Environmental Assessment Report

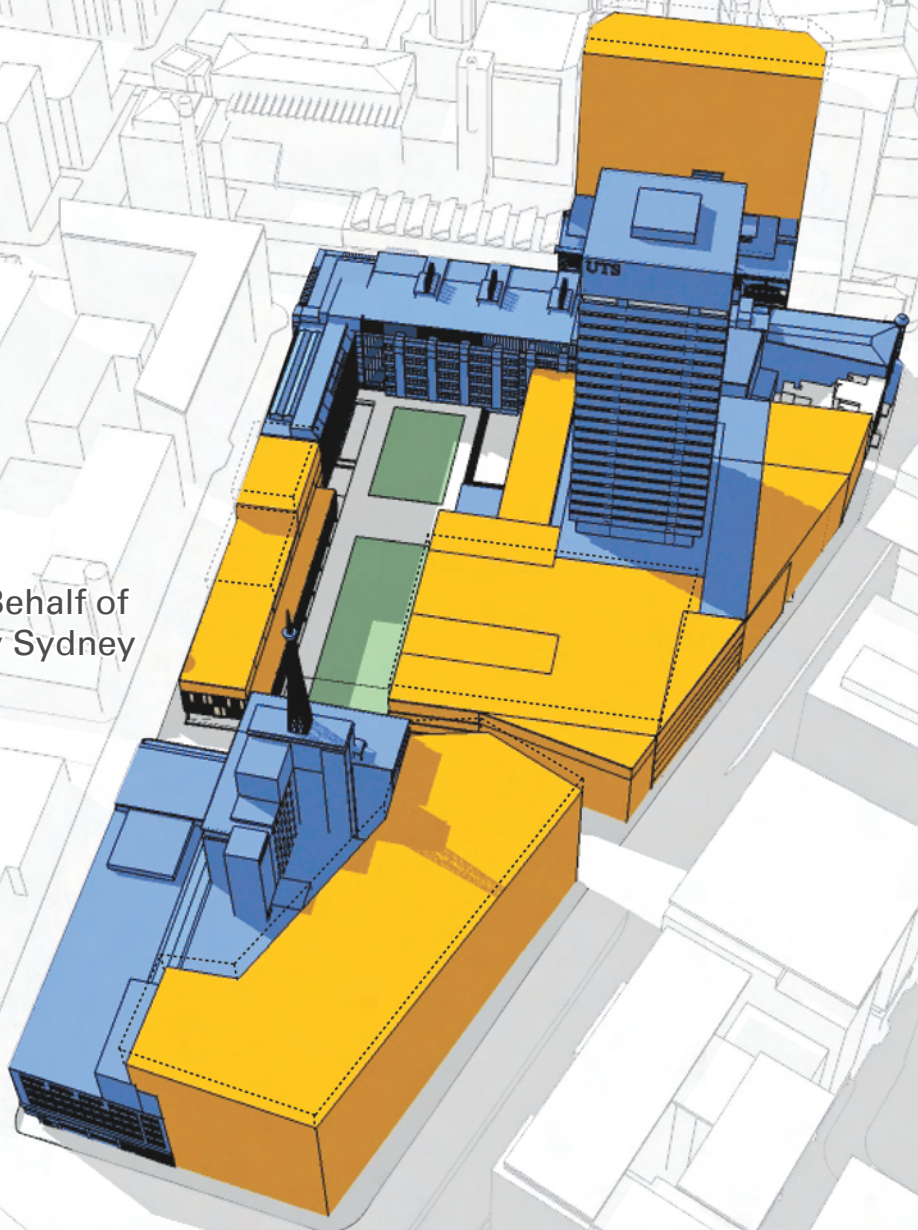
UTS City Campus, Broadway Precinct

Concept Plan

Submitted to
Department of Planning on Behalf of
the University of Technology Sydney

Volume 1 of 3

May 2009 ■ 08439



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Statement of Validity

This Environmental Assessment has been prepared and submitted under Part 3A of the *Environmental Planning and Assessment Act 1979* (as amended) by:

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Position	Associate
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Project Summary

Applicant	University of Technology Sydney
Address	PO Box 123
	Broadway NSW 2007
Subject Site	UTS City Campus, Broadway Precinct
Proposed Development	Additional 84,750m^2 of gross floor area for education, social and sporting facilities and student housing.

Declaration

I certify that the following Environmental Assessment Report has been prepared in accordance with the requirements of Part 3A of the *Environmental Planning and Assessment Act, 1979* and Regulation and that, to the best of my knowledge, is not false or misleading.

Signature	
Name	Vivienne Goldschmidt
Date	15 May 2009

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Executive Summary

This Environmental Assessment Report (EAR) is submitted to the Minister for Planning pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and State Environmental Planning Policy (Major Projects) 2005 (SEPP) in support of a Concept Plan for expansion of the Broadway Precinct of the City Campus of the University of Technology Sydney (UTS). UTS is the proponent of the Concept Plan.

Concept Overview

The Concept Plan involves a regionally significant development at a major Sydney university. It comprises the demolition, construction and extension of certain buildings on the Broadway Precinct to enable UTS to provide an additional 84,750m2 of gross floor area* of education, social and sporting facilities, and student housing. The proposal will also enhance existing open space and improve pedestrian, bicycle and vehicular access into the campus. The project will deliver facilities for up to 15,000 EFTSL (equivalent full time student load) in the Precinct by 2015, up from 12,200 in 2008.

Concept approval is sought for the following:

- Demolition of existing Building 11 (81 Broadway), Building 12 (113 Broadway) and Building 13 (115 Broadway).
- Building 1 – extension to podium of existing building to a height* of 22.47 metres to provide an additional 4,050m^2 of gross floor area for educational and cultural uses.
- Building 2 – extension to, and refurbishment of, existing building to a height of 24.24 metres to provide an additional 6,750m^2 of gross floor area for educational uses.
- Building 3 – modifications to existing building to provide café or retail uses on Level 1.
- Building 4 – modifications to existing building to provide café, retail uses or public facilities on Level 1.
- Building 6:
  - extension and modifications to Levels 1-7 of the existing building to provide approximately 5,950m^2 of gross floor area for educational, retail or café uses;
  - construction of a new 69.20 metre high extension to provide approximately 19,300m^2 of gross floor area for student accommodation;
  - new pedestrian link between Harris Street and the Ultimo Pedestrian Network through Building 6.
- Building 10 – modifications to existing building to provide vehicular access into the new Broadway Building at basement level, and pedestrian access at ground and upper levels.
- Broadway Building – construction of a new 44.47 metre high building to provide 34,650m^2 of educational, and café or retail uses plus basement car parking for approximately 160 relocated spaces.
- Thomas Street Building – construction of new 27.10 metre high building to provide 10,000m^2 of gross floor area for educational, cultural and café or retail uses.

* Gross floor area and building height are measured in accordance with the definitions applying to Ultimo-Pyrmont in Sydney Local Environmental Plan 2005 (see Section 4.4).

- Alumni Green:
  - landscaping;
  - below ground book storage vault (2,250m^2 of gross floor area);
  - below ground multi-purpose sports hall (1,800m^2 of gross floor area).
- Public domain improvements to Broadway and Thomas, Harris, Wattle and Jones Streets.

The capital investment value of the project is $426,901,000.

UTS Broadway Precinct and Surrounding Area

The UTS Broadway Precinct (the site) occupies approximately 42,000m^2 of land within the City of Sydney local government area. It is generally bounded by Wattle, Thomas and Harris Streets and Broadway with Jones Street running though the Precinct. The site comprises nine allotments, all owned by UTS, and is zoned Residential-Business in the Ultimo-Pyrmont zoning map that forms part of the Sydney Local Environmental Plan 2005 (SLEP 2005).

The site is highly modified and essentially cleared of all original vegetation. The Broadway Precinct currently comprises approximately 150,000m^2 gross floor area (GFA) of education uses accommodated in nine medium to high rise buildings of varying ages. The visually most prominent of these is the 32-storey Tower Building (Building 1) constructed in 1969 for educational purposes. Entrances to buildings are variously at, above and below ground and are accessed via stairs and pedestrian bridges. At-grade pedestrian access is via Broadway, Harris, Thomas, Jones and Wattle Streets, with the Harris Street Overpass connecting the upper levels of Building 6 with the forecourt and main entry of Building 1. Central Railway Station is located approximately 500 metres from the campus and is accessed via the Devonshire Pedestrian Tunnel.

The site is surrounded by an eclectic mix of medium to high rise commercial, residential and tourist buildings of no consistent scale or design. Opposite on the southern side of Broadway is the 5.795 hectare Frasers Broadway site (the former Carlton and United Brewery) recently approved for a large mixed use development.

Consultation

During the course of preparation of the Concept Plan the proponent consulted with the Council of the City of Sydney; NSW Ministry of Transport; NSW Roads and Traffic Authority; RailCorp; the Heritage Branch of the Department of Planning; and relevant utility providers. The proponent has also consulted with local residents, local businesses, students and other stakeholders about the proposal.

Urban Design Principles

The Concept Plan establishes the planning and development framework to guide future development on the site and articulates the university's objectives and goals. It has been prepared by architects BVN Architecture (BVN), and is supported by technical studies which are appended to this report. The following urban design principles will guide the future built form on the site:

- High quality design – Achieve excellence in architectural design through a design competition process.
- Multiple development opportunities – Transform multiple, disparate development sites into new education facilities that meet UTS's long-term needs.
- Improve permeability – Capitalise on the site's urban character and maintain the informal transition between the campus and the remainder of the city by creating multiple entrances to the site, rather than a single front door.
- The centre of the campus – Establish the centre of the campus as its academic, social and ceremonial heart.

- New identity and entrances – Transform the current Broadway frontage of the site into a new "front door" to the campus.
- Integration and connection – Improve the legibility of the campus by locating and emphasising major gateways and creating new internal and external streets.
- Cultural and recreational hubs – Locate new cultural and recreational hubs across the campus.
- Improved open spaces – Create new, useable open spaces that will receive solar access throughout the year.
- Maximise sustainability – Achieve a high level of environmental performance for new and existing buildings on the site.
- Access – Capitalise on the site's excellent connections to public transport and pedestrian links to locality and beyond.

Proposed Development

The Concept Plan comprises several new development sites and extensions to existing buildings on the campus.

Building 1: The podium of Building 1 will be extended towards the Broadway boundary to a maximum height of 22.47 metres. The refurbishment of the Building 1 forecourt will create a new campus entrance of scale and significance to reinforce the image of UTS. The main pedestrian entrance on Broadway will include active uses such as retail tenancies and cafes.

Building 2: Building 2 will be refurbished and extended to the Broadway and Jones Street boundaries to a maximum height of 24.24 metres incorporating one additional floor. The northern extension of the building (facing Alumni Green) will incorporate colonnades or awnings and pedestrian entrances.

Building 3: Building 3 will be modified to provide café or retail uses. Turner Lane will be upgraded, paved and activated via the addition of cafes on Level 1 of Building 3 and will provide access to new student facilities on Level 3 of Building 1.

Building 4: A new retail tenancy or public facility will be provided at the corner of Harris and Thomas Streets. Access to the new multi-purpose sports hall (to be located under Alumni Green) will be via the lower levels of Building 4.

Building 6: The podium of the existing building will be extended to the north eastern boundary of the site. A 14 storey, 69.20 metre tower, will be constructed above the existing 7 storey podium to provide accommodation for up to 720 students. The built form is set back from the Harris Street boundary and a splay / indent in the south eastern corner will protect the visual amenity and solar access of the neighbouring residential property. Pedestrian links will be provided from the UPN to the remainder of the Precinct through Building 6.

Building 10: The existing education building will be modified to provide vehicular access into the new Broadway Building at basement level, and pedestrian access at ground and upper levels.

Broadway Building: A single building envelope with a maximum height of 44.47 metres (at the Wattle Street edge) is proposed for the Broadway frontage to the site between Wattle and Jones Streets. The proposed building envelope will ensure that distant views to the radio tower on the roof of Building 10 are maintained. Combined with the extended Building 2, it will create a major new entrance to the university at Jones Street. The detailed building design will incorporate such measures as façade articulation, multiple pedestrian entrances and active uses to complement streetscape improvements proposed for Broadway and Jones Street.

The new Broadway Building will accommodate the new Creative Industries Innovation Centre and new Faculty of Engineering and Information Technology.

Thomas Street Building: A new building for educational purposes and café/ cultural or retail uses with a height of approximately 27.10 metres (adjoining Building 4) and 18.50 metres (adjoining Jones Street) will be constructed on vacant land facing Thomas Street. It will achieve a 6 star rating using the Green Star Education tool and the majority of the building will be limited to four storeys above ground, with the fourth level set back from the south to provide good year-round solar access to Alumni Green.

Alumni Green: Alumni Green, intended as the new outdoor space of the campus, will be extensively landscaped with lawns, paving and mature trees and shrubs, and include colonnades or awnings on part of its northern and southern sides.

Book Storage Vault and Multi-Purpose Sports Hall: A new 2,250m^2 book storage vault with an automatic book retrieval system and a 1,800m^2 multi-purpose sports hall will be constructed in basements under Alumni Green. They are accessed from the lower levels of existing buildings, out of public view.

Access and Circulation

The Concept Plan proposes new pedestrian routes through the campus and maintains the current level of car parking on the site. Existing loading facilities will be rationalised and improved, and a drop off point provided for ceremonial vehicles on Jones Street adjacent to the façade of Building 2.

The two existing bus stops on the Broadway frontage to the site may be consolidated into a single stop with a new shelter outside Building 1 or 2. Bicycle parking will be located across the campus.

Environmentally Sustainable Development

The Concept Plan will adopt the 6 star Green Star Education target for the new Thomas Street Building, 5 star Green Star Education target for the Broadway Building and the 4 star Green Star Education target for major refurbished buildings and extensions to Buildings 1 and 2.

Design Excellence

UTS is committed to design excellence for all new development proposed by the Concept Plan. This will be achieved through design competitions for the Broadway Building, Thomas Street Building and the podium extensions to Buildings 1 and 2. The design for Building 6 was the subject of an earlier competitive Public Private Partnership process — design was one of a number of selection criteria. Specific design quality controls have been developed for the new buildings on the site and will be incorporated into the design criteria for each of the design competitions.

Staging and Future Development

Development of the Concept Plan will take place over ten years with demolition and construction predicated on the ability of the university to maintain access to student facilities and services during the construction period. Future development will be subject to future Part 3A Project Applications, or development applications to the Council of the City of Sydney under Part 4 of the EP&A Act, or as exempt and complying development.

The EAR provides an assessment of the environmental impacts of the Concept Plan in accordance with the Director-General's Environmental Assessment Requirements (see Section 6). The EAR includes a draft Statement of Commitments (see Chapter 7) which sets out the undertakings made by UTS to manage and minimise potential impacts arising from the proposal.

There are no environmental impacts or issues as a result of the proposal that cannot be managed or mitigated.

Consistency with strategic and statutory plans

The proposal is consistent with and supports the Metropolitan Strategy for Sydney and Draft Sydney City Subregional Strategy in that it reinforces global competitiveness and strengthens links to the regional economy. It assists to constrain Sydney's development footprint by vertically expanding an existing campus and encourages the use of public transport.

The Concept Plan supports and complements the objectives of the Residential-Business zone and meets the objectives of SLEP 2005 in relation to development in Ultimo-Pyrmont. With the exception of Building 6 and the Broadway Building, all buildings comply with relevant building height and floor space ratio standards.

It is consistent with relevant State and Regional Environmental Planning Policies and has taken into account the provisions of the Urban Development Plan for Ultimo Pyrmont and relevant City of Sydney DCPs.

Broadway Building: The envelope of the Broadway Building maintains distant views to the radio tower for Building 10 and creates a new gateway to the western part of the Sydney CBD. The eastern (or Jones Street edge) of the building envelope consists of 9 floors of educational uses above ground, and 5 floors below ground (including a basement car park). The building achieves a maximum height of 39.47 metres at this point (when measured to the ceiling of the topmost habitable floor of the building). However, due to the slope of Broadway to the west, the Wattle Street edge of the building envelope comprises 10 floors above ground and 4 floors below ground. Consequently the height of the building is 44.47 metres, or approximately 5% above the applicable SLEP 2005 building height standard at this point.

The minor variation to the height limit at the western edge of the building is justified given the negligible overshadowing and overlooking impacts resulting from the additional building height. In addition, the final form of the building will be subject to a design excellence competition, thereby ensuring a superior architectural outcome befitting the locality.

Building 6: The new Building 6 tower will provide student accommodation for up to 720 students and significantly redress the current shortfall in beds. The new tower will exceed SLEP 2005 building height (42 metres) and floor space ratio development standards applying to the site.

The proposed maximum building height of 69.20 metres is a function of the available footprint for construction of a building with sufficient floor space to accommodate 720 students.

The load bearing capacity of the existing Building 6 podium constrains development to only about half of the podium – therefore to provide the proposed quantum of accommodation (within commercial and engineering constraints), the building must extend vertically rather than horizontally. Despite this, the envelope for Building 6 has been designed to protect the visual amenity and solar access of apartments in the Taragon apartment building with a splay/indent in the north eastern corner of the Building 6 envelope. In addition, as the tower is set back from the Harris Street boundary of the site and surrounded by other tall buildings, there will be minimal views to the tower from the Railway Square Special Area and other heritage buildings in the vicinity (including UTS Buildings 3 and 8).

The building will include 41,005m^2 of gross floor area, which achieves a floor space ratio of approximately 8:1 (under SLEP 2005). By comparison, the commercial building that was approved for the site in 1991 had an FSR of 7:1 – calculated in accordance with the definition for GFA in SLEP 2005. Using the definition in the Standard Instrument, the proposal would achieve an FSR of 7.6:1. The proposed development of Building 6 will deliver substantial social benefits, reduce travel to the campus and alleviate pressure on the local private rental market, so benefitting the wider community. Given these benefits, the proposed FSR of 8:1 is considered acceptable.

In the absence of any negative environmental impacts, and the significant social and environmental benefits associated with providing accommodation for up to 720 UTS students on site, the proposed envelope for Building 6 is considered acceptable.

Traffic and Transport

A detailed assessment of the impacts of the Concept Plan on the existing road and public transport network was undertaken. The assessment also considers the cumulative impacts of the proposal and the Frasers development.

Based on current travel patterns and the mix of full and part time students, the assessment concludes that the local road and public transport network will be able to accommodate the additional demand generated by both the proposal and the Frasers development. In addition, the performance of nearby intersections will be only marginally impacted by the proposal. To further encourage walking, cycling and the use of public transport by staff and students, the Concept Plan will not provide any additional parking for students or staff on the campus. UTS will actively promote the use of public transport to staff and students through a Transport Access Guide, and facilities for cyclists will be provided. To improve access to the local bus network, opportunities for the consolidation of bus shelters along Broadway will be investigated with the State Transit Authority and the City of Sydney. A Transport Management and Accessibility Plan is appended to this EAR.

Visual Impact

The southern part of the Sydney CBD is characterised by medium to high rise buildings for commercial, residential, tourist and education uses. The Building 1 tower is visible from a wide visual catchment, including clearly from the west. The assessment of the visual impact of the concept considered whether existing views will improve, worsen or remain the same.

The proposed significant built form along Broadway may restrict or block the views of future receptors on the Frasers site, education receptors at the University of Notre Dame and residential receptors on the western side of Wattle Street, resulting in slight to moderate impacts. Development will, however, also result in a significant upgrade to the Broadway frontage of the site, by replacing current poor quality buildings with architecture that has been subject to a design competition, and providing significant public domain improvements.

The new Building 6 residential tower will be largely screened from view by nearby multi storey buildings and will have minimal impacts on views from the public domain. The building envelope has been designed to protect the visual amenity and solar access of apartments in the north east corner of the Taragon apartment building and to maximise amenity of students living in the tower. The façade of the tower will be articulated and have quality materials to improve views from a distance.

Any impacts arising from the Concept Plan will be minimised through architectural treatment of facades. In addition, active land uses will be provided at ground levels, street trees will be retained and additional mature plantings provided to improve the streetscape.

Heritage

The site includes a number of items of local heritage significance or buildings that were constructed more than 50 years ago (including Buildings 3, 8, 9, 10, 11, 12 and 13).

The retention and continued adaptive reuse of Buildings 3, 8 and 9 is a positive heritage impact of the Concept Plan, and by limiting the height of the proposed Broadway Building, views to the Building 10 radio tower will be maintained.

The Concept Plan proposes that Building 11, known as the Bradshaw Building and of local heritage significance, be demolished. Its retention is inconsistent with UTS's vision for a new architecturally significant building on Broadway. The existing building significantly constrains the development potential and design quality of the site and would form a barrier between the main campus block and the Broadway site.

UTS has a limited number of options to accommodate growth and the Broadway site is its only significant opportunity. Various strategies were investigated for locating the major components of the required floor area. The adopted strategy involved limiting the amount of new floor space on Alumni Green and consolidating a major component of the required area on the Broadway site. This would allow the potential of Alumni Green to be fully realised. In so doing the available area of open space, solar access and amenity of Alumni Green is maximised and it becomes the green heart of the campus, unifying and connecting the buildings and spaces that surround it, and accommodating facilities around its edges that will intensify the cultural and social life of the campus.

The retention of the Bradshaw Building would limit the achievement of this strategy. In particular, it would not allow the quantum of floor area required on the Broadway site to be provided within the height limit or within the number of floors appropriate for educational uses; connectivity between the Broadway site and the main campus block would not be achieved; and it would inhibit the provision of a cutting edge building appropriate for the technology based teaching and research, and the for Creative Industries Innovation Centre to be accommodated on the site.

Given these considerations and the University's intention that the achievement of design excellence will be a pre-condition of demolition, it is considered acceptable to demolish this building. The need to provide contemporary educational facilities for future generations outweighs the heritage value of the Bradshaw Building.

The Concept Plan is unlikely to have adverse impacts on other heritage items and streetscapes in the vicinity of the site as the dominant streetscape at the eastern end of Broadway will remain unchanged, and the impact on views of Building 6 from the Railway Square Special Area will be negligible.

An Interpretation Plan will communicate the heritage significance of relevant components of the site and photographic archival recording will be undertaken prior to demolition. Archaeological investigations will be undertaken prior to, or in conjunction with, ground disturbance of areas with historical archaeological potential.

There is little potential for any indigenous or archaeological relics to have survived on the site.

Contamination

Due to the history of retail and industrial uses on and in the vicinity of the site, a Stage 1 Environmental Site Assessment was undertaken. UTS will undertake a more detailed environmental site assessment to clearly ascertain the nature of any potentially contaminated material on the site.

Wind

The impact of the Concept Plan on local wind conditions in the context of the development of the Frasers Broadway site was assessed. The majority of the site is shielded from prevailing wind conditions by surrounding development, while the staggered alignment of roads and passageways act to mitigate the potentially channeling effect of winds. The proposed Frasers development will have an impact on local wind conditions which will effect development proposed by the Concept Plan.

The majority of the Precinct is at a similar or lower height to surrounding developments, with the exception of the Building 1 Tower. The tower acts to capture upper level wind flows and draw them toward ground level with the existing podium deflecting much of this downwash away from pedestrian locations, so mitigating otherwise strong winds along Broadway.

Local wind conditions along the Broadway frontage to the site will experience the biggest change when compared to the current situation due to the increased massing associated with the horizontal extensions to Buildings 1 and 2, the new Broadway Building and the future development of the Frasers site.

The combined effect of the extension of Building 2 to its Broadway boundary and the proposed multi-storey vertical walls comprising the new façade to Building 1 could result in westerly winds being channelled along the Broadway footpaths. Similar outcomes could result from the vertical walls of the Broadway façade of the new Broadway Building.

East-west roads such as Thomas Street are unlikely to experience increased channelling winds as a result of the proposal. Conditions at the corner of Thomas and Wattle Streets may be slightly improved as the Broadway Building will act to intercept some of the westerly winds.

New buildings on Broadway will result in local wind conditions in Jones Street and Alumni Green improving from the current situation with the new built forms shielding Alumni Green and Jones Street from upper level westerly and south-westerly winds intercepting flows at ground level.

Changes to local wind conditions on Harris Street and the UPN will be negligible. Prevailing southerly winds on the north-south streets will continue to be minimised by existing buildings in the locality. Articulation and deep modulations to the eastern façade of Building 6 may act to minimise downwash of winds to the UPN, thus improving local wind conditions.

Depending on pedestrian connections through the new buildings, wind conditions for pedestrian streets within the site will either remain the same or slightly worsen. Strategically located entrances to buildings and proposed landscaping and colonnades or awnings on Alumni Green will act to intercept flows at ground level.

The proponent will undertake detailed wind impact assessments for each new building and incorporate a range of measures into detailed building designs to mitigate any adverse effects of wind conditions.

Infrastructure and Services

The site is already serviced by electricity, water, gas and telecommunications services. They can be readily augmented to accommodate the Concept Plan. Demand for energy and water will be minimized through the installation of a trigeneration plant and the principles of water sensitive urban design will be applied across the site. The feasibility of a blackwater recycling system with sewer mining capacity will be investigated.

Social Infrastructure

The Concept Plan will increase the number of students on the Broadway Precinct by more than 20% and provide accommodation for 720 students in the new Building 6 residential tower.

The Concept Plan will provide sufficient social infrastructure to cater for the additional demand associated with the increase in student and staff numbers. Compared with current levels of provision, there will be no significant reduction in space and any shortfall would be able to be supplied in the immediate vicinity of the university. The university's links with its immediate locality will be reinforced, it will deliver direct economic benefits for local businesses and activate the area at weekends. The provision of new student accommodation may also assist in relieving pressure on local private rental housing.

Conclusion

The Concept Plan for the Broadway Precinct of the UTS City Campus represents the result of long term and comprehensive planning for the future growth of UTS at Broadway. It enables the university to address its shortfall in space for current and future students, increase its teaching facilities to meet student demand, and upgrade existing facilities to effectively compete with comparable institutions.

The development is considered to be in the public interest as State, regional and local needs will be met by effectively boosting the capacity of an existing, high quality tertiary institution. The proposed development will have minimal adverse environmental effects, all of which can be effectively managed through detailed design.

1.0 Introduction

This Environmental Assessment Report (EAR) is submitted to the Minister for Planning pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This is to fulfil the Environmental Assessment Requirements issued by the Director-General for the preparation of an Environmental Assessment of a Concept Plan for the Broadway Precinct of the City Campus of the University of Technology, Sydney.

The report has been prepared by JBA Urban Planning Consultants Pty Ltd for the proponent, the University of Technology Sydney (UTS), and is based on information provided by the proponent, Concept Plan and design information provided by BVN Architecture and supporting technical documents provided by the expert consultant team.

1.1 Overview of the Proposal

The concept involves a regionally significant development at a major Sydney university. It comprises the demolition, construction and extension of certain buildings on the Broadway Precinct to enable UTS to provide an additional 84,750m^2 of gross floor area* of education, social and sporting facilities, and student housing. The proposal will also enhance existing open space and improve pedestrian, bicycle and vehicular access into the campus. The project will deliver facilities for up to 15,000 EFTSL (equivalent full time student load) in the Precinct by 2015, up from 12,200 in 2008.

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- Alumni Green:
  - landscaping;
  - below ground book storage vault (2,250m^2 of gross floor area);
  - below ground multi-purpose sports hall (1,800m^2 of gross floor area);
- Public domain improvements to Broadway and Thomas, Harris, Wattle and Jones Streets.

1.2 Project Background and Chronology

UTS was formed in 1988 from the former NSW Institute of Technology, and was restructured in 1990 with the merger of the Kuring-gai College of Advanced Education, the School of Design, and the Institute of Technical and Adult Teacher Education to form the current UTS. This change in profile, combined with the University's predominantly CBD location in Sydney, created a new identity.

Currently, UTS accommodates almost 27,000 full and part time students at its City Campus. Additional students are enrolled at the UTS Kuring-gai Campus and in off-shore partner institutions. Of these students, over 21,100 were enrolled in its undergraduate, enabling and non-award courses, with the remainder in graduate coursework courses and research.

UTS has the following faculties at the Broadway Precinct:

- Arts and Social Sciences;
- Design, Architecture and Building
- Engineering and Information Technology;
- Nursing, Midwifery and Health; and
- Science.

The site (the Broadway Precinct of the UTS City Campus) currently accommodates approximately 12,200 EFTSL[±]. Remaining students (in Business and Law) are accommodated at the Haymarket Precinct of the City Campus and students in Business, Law, Nursing Midwifery and Health, and Arts and Social Sciences at Kuring-gai.

Throughout its evolution, UTS has increased student numbers without any significant increase in student facilities: the ratio of study and teaching space per student has fallen to levels that are well below the national average, modern teaching philosophies cannot be adopted, and space dedicated to social pursuits and student services are in disparate, hard-to-find locations.

UTS recognised the need to upgrade its campus in 2000 when it prepared a 10 year strategic vision entitled *Setting the Pace: A Vision for the next Decade.* Amongst other things, the vision provided for significant upgrading of physical infrastructure at the City Campus, including new buildings with major new student spaces and state of the art technology, as well as student accommodation.

[±] Equivalent Full-Time Student Load (EFTSL). This is a measure of the standard annual study workload of a student undertaking a full year of study on a full-time basis.

Subsequently, Francis-Jones Morehen Thorp Pty Ltd prepared the *UTS Physical Concept Plan 2007*, which proposed development envelopes for five sites across the UTS City Campus, including the sites that comprise this Concept Plan.

More recently, in 2008 BVN Architecture was commissioned to prepare the *UTS City Campus Masterplan 2020*. The Masterplan builds upon earlier studies and provides a framework for refurbishments and new building works for the UTS City Campus (which comprises the Broadway Precinct and other sites in the Sydney CBD). The works are programmed for completion by 2020.

Alternatives Considered

Not progressing with the Concept Plan will significantly constrain UTS's ability to address space shortfalls – currently and in the future. This means that student services will be limited to current levels, and innovation and research into new fields constrained.

The site is an existing university campus that is appropriate and ripe for consolidation and improvement. In particular:

- The campus is a major economic asset that benefits from significant, long term investment in educational infrastructure that could not be expanded or economically replicated at another location;
- It is located close to a major bus and rail transport hub;
- The locality is undergoing a transformation with new residents, businesses and cultural facilities being introduced; and
- Existing infrastructure and utilities networks can be readily augmented to accommodate the proposed expansion.

1.3 Environmental Assessment and Approvals Process

State Environmental Planning Policy (Major Projects) 2005 identifies development to which Part 3A of the EP&A Act applies and which therefore requires approval from the Minister for Planning ("the Minister").

Clause 6 of the SEPP states that development, which in the opinion of the Minister is development of a kind referred to in Schedule 1 of the SEPP is declared to be a project to which Part 3A applies.

This proposal falls into the class of development described in Clause 20 of Schedule 1 (Classes of Development) - Educational facilities, namely "Development for the purpose of teaching or research (including universities, TAFE or schools) that has a capital investment value of more than $30 million".

In accordance with Section 75B of the EP&A Act, and Clause 6 of the Major Projects SEPP, in June 2008 UTS requested the Minister to:

- declare the Concept Plan for the University of Technology Broadway to be a Major Project subject to Part 3A of the EP&A Act;
- authorise the preparation and lodgement of a Concept Plan for the site; and
- issue environmental assessment requirements for the Concept Plan.

On 11 September 2008, in accordance with Section 75F of the EP&A Act, the Director-General of the Department of Planning issued the requirements for the preparation of an Environmental Assessment to accompany a Concept Plan for the project.

A copy of the Director-General's Environmental Assessment Requirements and authorisation to lodge a Concept Plan is included at **Appendix A**.

Should the Concept Plan be approved, future project or development applications will be lodged progressively for the detailed design of the various components of the Concept Plan.

1.4 Capital Investment Value

The capital investment value of the project is approximately $426,901,000 (see the Quantity Surveyor's report at **Appendix B**). Capital investment value is defined in the SEPP as the value of the development including all costs necessary to establish and operate the development, including design and construction of buildings, structures, associated infrastructure and fixed or mobile plant and equipment (but excluding land costs).

1.5 Project Team

The following consultants contributed to this environmental assessment report:

Urban Planning	JBA Urban Planning Consultants
Architecture	BVN Architecture
Landscape Architecture	Deverson + Associates Pty Ltd
Indigenous and Non-indigenous Heritage	Godden Mackay Logan
Traffic and Transport Impacts	Halcrow MWT
Environmentally Sustainable Development	Arup
Utilities and Infrastructure	Arup
Visual Analysis	Clouston Associates
Wind Impacts	Cermak Peterka Petersen
Geotechnical Conditions	Jeffrey and Katauskas Pty Ltd
Site Environmental Assessment	Jeffrey and Katauskas Pty Ltd
Quantity Surveying	Davis Langdon
Community Consultation	KJA Pty Ltd
Social Impact Assessment	RM Planning

2.0 The Site

The Broadway Precinct of the UTS City Campus is located on the southern edge of the Sydney Central Business District (CBD). It has frontages to Broadway, Thomas, Wattle and Harris Streets, and the Ultimo Pedestrian Network and is less than 500 metres from Central Railway Station. Jones Street runs through the Precinct. The area covered by the Concept Plan is hereafter described as "the site" and is shown in **Figures 1** and **2**.

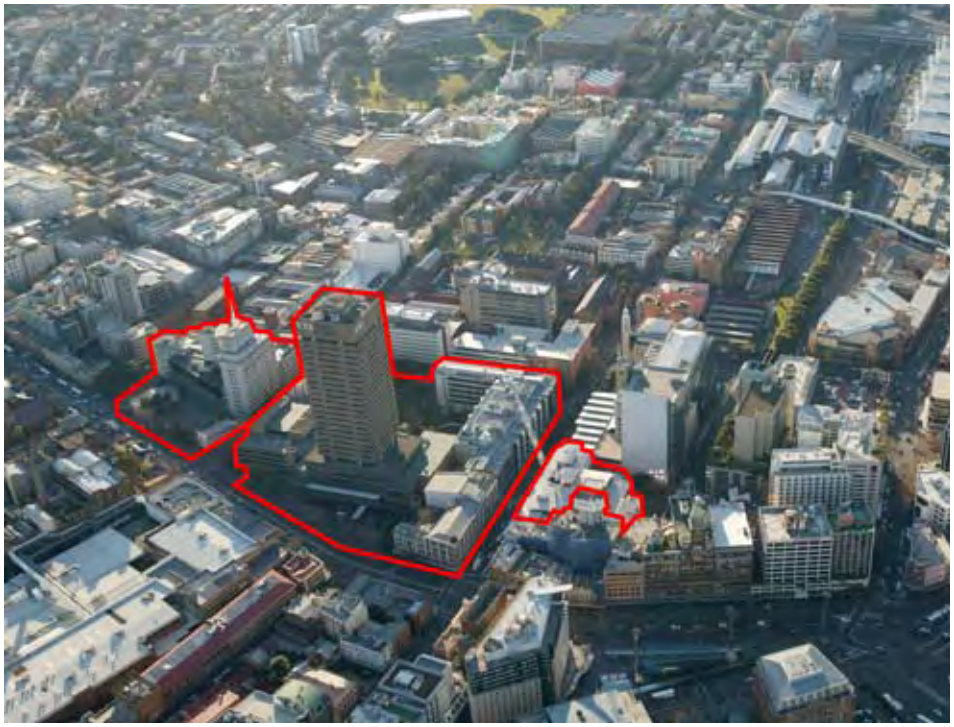


Figure 1 – The Site (Source: BVN)

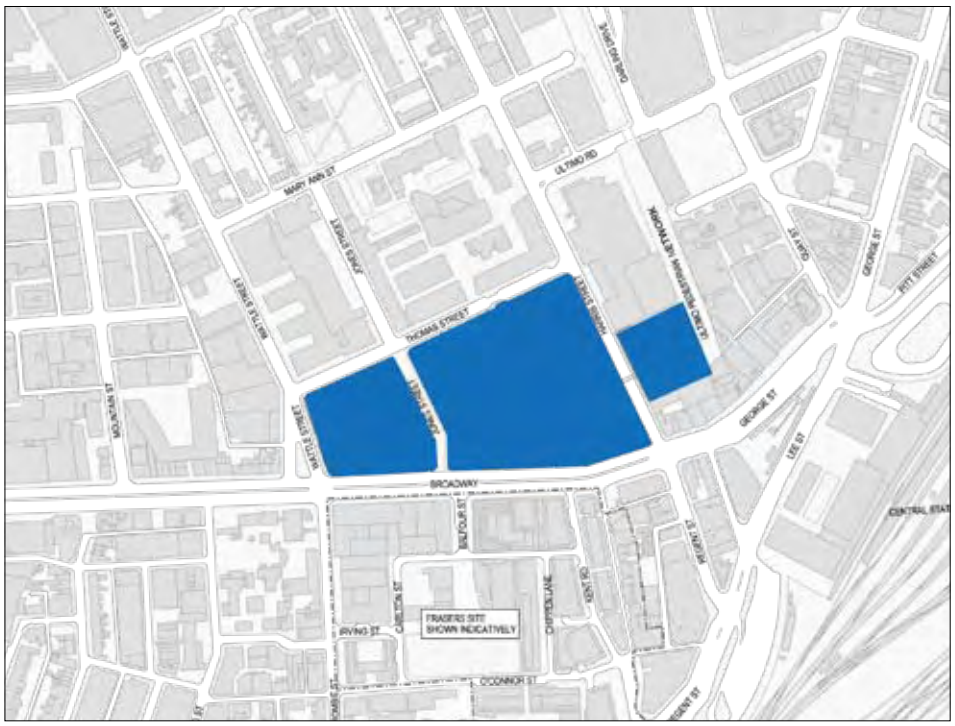


Figure 2 – Site Context (Source: BVN)

2.1 Location and Context

The site occupies approximately 42,000m^2 of land within the Ultimo Cultural and Education Precinct (UCEP) which includes, amongst others, the Sydney Institute of TAFE, the Powerhouse Museum and the ABC. It is located entirely within the City of Sydney local government area and Sydney City subregion.

2.2 Land Title and Zoning

The site comprises nine allotments which are legally described in **Table 1** and illustrated in **Figure 3**. UTS is the legal owner of all the allotments.

The site is located entirely within the Sydney local government area and is zoned Residential-Business in the Ultimo-Pyrmont zoning map that forms part of the Sydney Local Environmental Plan 2005 (SLEP 2005) (refer **Figure 4**).

Table 1 – Legal description of allotments

Land Parcel	Legal Description	Site Area (m^2)
Buildings 1, 2, 3, 4 (UTS Tower and main campus)	Lot 2004 DP 1053548	24,700
Building 6 (UTS Harris Street)	Lot 11 DP 835246	5,109
Buildings 8 and 9 (UTS Terrace Buildings)	Lot 1 DP 1079855	717
Building 10	Lot 1 DP 218673	5,697
Building 11 (81 Broadway)	Lot 1 DP 89492	196
Buildings 12 and 13 and Broadway car park	Lot 1 DP 554602	3,345
Former Building 7	Lot 2003 DP 1053548	2,243
Total		42,007

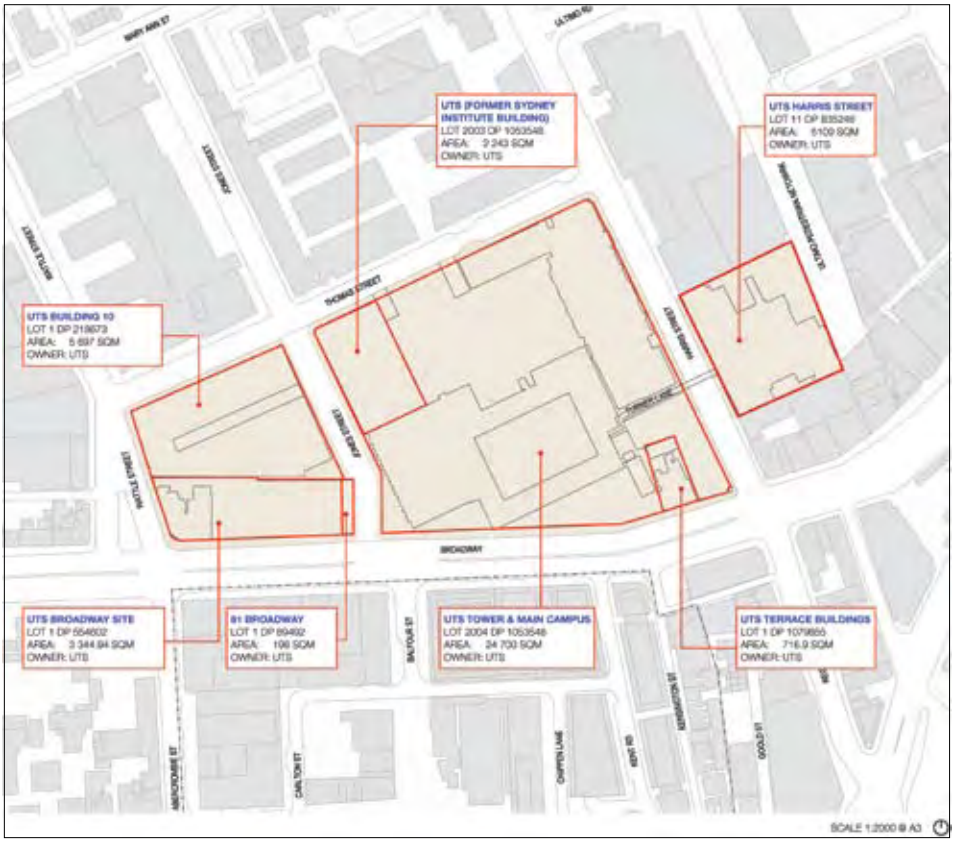


Figure 3 – Legal Description of Allotments (Source: BVN)

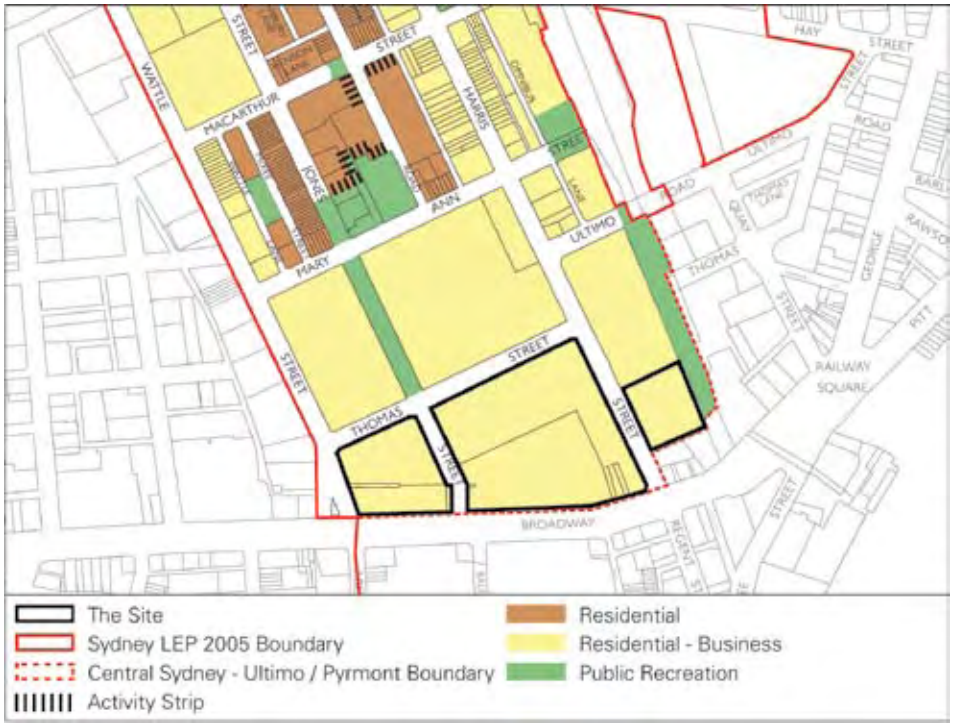


Figure 4 – Extract from Ultimo-Pyrmont zoning map, SLEP 2005

2.3 Existing Development

The site currently comprises approximately 150,000m^2 gross floor area (GFA) of education uses accommodated in nine buildings of varying ages. The visually most prominent of these is the 32-storey Tower Building (Building 1) which was constructed in 1969 for educational purposes. Buildings 2, 4 and 6 were purpose-built for educational purposes, while the remainder have been adapted from their original uses by the University.

Photographs of the campus are at **Figures 5-9**.

Figure 5 – Access from Building 6 to UPN

Figure 6 – View of Building 6 from UPN with Building 1 in background

Figure 7 – Alumni Green and Building 10

Figure 8 – Jones Street looking towards Broadway with Building 2 on left and Building 11 and Broadway car park on right

Figure 9 – Forecourt and main entrance to Building 1

2.4 Physical Characteristics

The site is highly modified and essentially cleared of all original vegetation. It contains several medium-high rise education buildings with some underground parking, teaching and social facilities. The interiors of some buildings have recently been refurbished, although exteriors are generally not renovated. Entrances to buildings are variously at, above and below ground and are accessed via stairs and pedestrian bridges.

There are limited plantings on the site with the exception of some degraded lawn areas and mature street trees on the footpaths of Broadway, Jones and Thomas Streets. The topography of the site varies from RL 9.80 at the UPN entrance to Building 6, to RL 14 at Thomas Street and Alumni Green. A survey plan is at **Appendix C.**

Geology

The geotechnical conditions of the site and locality are described below. The site is underlain by clayey soils and in some instances a thin band of shale, above sandstone bedrock of the Hawkesbury Sandstone Group. The bedrock is generally good quality and ranges in depth from 3 metres at the eastern boundary of the site to 8 metres to the western boundary.

Some of the site contains fill (particularly where there has been previous development such as back-filled basements). Wattle Street and the area immediately to its north are understood to comprise an infilled creek and mangrove swamps which previously bordered Blackwattle Bay to the west. As a consequence, groundwater may be encountered during excavation for basements.

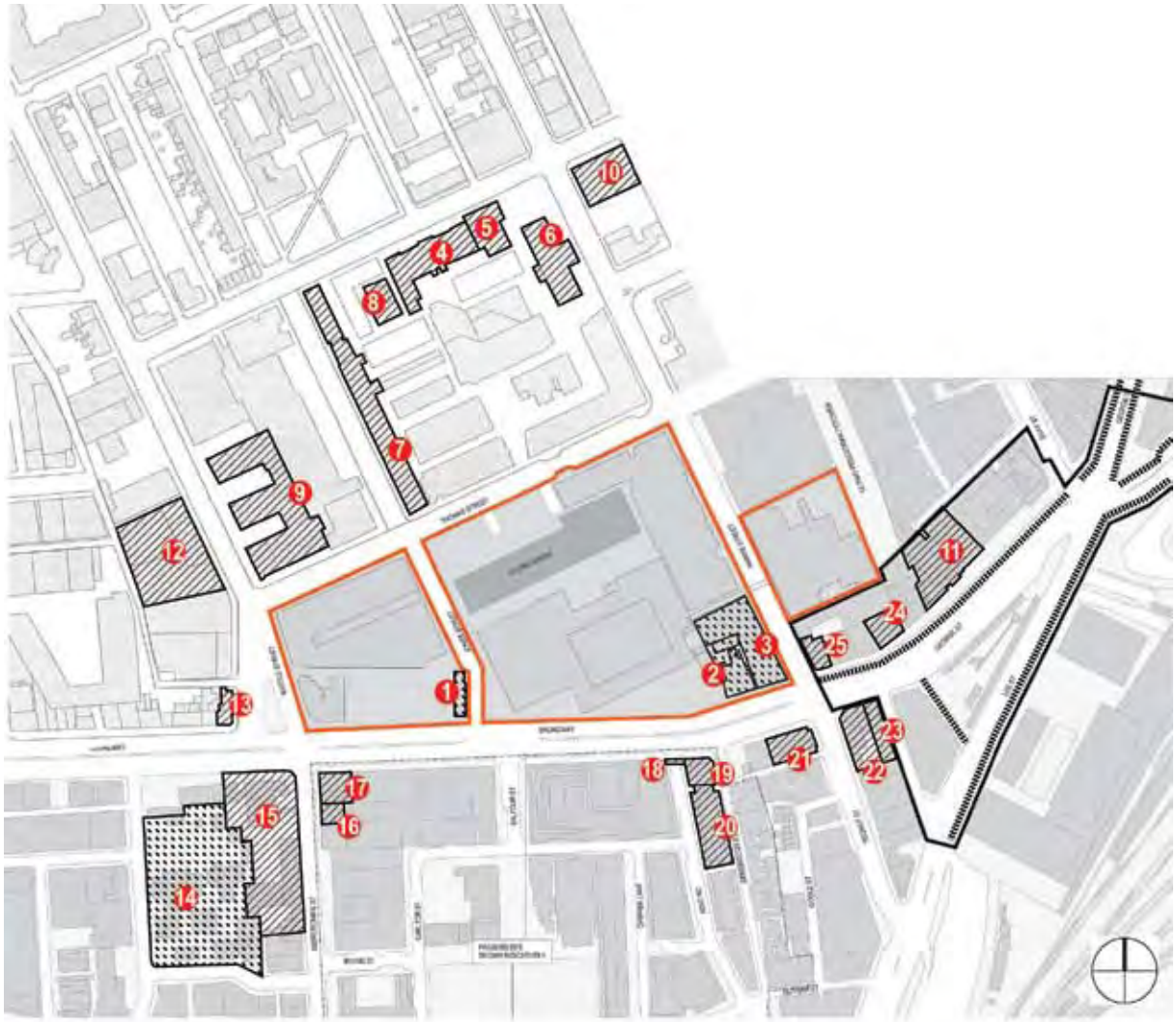
2.5 Heritage

Pursuant to SLEP 2005, the UTS Broadway Precinct includes three items of local heritage significance:

- 1-7 Broadway – "Bon Marche" (Building 3), former department store constructed in 1911 (marked as item (3) on Figure 9);
- 9-13 Broadway – "The Terraces" (Building 8), former commercial building constructed in 1890 (item (2) on Figure 9); and
- 81 Broadway – "Bradshaw" (Building 11), former warehouse constructed in 1909 (item (1) on Figure 9).

In addition, there are numerous heritage buildings, sites and building elements in the vicinity of the site. **Figure 10** identifies items of local heritage significance on and in the vicinity of the site.

It is noted that Building 1 (the UTS Tower) is an iconic feature of the skyline and the radio tower on the roof of Building 10 (the former Fairfax Building) is a landmark of the local area.



1 CB11 (Bradshaw Building)
2 CB08 (The Terraces) and CB09 (The Loft)
3 CB03 (Bon Marche Building)
4 Building A—Administration Building (Sydney Institute)
5 Building B—Turner Hall (Sydney Institute)
6 Building C—Museum of Applied Arts and Sciences (Sydney Institute)
7 Building H—Technical and Further Education (Sydney Institute)
8 Building I—Counselling Building (Sydney Institute)
9 Building P—Mechanical and Automotive Engineering Trades (Sydney Institute)
10 Building U—Former National Cash Register Co. building (Sydney Institute)
11 Building W—Marcus Clark Building (Sydney Institute)
12 Former Briscoe & Co warehouse
13 Victorian Gothic commercial building
14 Blackfriars School Group
15 St Benedicts Roman Catholic Church Group
16 Terrace (part of former CUB site)
17 Former Australian Hotel
18 No. 1 Gate Portal (former Carlton and United Brewery)
19 County Clare Inn
20 Kent Brewery administration buildings
21 Sutherlands Hotel
22 Former Westpac Bank branch
23 Canada House (former)
24 Federation Free style commercial building
25 Agincourt Hotel

Key
- UTS Broadway Precinct Boundary
- Heritage Item owned by UTS
- Heritage Item in the vincinity of UTS Broadway Precinct
- Heritage Streetscapes
- Railway Square Special Area

Figure 10 – Heritage items in the vicinity of the site (Source: GML)

2.6 Access and Transport

The site has direct access to multiple car, bus, rail and bicycle routes.

Local Roads

The site is bounded by Broadway, the major east-west arterial road comprising at least three lanes of traffic in each direction, including dedicated bus lanes. Harris Street carries two-way traffic between Pyrmont and Broadway (except between Thomas Street and Broadway where it is one way); Thomas and Jones Streets carry two-way local traffic; and Wattle Street carries one-way traffic from Broadway to Pyrmont. Jones Street passes through the site and is pedestrianised further north between Thomas and Mary Ann Streets.

Public Transport

Local and regional bus services travel along Broadway, Harris and Thomas Streets 24 hours a day, 7 days a week. Bus stops are located on the main street frontages to the site, and pedestrian signals provide access to bus stops on the opposite side of Broadway.

Central Railway Station, which serves the Sydney suburban and CountryLink train networks, is located approximately 500 metres from the campus. In addition, the Metro Light Rail and Monorail routes are in the vicinity of the campus.

Pedestrian Access

At-grade pedestrian access into the site is via Broadway, Harris, Thomas, Jones and Wattle Streets. In addition, the Harris Street Overpass connects the upper levels of Building 6 with the forecourt and main entry of Building 1.

Access to the site from Central Railway Station is via the Devonshire Pedestrian Tunnel. Access from Darling Harbour and the northern CBD is available via the Ultimo Pedestrian Network (UPN) and lifts or stairs in Building 6.

2.7 Surrounding Development

The site is surrounded by an eclectic mix of medium-high rise commercial, residential and tourist buildings of no consistent scale or design. **Figures 11** to **15** illustrate development surrounding the site.

Opposite the site on the southern side of Broadway is the 5.795 hectare Frasers Broadway site (the former Carlton and United Brewery) which was recently approved for a large mixed use development. This new commercial / residential development will extend to a height of 116 metres which is similar to the height of the UTS Building 1 Tower. Combined with the works proposed on the site, the redevelopment of the Frasers site will result in the transformation of the western entry to the Sydney CBD.

Adjacent to the Frasers site on its northern side are several modern high rise hotels and Central Railway station and bus terminus (see **Figure 11**). To the western side of Frasers is an evolving education precinct comprising the UTS Blackfriars Precinct and the University of Notre Dame (see **Figure 12**), both of which are accommodated in former education or commercial premises. The University of Sydney is further to the west along Broadway / Parramatta Road.

Beyond Frasers and to the south of Broadway is the suburb of Chippendale – characterised by small-scale workers cottages, residential flat buildings, warehouses and networks of narrow streets.

On the northern side of Thomas Street are the Sydney Institute of Technical and Further Education (TAFE) (**Figure 13**) and the light industrial and commercial precincts of Ultimo, Haymarket and Pyrmont. The headquarters of the ABC adjoins Building 6 on Harris Street (see **Figure 14**). UTS's Haymarket Precinct is located on the site of the former Sydney Markets, while the Powerhouse Museum and Ian Thorpe Aquatic Centre are approximately 600 metres to the north and north east of the site.

Additional educational facilities are located to the west of the TAFE in Ultimo including the Sydney International School. Accommodation for students of universities in the area (including UTS) is also to the west of the site.

Figure 11 – Tourist and commercial development near Central Railway Station

Figure 12 – Frasers Broadway with St Benedict's Church (University of Notre Dame) in the background

Figure 13 – Sydney Institute of TAFE, corner of Jones and Thomas Streets

Figure 14 – ABC Headquarters, Harris Street, adjacent to Building 6

Figure 15 – Development at the corner of Wattle Street and Broadway

3.0 Concept Plan

3.1 Overview

The Concept Plan establishes the planning and development framework to guide future development on the site and articulates the University's objectives and goals and proposes envelopes for new buildings. It has been prepared by BVN Architecture (BVN), and is supported by technical studies which are appended to this report. This chapter provides the urban design principles to guide the built form and describes the elements of the proposal.

The Broadway Precinct of the UTS City Campus will be transformed over the next ten years with an additional 84,750m^2 of GFA. It will become a diverse collection of acquired and purpose-designed buildings that will create a rich and interesting city campus and urban environment.

The Concept Plan is underpinned by the following strategic drivers:

- Accommodating growth in teaching spaces and student capacity;
- Accommodating updated teaching philosophies;
- Improving the functionality of the University;
- Creating a new "learning commons" to serve the whole campus;
- Improving sustainability; and
- Improving pedestrian and learning connections across the campus.

3.2 Urban Design Principles

The following principles that have been developed by BVN will guide the future built form on the site (refer to the Concept Plan at **Appendix D**).

High quality design

Achieve excellence in architectural design through a design competition process. UTS is committed to achieving an excellent standard of architectural design on the site through a design competition process, described in detail at Section 3.9.

Multiple development opportunities

Transform multiple, disparate development sites into new education facilities that meet UTS's long-term needs. Development should be staged as the University's needs for additional student accommodation and educational, cultural and recreation services are refined over time.

Improved permeability

Capitalise on the site's urban character and maintain the informal transition between the campus and the remainder of the city by creating multiple entrances to the site, rather than a single front door. Each new building should be orientated to facilitate active uses on internal and external streets and provide new, or improve existing, connections through and beyond the site.

The centre of the campus

Establish the centre of the campus as its academic, social and ceremonial heart. It encompasses the learning commons, which accommodates an expanded library, Great Hall, student services and social facilities. Services for staff and students are to be integrated with the centre of the campus to provide linkages and reinforce UTS's core.

New identity and entrances

Transform the current Broadway frontage of the site into a new "front door" to the campus. The extension of Buildings 1 and 2 will create a new multi storey entrance to the campus. Active uses at and below ground level will invite the community into the campus. A new building will be constructed along Broadway between Jones and Wattle Streets to create a new identity for UTS on Broadway: of the University's 320 metre street frontage to Broadway, 230 metres will be new or refurbished.

Integration and connection

Improve the legibility of the campus by locating and emphasising major gateways and creating new internal and external streets. Multiple north-south and east-west pedestrian "streets" will facilitate safe and attractive circulation across the campus and to the remainder of the city. Improved functional relationships will result from relocation of faculties into new and refurbished buildings.

Cultural and recreational hubs

Locate new cultural and recreational hubs across the campus. They include purpose-designed facilities such as a cinema, art gallery, multi-purpose sports hall, cafes and retail outlets.

Improved open spaces

Create new, useable open spaces that will receive solar access throughout the year. Alumni Green will provide a prominent landscaped entrance to the campus from Jones Street, while new entrances through Building 6 will facilitate an accessible path from the UPN into the campus.

Sustainability

Achieve a high level of environmental performance for new and existing buildings on the site. All new construction on the campus will target a 5 star rating using the Education Tool prepared by the Green Building Council of Australia. Existing buildings that are to be refurbished will target a rating of 4 stars using the Education Tool.

Access

Capitalise on the site's excellent connections to public transport and pedestrian links to locality and beyond. New accessible pedestrian connections will be created across the campus to improve permeability, the existing quantum of on-site car parking will be maintained, and deliveries will be rationalised through dedicated entrances off Thomas Street.

3.3 Concept Application

Concept Plan approval is being sought for the following, as illustrated in the drawings prepared by BVN at **Appendix D**:

- Demolition of existing Building 11 (81 Broadway), Building 12 (113 Broadway) and Building 13 (115 Broadway).
- Building 1 – extension to podium of existing building to a height* of 22.47 metres to provide an additional 4,050m^2 of gross floor area* for educational and cultural uses.
- Building 2 – extension to, and refurbishment of, existing building to a height of 24.24 metres to provide an additional 6,750m^2 of gross floor area for educational uses.
- Building 3 – modifications to existing building to provide café or retail uses on Level 1.
- Building 4 – modifications to existing building to provide café, retail uses or public facilities on Level 1.
- Building 6:
  - extension and modifications to Levels 1-7 of the existing building to provide approximately 5,950m^2 of gross floor area for educational, retail or café uses;
  - construction of a new 69.20 metre high extension to provide approximately 19,300m^2 of gross floor area for student accommodation;
  - new pedestrian link between Harris Street and the Ultimo Pedestrian Network through Building 6.
- Building 10 – modifications to existing building to provide vehicular access into the new Broadway Building at basement level, and pedestrian access at ground and upper levels.
- Broadway Building – construction of a new 44.47 metre high building to provide 34,650m^2 of educational, and café or retail uses plus basement car parking for approximately 160 relocated spaces.
- Thomas Street Building – construction of new 27.10 metre high building to provide 10,000m^2 of gross floor area for educational, cultural and café or retail uses.
- Alumni Green:
  - landscaping;
  - below ground book storage vault (2,250m^2 of gross floor area);
  - below ground multi-purpose sports hall (1,800m^2 of gross floor area).
- Public domain improvements to Broadway and Thomas, Harris, Wattle and Jones Streets.

* Gross floor area and building height are measured in accordance with the definitions applying to Ultimo-Pyrmont in Sydney Local Environmental Plan 2005 (see Section 4.4).

3.4 Building Envelopes

3.4.1 Proposed Uses, Floor Space and Building Footprints

The proposed building envelopes are illustrated in **Figures 16** and **17**. The proposed GFA for the Concept Plan, calculated in accordance with the provisions relevant to Ultimo-Pyrmont in SLEP 2005, is at **Table 2**. For information purposes, the table also provides the GFA for the Concept Plan calculated using the planning definitions in the Standard Instrument (as discussed in Section 4.4).

Maximum building footprints are illustrated in the Concept Plan drawings. It is assumed that plant rooms and other service protrusions at roof level will not occupy the entire footprint.

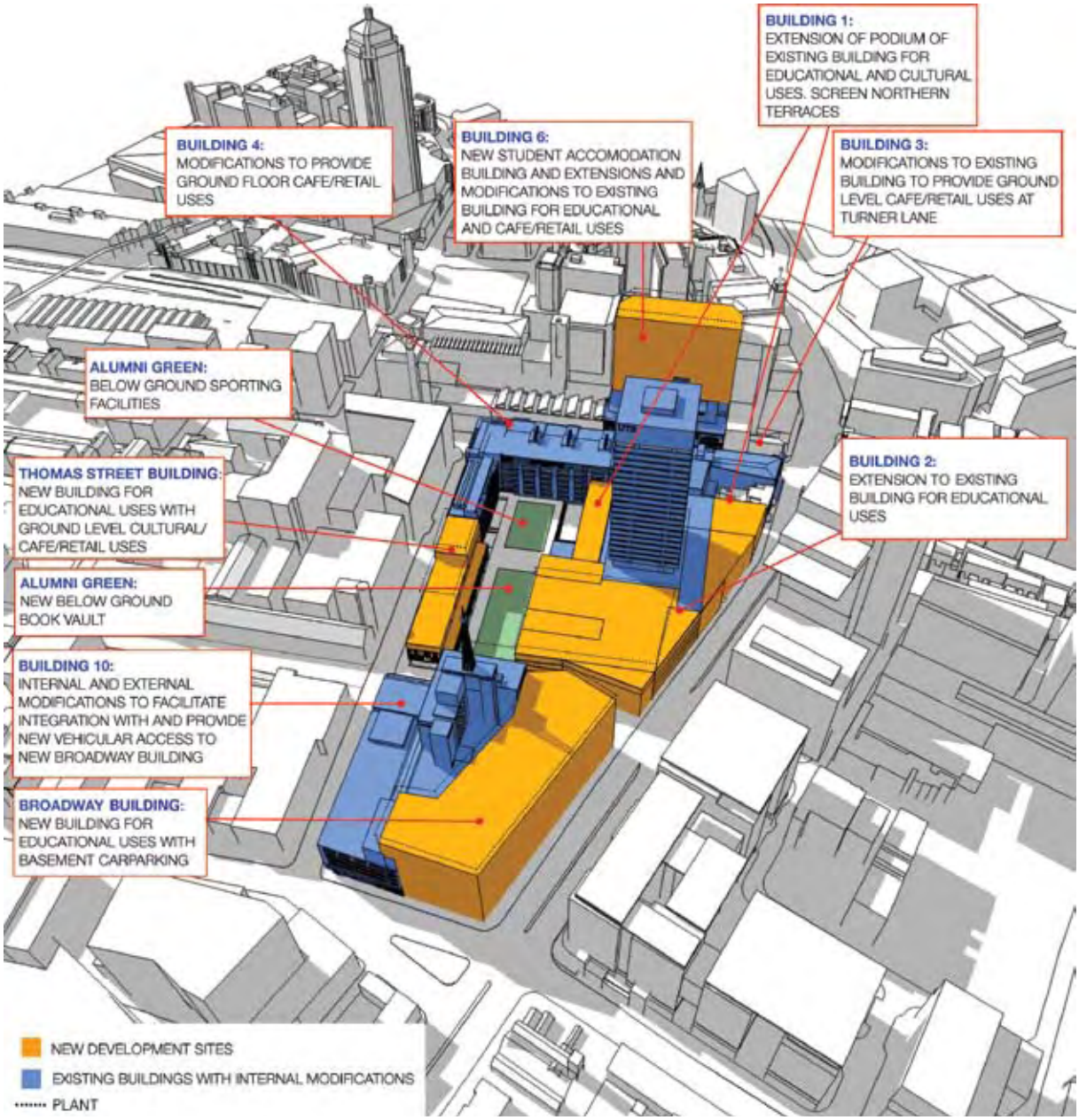


Figure 16 – 3D Model of Building Envelopes (Source: BVN / JBA)

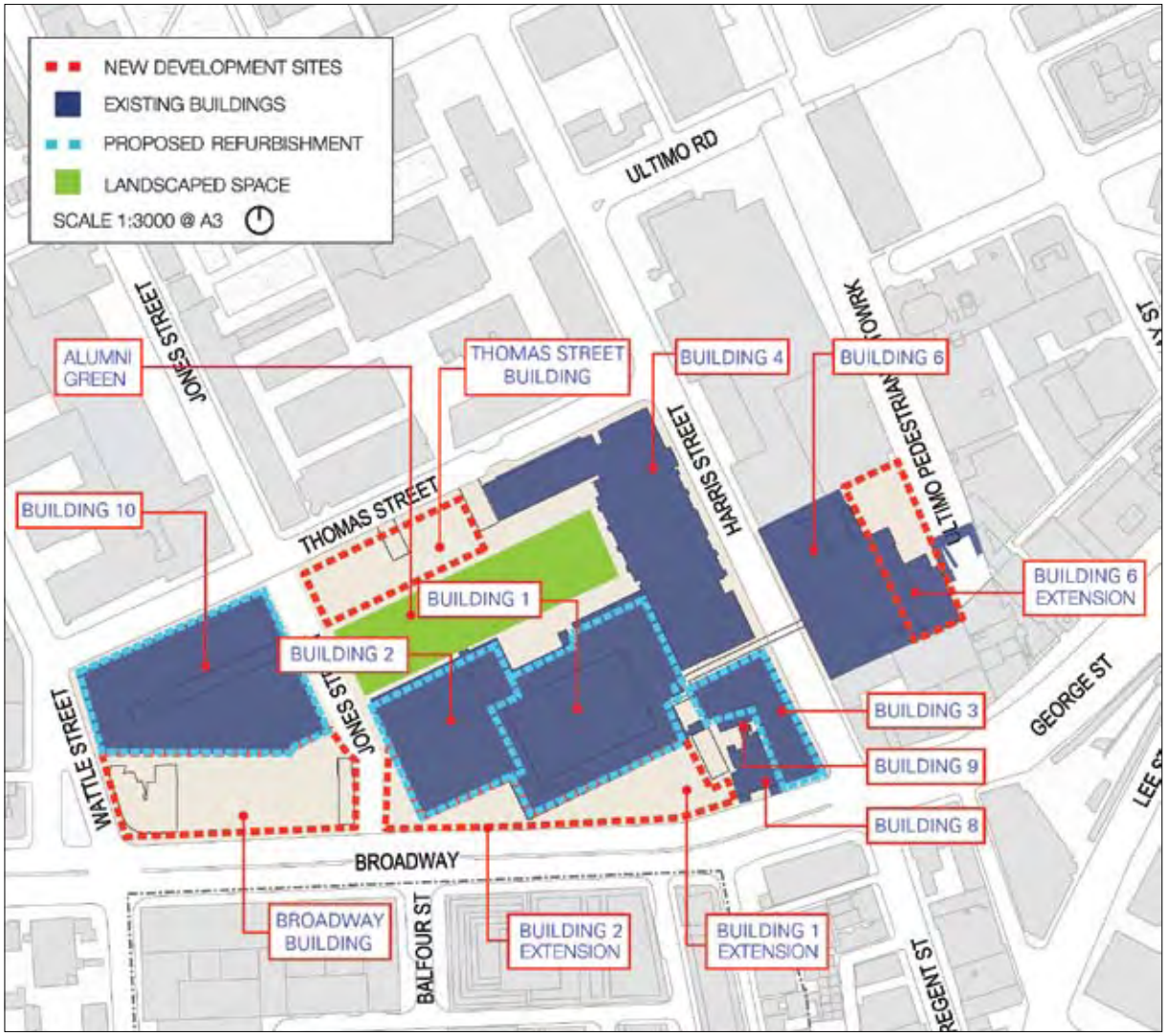


Figure 17 – Building footprints (Source: BVN / JBA)

Table 2 – Proposed GFA for Concept Plan

Building	Uses	Gross Floor Area (m^2) (SLEP 2005)	Gross Floor Area (m^2) (Std Inst)
Building 1	Education, cultural	4,050	3,825
Building 2	Education	6,750	6,375
Building 6 (levels 1-7)	Education, café uses	5,950	5,550
Building 6 (new tower)	Student accommodation	19,300	18,300
Broadway Building	Education, retail or café, car parking‡‡	34,650	32,725
Thomas Street Building	Education, retail or café, cultural	10,000	9,450
Below Alumni Green	Book storage vault and multi-purpose sports hall	4,050	4,050
Total		84,750	80,275

‡‡ Carparking is excluded from GFA calculations (see Section 4.4).

3.4.2 Building Heights

Table 3 sets out the maximum building heights for each new building, or existing building that is to be extended. Building heights are measured from existing ground level at the lowest point, to provide the maximum building height.

To provide an accurate description of the development, building heights have been calculated using the definitions in the current (Ultimo-Pyrmont chapter of SLEP 2005) and proposed (Standard Instrument) *height of buildings* definitions (refer to Section 4.4). **Figure 18** illustrates the proposed maximum building heights for the Concept Plan in relation to the 42 metre height limit in SLEP 2005. Indicative block envelopes are provided in the Concept Plan at **Appendix D**.

Table 3 – Concept Plan heights

Building	Max building height (m) (SLEP 2005)	Max building height (m) (Std Inst)
Building 1	22.47	28.67
Building 2	24.24	30.09
Building 6 (new tower)	69.20	74.00
Broadway Building	44.47	51.67
Thomas Street Building	27.10	33.30

Building 1 (the UTS Tower) will remain the tallest building on the site, with a maximum height of 117.5 metres (this equates to RL 133.05). With the exception of the Building 6 tower and the western edge of the proposed Broadway Building, each of proposed new buildings (or extensions to existing buildings) will remain within the 42 metre height limit (measured using the relevant definition from the Pyrmont Ultimo chapter of SLEP 2005).

Building 6 will have a maximum building height of 69.20 metres (measured using the relevant definition from the Pyrmont Ultimo chapter of SLEP 2005), which equates to RL 83.30. This compares with the existing ABC Headquarters (RL 74.96) and Taragon residential tower (RL 65.57) adjoining the site.

Due to the sloping topography of Broadway the western (Wattle Street) edge of the Broadway Building will have a maximum building height of 44.47 metres (RL 53.97). The eastern, or Jones Street edge is within the height limit at 39.47 metres (or RL 53.97).

In contrast, the Frasers site has a maximum building height of 116.50 metres (or RL 133.00) at its tallest point (directly opposite the Building 1 tower). A lower building with a maximum height of 59.5 metres (or RL 69.5) is also located on the Frasers site, opposite the proposed Broadway building. Sections illustrating the scale of proposed building envelopes in relation to the Frasers development have been prepared by BVN and are at **Appendix D**.

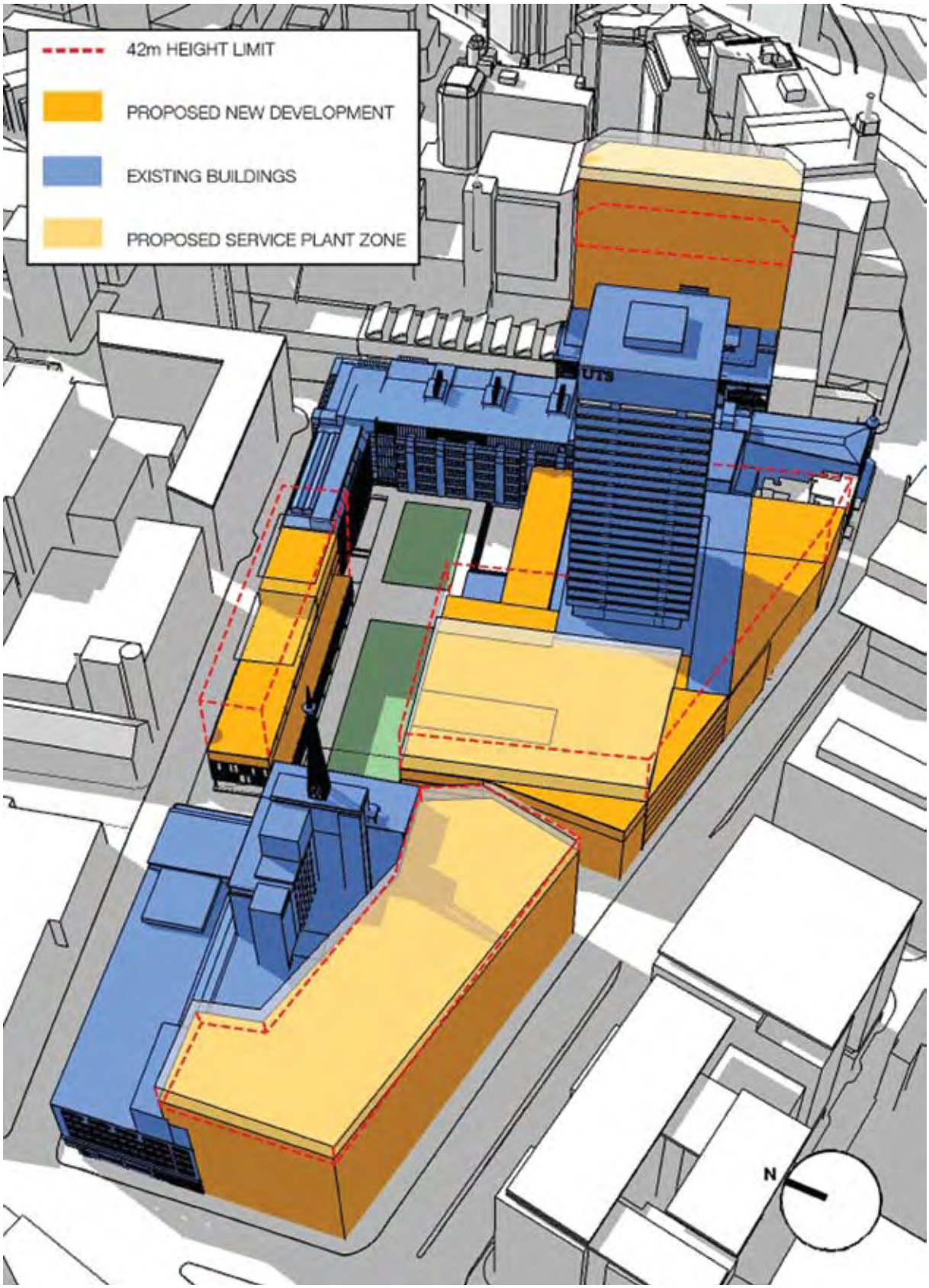


Figure 18 – Building envelopes in relation to SLEP 2005 height limit (Source: BVN)

3.5 Proposed Development Sites

The Concept Plan comprises several new development sites and extensions to existing buildings on the campus. Each is described and illustrated in **Figures 17** and **18**.

Building 1

The podium of Building 1 will be extended to the Broadway boundary to a maximum height of 22.47 metres. The refurbishment of the Building 1 forecourt to Broadway will create a new campus entrance of scale and significance to reinforce the image of UTS.

Building 2

Building 2 will be refurbished and extended to the Broadway and Jones Street boundaries to a maximum height of 24.24 metres. The extension will incorporate one additional floor. The new Broadway frontage will include an element of transparency to express the functions within.

Building 2 will accommodate the library with the existing atrium expanded as part of the extensions. The library will reinforce the heart of the campus and include learning commons over multiple levels.

New facades will be provided to all external frontages and new entries will improve access from the refurbished atrium to Alumni Green.

Building 3

Level 1 of Building 3 will be modified to provide café or retail uses. Turner Lane, adjoining Building 3, will be upgraded, paved and activated and will provide access to new student facilities on Level 3 of Building 1.

Building 4

A new retail tenancy or public facility will be provided at the corner of Harris and Thomas Streets. Access to the new multi-purpose sports hall (to be located under Alumni Green) will be via the lower levels of Building 4.

Building 6

The podium of the existing building will be extended to the north eastern boundary of the site (where the basketball courts are currently located). The extension will accommodate:

- an entry and lobby at Level 2 for the new student accommodation with direct access off the UPN;
- new lifts to service the student accommodation and roof terrace levels (Levels 8-21); and
- additional teaching spaces for the Faculty of Design, Architecture and Building.

A 14 storey, 69.20 metre tower, will be constructed above the existing 7 storey podium to provide accommodation for up to 720 students. The upper levels will comprise student accommodation with Level 8 (lowest level of the tower) providing common areas, such as terraces, TV and games rooms, a laundry and resource/study rooms. The uppermost level of the building (Level 21) will contain a roof terrace and common areas.

The current one-way escalator from Building 6 to the UPN will be augmented with new internal lifts and stairs, and lighting at the new UPN entrance. A cafe with outdoor seating will activate the new entrance into the building from the UPN.

Building 10

The existing education building will be modified to provide vehicular access into the new Broadway Building at basement level, and pedestrian access at ground and upper levels.

Broadway Building

A single building envelope with a maximum height of 44.47 is proposed for the Broadway frontage to the site between Wattle and Jones Streets. The proposed building envelope maintains views from the south and west to the radio tower on the roof of Building 10.

The building will provide approximately nine levels of new faculty accommodation including the new Faculty of Engineering and Information Technology and the new Creative Industries Innovation Centre (CIIC) whose establishment was recently awarded to UTS by the Federal government. The Centre will assist approximately 35% of Australia's creative industries and information and communication industries located in Sydney and become the forum where students, academics and industry will come together to learn from each other and develop solutions for issues facing Australian and international communities.

A key feature of the building will be a series of interactive and transformable collaborative research laboratories promoting frontier research, resulting in new technologies, new markets and cutting-edge industrial design.

The Broadway Building will connect with the existing Building 10 to provide an integrated new teaching environment. Parking spaces for approximately 160 vehicles will be relocated from other parts of the campus into the basement. Pedestrian connections are intended from the Broadway frontage into the building. To provide penetration of light to lower levels treatments such as an atrium or light wells will be investigated between the new building and Building 10.

The building is intended to create a positive interaction with its neighbouring buildings and environment and present a modern image that will promote and contribute to the success of the CIIC. Together with the slightly taller Frasers development, the Broadway Building will enhance the southern approach to the Sydney CBD and form an important new gateway to the city.

Thomas Street Building

A new 10,000m^2 building for educational purposes and café/ cultural or retail uses with a height of approximately 27.10 metres (adjacent to Building 4) and 18.05 metres (adjacent to Jones Street) will be constructed on vacant land facing Thomas Street.

The majority of the building will be limited to four storeys above ground, with the fourth level set back from the south to provide good year-round solar access to Alumni Green. This height is designed to allow a minimum of 10 metres of sun along the southern edge of Alumni Green at 12 noon at the winter solstice. A garden that will collect rainwater for reuse in other parts of the site will be provided on part of the roof.

A colonnade or awning will be provided on the Alumni Green façade of the building to provide year-round shelter for pedestrians.

Book Storage Vault and Multi-Purpose Sports Hall

A new 2,250m^2 book storage vault with an automatic book retrieval system and a 1,800m^2 multi-purpose sports hall will be constructed in basements under Alumni Green. The book storage vault will accommodate up to 750,000 books and be accessed from the below ground extension to Buildings 1 and 2. The multi-purpose sports hall is to be located next to the existing gymnasium and accessed via Building 4.

Alumni Green

Alumni Green will be reactivated as the major outdoor space of the campus. As described in Section 3.6, it will unify the buildings and spaces surrounding it, while helping define a new identity for the University's physical environment.

3.6 Landscaping and Streetscape

Alumni Green

As shown in the Landscape Concept Plan prepared by Deverson + Associates Pty Ltd at **Appendix E**, the 7,000m^2 Alumni Green will be extensively landscaped with lawns, paving and mature trees and shrubs to improve the amenity of the area.

- The western-most end (opening onto Jones Street) will be an active space and sunlit for most of the year. It will comprise a large campus lawn crossed by circulation paths with deciduous shade trees on the boundaries. Colonnades or awnings will form its northern and southern edges and provide weather protection for pedestrians accessing Building 2 and the Thomas Street Building from Alumni Green.
- The centre of Alumni Green will be surrounded on three sides by the built form and be equivalent to an urban square. It will be a formal space with deciduous shade trees, street furniture and sculpture pieces and be accessible from Building 1 and the Thomas Street Building.
- The eastern-most zone will be the most private part of Alumni Green, enclosed by the solid facades of Building 4; its solar access is poor. This space will be planted with rainforest species and include seating.

The removal of any significant trees on the site will be subject to an aborist's report and the final landscape design will implement the principles of water sensitive urban design in accordance with the ESD report at **Appendix G**.

As illustrated in the shadow diagrams prepared by BVN at **Appendix D** (refer plan 3A-SD-00), the built form of the Concept Plan has been designed to maximise solar access to open space and the streetscape. The southern parts of Alumni Green will receive direct sunlight at 12 noon at the winter solstice, while the majority of Alumni Green will be bathed in sunlight between 9 am and 3pm at the summer solstice.

The revitalisation will create a usable and vital environment that offers diversity and interest. Importantly, its edges will become a part of the intensification of cultural and social life on the campus – a sun-filled green space with a northern verandah for activities, events and spaces.

Pedestrian Links

Existing pedestrian connections through the site will be formalised and upgraded to provide universal access.

Turner Lane, off Harris Street opposite Building 6, will be redesigned to remove the current loading area and provide an active edge to Building 3 and new entry to the campus. Loft Lane, between Broadway and Turner Lane, will become the main entry to the experimental cinema, the Loft Bar and the Building 8 Courtyard.

The proposed colonnades or awnings along the northern and southern edges of Alumni Green will provide important weather protection for the internal pedestrian links between Harris and Jones Streets.

Street Frontages

Broadway, Thomas and Jones Street provide vital pedestrian access into the site. To complement the ground level active uses proposed in the Concept Plan they will be improved with new trees and paving in accordance with City of Sydney requirements. The northern part of Jones Street and western parts of Thomas Street will be bathed in sunlight throughout the year. Much of Broadway is already shaded by the existing tower and podium of Building 1.

Materials and street furniture used will be in accordance with the Draft Streets Design Code and Street Tree Master Plan prepared by Council of the City of Sydney.

3.7 Access and Circulation

Pedestrian Network

The Concept Plan proposes new pedestrian routes through the campus as illustrated in the pedestrian circulation diagram at **Figure 19**. They include:

- East-west links from the Ultimo Pedestrian Network to Jones Street and beyond;
- North-south links between Broadway and Thomas Street;
- Colonnades or awnings and pathways through Alumni Green.

The new pedestrian links will comply with the UTS Accessible Environments Policy, the Building Code of Australia and the Disability Discrimination Act 1992 (DDA).

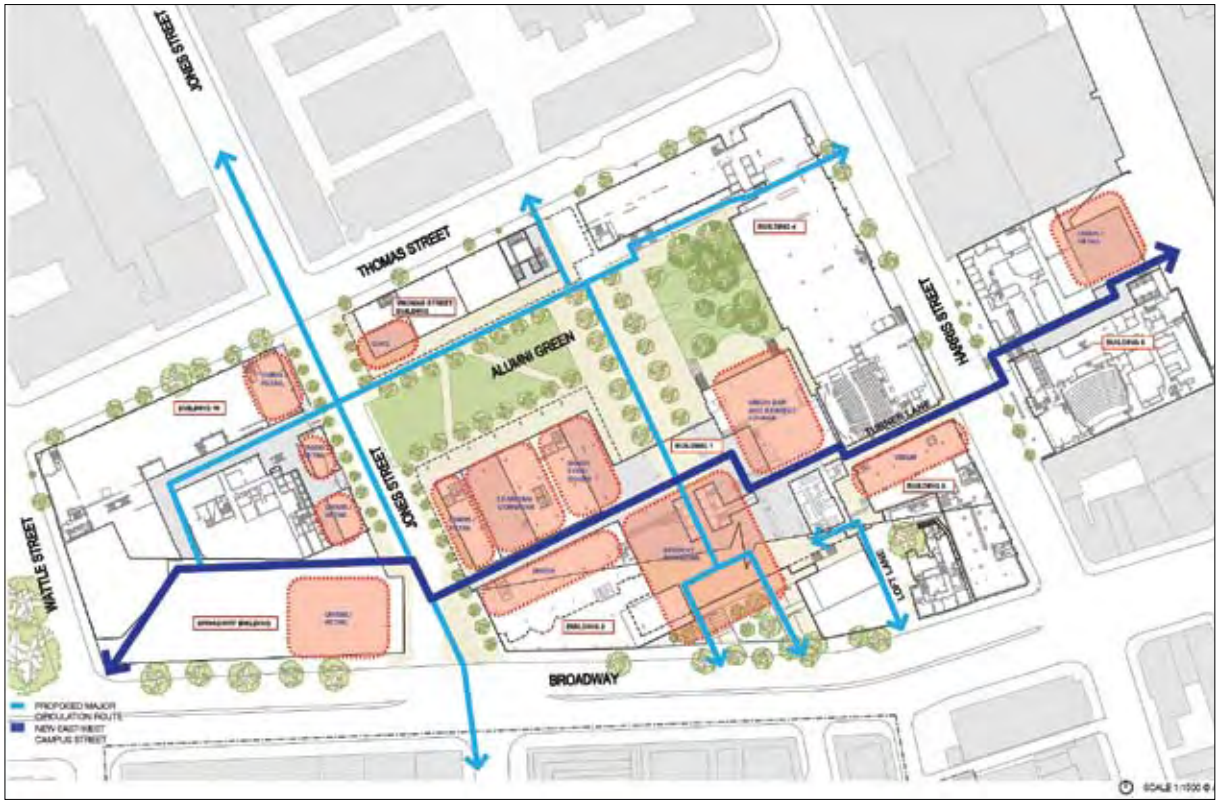


Figure 19 – Pedestrian circulation (Source: BVN)

Vehicular Access and Parking

The Concept Plan proposes to maintain the current level of car parking on the site. Approximately 160 car spaces will be relocated from the at-grade Broadway car park and below Buildings 1, 2, 6 and 10 converted to service vehicle parking and into a basement car park under the new Broadway Building. Access to the new car park will be via the basement of Building 10.

The existing loading dock on Level 2 of Building 1 (off Thomas Street) will service all deliveries for Buildings 1, 2, 3, 4, 8 and 9 and the new Thomas Street Building. The existing loading dock in Building 10 (off Thomas Street) will accommodate deliveries for that building and the new Broadway Building. The existing loading dock off Harris Street will accommodate deliveries for Building 6.

A drop off point for ceremonial vehicles will be located in Jones Street adjacent to the façade of Building 2. The façade will incorporate colonnades or awnings to provide a weather-protected route from Jones Street through Building 1 to the Great Hall and Chancellery.

Public Transport

In consultation with the State Transit Authority, opportunities to consolidate the existing two bus stops on the Broadway frontage into a single stop with a new shelter outside Building 1 or 2 will be investigated.

Bicycle Facilities

Additional bicycle parking facilities will be located in Building 10. Existing facilities for cyclists (including bicycle racks and end of trip facilities) are located across the campus.

Jones Street

Footpaths will be improved through new street furniture and plantings in consultation with the City of Sydney. The Concept Plan does not include the proposal to pedestrianise or close Jones Street between Broadway and Thomas Street. This will be subject to a separate application.

3.8 Environmentally Sustainable Development

An ESD strategy has been prepared by Arup and is located at **Appendix G**. The strategy adopts the principles of the UTS ESD Masterplan 2020 and recommends strategies to minimise the use of potable water and energy across the campus. Arup has also made recommendations on how to minimise waste in the construction and operational phases of the development.

The Concept Plan adopts the following ESD targets:

- 6 star Green Star Education target for the new Thomas Street Building;
- 5 star Green Star Education target for the new Broadway Building;
- 4 star Green Star Education target for major refurbished buildings and podium extensions to Buildings 1 and 2; and
- Building 6 will meet the targets for potable water use and energy efficiency for residential flat buildings and achieve an equivalent rating to 4 star Green Star.

Green Star Education Tool

The Green Star Education rating tool is a voluntary rating tool that has been developed to adapt the principles of the Green Star Office rating tool to the rapidly expanding academic realm, including primary and secondary schools and universities. It seeks to establish a benchmark environmental rating that can be used to differentiate the success of high-performance green buildings in the academic sector.

Green Star rates buildings across several key environmental criteria and then assigns a star rating from 4 to 6 stars. Categories rated include Management, Indoor Environmental Quality, Energy, Transport, Water, Materials, Land Use and Ecology and Emissions.

Amongst other things, the following ESD measures are envisaged in the Concept Plan:

- Green roofs on Building 10 and the new Thomas Street Building to reduce and control stormwater runoff;
- 1.2-1.5 Megawatt trigeneration plant for the Broadway Building; and
- Bio-digester plant in Building 2 to process organic waste.

3.9 Design Excellence

UTS is committed to design excellence for new development in the Concept Plan. This will be achieved through design competitions for the Broadway Building, the Thomas Street Building and the podium extensions to Buildings 1 and 2.

Clause 10 of SLEP 2005 enables certain development standards to be waived by up to 10% if a proposed development will improve or contribute positively to the public domain and would achieve design excellence.

Clause 26 of SLEP 2005 requires, in determining an application, that the consent authority consider whether the building exhibits design excellence. In particular, consideration must be given to the following:

- Whether a high standard of architectural design, material and detailing will be achieved appropriate to the building type and location; and
- Whether the form and external appearance of the building will improve the quality and amenity of the public domain; and
- Whether the new development detrimentally impacts on important view corridors.

The competitions will adopt the Urban Design Principles for the concept plan (refer Section 3.2) and the Design Quality Controls for each building (refer Section 3.10). The proposed design competition process is described below.

Up to six firms will be invited to submit illustrated and costed design concepts for the relevant development site in accordance with detailed design criteria and other relevant conditions. Entries will be assessed by a panel comprising three Department of Planning nominees and three UTS nominees. The Panel will select a winner and recommend their appointment to UTS.

The first competition will be for the Broadway Building. The design for Building 6 was the subject of an earlier competitive Public Private Partnership process — design was one of a number of selection criteria.

3.10 Design Quality Controls

The following specific design quality controls have been developed for the new buildings on the site and will be incorporated into the design criteria for the above competitions. They complement the Urban Design Principles at Section 3.2.
In this section, all building heights are measured in accordance with the Standard Instrument (see Section 4.4).

Broadway Building

- Limit the height of the building to 51.67 metres from ground level (including plant). Explore varying the height of the building along its length to respond to the urban environment of Broadway.
- Maximise the extent of permeability of the ground plane through retail and student union shop fronts and student and public facilities.
- Enable pedestrian connections through the site from Broadway through to Jones Street.
- Consider the articulation of the building façade along Broadway and Jones Street to reduce the bulk and scale through openings and pedestrian connections, modulation and material quality.
- Provide pedestrian protection along the length of the Broadway frontage.
- Consider an element of transparency in the building design to express functions within.
- Respond respectfully to the existing Building 10 in relation to the way the new building abuts the building on its western and eastern facades.
- Provide at grade and above ground pedestrian connections to Building 10.
- Provide vehicular connections to the new building through the Building 10 car park to avoid dangerous and unsightly driveways off Broadway and Jones Street.
- Incorporate design solutions to address wind conditions in the locality.

Thomas Street Building

- Limit the height of the building to generally 23.70 metres from ground level (including plant) adjoining Jones Street and 33.30 metres from ground level (including plant) at the junction with the existing Building 4.
- Set back the topmost floor of the building to maximise solar access to Alumni Green at 2pm at the winter solstice.
- Provide a lift connection to level 7 of Building 4. The envelope of the connection will allow solar access to Alumni Green in accordance with relevant solar access provisions for public spaces.
- Maximise the extent of permeability of the ground plane through retail and student union shop fronts and student and public facilities.
- Enable pedestrian connections through the site from Thomas Street to Alumni Green.
- Consider an element of transparency in the building design to express functions within.
- Provide a pedestrian colonnade or awning to Alumni Green along the southern edge of the building.

Building 1 Podium

- Limit the height of the podium extension to 28.67 metres from ground level (including plant).
- Refurbish the existing Building 1 forecourt and entry at Broadway to create a major new entrance to the campus.
- Provide a multi storey atrium with internal garden at the entry.
- Provide pedestrian entries off Broadway, Alumni Green and Turner Lane.
- Provide pedestrian protection along the length of the Broadway frontage.
- Maximise the extent of permeability of the ground plane at the Broadway and Alumni Green entries through retail and student union shop fronts and student and public facilities.
- Consider an element of transparency in the building design to express functions within.
- Provide screening to the existing northern terraces to create new sheltered outdoor spaces and activate the northern edge of the building at all levels.
- Incorporate design solutions to address wind conditions in the locality.

Building 2

- Limit the height of the building to 30.09 metres from ground level (including plant) at Broadway.
- Refurbish external facades.
- Refurbish and extend the existing atrium to provide daylight into the building.
- Maximise the extent of permeability of the ground plane along Jones Street and Alumni Green through retail and student union shopfronts and student and public facilities.
- Provide pedestrian entries off Jones Street and Alumni Green.
- Provide pedestrian protection along the length of the Broadway frontage.
- Provide a pedestrian colonnade or awning along the northern edge of the building to Alumni Green.
- Consider an element of transparency in the building design to express functions within.
- Incorporate design solutions to address wind conditions in the locality.

Building 6

- Limit the height of the building to 74.00 metres from ground level (including plant).
- Activate the UPN entry to the building by providing a new café at Level 2.
- Provide pedestrian entries off the UPN and Harris Street.
- Address the principles of State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development for the student accommodation tower.
- Protect the visual amenity and solar access of apartments in the north east corner of the adjoining Taragon residential building.
- Provide solar access and visual amenity for the residents of the Building 6 tower.
- Articulate the tower façade to complement the scale and detail of adjacent buildings.
- Provide a roof terrace at the uppermost level.

Alumni Green

- Provide colonnades or awnings along the northern and southern edges of Alumni Green and incorporate pedestrian paths, street furniture and sculpture across the public spaces.
- Landscape the area with suitable plant species that have low irrigation needs.
- Materials and furnishings used will be in accordance with the Draft Streets Design Code prepared by the Council of the City of Sydney.
- Incorporate bioretention pits and treatment systems under Alumni Green to retain storm water during peak flows.

3.11 Staging and Future Development

3.11.1 Project Staging

Development of the Concept Plan will take place over ten years with demolition and construction to be determined by UTS's needs – see Indicative Staging Plan at **Figure 20** and **Appendix F**. The staging of the development of the Concept Plan is predicated on the ability of the University to maintain access to student facilities and services (eg cafeteria, Alumni Green etc) during the construction period.

3.11.2 Future Approvals

The following components of the proposal will be the subject of future Part 3A Project Applications for the approval of the Minister for Planning:

- Building 6;
- Broadway Building;
- Thomas Street Building; and
- Extensions to Buildings 1 and 2.

Major refurbishments to existing buildings and the other works forming the Concept Plan are proposed to be the subject of future development applications for the consent of the Council of the City of Sydney under Part 4 of the EP&A Act. Minor internal works may be subject to complying development certification or as exempt and complying development.

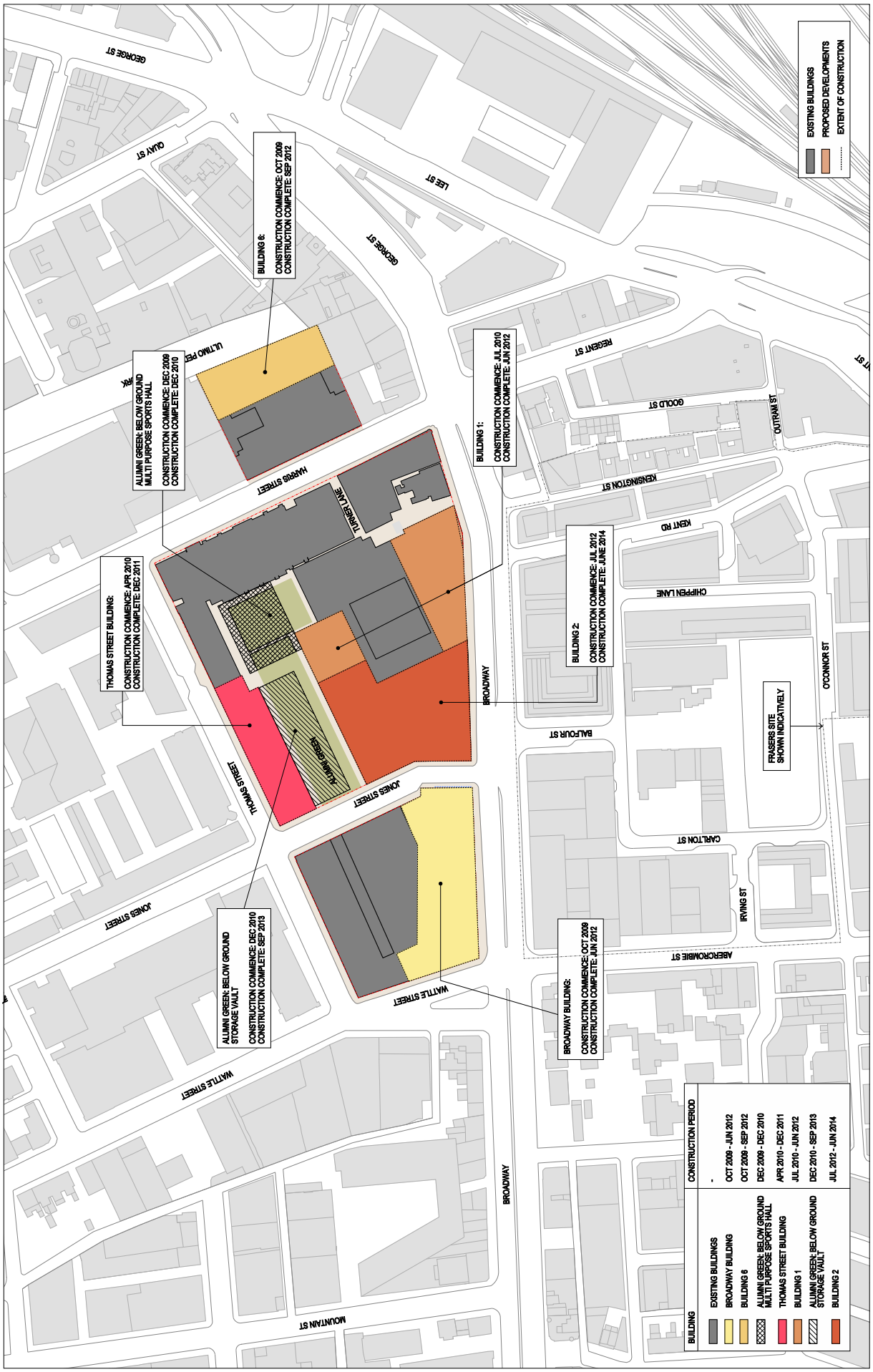


Figure 20 – Indicative Staging Plan (Source: BVN / JBA)

4.0 Planning Framework

This chapter details the relevant strategic plans and environmental planning instruments (EPIs) applying to the site and the proposal. An assessment of compliance with relevant plans is provided at Section 6.2.

4.1 Strategic Plans

Metropolitan Strategy

"City of Cities: A Plan for Sydney's Future" (the Metropolitan Strategy for Sydney) was launched by the NSW Government in December 2005. It provides commentary and direction for the next 25-30 years at a regional level on issues such as land use, economic development, jobs, transport, innovation, centres and corridors, and residential areas within Sydney. It aims to accommodate 1.1 million additional residents and 500,000 new jobs over the period to 2031.

Elements of the Metropolitan Strategy relevant to the proposal include:

- Maintaining the strong global economic corridor, which stretches from Sydney Airport to Macquarie Park and includes the City of Sydney and UTS site;
- Containing Sydney's development footprint; and
- Providing fair access to housing, jobs, services and educational opportunities.

Appendix I includes a summary of the consistency of the Concept Plan with the Metropolitan Strategy.

Draft Sydney City Subregional Strategy

The Draft Sydney City Subregional Strategy was released in July 2008. It is a key part of the implementation of the Metropolitan Strategy and is intended to guide land use planning in the City of Sydney local government area to 2031.

Elements of the draft subregional strategy relevant to the proposal include:

- Reinforcing global competitiveness and strengthen links to the regional economy; and
- Planning for sustainable development of major urban renewal projects;
- Developing an improved and increasingly integrated transport system that meets the City's multiple transport needs; and
- Planning for housing choice.

UTS is located in the heart of Global Sydney, in the Sydney Education and Health Precinct. **Appendix I** includes a summary of consistency with the Draft Strategy.

NSW State Plan

The NSW State Plan, released in November 2006, sets out the priorities for Government action over the next 10 years. Developed by the State Government following public consultation, it articulates the goals the community wants the NSW Government to work towards. It nominates 34 priorities and 60 targets designed to deliver better services and improve accountability across the public sector.

The concept for the redevelopment of the Broadway Precinct of the UTS City Campus meets the following objectives of the NSW State Plan in that it facilitates the delivery of:

- *NSW: Open for Business* through facilitating increased business investment (P1) and more people participating in education and training throughout their life (P4); and

- *Improved Urban Environments* through providing jobs closer to home (UTS is within 30 minutes' travelling time of numerous strategic and additional education jobs and opportunities will be located adjacent to the Central Station transport hub) (E5) and providing affordable housing in the Building 6 tower (E6).

Urban Transport Statement

The Urban Transport Statement was released in November 2005. The Statement comprises a $660 million package of new and accelerated initiatives to address Sydney's present and future transport needs. The Statement is an action plan that responds to the growing transport challenges in Sydney as the current population of 4.1 million increases to more than 5 million within 20 years.

The Concept Plan is consistent with the Urban Transport Statement as the site is less than 500 metres from Central Railway Station. It promotes the use of the existing CityRail and Sydney Buses networks to staff and students to access the site.

4.2 State and Regional Planning Instruments and Policies

This section summarises the relevant state and regional environmental planning instruments and policies that apply to the site.

State Environmental Planning Policy No 55—Remediation of Land

State Environmental Planning Policy 55 – Remediation of Land (SEPP 55) aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. It requires that a consent authority must not consent to the carrying out of any development on land unless it has considered whether the land is contaminated, and if the land is contaminated whether or not it can be made suitable for the proposed use.

A Phase 1 Environmental Site Investigation has been undertaken and is discussed in Section 6.9 of this report.

State Environmental Planning Policy (Major Projects) 2005

The Major Projects SEPP identifies certain categories of development and specified sites that are subject to assessment and determination under Part 3A of the EP&A Act. As detailed in Section 1.3 above, the Concept Plan was declared a Major Project under Clause 20 of Schedule 1 as a development for the purpose of teaching or research (including universities, TAFE or schools) that has a capital investment value of more than $30 million.

State Environmental Planning Policy (Infrastructure) 2007

The aim of the Infrastructure SEPP is to facilitate the effective delivery of infrastructure across the State by:

- Improving regulatory certainty and efficiency through a consistent planning regime for infrastructure and the provision of services;
- Providing greater flexibility in the location of infrastructure and service facilities;
- Allowing for the efficient development, redevelopment or disposal of surplus government owned land;
- Identifying the environmental assessment category into which different types of infrastructure and services development fall;
- Identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure development; and

- Providing for consultation with relevant public authorities about certain development during the assessment process or prior to development commencing.

Clause 104 of the SEPP requires that the Roads and Traffic Authority be notified of development that involves:

- New premises of a specified size and / or capacity; or
- An enlargement or extension of existing premises, being an alteration or addition of a specified size and / or capacity.

The Concept Plan is of a type listed under Schedule 3 of the SEPP, namely development for the purposes of *educational establishments with 50 or more students … with access to any road.* As the Concept Plan will increase the capacity of the Broadway Precinct of the UTS City Campus from 12,200 EFTSL to 15,000 EFTSL, it should be referred to the RTA.

Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

The Sydney Regional Environmental Plan (Sydney Harbour Catchment) (the Sydney Harbour REP) applies to land within the Sydney Harbour Catchment and includes the site. It aims to ensure that the catchment, foreshores, waterways and islands of Sydney Harbour are recognised, protected, enhanced and maintained.

The Concept Plan relates to an existing highly disturbed and well developed site and is unlikely to have adverse impacts on Sydney Harbour or its catchment.

4.3 Local Statutory Planning Framework

This section summaries the relevant local environmental planning instruments, policies and development control plans that apply to the site. A more detailed response to these instruments is in the Tables of Compliance at **Appendix I**.

Sydney Local Environmental Plan 2005

The Sydney Local Environmental Plan 2005 (SLEP 2005) is the principal EPI applying to the site. It identifies land use zones, objectives and development standards that must be considered when determining development applications. Pursuant to SLEP 2005, the site is zoned Residential-Business in Ultimo-Pyrmont. **Figure 8** provides an extract of the land use zoning map for Ultimo-Pyrmont.

Pursuant to Section 75R(3), major project applications are only required to comply with State Environmental Planning Policies, and other environmental planning policies (LEPs and REPs) to the extent that they dictate permissibility. Notwithstanding this provision, the DGRs issued by the Department of Planning require the EAR to justify any departure from SLEP 2005 including any proposed departures from the development standards that apply to the site.

The planning principles for development in Ultimo-Pyrmont include:

- Development is to provide for a significant increase in residential population in a mixed-use development pattern also accommodating employment, educational and other uses;
- Uses at the ground level of buildings fronting the public domain should complement the functions of the public domain; and
- Where possible, development is to make use of existing under-utilised buildings and large areas of land which are either vacant or occupied by out of date facilities.

Additional planning principles are provided in relation to residential development, social issues, high quality urban design and public domain, adaptive reuse of heritage items and the provision of a range of leisure and recreation opportunities.

Residential-Business Zone

Pursuant to SLEP 2005, only uses that are consistent with one or more of the objectives of the Residential-Business Zone are permissible with development consent. Objectives of the zone that are relevant to the proposal include:

- Accommodate uses which generate employment opportunities and provide facilities and services that enable people to live and work in the same community; and
- Encourage sustainable transport modes for journeys to work and other trips, including walking, cycling and all forms of public transport.

Development Standards

Clause 93 of SLEP 2005 (maximum building heights) establishes a maximum building height of 42 metres for the UTS site. **Figure 21** provides an extract from the building height map for Ultimo-Pyrmont.

Clause 99 (floor space limits for non-master plan areas in Ultimo-Pyrmont) establishes the following maximum floor space ratios for land with a maximum building height of 42 metres:

- Maximum floor space ratio for residential uses: 4.0:1; and
- Maximum floor space ratio for business uses: 5.0:1.

Clause 10 of SLEP 2005 enables the building height and floor space ratio development standards to be varied by up to 10%, providing the proposed development will improve or contribute positively to the public domain and would achieve design excellence.

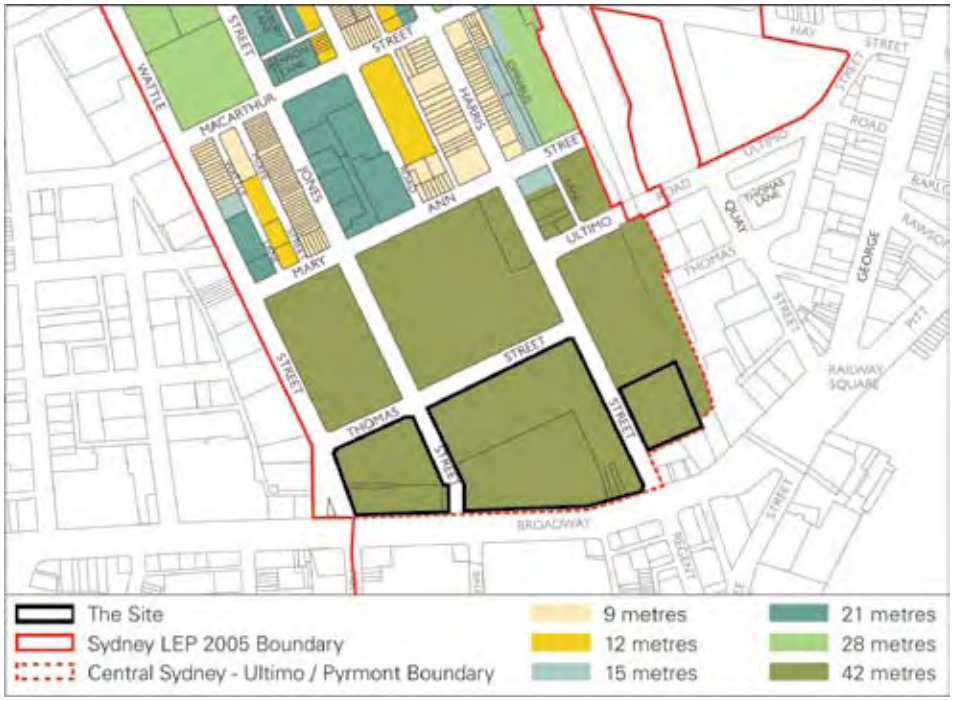


Figure 21 – Extract from Ultimo-Pyrmont building height map, SLEP 2005

Heritage

Pursuant to SLEP 2005, the site contains the following items of local heritage significance:

- 1-7 Broadway (Building 3);
- 9-13 Broadway (Building 8); and
- 81 Broadway (Building 11).

There are several other items of local heritage significance in the vicinity of UTS.

Part 5 (Heritage conservation) of SLEP 2005 requires the consent authority to be satisfied that development of or including a heritage item, in the vicinity of a heritage item, or within a conservation area be compatible with the conservation of the heritage significance of the item or the character of the conservation area.

The SLEP also establishes heads of consideration for the consent authority to consider prior to the granting of consent for development, including the heritage significance of an item or area, and the impact of development on the item or area.

The impact of the proposal on the heritage significance of the site and the locality is addressed in Section 6.7 and at **Appendices J and K**.

Urban Development Plan for Ultimo-Pyrmont Precinct – 1999 Update

The 1999 update to the Urban Development Plan (UDP) for Ultimo-Pyrmont was prepared in terms of clause 36 of the then Sydney Regional Environmental Plan No 26 City West. The UDP provides detailed planning and urban design principles for land in Ultimo-Pyrmont, particularly the South Ultimo sub-precinct, which includes the site.

Principles relevant to the built form of the proposal include character, environmental issues and ESD, access, parking and circulation.

The proposal in the context of the UDP is addressed in the Tables of Compliance at **Appendix I**.

City of Sydney Heritage Development Control Plan 2006

The City of Sydney Heritage Development Control Plan 2006 (the heritage DCP):

- Establishes the framework for detailed heritage and conservation planning; and
- Ensures that development applications for heritage items and works within heritage conservation areas and heritage streetscapes are assessed on the basis of heritage significance and desired heritage outcomes.

The impacts of the proposal on the heritage significance of the site and the locality have been addressed in Section 6.7 and at **Appendices J and K**.

Draft City of Sydney Ecologically Sustainable Development – Development Control Plan

The draft City of Sydney Ecologically Sustainable Development – Development Control Plan (draft ESD DCP) was publicly exhibited in March 2008. It has not yet been formally adopted by the City of Sydney. The draft ESD DCP provides a comprehensive set of guidelines and requirements to ensure the application of ESD principles throughout the City and applies to commercial and residential development.

Environmental performance under the draft ESD DCP is based upon eight environmental impact categories including management, indoor environmental quality, energy, water, materials, land use and ecology and emissions, with points awarded for commitment to certain targets.

The environmental performance of the proposal is addressed in Section 6.14 and at **Appendix G**.

Sydney 2030

The Sustainable Sydney 2030 plan (Sydney 2030) was released by the Council of the City of Sydney in March 2008. It represents the beginning of an ongoing commitment by the City of Sydney to achieve the vision and targets set for a green, global and connected city. It also intends to complement the draft Sydney City Subregional Strategy and will be used to inform the future draft SLEP.

Sydney 2030 establishes a vision for the future for the Sydney CBD that will be incorporated into Council's corporate plan, budgets and actions, with outcomes monitored and reviewed over time. Amongst other things, the vision includes improving public transport throughout the CBD, increasing student housing in the vicinity of Harris Street, improving pedestrian networks around Haymarket, and improving linkages between education institutions and the innovative capacity of the City.

4.4 Planning Definitions

As discussed above, the Ultimo-Pyrmont chapter of SLEP 2005 provides development standards applying to the site.

The Council of the City of Sydney is currently in the process of translating the provisions of SLEP 2005 into the format of the Standard Instrument—Principal Local Environmental Plan. The draft SLEP 2008 is expected to be publicly exhibited some time in 2009, and gazetted 6-12 months later. Until that time, the provisions of the Ultimo-Pyrmont chapter of SLEP 2005 will apply to the site. The planning definitions for building height and GFA in the Ultimo-Pyrmont section of the Sydney LEP are somewhat different to those in the Standard Instrument.

As shown in the staging plan at Section 3.11, all components of the Concept Plan will not be completed prior to the commencement of the draft LEP 2008. Therefore, for assistance to UTS and the consent authority, the building heights and GFA of the Concept Plan have been calculated in accordance with both sets of definitions, quoted below.

Building height

Sydney LEP 2005

> ***height of a building on land within Ultimo-Pyrmont*** *means the vertical distance measured in metres between the natural surface level of the ground on which the building is sited or, where the natural surface has been excavated, the land of the adjoining public domain, and the ceiling of the topmost habitable floor of the building above that point.*

Standard Instrument

> ***building height (or height of building)*** *means the vertical distance between ground level (existing) at any point to the highest point of the building, including plant and lift overruns, but excluding communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like.*

Gross Floor Area

Sydney LEP 2005

***gross floor area of a building within Ultimo-Pyrmont**, means the sum of the areas of each floor of the building, where the area of each floor is taken to be the area within the inner faces of the external enclosing walls as measured at a height of 1,400 millimetres above each floor level, but excluding:*

(a) columns, fin walls, sun control devices, awnings and any other elements, projections or works outside the general lines of the outer face of the external walls, and

(b) lift towers, cooling towers, machinery and plant rooms, and airconditioning and ventilation ducts, and

(c) ancillary car parking and any associated internal designated vehicular and pedestrian access to it, and

(d) space for the loading and unloading of goods, and

(e) internal public areas, such as arcades, atria and thoroughfares, and terraces and balconies with outer walls less than 1,400 millimetres high.

Standard Instrument

***gross floor area** means the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, and includes:*

(a) the area of a mezzanine, and

(b) habitable rooms in a basement or an attic, and

(c) any shop, auditorium, cinema, and the like, in a basement or attic,

but excludes:

(d) any area for common vertical circulation, such as lifts and stairs, and

(e) any basement:

(i) storage, and

(ii) vehicular access, loading areas, garbage and services, and

(f) plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and

(g) car parking to meet any requirements of the consent authority (including access to that car parking), and

(h) any space used for the loading or unloading of goods (including access to it), and

(i) terraces and balconies with outer walls less than 1.4 metres high, and

(j) voids above a floor at the level of a storey or storey above

5.0 Consultation

In accordance with the Environmental Assessment Requirements for this proposal issued by the Director General, consultation must be undertaken with relevant public authorities/agencies and relevant utility providers.

In addition to this, the proponent undertook a program of community engagement and consultation in February 2009 to inform local residents, local businesses, students and other stakeholders about the proposal and gauge their response. This chapter details the consultation undertaken as part of the preparation of the proposal.

5.1 Public Authorities

The following public authorities and utility providers were consulted between November 2008 and February 2009 as required by the Director-General. **Table 4** below summarises the key issues from the consultation.

- Council of the City of Sydney;
- NSW Ministry of Transport;
- NSW Roads and Traffic Authority;
- RailCorp;
- Heritage Branch, Department of Planning;
- NSW Department of Education and Training; and
- Energy Australia;
- Sydney Water; and
- various telecommunications providers.

Council of the City of Sydney

The Council of the City of Sydney (CoS) was consulted by the proponent on several occasions:

- senior UTS executives presented the master plan adopted by the UTS Council to the CEO, Director City Strategy and Design and Director City Planning and Regulatory Services (9 December 2008);
- a subsequent meeting involved Council's town planning officers (30 January 2009) – the issues raised are covered in **Table 4**; and
- a presentation was made to Councillors and Directors on the Concept Plan and proposed development (9 February 2009).

In addition, UTS made a presentation to the Ultimo Cultural and Education Precinct Committee on 11 December 2008 attended by the CoS, the Sydney Institute of TAFE, the Powerhouse Museum, and the Pyrmont-Ultimo Chamber of Commerce. All committee members present were supportive of the proposal, and no concerns were raised during the meeting or in subsequent discussions with UTS. As the ABC is a member of UCEP but was not present at the presentation, a separate presentation was made to the ABC on 5 March 2009. No concerns were raised during this presentation.

Utility Providers

As detailed in Section 6.11 of this EAR, the site is well serviced with water, sewer, power, gas and telecommunications infrastructure and there are no impediments to the proposal. Contact with, and feedback from, relevant utility providers is covered in the Utilities and Infrastructure report prepared by Arup (see **Appendix H**). In summary, specific connection details and requirements will be covered in subsequent project and development applications as relevant.

Table 4 – Key issues from agency consultation

Issues	Comment / Response
Council of the City of Sydney	
Demolition of the heritage listed Bradshaw Building (Building 11): demolition would only be acceptable if the replacement building meets the criteria of design excellence	UTS has implemented a design competition process to achieve design excellence for development of the buildings in the Concept Plan. Demolition of the Bradshaw Building will be conditional on the replacement Broadway Building contributing to design excellence. *UTS will formalise this through the draft Statement of Commitments in relation to heritage and design excellence.*
Views to Building 10 (former Fairfax) radio tower: impact on views of the radio mast as a result of the massing of the proposed Broadway Building	The building envelope for the Broadway building ensures that views of the mast are not obstructed. The height of Building 10 is 55.94 metres and the proposed envelope for the Broadway Building is 44.47 metres. See Section 6.3 for further analysis.
Visual amenity of Taragon apartment building: impact on the visual amenity and solar access of the apartments as a result of the development of Building 6	The envelope for Building 6 has been designed to protect the visual amenity and solar access of apartments in the north east corner of the Taragon apartment building with a splay/ indent in the corner of the envelope. The Taragon apartment building (at 849 George Street) was designed and approved with an existing approval in place for the Building 6 tower. The proposed new envelope for Building 6 essentially matches the approved design but incorporates the aforementioned measure to protect visual amenity.
Amenity of residents in Building 6: relationship of the proposed building envelope to the neighbouring buildings	The envelope for Building 6 and the proposed indented design of the eastern façade will provide solar access and visual amenity for the residents in Building 6 as well as additional separation
Activation of laneways and roads	As detailed in this EAR, UTS will be activating most buildings at street level; introducing activities such as cafes into the new accessways and laneways; and generally improving the permeability and accessibility of the campus.
SEPP 65 assessment: Council would like Building 6 to be assessed in accordance with SEPP 65	Building 6 is a Class 3 building and will be developed in accordance with Sydney City's Boarding house DCP. As a Class 3 building it does not fall within the ambit of SEPP 65. Nevertheless, the Design Quality Controls for the Concept will require that Building 6 meets the principles as best as possible within the constraints of a Class 3 building. UTS will formalise this through the draft Statement of Commitments in relation to design excellence.
Building heights: details of any non-compliance with SLEP 2005	As this is a Part 3A application, compliance under Part 4 of the EP&A Act is not required. Nevertheless, all buildings with the exception of Building 6 and the western edge of the Broadway Building will comply with the height controls in SLEP 2005. Building 6 exceeds the controls but is only marginally outside the envelope previously approved by Council - see Section 6.3 for further discussion.
Community consultation	The proponent undertook a program of community engagement and consultation during preparation of this EAR – see Section 5.2.
Traffic and parking: proposed parking provision and impacts of the proposal on local traffic	As detailed in Section 6.5 the proposal will not impact on local traffic patterns and intersection operations. The proposal does not increase parking on the site.

Issues	Comment / Response
RailCorp (Station Strategy and Development)	
Central Station Precinct and Devonshire Street tunnel capacity: cumulative impact of increase in student numbers at UTS and new population at Frasers Broadway	UTS will provide RailCorp with data on student numbers and movements in order to assist RailCorp in its planning for any potential station upgrades. The proposal supports State government mode split objectives in that it augments the use of existing facilities close to major public transport infrastructure
Capacity of rail network: impacts on rail network if students and increased population at Frasers all travelled during the peak	Movements are unlikely to be in the same direction during the morning peak, while later in the day there are unlikely to be clashes as students arrive/depart the University at random times. UTS will supply RailCorp with information to assist in future planning. The proposal supports government objectives in that it augments the use of existing facilities close to major public transport infrastructure
RTA	
Road network: Traffic impacts on the surrounding road network and measures to ameliorate any impacts	UTS is well served by public transport with high usage by staff and students. To limit private vehicle usage and to promote the use on non-private modes, the Concept Plan does not include any additional parking. Traffic conditions are expected to be similar to existing.
Promotion of public transport: initiatives the University will or has put in place to reduce private vehicle use of existing and future staff / students	The site has high levels of public transport use which will increase as a result of the proposal. UTS is proactive in promoting public transport as the preferred method of travel to and from the University. The Concept Plan includes the formulation of a travel access guide for existing and new students.
State Transit Authority	
Landscaping: Potential to remove footpath clutter, vehicle obstructions such as street trees and rationalisation of bus stops on Broadway.	Footpaths along the frontage of all new and redeveloped buildings will be treated in accordance with Sydney City Council's footpath standards (see Section 3.6). Opportunities for the consolidation of bus shelters along Broadway will be investigated (see Section 6.5.4)
Bus shelters: The provision of shelter and maintaining existing levels of shelter during and post construction.	Existing levels of shelter will be maintained during construction. Opportunities for the consolidation of bus shelters along Broadway will be investigated (see Section 6.5.4)
Ministry of Transport	
Jones Street: Impacts on bus services of closure of Jones Street - noting that is not supported by the MoT at this stage	Jones Street is not to be closed as part of this application. However, it is noted that the closure of Jones Street is a condition of consent in the approved Concept Plan for Frasers.
Promotion of public transport: The Concept Plan should consider initiatives to reduce potential impacts of the proposal and promote transit use including preparation of a Travel Access Guide and introducing flexible work arrangements.	The University currently promotes/has in place many initiatives to promote transit use. The TMAP (at Appendix O) provides further recommendations to promote use by non private car modes. The University has flexible work arrangements.
On site parking: The Concept Plan should consider minimal on site parking provision.	The proposal does not include additional on site parking having regard to the sites access to high frequency public transport services.

Issues	Comment / Response
Heritage Branch, Department of Planning	
Demolition of the Bradshaw Building (Building 11): The Heritage Branch noted the factors in support of demolishing this building (see Section 6.7.2 of this report), and advised that it considered these as important objectives in the redevelopment of the Campus. It also noted that it considers it regrettable that the opportunity to conserve the building was not found to be possible.	The Concept Plan proposes the demolition of the Bradshaw Building, As discussed in Section 6.7.2, it is strategically important for UTS that the new Broadway Building has a modern image. The retention of the Bradshaw Building would inhibit this. Specifically it would: - not allow the quantum of floor area required on the Broadway site to be provided within the height limit or within the number of floors appropriate for educational uses; - as a consequence, prevent Alumni Green being used exclusively for open space; - limit connectivity between the Broadway site and the main campus block; - significantly inhibit the provision of a modern cutting edge building in keeping with the technology based teaching and research, to be accommodated on the site.

5.2 Community Consultation

UTS has commenced a program of engagement with the local community, students and staff of UTS, and other relevant stakeholders. This consultation, carried out by KJA Pty Ltd, complements the formal exhibition of the Concept Plan and EAR by the Department of Planning.

The consultation involves the following elements:

- Personally addressed letters to stakeholders, and generic letters to nearby residents, advising them of UTS's proposal.
- Exhibition of the proposal in the foyer of UTS Building 1 from 19 January-16 February 2009 from 10 am-8 pm.
- Community "drop in sessions" at UTS on 4 February (4 pm-7 pm) and 7 February (12 noon-2 pm), where senior staff involved in the project were available to answer questions.
- Community information line (free, 1800-number).

A report on the community consultation activities is at **Appendix L**. During the consultation period, one member of the community contacted the neighbour information line, four people specifically attended the "drop in" sessions and 16 feedback forms were received.

Most respondents responded positively to the proposal, although some sought additional detail regarding particular aspects of the building design. The key issues raised in the consultation and the proponent's response are summarised in **Table 5**.

Table 5 – Key issues from community consultation

Issue	Comment / response
UTS gymnasium: Whether the community can join the UTS gym.	Membership of the UTS gymnasium is open to the public.
Content of Concept Plan: Insufficient detail provided during exhibition.	Additional detail will be available as the project progresses including through subsequent application processes.
UTS Building 1: Are there any works proposed for the tower building.	The Building 1 Tower is an iconic building in Sydney. The Broadway frontage will be improved by extending the podium towards Broadway. The detailed design will be the subject of a design competition.
Parking: Loss of motor cycle / scooter parking on Thomas Street.	UTS promotes the use of sustainable transport to staff and students. UTS will seek to minimise impacts on street parking for motor cycles and scooters during the construction period.
Landscaping and Open Space: Provide additional open spaces on the campus and more detail regarding treatments of Alumni Green.	The Concept Plan will improve the open spaces on the campus by redeveloping Alumni Green as described in Section 3.6 and Appendix E. Detailed design of Alumni Green will be finalised as the Concept Plan progresses. Other areas of open space will be improved through planting of additional trees and public domain treatments.
Internal pedestrian links: Internal walkways need to be connected, covered and accessible.	A goal of the Concept Plan is to create a more connected campus. Internal links will be made accessible, and colonnades or awnings on the northern and southern boundaries of Alumni Green will provide weather protection.
Cinema: the cinema is supported.	An experimental cinema will be accessible from the Broadway frontage of the site. The community will be invited to view films in the cinema.
Childcare: Current childcare facilities are difficult to access.	There are no plans to include a Childcare Centre on the Broadway Precinct. The two existing UTS Childcare Centres (Blackfriars and Magic Pudding) serving the Broadway Precinct of the City Campus are within 500 metres.
Transport: Broadway is a very busy road that could be improved. There is potential conflict between delivery vehicles and pedestrians using the Building 1 forecourt.	The Concept Plan will improve the Broadway frontage to the site with public domain treatments. Existing arrangements for delivery vehicles will be rationalised and relocated to the service vehicle area under Building 1 accessed off Thomas Street.
Potential for wider bus lanes	The road authorities are currently assessing the width of the lanes on Broadway in relation to the Frasers Broadway development.
UTS Deliveries: use of Forecourt for deliveries to Building 1	Existing arrangements for service and delivery vehicles will be rationalised and relocated to the service vehicle area under Building 1 accessed off Thomas Street.

6.0 Environmental Assessment

This section of the report provides an assessment of the environmental impacts of the Concept Plan proposal in accordance with the Director-General's Environmental Assessment Requirements (DGRs).

The draft Statement of Commitments complements the findings of this section.

6.1 Director-General's Environmental Assessment Requirements

Table 6 provides a summary which sets out the individual matters listed in the DGRs and identifies where each of these requirements has been addressed in this report and the accompanying technical studies.

Table 6 – Director-General's Environmental Assessment Requirements

Director-General's Requirements	Location in Concept Plan
General Requirements	
(1) An executive summary; (2) Detailed description of the project including the:	Page i
(a) Strategic justification for the project	Section 1.2
(b) Description of the site including cadastral and title details;	Section 2.2
(c) Various precincts and staging (including infrastructure staging); and	Section 3.11
(d) Alternatives considered.	Section 1.2
(1) Consideration of the following with any variations to be justified: (a) All relevant State Environmental Planning Policies; (b) City of Sydney LEP 2005 and relevant DCP's; (c) Metropolitan Strategy 'City of Cities' document; (d) Urban Transport Statement; (e) Sydney City Subregional Strategy; and (f) The State Plan.	Chapter 4.0 and Section 6.3
(1) Draft Statement of Commitments, outlining commitments to public benefits including State and local infrastructure provision or contributions, environmental management, mitigation and monitoring measures and clear indication of responsibilities;	Chapter 7.0
(1) Signed statement from the author of the EA confirming that the information is neither false nor misleading; and	Precedes page i
(1) Report from a quantity surveyor identifying the capital investment value of the Concept Plan.	Appendix B
Key Assessment Requirements	
Ownership and Title - Land title and ownership details for all parcels of land to form part of the development site.	Section 2.2
Site Analysis - Site and context analysis plan that identifies the relevant natural and built environmental features within and adjoining the site.	Chapter 2.0 Appendix D
- Survey Plan including site boundaries, levels, buildings to be retained and easements.	Appendix C
- Plan showing how the proposal will integrate with future development on the surrounding properties.	Appendix D

Director-General's Requirements	Location in Concept Plan
Land Use - Identify proposed precincts, stages, timing, uses to be contained in each precinct, road and pedestrian networks.	Section 3.11
- Table listing different land uses, FSR, development yield, site coverage for each use and total GFA for the development.	Section 3.3
Urban Design and Built Form - Indicative plans, elevations and sections showing height, bulk, scale of the proposed built form in relation to existing and proposed site levels, buildings to be retained and the surrounding locality.	Appendix D
- 3D modelling of the proposed masterplan in the context of the proposed future CUB development as approved and as proposed to be modified.	Appendix D
- Demonstration of the type, height, bulk, scale and design quality controls for future development, including landscaping.	Section 3.10, Appendix D
- Photomontages and artists impressions of key elements of the proposal including the proposed Alumni Green and street frontages.	Appendix D
Public Domain and Streetscape - Indicative plans / sections of the proposed public domain showing the street network, linkages to adjoining sites, permeable spaces, car parking, solar access, landscaping treatments and high quality public domain with active spaces / uses. - Sections showing relationships of buildings to the public domain, including any weather protection on major pedestrian routes and location of outdoor dining. - Pedestrian circulation diagram showing main pedestrian routes within the site, connections to adjacent uses and how level changes will be accommodated. - Active frontages diagram showing location of active frontages within the site, with particular reference to the proposed Alumni Green, Broadway, Thomas Street, Jones Street and the Ultimo Pedestrian network during both day and night.	Section 3.6, Appendices D and E
Road Closure - Confirmation of relevant land owner consent. - Justification of the change of vehicular access to Jones Street. - Legally binding agreement for the future maintenance of Jones Street.	Not proposed in the Concept Plan.
Amenity - Shadow diagrams showing impact of proposed buildings within the development site and on adjoining land, with particular regard to the proposed Alumni Green.	Section 3.6, Appendix D
- Address potential overlooking impacts from the proposed development to adjoining residential development.	Section 6.6
- View analysis of significant views and vistas that would be impacted on by the proposal.	Section 6.6, Appendix P

Traffic and Transport
- Traffic Study in accordance with the Roads and Traffic Authority's Guide to Traffic Generating Developments, with particular regard to:
  - Existing road capacity, expected impacts on local and regional roads and any upgrade requirements;
  - Internal road layout and access arrangements;
  - Pedestrian and bicycle linkages; and
  - Access for emergency vehicles.
	Section 6.5, Appendix N

Director-General's Requirements	Location in Concept Plan
- Transport Management and Accessibility Plan (TMAP) for the entire site, in accordance with the Ministry of Transport Interim TMAP Guidelines, also including:	Section 6.5.3, Appendix O
- Staging / Sequencing Plan;	Section 6.5.8
- Construction Management Plan; and	Section 6.5.8
- Voluntary Planning Agreement addressing MoT's requirements.	Section 6.5.9
- Proposed number of car parking spaces and compliance with the relevant parking codes.	Section 6.5.2
- Daily and peak traffic movements likely to be generated by the proposed development including the impact on nearby intersections and the need for funding or upgrading road improvement works if required.	Sections 6.5.1 and 6.5.3
- Modelling and assessment of the performance of key intersections including the forecast traffic volumes from the Frasers Broadway site (formerly Carlton United Breweries).	Section 6.5.1
- Investigation of the provision of signalised mid-block pedestrian crossings in strategic locations, in particular in Broadway	Section 6.5.5
Heritage - Justification of the demolition of any locally or nationally listed heritage items. - Heritage Impact Statement (HIS) assessing impacts of the proposed development on the existing campus layout and buildings and heritage items within the site and the vicinity of the site. - Archaeological assessment of the site, including archaeological and interpretation strategies. - Details of any Aboriginal cultural heritage significance or items.	Section 6.7, Appendices J and K
Landscape - Landscape Concept Plan indicating any trees to be retained and proposed landscaping treatments.	Section 3.6, Appendix E
Ecological Sustainable Development - Demonstrate how the development will satisfy ESD principles, including BASIX, water sensitive urban design measures, energy efficiency, recycling and waste disposal.	Sections 3.8, 6.11 and 6.13 Appendix G
- Consideration of 'tapping into' the ESD initiatives on the CUB site.	Sections 6.11 and 7.8
Geotechnical and Contamination - Geotechnical report detailing matters such as the suitability of the site for its proposed use, slope stability, erosion hazard, earthworks and retention methods and likely excavation / construction methodology to meet RailCorp requirements.	Section 6.8, Appendix T
- Measures to be undertaken in accordance with SEPP 55 to address contamination issues.	Section 6.9, Appendix M
Utilities and Infrastructure - Utility and infrastructure servicing, demonstrating development can be adequately serviced for water supply, wastewater, stormwater, electricity, gas and communications.	Section 6.11, Appendix H
- Demonstrate appropriate provision of social infrastructure and services to support expected population increase.	Section 6.12, Appendix S
- Potential impacts on rail infrastructure.	Section 6.11, Appendix H
Drainage, Stormwater and Groundwater Management - Identify drainage, stormwater and groundwater management issues.	Section 6.11, Appendix R

Director-General's Requirements	Location in Concept Plan
Developer Contributions - Scope and justification of developer contributions between the proponent and the State (via relevant agencies including Roads and Traffic Authority and Ministry of Transport), based on the demand for services generated by the development and Department of Planning guidelines.	Section 6.5.9, Appendix N
Consultation Requirements	
Written evidence shall be submitted to demonstrate that an appropriate level of consultation has been undertaken with the following relevant parties during the preparation of the Environmental Assessment having regard to previous consultation.	
a) Agencies and other authorities: - Council of the City of Sydney; - NSW Ministry of Transport; - NSW Roads and Traffic Authority; - RailCorp; - NSW Heritage Council; - NSW Department of Education and Training; and - All relevant utility providers.	Section 5.1
Document all community consultation undertaken to date or discuss the proposed strategy for undertaking community consultation. This should include any contingency for addressing any issues arising from the community consultation and an effective communications strategy.	Section 5.2, Appendix L

6.2 Consistency with Relevant Strategic and Statutory Plans

The Concept Plan supports and complements the objectives of the Residential-Business zoning and meets the objectives of, SLEP 2005 in relation to development in Ultimo-Pyrmont. With the exception of Building 6 and the western edge of the Broadway Building, all buildings comply with relevant building height and floor space ratio standards. Variations to these standards are addressed in Section 6.3. The Concept Plan is also consistent with the Urban Development Plan (UDP) for Ultimo-Pyrmont and relevant Sydney DCPs.

Table 7 provides a summary of consistency with the key strategic plans and EPIs relevant to the project, and a more detailed assessment of consistency with provisions and controls in relevant environmental planning instruments is provided in the Tables of Compliance at **Appendix I.**

Table 7 – Summary of consistency with key strategic and statutory plans

Instrument / Strategy	Comments
Metropolitan Strategy	
The Metropolitan Strategy provides the direction for planning in Sydney for the next 25-30 years. It seeks to promote economic growth, innovation and provision of jobs and dwellings by 2031.	UTS is located in the Global Economic Corridor and will strengthen innovation in Global Sydney by increasing student capacity. It assists to constrain Sydney's development footprint by expanding vertically on an existing urban campus and supports the use of public transport to access the campus.
Draft Sydney City Subregional Strategy	
The draft Strategy will guide land use planning in the Sydney local government area.	The Concept Plan will reinforce UTS's role as a key part of the Sydney Education and Health Precinct. As well as promoting innovation and learning, it provides essential student housing on site.

Instrument / Strategy	Comments
SEPP 55	
The consent authority must consider whether the land is contaminated, and if so, whether it is suitable or can be remediated and made suitable for the proposed use.	A Stage 1 Environmental Site Assessment has been completed and is at Appendix M. It recommends that a Stage 2 Environmental Site Assessment and Hazardous Building Material Survey be completed.
SEPP (Infrastructure)	
The Roads and Traffic Authority is to be made aware of, and given an opportunity to make representations on, certain types of traffic-generating development.	The Concept Plan has been prepared in consultation with the Roads and Traffic Authority. It will also be referred to the RTA in accordance with the SEPP.
SREP (Harbour Catchment)	
The consent authority must consider whether the development will affect Sydney Harbour or its foreshores.	The Concept Plan will not have adverse impacts on Sydney Harbour or its foreshores.
SLEP 2005	
Chapter 3: Ultimo-Pyrmont Part 3: Zoning	The proposed use supports and complements the Residential Business Zone.
Part 4: Building height Maximum height of 42 metres	All buildings other than Building 6 (69.20 metres) and the western edge of the Broadway Building (44.47 metres) comply with the maximum height limit. See Section 6.3 for further analysis.
Part 4: Floor space control FSR of 4.0:1 for residential uses, 5.0:1 for non-residential uses.	In accordance with the 10% variation to the FSR standard permitted by clause 10 of SLEP 2005, the part of the site bounded by Broadway, Harris, Thomas and Wattle Streets achieves a FSR of 5.32:1. Building 6 achieves a FSR of 8:1. This is addressed in Section 6.3.
Part 5: Heritage conservation	The Concept Plan will respect and complement heritage streetscapes in the vicinity. It will continue the adaptive reuse of existing heritage buildings on site (Buildings 3 and 8), but proposes to demolish Building 11. Demolition of this building will be conditional on the replacement building achieving design excellence. See Section 6.7 and Appendices J and K for further analysis.
Urban Development Plan for Ultimo-Pyrmont	
The UDP provides detailed provisions relating to development in Ultimo-Pyrmont	The Concept Plan will assist in achieving a built environment of a high standard by responding to the urban setting and locality
Heritage DCP	
New development in relation to heritage items and in conservation areas and heritage streetscapes is to be assessed on the basis of heritage significance and desired heritage outcomes.	The Concept Plan will respect and complement heritage streetscapes in the vicinity. It will continue the adaptive reuse of existing heritage buildings on site (Buildings 3 and 8), but proposes to demolish Building 11. Demolition of this building will be conditional on the replacement building achieving design excellence. See Section 6.7 and Appendices J and K for further analysis.
Draft ESD DCP	
New development is to include an ESD Design Statement achieving a minimum rating of 4.0 stars.	New buildings on the site will achieve a rating of 5 or 6 stars under the Green Star education tool, and refurbished buildings at least 4 stars under the Green Star education tool. See Section 6.14 and Appendix G for further analysis.

6.3 Variations to Development Standards

The Minister for Planning is not bound by the provisions of an environmental planning instrument, other than a State Environmental Planning Policy in relation to a major project. Despite this, any departure from a standard in an environmental planning instrument needs to be justified in the context of the proposal's state and regional significance and the planning merits of the proposal.

Specifically, pursuant to Section 75R(3) of the EP&A Act, major project applications are only required to comply with State Environmental Planning Policies, and other environmental planning policies (LEPs and REPs) to the extent that they dictate permissibility of land uses. Despite this, the DGRs require the proposal to justify any proposed departures from the development standards in SLEP 2005 that apply to the site.

6.3.1 Height of Broadway Building

The envelope of the Broadway Building maintains views from the south and west to the radio tower for Building 10, and creates a new gateway to the western part of the Sydney CBD.

At the eastern or Jones Street edge of the building the building envelope consists of 9 floors of educational uses above ground, and 5 floors below ground (including a basement car park). The building achieves a maximum height of 39.47 metres at this point (when measured to the ceiling of the topmost habitable floor of the building). However, due to the sloping topography of Broadway to the west, the Wattle Street edge of the building envelope comprises 10 floors above ground and 4 floors below ground. Consequently the height of the building is 44.47 metres, or approximately 5% above the applicable SLEP 2005 building height standard at this point, well within the 10% variation to development standards permitted by Clause 10 of SLEP 2005.

This is illustrated on drawing number 3A-EE-01 at **Appendix D** and reproduced in **Figure 22**.

The maximum height of the proposed building envelope is well within the 10% variation permitted under Clause 10 of SLEP 2005. It is also below the maximum height of the Frasers development, which ranges from 57.50 metres directly opposite the Broadway Building to 116.50 metres opposite Building 1.

Overshadowing and overlooking impacts resulting from the additional building height are negligible when compared with a building that strictly complies with the standard. However, the visual impact assessment by Clouston Associates (refer **Appendix P)** indicates that construction of a new building on the Broadway frontage of the site would mean southerly views from the Frasers development, specifically finer grain architecture at ground level and the skyline of the western corridor of the Sydney CBD, would be replaced with views of a newer, larger building.

The minor variation to the height limit at the western edge of the building is justified given that the final form of the building will be subject to a design excellence competition. In addition, the design competition (discussed at Section 3.9) will ensure that the proposed envelope will be filled by a highly modulated built form that uses quality materials and colour, incorporates pedestrian connections from Broadway into the building, and connects with Building 10.

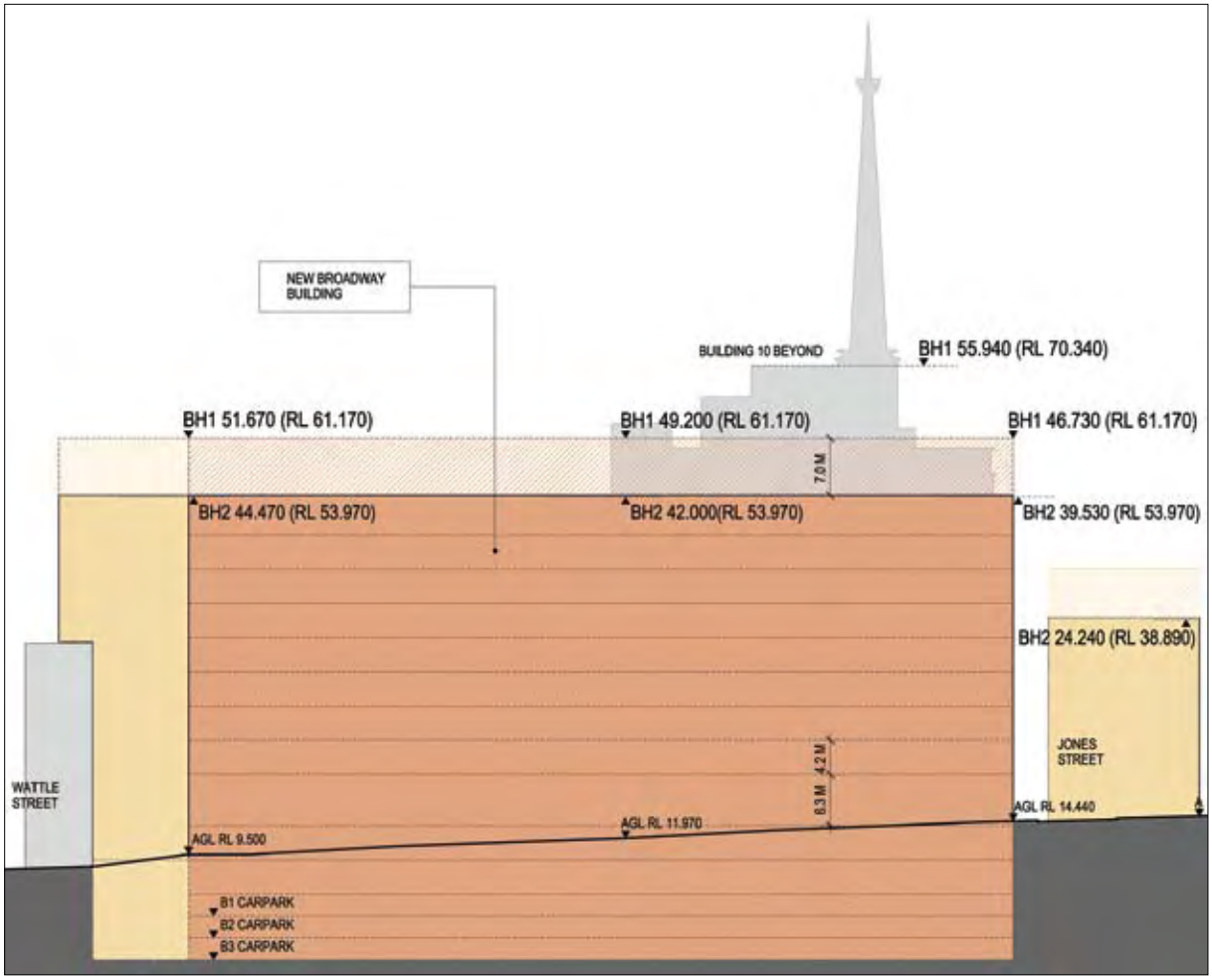


Figure 22 – Elevation – Broadway Building (Source: BVN)

6.3.2 Floor Space

That part of the site that is bounded by Broadway, Harris, Thomas and Wattle Streets comprises six allotments totalling 36,898m² in area. Despite the different land titles, this part of the campus operates as one consolidated lot and indeed a number of existing buildings extend across more than one lot.

Under SLEP 2005, the floor space ratio (FSR) applying to the site is 5:1. This rises to 5.5:1 when the provisions of Clause 10 of SLEP 2005 are applied for achieving design excellence (as discussed in Section 3.9). If the maximum applicable FSR of 5.5:1 were to be applied to individual lots, the permissible FSR would be exceeded in some instances and be significantly underutilised in others.

Accordingly, it is proposed to apply the permissible FSR plus 10% bonus across all the lots bounded by Broadway, Harris, Thomas and Wattle Streets. The total area of this land is 36,898m². With an FSR of 5.5:1, the permissible GFA would be 202,939m². Under the Concept Plan, and as shown in **Table 8,** the total GFA for this part of the site will be 197,453m² (existing plus proposed GFA after demolition of Buildings 11, 12 and 13). Thus, this part of the site complies with the FSR control.

The University has deliberately limited the quantum of GFA on the site to ensure a high quality design outcome. Together with limiting GFA and building heights, solar access to Alumni Green is maximised.

The proposed floor space for the development on the part of the site bounded by Broadway, Wattle, Thomas and Harris Streets is considered reasonable as it is below the maximum permissible and the environmental impacts is negligible when compared with a complying scheme.

Table 8 – Gross Floor Area calculations

	GFA (SLEP 2005)		
	Existing (m^2)	Additional (m^2)	Final (m^2)
Building 1	49,639	4,050	53,689
Building 2	22,096	6,750	28,846
Building 3	7,060	-	7,060
Building 4	25,672	-	25,672
Building 8	1,052	-	1,052
Building 9	205	-	205
Building 10	32,229	-	32,229
Broadway Building	-	34,650	34,650
Thomas Street Building	-	10,000	10,000
Book storage vault & multi purpose sports hall	-	4,050	4,050
Total	137,953	59,500	197,453

6.3.3 Height and Floor Space Ratio of Building 6

The new Building 6 tower will contain up to 720 beds for UTS students and significantly address the current shortfall in student accommodation in the region. The new tower will exceed the building height (42 metres) and floor space ratio (5:1) development standards applying to Building 6 in SLEP 2005.

The tower will achieve a maximum building height of 69.20 metres (RL 84). By comparison, the height of the plant room of the adjoining ABC building is 63.96 metres (RL 74.96) (as shown on drawing number 3A-EE-07 at **Appendix D** and at **Figure 23**) and the tower of UTS Building 1 is 118.05 metres (RL 133.05). It is noted that the approved 1991 scheme had a building height of RL 80 at its highest point, which equates to 70 metres under SLEP 2005 definition.

The height of the building is a function of the footprint available for construction of a tower with sufficient floor space to accommodate 720 students. The load bearing capacity of the existing Building 6 podium constrains development to only about half of the podium – therefore to provide the proposed quantum of accommodation (within commercial and engineering constraints), the building must extent vertically rather than horizontally.

The envelope for Building 6 has been designed to protect the visual amenity and solar access of apartments above Level 7 in the north east corner of the Taragon apartment building with a splay/indent in the south eastern corner of the envelope. Solar access to and views from apartments below Level 7 are currently blocked by the existing commercial building (Wembley House) and podium of Building 6.

The Taragon apartment building (at 849 George Street) was designed and approved with an existing approval in place for the Building 6 tower. A lightwell measuring 6 metres by 17 metres has been provided at the northern boundary of the Taragon Building to allow some light to penetrate to apartments. The proposed Building 6 envelope essentially matches the approved design of the building for the site, but incorporates the splay/indent in the south eastern corner to protect the visual privacy of, and allow solar access to apartments above Level 8 in the Taragon. Further, the proponent has committed to adopting the principles of SEPP 65 to maximise the amenity of students residing in the tower.

In addition, as the tower is set back from the Harris Street boundary of the site and surrounded by other tall buildings, there will be minimal views to the tower from the Railway Square Special Area and other heritage buildings in the vicinity (including UTS Buildings 3, 8 and 11) (refer to the Heritage Impact Statement at **Appendix J**).

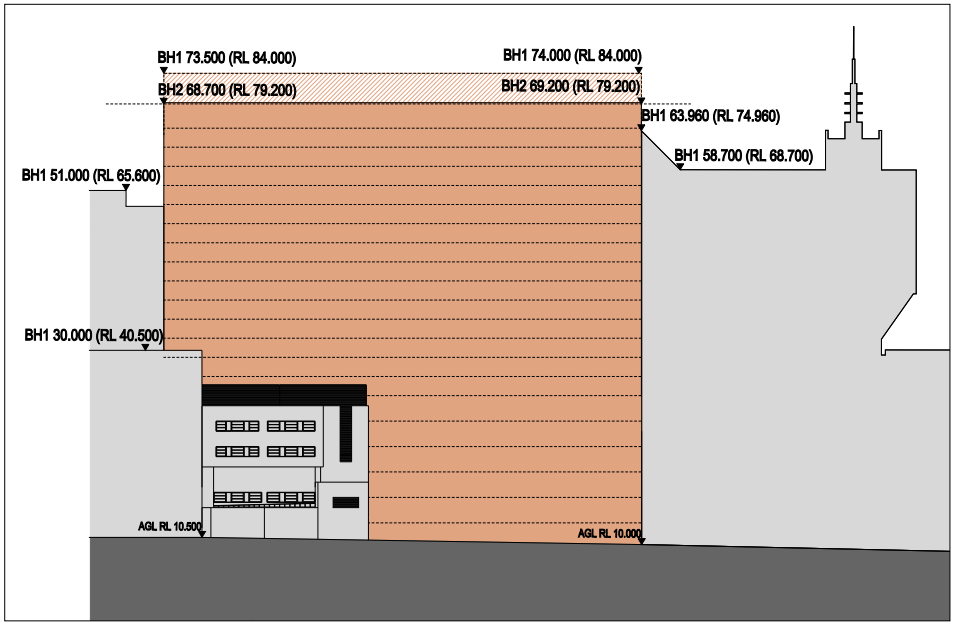


Figure 23 – Building 6 in relation to adjoining buildings – UPN elevation (Source: BVN)

The tower form is consistent with other buildings in the locality and will fill the current gap between the adjoining Taragon and ABC buildings. It will also have minimal adverse visual impacts from the UPN, as the facade to the UPN will be highly modulated. At the Harris Street façade, the tower will read separately from the podium of the current building which will remain the dominant feature on the streetscape. No adverse impacts will result.

In relation to floor space ratio, the building will include 41,005m^2 of gross floor area, which achieves a floor space ratio of approximately 8:1 (under SLEP 2005). This is substantially in excess of the 5:1 FSR standard for the Building 6 site. By comparison, the commercial building that was approved for the site in 1991 had an FSR of approximately 7:1 (calculated in accordance with the definition of gross floor area in SLEP 2005). Using the definition in the Standard Instrument, the proposal would achieve an FSR of 7.6:1.

The proposed development of Building 6 for student accommodation delivers substantial social benefits. It will enable many more students to enjoy a university lifestyle and campus facilities without having to travel long distances. This not only aligns with the objectives in the Metropolitan Strategy and SLEP 2005 of providing education facilities close to where a person lives, but also reduces carbon emissions and congestion due to fewer trips by public and private transport between students' residences and the University. Importantly, it will also alleviate pressure on the local private rental market, so benefitting the wider community by enabling students to rent affordably.

In the absence of any negative environmental impacts of proposal, and the significant social, environmental and regional benefits associated with providing accommodation for up to 720 students at a major Sydney university, the proposed envelope for Building 6 is considered acceptable.

6.4 Urban Design and Built Form

As shown in the architectural plans at **Appendix D**, the Concept Plan has been designed to complement its locality while creating a learning environment that meets the future needs of UTS students and staff.

Buildings 1 and 2

Extending Buildings 1 and 2 to the Broadway frontage of the site creates a new and attractive entrance into the University. With maximum heights of 22.47 metres for Building 1 and 24.24 metres (at the Jones Street façade) for Building 2, the new built form provides an entrance to the University at a human scale that contrasts with the existing Building 1 tower (118.05 metres) and buildings opposite the site (up to 116.5 metres). This relationship is illustrated on drawing number 3A-EE-03 at **Appendix D** and shown at **Figure 24**.

Combined with the Broadway Building, the extensions to Buildings 1 and 2 will create a new built form that bookends the Jones Street entrance to the University (this is illustrated on drawing number 3A-EE-01 from **Appendix D** and shown at **Figure 25**).

The main pedestrian entrance on Broadway will be flanked by street and forecourt plantings and include active uses such as retail tenancies and cafes (illustrated at **Figure 26**). This will substantially improve amenity of the indoor and outdoor space of the Broadway entrance to the University.

The northern extensions of the buildings (facing Alumni Green) will incorporate colonnades or awnings and pedestrian entrances and glazing to maximise penetration of light. The maximum height of the new built form is comparable to the Thomas Street Building and Building 4 and will not result in adverse impacts on Alumni Green.

The envelope of the extensions to Building 1 and 2 provides scope for detailed design options during the proposed design competition. Issues to be addressed in the final design include façade articulation, materials selection and visual impacts.

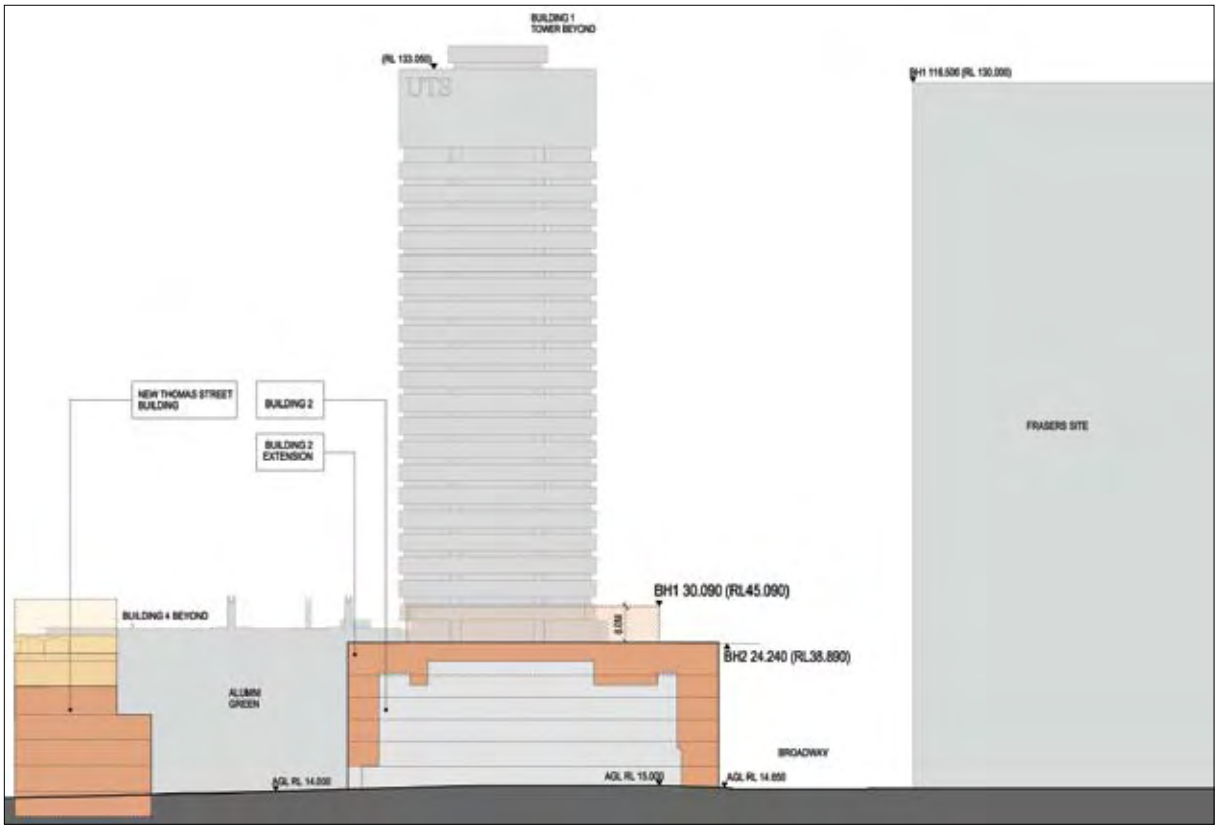


Figure 24 – Elevation – eastern side of Jones Street (Source: BVN)

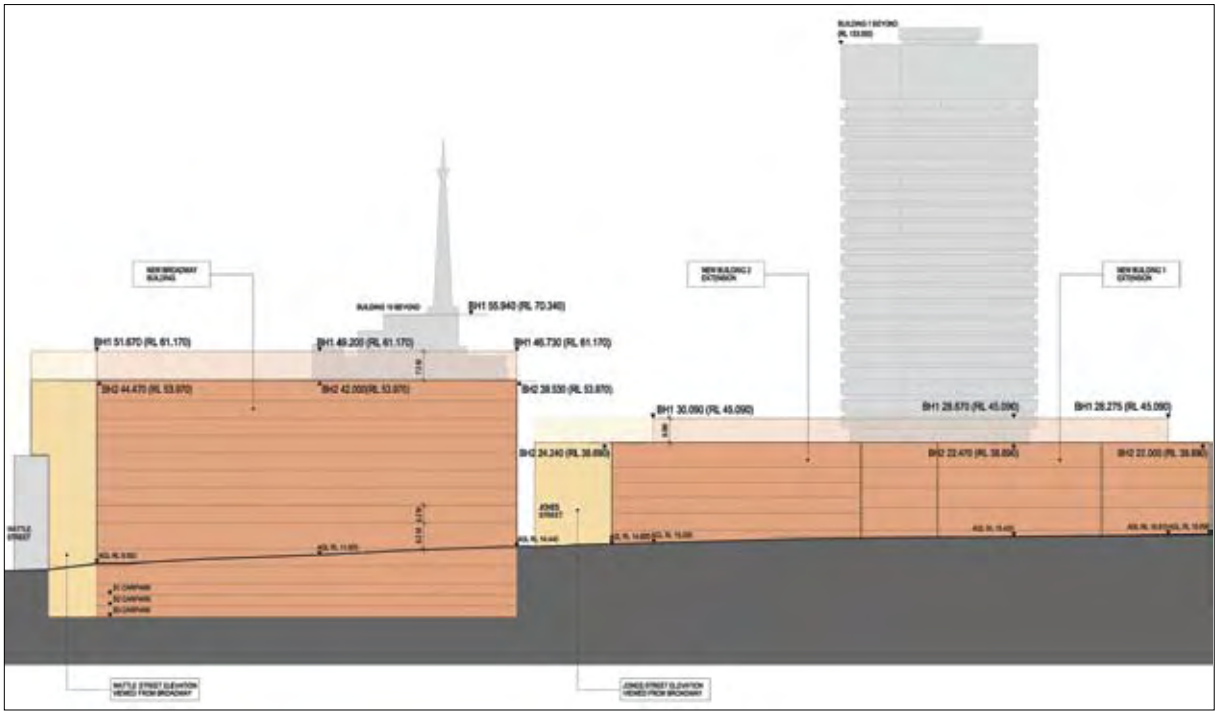


Figure 25 – Elevation – Broadway (Source: BVN)

Figure 26 – New campus "front door" on Broadway (Source: BVN)

Broadway Building

The overall height and scale of the new Broadway Building is less than the Frasers development to the south (illustrated on drawing number 3A-EE-05 from **Appendix D** and shown at **Figure 27**) and combines with the extended Building 2 to create a major new entrance to the University via Jones Street (illustrated at **Figure 25**).

As illustrated in **Figure 23**, the height of the Broadway Building is limited to 42 metres (building height measured using the SLEP 2005 definition) for the majority of the Broadway frontage. The height (as illustrated at **Figure 27**) maintains views of the existing radio tower on Building 10 from the south and west. The envelope will replace the fragmented built form with a high quality education building that will improve the public face of the University and streetscape.

The final design of the building will be the subject of a competition that ensures the new building incorporates façade articulation, multiple pedestrian entrances and active uses to complement streetscape improvements proposed for Broadway and Jones Street.

Thomas Street Building

The Thomas Street Building has been scaled to maximise solar access to Alumni Green during winter months. The maximum height of the building (27.10 metres) is comparable to the adjoining Building 4 and the extensions to Buildings 1 and 2 on the southern side of Alumni Green. It steps down to 18.50 metres at the Jones Street edge to maximise solar penetration to Alumni Green at 2 pm at the winter solstice. A lift will be installed at the eastern edge of the building to provide a new connection to Building 4. The height of the lift overrun has also been limited to maintain solar access to Alumni Green.

A roof garden will be installed on the eastern part of the roof and a colonnade or awning will be provided on the southern façade addressing Alumni Green.

Incorporating active and cultural uses at the ground level on the Jones and Thomas Street entrances to the building will encourage activity at the northern boundary of the site.

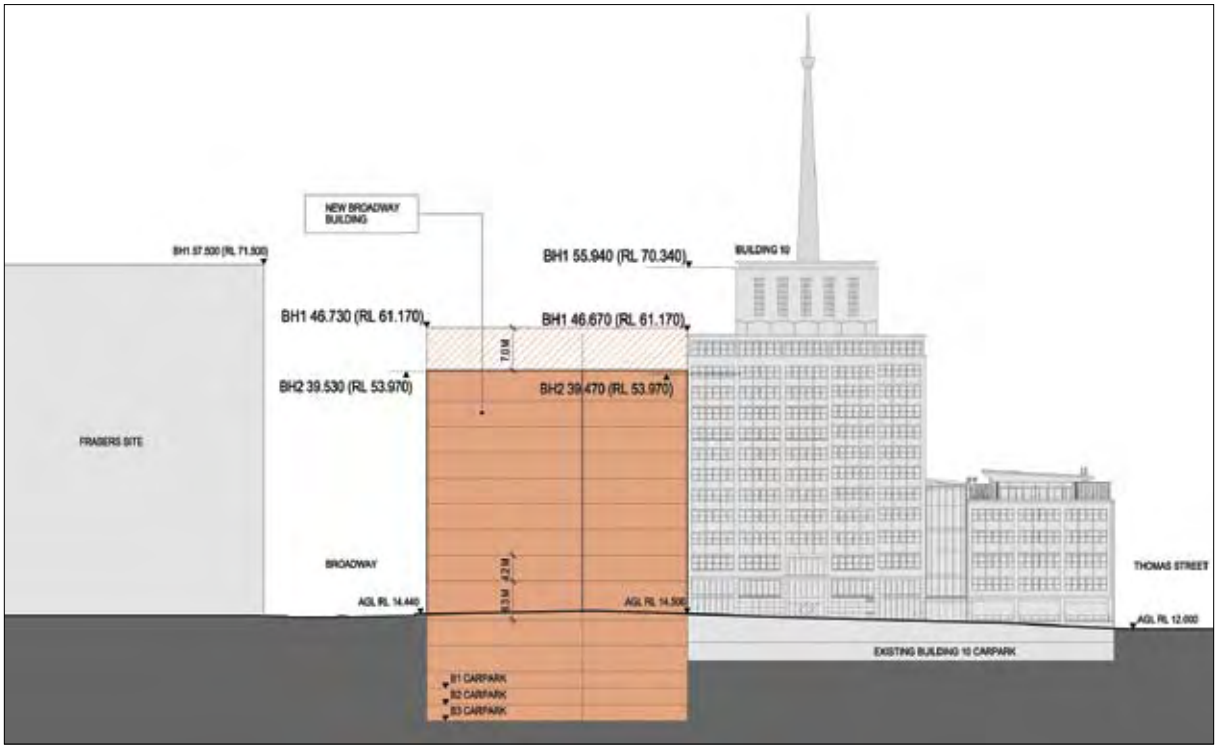


Figure 27 – Elevation – western side of Jones Street (Source: BVN)

Alumni Green

The ground level of Alumni Green will be extensively landscaped, incorporate public domain treatments and activated with colonnades or awnings on its northern and southern edges. Buildings facing Alumni Green have been limited in height to maximise solar penetration to the new urban square throughout the year.

The book storage vault and multi-purpose sports hall will be located in new basements below Alumni Green. They are accessed from the lower levels of existing buildings, out of public view. This enables the area of centrally located open space on the campus to be maximised.

Building 6

The height of the Building 6 tower is largely a function of the need to deliver sufficient floor space to accommodate 720 student beds. As described earlier, the load bearing capacity of the existing seven storey podium limits development to the eastern side of the podium, and by necessity, the tower must therefore extend vertically, rather than horizontally. Despite this, the maximum building height of 69.20 metres remains lower than other high rise buildings in the vicinity, including the Building 1 tower, the Medina Executive Sydney Central hotel adjacent to Central Station and development on the Frasers site. The proposed height is sympathetic to the built form, particularly the roof features, of the adjoining ABC building.

The setback on Harris Street means that the tower will be largely hidden when viewed from Harris Street and its bulk and height will be in keeping with other development in the area.

With a splay / indent in the south eastern corner (illustrated on drawing number 3A-CL-RF from **Appendix D** and shown at **Figure 28**), the building envelope has been designed to protect the visual amenity and solar access of apartments in the north east corner of the Taragon apartment building. Extensive modulation and articulation on both the eastern and western facades of the building – to be dealt with under a subsequent project application – will reduce the apparent mass of the envelope.

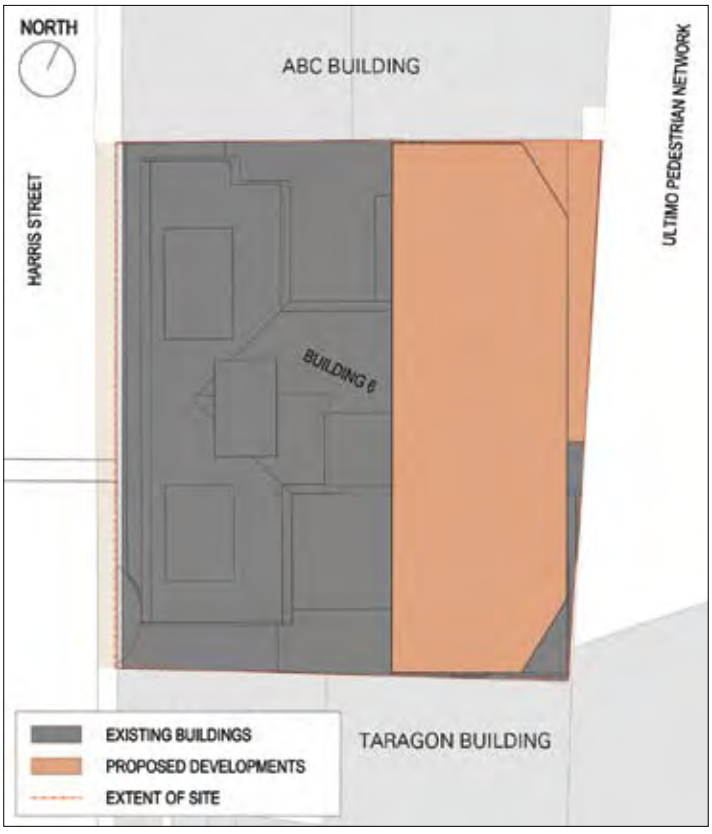


Figure 28 – Footprint of Building 6 tower (Source: BVN / JBA)

6.5 Traffic, Transport and Access

A detailed assessment of the impacts of the Concept Plan on the existing road and public transport network has been conducted by Halcrow MWT (refer **Appendix N**). The Concept Plan proposes to increase the student capacity of the Broadway Precinct of the UTS City Campus by 23% (to 15,000 EFTSL) and staff numbers by 27% (to 2,440 FTE[§§]).

The assessment considers the current traffic conditions in the vicinity of the site, traffic impacts associated with the proposed development and cumulative impacts of the proposal and other developments in the locality, such as the Frasers development.

6.5.1 Traffic

Existing Conditions

UTS is bounded by several heavily trafficked roads that limit pedestrian and vehicular access into the site. Traffic signals control most intersections and pedestrian crossings in the vicinity of the site.

- Broadway – on the southern boundary of the site, is a wide, heavily trafficked road that forms the easterly extension of Parramatta Road. It carries 3-4 traffic lanes and bus lanes in both directions.
- Harris Street – carries 4-5 lanes of two-way traffic between Pyrmont and Broadway except between Thomas Street and Broadway where it is one way.
- Wattle Street – is the western boundary of the site and carries 3 lanes of traffic from Broadway to Pyrmont. Parallel parking is provided on both sides of the road.
- Thomas Street – is a local road that forms the northern boundary of the site. It carries a single lane of traffic in each direction with parallel parking on both sides of the road. Access to the Building 1 car park is via Thomas Street.
- Jones Street – is a local street that connects Thomas Street and Broadway and provides vehicular access to the Broadway car park. It also carries some bus traffic. It is noted that the future closure of Jones Street was a condition of approval of the Concept Plan for the Frasers site.

Peak hour traffic counts were undertaken at 11 locations in the vicinity of the site in November 2007. Existing intersection operating conditions were also measured, with all intersections, other than the intersection of Wattle Street and Macathur Street approximately 400 metres to the north of the site, performing at a satisfactory Level of Service ("C" or better) during morning and afternoon peak periods.

Assessment

The impact of the development on the nearby road network has been assessed in the context of the Frasers Broadway development. Halcrow MWT modelled the performance of intersections in the vicinity of the site, including the cumulative impacts of traffic associated with the Frasers development (refer **Appendix N**).

Based on the travel patterns of current students, and the mix of full and part time students on the campus, it is expected the Concept Plan would generate an additional 140 student vehicle trips per day, most of which would be attributed to drop off / pick up trips. These trips would be distributed throughout the day, and not be restricted to peak times.

[§§] Full Time Equivalent (FTE). A value for measuring staff resources based on a standard full time workload.

Of the 11 intersections modelled by Halcrow MWT, seven maintained the same level of service when traffic attributed to Frasers and UTS was added to current conditions. Of the remaining four intersections, waiting times at the intersection of Wattle and Kelly Streets increased by 1 second (this lowered the level of service from "A" to "B"), waiting times at the intersections of Broadway and Wattle Street, and Harris and Mary-Ann Streets increased by 5 seconds (this lowered the level of service from "B" to "C"), and waiting times at the intersection of Wattle Street and Thomas Street increased by 6 seconds (also from level of service "B" to "C").

Overall, the impact of the proposal on local traffic conditions is considered satisfactory.

6.5.2 Parking

Existing Conditions

Limited paid on-site parking (approximately 420 spaces) is available for UTS students and staff. Additional timed spaces are available on streets surrounding the site. A further 42 spaces for service vehicles (such as small and medium rigid trucks) are located on the site.

The Concept Plan will maintain the same level of on-site parking through the transfer of spaces from the at-grade Broadway car park into a new multi-level car park beneath the proposed Broadway Building. Some existing carparking spaces in Building 1, Building 2, Building 6 and Building 10 are to be converted to service vehicle parking. Lost car parking spaces will be transferred to the new car park beneath the Broadway Building. Access to the new car park will be via Building 10.

Assessment

UTS encourages its staff to use public transport to access the site, and this will continue in the future. Accordingly, there is capacity in the current on-site car parks to accommodate demand generated by additional staff to be employed on the campus.

An assessment of demand for the on-site spaces indicates demand currently meets or slightly exceeds capacity, however this fluctuates during the day. Given the limited number of on-site parking spaces, the overall peak hour traffic generation associated with the use of the car parks is relatively small.

6.5.3 Public Transport

Existing Conditions

The site is well serviced by existing public transport services. Buses operate along Broadway 24 hours a day, stopping every 30 seconds outside the site during the weekday peak, and every 2 minutes on a Saturday morning. An assessment of the current capacity of the bus network indicates there is capacity on buses that pass by the site.

The site is a 5-10 minute walk to Central Railway Station which provides connections to country and suburban trains 7 days a week. Long distance bus services are available on Eddy Avenue.

Currently, over 50 % of UTS students use the train to access the site, nearly one quarter use the bus and 17% walk or cycle. Only 7% of students use private vehicles (as driver or passenger) to travel to the University.

Assessment

Based on current travel patterns, the forecast increase in student and staff numbers on the site is expected to generate an additional 697 inbound, and 571 outbound trips on the CityRail network, and 314 inbound and 257 outbound trips on the Sydney Buses network.

Halcrow MWT has assessed the capacity of the existing bus network and, given the small increase in forecast demand, found there is capacity to accommodate the growth in passenger demand attributed to the Concept Plan. The expected increase in rail patronage attributed to the Concept Plan can be reasonably accommodated on existing CityRail services. The NSW Government is considering a number of ways to augment and improve the current capacity of the Sydney transport network. UTS students and staff would benefit from any of these improvements, should they eventuate.

Management

While demand for public transport services generated by the Concept Plan can be readily accommodated within the existing network, the proponent will nevertheless undertake the following:

- Prepare a Transport Access Guide to promote the use of public transport to staff and students; and
- Investigate opportunities for the consolidation of bus shelters along Broadway in consultation with the State Transit Authority and the City of Sydney.

These measures form part of the draft Statement of Commitments.

6.5.4 Cycle Facilities

To further promote the use of public transport, walking and cycling to access the site, redevelopment as part of the Concept Plan will include adequate bicycle parking and end of trip facilities.

6.5.5 Mid Block Pedestrian Connections

Providing additional mid-block pedestrian connections across Broadway and Jones Street is considered neither necessary nor desirable as explained below.

The assessment undertaken by MWT Halcrow shows that the walking distances between the existing formal pedestrian crossings and the main entrances to buildings within the campus are short. Moreover, pedestrians wishing to walk between Buildings 1 and 10 (and in the future to the new Broadway Building) can either use the pedestrian signal at Broadway/Jones Street or cross mid block in the vicinity of Alumni Green.

While Jones Street is the only street without formal pedestrian facilities, it is a low speed environment with low traffic flows. Traffic flows will further reduce with removal of the existing car park and the construction of the Broadway Building. Accordingly, a midblock crossing would not be warranted and would not meet RTA requirements.

There are three signalised pedestrian crossings on Broadway in close proximity to the campus – at Regent/Harris Streets, Jones Street, and Abercrombie/ Wattle Streets. These crossing points line up with present and future pedestrian routes to the south, including in particular the future pedestrian and cycle route that will cross the Frasers site on the alignment of Balfour Street and form a major route through Chippendale and Ultimo (on Jones Street between Cleveland Street and Fig Street).

Importantly, any additional mid-block crossings along Broadway would compromise traffic flows on the key arterial and bus route into the CBD.

As demonstrated above the locality is well served with pedestrian crossings and additional crossings would not be necessary, would compromise traffic flow and would not be approved by the RTA.

6.5.6 Emergency and Service Vehicle Access

Direct vehicle access for emergency vehicles to the site is available via Broadway, Harris, Jones, Wattle and Thomas Streets.

Existing arrangements for service vehicles will be rationalised. The existing loading dock on Level 2 of Building 1 (off Thomas Street) will service all deliveries for Buildings 1, 2, 3, 4, 8 and 9 and the new Thomas Street Building. The existing loading dock in Building 10 (off Thomas Street) will accommodate deliveries for that building and the new Broadway Building. The existing loading dock off Harris Street will accommodate deliveries for Building 6. The new delivery facilities will accommodate a larger range of vehicles than the current arrangements.

6.5.7 TMAP

The Halcrow MWT Report includes a Transport Management and Accessibility Plan (TMAP), located at **Appendix O,** which seeks to encourage non car borne travel, improve access to public transport and provide safe walking and cycling conditions. The TMAP identifies the key elements of minimising car use as:

- Providing a mix of land uses to encourage live/work arrangements;
- Maximising walking/cycling catchments; and
- Providing direct convenient access to public transport.

The Concept Plan provides the following measures to achieve these objectives:

- No additional car parking will be provided on the campus;
- It provides 720 beds for student accommodation on the campus;
- New development is located within the boundaries of the existing campus to minimise the average walking distance to and from public transport nodes;
- The new pedestrian network connects with the Ultimo Pedestrian Network and the Devonshire Pedestrian Tunnel to access Sydney Central Station; and
- Bicycle facilities are provided throughout the site as are linkages to existing and proposed bicycle routes.

6.5.8 Construction Traffic Management

The impacts of construction traffic will be controlled through Construction Traffic Management Plans to be prepared for every development site.

Given that the Precinct is located close to major transit hubs and the existing high number of pedestrian movements in and around University, Construction Traffic Management Plans will incorporate and be framed around the following principles:

- Truck parking areas, construction zones, crane usage and truck routes are to be identified.
- Truck access to the site from Broadway is to be avoided unless no other suitable option is available.
- Pedestrian movements along footpaths are to be maintained at all times on major roads surrounding the site including Wattle Street, Broadway and Harris Street.
- Trucks are to enter and leave the site in a forward direction unless accredited flag persons are in place to control traffic and pedestrians.
- Access to the site for construction heavy vehicles (trucks) is to be restricted during to the proposed construction zone.

- Building Contractors are to maintain strict traffic management procedures including using traffic wardens to ensure the safety of road users and pedestrians.
- All vehicles carrying materials to or from the site are to have their loads covered with tarpaulins or similar covers.
- Openings in construction fencing at construction access driveways are to be managed and controlled by qualified site personnel.
- Pedestrian warning signs and flashing lights are to be erected adjacent to all construction access driveways.

6.5.9 Demand for Services

The assessment conducted by Halcrow MWT has demonstrated that the existing road, rail and bus networks can accommodate the additional demand generated by the proposal. As a result, during their discussions with the Ministry of Transport, the Ministry has suggested that UTS undertake improvements to the bus stops in the vicinity of the site, specifically consolidating two existing bus stops on Broadway into a single stop.

6.6 Visual Impact

The southern part of the Sydney CBD is characterised by many medium to high rise buildings containing commercial, residential, tourist and education uses. An assessment of the visual impact of the proposed Concept Plan on views in this locality has been undertaken by Clouston Associates (see **Appendix P**). In addition, the design quality controls have considered the importance of minimising any potential overlooking from new development to existing buildings in the vicinity.

Existing Conditions

The UTS Building 1 tower is visible from a wide area, including clearly from the west. The proposed Frasers development opposite the site will include one tall building of a comparable scale to the Building 1 tower.

The streetscape in the immediate proximity of the site is of low to medium quality, with multiple visual detractors at street level, such as street furniture and signage, and little consistency in the built form. A few street trees provide a shady character to some parts of the streetscape.

Views to the site from the street are generally limited to the lower levels of the built form, however as the topography in the vicinity changes, particularly as it rises to the west along Parramatta Road, more of the site is visible.

A Zone of Influence for the proposed Concept Plan identified by Clouston comprises the area from which the proposed development is visible and where the development would directly impact upon visual receptors. The main visual receptors are users of commercial spaces (eg office and retail), residential buildings (including serviced apartments and student accommodation), education buildings and the public domain – see **Figure 29**.

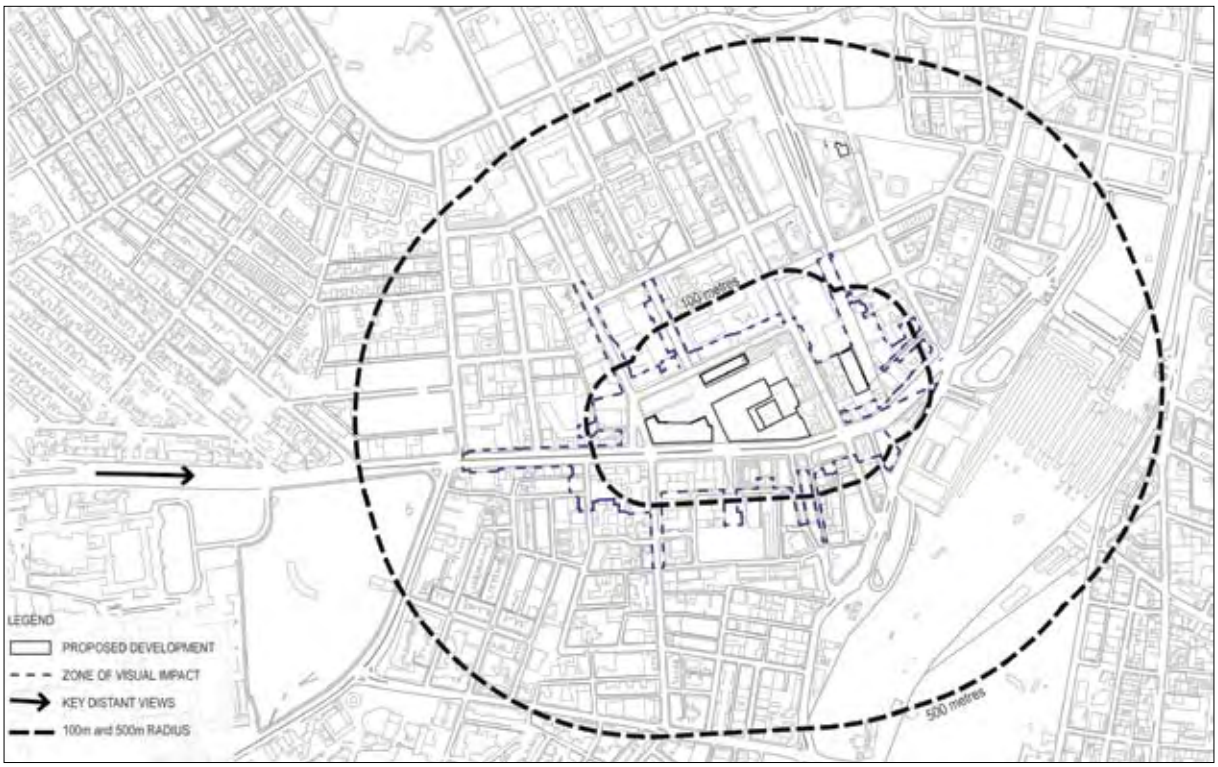


Figure 29 – Local context and key views (Source: Clouston)

Assessment

The assessment has considered the impact of the proposed Concept Plan on visual receptors, in particular whether existing views will improve, worsen or remain the same. A detailed visual impact receptor analysis is in the visual impact report at **Appendix P**.

Buildings 1 and 2 and the Broadway Building: Horizontal extensions to the existing Buildings 1 and 2, and construction of the new 9-10 storey Broadway Building will generate the most of visual impacts associated with the proposal.

The new Broadway Building will create a significant built form that may restrict or block the views of some permanent residential and commercial receptors at Frasers, education receptors at the University of Notre Dame Australia (UNDA) and residential receptors on the western side of Wattle Street. In Clouston's opinion, the impact on these receptors range from slightly to moderately adverse. It will also result in the current existing small scale buildings and open space being replaced by larger scale development. Some views to the lower and mid levels of Building 10 will also be obscured by the Broadway Building.

Conversely, the development will result in a significant upgrade to the Broadway frontage of the site, replacing the current poor quality buildings with contemporary and sympathetic architecture, affecting commercial and residential receptors directly viewing the site from Frasers and UNDA, but also transient receptors that pass the site when travelling along Broadway. The proposal includes new public domain treatments including street trees where required and contemporary furniture, multiple pedestrian entries to the site and active uses such as cafes and shopfronts. This will result in improved views to the site from the public realm (such as Broadway, Abercrombie and Wattle Streets), and from the lower levels of buildings in the Frasers site.

The increased student and staff population, together with the introduction of new residents and workers at the Frasers site will create a much busier street scene along Broadway. This should result in a more interesting and active public domain. The detailed design of Buildings 1 and 2 and the Broadway building will be the subject of separate design competitions.

The design quality controls for these buildings include using high quality treatments and facade articulation. On balance, this will result in a visual outcome that is an improvement on the current situation in terms of architectural quality and active public domain.

Thomas Street Building: Construction of the Thomas Street Building will result in views from the Sydney Institute of TAFE and Jones Street between Thomas and Mary Ann Streets to Alumni Green being replaced by built form.

The Thomas Street boundary to the site will be improved through the introduction of active uses on the Thomas and Jones Street facades, including an art gallery and café. This will introduce new pedestrian traffic to this part of the site. Views to the Thomas Street Building from taller buildings in the locality, including the Sydney Institute of TAFE, UTS Building 1 and UTS Building 10 will be improved by the roof garden.

Building 6: The Building 6 tower will result in 13 additional storeys above the podium and basketball court of the current education building. Although the tower site is tightly constrained by nearby multi storey buildings, its construction will result in city views being replaced with a dominant built form. In addition, views of the active basketball court would be replaced by the new tower. Impacts on the adjoining education and commercial buildings (including the upper levels of the UTS Building 1 Tower) will be moderately adverse as some views to the Sydney skyline will be blocked.

Building 6 will result in minimal impacts on views from the public domain, including Harris Street and the Ultimo Pedestrian Network, as it is generally outside the field of view – a receptor must intentionally look upward to see the building. It may be visible from parts of the Railway Square Special Area, however existing high rise buildings and the sloping topography of the land to the north will obscure the majority of the tower form.

The provision of active uses and new pedestrian entrances to Building 6 at the UPN boundary will improve the lower views of the building.

The design of the Building 6 residential tower has considered the need to minimise potential overlooking of the adjoining Taragon apartment building. A 6 metre wide light well was provided at the northern boundary of the Taragon Building adjacent to the boundary with Building 6 to allow light to penetrate to apartments. The adjacent commercial building (known as Wembley House) extends above the current height of the Building 6 podium to approximately Level 8 of the Taragon. Not only has the building envelope been designed to protect the visual amenity and solar access of apartments above Level 8 in the north east of the Taragon apartment building with a splay / indent in the south eastern corner of the Building 6 envelope adjacent to the lightwell, the final design of the eastern facade of Building 6 will have regard to the design principles of SEPP 65. Relevant principles include maximising solar access to new residential buildings and providing sufficient separation between habitable rooms in nearby residential buildings to maximise privacy. The facade of the Building 6 tower will incorporate measures such as window location and glazing.

Consequently, the proposed envelope for the Building 6 residential tower will minimise adverse visual impacts on the locality and any potential overlooking by occupiers of the residential tower to the adjoining Taragon Building.

Management

To minimise visual impacts, the proponent will implement the following:

- Use architectural treatment of facades to break down the perceived scale and massing of new buildings; and
- Retain street trees or provide additional mature plantings to improve the streetscape.

Mitigation of visual impacts using the measures above forms part of the draft Statement of Commitments.

6.7 Heritage

The site contains a number of items of local heritage significance. Accordingly, a Heritage Impact Statement (HIS) for the Concept Plan was prepared by Godden Mackay Logan (GML) (see **Appendix J**). In addition, GML has undertaken an Aboriginal and Archaeological Assessment for the Concept Plan and this is at **Appendix K**.

The assessments covered the following:

- The potential impact of the proposal on indigenous and non-indigenous heritage due to the demolition and / or alteration of items of heritage significance;
- The potential impact of the Concept Plan on the heritage significance of the locality; and
- The manner in which the project will enhance and interpret the historic associations of the place and respect the curtilage of significant places in the vicinity of the site.

6.7.1 Indigenous Heritage

Available evidence indicates that the Cadigal (or Gadi or Gadigal) people occupied the land comprising the site prior to, and following, the arrival of European people in Sydney. These people were amongst the first to make contact with European settlers, and consequently encountered competition for land and resource use.

A search of the Aboriginal Heritage Information Management System (AHIMS), consultation with the Metropolitan Local Aboriginal Land Council (MLALC), and a field survey of the site did not identify any Aboriginal objects or places, due to the long history of disturbance and construction on the site. In addition, the cultural, scientific / archaeological, aesthetic and educational Aboriginal significance of the site was assessed using criteria developed by the NSW Heritage Office, in consultation with the MLALC.

Assessment

The proposed Concept Plan will result in significant and widespread disturbance across the site, including landscaping, and excavation for basements.

Although the surveys and assessment of significance conducted for the site have indicated there is little potential for any relics to remain on the site or in topsoil deposits, it is possible that some may remain. However, should any relics be uncovered, they are likely to be of low scientific or cultural significance. As a consequence, GML considers that the Concept Plan would be unlikely to impact upon the indigenous cultural values of the site.

Management

GML notes that future development of the site would not require a permit to disturb or destroy Aboriginal archaeology under Part 6 of the *National Parks and Wildlife Act 1974*.

Should unexpected or significant Indigenous remains not previously identified in GML's assessment be discovered during excavation at the site, all works are to cease and a nominated archaeologist and the MLALC be contacted to assess the finds. In addition, pursuant to section 91 of the *National Parks and Wildlife Act 1974*, the Department of Environment and Climate Change will also be notified of the discovery.

6.7.2 Non-Indigenous Heritage

As illustrated in **Figure 10**, the site includes the following items of local heritage significance:

- 1-7 Broadway (Building 3);
- 9-13 Broadway (Building 8); and
- 81 Broadway (Building 11).

In addition, there are also a few other buildings on the site which were constructed more than 50 years ago. All are shown in **Figure 30**.

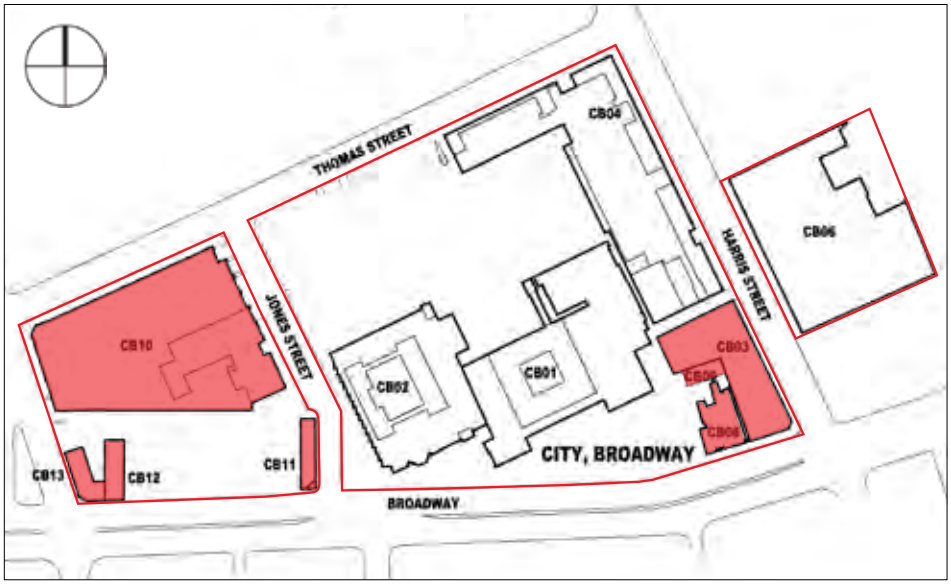


Figure 30 – Items of heritage significance or more than 50 years old (Source: GML)

The site originally formed part of the Ultimo Estate which was purchased by John Harris between 1803 and 1818. The estate occupied up to 233 acres at its greatest extent, however it was subdivided on many occasions and had many owners over the following 150 years.

Over that time, the site was occupied by industrial and retail premises and small terrace houses, and John Fairfax & Sons purchased the land bounded by Jones, Thomas and Wattle Street and Bishop Lane in 1954. From the 1940s, the NSW Government, through the Department of Public Instruction commenced purchasing land along Broadway between Harris and Jones Streets, with an educational institute commencing operation shortly thereafter. The educational institute gradually evolved into UTS, which has occupied all buildings on the site since the late 1990s.

Since the early 1800s, Broadway, previously known as Parramatta Street and Parramatta Road, has been an important east-west link between the Sydney CBD and suburbs to the west. Although the alignment of the road has been modified slightly over time, it has remained generally unchanged over the past 200 years.

Assessment

Several of the buildings comprising the site are identified as either having local heritage significance in SLEP 2005, were constructed more than 50 years ago, or have other significance. GML has undertaken a detailed assessment of the heritage significance of each of these buildings in the context of the proposed Concept Plan – summarised below. The assessment also considered impacts on the Broadway streetscape and the impacts of excavation on local archaeology.

Buildings 3, 8 and 9: The Concept Plan proposes to modify Building 3, a heritage item, to provide additional active uses at ground level. Buildings 8 and 9 – also heritage items - will continue to be used by the University and no works are proposed as part of the Concept Plan. In GML's opinion, the ongoing adaptive reuse of these buildings, including the additional active uses in Building 3, is considered to be a positive heritage impact of the Concept Plan.

The Building 6 residential tower is set back from the Harris Street boundary and will not have a detrimental visual or scale impact on heritage buildings on the UTS site, namely Buildings 3, 8 and 9.

Building 10: The former Fairfax Building has been assessed as having heritage significance at a local level. It is proposed to modify parts of the southern facade of Building 10 to provide access for pedestrians into the new Broadway Building.

The new Broadway Building is proposed to extend to 10 storeys along the southern side of Building 10. While the maximum height of the new Broadway Building will be less than Building 10, it will nevertheless obscure some views of the radio tower from properties directly adjacent to Building 10. However, within a short distance the tower will be visible again as it is significantly taller than the proposed new development.

The upper floors, radio tower, motor room and other roof features will be clearly visible from Jones Street and Alumni Green, and the corner of Thomas and Jones Street. In addition, the views to the primary (eastern) elevation of Building 10 will be retained.

In GML's opinion, the construction of the new Broadway Building and consequent loss of some views of the façade and upper levels will not constitute a significant heritage impact on the setting of Building 10.

Building 11: Also known as the Bradshaw Building, this Federation Free Style building is of local heritage significance as an example of early twentieth century commercial development on Broadway. The Concept Plan proposes its demolition.

UTS has a limited number of options to accommodate growth and its land on the Broadway site is its only significant development site. Approximately 65,500m^2 of additional floor area is required to accommodate growth in student and staff numbers, teaching, cultural, recreational and research areas at the Broadway Precinct.

In developing the UTS City Campus Masterplan 2020 alternative strategies were investigated for locating the major components of this floor area, including maximising floor area on Alumni Green by including a building at the western end of the Green on Jones Street and / or locating a building across the centre of the Green (running north south), both in addition to the new Thomas Street building.

The strategy adopted (that best met the objectives of the Masterplan) was to limit the amount of new floor space on Alumni Green and consolidate a major component of the required area on the Broadway site. Importantly this would allow the potential of Alumni Green - the only open space in the Broadway Precinct - to be fully realised. In so doing:

- the available area of open space, solar access and amenity is maximised; and
- Alumni Green becomes the "green heart" of the campus, unifying and connecting the buildings and spaces that surround it and accommodating around its edges the range of facilities that will intensify the cultural and social life on the campus.

The retention of the Bradshaw Building would limit the achievement of this strategy and a number of the Masterplan objectives. Specifically:

- It would not allow the quantum of floor area required on the Broadway site to be provided within the height limit or within the number of floors appropriate for educational uses.
- Connectivity between the Broadway site and the main campus block would not be achieved.
- It would significantly inhibit the provision of a modern cutting edge building that is appropriate for, and expressive of, the technology based teaching and research, and the Creative Industries Innovation Centre to be accommodated on the site.

It is strategically important for UTS that the new Broadway Building has a modern image that will promote and contribute to the success of the CIIC. The retention of the Bradshaw Building would be counter to this strategy.

Given the above considerations and the University's intention that the achievement of design excellence will be a pre-condition of demolition, it is considered acceptable to demolish this building. The need to provide contemporary educational facilities for future generations outweighs the heritage value of the Bradshaw Building.

Building 12: Built in 1912, the former McIllrath's grocery store has little heritage value and does not satisfy any of the criteria for listing as a local heritage item. Although a remnant of the early twentieth century streetscape of Broadway, it is not rare as similar buildings are located to the west. The Concept Plan proposes the demolition of this building.

Building 13: Built in 1936, the former Regent Hotel does not satisfy any of the criteria for listing as a local heritage item. The building is not a good example of its type and has undergone changes that have impacted upon its integrity. The Concept Plan proposes the demolition of this building.

Broadway streetscape: Although the proposed Concept Plan will result in a change to the Broadway streetscape and the locality generally, in GML's opinion, it will not reduce the significance of heritage items in the vicinity.

Railway Square Special Area: Railway Square is identified in SLEP 2005 as a Special Area and streets within that area, including Broadway near Harris Street, contribute to its heritage value.

The former Marcus Clark department store (now Sydney TAFE), Agincourt Hotel (871 George Street) and Federation Free Style Commercial Building (849-855 George Street) are located approximately 80 metres to the south of Building 6. Due to the location of other high rise buildings in the vicinity and the sloping topography from Broadway to the north, the upper levels of the Building 6 tower may be visible in distant views to the north from Railway Square.

In GML's opinion, the set back of the Building 6 tower from Harris Street and its distance from Broadway will result in negligible impacts on the heritage value of the Railway Square Special Area.

Excavation: The Concept Plan will result in excavation and construction on some parts of the site that have previously been less disturbed than other areas, namely the western third of the Broadway frontage (the area currently occupied by the Broadway car park) and north west part of Alumni Green. The latter area may contain evidence of historical alignments of Parramatta Road. Should any evidence of that alignment be found, its archaeological evidence would be significant. It is unlikely that there are any other archaeological remnants on the remainder of the site.

Management

To minimise impacts on the heritage significance of buildings on and around the site, the proponent will implement the following measures:

- Prepare an interpretation plan that communicates the heritage significance of relevant components of the site.
- Undertake photographic archival recording prior to the commencement of demolition works.
- Limit the built form of the proposed Broadway Building to maintain distant views of the Building 10 radio tower from the south and west.
- Ensure that demolition of Building 11 (the Bradshaw Building) will be conditional on the architectural design of replacement building(s) achieving design excellence.
- Undertake archaeological investigations in accordance with an Archaeological Research Design prior to, or in conjunction with, ground disturbance of areas with historical archaeological potential.

The above matters form part of the draft Statement of Commitments.

6.8 Geotechnical Conditions

In order to ascertain the geotechnical characteristics of the site, an assessment was undertaken by Jeffrey and Katauskas Pty Ltd (refer **Appendix T**). The purpose of the assessment was to gain an understanding of the existing condition of the site and infer subsurface conditions from existing rock outcrops and information gathered during previous investigations.

Assessment

The assessment found that the site is underlain by clayey soils and, in some instances a thin band of shale above sandstone bedrock of the Hawkesbury Sandstone Group. The bedrock is generally good quality and ranges in depth from 3 metres at the eastern boundary of the site to 8 metres to the western boundary.

Some of the site contains fill (particularly where there has been previous development such as back-filled basements), however its depth is unknown. Wattle Street and the area immediately to its north are understood to comprise an infilled creek and mangrove swamps which previously bordered Blackwattle Bay to the west. As a consequence, groundwater may be encountered during excavation for basements.

Based on their findings, Jeffrey and Katauskas Pty Ltd consider the proposed Concept Plan is feasible from a geotechnical perspective subject to the matters listed below being addressed.

Management

The proponent will incorporate the following measures into a Construction Management Plan to manage the potential geotechnical impacts associated with the Concept Plan:

- **Building 6**: undertake further review of records to determine if existing design and loading of basements is sufficient to accommodate the proposed student residential tower.
- **Broadway Building**: install a shoring system prior to the commencement of works on the new basement; monitor stress effects of sandstone on the existing Building 10; monitor seepage into the soil / rock interface during excavation.

- **Book storage vault under Alumni Green**: install battering to the soils or an anchored soldier pile wall around excavated area if required; monitor stress effects of sandstone on the existing Building 2 and new Thomas Street Building; monitor during excavation the fill and basement walls associated with the demolished former Building T.
- **Multi-purpose sports hall under Alumni Green**: review footings of existing Building 4 for need for underpinning; install temporary batters or shoring system during excavation.
- **Thomas Street Building**: depending on the staging of the development in relation to the book storage vault or multi-purpose sports hall, install temporary batters or shoring if needed to secure below ground soils; during excavation monitor the fill and basement walls associated with the demolished former Building T (Building 7).
- **Extensions to Building 1 and 2**: review footings of existing Buildings 1 and 2 for need to extend, underpin or replace.

6.9 Contamination

Due to the history of retail and industrial uses on and in the vicinity of the site, a Stage 1 Environmental Site Assessment has been undertaken by Environmental Investigation Services to assess potential risks and to meet the requirements of State Environmental Planning Policy No 55 – Remediation of Land (refer **Appendix M**).

Historical records, including land title searches, aerial photographs and WorkCover records indicate the site, in the past has been subject to potentially contaminating activities associated with:

- Underground storage tanks under Building 10, the Broadway car park, Building 1 and Building 2 – some have been decommissioned, others have been abandoned.
- Use of backfill potentially containing contaminants to alter site levels following the demolition of former Building T (the area currently comprising a portion of Alumni Green) – fill was sourced from three different sites, and testing was not undertaken to confirm the fill was free of contaminants.
- Historical land uses: over the past 200 years, there have been numerous potentially contaminating uses on the site including newspaper printing, dry cleaning, steel manufacturing, farming and a butcher shop.

Assessment

The proposed Concept Plan involves excavation of potentially contaminated materials, such as fill or residual structures associated with underground storage tanks, to construct the book storage vault and multi-purpose sports hall under Alumni Green, and the basements to the Thomas Street and Broadway Buildings.

In addition, it involves demolition and refurbishment of several buildings that may contain hazardous building materials.

Management

To identify any adverse impacts associated with the potentially contaminating activities on the site, the proponent will undertake the following:

- A Stage 2 Environmental Assessment that includes soil and groundwater sampling;
- Waste classification for offsite disposal of soil and bedrock; and
- A Hazardous Building Material Survey for buildings that are to be refurbished or demolished.

Management and mitigation, if required, will be a function of the outputs of these investigations.

These measures form part of the draft Statement of Commitments.

6.10 Wind

As local wind conditions may be impacted upon by the proposal, the proponent has commissioned an assessment of the Concept Plan. For completeness, the assessment considered the cumulative impacts of the Concept Plan and development on the Frasers Broadway site on local wind conditions, and proposed measures to mitigate any unfavourable impacts.

The assessment was carried out by Cermal Peterka Peterson Pty Ltd (CPP) and is at **Appendix Q.**

Existing Wind Conditions

Local conditions are characterised as follows:

- Summer winds are mainly from the south, south-east and north-east. Winds from the south generally provide the strongest gusts during summer, while onshore north-east sea breezes have a moderate but prolonged impact. Short but intense thunderstorms come from the west; and
- Winter and early spring winds occur mainly from the south and west, with winds from the west being some of the strongest all year.

The majority of the site is shielded from prevailing wind conditions by surrounding development, while the staggered alignment of roads and passageways in the vicinity of the site act to mitigate the potentially channelling effect of winds. Despite this, CPP notes that the proposed Frasers development opposite the site will have an impact on local wind conditions which will effect development proposed by the Concept Plan.

The majority of the existing UTS campus is at a similar or lower height to surrounding developments, with the exception of the existing UTS Building 1 Tower. The tower acts to capture upper level wind flows and draw them toward ground level with the existing podium deflecting much of this downwash away from pedestrian locations, so mitigating otherwise strong winds along Broadway.

Assessment

The impact of the proposed Concept Plan on wind conditions has been assessed, to ascertain whether local conditions will improve, worsen or remain the same as a result of development.

Broadway frontage to the site: Local wind conditions along the Broadway frontage to the site will experience the biggest change when compared to the current situation due to the increased massing associated with the horizontal extensions to Buildings 1 and 2, the new Broadway Building and the future development of the Frasers site. Currently, westerly winds are intercepted by the staggered form and articulation of buildings along Broadway. The new building envelopes may remove some of these barriers as illustrated in **Figure 31**.

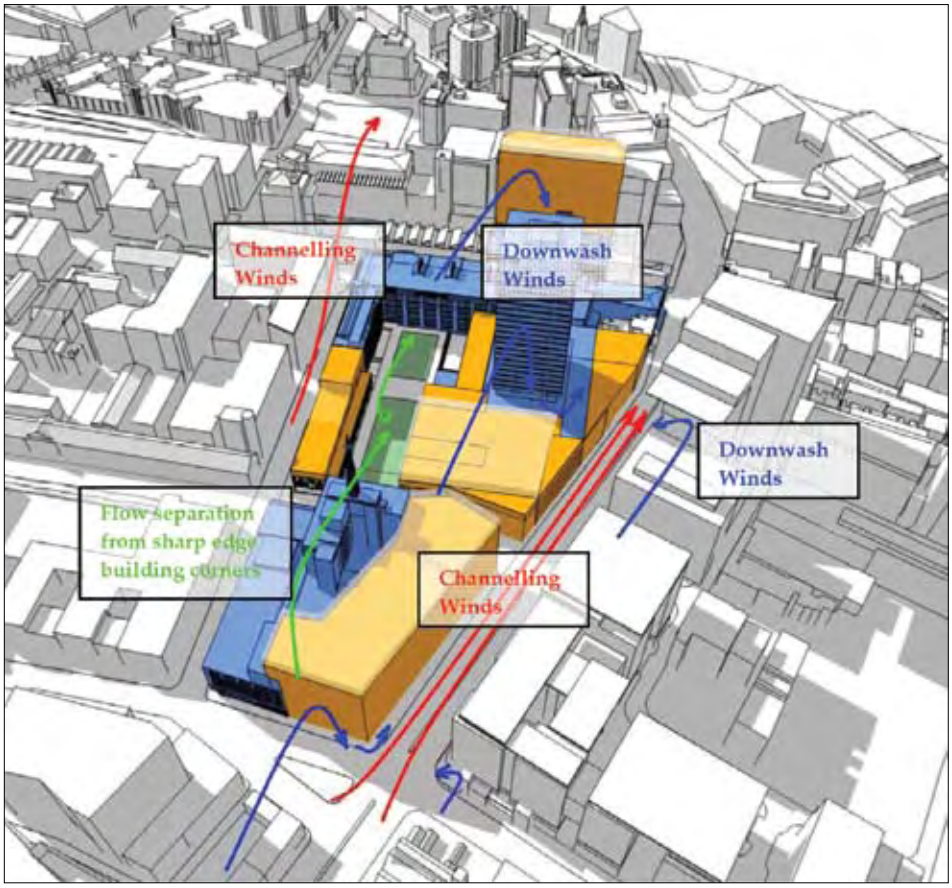


Figure 31 – Interaction of westerly winds with the site (Source: CPP)

The combined effect of the extension of Building 2 to its Broadway boundary and the proposed multi-storey vertical walls comprising the new façade to Building 1 could result in westerly winds being channelled along the Broadway footpaths. Similar outcomes could result from the vertical walls of the Broadway façade of the new Broadway Building. Wind effects will be addressed in future building designs.

Thomas Street: East-west roads such as Thomas Street are unlikely to experience increased channelling winds as a result of the proposal. Conditions at the corner of Thomas and Wattle Streets may be slightly improved as a result of the proposal as the Broadway Building will act to intercept some of the westerly winds along the roadway.

Jones Street and Alumni Green: New buildings on Broadway (including the Broadway Building and the extensions to Buildings 1 and 2) will result in local wind conditions in Jones Street and Alumni Green improving from the current situation. The new built forms will shield Alumni Green and Jones Street from upper level westerly and south-westerly winds, and plantings of additional street trees will intercept flows at ground level. This will ensure Alumni Green will be an active space that is can be used throughout the year by the students and staff of UTS.

Harris Street and the Ultimo Pedestrian Network: There will be minimal changes to local wind conditions on Harris Street and the UPN as a result of the proposal. Prevailing southerly winds on the north-south streets will continue to be minimised by existing built form in the locality. Articulation and deep modulations to the eastern façade of the building may act to minimise downwash of winds to the UPN, thus improving local wind conditions from the current situation.

Internal pedestrian links: Depending on the pedestrian connection through the new buildings on the site, wind conditions for pedestrian streets within the site will either remain the same or slightly worsen. Strategically located pedestrian entrances to buildings and proposed landscaping and colonnades or awnings on Alumni Green will act to intercept flows at ground level.

Management

The proponent will incorporate the following measures into detailed building designs to mitigate any adverse effects of wind conditions:

- Undertake detailed wind impact assessments for each new building during the detailed design stage;
- Articulate the facades of Buildings 1 and 2 and the Broadway Building to ameliorate the impacts of westerly winds at ground level on Broadway;
- Plant mature trees and shrubs, and provide colonnades or awnings along the boundaries of Alumni Green; and
- Strategically locate pedestrian entrances to new buildings along internal pedestrian links to intercept strong wind flows.

These measures form part of the draft Statement of Commitments.

6.11 Infrastructure and Services

The site is already serviced by electricity, water, gas and telecommunications services (refer to the Arup report at **Appendix H**). They can be readily augmented to accommodate the Concept Plan.

6.11.1 Energy and Greenhouse

To ensure additional demand for energy generated by the proposal can be accommodated in the local network, new electricity substations will be installed in the new Broadway Building, Building 10 and the new Thomas Street Building.

The use of a trigeneration plant will be investigated for the Broadway Building and Thomas Street Building. The plant would generate electricity, heat or hot water and chilled water for use within the Broadway Precinct. Chilled water generated by the trigeneration plant would be fed into the Broadway Precinct central plant chilled water loop and be used throughout the Precinct. Services tunnels will be installed between Building 2 and the Broadway Building to enable this.

In addition, providing a connection to the larger trigeneration at the Frasers Broadway site, and incorporating renewable energy generation in new and refurbished buildings will be investigated.

Carbon emissions associated with vehicle use by additional staff and students will be minimized by maintaining the quantum of on-site car parking. In addition, a Transport Access Guide will be prepared to encourage staff and students to maintain their existing high level of public transport use.

These measures will ensure that the demand for energy from the power grid is minimised, and the development will not impact local transmission services.

6.11.2 Water Cycle Management

The Concept Plan adopts specific strategies to address impacts on the water cycle, including drainage, stormwater (refer to **Appendix R**). These strategies are consistent with the achievement of the ESD targets under the Green Star Education tool (refer to **Appendix Q**).

Existing stormwater and drainage systems can accommodate expected flows from the new development, and will be augmented to provide connections to new buildings on the site. As well as adopting the principles of water sensitive urban design across the site, a comprehensive water balance report will be prepared to determine the size and location of stormwater retention and detention systems.

Rainwater capture and storage with dual reticulation are proposed to be installed in new and refurbished buildings; stormwater collected from Alumni Green will be stored for irrigation and other non-potable uses across the Precinct.

In-flows associated with Building 6 will be minimized by adopting the water saving targets applying to residential flat buildings, and reusing potable water for irrigation of the roof terrace and toilet flushing wherever possible.

These measures will form part of the draft Statements of Commitments relating to ecologically sustainable development.

Waste Water

New connections to the existing sewer lines on Thomas and Wattle Streets will meet the requirements of the new Broadway and Thomas Street Buildings (refer **Appendix H**). Demand generated by other new buildings can be accommodated in existing sewer lines.

In addition, a blackwater recycling system with sewer mining capacity (to enable black water to be used for chiller and toilet flushing purposes) will be investigated.

This matter forms part of the draft Statements of Commitments relating to ecologically sustainable development.

6.11.3 Groundwater

Groundwater may be encountered during excavations for the basements of the Broadway and Thomas Street Buildings, but existing pumps and monitors can be readily expanded to prevent failure and potential for flooding (see **Appendix R**).

6.11.4 Construction and Operational Waste

Waste generated during the construction and operation of the Concept Plan will be minimised as follows:

- At least 80% of waste associated with building demolition and refurbishments will be reused or recycled; and
- Building materials will have a high level of recycled content and not include CFCs, HCFCs or VOCs.

In addition, off-site disposal of operational waste will be minimised. Strategies to be investigated include the use of a bio-digester plant in Building 2 to process organic waste and centralised recycling and waste storage systems for each of the new buildings.

These matters form part of the draft Statements of Commitments relating to ecologically sustainable development.

6.11.5 Other Utilities

There is capacity in the following services to accommodate the proposal (refer to **Appendix G**):

- The existing stormwater line on Thomas Street will be used to take stormwater collected from Alumni Green and overflow from rainwater tanks in the new Broadway and Thomas Street Buildings;
- The existing high pressure natural gas line in Jones Street will be used to supply gas to new development on the campus;
- The existing Sydney Water mains on Broadway and Thomas Street will be used to meet demand for water from the development; and
- There is capacity in the CityRail network to accommodate additional passengers associated with the development.

6.12 Social Infrastructure

As a consequence of the Concept Plan the number of students (EFTSL) on the Broadway Precinct will increase by nearly 23% from 12,200 to 15,000 (EFTSL) by 2015. This increase includes 720 students who will live on campus in the proposed Building 6. In the same period, full time equivalent (FTE) staff numbers (academic and support) will increase by 515 to a total of 2,440. The overall increase has the potential to place pressure on existing social infrastructure on the campus and in the broader locality.

Partly as result of incremental growth, its constrained city location and its genesis as an institute of technology for part time students, UTS does not have the full range of social infrastructure normally associated with a university campus. The Concept Plan seeks to redress the shortfall.

The social infrastructure associated with a university population can be divided into two main groups – residential accommodation, and social facilities and services for students. The impacts of the proposal on these and proposed provision have been assessed by RM Planning (see **Appendix S)** and are summarised below.

6.12.1 Student Accommodation

With current provision of 423 student beds (provided off campus) and at a ratio of 1:46 for the City Campus, UTS currently rates relatively poorly compared with other Sydney and Australian universities which offer a greater range and volume of student accommodation.

The proposed delivery of accommodation for 720 students in Building 6 will, for the first time, introduce a resident population onto the Broadway Precinct. Together with 163 new beds to be provided at UTS Blackfriars – a short walk from the Broadway Precinct, this will serve to decrease the ratio of total students (EFTSL) to beds to 1:18 and bring UTS closer to the level of student accommodation at other universities. It will also assist in relieving pressure on local private rental housing – so benefitting the wider community by enabling local residents to rent affordably.

6.12.2 Social infrastructure – Demand and Proposed Provision

Generally, the greatest demand for social facilities and services provided by a university comes from students, with some campus services and facilities also used by staff. The assessment of the adequacy of proposed provision is based on forecast full time equivalent student numbers on the Broadway Precinct and includes staff where relevant. The following services and facilities typically provided on university campuses were assessed:

- Open space;
- Sporting and recreation facilities - to be used by students and staff (basketball, gymnasium, sports requiring an oval);
- Cultural (such as live music, art gallery, performance space, cinema);
- Childcare – for the offspring of students and staff;
- Food and beverage outlets – for students and staff (food court, cafeteria, cafes, bars);
- Student services (doctors, counsellors);
- Commercial services – for students and staff (banks, ATMs, post office, travel agent)
- Retail – for students and staff (eg. supermarkets, stationer/newsagent, bookshop, commercial copying).

Open Space

Prior to the demolition of Building T (facing Jones Street), there was approximately 5,000m^2 of open space on the site (ie on Alumni Green). As a result of the demolition of the former Building T, 7,200m^2 of open space is now provided. This supply of open space was interim and temporary, pending the development of the new Thomas Street Building.

The Concept Plan will provide approximately 7,000m^2 of open space on Alumni Green which equates to 0.47m^2 for every EFTSL. While this is below the Tertiary Education Facilities Management Association (TEFMA) space allocation standard, it does not take account of the city edge location of the campus.

The proposed quantum and quality of on-site open space, as well as existing and future open space close to the site, is considered adequate to cater for additional demand.

Sport and Recreation Facilities

The existing 1,700m^2 gym on campus (in Building 4) translates into 0.14m^2 of sport and recreation space per EFTSL. When staff are included, this reduces to 0.12m^2 per capita. This is less than the TEFMA standard.

The proposed multi-purpose indoor sports hall adjacent to the existing gym will add 1,800m^2 of space for sports such as basketball, badminton and the like. With this additional space, overall provision increases to 0.23m^2 for every EFTSL or 0.2m^2 if staff are included.

In addition to on-campus provision, there are other sporting facilities off campus in close proximity to UTS which can meet some needs, such as the Ian Thorpe Aquatic Centre, the Victoria Park swimming pools, the tennis centre at Prince Alfred Park, and various facilities at Sydney University which are open to members of the local community. Over and above this, the University's sports clubs have the use of, or formal leases for, numerous off-site sport facilities – the latter includes the UTS Rowing Club at Haberfield and the multi-purpose sport hall at Sydney Boys High School.

There are sufficient sporting and recreation facilities, both on and off campus, to cater to additional demand arising from the proposal.

Cultural Facilities

The University currently has 2,500m^2 of cultural facility space including an art gallery and performance spaces. This equates to 0.2m^2 per student which is less than the TEFMA standard.

The Concept Plan includes an additional 500m^2 for cultural facilities including the cinema with the existing art gallery space to be relocated. This will result in 0.2m^2 of space per EFTSL – thus maintaining the status quo.

This provision is a minimum as the Concept Plan has the flexibility to provide additional cultural space if demand warrants it, and live music opportunities will be available on campus - in the bars, Alumni Green, cafes and the like. In addition, the site is within walking distance of mainstream cinema complexes at Broadway and George Street respectively and live performance venues are in close proximity at Darling Harbour and Haymarket.

Given the above, it is considered that provision of space for cultural activities both on and off campus is sufficient to cater for demand arising from the proposal.

Childcare Facilities

There are currently 179 childcare places serving staff and students at the City Campus with services operating at 98% of capacity. This provision equates to one place per 120 people (students [EFTSL] and staff [FTE]).

An additional 35 child care places are to be provided at UTS Blackfriars. This will result in one place for 124 students/staff - approximately equivalent to existing provision. It is expected that demand for childcare from the student body will be small. Furthermore, there are 10 child care centres located in Ultimo (6), Glebe (3) and Sydney CBD (2) which between them would have capacity from time to time to absorb additional demand arising from the proposal.

The provision of additional capacity will maintain the status quo, and together with the availability of other child care services in the vicinity of the site, will be sufficient to cater to additional demand arising from the proposal.

Food and Beverage Outlets

There are existing cafes in Building 10 and Building 6, Level 4, as well as the food court on Level 3 in Building 1. In total this amounts to 1,600m^2 which equates to 0.13m^2 for each student, or 0.11m^2 per capita inclusive of staff. As discussed in this report the quality and location of some of these spaces requires improvement although the area meets TEFMA standards.

The proposal includes an additional 1,900–2,500m^2 of food and beverage space with the possibility of additional cafes leasing retail space from UTS on the public edge of the campus, for example in the Broadway Building. This will provide between 0.13 and 0.17m^2 of space for students or between 0.12 and 0.14m^2 per person when staff are included. This is a significant per capita increase in the provision of space for food and beverage services, and the Concept Plan is sufficiently flexible to increase this should demand warrant it in the future. The increased area will meet TEFMA standards.

In addition, nearby off campus, there are several hotels which students currently use and will continue to patronise. The development of Frasers Broadway includes upgrade works to three existing hotels as well as new restaurants and cafes. In addition, the Broadway Shopping Centre and the wider locality have a broad range of food and beverage outlets.

As demonstrated above, proposed (on campus) space for food and beverage services as well as those existing and proposed in the surrounding area are expected to be sufficient to cater for additional demand arising from both the student and staff population.

Commercial Services

Commercial services on campus are limited to the provision of ATMs. Other than additional ATMs as required, no additional commercial services are proposed as the full range of (banks, post office, etc) is widely available in the vicinity of UTS, both on Broadway and at the Broadway shopping complex. Frasers Broadway will also provide a significant amount of commercial and retail space.

Existing services are considered sufficient to cater for additional demand.

Student Services

The University's Student Services Unit (doctors, counsellors, etc) occupies 1,100m^2 of space. Services are well used and the space meets TEFMA standards.

An additional 200m^2 of floor space is proposed as well as the equivalent of an additional half- to full-time doctor. There are numerous dentists in the local area.

The additional floor space and service provision are considered sufficient to cater to demand arising from the proposal.

Retail

Existing retail includes the Union stationery shop next to the food court on Level 3 of Building 1, the existing newsagent and commercial copying facility located on the edge of campus, as well as the Co-op Bookshop. With 1,100m^2 the area meets TEFMA standards. This equates to 0.09 square metres for every student and 0.07m^2 per person when staff are included.

The Concept Plan includes an additional 700m^2 of retail space. This will result in 0.15m^2 of space per student and 0.1m^2 per capita inclusive of staff – representing an increase over existing provision and still within TEFMA standards. Supermarkets and other retail shopping are widely available at the Broadway shopping complex and Frasers Broadway will add a significant amount of retail infrastructure to the local area. It is expected that students will be drawn to the proposed Kensington Precinct, which will become a laneway with retail, restaurant and hotel uses that are active for extensive periods of the day.

It is considered that existing and proposed retail facilities, both on and off campus, will be sufficient for the needs of an additional population on campus.

Conclusion

As demonstrated in the above assessment, the additional social infrastructure provided in the Concept Plan is expected to be sufficient to cater for demand associated with the increase in student and staff numbers. Compared with current levels of provision, there will be no significant reduction in space and any shortfall would be able to be supplied in the immediate vicinity of the University. This has a number of positive elements: it reinforces the University's links with its immediate locality; it has direct economic benefits for local businesses (such as shops and cafes); and it would activate the area at weekends – particularly as a result of new resident students in Building 6. At the same time, there will be reciprocal access for the community to UTS's facilities and services.

Moreover, the development of Frasers Broadway, opposite the site, will add a significant number of retail, commercial, open space and community facilities which will be accessible to the public, including to the UTS population.

6.13 Ecologically Sustainable Development

The proponent acknowledges that it competes in a field of leading-edge academic and research institutions and as such is committed to achieving a high standard of environmental performance throughout its operations. This is reinforced through the draft Statement of Commitments and this Environmental Assessment.

6.13.1 Assessment

The Concept Plan will result in a 23% increase in full time students and 27% increase in staff, as well as around 720 students who will be accommodated on the site.

To address impacts associated with the demand for additional water and energy, and carbon emissions associated with increased transport use, UTS will incorporate a range of technologies into new and refurbished buildings that will minimise the University's ecological footprint (refer to the ESD report prepared by Arup at **Appendix H**).

As well as meeting Green Star Education targets of 6 Stars for the Thomas Street Building, 5 Stars for the Broadway Building and 4 Stars for the extensions to Buildings 1 and 2, UTS supports the following relevant ESD targets in the City of Sydney's Sydney 2030 Plan:

- Reduce and offset greenhouse gas emissions by 70 per cent by 2050 based on 1990 levels;
- 25 per cent of electricity used in the local government area to come from renewable sources by 2020; and
- No increase in mains water consumption in the local government area by 2015 based on 2006 levels.

The proposed Concept Plan is consistent with the five accepted principles of ecologically sustainable development as described below.

Integration Principle

The integration principle holds that decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

The Concept Plan reflects the first stage of a 10 year plan for the University, which addresses its long term economic, social and environmental needs. It demonstrates the integration of the social, environmental and economic benefits of the proposal. It vertically expands an existing tertiary education facility in a highly urbanised locality and adopts ambitious ESD targets for new and refurbished buildings to minimise the University's ecological footprint. The environmental impacts are addressed through the draft Statement of Commitments.

Precautionary Principle

If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The proposal is supported by multiple environmental studies and technical reports which conclude that there are no environmental constraints that preclude the development of the site in accordance with the proposed Concept Plan subject to appropriate management in future planning, design, construction and operational stages.

The precautionary principle has been applied in particular in relation to the management of energy and water use and future applications for the site will include further measures to mitigate any potential impacts.

Intergenerational Equity

The principle of inter-generational equity holds that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

The proposal as a whole will directly benefit current and future generations by providing additional opportunities for tertiary study at an established university.

Biological Diversity

Under the biodiversity principle, the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.

There is no native vegetation on the site and it does not contain any threatened or vulnerable species, populations, communities or significant habitats. Construction and ongoing operations of the facility will be managed in accordance with the draft Statement of Commitments, ensuring no indirect impacts on Sydney Harbour or other waterways.

Valuation and Pricing of Environmental Resources

Under this principle, improved valuation, pricing and incentive mechanisms should be promoted.

The costs of infrastructure and measures to ensure an appropriate level of environmental performance on the site have been incorporated into the cost of development.

Management

UTS will adopt the following sustainability targets for the site:

- 6 star Green Star Education target for the new Thomas Street Building;
- 5 star Green Star Education target for the new Broadway Building;
- 4 star Green Star Education target for major refurbished buildings and podium extensions to Buildings 1 and 2;
- Reduction in overall water campus consumption by up to 20 percent by 2010 (based on 2002 levels); and
- Meet or exceed the requirements of Section J of the Building Code of Australia for energy efficiency in building fabric and environmental systems.

To meet these targets, UTS will:

- Ensure the new Building 6 Tower for student accommodation meets the energy and potable water targets for residential flat buildings;
- Work with the proponents of the nearby Frasers Broadway development to investigate opportunities to incorporate complementary sustainability projects on both sites;
- Adopt water sensitive urban design principles, such as stormwater reuse and rainwater capture across the campus;
- Adopt practices to minimise construction and operational waste including reuse 80% of demolition waste and investigate strategies to reduce operational waste such as the installation of a bio-digester plant in Building 2; and
- Investigate integrating a 1.5 megawatt trigeneration plant into the UTS City Campus utilities system.

These measures form part of the draft Statement of Commitments.

7.0 Draft Statement of Commitments

In accordance with the Director-General's Environmental Assessment Requirements, the proponent is required to include a Draft Statement of Commitments in respect of environmental management and mitigation measures for the site. The following are the commitments made by UTS to manage and minimise potential impacts arising from the project.

7.1 Design Excellence

The proponent will adopt the design excellence process at Section 3.9 and incorporate the design quality controls at Section 3.10 for new development on the site.

7.2 Heritage

To minimise impacts on the heritage significance of buildings on and around the site, the proponent will implement the following measures:

- Prepare an interpretation plan that communicates the heritage significance of relevant components of the site.
- Undertake photographic archival recording prior to the commencement of demolition works.
- Limit the built form of the proposed Broadway Building to maintain distant views of the Building 10 radio tower from the south and west.
- Ensure that demolition of Building 11 (the Bradshaw Building) will be conditional on the architectural design of replacement building(s) achieving design excellence.
- Undertake archaeological investigations conducted in accordance with an Archaeological Research Design prior to, or in conjunction with, ground disturbance of areas with historical archaeological potential.

7.3 Traffic, Transport and Access

To facilitate cycling and the use of public transport, the proponent will undertake the following:

- Prepare a Transport Access Guide to promote the use of public transport to staff and students;
- Investigate opportunities for the consolidation of bus shelters along Broadway in consultation with the State Transit Authority and the City of Sydney; and
- Provide facilities for cyclists.

To manage any impacts on traffic and pedestrian movements during construction, the proponent will require the preparation of Construction Traffic Management Plans for every development on the site.

7.4 Visual Impact

To minimise visual impacts, the proponent will implement the following:

- Use architectural treatment of facades to break down the perceived scale and massing of new buildings; and
- Retain street trees or provide additional mature plantings to improve the streetscape.

7.5 Wind

The proponent will incorporate the following measures into detailed building designs to mitigate any adverse effects of wind conditions:

- Undertake detailed wind impact assessments for each new building during the detailed design stage;
- Articulate the facades of Buildings 1 and 2 and the Broadway Building to ameliorate the impacts of westerly winds at ground level on Broadway;
- Plant mature trees and shrubs, and provide colonnades or awnings along the boundaries of Alumni Green; and
- Strategically locate pedestrian entrances to new buildings along internal pedestrian links to intercept strong wind flows.

7.6 Landscape Design

UTS will undertake the following in relation to landscaping on the site:

- The removal of any significant trees will be subject to an arborist's report.
- Sustainable design principles will be incorporated into the landscape design, including selection of plants with low irrigation requirements and minimising the use of potable water.

7.7 Contamination

To identify any adverse impacts associated with potentially contaminating activities on the site, the proponent will undertake the following:

- A Stage 2 Environmental Assessment that includes soil and groundwater sampling;
- Waste classification for offsite disposal of soil and bedrock; and
- A Hazardous Building Material Survey for buildings that are to be refurbished or demolished.

Management and mitigation, if required, will be a function of the outputs of these investigations.

7.8 Ecologically Sustainable Development

UTS will adopt the following sustainability targets for the site:

- 6 star Green Star Education target for the new Thomas Street Building;
- 5 star Green Star Education target for the new Broadway Building;
- 4 star Green Star Education target for major refurbished buildings and podium extensions to Buildings 1 and 2;
- Reduction in overall water campus consumption by up to 20 percent by 2010 (based on 2002 levels); and
- Meet or exceed the requirements of Section J of the Building Code of Australia for energy efficiency in building fabric and environmental systems.

To meet these targets, UTS will:

- Ensure the new Building 6 Tower for student accommodation meets the energy and potable water targets for residential flat buildings;
- Work with the proponents of the nearby Frasers Broadway development to investigate opportunities to incorporate complementary sustainability projects on both sites;
- Adopt water sensitive urban design principles, such as stormwater reuse and rainwater capture across the campus; and
- Adopt practices to minimise construction and operational waste including reuse 80% of demolition waste and investigate strategies.

In addition, UTS will investigate the following ESD initiatives as part of the Concept Plan:

- Integrating a 1.2-1.5 megawatt trigeneration plant into the UTS City Campus utilities system;
- Installing of a bio-digester plant in Building 2 to reduce operational waste; and
- Installing blackwater recycling system with sewer mining capacity (to enable black water to be used for chiller and toilet flushing purposes).

8.0 Conclusion

The Concept Plan for the Broadway Precinct of the UTS City Campus represents a regionally significant development at a major Sydney university. It is the result of long term and comprehensive planning for the future growth of UTS at Broadway. It enables the University to address it shortfall in space for current and future students, increase its teaching facilities to meet student demand, and upgrade existing facilities to effectively compete with comparable institutions.

The assessment of the proposal has demonstrated that it will result in positive economic, environmental and social benefits. It utilises an existing urban campus that is suitable for intensification in a locality that has been earmarked for education and employment in the Metropolitan Strategy for Sydney and Draft Sydney City Subregional Strategy.

The Concept Plan will enable UTS to demonstrate its commitment to reducing its environmental footprint by ensuring all new buildings achieve the highest feasible environmental rating, and existing facilities will be upgraded to complement the new buildings. Specifically, UTS has targeted 5 and 6 star ratings using the Green Star Education tool for new buildings, and 4 stars for existing buildings that are undergoing substantial refurbishment. In order to meet these aspirational ESD targets, UTS will maintain the quantum of on-site car parking, green roofs will be provided on new buildings and a blackwater treatment plant will be considered to minimise the use of potable water on the site.

Designs for the Broadway Building, Thomas Street Building and podium extensions to Buildings 1 and 2 will be subject to design competitions which will see the Broadway frontage of the University transformed into an attractive and welcoming Precinct. In addition, much needed student accommodation will be incorporated into a new tower building on Harris Street, thus reducing competition in the already-tight inner city rental market.

Overall, the proposed development will have minimal adverse environmental effects in terms of overshadowing and traffic. Other environmental impacts can be effectively managed through all stages of the development via mechanisms referred to in this report and the draft Statement of Commitments.

The proposal represents a significant upgrade and enhancement of a dated educational facility. The form, height and proportions of the proposal are appropriate given the character of development in the locality. Visual impacts on nearby commercial and residential properties can be minimised and the public domain will be improved through active uses and plantings of new street trees.

The site is suitable for the proposed Concept Plan for the following reasons:

- It is currently occupied by a major tertiary education institution which can be vertically expanded.
- It is in the immediate vicinity of significant and multiple public transport modes, and will have negligible impacts on the local road network.
- The existing utilities network can largely accommodate, or be reasonably augmented, to serve the new development.
- Land in the immediate vicinity of the University is undergoing a transformation from an unattractive, industrial precinct to one that will be characterised by modern, quality architecture and increased resident and worker populations.

Approval of the proposal is sought on the following grounds:

- It will enable the University to upgrade its teaching facilities to meet current industry standards, and increase its overall student capacity.
- It adaptively reuses an existing significant tertiary education facility, boosting its teaching capacity without expanding its footprint.
- It is highly sustainable in that it intends to achieve Green Star ratings of 4 stars (for refurbished buildings) and 5 and 6 stars (for new buildings). In addition, the Building 6 tower will adopt the principles relating to the design quality of residential flat buildings and will minimise use of energy and water.
- Additional vehicular trips will be minimised by not increasing on-site parking to match increased student and staff numbers, and a transport access guide will promote public transport use.

The development is considered to be in the public interest as State, regional and local needs will be met by effectively boosting the capacity of an existing, high quality tertiary institution. The proposed development will have minimal adverse environmental effects, all of which can be effectively managed. We therefore recommend that the Minister approves the Concept Plan.