Multi-level Risk Assessment*. • The Department considers the PHA, along with additional information from the SRTS, sufficiently elaborated that the design of the DG facilities and the storage and handling of DG can comply with all relevant Australian Standards and codes of practice. • As such, the PHA with SRTS was performed in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'* (HIPAP 6) guideline and demonstrated that the SSD can comply with the qualitative risk criteria in the Department's *Hazardous Industry Planning Advisory Paper No. 4, 'Risk Criteria for Land Use Safety Planning'* (HIPAP 4). • However, to ensure the continual safe operation of the development, a number of conditions have been recommended consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 12, 'Hazards-related Conditions of Consent'*. These require ongoing storage to comply with relevant standards, the development and implementation of an	Conditions have been recommended in relation to dangerous goods storage, management, and safety.

	emergency plan and safety management system, and approval of a pre-startup compliance report. • Subject to these conditions, the Department is satisfied the proposal would not result in unacceptable off-site risks.	
Radiation Management	• The EPA advised that the use of radioactive materials should be managed in accordance with relevant NSW legislation, and there may be a need to amend existing management and security plans under that legislation. • The Department considers there are appropriate regulatory systems to manage radiation and the Applicant will need to update its existing radiation management license and plans if necessary, under separate legislation.	The Department considers no conditions or amendments are necessary.
Flooding and Stormwater Management	• The site is subject to flooding. A civil design report has been prepared for the development based on campus-wide flood risk management reports. As a result, a flood storage basin and drainage works are proposed on the site to ensure the risk of flood is minimized. • Council advise there are unresolved issues in relation to stormwater and flooding on the site, and as such recommend the imposition of conditions in relation to on-site detention, stormwater quality assessment, floor levels, flood risk management, and a flood emergency response plan. The conditions may require the ground floor levels to be raised by up to 0.5m, without an increase in the overall height of the proposed building, to ensure appropriate flood protection. • The Applicant has confirmed it can comply with recommended conditions in relation to floor levels and the Department is satisfied a small change to ground floor levels would not result in any in an adverse consequence for the design of the development. • The Department considers that, subject to Council's recommended conditions, remaining stormwater and flooding impacts can be addressed as part of the detailed design of the development.	The Department has recommended conditions in relation to on-site detention, stormwater quality assessment, floor levels, flood risk management, and a flood emergency response plan.
Sydney Water Infrastructure	• Sydney Water initially objected to the proposal as it would be located over Sydney Water's stormwater channel. • In response, the Applicant clarified that only small landscaping structures in the southern plaza (retaining walls and new stormwater pit) would be located over	A condition is recommended requiring relevant plans to be submitted to Sydney Water for compliance.

the stormwater line. The Applicant's consulting engineer confirmed that these works will need to go through the usual Sydney Water building plan approval process to ensure there are no impacts to Sydney Water assets and subject to appropriate engineering design, there would be no non-conformances with Sydney Water guidelines.

- Sydney Water subsequently advised the response had satisfied its requirements.
- The Department considers the works over the stormwater line are minor and can be designed to ensure no adverse impacts arise for the ongoing operation and maintenance of the line.

7. Evaluation

The Department has reviewed the EIS, RtS and SRtS and assessed the merits of the proposal, taking into consideration advice from the public authorities, including Council. Issues raised in public submissions have been considered and all environmental issues associated with the proposal have been thoroughly addressed.

The proposed development is consistent with the objects of the EP&A Act (including ecologically sustainable development) and is consistent with A Metropolis of Three Cities – the Greater Sydney Region Plan and the Eastern City District Plan as it will provide improved tertiary education and research facilities associated with the University of Sydney, thereby positively contributing to the Camperdown-Ultimo health and education precinct and the Innovation Corridor identified under the plans. The Department also considers that the proposal would provide significant public benefits through the provision of improved facilities in an accessible location with no additional on-site parking and facilities to support active transport travel options. The proposal would also provide economic benefits, with investment in the region of approximately $116 million, generating approximately 150 construction jobs and 14 additional operational jobs.

The Department has assessed the merits of the proposal and has found the key issues associated with the project include built form and urban design, noise and vibration impacts, traffic and access and amenity impacts.

The Department's assessment concludes that the proposal exhibits design excellence and is generally consistent with the built form controls in the approved Campus Improvement Program concept proposal. The proposed development is suitable for the site and would not result in any significant adverse environment or amenity impacts. As the proposed building would be located more than 100m from the nearest residential properties on Shepherd Street, and separated from those properties by existing university buildings, the Department is satisfied the proposed new building would not result in any unacceptable privacy, overlooking or light spill impacts.

Streetscape impacts have been appropriately addressed through screening and landscaping. The Department considers the screening of the proposed mechanical plant and gas storage areas will ensure the facilities will not be highly discernible elements within the streetscape. In the context of the tall adjoining building, the screened enclosures will not be obtrusive elements and in conjunction with associated proposed landscaping and existing boundary plantings which will assist to further screen this area, the Department is satisfied the proposed structures will not result in any adverse streetscape or heritage character impacts on the conservation area, located on the opposite side of Shepherd Street.

Traffic and noise impacts are also assessed as acceptable, subject to recommended conditions to ensure the construction and operation of the proposed development would not result in adverse environmental impacts on the surrounding environment. As the proposal results in removal of on-site parking spaces there would be in a decrease in vehicle movements associated with the building. Whilst a new loading dock is proposed, the number of traffic movements associated with the loading dock (average 13 deliveries per day) is less than the traffic movements associated with the 30 car parking spaces being removed, and the majority of the service vehicle movements would not affect the adjoining residential area.

The Department concludes the impacts of the development are acceptable and can be appropriately mitigated through the implementation of the recommended conditions of consent. Consequently, the Department considers the development is in the public interest and should be approved subject to conditions.

8. Recommendation

It is recommended that the Executive Director, Priority Projects Assessments, as delegate of the Minister for Planning:

- **considers** the findings and recommendations of this report.
- **accepts and adopts** all of the findings and recommendations in this report as the reasons for making the decision to grant consent to the application.
- **agrees** with the key reasons for approval listed in the notice of decision.
- **grants consent** for the application in respect of SSD 8636.
- **signs** the attached development consent and recommended conditions of consent (**Appendix C**).

Recommended by:

David Gibson
Team Leader
Social Infrastructure Assessments

Recommended by:

Karen Harragon
Director
Social and Other Infrastructure Assessments

9. Determination

The recommendation is: **Adopted** by:

David Gainsford 14/2/19

Executive Director, Priority Projects Assessments
As Delegate of the Minister for Planning

Appendices

Appendix A - List of Documents

The following supporting documents and supporting information to this assessment report can be found on the Department of Planning and Environment's website as follows.

1. Environmental Impact Statement

   http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8636

2. Submissions

   http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8636

3. Applicant's Response to Submissions

   http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8636

4. Applicant's Response to Submissions Supplementary information

   http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8636

Appendix B - Statutory Considerations

ENVIRONMENTAL PLANNING INSTRUMENTS (EPIs)

To satisfy the requirements of section 4.15(a)(i) of the EP&A Act, this report includes references to the provisions of the EPIs that govern the carrying out of the project and have been taken into consideration in the Department's environmental assessment.

Controls considered as part of the assessment of the proposal are:

- State Environmental Planning Policy (State & Regional Development) 2011 (SRD SEPP).
- State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP).
- State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 (Education SEPP).
- State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33).
- State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55).
- Draft State Environmental Planning Policy (Remediation of Land) (Draft Remediation SEPP).
- Draft State Environmental Planning Policy (Environment) (Draft Environment SEPP).
- Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 (SHC SREP).
- Sydney Local Environmental Plan (SLEP) 2012.

COMPLIANCE WITH CONTROLS

State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP)

Table 1 | SRD SEPP compliance table

Relevant Sections	Consideration and Comments	Complies
3 Aims of Policy The aims of this Policy are as follows: (a) to identify development that is State significant development	The proposed development is identified as SSD.	Yes
8 Declaration of State significant development: section 4.36 (1) Development is declared to be State significant development for the purposes of the Act if: (a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and (b) the development is specified in Schedule 1 or 2.	The proposed development is permissible with development consent and the proposal is for the purpose of an educational establishment with a capital investment value (CIV) in excess of $30 million, under clause 15 (3) of Schedule 1.	Yes

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

The Education SEPP commenced on 1 September 2017 and aims to simplify and standardise the approval process for child care centres, schools, TAFEs and universities while minimising impacts on surrounding areas and improving the quality of the facilities. The Education SEPP includes planning rules for where these developments can be built, which development standards can apply and constructions requirements. The application has been assessed against the relevant provisions of the Education SEPP.

Clause 45(1) of the Education SEPP provides that development for the purpose of a university may be carried out by any person with development consent on land in a prescribed zone. The site is within land zoned SP2,

Infrastructure under SLEP 2012, which is identified as a prescribed zone in clause 43 of the Education SEPP. The proposal is therefore permissible with consent under the SEPP.

Clause 57 requires traffic generating development that involve addition of 50 or more students to be referred to the RMS. The Application was referred to RMS in accordance with this clause.

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33)

SEPP 33 aims to identify proposed developments with the potential for significant off-site impacts, in terms of risk and or offence (odour, noise). A development is defined as potentially hazardous and / or potentially offensive, if, without mitigating measures in place, the development would have a significant risk and/ or offence impact on off-site receptors.

Consistent with clause 12 of SEPP 33, the Applicant provided a preliminary hazard analysis (PHA) (Appendix L of the SRtS). The PHA identified that the quantities of flammable gases and toxic gases would be above the threshold quantities in SEPP 33 and therefore the development is classified as potentially hazardous. The Department has assessed the PHA and concludes it has satisfied relevant Department Guidelines.

The Department notes that the development contains a range of safeguards to ensure an off-site risk is unlikely. Notwithstanding, the Department has recommended several conditions consistent with HIPAP No 12 – Hazards-Related Conditions of Consent to further ensure the continual safe operation of the development

State Environmental Planning Policy No. 55 - Remediation of Land

SEPP 55 aims to ensure that potential contamination issues are considered in the determination of a development application. The EIS includes a contamination assessment for the site which concludes that contaminant concentration levels are below the adopted health and ecological investigation and screening levels. However, the report noted that there are data gaps beneath the existing building and carpark and groundwater testing was not carried out. As such, further testing will be required following demolition on the site. A Remediation Action Plan (RAP) was prepared to ensure any contamination subsequently discovered can be appropriately assessed and dealt with.

The Department is satisfied that subject to the imposition of conditions, the site will remain, or can be made suitable, for the continued use and intended purpose and will not result in unacceptable contamination risks.

The Department recommends conditions relating to further site investigations and updating of RAP as necessary, developing an unexpected find protocol to ensure measures are in place should any unanticipated contamination be found during works and appropriate reviews and validation by the site auditor.

Draft State Environmental Planning Policy (Remediation of Land)

The Draft Remediation SEPP will retain the overarching objective of SEPP 55 promoting the remediation of contaminated land to reduce the risk of potential harm to human health or the environment.

Additionally, the provisions of the Draft Remediation SEPP will require all remediation work that is to carried out without development consent, to be reviewed and certified by a certified contaminated land consultant, categorise 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.

The Department is satisfied that the proposal will be consistent with the objectives of the Draft Remediation SEPP.

Draft State Environmental Planning Policy (Environment)

The Draft Environment SEPP is a consolidated SEPP which proposes to simplify the planning rules for a number of water catchments, waterways, urban bushland, and Willandra Lakes World Heritage Property. Once adopted, the Draft Environment SEPP will replace seven existing SEPPs. The proposed SEPP will provide a consistent level of environmental protection to that which is currently delivered under the existing SEPPs. Where existing provisions are outdated, no longer relevant or duplicated by other parts of the planning system, they will be repealed.

Given that the proposal is consistent with the provisions of the existing SEPP that is applicable, the Department concludes that the proposed development will generally be consistent with the provisions of the Draft Environment SEPP.

Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

SHC SREP provides planning principles for development within the Sydney Harbour catchment. The site is located within the Sydney Harbour Catchment area. The SHC SREP does not include any matters for consideration in the assessment of development applications within the Sydney Harbour Catchment. Nevertheless, the proposal is consistent with the Planning Principals for the Sydney Harbour Catchment and will not have any significant adverse impact on the catchment as it does not result in any adverse ecological impacts and includes measures to improve stormwater management and runoff from the site.

Sydney Local Environmental Plan (SLEP) 2012

The SLEP 2012 aims to encourage the development of housing, employment, infrastructure and community services to meet the needs of the existing and future residents of the Sydney LGA. The SLEP 2012 also aims to conserve and protect natural resources and foster economic, environmental and social well-being.

The Department has consulted with Council throughout the assessment process and has considered all relevant provisions of the SLEP 2012 and those matters raised by Council in its assessment of the development (refer to **Section 5**). The Department concludes the development is consistent with the relevant provisions of the SLEP 2012. Consideration of the relevant clauses of the SLEP 2012 is provided in **Table 2**.

Table 2 | Consideration of the SLEP 2012

SLEP 2012	Department Comment/Assessment
Clause 5.10 Heritage conservation	The site is not a heritage item, nor is it within a heritage conservation area under the LEP. Nevertheless, the heritage impact of the proposal has been assessed – refer to **Section 6.5**.
Clause 5.12 Infrastructure development and use of existing buildings of the Crown	The clause provides that the LEP cannot restrict or prohibit the carrying out of development by a public authority that is permitted to be carried out with development consent. As the development is permissible and is being carried by a public authority, the LEP controls cannot be used to restrict the development.
Clause 6.21 Design excellence Consent must not be granted unless the proposal exhibits design excellence.	The proposal is considered to exhibit design excellence as discussed in Section 6.1 having regard to the matters for consideration in the LEP as follows:

(4) Matters for consideration: (a) design, materials and detailing appropriate to building type and location, (b) external appearance impact on public domain, (c) impacts on view corridors, (d) the following matters: (i) the suitability of the land for development, (ii) the existing and proposed uses and use mix, (iii) heritage issues and streetscape constraints, (iv) location of any tower and relationship with other towers (v) bulk, massing, modulation of buildings, (vi) street frontage heights, (vii) impacts, including solar access, shadowing, sustainable design, privacy, noise, wind and reflectivity, (viii) ecologically sustainable development, (ix) access, circulation, pedestrian network (x) impact on /improvements to public domain (xi) special character areas (xii) ground level interface between the building and the public domain, (xiii) excellence and integration of landscape design.	(a) The proposal exhibits a high-quality architectural design that incorporates materials and detailing appropriate for a contemporary educational facility, suitable to its location within the University, the Engineering Precinct and integration with retained adjoining structures. (b) The building will not be highly visible from the public domain; appropriate screening ensures storage areas visible from the public domain will not result in adverse impacts. The building and associated landscaping will also significantly improve the amenity and character of the public areas within the campus. (c) There are no view corridors affected by the proposal. (d) (i) being part of the University, zoned for educational uses and previously identified under the CIP approval as appropriate, the land is suitable for the proposed educational facility development. (ii) The proposed use as an educational establishment is unchanged from the existing use. (iii) Heritage issues are considered in **Section 6.4**. Impacts to streetscape and the adjoining conservation area are discussed in **Section 6.1** and the Department is satisfied the proposal will not result in any adverse streetscape or heritage character impacts. (iv) (v) (vi) The location, bulk, massing of the building and its height at the street frontage is considered appropriate and consistent with the CIP approval. The building also incorporates appropriate modulation to provide visual interest and clearly distinguish the new from existing elements. (vii) Impacts are considered throughout the assessment including **Sections 4.3**, **6.3**, **6.4** and **Table 3** below. Subject to conditions to mitigate and manage noise, the proposal is not considered to result in any adverse environmental impacts having regard to solar access, shadowing, sustainable design, privacy, noise, wind and reflectivity. (viii) Refer **Section 4.3**: the development is designed in accordance with the University's Sustainability Framework and incorporates ESD initiatives. (ix) Refer **Section 4.2**: subject to conditions, access and circulation is acceptable and the proposal will retain and improves pedestrian links through the site. (x) The proposal will not result in adverse impacts to the Public Domain or public areas within the campus. Publicly accessible open space will be improved and developer contributions will enable other local public domain improvements. (xi) N/A – no special character areas. (xii), The transparent façade at ground level expresses the internal activities onto the improved surrounding public domain areas and invites pedestrian connections through the building. (xiii) Landscape design would provide a high-quality landscape setting for the building and make a positive contribution to the character of the campus.
A competitive design process is required unless the consent authority considers such a	A competitive design process was initiated by the Applicant in accordance with the requirements of SLEP 2012 and the City of Sydney Competitive Design Policy, which included an invited design competition and the assessment and

process to be unreasonable or unnecessary	review of the entries by a Design Excellence Review Committee (DERC) established by the University. The process was endorsed by the Government Architect NSW (GANSW) on 17 January 2018 and the GANSW was provided with a copy of the DERC Design Excellence Summary Report, which outlined that winning scheme demonstrates design excellence.
Clause 7.9 Car parking – Other Land uses	The LEP sets maximum car parking rates. The proposal does not include car parking and therefore does not contravene the controls.
Clause 7.14 Acid sulfate soils	The development site is classified as Class 5 acid sulphate soils under the LEP. The proposal is not within 500m of land classed 1 to 4, nor is it below five metre AHD and it will not lower the water table below one metre AHD on adjacent classes of land
Clause 7.15 Flood Planning	The site is subject to flooding. The building has been designed to address potential flooding impacts as discussed in **Section 6.5** of this report.
Clause 7.16 Airspace Operations	In accordance with the clause, the application was referred to Sydney Airport and the Civil Aviation Safety Authority (CASA). Approval was granted by CASA having regard to the height of the proposed building .
Clause 7.20 Development requiring or authorising preparation of a DCP	The approval of the staged development application for the CIP (SSD 6123) meets the requirements of preparation of a DCP. The proposal is generally consistent with the staged development approval.

Sydney Development Control Plan (SDCP) 2012

In accordance with Clause 11 of the SRD SEPP, Development Control Plans do not apply to State significant development. Notwithstanding, consideration of the relevant development controls contained within Council's DCP is provided in **Table 3**.

Table 3 | Consideration of SDCP 2012

SDCP 2012	Department Comment/Assessment
2.3.5 Locality Statement – University of Sydney/Royal Prince Alfred Hospital	The development is consistent with the locality statement and associated principles applicable to the University of Sydney as it maintains and improves the university's landscaped setting, maintains the internal pedestrian network and provides screening and landscaping to mitigate impacts at interface with adjacent neighbourhoods.
3.1 and 3.2 Public Domain	The proposal will not result in any adverse impacts to the Public Domain or public areas within the campus. Publicly accessible open space areas on the site will be improved and existing pedestrian connections will be retained and improved under the proposal. Materials are unlikely to have adverse reflectivity impacts and the Department also recommends the imposition of its standard 'reflectivity' condition, requiring external materials do not exceed the maximum 20 per cent reflectivity spectrum. The external lighting is proposed to comply with relevant Australian Standards and designed in a manner that ensures any light spill is controlled. The Department also recommends the imposition of its standard condition requiring compliance with the Australian Standards.

3.3 Design Excellence and Competitive Design Processes	The proposal demonstrates design excellence, as discussed in **Section 6.1** of this report.
3.5 Urban Ecology	The development maintains a landscaped setting, including replacement trees and landscaping that utilises locally indigenous species and will achieve appropriate canopy coverage. The development is consistent with the objectives of Section 3.5.
3.6 Ecologically Sustainable Development	Addressed at **Sections 4.3** and **6.1** of this report.
3.7 Water and Flood Management	Addressed at **Section 6.5** of this report.
3.9 Heritage	Addressed at **Section 6.5** of this report.
3.11 Transport and Parking	Addressed at **Section 6.2** of this report.
3.12 Accessible Design	Disabled access is provided to the development in accordance with Australian Standards and reinforced by recommended conditions of consent.
1.13. Social and Environmental Responsibilities	The proposed development provides an improved education and research facility for the University of Sydney which would have an overall positive social impact. Further, safety of the public domain areas will be significantly improved through the incorporation of principles of CPTED into the building design and landscaping such as improved natural surveillance.
3.14 Waste	Construction and operational waste management plans have been submitted that aim to minimise waste and are consistent with the objectives of this section.
3.17 Contamination	Addressed at **Section 6.5** of this report.

Appendix C - Recommended Instrument of Consent