
STRATEGIC PLANNING

Development Control Plan E2 Randwick Education and Health Specialised Centre

27 June 2023

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1. Introduction

This Section of the DCP applies to the University of NSW and The Randwick Hospitals Campus noted in the figure below.

It includes a description of Randwick Education and Health Specialised Centre, its key drivers, strategies and objectives, and provides detailed objectives and controls for the major institutions and selected sites.

This section of the DCP should be read in conjunction with:

- Part A – Introduction and Part B – General Controls, and;
- Other sections of the DCP for specific development types or locations if relevant to the DA.

To the extent of any inconsistency between this and other sections of the DCP, this section shall prevail.

1.1. The centre

The Randwick Education and Health Specialised Centre is located at the intersection of the suburbs of Randwick, Kensington and Kingsford.

Figure 1: Application of this Section



The Centre is identified in the NSW Government's Sydney Metropolitan Strategy and draft East Subregional Strategy as a Specialised Centre, given its significant cluster of specialised health, education and research activities playing a vital economic and employment role within the Sydney region and beyond.

It is formed by several major institutions and destinations, including the University of NSW, the Randwick Health Campus



with four major hospitals forming Australia's largest complex of teaching hospitals, and some of Australia's premier research institutions including Neuroscience Research Australia.

It is bounded by Royal Randwick Racecourse, Sydney's oldest continually operating racecourse. While not operationally a component of the Specialised Centre the racecourse shares its High Street boundary with the University.

1.1.1. Economic and social significance

Collectively, the University and Health Campuses are the largest employers in Randwick City, with almost 40 percent of its workforce. Strong growth in health, research and education activities and employment is predicted to continue.

The large workforce, students and visitors provide substantial local economic benefits to the nearby commercial centres. For Randwick City itself, in addition to the employment and economic benefits generated by these institutions the Centre provides a variety of social, cultural and community facilities and services that are available to the local community.



1.2. Planning context

1.2.1. State Government directions

The Centre is one of nine specialised centres in the Sydney metropolitan region identified in the. It contains 'magnet infrastructure' in its university, research and health functions that act as catalysts for new investment, driving further knowledge, information exchange and innovation, crucial in maintaining Sydney's global competitiveness.

Key Directions for the Specialised Centre in these strategies are to:

- Intensify the cluster of education and health enterprises, and improve coordination of activities
- Integrate the multi-functional aspects of Randwick Racecourse with the education and health elements of the Centre
- Improve walking and cycling access to and within the Centre.

1.2.2. Local Government directions

Randwick City Plan

The City's 20 year strategic community plan supports economic growth and strengthening of the important health and education roles of the Specialised Centre, under the outcome of A Prospering City.

Precinct Plan

A Precinct Plan was prepared in 2011 to provide more detailed strategic directions and actions for the Centre, involving input and feedback from key stakeholders in the Centre, state government agencies, and the community.

The key strategies from this Precinct Plan form planning principles for this section of the DCP, applying to all sites identified in the Specialised Centre. In addition, input from the major institutions has informed the site specific components of this section.

1.3. Key trends and drivers

Significant employment growth in health, education and research is predicted for the Centre. While the majority of this will be accommodated within the institutions, planning for surrounding areas can also address the demand for additional jobs in health-related services (including related commercial activities), and associated increased demand in housing for key workers and students. The predicted demands include:

- Employment growth of around 25-30% by 2031, (around 1% per year with some variability each year), equating to around 3,500- 4,000 additional jobs
- Additional floor space of 140,000 to 200,000 square metres for the health and education campuses by 2031, approximately equating to a 20 - 25% increase for each campus
- Further growth in related services, particularly health care services, also needs to be accommodated, where suitable and accessible, with additional floor space estimated at around 30,000 square metres
- A mix of housing types across the Centre including affordable student, key worker and seniors housing.

1.4. Vision, objectives and strategies

Explanation

The Precinct Plan provides a broad vision and objectives, and more detailed strategies for long term development in the Centre. These are outlined below:

Vision

The Randwick Specialised Centre fosters collaboration, innovation and distinction in education, health and research. It is home to a diverse community, enjoying a range of work and lifestyle opportunities in a high quality, sustainable urban environment. It is an accessible, walkable Centre, connecting the community and beyond with efficient, integrated transport.

Objectives

- To enhance the Centre's identity, character and attractiveness for its community as a great place to live, study, play and work
- To understand and plan for the current and future demands of this nationally significant cluster, especially in regard to employment and housing
- To facilitate partnerships between the key stakeholders to encourage leadership in excellence and innovation
- To identify and plan for the Centre's transport infrastructure and services needs
- To encourage and support sustainable travel through safe walking and cycling networks linked to key destinations, public open space and recreation opportunities
- To support sustainable development and opportunities to showcase environmental performance and technologies.

Controls

Any development proposal in the Specialised Centre involving new buildings (or significant extensions to buildings in institutional sites) should address the relevant strategies below and associated planning and design principles in Subsection 1.5.

- a) Identity and character
 - Reinforce the roles of key streets in the Centre, with High Street strengthened as the Precinct spine
 - Recognise, preserve and respond to heritage and institutional landmarks
 - Future built form should protect residential amenity and enhance public spaces
- b) Land use and long term planning
 - Facilitate growth of the Centre's core uses within the walking catchment of the Centre
 - Encourage clusters of related uses along High Street in accessible locations, including:
 - East end focus on health/medical related uses
 - West end focus on cultural/recreational and academic uses
 - Allow for suitable complementary retail and commercial uses outside town centres
 - Require major new residential development to incorporate a mix of dwelling forms addressing the housing needs of the Centre
 - Provide for opportunities for affordable housing for students and key workers

- Preserve all existing publicly accessible recreational and open spaces, and plan for new recreation/open space in line with growth in the Centre.
- c) Local connectivity
 - Increase the permeability and connectivity within the Centre and major institutions
 - Strengthen the legibility of the Centre to enhance way-finding and reflect its desired future character.
- d) Environmental performance
 - Investigate the extension and application of Environmental Management Plans across the Centre
 - Express and promote environmental leadership and best practice in physical development of the Centre.

1.5. Planning and design principles

1.5.1. Site planning - High Street

- Reinforce High Street as the Centre's major spine, linking health, education, residential and commercial centre activities via a pleasant and walkable streets and public spaces
- Characterise clusters by, buildings with active ground level uses oriented towards the street
- Encourage permeable streets with short block lengths
- Design buildings to create a strong, vibrant edge to High Street, with clustered related uses to encourage walking, and connected public spaces to promote interaction.

1.5.2. Public domain principles

The following principles apply to all public spaces within the Specialised Centre, including those within the institutional sites.

Public Transport

- Ensure the public domain and infrastructure in the Centre retains the capacity to accommodate future public transport improvements, including rail-based mass transit
- Ensure developments/activities that generate high numbers of pedestrians and high demand for public transport incorporate safe waiting/circulation areas within the property boundary.

Cycling

- Provide a network of safe cycle paths within 5km of the Centre, and an interconnected network of cycle-friendly routes within 800m of the Centre to encourage cycling to various local destinations

- Provide quality end-of trip facilities integrated with cycle routes, destinations and institutions
- Encourage provision of a publicly accessible cycle hub with lockers, cycle storage and end of trip facilities integrated with public transport connections.

Footpaths and public spaces

- Ensure the footpaths and public spaces in the Centre provide appropriate capacity, safety and amenity to support and encourage walking
- Use a simple, high quality and durable palette of paving materials and street furniture to unify the Centre's public domain, while considering variations for specific locations
- Provide street tree planting and landscaping for the Centre that contributes to a sense of cohesion and improves pedestrian amenity
- Incorporate opportunities for interpretation in the public domain, such as public art.

Environmental sustainability

- Incorporate sustainable design techniques wherever possible into the design and infrastructure of the public domain, such as water sensitive urban design technologies
- Explore opportunities to showcase sustainable/experimental options in partnership with UNSW.

Lighting and signage

- Incorporate sustainable design techniques where possible, such as solar powered street lights
- Provide suitable street lighting levels in key pedestrian areas
- Coordinate signage design and placement to avoid clutter and visual confusion.

2. High Street area

2.1. General

Site identification

The High Street Area is located in the east of the Randwick Education and Health Specialised Centre.



Figure 2: Site identification map

Note:

Blocks 1 & 2 are no longer addressed in this part of the DCP.

Block 1 is now a part of the Randwick Hospital Campus and is zoned SP2 Health Services Facility and is subject to State Significant Development approval processes.

Block 2 now forms part of the Arthur Street HIA and objectives and development controls for this area are provided in the Specific Sites – E7 Housing Investigation Areas (HIA) Section of this DCP.

Explanation

These sites have been identified as having potential to contribute to the Specialised Centre's demands for growth in health and medical related uses and the related demands for key worker and student accommodation in an accessible location, with strong proximity to the Hospitals Campus and University of NSW, local services and public transport.

The objectives and controls for this section apply to all DAs for new buildings on these sites.

Objectives

- To facilitate commercial space that is suitable for health services facilities within the Centre
- To facilitate residential uses including affordable housing to reflect the needs of key workers and students within the Centre
- To provide building forms and layouts that are capable of adapting to both residential and health service facilities above ground floor
- To provide active street frontages to streets at ground floor
- To Increase pedestrian permeability and amenity where possible
- To minimise vehicular crossings on primary street frontages, including High Street, Botany Street and Belmore Road.

Controls

- a) Buildings are to have a minimum floor to ceiling height of:
 - 3.3m on the ground floor
 - 2.7m on the first floorin order to provide suitable ceiling heights to suit health and medical related uses
- b) Provide an active ground floor setback zone, free of columns, balustrades and other visual barriers to the primary streetfront
- c) If three bedroom units are provided, units should be capable of being converted into a dual key apartment (i.e. two bedroom + studio)
- d) The design of the first floor and above is to be flexible with multiple configurations possible that enable residential or health service uses.



Example of an active ground floor setback zone, with cantilevered upper floors providing a covered entry and circulation area. (source: Stanisic Architects)



Example of a mixed use building providing an open, active streetfront at ground level. (source: Stanisic Architects)

2.2. Block 1 – High Street / Botany Street

Note:

Blocks 1 now forms part of the Randwick Hospital Campus and is zoned SP2 Health Services Facility and is subject to State Significant Development approval processes.

2.3. Block 2: High Street/Blenheim Street

Note:

Block 2 is no longer addressed in this part of the DCP. Block 2 forms part of the High Street HIA (formerly known as Arthur Street HIA) and objectives and development controls for this area are provided in the Specific Sites – E7 Housing Investigation Area (HIA) section of this DCP.

2.4. Block 3 – Belmore Road / Don Juan Avenue

Description

Block 3 is triangular in shape and is bound by Belmore Road to the south west, the terminus of Don Juan Avenue to the north, a pair of two storey heritage listed late Victorian Terraces ‘Hygena’ and ‘Corona’ to the north currently used as lodging accommodation, and a two storey residential flat building to the south east.

There are four existing single storey detached houses within the block - three comprising health services. The block is opposite to High Cross Park.

The block falls approximately 1 to 2 metres from the intersection of Avoca Street / Belmore Road along Belmore Road.

Objectives

- To create a strong built edge to Belmore Road
- To provide a pedestrian connection from Belmore Road to Don Juan Avenue
- To respect and enhance the heritage value of ‘Hygena’ and ‘Corona’ located adjacent to the block
- To provide an active street frontage to Belmore Road at ground floor.

Controls

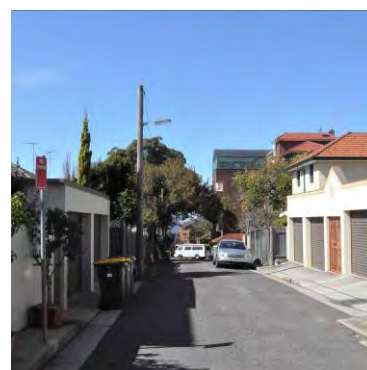
- a) Building Envelope Plan:
 - The building envelope plan shows the maximum envelope including balconies, but excluding the roof structure and envelope. DAs are to demonstrate that the proposed building fits within the envelope.
- b) Building Height:
 - RLEP identifies a maximum height for this block of 15m. Building envelope illustrations show 4 storeys, excluding the roof envelope and structure
 - Any habitable roof space provided above the maximum building envelope must be setback an additional 4 metres from the building frontage along Belmore Road.
- c) iii) Amalgamation:
 - All existing individual lots will need to be amalgamated and comprise a single development in order to achieve the maximum building envelopes and building heights.



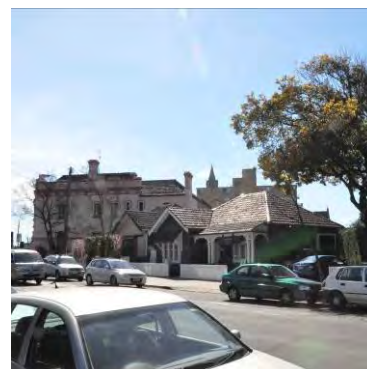
Block 3



Belmore Road looking east



Don Juan Avenue looking east towards the Ocean



Belmore Road looking north

- d) Building Depth:
- 18m maximum above ground floor.



Figure 10: Block 3 - Existing site plan

e) Building Uses

| | |
|-----------------------|---|
| Ground floor | Health services facilities. |
| First floor and above | Residential / Health services facilities. |

f) Mix

- For any proposed residential uses, provide the following mix of dwellings:

| | |
|--------|-----------------|
| Studio | 50% maximum. |
| 1 Bed | 50% maximum. |
| 2 Bed | 50% maximum. |
| 3 Bed | No requirement. |

g) Parking and access

- Access to parking is to be provided via Don Juan Avenue. All parking is to be provided in a basement level, located under the building footprint.

h) Open space

- Refer to section C2: Medium Density Residential uses for open space and landscaping requirements for any residential component.

i) Setbacks

- Comply with the setbacks in the table below, and as illustrated on Figure 13.

| Frontage | Setback | |
|----------------|--|------------------------|
| Belmore Road | 3m | Ground floor. |
| | 0m | First floor and above. |
| East Boundary | 0m | Ground floor podium. |
| | 6m | First floor and above. |
| North Boundary | 6m wide land dedication to align with Don Juan Avenue. | |

- j) Public dedication/public access
- A public dedication is to be provided in the form of a 6 metre wide pedestrian laneway extension to connect Don Juan Avenue to Belmore Road. (An easement for public access may be considered in lieu of dedication).



Figure 11: Building envelope plan

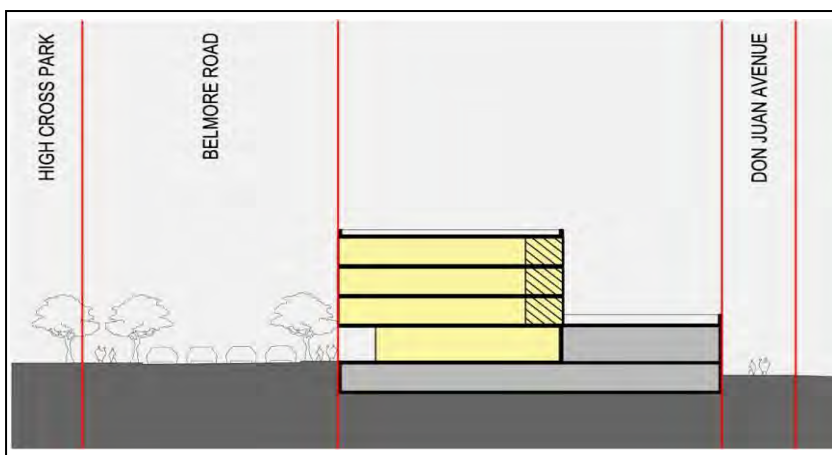


Figure 12: Building envelope section



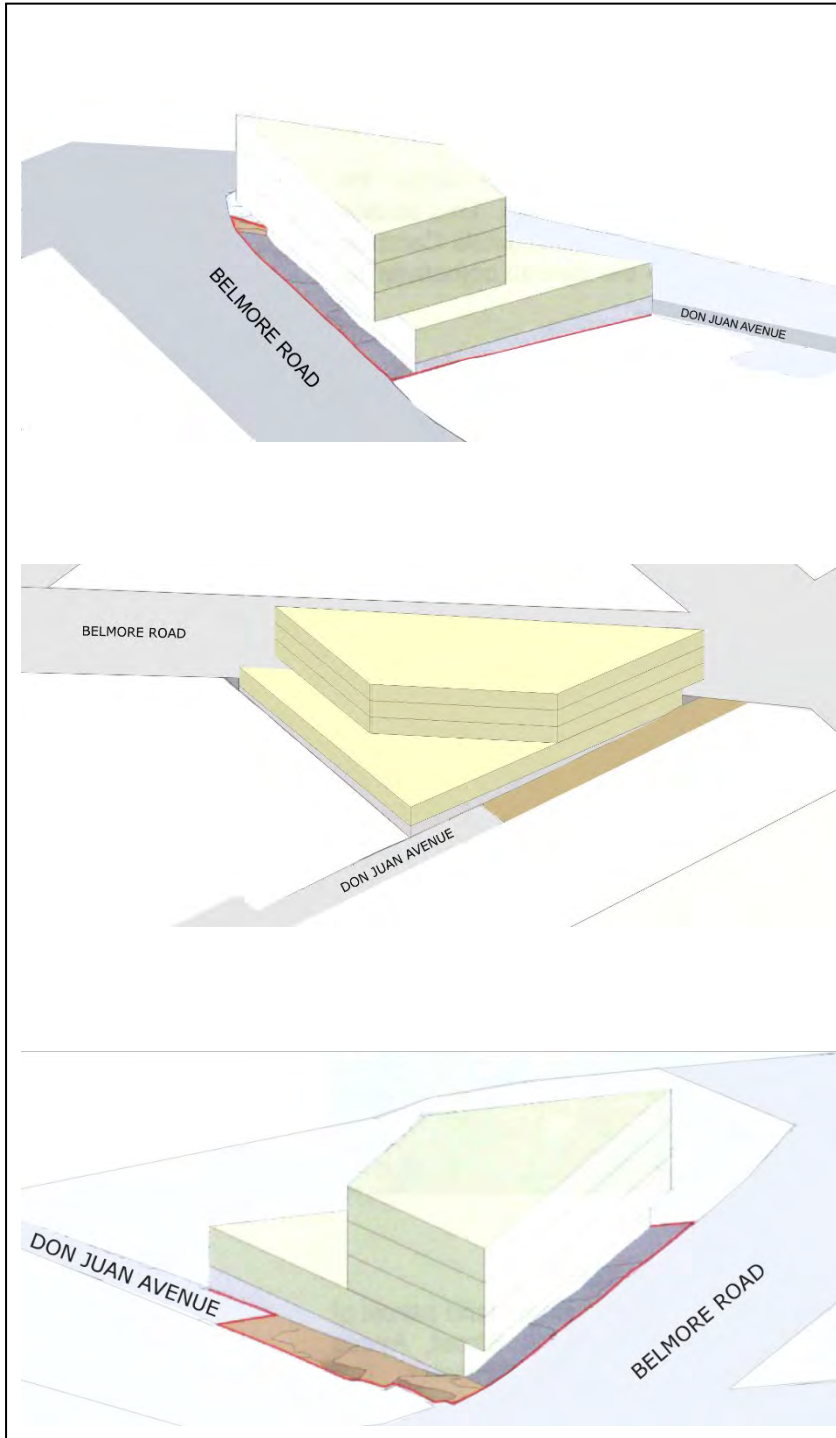


Figure 13: Block 3 - Illustrative 3D envelope

3. Randwick hospitals campus

3.1. Introduction

The Randwick Hospitals Campus is a major site within the Randwick Education and Health Specialised Centre. This subsection includes objectives and controls specific to the Hospitals Campus that should be considered in addition to the overall objectives for the Specialised Centre.



Figure 1: Randwick Hospitals Campus

Site description

The Randwick Hospitals Campus comprises a single land parcel of approximately 13.26 hectares, bordered by High Street, Avoca Street, Barker Street and Hospital Road in Randwick. The campus is a seven day a week, 24 hour per day operation with large volumes of people, vehicles, equipment and supplies moved around the campus

There are four major hospitals on the site, being: the Prince of Wales Hospital, Sydney Children's Hospital, Royal Women's Hospital and Prince of Wales Private Hospital. These comprise the largest complex of teaching hospitals in Australia providing comprehensive health services ranging from specialised state-wide tertiary health services to metropolitan, local and community outreach services. In addition the site has a major medical research presence, including a Neuroscience research precinct.

Background: Masterplanning process

Preliminary masterplan principles for the Randwick Health Campus were commissioned and endorsed by the South East Sydney and Illawarra Area Health Service (SESIAHS) in 2008, concurrent with a broader precinct planning exercise being undertaken for the Randwick Education and Health Specialised Centre.

These principles recognise that planning for the campus is a complex and ongoing process, with campus decisions requiring a balance between clinical and operational requirements, available resources, community and stakeholder expectations, and site opportunities and constraints. These Principles form the basis of this section of the DCP.

3.2. Issues and opportunities

Staging and Flexibility

The provision of state, metropolitan and local health services requires a set of supporting physical assets, which can accommodate changing clinical services needs over time.

Decisions on development should be supported by a process of prioritisation, staging and strategic review to ensure that scarce funds for campus works are well directed.

Implementation of a staged campus planning approach will achieve planning, design, access and operational objectives within the campus. It will also enable flexibility and responsiveness to changing expansion needs, service priorities and technological advances in health service delivery and research.

Circulation, connectivity and legibility

The campus has a complex mix of activities and movements through the site, particularly given incremental development over the years. Vehicle, cycle and pedestrian routes and access points are often unclear. This lack of legibility can create confusion and inefficiencies for patients, visitors and staff.

The differentiation of public and private and clinical areas is also unclear, and can add to the complexity in navigating the campus.

Clear identification/separation of primary movement routes through the campus for vehicles (eg: service, emergency, visitor, staff), people (staff, patients, visitors) and goods is also important to incorporate into an overall campus planning framework.

Opportunities exist to improve both internal and external campus connections and legibility, while also introducing greater site permeability through improved connections and views along key desire lines.

Safety, security and amenity

As a 24 hour facility, provision for safe access should be incorporated into campus planning. This includes a need to manage public movement through the campus, particularly at night.

There is an opportunity for campus facilities and spaces to better provide for the amenity of amenity for patients, staff and visitors, and contribute to a healing environment, incorporating open space, and opportunities to better connect to the surrounding public domain.

Activity and functional areas

The identification of the campus activity and functional areas will assist in identifying long term space requirements. Future decision making should be informed by the functional zones to maintain their long term integrity.

Planning should identify any “compromised” core hospital activities and services in terms of accessibility, functional linkages and expansion requirements, and incorporate plans for future relocation.

3.3. Master plan principles

While the Randwick Health Campus is long established on this site, incremental development has proceeded without the benefit of a master plan. A masterplan provides a framework for planning review of complex and potentially conflicting opportunities on site.

Objectives

- To optimise campus potential with a shared view for all organisations on the overall development framework
- To provide a context for testing strategies and options to accommodate short, medium and long term needs
- To support a staged implementation program within capital and investment constraints
- To define a broad campus planning framework, identifying key campus-wide opportunities and improvements to be achieved via new development.

Masterplan Principles

All DAs on the health campus are required to address the seven master plan principles described below:

1. Define campus activities and functional zones
2. Provide strong logic and legibility
3. Incorporate efficient access and circulation
4. Provide pleasure, interest and delight
5. Build in flexibility and robustness

6. Address safety and security
7. Relate to the wider community

1. Define Campus Activities and Functional Areas

Clearly identified campus activity or functional zones contribute to service delivery efficiencies and legibility. The Randwick Health Campus comprises four key activity areas as illustrated on Figure 2 below.

Clinical Core

The clinical core is the central service hub of the campus. It comprises the four hospitals (Prince of Wales Public, Sydney Children's Hospital, Royal Hospital for Women, Prince of Wales Private) and a broad range of services and activities, which are key destinations for a range of staff, patients, service providers and visitors.

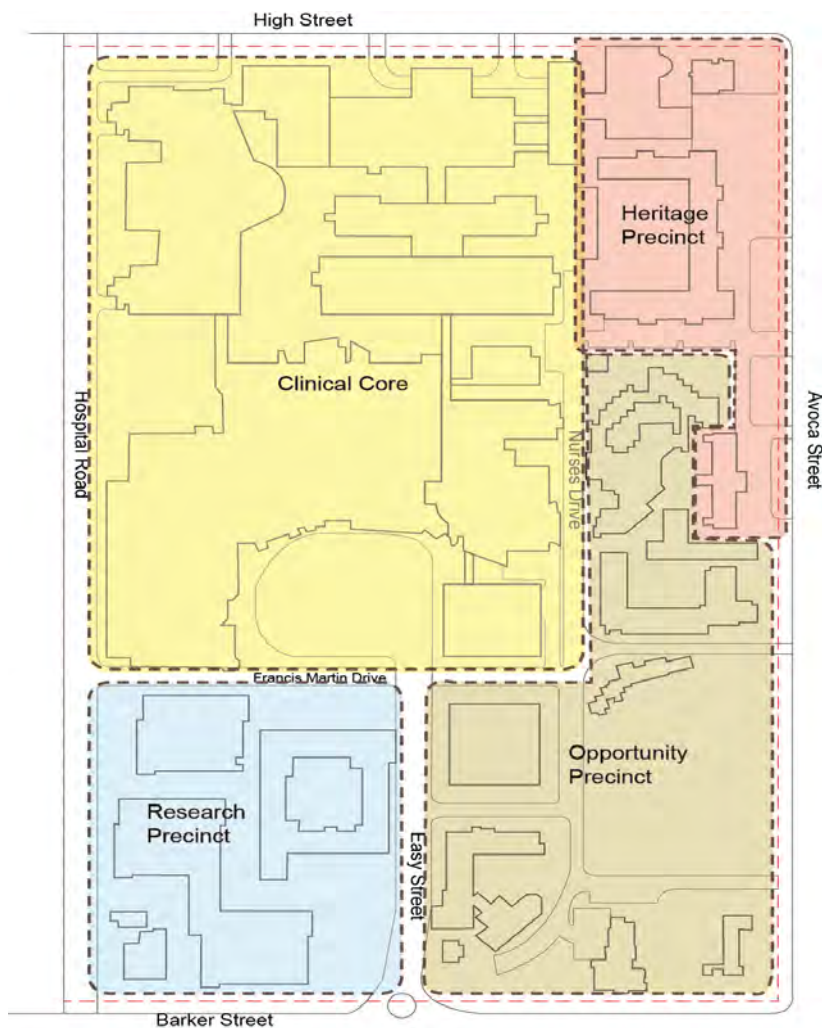


Figure 14: Campus functional areas

Research precinct

The research precinct accommodates the main research related activities on the campus plus an acute mental health facility. The Randwick Ambulance Station is located in the south western corner of the precinct

Heritage precinct

The precinct comprises the Edmund Blackett Building, the Medical Superintendent's Cottage, the Catherine Hayes Building, surrounding fences and associated curtilage forming this significant heritage precinct. It supports a range of community health activities, meeting/teaching spaces and administrative functions.

Opportunity precinct

The south eastern corner of the site is currently occupied by a range of support activities including children's medical services, a childcare centre, residential accommodation (Ronald McDonald House) and administrative functions. Some of these functions are directly related to activities in the core campus precinct.

2. Provide strong logic and legibility

A clear sense of orientation helps to navigate around a complex group of buildings. Opportunities for orientation to recognisable features such as a significant landmark, a park, distant view or street should be incorporated into major entries, circulation nodes and public areas.

3. Incorporate efficient access and circulation

Access and circulation around the campus is complex and multi-layered. It incorporates the internal movements of people and goods, their different purposes, and the different clinical categories of emergency, critical and non-critical. It also includes external movements at access and entry points, and the external travel paths of pedestrians, cyclists and vehicles.

A well-functioning campus will have an accessible, clear and legible movement network, with linked related functions, separation of incompatible routes and users, and prioritisation of emergency/critical movement.

4. Provide pleasure, interest and delight

The nature of the physical surroundings and the experience of arriving there can have a major impact on the wellbeing and peace of mind of patients and their loved ones, and on the effectiveness of staff charged with their care.

Open spaces, external views, access to daylight, fresh air and gardens can provide positive well-being outcomes for all users.

Incorporation of art, colour and finishes can provide interest, and help to break down a hospital's institutional character.

5. Build in Flexibility and Robustness

Both medical and building technologies are rapidly changing. The organisational structure of the hospitals and their departments may well change. Buildings and spaces provided now should be designed with future adaptation in mind.

In such a changing environment some spaces may be regularly in need of alteration and adaptation. Some may need considerable modification to house complex equipment with significantly different dimensions and service needs while other areas such as wards may remain much the same only housing a different classification of patient.

6. Address Safety and Security

While on the one hand the hospitals aim to welcome all people with a valid reason to be on the campus, on the other there is a duty of care to protect patients and staff from harm and an interest in protecting buildings and equipment from vandalism or theft.

This is a particular issue at night when the hospitals are still functioning. Inpatients and their carers deserve the same level of security but the level of activity around the hospital is greatly reduced and hence there is a reduced level of passive surveillance.

7. Relate to the wider community

Fulfilling its role as a regional centre of excellence. Being a 'good neighbour', serving the medical needs of the local community; exploring ways in which it can share resources with the local community, exploring its links with UNSW both physically and intellectually as a learning and research venue.

There are opportunities to introduce greater permeability, while being mindful of the operational and safety needs of the campus.

3.4. Development and design controls

3.4.1. Uses

Explanation

The complex and evolving range of uses, organisations and functional relationships within the Campus requires a clear yet flexible guidance on the location of future development.

Objectives

- To ensure that uses are appropriately sited in relation to each other and within an appropriate functional area
- To provide clear and legible campus entry points, with active edges and public uses fronting primary street fronts
- To incorporate flexibility to accommodate changing needs, and maximise opportunities to improve functional relationships through development.

Controls

- a) Locate and concentrate high public interface activities and high throughput uses (eg: outpatients, community and allied health services) in the Clinical Core -High Street Interface and Heritage Precinct
- b) Encourage suitable adaptive reuse for the Heritage Precinct that will enhance the public interface with adjacent streets
- c) Any significant redevelopment within the Opportunity Precinct should be based on a detailed study into current and possible future uses, including liaison with current occupants in order to:
 - identify opportunities to improve functional relationships across campus
 - consider its potential to decant existing uses with possible future redevelopment of the Clinical Core or mental health facilities as part of a long term staged campus development strategy
 - identify demands and options for on-site patient, staff and carer accommodation.

3.4.2. Site planning

Explanation

A holistic approach to site planning will guide appropriate siting of facilities in relation to their surrounds, improved coordination of access, servicing and circulation, and preservation of key campus connections, open spaces and landscaped areas.

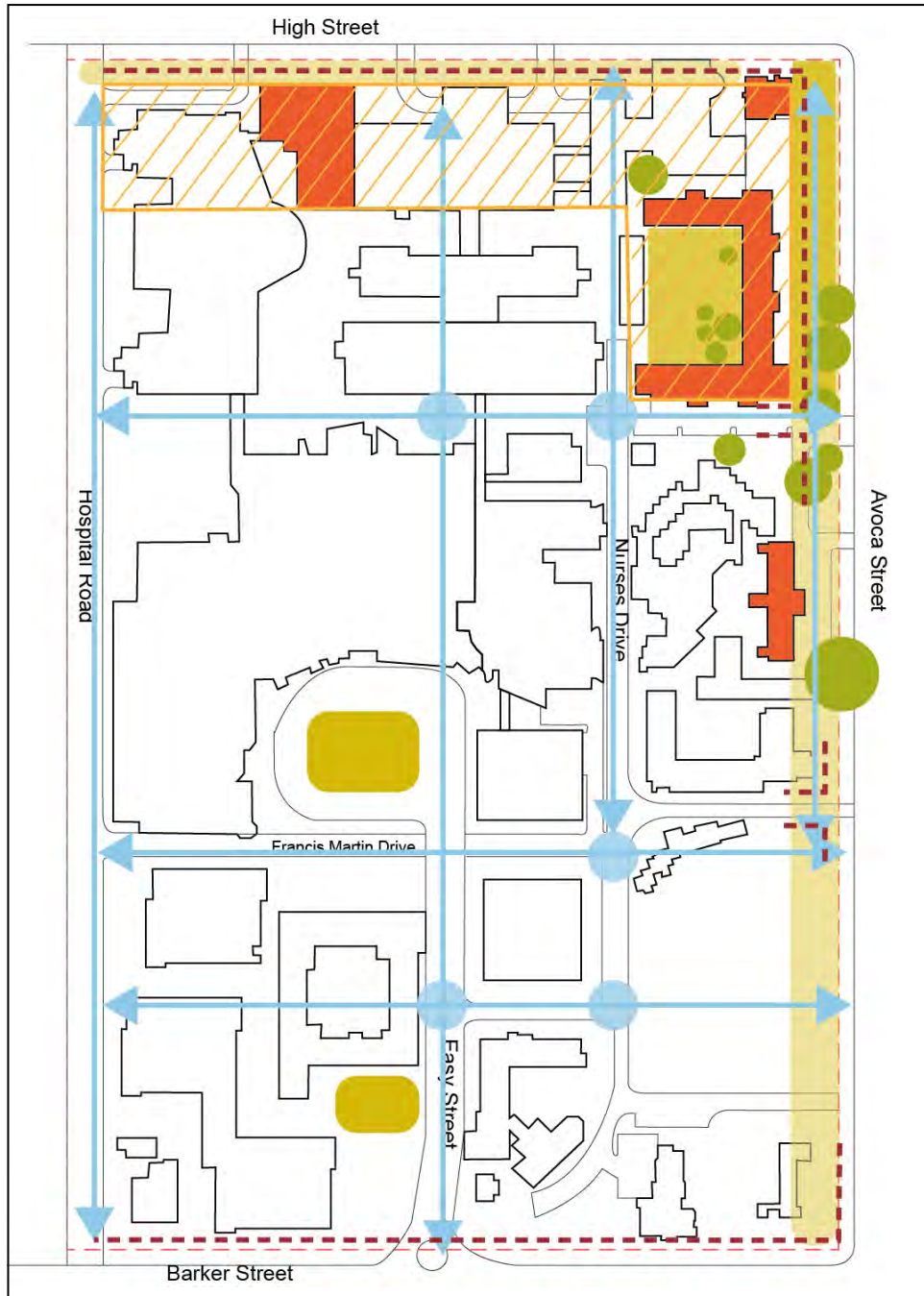
Objectives

- To establish clear site planning criteria that can apply to changing health services needs while providing consistent and complementary relationships with the surrounding uses, adjacent properties and public domain
- To identify long term opportunities for key campus connections and open spaces to be incorporated with campus development

- To ensure small scale, incremental or staged development positively contributes to the overall function of the campus
- To achieve a clear hierarchy and definition of gateways and connections between the external and internal circulation networks.

Controls

- a) Development involving new buildings or extensions to existing buildings shall meet the street setback requirements below. Exceptions may be considered for primary public entry points and associated awnings/canopies, or architectural features, or at locations of campus entries/internal street connections with the public domain.
 - Street front Setbacks:
High Street: 6m,
 - Otherwise to align with existing building frontages as noted in Figure 2.
- b) Avoca Street: to align with the primary frontages of the Catherine Hayes and Edmund Blackett Buildings
- c) All development shall ensure that the opportunity to achieve key campus connections, public domain/landscaped areas and open spaces is maintained or improved
- d) Large scale developments shall provide any campus connections, nodes, public domain/landscaped areas and open spaces within or adjacent to the development footprint
- e) Provide high quality design of key campus connections, landscaped areas and open spaces.



Notes

- Provide a primary active frontage to High Street and Avoca Street
- High public interface area shown hatched
- Orange buildings denote precedent for alignment of building street setbacks
- Green areas are significant existing open space areas, significant trees and gardens to be preserved and incorporated into the circulation network
- Blue grid denotes the preferred primary circulation and open space network, with key connections to campus boundaries.
- Connections at campus boundaries provide opportunities for enhanced main entries
- Landscaping shall be provided along the primary circulation network, and link to existing landscaped areas
- Blue circles denote potential nodes to be reinforced as orientation devices, providing views to key spaces and corridors, and including access to daylight and open space
- Development fronting Barker Street shall provide an active frontage at street level
- Enhance the pedestrian connections along Hospital Road, and provide a continuous accessible footpath

Figure 15: Site planning principles

3.4.3. Heritage conservation

Explanation

The Randwick Hospitals Campus contains several items of state heritage significance. Development on the site dates back to the 1850's with construction of the Destitute Children's Asylum (now known as the Edmund Blackett Building). The buildings fronting Avoca Street and High Street are part of a significant precinct, and the High Cross Park Heritage Conservation Area extends into this Heritage Precinct of the Campus. This subsection should be read in conjunction with the Heritage Section of the DCP.



Catherine Hayes Building, Avoca Street

Objectives

- To conserve, manage and interpret the heritage significance of the hospitals campus, heritage conservation area and its items of heritage significance
- To manage built, landscape and archaeological components, historic views and spaces in accordance with their assessed significance
- To ensure new development respects and enhances the heritage significance of the site and its setting
- To actively interpret and promote the heritage values of the site.

Controls

- a) Conserve and manage heritage components identified in Figure 3
- b) Re-establish the formal Avoca Street frontage.

Note:

Refer also to the Heritage Chapter in *Part B: General Controls* for further detail on the High Cross Park Heritage Conservation Area and requirements for development of or near heritage items.



Figure 16: Heritage significance of elements in the Hospitals Campus

(source: Randwick Hospitals Conservation Management Plan, prepared by Graham Brooks and Associates for NSW Health)

3.4.4. Landscape and open space

Explanation

Well designed and located landscaped areas and open spaces can contribute to a healing environment and provide pleasure and visual interest.

Objectives

- To employ landscape and open space to contribute to a healing environment
- To provide a variety of different landscaped spaces as an integral component of development across the campus
- To maximise opportunities to connect landscaped areas and open spaces to integrate with the wider campus circulation framework
- To protect and enhance existing landscaped spaces, elements and features.

Controls

- a) Maintain and enhance the existing formal landscaped frontage to Avoca Street
- b) Incorporate landscaped areas into all new development on the campus, to provide views of and/or access to gardens or open space from;
 - public areas, such as foyers and major circulation areas
 - patient accommodation and waiting areas.
- c) Ensure landscaped areas provide easy and safe access for patients, staff and visitors
- d) Maintain and enhance views to key landscaped areas and open space as noted on Figure 2.



Source: Children's Hospital Garden, Portland Oregon (note – to be replaced with local image)

3.4.5. Built form

Explanation

Existing development on the Hospitals Campus comprises a wide variety of built form, with varying heights, floorplates and envelopes reflecting their different uses, and the evolution in healthcare facilities over time. Future development has the opportunity to improve the coherence, legibility and scale relationships of buildings within the Campus.

RLEP contains maximum height controls for the perimeter of the Campus. These objectives and controls provide further guidance for the built form of all buildings within the Campus.



High Street entry to Prince of Wales Hospital

Objectives

- To integrate new buildings consistent with the siting, form, scale and character of existing heritage components and their setting
- To relate the design, siting and scale of new buildings to the wider context beyond the campus boundaries
- To establish a consistent/coherent scale and building alignment on Avoca Street, with specific reference to the Edmund Blackett Building
- To achieve high quality design that balances the institutional nature of the use with human scale
- To provide a safe environment for staff, visitors and patients.

Controls

- a) Provide covered entries such as awnings, canopies or porte cocheres to main entries of all public facilities
- b) Minimise large expanses of blank walls through articulation, fenestration, use of a variety of materials and construction details
- c) Building expression at ground floor level shall relate to the human scale through inclusion of windows where possible, and clear horizontal articulation of building elements and storeys
- d) Roof design shall minimise the visual bulk of services and plant
- e) Incorporate passive surveillance and CPTED design principles, especially in 24-hour operational areas.



Easy Street entry to Prince of Wales and Royal Women's Hospitals

Note:

CPTED refers to crime prevention through environmental design, and covers 4 key principles:

- surveillance
- access control
- territorial reinforcement
- space management

These design principles are articulated in “Crime Prevention and the Assessment of Development Applications”, produced by the NSW Government. Under s79C of the EP&A Act, Councils are required to consider and implement CPTED principles when assessing DAs.

3.4.6. Amenity

Explanation

Development on campus should encourage a healthy and healing environment, encourage incidental exercise, places for people to interact, and opportunities for quiet reflection. Links to green spaces, access to daylight, and noise minimisation have been shown to have potential to contribute positively to health outcomes.

Objectives

- To incorporate opportunities for social interaction, and incidental and therapeutic exercise
- To maximise access to natural light, views, open spaces and gardens to contribute to a healing environment
- To provide visual interest, variety and colour to interior spaces.

Controls

- a) Development shall provide access and views to open spaces and gardens
- b) Consider opportunities for roof gardens and green walls where space is restricted
- c) Design of spaces shall include opportunities for staff and public to interact from different sections across the campus
- d) Design and locate stairs to encourage incidental exercise
- e) Encourage use of art and colour to public and patient spaces, and as orientation and identity devices.

3.4.7. Movement and circulation

Explanation

This section refers to internal circulation and movement of people, goods and vehicles within the campus boundaries. Refer also to the Transport, Traffic, Access and Parking section in Part B of the DCP for requirements for car and cycle parking provision, end of trip facilities and requirements for traffic studies and travel plans.

Objectives

- To achieve a campus-wide circulation framework to provide for safe, legible and efficient movement of people, material and vehicles
- To ensure minor and incremental development does not limit the potential to improve the wider campus circulation network
- To provide a high level of amenity in the public pedestrian circulation system
- To encourage use of sustainable and active transport modes to and within the campus.

Controls

- a) Retain the principal public vehicular access to the campus from Barker Street/Easy Street
- b) Avoid public vehicular access to the campus from Avoca Street and High Street
- c) Employ technology/simplified procedures to substitute the need for people and materials movement where possible
- d) Consider a modern industrial goods handling and distribution system for any major new development
- e) Incremental campus development shall be sited and designed to facilitate the long term circulation network
- f) Major redevelopment of any part of the campus shall incorporate pedestrian and cycle network improvements.

4. UNSW Kensington

4.1. Introduction

In 2005 the University of New South Wales (UNSW) prepared the “Campus 2020 Master Plan” for the Kensington Campus which forms the basis of this sub-section of the DCP.

This sub-section applies to all the land known as UNSW Kensington Campus as shown on **Figure 1.1**, outlined in a heavy yellow line.

This section of the DCP must be read in conjunction with:

- Part A - Introduction and Part B - General Controls; and
- Other sections of the DCP for specific development types, locations or sites, if relevant to the application.

4.1.1. Objectives

The aims of this subsection are to provide planning and design objectives and provisions which will optimise:

- The physical, social, educational and environmental quality of the UNSW Kensington Campus,
- The role and environmental ‘fit’ of the campus within its Randwick City context and its compatibility with the evolving character of adjoining lands, and
- The Campus Experience.

4.1.2. Strategic framework: campus experience

The University of New South Wales (UNSW), one of Australia’s foremost academic institutions, has its principal campus at Kensington. In 2004 the University commissioned the Campus 2020 Master Plan as the opportunity to address a range of strategic issues looking toward 2020.

The Campus 2020 Master Plan complements the broader UNSW Strategic Plan 2005 that focuses on UNSW’s vision, purpose, values and priorities (guiding principles):

- teaching and learning
- excellence in research
- international engagement, and
- Community interaction.

The Master Plan process commenced with a Strategic Brief that identified the elements that contribute to the success of UNSW. These include the guiding principles and the concept of “**Campus Experience**”, the built form and landscape, together with the sense of place and experience of the site, that all combine to create a positive experience of the campus that

Note: the car parking rates in B7: Transport, Traffic, Parking and Access do not apply to UNSW Kensington campus. Refer to 4.2.10: Transport and Parking in this subsection.

draws staff, students and visitors to the University, and satisfies their needs and aspirations.

The vision for Kensington Campus, as set out in the Master Plan, is to create a high quality university campus that facilitates the achievement of the guiding principles by focusing on the concept of a positive Campus Experience. This focus provides a basis for the University to develop the campus to its optimal capacity while maintaining and enhancing its character, and also responding to its strategic location between three town centres, a major hospital complex and recreation facility, near the Sydney CBD and the airport.

The diagram below shows the elements of Campus Experience that the Campus 2020 Master Plan Team identified at the Strategic Brief stage to direct the detail of the Master Plan. The blue elements are *common priority goals* from the UNSW Strategic Plan. The green elements resulted from research, information collation, consultation and feedback.



4.1.3. Key design features of campus 2020

To achieve the vision and guiding principles, to improve the Campus Experience, the Master Plan contains the following key design features:

- a commitment to sustainability in the planning, design and management of all new buildings and other improvements and encompassing all of the University's operations as described in the UNSW Environment Policy and Environmental Management Plan
- an explicit desire to reinforce the sense of place, inspirational and valued spaces that draw people to the campus, extend their stay and linger in their memory after they have left, giving the campus a competitive edge
- a safe and legible network of paths, shared ways and campus streets that innately guide movement around the campus, in particular connecting campus entrances, gathering spaces and "public rooms"
- identification of lively Hubs in specific locations with sufficient density and range of uses to enable them to become key destinations and activity centres fostering the informal and formal interchange of ideas and shared learning
- encouragement of the formation of Knowledge Clusters of Schools and Faculties around Hubs to promote synergies and encourage collaboration in teaching and research
- identification of new open spaces and related building opportunities to increase the capacity and amenity of the campus, particularly along High Street, at major campus entrances and at Hubs
- improvement of the landscape quality of the campus by identifying and protecting significant plantings, redefining and improving existing open spaces, re-evaluating campus boundaries and ensuring the landscape character reflects the aspirations of the campus community
- definition of key building alignments/setbacks and heights to establish, reinforce and protect the legibility and amenity of the campus, its Hubs, landscaped open spaces and outward presence to the community
- expansion of housing on campus, particularly along High Street, to increase the sense of community, increase patronage of campus services and reduce transport costs and impacts
- preferred locations for retail and other services such as child care to support the social life of the campus

- encouragement of the extension and better management of recreation and cultural facilities and events
- a major re-evaluation of the approach to transport and parking that will over time reduce both on-site and on-street parking in favour of improved public transport and encourage walking and cycling, and
- identification of key architectural design elements and types to promote high quality architecture which is fit for purpose, responsive to future needs and embodies the principles of sustainability.



campus aerial
photo showing
land to which the
DCP applies

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4.2. Campus design principles and provisions

This DCP details ten design principles that shape the concept of Campus Experience as discussed above:

- sustainability
- sense of place
- legibility
- knowledge clusters and hubs
- landscape
- buildings
- housing
- retail and services
- recreation and cultural facilities and events, and
- transport.

The main emphasis is on the physical form of the campus, particularly its spatial arrangement, three dimensional pattern and design quality. The interrelationships of the 10 principles are critical. The principles influence the social, academic and economic aspects of the campus by direct policies and initiatives, and also by the way the physical form shapes aesthetics, perceptions and behaviours.

Coverage of each principle includes objectives and provisions and related diagrams where spatial elements exist. The planning, design and management policies, concepts, strategies and actions included will be used by UNSW to achieve the principles and their objectives through an array of activities, such as design briefs, capital works and management.

4.2.1. Sustainability

Implementation of the UNSW Environmental Management Plan (EMP), which was prepared concurrently with the Campus 2020 Master Plan, provides the framework to achieve environmental sustainability.

The EMP comprises an overall framework and detailed strategies and annual action plans. The scope of the EMP includes the following functional areas:

- management systems
- knowledge systems
- energy management
- water management
- materials management
- planning, design and development
- compliance and pollution prevention
- transport, and

- biodiversity and open space.

The DCP incorporates and operationalises many of the elements of the EMP in terms of planning and design. The DCP does not repeat the provisions of the EMP. The EMP gives an operational context for the University's implementation of sustainability elements.

Objectives

- Ensure that sustainability is a fundamental driver of, and explicit within, all work which shapes the campus, its physical form, activities and functions, particularly planning and design activities
- Ensure that sustainability is a fundamental aspect of the objectives and provisions within the other principles which make up the Campus Experience
- Ensure that the campus is a showcase for sustainability innovation, with interaction between the research and teaching functions of the University and campus capital works design, delivery and management practices.

Controls

- a) Existing and new campus buildings, landscapes and infrastructure are to be managed by UNSW to be consistent with the relevant sections of the EMP
- b) Key energy management requirements are to:
 - aggressively implement energy conservation
 - reduce greenhouse gas emissions through design and management, and
 - consider renewable energy technologies such as photovoltaic cells in the design of new buildings and refurbishment projects, to ensure that the University maintains a reputation as a leader in renewable energy design in the built environment
 - A report on energy efficiency is to accompany all DAs for new buildings or refurbishments.
- c) Key water management requirements are to:
 - reduce potable water consumption;
 - increase the use of bore water for non-potable water requirements;
 - maximise the on-site retention of stormwater via natural infiltration and aquifer recharge, and
 - ensure all water fittings and equipment are 4 star efficiency.
 - Stormwater runoff from the UNSW Kensington Campus is to be managed in accordance with the Stormwater Strategy prepared for UNSW by ANA Technical Services Pty Ltd dated 28 November 2005, Drawing CMP 1000 (Rev 1) dated 28 November 2005 and Drawing DSP 1000 (Rev 1) dated 22 November 2005

Note: this satisfies DCP requirements for alternatives to rainwater tanks, and may be used to demonstrate compliance with requirements of BASIX for water conservation (subject to approval from

- Aquifer recharge and borewater reuse, licensed by the Department of Natural Resources, is to be implemented in all capital works projects where permissible
 - Where relevant, development is to extend UNSW's substitution of town water use by harvested stormwater via the Botany Sands Aquifer (subject to approval from the Department of Natural Resources).
- d) Key materials management requirements are to:
- reduce solid waste to landfill and thermal treatment, and
 - Increase solid waste recycling, especially in construction and demolition and organics
 - Waste management plans are to be prepared for all developments ensuring that suitable waste management processes and waste storage areas that support the principles of waste avoidance, reuse and recycling are incorporated into the design of buildings. Waste management plans are to include projected waste generation rates for the end use of the development and the development plans are to include facilities to support this waste generation, eg: appropriately sized and accessible waste storage areas, integrated with waste collection systems
 - Waste management plans that maximise reuse and recycling of waste generated in the demolition and construction phase are to be prepared for all developments
 - All waste storage areas are to be graded and drained to the sewer to the requirements of Sydney Water.
- e) Key planning, design and development requirements are to:
- ensure all new buildings and refurbishments target a 5 star rating under Green Star rating scheme
 - increase accessible green open space, and
 - achieve compliance with environmental planning, heritage and construction regulations.
- f) Key compliance and pollution prevention requirements are:
- To achieve compliance with environmental legislation and regulations, and
 - To reduce quantity and toxicity of wastes and products on campus.
- g) Key transport requirements are to:
- pursue a range of travel demand management strategies to reduce the number of vehicle trips to the campus, and
 - increase staff and student numbers travelling by foot, bicycle and/or public transport.

These issues are addressed further in the objectives and provisions for buildings and landscape in 4.2.6 and 4.2.5 respectively in this subsection. Details are to be provided in DAs.

Refer to 4.2.10: Transport and Parking in this subsection for further detail.

- h) Key biodiversity and open space requirements are to:
- improve ecological functionality and habitat potential for native fauna on campus
 - increase use of indigenous local species
 - reduce use of chemicals, and
 - increase awareness and knowledge of the ecology of the campus.
- i) New campus projects (redevelopment or other capital works) are to be in accordance with any Campus Infrastructure and Services Strategy.

These issues are addressed further in 4.2.5: Landscape in this subsection

4.2.2. Sense of place

The sense of place of UNSW is to be reinforced to improve its identity and inspirational role for positive memories of campus life. Certain physical features already characterise the campus, such as significant buildings (eg Scientia, Library, Red Centre, Roundhouse) and spaces (eg University Mall and its entry on Anzac Parade, Library Lawn), the “UNSW” sign on the Library and the strong presence of fig trees on Anzac Parade and High Street.

These important features need to be respected as the campus evolves. They will also be supplemented with new memorable places and ensembles to create a high quality campus environment within the Randwick context and to generate memorable experiences, both of which will improve the campus’ competitive edge.

Objectives

- Create a strong sense of place for the campus which relates to both its prominence and character within its local context, and to particular characteristic features or spaces on the campus itself, which are valued and draw people to the campus, extend their stay, increase their sense of connection, linger in their memory, and increase their pride in the campus
- Create a sense of place which maximises the character of the campus but also ensures that it is seamless in terms of its public domain spatial structure and accessibility to/from its local neighbourhood
- Establish a sense of place which emphasises arrival, memorable buildings and landscapes, vistas, topography, vegetation, a legible, safe and “green” campus, and a wide variety of culturally relevant and inspiring public art

Controls

- a) The key features which define sense of place to be protected and promoted in all future development are identified on **Figure 5.1**. These focus on:
 - identification of the campus from afar, such as the building silhouettes and icon signage
 - perimeter tree planting
 - the sense of arrival, particularly along Anzac Parade, High Street and Botany Street
 - primary entrances from all streets
 - major existing and new gathering places, and
 - the network of connective spaces.
- b) The achievement of sense of place is also based on the pursuit of the issues and provisions of other campus design principles, particularly Legibility, the “public rooms” and specific characters of each Hub, Landscape, Buildings, Retail and Recreation and Cultural Facilities
- c) The interface of the campus with the surrounding community also determines its sense of place. The desired future character of these interfaces are to be as follows:

The specific controls to achieve these characters are detailed in subsections 4.2.3, 4.2.5, 4.2.6 and figures, 5.2,

Anzac Parade

- Distinctly passing through the campus; differentiated from the “built to property line” development of the adjacent town centres of Kensington and Kingsford
- Buildings to be set back from the street within a pattern of buildings/open space, especially at the extended University Mall that is to unite the divided campus
- Existing major trees to be retained, as set out in 4.2.5
- Pedestrian crossing to be at grade and of a distinctive hard-wearing material that signifies the University
- Additional trees to be added to median opposite University Mall
- New small footprint towers, of quality architecture and appropriate form, sited to avoid adverse environmental effects, to mark the UNSW gateway at University Mall, including icon building
- Mainly public/university uses at ground level; potential for university housing at upper levels, including for accommodation for visiting students, academics and staff of educational institutions and their families.

West Kensington Residential Interface

- Lower buildings to be set back from the boundaries to provide a transition to adjoining residential scale and minimise adverse environmental impacts

- Existing major trees on campus to be protected as set out in 4.2.5.

High Street

- Improve frontage with major new buildings that are to define major new gathering spaces
- Variety of uses including university, housing and publicly accessible facilities
- Numerous new entries to relate to public transport and north-south connections to campus Hubs
- Buildings to be set back to maintain existing mature trees as noted in 4.2.5
- Building heights to optimise capacity, northern aspect and views.

Botany Street

- Major buildings to define frontage, particularly High/Botany Street corner
- Extended East Mall to create new major eastern entry to campus (with possible future extension to hospital complex).

Barker Street

- Predominantly residential frontage with an increased scale of building
- Existing entries to be reinforced
- Landscaped set back to frontage.

Willis Street

- Residential uses up to 4 storeys at street edge above university uses at lower levels
- Uses at street level to engage with street
- Landscaped set back to frontage.

- d) Other physical elements important to be reinforced for sense of place are topography, significant buildings and spaces including the Old Tote Courtyard Heritage Conservation Area (HCA), views and prospect, and existing trees
- e) The design of individual capital works projects are to detail how these characteristics and features will contribute to the desired sense of place.

5.1

sense of place
image + identity

The image and identity of the campus is read from afar (the library tower), along perimeter streets and at campus entrances.



UNSW sign on the library is proposed as a campus icon, a generative Campus 2020 public art/lighting project, to promote a more progressive identity.

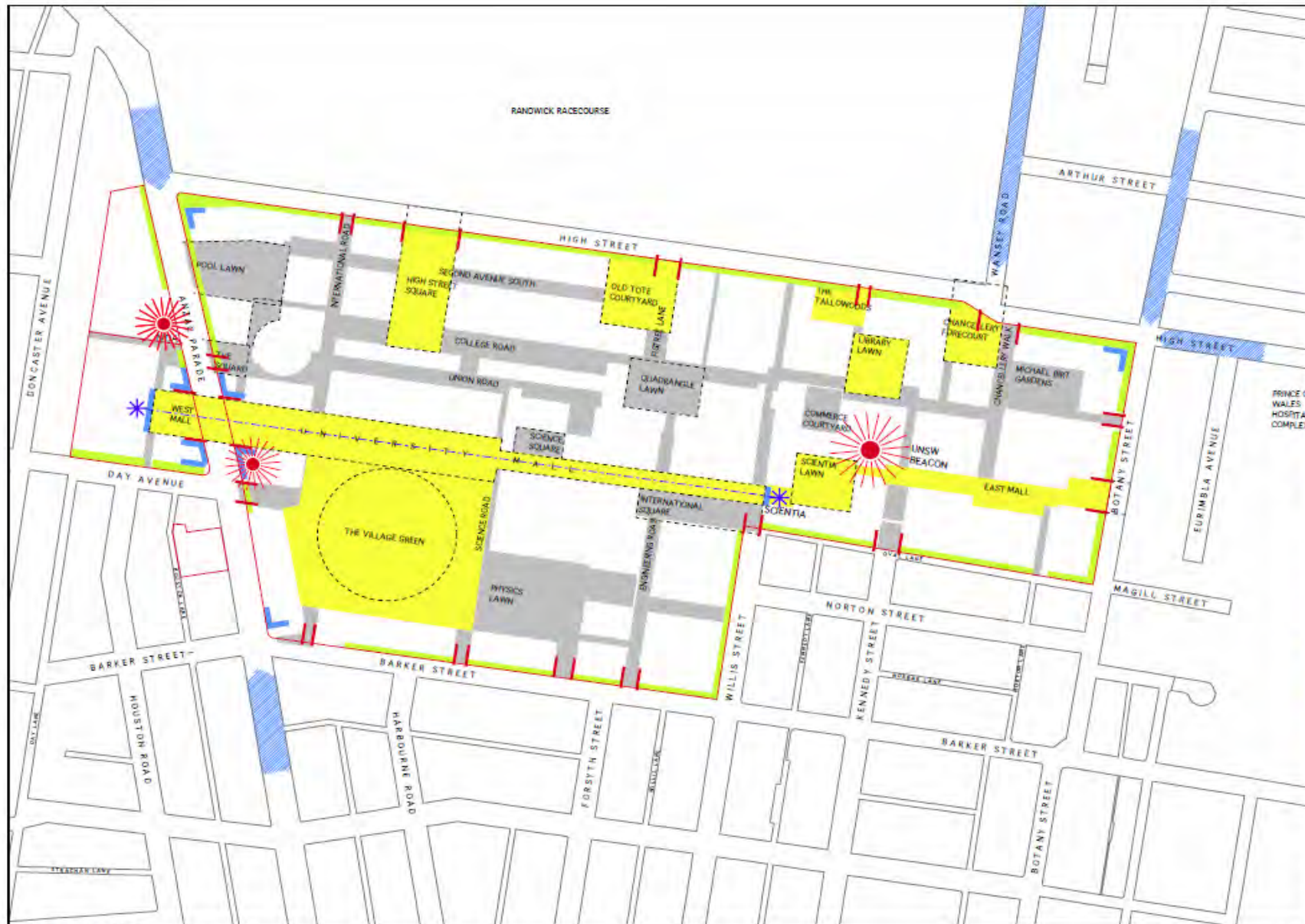


The visual prominence of the Campus at the corner of Botany Road and High Street, contributes to the identity of the campus. Future built and landscaped character of this corner should respond to this prominence.

Legend

-  Campus icon and iconic campus buildings: UNSW sign, NIDA's Parade Theatre, future Anzac Parade building and including Solentia
-  memorable campus buildings at each end of the spatial axis of University Mall - new partner building to Solentia
-  iconic campus spaces
-  existing and future characteristic tree plantings along perimeter streets
-  Primary views of the campus at street level, should engender a high quality built and landscape response
-  Campus entrances
-  primary campus entrance which is open inviting and engages with the campus context - dotted line
-  campus spatial structure - gathering and connective spaces

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4.2.3. Legibility

The legibility of the campus relates to its overall spatial structure, particularly the pattern of open spaces and the clarity of the network of paths, shared ways and campus streets that innately guide movement and orientation.

Legibility is to be reinforced by a series of spaces:

- major gathering spaces
- supportive gathering spaces
- connective spaces for movement around the campus, and
- contemplative places for quiet retreat and relaxation.

These will increase the quantum of open space, provide new foci in the spatial structure and life of the campus, and emphasise campus entrances. Clear connections between campus entrances and functional areas are fundamental. The pattern of buildings, especially their alignments and ground floor uses, also help to define legibility.

Objectives

- Ensure that the legibility of the campus is optimised for the benefit of all students, staff and visitors through:
 - clear and welcoming campus entries/address points and their links to neighbourhood activities and services
 - public spaces and clear routes evenly distributed throughout the campus within a grid of north-south and east-west links
 - clear definition of public and private spaces
 - achievement of good sight lines and visual connections
 - high quality consistent signage across the campus.
- Provide a campus public domain which appropriately serves its various functions, such as gathering places, connections/ circulation spaces, recreation activities and green spaces
- Ensure that buildings define and address the public domain in a manner which is appropriate for the specific location and function of the building and public space
- Achieve equity of access across the campus through identifiable and dignified routes for people with disabilities
- Provide generous and robust connective campus spaces, to realise high quality pedestrian spaces which also accommodate the requirements of slow speed emergency and service vehicles.

Controls

- a) New projects are to maintain and enhance the views into the campus identified in Figure 5.2 to ensure the legibility of the campus in the street layout

- b) Major and minor entries to the campus, and the varying permeability of campus boundaries, are to be achieved as identified in Figures 5.1 – 5.3
- c) New development and refurbishment projects are to over time achieve the pattern of public domain identified on Figure 5.3 which comprises a network of well defined major gathering spaces and a grid of smaller connective spaces which link the gathering spaces and campus entrances
- d) The boundaries of most existing spaces are well defined by building alignments or landscape elements, however those of new spaces are to be subject to refinement during further design studies. These aspects are further documented in Figures 5.6b, 5.7 and 5.8
- e) Major new gathering spaces, as set out below, are to provide new public open spaces and refine the spatial pattern and built form (see Figure 5.3) Refer also Hubs (4.2.4) and Landscape (4.2.5)
 - An extension of University Mall to the west of Anzac Parade, “West Mall”, as a key structuring element for the campus as a whole, the detailed design and functioning of the western campus, and improving the address and landscape character of the Anzac Parade interface
 - An improved entry square on Botany Street at Gate 11 as “East Mall”, to provide a major eastern address and campus-community interface, to increase the connectivity of University Mall as a continuous east-west link and encourage a future connection through to the hospital complex. This square has greater potential if vehicle access is removed and future redevelopment of buildings is focused on the space
 - A new “High Street Square” at Gate 2 to provide a major focus for lower campus and a new gateway as a campus-community interface, based on existing fig trees, lo Myers Theatre, future new housing, cultural and academic uses, solar access, a green park, and vehicle access
 - An enlarged square at Old Tote Courtyard to provide a major focus for future housing and new gateway as a campus-community interface, capitalising on the existing figs, heritage buildings, theatre and community uses
 - An upgraded entry space, “The Tallowoods”, to provide a direct connection to Library Lawn and the Morven Brown Courtyard from the bus stops at Gate 8 on High Street maximising the benefits of the existing trees and the prospect to the CBD
 - A new focus on Chancellery Forecourt at Gate 9 to emphasise its entry and ceremonial importance
 - A new “Kingsford Gate” as a key to improving the campus address and community interface towards Kingsford, improving sight lines, opening the experience of the Village Green, redeveloping the child

- care centre and broadening uses in the southwest corner of the campus
- f) Gathering spaces are to be joined by a network of east-west links, the enhanced and extended University Mall and University Walk and north-south connections as shown in Figure 5.3
 - g) Significant places are to be achieved at the intersections of major pedestrian routes by the creation of:
 - a gathering space (see Figure 5.3), and/or
 - a public room (see Figure 5.4) and/or
 - a Hub (see Section 5.4 and Figure 5.5), and/or
 - memorable features such as landscape elements (see Figure 5.6b), building design, uses, and/or public art.
 - h) A subset of the public domain, including courtyards within buildings, is to be developed as quiet contemplative spaces (see Section 5.5 and Figure 5.6b)
 - i) Covered access is to be provided along University Walk (refer Figure 5.3), preferably by awnings or colonnades as part of buildings along the route or alternatively as free-standing canopies
 - j) Lighting of the public domain is to contribute to legibility and ensure safety, with particular emphasis on open spaces at Hubs, University Walk and its intersections with north-south connections, and all routes to campus entrances with public transport stops
 - k) Paving selections for the connective spaces are to contribute to legibility, with particular emphasis on the routes between Hubs and to campus entrances with public transport stops
 - l) All new campus projects are to incorporate consistent high quality signage throughout the public domain in accordance with the adopted UNSW Signage Code. Icon signage is to contribute to identification of the campus from afar but not adversely impact on adjoining properties
 - m) Equal access to the public domain is to be achieved through implementation of the findings of the UNSW Disability Access Audit. This is to include a “shoreline” for the vision impaired through the campus
 - n) All connective spaces are to provide for service vehicles and emergency access within a generously sized, obstacle free environment compatible for pedestrians and the slow movement of vehicles.

5.2

campus legibility in the street layout

Views deep into the campus which coincide with gathering and connective campus spaces, enhance campus legibility and address. Extensions of views along neighbouring streets, into and through the campus, promote a campus identity which is inviting and engaged with its neighbours.



The Mall provides views deep into the campus



Engineering Road - a fine street



Improve the entry at Chancery Walk (Gate 9) more generous and toward Wancey Road

- legend
- existing and potential views deep into the campus, overlapping campus spatial structure
 - engage or terminate view corridors along streets toward the campus
 - preferred location of transport stops to reinforce campus thresholds
 - preferred location of pedestrian crossings
 - future campus spatial structure - gathering and connective spaces

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5.3

campus legibility gathering + connective spaces

Legible places have an understandable network of connective spaces, which are convenient and offer identifiable circulation choices. Campus structure includes numerous fine north south linkages from perimeter streets connecting with University Mall and / or University Walk.



Second Avenue's strong landscape character



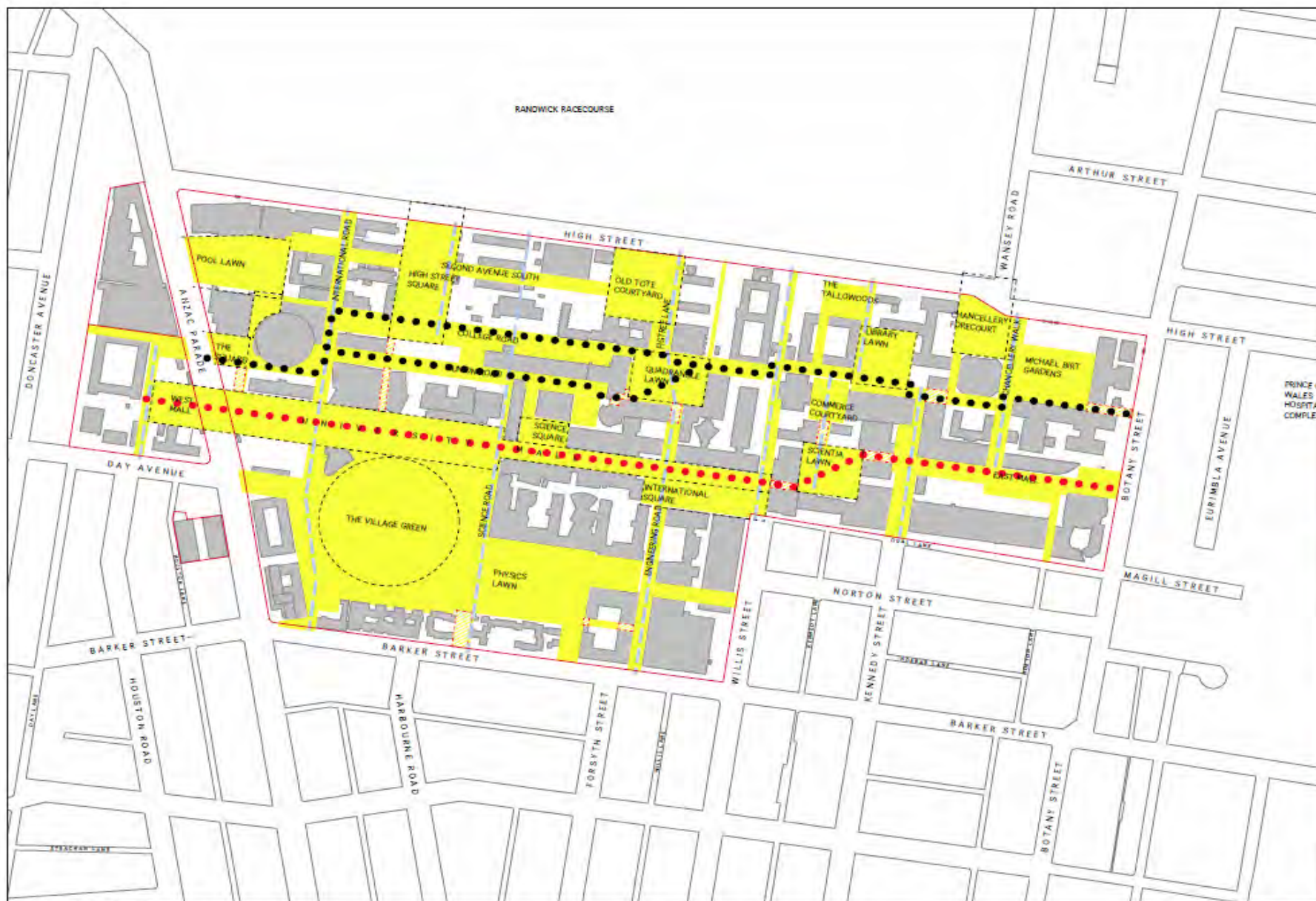
Chancellery Walk



Existing Library Walk to become East Mall - an extension of University Mall

- Legend
- campus spatial structure - gathering and connective spaces
 - campus spaces associated with a public room
 - University Mall
 - University Walk - covered + lit way
 - complementary north south connections
 - primary through building links
 - campus building footprints existing or proposed at 2005

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5.4 important public rooms

Important public rooms on campus are the focus of social activity and celebration both for the university and the wider community. Public rooms on campus include theatres, the library and sporting facilities.



Scientia



Science Theatre

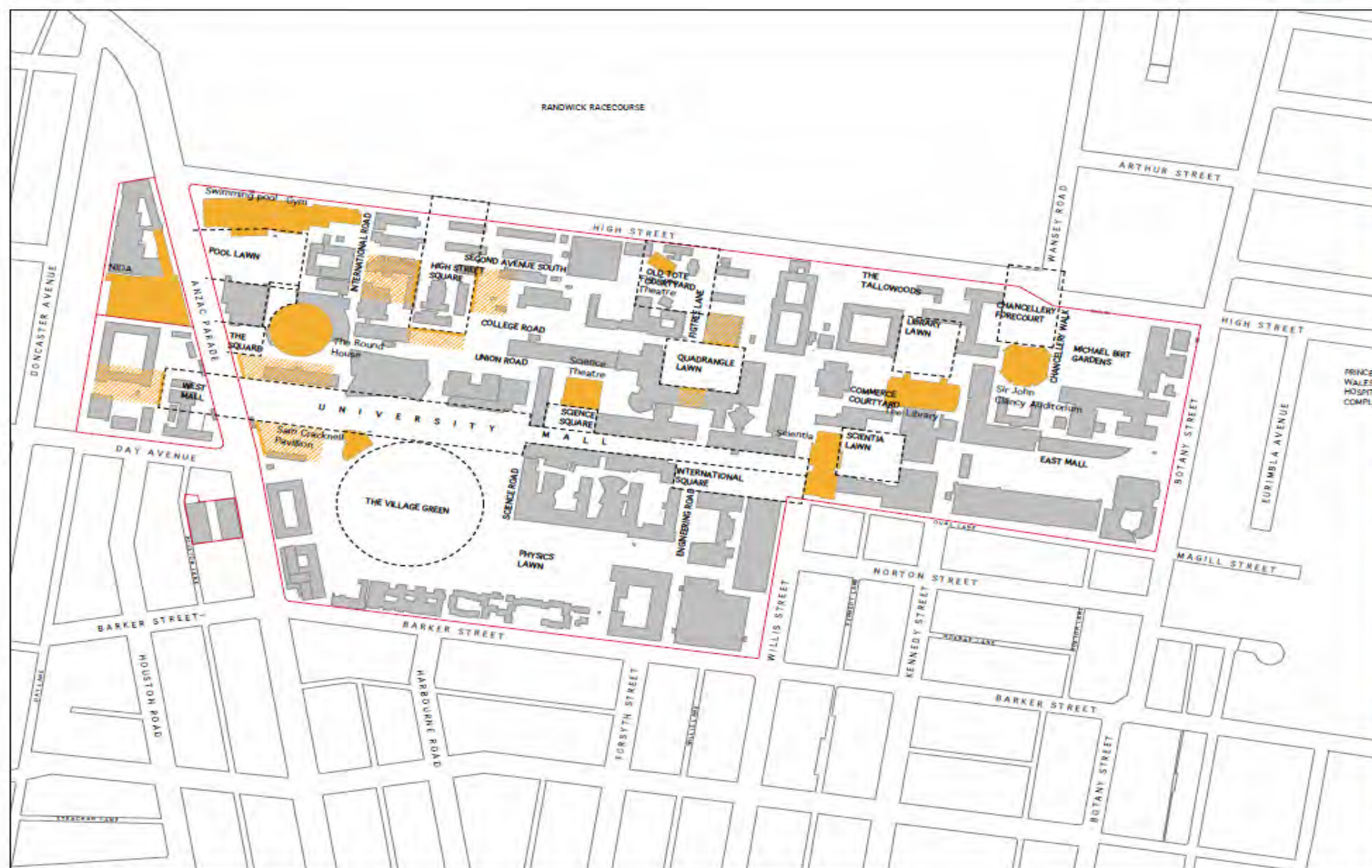


Sir John Clancy Auditorium

legend

- existing building accommodating an important public room
- campus space associated with an existing or future public room
- desirable locations for future public room including primary frontage
- campus building footprints existing or proposed at 2005

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4.2.4. Knowledge clusters and hubs

A fundamental link between research, teaching and learning activities and the physical form of the campus is to be achieved through the concept of Hubs and Clusters.

The creation of lively Hubs in specific locations with sufficient density and range of uses, including retail, will form key destinations and activity centres, thereby fostering the informal interchange of ideas and shared learning.

Clusters are encouraged around these Hubs by grouping Schools and Faculties that can utilise synergies and share knowledge. Such Knowledge Clusters of teaching and research will occur over time as different disciplines come together. The DCP does not dictate the location and extent of Knowledge Clusters as it does not seek to differentiate academic uses, focussing instead on the physical form and the location of support facilities.

Objectives

- Encourage informal and formal interchange of ideas and shared learning by structuring the campus around a series of Hubs and Knowledge Clusters
- Co-locate Schools and Faculties in Clusters around Hubs to promote synergies and encourage collaboration in teaching and research, in inter- and multi-disciplinary contexts rather than “learning silos”
- Establish sufficient density and range of uses at Hubs to enable them to become key destinations and activity centres on campus with environmental, economic, social and academic benefits
- In areas dominated by housing and student association facilities, Clusters may be mainly non-academic but should be diversified where possible to include a range of uses to encourage social interaction.

Controls

- a) The identified Hubs for the concentration of key activities are documented in Figure 5.5. The location of Clusters is to be focussed on the Hubs
- b) Hubs are to consist of a collection of uses and spaces, including:
 - a “public room” such as a theatre, auditorium, hall or exhibition space
 - a range of retail outlets, particularly food and beverage as a fundamental economic and social driver
 - a gathering space with active ground floor
 - at least one major connective pedestrian link
 - preferably also an intersection of north-south and east-west pedestrian links
 - e-learning spaces

- wireless connectivity
 - branch libraries or electronic access to library services
 - other student services
 - indoor and outdoor 'free' seating not associated with retail facilities
 - CATS (centrally allocated teaching space) and lecture rooms in close proximity, and
 - address points of Faculties and Schools around or in close proximity to a gathering space.
- c) Primary Hubs already exist. These are to be refined with increased diversity of uses, refined layouts, and improved design quality (see also 4.2.8).

Library/Commerce Courtyard

The Library/Commerce Courtyard is the acknowledged Hub of the University. It contains most of the features identified above. The proposal for a one-stop-shop student centre for part of adjoining Goodsell Building would support this Hub.

Roundhouse/Blockhouse/Squarehouse,

This area could improve its role as a Hub, by adjusting its layouts to its changing context (eg new Law School, new development potential and proposed new open spaces and pedestrian routes), considering the impacts of voluntary student unionism.

Science Square

This Hub could be upgraded by increasing the active edges and visual transparency to the academic buildings which define the space, improving the entry to Science Theatre, providing more 'free seating' and improving the pedestrian link to University Walk.

- d) Other Hubs are to be consolidated/enlivened or emerge as redevelopment occurs:

The Quadrangle

Opening the ground floor of the Quadrangle Building for retail, other services and public facilities to face the Quadrangle Lawn and encourage its use would establish more activity at the intersection of University Walk, College Road and Fig Lane. This Hub could also include an active frontage on the north side of College Road expanding the Cluster to include residential uses and improve the relationship with Goldstein Hall.

Old Tote Courtyard

With redevelopment of the High Street edge of the campus, a new public open space characterised by the fig trees and heritage buildings, focused on University and broader community use of the Fig Tree Theatre, and

retail and services including a convenience store, could provide a new Hub as a focus for a proposed housing Cluster.

High Street Square

With redevelopment of the area around Gate 2, a new Hub is proposed based on a new public open space, a new public room, relocation/ retention/replacement of Io Myers Studio, vehicular access to the campus with short-term kerb side parking to help serve the nearby sports facilities, retail facilities and a child care centre. The Cluster around this Hub could comprise academic and housing uses.

Western Campus

The redevelopment of western campus, including an extension to “West Mall” as a major public space and pedestrian route, student support services, retail and a new “public room” fronting University Mall would be appropriate as another Hub. This Hub could provide a focus for the existing NIDA facility, new academic uses, a possible housing component including accommodation for visiting students, academics and staff of educational institutions and their families.

Kingsford Gate

With redevelopment of the area to create a new welcoming entrance to the campus from Kingsford, improved and enlarged child care facilities, retail and other student services would all provide a focus for the housing and recreation facilities within this area.

Rupert Myers

The establishment of the NSW Graduate Research School in this building, which also includes an under-utilised coffee shop, theatre and courtyard, provides an opportunity to create a focus for Physics Lawn, Old Main Building, Rupert Myers Building and the Barker Street housing edge. Reconsideration of the vehicle route through the courtyard would improve this Hub.

Mathews Pavilions and Arcade/Michael Birt Gardens

With refurbishment of the Biological Sciences and Wallace Wurth buildings and a new building along the High Street edge, the opportunity arises to create a new Hub between the redesigned Mathews Pavilions and Arcade (see 4.2.8) and the edge of Michael Birt Gardens. Such a Hub could contain retail and student facilities, relate to Gate 9 and Sir John Clancy Auditorium, and provide a focus for the bio-sciences and medical disciplines.

- e) A subset of Hubs is to be developed as “night time hubs” with activities which have longer hours and that offer safe and direct access to surrounding streets and public transport. The preferred night time hubs are:
- Library/Commerce Courtyard
 - Old Tote Courtyard
 - Roundhouse/Blockhouse/Squarehouse
 - Western Campus, and
 - Rupert Myers.
- f) All space and building decisions taken by Schools and Faculties are to reinforce the opportunities to create Knowledge Clusters around Hubs expanding the shared learning and teaching spaces, resources and interactions.

5.5 hubs

Future development on the Kensington Campus will be structured around activity hubs, outdoor spaces partnered with public rooms to encourage social activity and the exchange of ideas.

The greater the richness and intensity, the more important the hubs.



Science Square



The Old Tote Courtyard

- legend
- hub
 - primary hub
 - potential aspects of campus hubs : public room, knowledge, retail, recreation, outward focused ground floor activities
 - existing and potential public rooms
 - campus spatial structure - gathering and connective spaces

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SCALE 1:4000 @ A3

4.2.5. Landscape

The quality of the campus landscape will be enhanced by identifying and protecting significant plantings, redefining and improving existing open spaces, re-evaluating campus boundaries and ensuring the landscape character reflects the aspirations of the campus community. This will be achieved by major new open spaces and incremental refinement of existing landscapes.

The landscape design will balance the “greenness” and “urbanity” of the campus with the appropriate provision of hard and soft landscapes. A well distributed range of space types in the public domain is important to the landscape fulfilling its potential:

- busy, urban spaces generally corresponding to gathering and connective spaces
- spaces more associated with active recreation
- quiet, contemplative spaces, and
- spaces primarily associated with service functions.

Landscape design also significantly reinforces other principles, particularly the pattern and treatment of spaces which define campus legibility, campus sense of place, quality of recreation spaces, and appropriate landscapes for housing projects and Hubs.

Existing Vegetation

Vegetation of varying quality is scattered across the campus. The categorisation of trees is based on three groupings of criteria:

- **Compositional** – the role of the tree in the overall composition of the campus
- **Historical** – the tree as a link to stages before and during the development of the campus
- **Functional** – whether the tree performs a function which would be difficult to replace.

Within these categories, trees have been rated Highest Retention Priority or High Retention Priority, as explained in the table below. Despite this categorisation, all trees on site are valued and expertly managed, and careful consideration should be required before removal.

The most significant elements include various figs (*Ficus* spp), the poplars in association with the figs on the lower part of University Mall, groups of Tallowoods (*Eucalyptus microcorys*), and other eucalypts (*Eucalyptus*

| Categorisation of Trees | |
|---|---|
| HIGHEST | HIGH |
| Compositional <ul style="list-style-type: none"> The tree is a prominent individual or member of a prominent group The tree is essential to the traditional definition of the campus identity The tree is part of an early (older than 20 years) purposeful landscape composition, broadly held in high regard. | <p>The tree is part of a recent (last 20 years) purposeful landscape composition, broadly held in high regard.</p> |
| Historical <ul style="list-style-type: none"> The tree is associated with a person or event of significance in the development of the University The tree remains from the time before the establishment of the University campus. | <p>The tree remains from former usage patterns of the campus.</p> |
| Functional <ul style="list-style-type: none"> The tree performs an essential function, such as boundary screening valued by neighbours. | <p>The tree performs a desirable function, such as shade, erosion control, or screening within the site, or on less sensitive boundaries.</p> |

Objectives

- Ensure that the landscape of the campus is valued and optimised for its role in the Campus Experience of students, staff and visitors
- Conserve and promote the landscape character of the campus by retaining and protecting areas of landscape significance (major trees, vegetation and spaces).
 - Develop and manage the public domain to optimise:
 - campus circulation and legibility
 - safety and convenience
 - creation of focal points
 - amenity and comfort
 - visual qualities, including pleasure and delight
 - ecological processes, biodiversity/sustainability
 - universal access
 - landscape areas or assemblages as potential research and teaching topics, and
 - the collection of special character areas on campus.
- Reinforce existing strong streetscape amenity and identities along Anzac Parade, High Street, Barker Street and Botany Street, balancing the campus sense of place and its relationship to its neighbourhood setting.

Controls




- a) All landscape works and management are to implement the sustainability principles and mechanisms of the EMP
- b) New buildings are not to impinge on or harm existing significant trees and areas of vegetation identified in Figures 5.6a and 5.6b, except as set out below. In these locations the existing vegetation is to form the basis of landscape designs
- c) Prior to design work for adjoining new developments, the specific root and canopy zone requirements of the vegetation in Figure 5.6a is to be assessed and the needs of the vegetation may be a constraint on development. This vegetation can only be removed based on detailed arborist assessments if there is no other design option, and in conjunction with agreed replacement (including advanced trees) or compensation strategies only if the trees are non-viable (due to age or disease) and thus require replacement
- d) The successful inter-building spaces identified in Figure 5.6b and trees within the Old Tote Courtyard HCA are of such quality that they are to be retained and only improved within clear guidelines and/or related to appropriate changes in surrounding buildings
- e) The important landscape tradition areas of University Mall, Village Green, Library Lawn, Old Tote Courtyard and Michael Birt Gardens/ Chancellery Forecourt are to be improved within clear guidelines that retain their design significance in the public domain having regard to contextual changes from surrounding development
- f) New campus open spaces (see Figure 5.6b) are to be appropriately landscaped in accordance with their role and position in the public domain pattern and their specific site characteristics
- g) Landscape development is to lead toward an optimal distribution of appropriate landscape types. Landscape design is to use successful existing spaces as models for new development
- h) Contemplative spaces (see Figure 5.6b) are to have a landscape design appropriate for their role as quiet, relaxation and “retreat” areas, their specific site characteristics and their adjoining uses
- i) Landscape design is to be a key aspect of the creation of new entrances (see Figures 5.1 & 5.6b)
- j) Garden areas are to be retained or established as a part of all campus residential development, especially along street edges. Along High Street, the garden area could include thinning or selective removal of existing fig trees and paper barks to optimise northern aspect, daylight and direct sun while also maintaining the fig tree character of High Street
- k) The campus boundaries are to provide openness and entries, or security or definitional fencing

- l) Landscape design and management is to:
- optimise safety and security by enhancing visibility and sight lines, and eliminating areas of darkness and places for entrapment
 - provide equal access throughout the public domain implementing the findings of the UNSW Disability Access Audit and service and emergency access to buildings
 - optimise plant growth, including large trees, by provision of permeable surfaces, deep soil areas and drainage to planted areas, promoting water infiltration and aeration (provision of hard surfaces and their drainage to relate to the UNSW Stormwater Strategy), and
 - incorporate where appropriate infill planting for increasing habitat diversity, and species and assemblages appropriate for academic research and teaching purposes.
- m) Species selection is to:
- be ecologically appropriate for the specific site conditions
 - reinforce the dominant fig tree character of the campus
 - incorporate other distinctive species, in particular Tallowwoods, Melaleuca quinquenervia and Poplars, and
 - develop areas of pre-1788 vegetation of the site (eg as Eastern Suburbs Banksia Scrub).
- n) New structural plantings are to be provided in key areas as indicated on Figure 5.6b
- o) Street tree species on footpaths surrounding the campus are to be as indicated in Council's Street Tree Master Plan
- p) Expansive areas of pavement are to be permeable in nature wherever possible in order to reduce stormwater runoff, recharge groundwater supplies and to maintain infiltration rates to the root zones of established trees
- q) The landscape design of spaces shown in Figures 5.3 and 5.6b is to accommodate informal activities to extend learning areas.

5.6a

existing trees

legend

-  highest retention priority
-  high retention priority
-  other existing trees

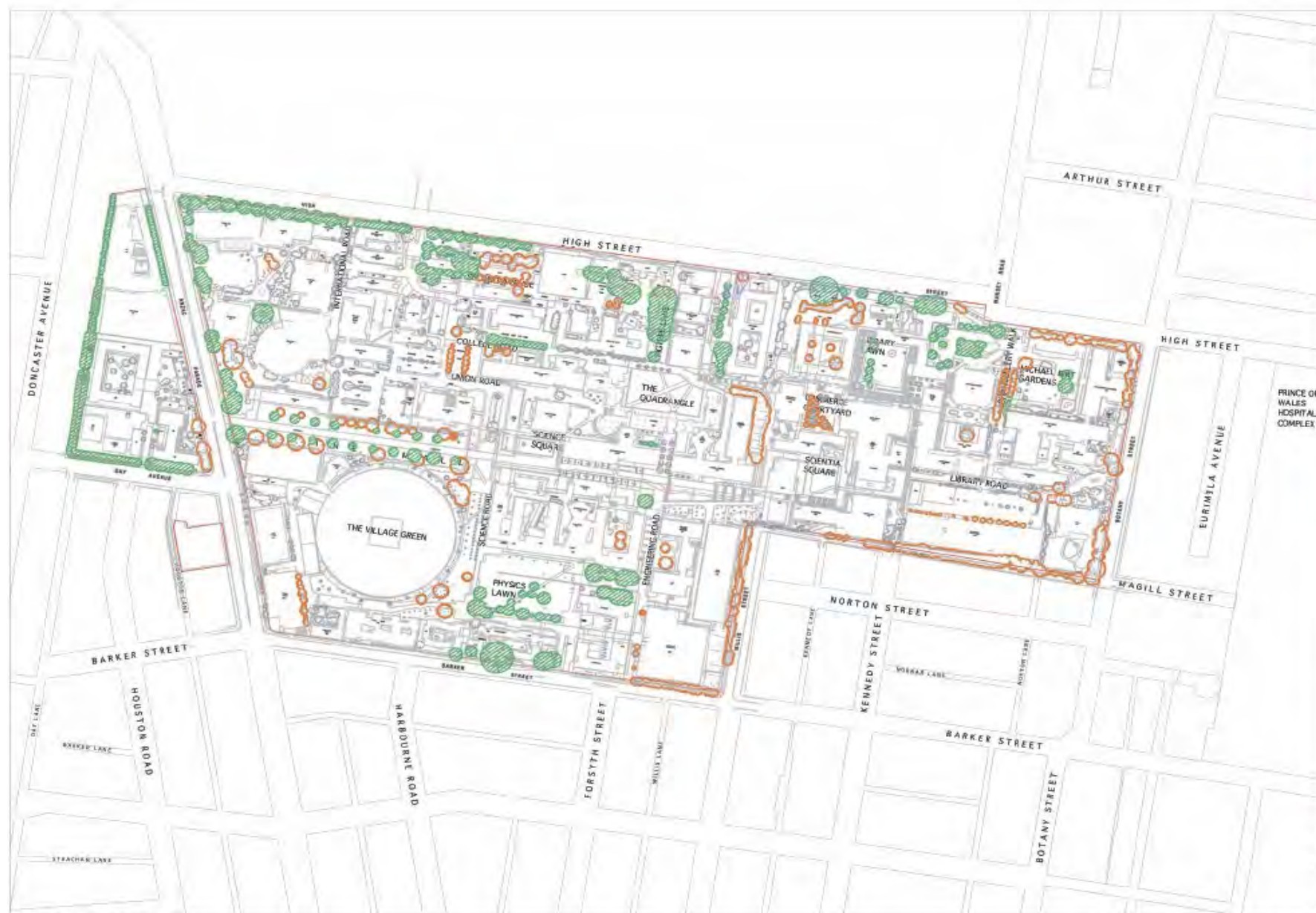


Fig tree near Gate 8, High St - highest retention priority



Tallowoods at Gate 8 - high retention priority

Note: Trees and Buildings base current at 2003

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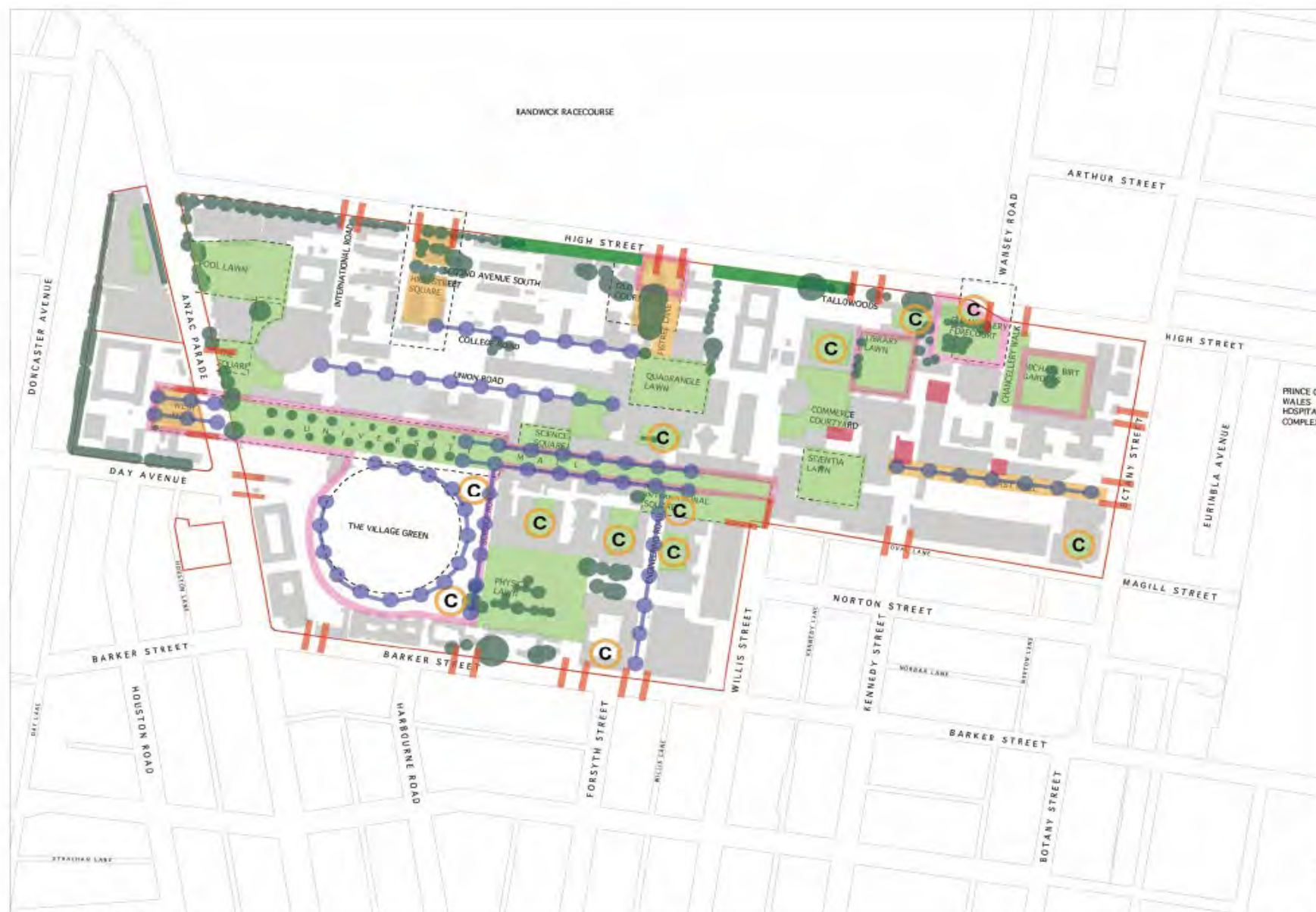
SCALE 1:4000 @ A3

5.6b

landscape

legend

-  successful inter - building spaces - retain within guidelines
-  significant trees
-  landscape tradition areas - preserve within guidelines
-  new or reworked emphasized entry point
-  structural planting
-  existing building - consider demolition or alteration to allow through-link public space
-  major new landscape space
-  contemplative space
-  north - facing garden spaces associated with residential redevelopment



SCALE 1:4000 @ A3



4.2.6. Buildings

Current campus buildings present a range of quality, forms, architectural styles and functions. Some contribute to the existing sense of place and/or are of architectural significance. In places the ensemble of buildings is more important for quality and legibility of the campus than individual buildings. In recent years new buildings and major refurbishments have made significant contributions to the quality of the campus and its image.

All buildings on campus should excel in terms of sustainability, their urban design role in the campus structure and form, architectural quality, contribution to campus identity, and creation of optimal learning environments.

Objectives

- Ensure that buildings are exemplars of excellent design for a university, benefiting all students, staff and visitors, optimising Campus Experience, and teaching by example to the broader community
- Adopt whole-of-life cycle approach for buildings, optimising sustainability and allowing for flexibility and adaptation to accommodate new approaches to teaching and research
- Optimise design quality of buildings through:
 - alignments, heights and scale which contribute to the overall campus built form and public domain pattern
 - heights that:
 - create campus edge conditions compatible with the desired future adjoining built form
 - relate to the scale, use and optimal amenity of campus public domain
 - relate to the desired sense of place for the campus
 - orientation which facilitates passive solar design
 - footprints/bulk which relate to their function, internal amenity, efficiency and optimal energy performance
 - “safety by design” principles
 - transparent and activated facades, especially on the ground floor, and
 - visible through routes.
- Ensure that buildings define and interface with the public domain in a manner which is appropriate for the specific functions of the building and public space, particularly at Hubs
- Ensure that new buildings and refurbishments value the significant architecture and existing character of the campus

- Achieve equity of access to all buildings with dignified routes for people with disabilities
- Ensure that internal design of buildings fosters interaction and learning, and optimises comfort, pleasure and delight, adding to Campus Experience.

Controls

- a) New buildings are to be located within the building location zones identified in Figure 5.8 subject to the additional provisions set out below
- b) New buildings or extensions to existing buildings are to be located behind the key building alignments identified in Figure 5.7 and the existing alignments set for University Mall, Science Square, the Quadrangle, Library Lawn, Commerce Courtyard, Chancellery Forecourt, Union Road, Engineering Road, College Road and Chancellery Walk
- c) The precise position of other building alignments are to be subject to detailed design studies of both the proposed buildings and adjoining public domain including consideration of at least:
 - tree root and canopy requirements
 - heritage conservation requirements around the Old Tote Courtyard Hub
 - appropriate building footprint sizes to meet the requirements of proposed uses and energy performance of buildings
 - appropriate dimensions of new gathering and connective spaces
 - the design of new or upgraded entrances
 - solar access requirements of adjoining open spaces and buildings, and
 - residential amenity performance of new campus housing.

These matters are to be addressed in DAs for new and refurbished buildings.

- d) Campus boundary conditions are to be achieved as indicated in the building alignments in Figures 5.7 and the sections in Figure 5.9
- e) Maximum building heights are to be as specified in Figure 5.8. Heights are defined as wall heights allowing for appropriately articulated upper levels and roof forms. Areas above the wall height may include plant and equipment only, which is not to occupy more than 50% of the building footprint
- f) Floor levels of all new habitable and storage areas are to be a minimum of 300 mm above any adjoining 1 in 100 year ARI flow path/ponding depth

- g) Design of campus buildings is to respond positively to the architectural relationships and elements set out in 4.3.1
- h) Campus building types are to conform to the details set out in 4.3.2
- i) Building design is to contribute to the creation of the special places indicated in Sense of Place (4.2.1) and the creation of Hubs (4.2.4)
- j) Any new works on the buildings and spaces within the Old Tote Courtyard HCA on High Street are to be guided by the statement of heritage significance. DAs for such works are to include a Heritage Impact Assessment and Plans of Management as required
- k) Equal access to buildings is to be achieved through implementation of the findings of the UNSW Disability Access Audit, and compliance with the Building Code of Australia and Disability Discrimination Act
- l) Service access to buildings is to be appropriately located in relation to access needs and include required loading docks sited and designed to optimise the aesthetics of ground floor levels and safe and comfortable pedestrian movement
- m) Buildings and structures to house infrastructure, plant and campus services are to be in accordance with any Campus Infrastructure and Services Strategy and located adjacent to but not within gathering and connective spaces, be integrated with other buildings and comply with the design quality provisions of the DCP
- n) DAs for buildings on western and lower campus greater than 20 metres in height above existing ground level are to be accompanied by an urban design analysis, which includes a view impact assessment demonstrating the proposal's relationship with the public domain of the surrounding streets in addition to any impacts on nearby residential development
- o) DAs for buildings on upper campus greater than 40 metres in height above existing ground level are to be accompanied by an urban design analysis, which includes a view impact analysis demonstrating the proposal's relationship with the public domain from significant vantage points around the campus
- p) All DAs for buildings greater than 15.24m Above Existing Ground Height (AEGH) are to be referred to Sydney Airports Corporation Ltd for approval, as required by the Civil Aviation (Buildings Control) Regulations
- q) Minimum setbacks of 6 metres from the street alignment are to be provided for buildings adjoining a residential

precinct, to preserve solar access and privacy to residential properties adjoining the campus

- r) All buildings on western campus are to be setback 10 metres from the western boundary of the campus. In addition to the 10 metre setback zone, a maximum height of 12 metres applies to all buildings within 25 metres of the western boundary. This requirement is to preserve an appropriate scale of development when viewed from the adjoining residential precinct of Day and Doncaster Avenues
- s) Solar access to living areas and principal landscaped spaces of adjoining residential development is not to be reduced to less than 3 hours per day throughout the year. If 3 hours per day is not currently achieved, new development must not reduce this further
- t) In mixed use residential and university use buildings, a secure separate entry is to be provided for residents, to prevent unrestricted public access to private residential areas.

5.7 building alignments

A memorable campus attribute is its landscaped setting which includes strong groupings of tree plantings along perimeter streets. Buildings set back from the street are often screened by foliage.



High Street.

Campus buildings would generally continue to be setback from street alignments, and be screened by major tree plantings.

Buildings which define the space of University Mall as it crosses Anzac Parade, would have higher visual prominence.

Building alignments along other streets would be punctuated by breaks in the built wall including building entries, through building links, forecourts and the like.

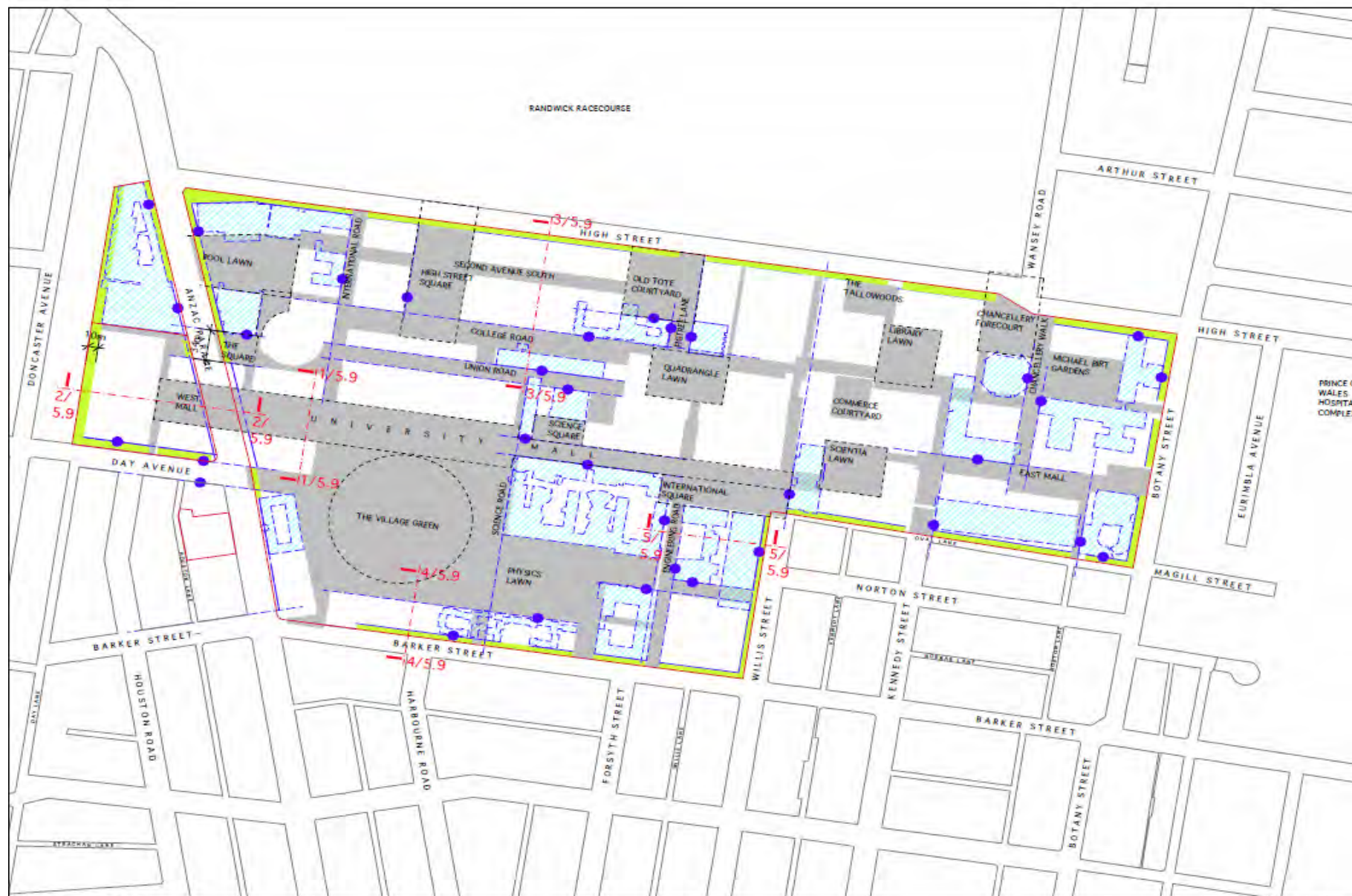
On campus, building alignments would reinforce identified campus spatial structure of gathering and connective spaces.

The exact alignment of buildings north and south of the University Mall in proximity to Anzac Parade would be determined by a future detailed study of the geometry of University Mall and the preservation and consolidation of existing structural plantings along it. Approximate dimensions of the width of this space are indicated on Section 1 - 1/5.9.

Potential future built form is represented on five campus sections in 5.9 Potential Sections. They are referenced on this drawing in red.

Legend

- building alignments along edge streets
- regulating alignments along specific building outlines existing in 2005 and street boundaries
- tree planting zone
- Campus spatial structure - gathering and connective spaces



SCALE 1:4000 @ A3



5.8 building height

Building heights on campus vary from single storey to 15 storeys. The predominant heights between 4 and 6 campus storeys, appear to be most suitable for campus buildings and the amenity of their adjoining spaces. Campus storey heights are generous, varying from about 4-6m. Building height expressed in campus storey height may be able to accommodate additional storeys when residential storeys of 3m are proposed.



Predominant campus building heights of between 4 and 6 campus storeys

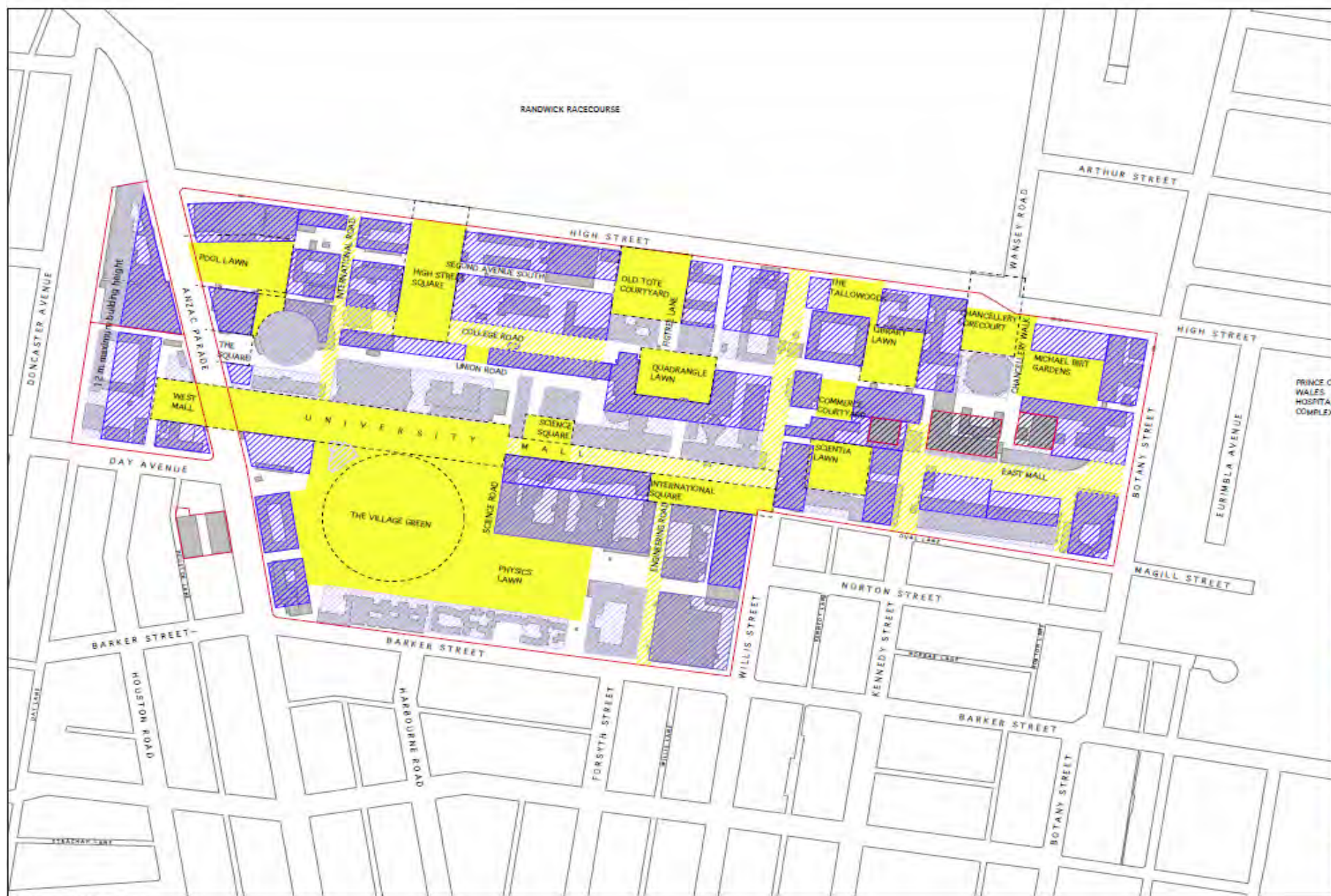


Large footprint towers oriented broad side to north blight adjoining southern spaces. Limited footprint towers are proposed in groupings, on upper campus and Anzac Parade, set well away from boundaries to neighbouring buildings.

Legend
Building height is based on generous campus storeys for the lower levels.

- wall height up to 14m - 3 campus storeys
 - wall height up to 18m - 4 campus storeys
 - wall height up to 24m
 - wall height up to 60m - future slender tower zone, limited floor plate size - refer to campus building types
 - campus building footprints existing at 2005
 - building exclusion zone - exact location subject to detailed design
- The arrangement of buildings and height needs to preserve solar access to some identified campus spaces:
- generously sunlit campus space at mid winter
 - partially sunlit campus space

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5.9 POTENTIAL SECTIONS



SECTION 1-1 THROUGH UNIVERSITY MALL

The following Campus sections indicate potential future built form on likely development sites.

Where building heights are above 14m, the sections indicate the desirability of ensembles of buildings of varying height and extent, the creation of sun trap courtyards and consideration of mid winter sunlight penetration to campus spaces.

section 1 - 1 cuts through University Mall

section 2 - 2 cuts through Anzac Parade

section 3 - 3 cuts through College Road and High Street

section 4 - 4 cuts through Barker Street

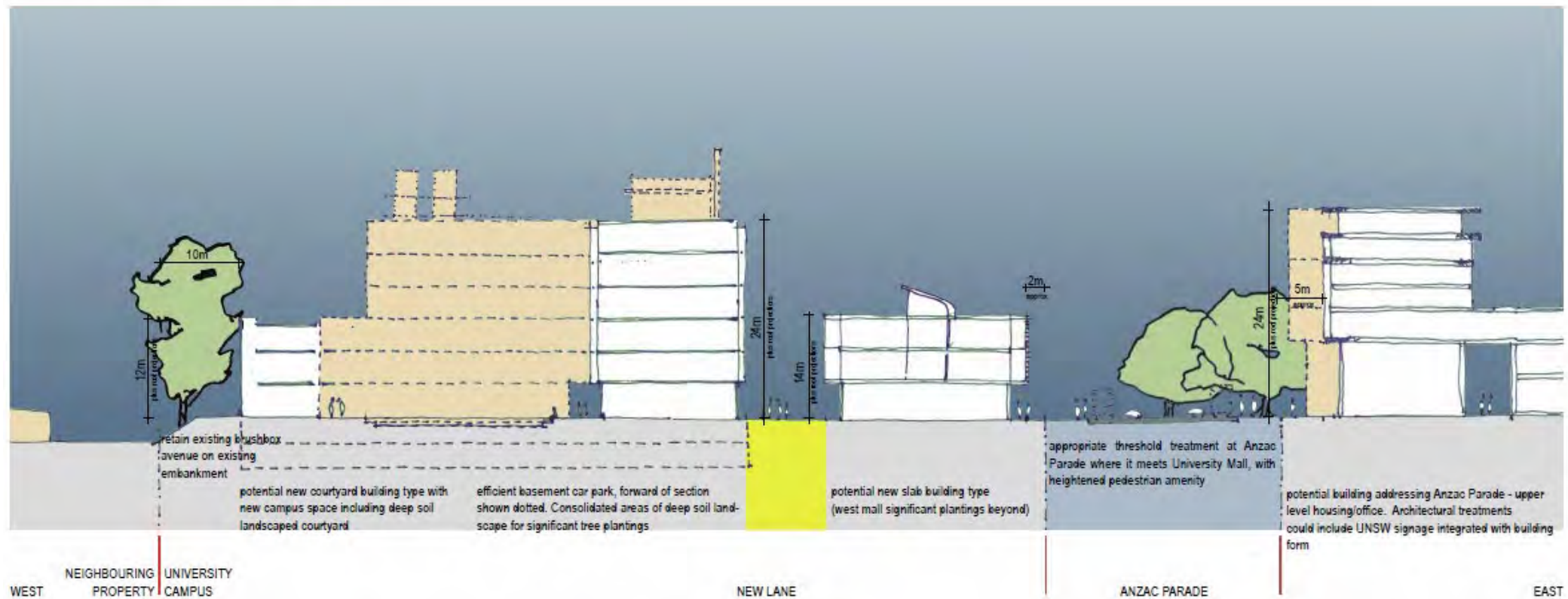
section 5 - 5 cuts through Engineering Road and Willis Street



5.9 POTENTIAL SECTIONS



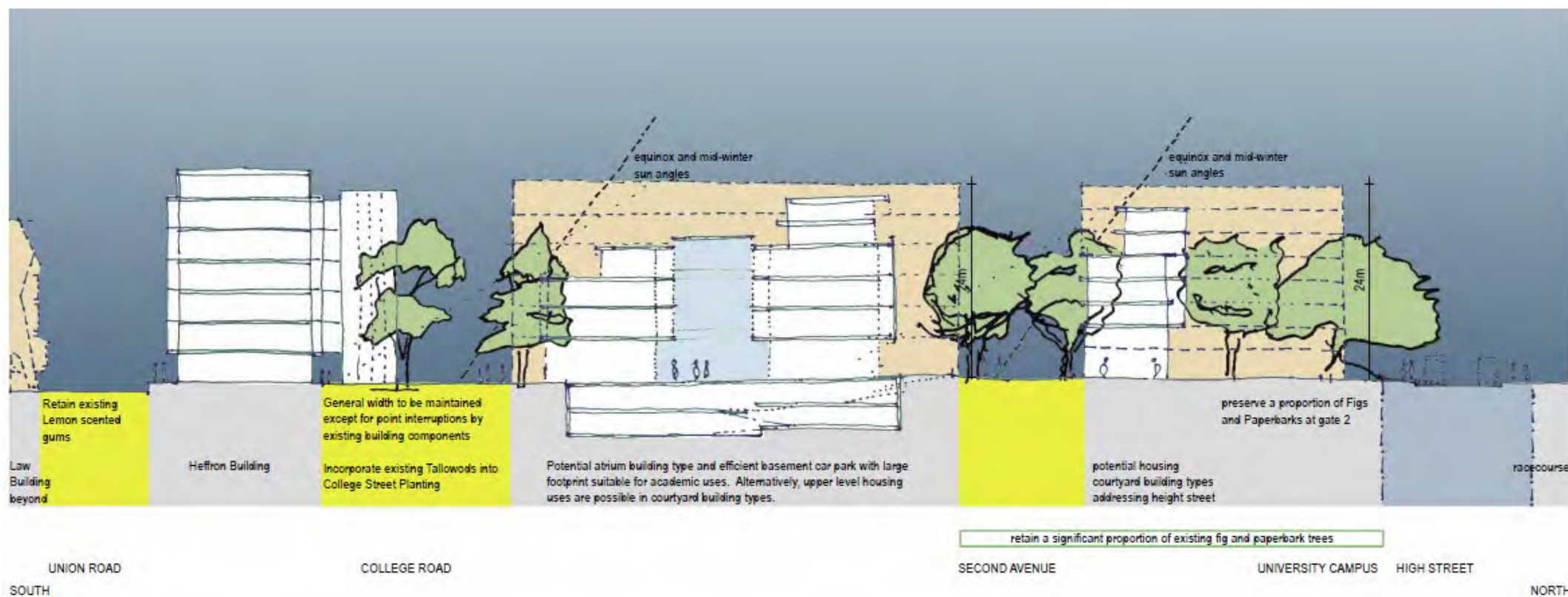
SECTION 2-2 THROUGH ANZAC PARADE



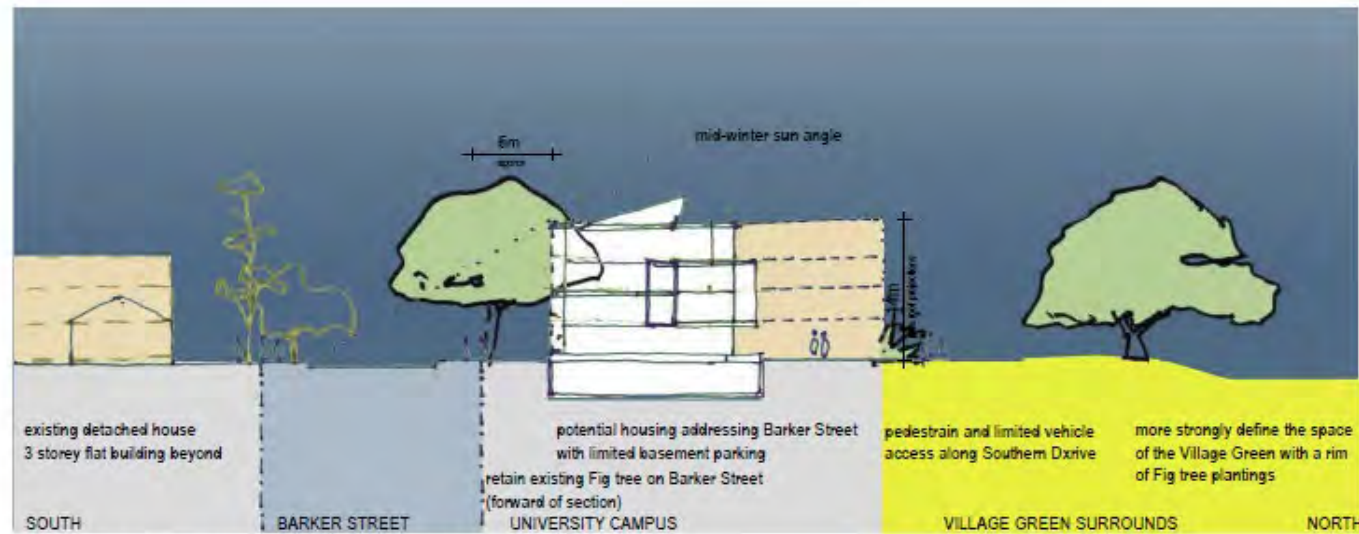
5.9 POTENTIAL SECTIONS



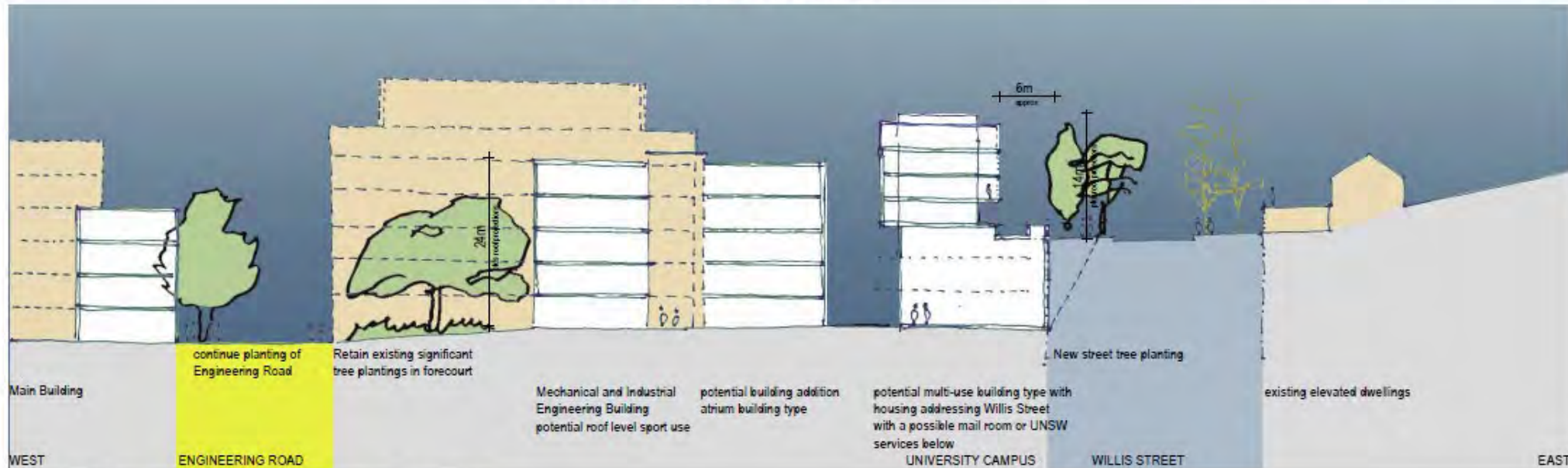
SECTION 3-3 THROUGH COLLEGE ROAD AND HIGH STREET



5.9 POTENTIAL SECTIONS



SECTION 4-4 THROUGH BARKER STREET



SECTION 5-5 THROUGH ENGINEERING ROAD AND WILLIS

4.2.7. Housing

Providing housing for students, staff and visitors on or near the campus has been identified as being of critical importance to optimising the Campus Experience and achieving sustainable transport outcomes. Housing is now a core need of the University. UNSW has a long tradition of residential colleges on the High Street, Barker Street and Anzac Parade edges. Recently other university housing forms have been provided in Randwick. In total approximately 1,500 beds exist (in 2007).

Objectives

- Increase university housing on and near the campus to support sustainability principles, liveliness of campus, sense of community and increased affordability within the high cost Sydney housing context
- Establish concentrations of housing with support services on the ground floor to enable a sense of community and to contribute to a vibrant campus
- Enable mixed use buildings above major pedestrian routes or activity areas with broad university uses (including teaching, research, academic, e-learning areas or public rooms) and housing support uses on lower levels to activate the ground level and related public domain, and residential uses on higher levels for improved residential amenity
- Design university housing to suit contemporary needs of students and staff, including a range of housing types, catering for undergraduates, postgraduates and visitors to UNSW, sensitive to the special needs of international students, families and others
- Explore innovative funding and delivery mechanisms for university housing.

Controls

- a) Approximately 3,000 additional beds, the target for new university housing on the campus or within walking distance (1.5 kilometres), are to be provided over the vision of the Campus 2020 Master Plan. The initial priority is 1,000 additional beds
- b) On campus housing is to be located as indicated in Figure 5.10
- c) New housing is to be focused on or near a Hub with activities and facilities to meet student needs well beyond 9:00 am-5:00 pm
- d) The ground levels of new accommodation buildings are to be activated with retail and services, such as child care and e-learning spaces to provide active edges and passive surveillance of the public domain. In some

locations quiet enclosed garden areas for residents are appropriate

- e) Conversion of upper level existing towers (Mathews and Applied Science buildings) for residential uses is to be investigated, as they currently offer poor academic and teaching areas but may offer good amenity to residents
- f) Amenity and sustainability of new housing is to be achieved through compliance with State Environmental Planning Policy No 65–Design Quality of Residential Flat Development and State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004, where applicable
- g) Accommodation for visiting students, academics and staff of educational institutions and their families is to be investigated for the campus to widen the range of housing for campus visitors. Preferred sites are the development opportunities identified with frontages to Anzac Parade or High Street.

4.2.8. Retail and services

A key component of Hubs is to ensure that retail and other services are appropriately located to establish the pattern and density of activity envisaged. Retail is considered to include the large range of shops and services that provide for daily life on campus, eg food and beverages, stationery, books, banking, post office, mini market, travel, student administration and advisory services.

The University also has a number of services such as the mailroom and engineering workshops which are essential to the functioning of the campus.

Objectives

- Ensure that the type and distribution of retail and other services on campus contribute to optimising Campus Experience and the creation and quality of Hubs and related open spaces
- Concentrate retail and service outlets in identified Hubs. Limited scattered retail is acceptable to support specific faculty needs or as cafes at contemplative spaces
- Ensure that the scale of retail and services focuses on campus users and does not compete with retail located in the nearby town centres of Randwick, Kensington and Kingsford
- Expand the range of retail and services on campus, including child care, to maximise their usefulness to staff and students and encourage them to stay on campus longer
- Provide a range of facilities targeted to different groups on campus.

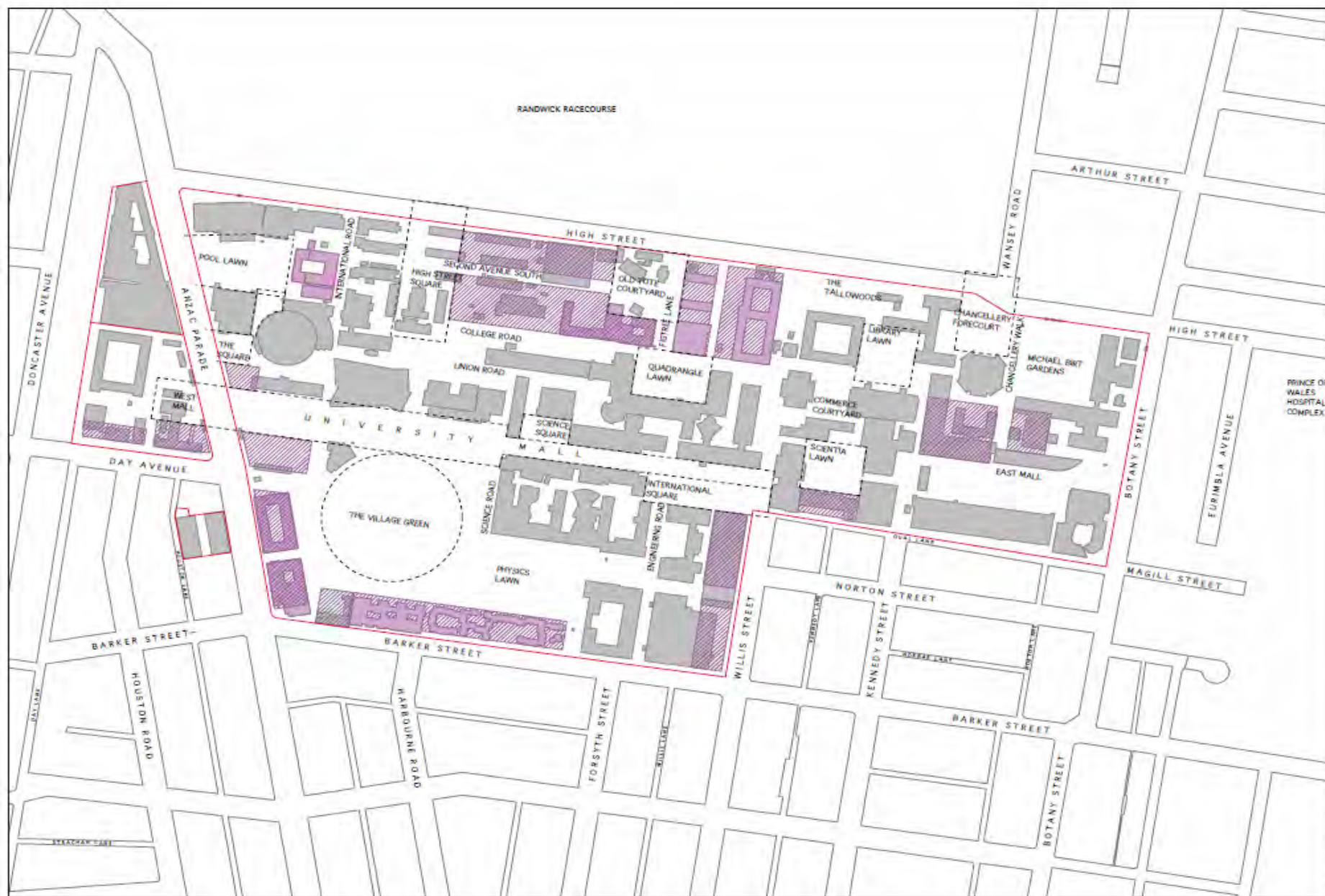
Controls

- a) Existing and new retail and services are to be predominantly located in the identified Hubs as indicated in Figure 5.5 and preferred retail locations in Figure 5.11
- b) When opportunities arise over time, existing inappropriately located retail and services are to be relocated into Hubs and the specific frontages identified in Figure 5.11
- c) Retail is to activate the public domain at Hubs. Retailing enclosed within buildings, in tunnels and in food courts is not to be provided
- d) Major priorities for restructuring retail and services are (refer 4.2.4):
 - Mathews Tower ground floor, Mathews Pavilions and Arcade
 - Roundhouse, Blockhouse and Squarehouse, and
 - the Quadrangle.
- e) Retain existing successful coffee shops located outside Hubs, such as AGSM Courtyard and Engineering (John Lions Garden), as they provide opportunities for quieter social and academic interaction and contemplation
- f) New and upgraded child care facilities are to be provided in key locations (refer Figure 5.11) which meet locational requirements and timeframes of users, especially longer hours to suit part-time and postgraduate students. Examples include redevelopment of Kingsford Gate and the High Street housing area, (see also 4.2.4)
- g) Include spaces for staff to meet one another and entertain visitors in a collegiate atmosphere
- h) The provision of student services, such as student administration, accommodation, counselling, enrolment, travel advice, are to be located to support the principles and the Campus Experience, especially in Hubs
- i) The location of university functions such as security, mailroom, engineering workshops and maintenance facilities are to be carefully sited in accordance with any Campus Infrastructure and Services Strategy and not prejudice the achievement of the principles and the Campus Experience

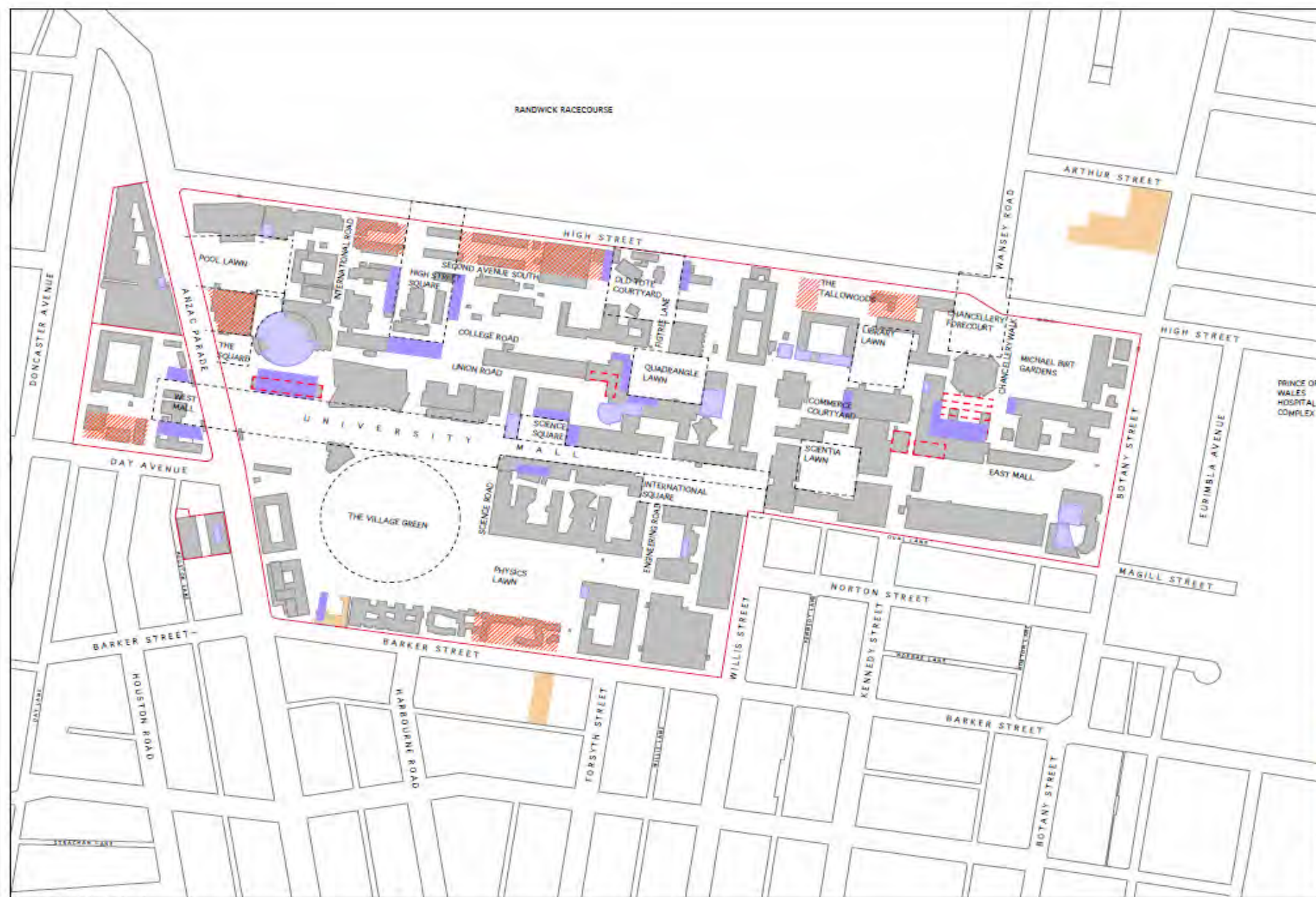
5.10 housing

Campus housing has the potential to add to the life and safety of the campus and its perimeter streets, when it includes outward focussed uses at ground floor level.

Campus housing, should incorporate multi uses: residential support uses, public rooms, retail, child care academic uses and the like at ground floor level.



5.11 retail + child care



- legend**
- retail
 - existing retail
 - existing retail to be relocated
 - desirable location for future retail
 - child care
 - existing child care
 - potential location for future child care

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4.2.9. Recreation and cultural facilities and events

UNSW has a large range of recreation and cultural facilities. Their contribution to Campus Experience is clear, often creating the strongest memory of campus life. Recreation and cultural facilities and events also support principles such as sense of place, sustainability, housing and Hubs and Clusters.

Objectives

- Ensure that the campus has a range of indoor and outdoor recreational and cultural facilities that allow for activities and events beyond academic functions for both UNSW and the broader community
- Create an equitable and more flexible system to manage and access the range of indoor and outdoor recreational and cultural facilities to permit both arranged and spontaneous activity
- Ensure that some gathering places and connective spaces are able to be used in an informal manner to reinforce links between Schools and Faculties, for informal learning spaces and collaboration, and to enhance the social aspects of the Campus Experience.

Controls

- a) Existing recreational and cultural facilities are to be maintained, particularly those at the identified Hubs (refer Figure 5.5)
- b) Additional recreational facilities are to be provided as the recreational needs of the campus population evolve in accordance with any Recreation Study and Management Plan prepared by UNSW
- c) New or relocated cultural facilities, such as theatres and galleries, are to be provided over time, located in Hubs as public rooms or on the Anzac Parade frontage in accordance with any Recreation Study and Management Plan prepared by UNSW
- d) The important role of recreation and cultural facilities in bringing the broader community onto the campus is to be recognised in location decisions, and design of facilities and the adjoining public domain.

4.2.10. Transport and parking

Making transport more sustainable is one of the key platforms of the Campus 2020 Master Plan. This is to be achieved by improving access to the campus by public transport in preference to private vehicle use. Parking is to be reduced over time, but made more available across the day and night for students, staff and visitors. Other modes of transport such as cycling and walking are also to be made more attractive and safer.

UNSW is the largest single employer in the eastern suburbs and the largest generator for bus passengers in Sydney. It can achieve improvements to its transport systems by economies of scale. The improvements to bus services and bike routes would benefit the local community, not just the University.

The backbone of the Transportation Strategy is the agreement to measure transport demand every year to avoid subjectivism and focus on policies and cooperation between UNSW, Council and transport agencies.

Objectives

- Adopt a sustainable transportation strategy, reducing car dependence
- Reduce parking for the University adjusted with any expansion of the University
- As the transport, traffic and parking effects of the campus affect the surrounding local area, seek agreement with Council to implement the transport and parking measures outlined in the Transportation Strategy
- Improve bus services to the campus, including safe night time services
- Improve the connectivity, safety and attractiveness of bike routes to the campus
- Maintain a spread of parking throughout the campus
- Prepare transport management plans to deal with special events on campus
- Improve the public domain adjacent to and in the vicinity of the campus in consultation with Council
- Implement traffic improvements to address traffic congestion.

Controls

- a) The reduction in car dependence is to be achieved through a combination of:
- reduction in parking supply
 - public transport upgrades
 - location of university accommodation
 - parking charges, and
 - an interactive information system

as set out in the Transportation Strategy in Figure 5.12.

- b) The total number of parking spaces on campus is to be maintained until such time as it is demonstrated through the annual parking survey that the total number may be reduced without adversely impacting parking on the surrounding streets
- c) Surface parking within the campus is to continue to be relocated to be under new buildings or within structured car parks (see Figure 5.13).
 - New car parking areas are to be constructed under new buildings on western campus and on lower campus (possibly also under new buildings) to replace 300 existing permit and reserved parking as lost due to redevelopment
 - 100 short-term parking spaces are to be located in lower campus with access from High Street over time as new visitor parking for the campus.
- d) Maintain the provision of Disabled Parking and Loading Zones throughout the campus
- e) All new DAs (excluding university accommodation) are to include an assessment of whether the proposal involves an increase in staff, student or other visitations to the campus or only a relocation or up-grade of existing facilities in the context of the total campus population and parking trends, as set out in the Transportation Strategy in Figure 5.12. Where an increase is proposed, the DA is to be supported by a Traffic and Parking Report which addresses:
 - the potential increase in parking demand
 - the potential impacts on campus parking supply and demand and on-street parking demand
 - achievements in reducing parking demand across the campus, and
 - any specific measures proposed to lower parking demand or avoid potential adverse impacts.

Specific pedestrian, bicycle, public transport or parking initiatives/improvements may be required prior to occupation of specific proposal

- f) The University is to contribute to the cost of external civil works that relate to specific DAs such as improving/upgrading bikeways and pedestrian footpaths in the vicinity of UNSW
- g) All new/amended car parking areas, access roadways, internal circulation areas and ramps shall comply with the requirements of AS 2890.1 (2004) and AS 2890.2 (2002)
- h) The location of vehicle access/egress points is to be determined subject to an assessment of the impacts on existing traffic flows

- i) Parking demand for new university accommodation is to be based on the following minimum rates:
 - 1 space per 10 students/staff for accommodation greater than 800 metres from the Campus
 - 1 space per 15 students/staff for accommodation at or within 800 metres of the Campus.

Parking generation rates for university accommodation may be reduced through sustainable transport initiatives such as car pool/car club arrangements. Residents in university accommodation are to be excluded from Council's Resident Parking Scheme

- j) At some time in the future, and dependent on the future growth of the University, the top deck of the existing car parks may be reused as sporting or other facilities
- k) Opportunities to remove vehicles from the Rupert Myers courtyard are to be investigated
- l) Consideration is to be given to a dual pedestrian entry into the campus from Anzac Parade being made legible by two pedestrian crossings, one at each end of bus stops
- m) Public domain improvements such as paving and extended pedestrian crossings are to be introduced at the bus stops at Gates 2 and 8 in High Street with the axis from these stops strengthened, signposted, illuminated and inclusive of evening activity.

| | UNSW Transportation Strategy |
|---|--|
| 1 | <p>Council and the UNSW agree with the aim to reduce travel by private car by 3% per annum by:</p> <ul style="list-style-type: none"> • implementing public transport upgrades • reducing parking supply • locating university accommodation on or near the campus • managing parking charges, and • supporting an interactive information system. |
| 2 | <p>Travel behaviour to be surveyed annually, including an online survey supplemented with an independent on street survey as appropriate (especially if there is a demonstrated swing) to measure progress in reducing travel by car. Council's Traffic Engineer to review and approve of the methodology of the survey and the analysis. UNSW to fund the survey.</p> |
| 3 | <p>Council and the UNSW to enter into an agreement on the Management of Parking and Traffic for a five year period and review progress thereafter. The short term management agreement to include:</p> <p>a) BUS TRAVEL</p> <p>(i) Council and the UNSW to work together on preparing a submission to Sydney Buses, through their Regional Board, for additional services to the University. The submission to be based on the transport analysis completed for the Campus 2020 Master Plan.</p> <p>(ii) Council and the UNSW to work together on a management scheme to improve bus operations in High Street. This work to commence with an origin and destination survey to determine the proportion of traffic turning right into Botany Street from High Street (west). Options include banning the right turn into Botany Street thereby clearing delays from High Street and a bus lane from Wansey Road to Botany Street thereby giving priority to buses.</p> <p>b) RAIL TRAVEL</p> <p>Council and the UNSW to work together on preparing a submission for a rail connection to the University.</p> <p>c) LOCAL STREET PARKING PLAN</p> <p>The University and Council to reach agreement on a parking control plan for the streets surrounding the University. It is anticipated that this plan may have the following objectives.</p> <p>(i) Provide 50% of kerb space for residents and short term parking (time may vary according to local need) with 50% of kerb space to remain unrestricted. The plan is intended to comfortably accommodate all residential users and their visitors leaving a large proportion of short term spaces unoccupied. Unrestricted spaces will also be used by residential visitors wishing to stay a long time in the area.</p> <p>(ii) Introduce the plan over three years.</p> <p>(iii) Review the plan after three years.</p> <p>d) SHORT TERM PARKING</p> <p>Consideration to be given to introducing short term parking in streets immediately surrounding the University until such time that 10% of spaces remain unoccupied at 11:00 am on weekdays, which is the peak accumulation of staff and students on campus. Achievement of unoccupied spaces demonstrates that demand has been met by allowing turnover of spaces.</p> |
| 4 | <p>In the event of development that would increase the total population of staff or students then the prevailing mode of travel and distribution of parking (as measured in the latest survey) to be used to assess the future travel patterns and parking demand. The additional campus population arising from the development to be considered as the same proportion of the existing peak population (at 11:00 am weekdays) of students and staff to the total number of students and staff respectively.</p> |

| | UNSW Transportation Strategy |
|-----------|---|
| 4 (contd) | <p>Development in the next two years (2007 and 2008) that would increase the total population of staff or students to be considered with the same mode of travel as the existing mode of travel; measured in the first survey (or if earlier than April 2007 then from the analysis contained in the Campus 2020 Master Plan).</p> <p>Thereafter travel demand from any expansionary development to take into account the trend in car demand projected two years ahead of the DA. (For example, if travel by car is not varying annually then the future demand for a development will be considered as the unaltered figure regardless of plans to reduce travel by car.)</p> |
| 5 | <p>In the next five years all additional staff parking arising from expansionary development to be accommodated on campus, if necessary in temporary parking areas, or in spaces known to be available from the travel surveys.</p> |
| 6 | <p>In the next five years all potential additional student parking demands generated by expansionary development at the peak period (11:00 am) to be restricted to the fixed and reducing demand available on surrounding streets (dependent on travel surveys) resulting from the implementation of the Local Street Parking Plan. Hence the parking demand by students as a proportion of the total number of arrivals will be forced to reduce.</p> |
| 7 | <p>Parking fees on campus to be increased annually subject to ongoing monitoring. This is not anticipated to have any appreciable impact on on-street parking but will leave the way open to a continued disincentive to driving in the 10 to 15 year period. It will also pave the way to introduce some student parking (including permit parking) onto the campus at a higher fee than staff sometime after the initial five year period.</p> |
| 8 | <p>As parking becomes available on campus, as a result of increased use by staff of public transport and increased fees, these spaces to be reassigned for short term and student parking. UNSW to continue to optimise the use of spaces on campus.</p> |
| 9 | <p>The short term parking requirements of external users for special events to be accommodated on campus as part of event coordination and parking management. (This will not stop the use of short term parking on the surrounding streets).</p> |
| 10 | <p>Bikeways within 3km of the University to be reviewed with the appropriate Councils with the aim of providing more direct access to the University.</p> <p>Bike racks to continue to be placed where a demand occurs at a rate of at least 80 spaces per annum for the next five years. Lockable bike cages to be located near Gates 2, 8 and 14.</p> |
| 11 | <p>UNSW in conjunction with transport authorities to set up a procedure by which students and staff living within a range of new transport services or those affected by changes to travel conditions are contacted. The procedure would inform of changes, ask for comment and follow up either modifications to those proposals or questions if the recipients have changed travel behavior.</p> |
| 12 | <p>All full time local students to continue to be entitled to a public transport concession while staff to continue to be eligible for a Travel Pass by salary deduction for public transport tickets at cheaper rates.</p> |

Figure 5.12: Transportation Strategy

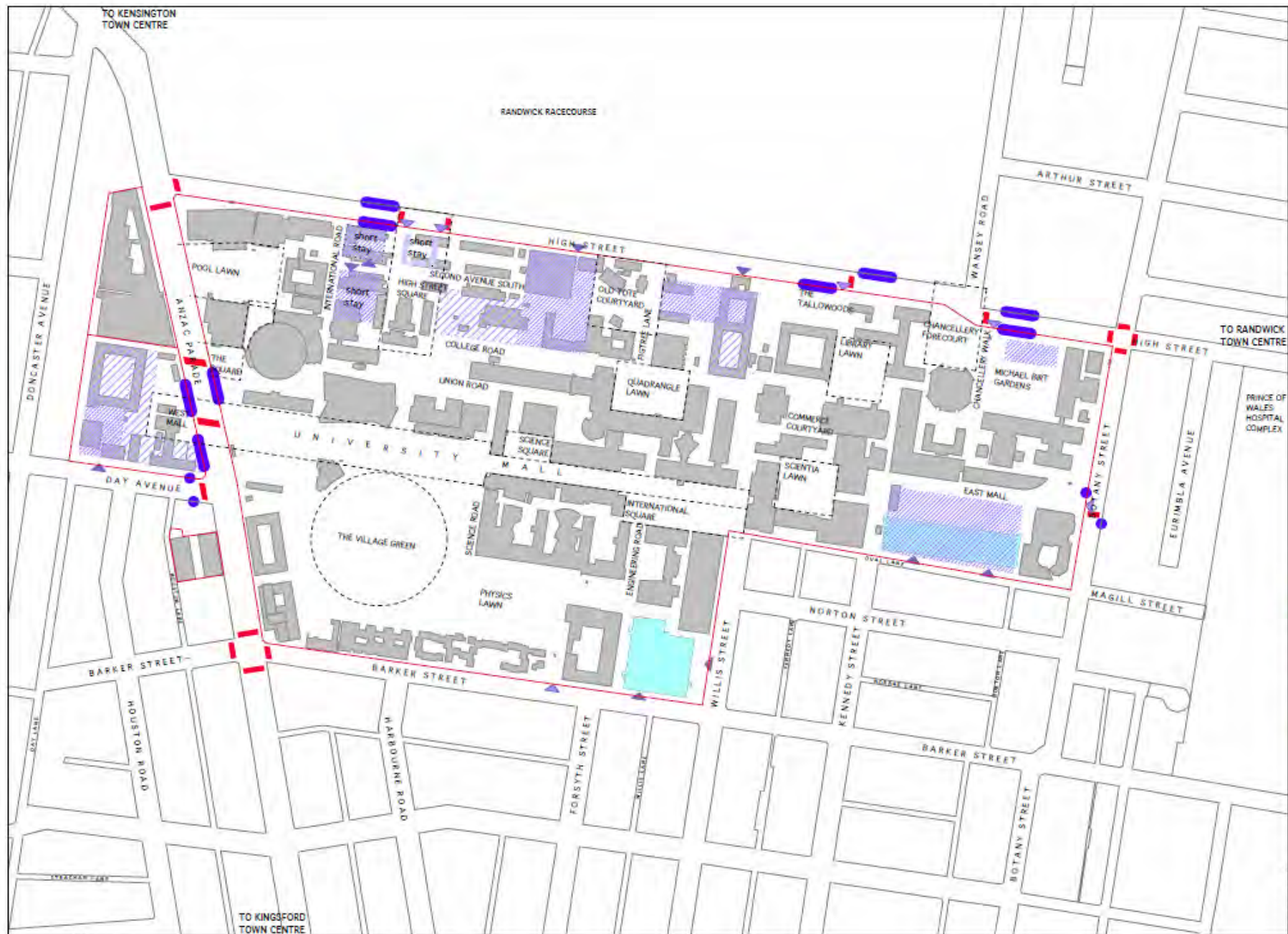
5.13 transport

The Campus Transport Strategy promotes public transport usage.

Intensification of public transport services would focus on Anzac Parade and High Street and associated primary entry points into the campus.

There is a need for limited additional car parking on the lower campus, east and west of Anzac Parade.

To enhance on campus pedestrian amenity access to campus car parks is indicated from perimeter streets, with low speed service and emergency vehicles continuing to use some connective campus spaces.



- legend**
- transport**
 - preferred location of transport stops to reinforce campus thresholds
 - preferred location of pedestrian crossings
 - existing car parking**
 - multiple level
 - temporary surface
 - potential car parking**
 - short stay surface
 - not occupying ground level preferred location
 - not occupying ground level alternate location
 - vehicle access**
 - ▶ preferred access to car parking within structures
 - ▶ predominantly service and emergency vehicle campus access

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4.3. Design of campus projects

4.3.1. Architectural relationships and elements

6 The Design of Campus Projects

Campus projects are a primary vehicle for the implementation of Campus 2020.

To encourage design excellence and support the realisation of successful campus projects, this section examines application of specific Campus 2020 Design Principles at the detailed scale of the campus project and outlines considerations for Architectural Relationships and Elements, Campus Building Types and Landscape.

Architectural Relationships and Elements engages with the significant built form legacy of the campus, to promote high quality architecture attuned to the definition and activation of the campus' rich spatial structure, which will continue to contribute toward a positive campus experience.

The architectural relationships and elements are presented with annotated photographs and drawings, predominantly of noteworthy buildings and fine spatial relationships which currently exist on the campus. Where no examples currently exist on campus, examples have been sourced from elsewhere.

Campus Building Types identifies and describes a range of building types appropriate to the Campus and includes design considerations specific to each. While Campus Building Types are predominantly "form based" types, they are led by public rooms which are the focus of activity hubs, a key Campus 2020 Design Principle.

At the scale of the campus project, architectural design is to be informed by the following building types:

- 6.2.1 Public Rooms
- 6.2.2 Courtyard Buildings
- 6.2.3 Stairs
- 6.2.4 Atria
- 6.2.5 Towers
- 6.2.6 Pavilions

They are described in detail in 6.2 Campus Building Types

Landscape Principles identifies high quality open spaces currently existing on campus, and describes how they represent the application of appropriate design principles within the overall intent of Campus 2020.

Design Excellence

In responding to detailed project briefs, successful campus projects would incorporate Campus 2020 Design Principles and demonstrate:

- high quality architectural and landscape character
- high amenity internal rooms and external spaces
- successful integration with the ground plane
- excellent relation to the campus spatial structure and vistas
- sound integration between architectural and landscape strategies
- quality material and detailing
- excellent environmental performance

6.1 Architectural Relationships and Elements

The built component of campus projects has the potential to demonstrate specific Campus 2020 Design Principles - sustainability, sense of place and legibility. At the scale of the campus project, architectural design is to be informed by Architectural Relationships and Elements which follow:

6.1.1 supporting sustainability – Long Life, Loose Fit, Low Energy Buildings

6.1.2 supporting sense of place

- a Relationship to Edge Streets
- b Building Ensembles
- c Multi Use
- d Outward Focussed Ground Floor Uses
- e Engaging Address

6.1.3 supporting legibility

- a Relationship to Connective Campus Spaces
- b Relationship to Vistas
- c Through Building Links
- d Awnings and Colonnades
- e Linking Elements

Long Life, Loose Fit, Low Energy Buildings

Key aspects of sustainability relating to buildings follow. Also refer to 5.1 Sustainability and UNSW Environmental Management Plan.

1. To limit energy consumption and ESD life cycle costs associated with new buildings or building refurbishments:
 - employ appropriate and durable building materials and systems;
 - respond appropriately to solar orientation
 - adopt shading devices appropriate to orientation and controlling solar gain in summer and winter;
2. To maximise natural light penetration, limit the floor plate depth of buildings. Appropriate floor plate depth relates to storey height, and use. As a guide 15-18m deep floor plates, with 3-4m storey height can achieve naturally lit rooms deep in the plan; New buildings should use sustainability appropriate building materials for their construction, use and disposal;
3. Natural ventilation and natural lighting principles should be adopted to substantially reduce reliance on artificial heating, cooling and lighting;
4. Openings to the south should be protected from cold southerly winds which can dominate the autumn and spring university terms;

New development and refurbishment on the campus are emerging with a strong focus on low energy buildings. That is, buildings which employ both passive and active strategies to decrease the amount of energy consumed by a building in its lifetime. The **Engineering Building** has had operable shading devices added along its north and west facades in order to decrease the heat load on the building. The **Institute of Languages** building on the Randwick Campus also employs shading devices as a passive strategy to reduce heat gain by the building.



The Red Centre is an example of both passive and active sustainable strategies in practice. The thermal fins actively draw air through the building, ventilating the rooms while expelling warm air. Both the building's strategic orientation to north and its minimal depth allow a high percentage of natural day lighting. Other passive sustainable principles include the protection of west facing glass panels with operable vertical shading devices as well as the integration of thermal mass in the form of basement floors along the southern facade.

6.1.2 SUPPORTING SENSE OF PLACE

A. Relationship to the Edge Streets

1. Unify the campus east and west of Anzac Parade by reinforcing built and spatial relationships across the street.
2. Address the edge streets and incorporate building entries and generously dimensioned through building links into connective campus spaces
3. Incorporate outward focused ground floor uses in proximity to campus entries;
4. Achieve built street address even including locations where the campus level is substantially below street level, as shown for example in Drawing 5.9d Section 5-5.

Also refer to drawings 5.1 Campus image and identity and 5.2 Campus Legibility in the Street Layout



The relationship to Anzac Parade can be bettered by consolidating built, landscape and spatial relationships across the street. The LS building builds to the alignment of Anzac Parade for the entire length and height of the building, matching the scale and height of nearby buildings in Kingsford. It incorporates a public stair which moves from Anzac Parade to an upper level courtyard removed from the street. The architectural qualities of its scale, materials and proportions differentiate it from the indifferent nearby buildings.



The N.I.D.A. building responds impressively to the scale and alignment of Anzac Parade and includes a public foyer which engages with the street. The foyer presents a striking night use and image to Anzac Parade.

The importance of High St as a public transport spine is to be reinforced with improved services, increased accessibility for pedestrians + bicycles and improved built address including housing. Indicative housing in Green Square set back from the street behind an avenue of fig trees suggests what may be realised along the lower part of High St.

B. Building Ensembles

Considered relationships between buildings and spaces is a desirable feature of many parts of the campus, such as the ensemble of Science Theatre, Dalton, Heffron and University Mall.

1. Consideration of new buildings as part of an ensemble is important in preserving the richness of campus spaces and varied building scales and heights.
2. The design of new campus buildings is to include consideration of relationships to existing buildings and spaces. The architectural proposition may reinforce, interpret or transform existing relationships, support the campus spatial structure. Refer to Drawings 5.2 Campus Legibility in the Street Layout and 5.3 Campus Legibility - Gathering and Connective Spaces.
3. Generally new buildings are to realise new campus spaces, such as university streets courtyards or squares, which may be in combination with other buildings and landscape elements.

Refer to Drawings: 5.1 Sense of Place Image and Identity, 5.3 Campus Legibility - Gathering and Connective Spaces.



The combination of space and building scales around the Menzies Library derives the sense of place attributed there. It is a unique part of the campus and has varied experiential qualities at different locations around this part.



Commerce Courtyard is supported by the relationships between the central lecture theatre block, the John Goodsell building and the Menzies Library building. It contributes to the public domain network, allowing multiple connections into and through the courtyard. A new public way through the Goodsell Building has the potential to improve access southward.



Library Lawn is supported by the relationship between the Menzies Library, the Chancellery, Marven Brown and Mathews buildings. It also has a considered relationship with the space of Commerce Courtyard.

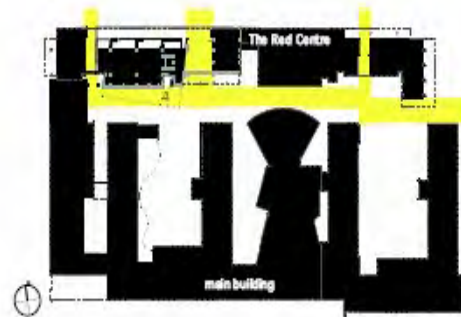
6.1.2 SUPPORTING SENSE OF PLACE

C. Multi-use

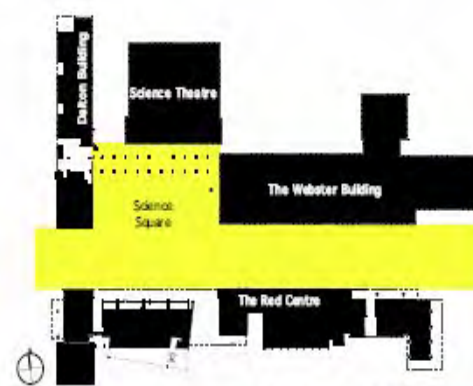
1. Multi-use buildings are encouraged particularly at campus hubs;
2. To activate the gathering spaces of hubs, multi-use buildings are to include public rooms and outward focused uses at ground floor level;
3. To promote long life buildings on campus, flexible multi-use buildings are encouraged. These would accommodate a range of changing uses over time, particularly in the lower levels. The design of flexible buildings would need to consider a range of appropriate and compatible changing uses over time, and adopt appropriate floor heights, building depths and structural order;
4. To enable the flexibility of ground floor uses, the ground floor storey height should usually be 4.0m - 6m, and be appropriate to building depth and use. On sloping sites reduced height may be acceptable for part of the ground floor. More generous ground floor heights incorporating two storey colonnades, mezzanines and the like are encouraged;
5. Multi-use can be incorporated into each of the form based Building Types.

Refer to Drawings

- 5.1 Sense of Place Image and Identity,
- 5.2 Campus Legibility in the Street Layout
- 5.3 Campus Legibility - Gathering and Connective Spaces
- 5.4 Important Public Rooms
- 5.5 Hubs



The location of the Red Centre building north of the Main Building completes the formation of courtyards associated with the Main Building's form. The integration of the through building links reinforces the activity and definition of the courtyards and adds a rich layer of walkways to the campus' spatial structure.



The architectural composition of Science Theatre, Science Square and the Helfron, Dalton and Webster buildings is an ensemble of buildings, of differing height, which complement each other, contribute to the successful making of this part of University Mill and Science Square and its sense of place.



The Main Building/Red Centre courtyard spaces have a sense of place that can be attributed to the scale of surrounding buildings and their combination as an ensemble. The courtyards have a unique, interstitial quality.



The Dalton Building is an example of a successful multi-use building on campus, having been adapted to incorporate retail use at ground floor level.

6.1.2 SUPPORTING SENSE OF PLACE

D. Outward Focused Ground Floor Uses

1. The ground floor levels of campus buildings are to activate gathering spaces associated with campus hubs;
2. The ground floor levels of campus buildings elsewhere, are to contribute toward the activity of campus spaces with building entries, and through building links;
3. Should ground floor level car parking or service uses be required, the addition of an active crust with outward focused uses is required at spaces associated with campus hubs, and encouraged elsewhere.



The Menzies Library is an example of the contribution that buildings with active and outward focused ground floor uses can make to hubs throughout the campus. The sequence from the public room to the open space traverses university walk, an important east west connection. The location of active uses such as coffee carts adds to its vibrancy and the public component, that is the library, is a major contributor to the activity.



The awning, forecourt and public open space associated with the Menzies Library provide a prime and public site for student events.

E. Engaging Address

1. Clear and engaging address and access from campus spaces and edge streets is required;
2. Provide equitable entry and access for people with different levels of mobility;
3. Locate building entries to reinforce activity associated with strategic through building links;
4. Integrate building entries with awnings and covered walkways;
5. Entry canopies and other architectural elements may be used to celebrate building entries, as is the case with the Sir John Clancy Auditorium and the Library.



Entries to The Scientia and Red Centre buildings are legible, of an appropriate scale and engage adjoining campus spaces in a positive and explicit manner.



Materiality defines the entry to the Institute of Languages building on the Randwick campus while the sheer scale and decisiveness of the NIDA building engages with the street in an iconic manner.

A. Relationship to Connective Campus Spaces

1. Design buildings which define and reinforce the spatial structure of the campus and form the new campus streets;
2. Design buildings to articulate spaces, intersections and key vistas;
3. Complement the alignments, scale and materiality of neighbouring buildings.



The Red Centre is a positive example of a building with a decisive relationship to its site. The building gives a façade and University Mall address to an otherwise ambiguous Main Building. It communicates with the Webster building in terms of scale and architectural language. It defines the view corridor of the University Mall. It responds to the space of Science Square across University Mall and contains it in a clear and concise manner.



The Quadrangle Building is strategically located at a campus cross roads linking University Walk to High Street and Barker Street, and has a purposeful relationship with connective campus spaces. The courtyard accommodates diagonal movement through the campus, an attribute shared by several campus gathering spaces.

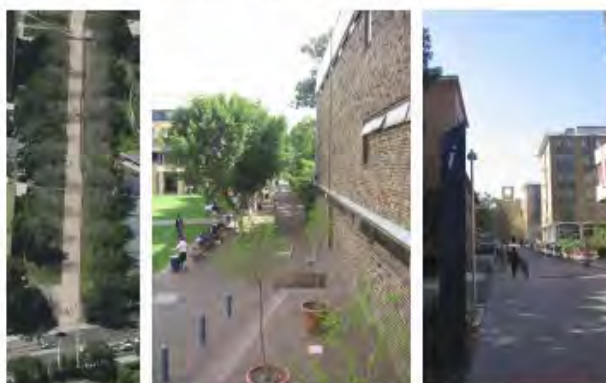
B. Relationship to vistas

1. Site campus buildings to acknowledge the presence and creation of views;
2. Define and direct views along University Mall and other street-like campus spaces, as do the Red Centre and Robert Webster buildings;
3. Purposefully respond to the vista at the end of view corridors, as does The Scientia;
4. Purposefully terminate the vista along University Mall at its west end and address Scientia at its east end;
5. Integrate complementary landscape treatments that help define campus vistas.

Refer to Drawings: 5.1 Sense of Place Image and Identity, 5.2 Campus Legibility in the Street Layout 5.3 Campus Legibility - Gathering and Connective Spaces.



The University Mall is a major urban space in Sydney, one of the few comparable with Hyde Park's axial space. On campus, University Mall is a decisive structuring space. It's deep view corridor from Anzac Parade heightens the address of all buildings along it, giving Scientia a strong axial address to Anzac Parade. Buildings such as Webster and the Red Centre contain the vista and direct it deep into the campus. Scientia terminates this view axis in an architecturally refined and decisive manner while allowing pedestrian passage to the upper campus.



Long view corridors like University Mall, College Road or Engineering Road allows orientation and sense of the university's wider context.

C. Through building links

1. Provide strategically located access through buildings, to increase convenient connections between campus spaces;
2. Consider the desirability of providing a through building link where a linear campus space intersects a building zone and incorporate if appropriate;
3. Locate through building links in the thinner, lower and more transparent parts of a building to increase legibility of the link;
4. The scale of openings relating to through building links are to engage with the scale and role of the linear campus spaces they relate to;
5. Through building links are encouraged to be generous in height;
6. Incorporate through building links into the overall architectural composition of the building;

Refer to Drawings: 5.2 Campus Legibility in the Street Layout and 5.3 Campus Legibility - Gathering and Connective Spaces.

The Scientia's through building link lies along the axis of the University Mall and plays an important role in directing people through the university's most pronounced terrain level change. It terminates the mall and channels pedestrians from a grand ceremonial space to a more intimate space.



The Red Centre's through building links engage Science Square which informs ground floor wall alignments. The relationship to Science Square is interpreted in the composition of large openings in the building's north elevation. At ground level the links also connect with a courtyard and service lane of the Main Building.

6.1.3 SUPPORTING LEGIBILITY

D. Awnings + Colonnades

1. Awnings and colonnades are required for buildings addressing University Walk;
2. Locate awnings and colonnades along campus streets and connective campus spaces;
3. Colonnades may be located along the edges of gathering spaces, to make these spaces more generous;
4. Colonnades should provide continuous connection and should not be obstructed by fire stairs and the like. Generally the ends of colonnades adjoining external spaces should be open and unobstructed.
5. Colonnades are to be higher than they are wide and may be 2 storeys in height;
6. Where awnings and colonnades are proposed, incorporate them into the overall architectural composition of the building and consider them in detail as significant elements which contribute toward the architectural character of the building;



The colonnade of the Quadrangle building expands the extent of the central space at ground level, provides sun and rain protection, and fosters pedestrian amenity. Irregular alignments on the inside of the colonnade, excessive depth and obstructions within the space can detract from the function and potential clarity of such a space.



Engineering Road is a fine campus street, providing views and address deep in to the campus. Awnings, although not continuous afford pedestrians some protection from the elements along a strategic campus connection between High Street and Barker Street.

E. Linking elements

1. Linking elements such as covered walkways should edge spaces ;
2. Linking elements including covered walkways and bridges may not cut across campus spaces identified in drawing 5.3 Campus Legibility - Gathering and Connective Spaces;
3. Elevated bridges between buildings, if necessary, need careful consideration. They are not to compromise the clarity of existing and future campus spaces and visual connections along them. Any such bridges should generally be as light and transparent as possible.



University walk incorporates many and varied linking elements along its entire length. Such elements include the covered way intersecting the Library forecourt and emphasising the connection to Library Lawn.



The design of the roof over Basser Steps precludes possible distant views beyond the campus from the highest elevation of the steps, yet culminates in an enclosed view over the Quadrangle and College Road. Redevelopment of adjoining sites has the potential to recast the current function and form of Basser steps. New access would provide more equitable access for people with differing degrees of mobility, and may include escalators or lifts.

Campus Building Types

6.2 CAMPUS BUILDING TYPES

6.2.1 PUBLIC BUILDINGS



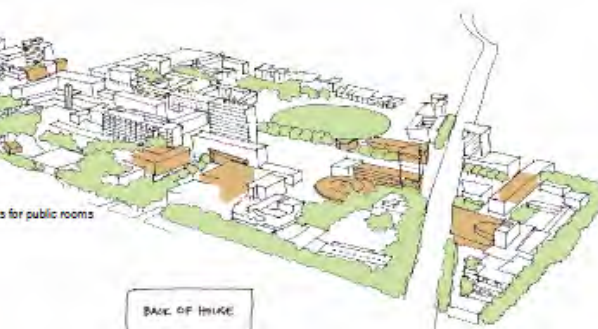
The Sir John Clancy Auditorium's architectural sequence includes High Street, Chancellery Forecourt (Michael Birt Gardens), forecourt, foyer and public room. The auditorium makes appropriate use of primary campus spaces and is located close to frequent public transport services, although its bunker-like character lacks the architectural richness and sophistication promoted by these provisions.



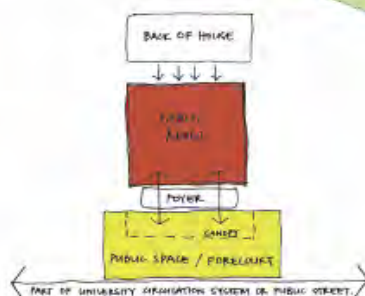
The Scientia's architectural modelling and materially celebrates its pre-eminent location and role in the university. It terminates one of Sydney's more memorable monumental linear spaces. This iconic building contributes to the university's image and identity and offers the wider community a magnificent facility.



Yale Centre for British Art
image source: Louis I Khan Houses 2003 by Yutaka Saito



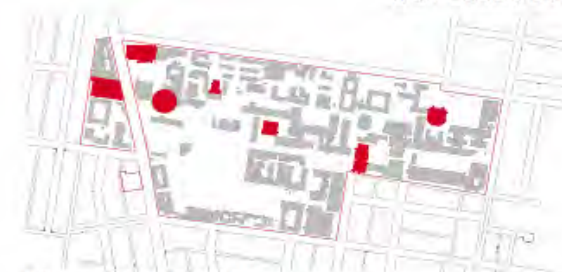
desirable locations for public rooms



Public Room Relationships

When placing a public room on campus it is important to incorporate a sequence of architectural elements which support a successful public room. Public rooms are the essential element in campus hubs and play a wider role in community life.

The auditorium space is readily accessible at ground level and is embedded within a crust of naturally lit rooms. The auditorium is paired with a foyer space at the base of an atrium. Public rooms can realise larger building footprints and adopt the form of any campus building type.



Public rooms on the UNSW campus at 2005

USES

Important public rooms on the campus may include libraries, auditoria, theatres, community centres, halls, performance spaces exhibition spaces and galleries. Other public rooms which have the potential to contribute to social activity on the campus include bars, sporting clubs and other entertainment facilities.

OBJECTIVES

To realise public rooms which focus social and celebration both for the university and the wider community, and enrich the University's identity both on and off the campus.

PROVISIONS FOR PUBLIC BUILDINGS

Location

1. Important public buildings are most appropriately located on prominent sites such as along or at either end of University Mall, terminating a view corridor, addressing gathering spaces or at "cross roads". Public rooms comprising galleries or exhibition spaces, located in buildings addressing Anzac Parade and University Mall would be highly desirable;
2. Entertainment, sport and recreation facilities are most appropriately located in intensively used areas and close to frequent public transport services such as those existing along Anzac Parade or proposed along High Street;

Relationship to site

3. Public buildings are to address (at least) one campus gathering space.

Landscape

4. Landscape character of associated space/s may be garden like or more urban;

Architectural Scale

5. Public buildings are encouraged to have a monumental or ceremonial scale;
6. Public buildings may be equivalent to 1-4 campus storeys in height;

Public Buildings

7. Public buildings are to :
 - have a distinctive architectural character;
 - demonstrate exceptional design and architectural quality;
 - incorporate the most desirable attributes of successful public buildings, be open and welcoming;
8. The functional requirements of theatres, galleries and the like with specialised lighting needs could realise larger floor plates than that promoted by these provisions.

6.2.2 COURTYARD BUILDINGS



Courtyard buildings on the UNSW campus at 2005

USES

Academic and faculty offices, teaching and housing;
Public rooms, theatres, galleries and retail at ground floor level.

OBJECTIVE

To encourage development which realises primary campus spaces or contemplative spaces
To encourage articulated building forms with extensive perimeter walls which realise predominantly naturally lit interiors.

PROVISIONS FOR COURTYARD BUILDINGS

1. Generally courtyard buildings are to incorporate through building links;
2. Courtyard buildings may address the street layout and / or campus spaces with a forecourt or a building, as do the mechanical and industrial engineering building and the Red Centre, respectively;
3. Courtyards associated with courtyard buildings should be mid winter sun catchers, as realised in part, in the "Naked Lady Courtyard" of the main building;



Morven Brown courtyard is part of a sequence of highly used spaces from Commerce Courtyard, diagonally through The Tallwoods to High Street



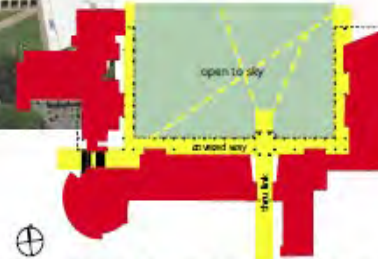
The courtyard of the Australian Graduate School of Management building is an active and vibrant place secluded from more connective campus spaces. The AGSM courtyard curiously combines detachment with activity, and is one of several types of existing campus spaces.



The LS Building has its courtyard elevated from the main entry level at Anzac Parade and is accessed via a generous timber stair. The courtyard is oriented to receive maximum sunlight penetration in the middle of the day.



The Quadrangle building edges three sides of the quadrangle, an archetypal university courtyard. The courtyard accommodates an important campus cross roads, connecting University Walk with High Street and Barker Street.



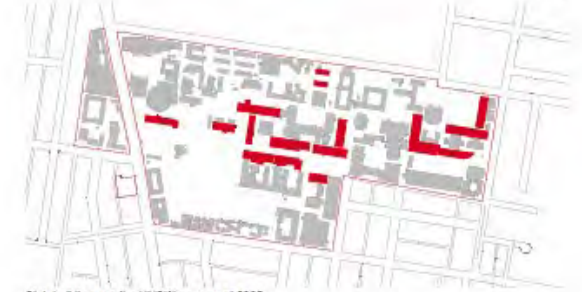
The New College building incorporates a first floor court above ground floor communal uses. It provides ground floor communal uses with housing above. The courtyard provides circulation and private communal space for residents. The ground floor communal spaces provide access and permeability between the village green and Anzac Parade. The courtyard contributes to a diverse range of communal space within a college environment.



6.2.3 SLABS



Although the master plan foreshadows the demolition of the BLOCKHOUSE, it is a thin cross section building which promotes pedestrian permeability and is supported by these provisions.



Slab buildings on the UNSW campus at 2005

USES

Academic and faculty offices, teaching and housing, public rooms, theatres, galleries and retail at ground floor

OBJECTIVE

To encourage development of thin cross section buildings which define important frontages and support pedestrian connections to campus spaces;

PROVISIONS FOR SLAB BUILDINGS

1. Slab buildings are to be thin in cross-section;
2. Slab buildings are to realise the potential of thin built cross sections including :
 - being predominantly day lit
 - having permeable ground floor levels;
4. Slab buildings are to be oriented, broad side to north and south and narrow ends to east and west for optimum environmental performance.
3. Slab buildings are to spatially define campus spaces;



The Heffron building is a ribbon like building, oriented broad side to north. It engages with sustainability in an exemplary manner, unlike some campus buildings constructed in the 1970s and 1980s. Unfortunately it provides no strategic through building links. Detached elements such as circulation cores can be added to articulate slab buildings.



The Red Centre is an example of the versatility of simple slab buildings. The building contains the courtyards and service spaces of the Main Building. It incorporates numerous through links between University Mall and Burnows Lane. It makes a highly permeable built edge to University Mall, and has the potential to contribute toward one of the university's most vibrant hubs.



6.2.4 ATRIA



There were no atrium buildings on the UNSW campus at 2005

USES

Academic and faculty offices, teaching and housing
Public rooms, theatres, galleries and retail at ground floor

OBJECTIVE

To accommodate large footprint buildings which may be required for particular academic and research activities, and meet university sustainability commitments. Allow for intensified usage of restricted sites such as L5.

PROVISIONS FOR ATRIUM BUILDINGS

Landscape

1. Landscaping in atria is encouraged;
2. Landscaping should contribute to the identifiable character and amenity of a large enclosed, day lit space;

Atrium buildings

3. Atrium buildings are to promote activity at the base of the atrium and incorporate through building links along their edges;
4. Atrium buildings are to be predominantly day lit, and should incorporate appropriate ventilation;
5. Atria are to be adequately dimensioned and proportioned to realise day lighting of interior spaces;
6. The depth of building floor plates adjoining atria should be appropriate to realise day lighting of spaces centrally on the floor plate.



The UTS Fairfax Building (Bligh Voller Nield Architects) is an example of a successful atrium building in a university environment, connecting two streets and articulating an otherwise oversized building footprint.



6.2.5 TOWERS



Existing large foot print towers, oriented broad side to north, including the Mathews Building, Library Tower and Applied Science, blight nearby campus spaces and are not supported. While their demolition is unlikely, selective demolition could ameliorate adverse noise and wind effects and the general gloom on their south sides. Options should be explored for refurbishment to improve their architectural character and environmental performance.



Mixed use building on Bathurst Street (Candalepas Associates - image above left) and Philip Street tower (Foster and Partners - image above right) demonstrate how the articulation and dramatic qualities of taller buildings, have the potential to engender give a rich architectural character.



Towers on the UNSW campus at 2005

USES

Academic and faculty offices, housing, research;
Teaching in podium levels;
Public rooms, theatres, galleries and retail at ground floor level.

OBJECTIVES

To encourage a variety of built form on the Campus;
To punctuate the predominant campus building height of four to six storeys at strategic locations;
To realise slender elegant towers;
To take advantage of the views available.

PROVISIONS FOR TOWERS

Location

1. Comply with the location of towers on drawing 5.8 Building Height;

Relationship to site

2. Wind and shadowing studies are required to assess the design of the towers, and their impact on the amenity of campus spaces;

Architectural Scale

3. Mediate between the scale of the tower and the public domain with an integrated podium built to 3 campus storeys;

Tower

4. Slender tower buildings are to have a bold and iconic architectural character;
5. Towers are to achieve an exceptional level of architectural quality;
6. The footprint of towers is limited, to moderate overshadowing impacts and achieve building height in a slender form. Tower footprints include balconies but exclude fin walls and sun-shading devices. For 60m high towers, the footprint is limited to 600-750 sqm;
7. In order to further moderate the extent of overshadowing to campus spaces, tower forms are to be oriented with broad sides facing east and west and narrow ends to north and south. As a result external shading devices are to be integral to the design of towers, to limit solar gain;
8. To achieve building height in a slender form, the length of any side is 50%-75% of the tower height;
9. Towers with podiums are to incorporate an atrium and through building link/s with the entry to the tower;

6.2.6 PAVILION BUILDINGS



Pavilions on the UNSW campus at 2005

PREFERRED USES

Public rooms including cultural facilities, recreation, club houses, galleries, exhibition spaces, theatres, dance halls + student centres, specialty retail, open stands and structures and gateways

OBJECTIVES

To support and promote a variety of built form for campus buildings, including free standing buildings

PROVISIONS FOR PAVILION BUILDINGS

Location

1. Pavilion buildings are most appropriately located in or beside campus gathering spaces;

Architectural Scale

2. Pavilion buildings may be up to two campus storeys high;

Pavilions

3. The design of pavilions should include consideration of their being diminutive buildings in the round, a counterpoint to the larger buildings on campus,
4. Pavilions are to incorporate the most desirable attributes of successful public buildings, be open and welcoming, having multiple entries, Verandahs and the like,
5. Pavilion buildings can be carefully placed and constructed in proximity to retained trees.

The Sam Cracknell Pavilion relates to the open space of the village green and the university mall, and does not compete unduly;



The Whitehouse, Old Tote Building and Fig Tree Theatre are an identifiable ensemble of pavilions on campus, and part of a Heritage Conservation Area identified by Randwick Council;



The Fig Tree Theatre is a humble example of a pavilion related to earlier site uses.



The Sir John Clancy Auditorium and independent canopy structure successfully addresses Chancellery Forecourt, otherwise it is a generally weak building in the round.



The Science Theatre demonstrates the potential benefits of a building in the round in its contribution to campus activity on the side which addresses Science Square.

4.3.2. Landscaping

6.3.1 SUSTAINABLE

1. Low water and energy requirements in installation and maintenance.
2. Demonstrating sustainability principles put into practice.
3. Supporting comfortable interior building environments.
4. Favouring sustainable materials selection.

6.3.2 USEFUL

1. The landscape supports teaching and research - providing experimentation sites, taxonomic collections and the like.
2. Providing active recreation opportunities.
3. Providing social spaces.
4. Providing places for quiet contemplation and study.
5. Providing adequate space for the servicing, delivery and emergency needs of the university.

6.3.3 IMAGABLE

1. Directing circulation routes to encounter major views.
2. Contributing to the iconic spaces and assemblies of the university.
3. Developing consistency and continuity - not uniformity - throughout the campus.

6.3.4 CLEAR

1. Maximising comfort, safety and convenience in the experience of the campus.



Re-cycling an observable function of the site



Taxonomic plant groupings for demonstration purposes



Native plants, restricted areas of lawn, robust materials - low water requirements low maintenance



Materials selection favouring sustainable principles



Open treatments to the north of buildings



Social places, with sunlight, shade, seating, activities and facilities



The campus has major space-consuming servicing needs, accounting for a major component of its open space



Celebrate the spectacular places of the campus by including them on important circulation routes



Providing for fitness and relaxation as part of the campus experience



A consistent suite of materials adds continuity to the campus



Off main routes, generally smaller and offering enclosure – places for reading and quiet thought



Landscape is fundamental to the defining images of the university



Long lines of sight, comfortable grades, lighting and a sense of natural surveillance

