



Design Report for State Significant
Development Application SSD-10822510

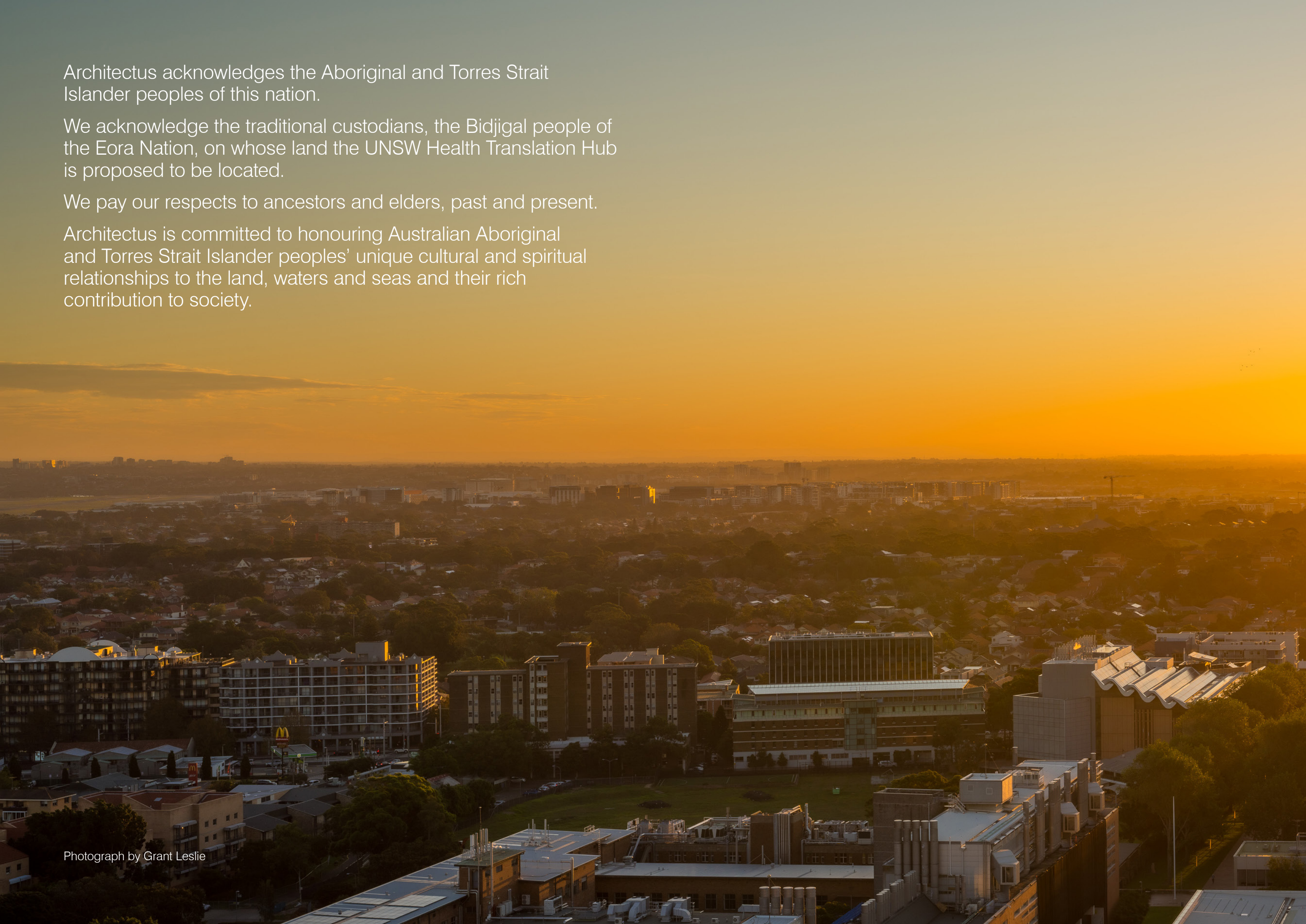
UNSW Health Translation Hub

Architectus acknowledges the Aboriginal and Torres Strait Islander peoples of this nation.

We acknowledge the traditional custodians, the Bidjigal people of the Eora Nation, on whose land the UNSW Health Translation Hub is proposed to be located.

We pay our respects to ancestors and elders, past and present.

Architectus is committed to honouring Australian Aboriginal and Torres Strait Islander peoples' unique cultural and spiritual relationships to the land, waters and seas and their rich contribution to society.





Architectus Australia Pty Ltd
ABN 90 131 245 684

Nominated Architect
Managing Director
Ray Brown
NSWARB 6359

Adelaide
Lower Ground Floor
57 Wyatt Street
Adelaide SA 5000
Australia
T +61 8 8427 7300
adelaide@architectus.com.au

Brisbane
Level 2, 79 Adelaide Street
Brisbane Qld 4000
Australia
T +61 7 3221 6077
brisbane@architectus.com.au

Melbourne
Level 25, 385 Bourke Street
Melbourne VIC 3000
Australia
T +61 3 9429 5733
F +61 3 9429 8480
melbourne@architectus.com.au

Perth
QV1 Upper Plaza West
250 St. Georges Terrace
Perth WA 6000
Australia
T +61 8 9412 8355
perth@architectus.com.au

Sydney
Level 18, MLC Centre
19 Martin Place
Sydney NSW 2000
Australia
T +61 2 8252 8400
F +61 2 8252 8600
sydney@architectus.com.au

architectus.com.au

Client:

Jeff Peers
Estate Management
Chief Technology & Infrastructure Officer

Niki Douglas
Estate Management
Director, Development

Shane McLoughlin
Estate Management
Senior Project Manager, Development

Amber Greenhalgh
Estate Management
Assistant Development Manager, Development

Designers:

Architectus
Architecture

Office Elias
Emerging Architect

Aspect Studios
Landscape

Yerrabingin
Indigenous Integration

ARUP
Structure
Services
Vertical Transportation
Wind
Acoustics

Michael Harrison
Urban Strategy

Ethos Urban
Planning

Surface Design
Facade Engineer

WTPartnership
Quantity Surveyor

JMT Consulting
Traffic

Warren Smith & Partners
Civil

Atelier Ten
ESD

Project and report	UNSW Health Translation Hub	
Date	April 07, 2021	
Client	University of New South Wales	
Document no.		
Version and date issued	Issued for SSDA - Rev B - 07/04/21	Approved by: JC
Report contact	Jackson Cranfield Associate	
This report is considered a draft unless signed by a Director or Principal	Approved by: Luke Johnson 	

General Disclaimer

- The information contained here is believed to be correct at the time of preparation, however it is not guaranteed. Recipients must rely on their own enquiries to satisfy themselves in all respects. Architectus accepts no damages, liabilities or costs, including legal costs of defence, arising from changes made by anyone other than Architectus or from the information contained here without prior consent of Architectus.
- Architectus Group Pty Ltd does not accept any liability to any third party for the contents of this report.
- This report is not intended for use by any other person or for any other purpose. Only the original drawings should be relied on.
- Further development of the design, measurement and construction tolerances and/ or further client/tenant requests will inevitably result in changes to these areas [which could involve significant reductions] and Architectus Pty Ltd accepts no legal responsibility for any decision, commercial or otherwise, made on the basis of these areas.
- The Copyright in this report belongs to Architectus Group Pty Ltd.

Contents

	Executive Summary	6			
	Project Vision	8			
1	UNSW HTH Site and Context	11	4	Architectural Response	89
	1.1 Site Analysis	20		4.1 Health Translation Hub Design Statement	90
	1.2 Context & Views	26		4.2 Public Domain	92
				4.3 Basement Design	96
				4.4 Indicative Programme Breakdown	98
2	Design Strategy	31		4.5 Atrium Design	100
	2.1 Project Vision	32		4.6 Site-Wide Connections	104
	2.2 Site Extents	34		4.7 Services Strategy	112
	2.3 Massing Orientation	36		4.8 Structure	114
	2.4 Massing Refinement	37		4.9 ESD Response	115
	2.5 Building Articulation	38		4.10 Facade	116
	2.6 View Analysis	40		4.11 Materiality	126
	2.7 Urban Design Outcomes	44		4.12 Signage	128
	2.8 Wind Analysis	48		4.13 Views	130
	2.9 Shadow Analysis	49		4.14 Facade Study Model	135
	2.10 Urban Design Summary	50			
3	Public Realm & Landscape	53	5	Design Excellence	137
	3.1 Wider Context	54		5.1 Crime Prevention	138
	3.2 Design Approach	60		5.2 Better Placed	140
	3.3 Design Proposal	68		5.3 State Design Review Panel Feedback	144

Executive Summary

This report supports a State Significant Development Application (SSDA) for the proposed UNSW Health Translation Hub (UNSW HTH) at the Randwick Hospitals Campus (RHC), which is submitted to the Department of Planning, Industry and Environment (DPIE) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (the Act). Health Infrastructure on behalf of Health Administration Corporation (HAC) is the applicant for the UNSW HTH, which will be delivered with the University of New South Wales (UNSW).

A partnership agreement has been established between HAC and the UNSW to develop the UNSW HTH. This partnership will also allow UNSW to operate the building as well as manage its design and delivery.

The partnership will bring together educational and medical researchers, clinicians, educators and public health officials to drive excellence, and support the rapid translation of research, innovation and education into improved patient care. It will strengthen the symbiotic relationship between UNSW and the RHC and its research institutes and broader health partners which form part of the Randwick Health and Innovation Precinct (RHIP).

The UNSW HTH will build on the existing affiliation between UNSW and the Sydney Children's Hospital Network (SCHN); Health Infrastructure; and the South Eastern Sydney Local Health District, including Prince of Wales Hospital, The Royal Hospital for Women and Eastern Suburbs Mental Health Services.

The building is designed to readily adapt to the changing demands of an evolving and growing health research environment, with the floor plates and base building providing flexibility for different uses into the future.

The site comprises an area of 8,897 sqm and will involve the construction of a 15 storey building, comprising approximately 35,600m² GFA.

Accommodation is proposed to be inclusive of the following functions:

- Landscaping and public domain works, including the creation of a new public domain / plaza within the eastern portion of the site, sitting between the UNSW HTH and Sydney Children's Hospital Stage 1 and Children's Comprehensive Cancer Centre (SCH Stage 1 and CCCC).
- Centralised teaching and learning facilities
- Common student/user lead facilities
- Event and Exhibition Space.
- Publicly accessible clinical services
- Clinical Schools
- Research and innovation facilities
- Workplaces accommodating the health related administrative functions and research.
- Retail space servicing the building and broader public domain (in the form of small-scale food and beverage tenancy options distributed throughout the ground plane); and
- Supporting and ancillary facilities

The adjacent Sydney Children's Hospital development is to be submitted under a separate SSD application, but will be referenced throughout this report. A key driver of the UNSW HTH project is its seamless integration with the adjacent health buildings as a part of the broader Randwick Health & Innovation Precinct.

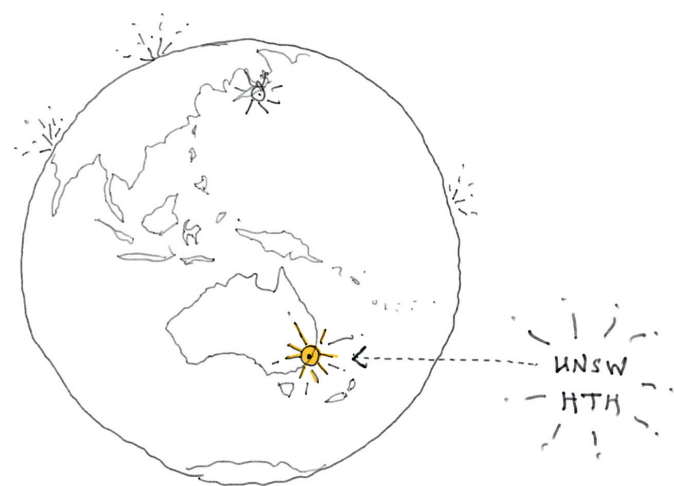
This new building and our commitment to significantly invest in the precinct will take our partnership to a new level. UNSW has had teaching hospital affiliations on the Randwick Hospitals' Campus for nearly 60 years. As well as improving health services to our local communities, the seamless physical and working integration between the hospitals and this new Health Translation Hub will enable us to compete at the forefront of health research and education internationally. That in turn will attract more outstanding clinicians, health professionals and academics to the Precinct; drive better healthcare, research and outcomes for patients; and generate economic benefits for the community."

Professor Ian Jacobs
UNSW President and Vice Chancellor

*Artist's impression, subject to change.
Render by Narrative Graphics.*



Project Vision



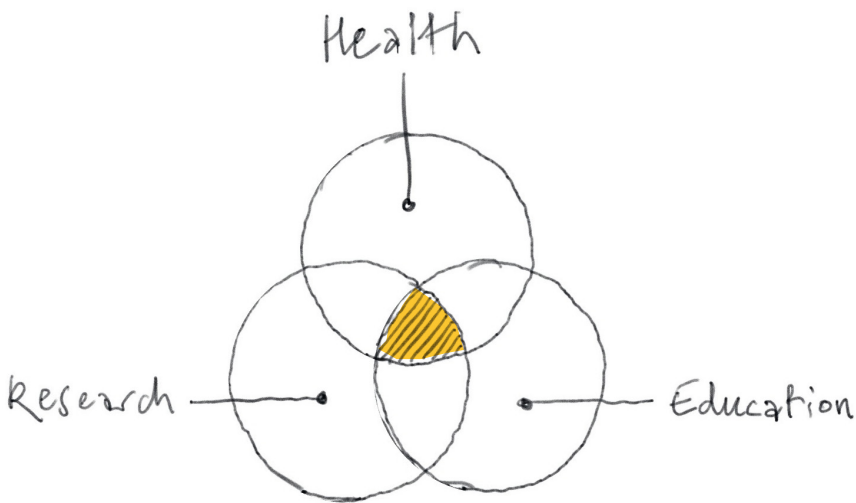
Global Context

The UNSW Health Translation Hub will join a global network of health research facilities and contribute towards UNSW’s ambition to obtain Top 50 University status through this significant investment in Health research and infrastructure.



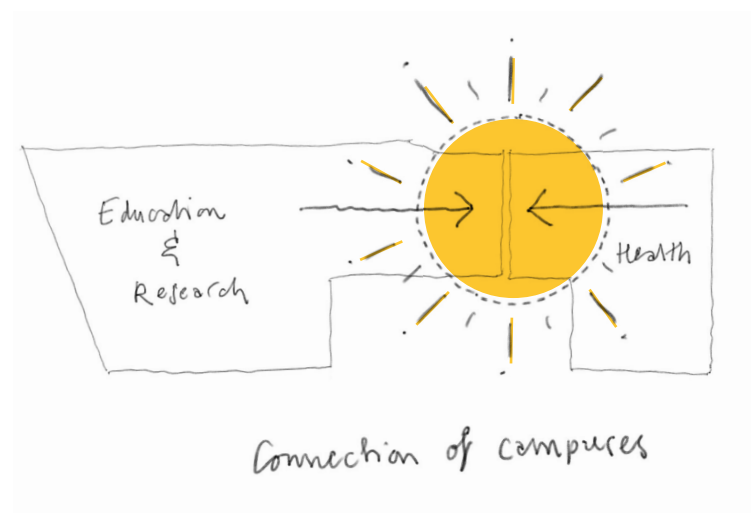
Precinct Context

The UNSW HTH will be a distinctive, optimistic building with a landmark identity to mark the gateway between the education and health precincts.



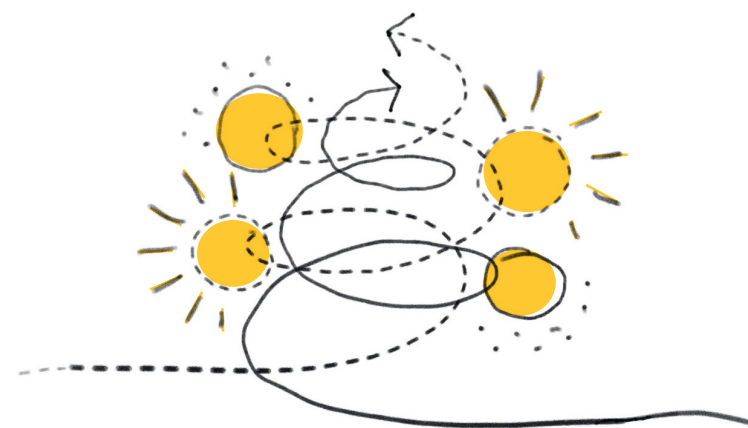
Precinct Purpose

The co-location between the UNSW Kensington Campus and the Randwick Hospital Precinct facilitates the merging of complimentary functions, creating the Randwick Health and Innovation Precinct.



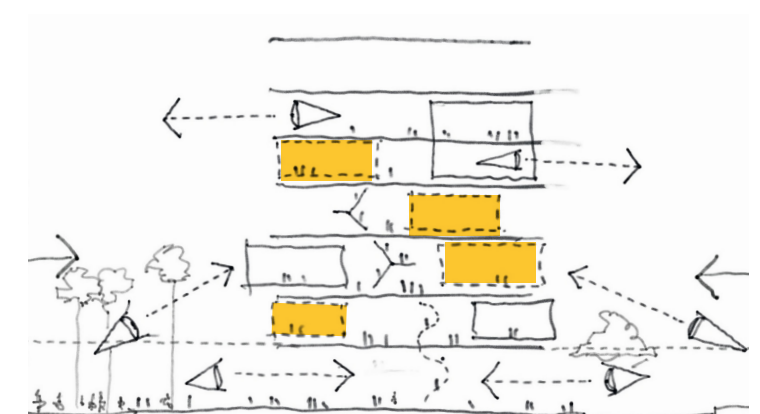
Purpose

The uniqueness of this project is blurring the two institutions together. This is achieved through a shared plaza and a physical connection to SCH Stage 1 and the CCCC, merging mixed clinical, educational, research and workplace activities, unlike any other building within the precinct.



What is the UNSW HTH?

A specific functional purpose that merges world class Research, Education and Health activities for the accelerated provision of clinical services. It is to be a place of hope, optimism and welcome, that will nourish formal and informal processes leading towards the acceleration of improved health services for our communities locally and globally.



Who will use the UNSW HTH?

The UNSW HTH will bring together academics and researchers, educators and students, clinicians and out patients, connecting all users to communities both local and global.





1 UNSW HTH Site and Context

An Integrated Health and Education Campus

Strategically placed within Greater Sydney, UNSW is an integral part of the Global Economic Corridor responsible for generating a high proportion of NSW's Gross State Product. This position cements the University's place within the Greater Sydney Commission's (GSC) Greater Sydney Region plan and its role as a major Health and Education Precinct Strategic Centre.

The site for the proposed HTH site within one of 13 precincts identified by the Greater Sydney Commission across Sydney tasked to create international competitive employment, research and education hubs.

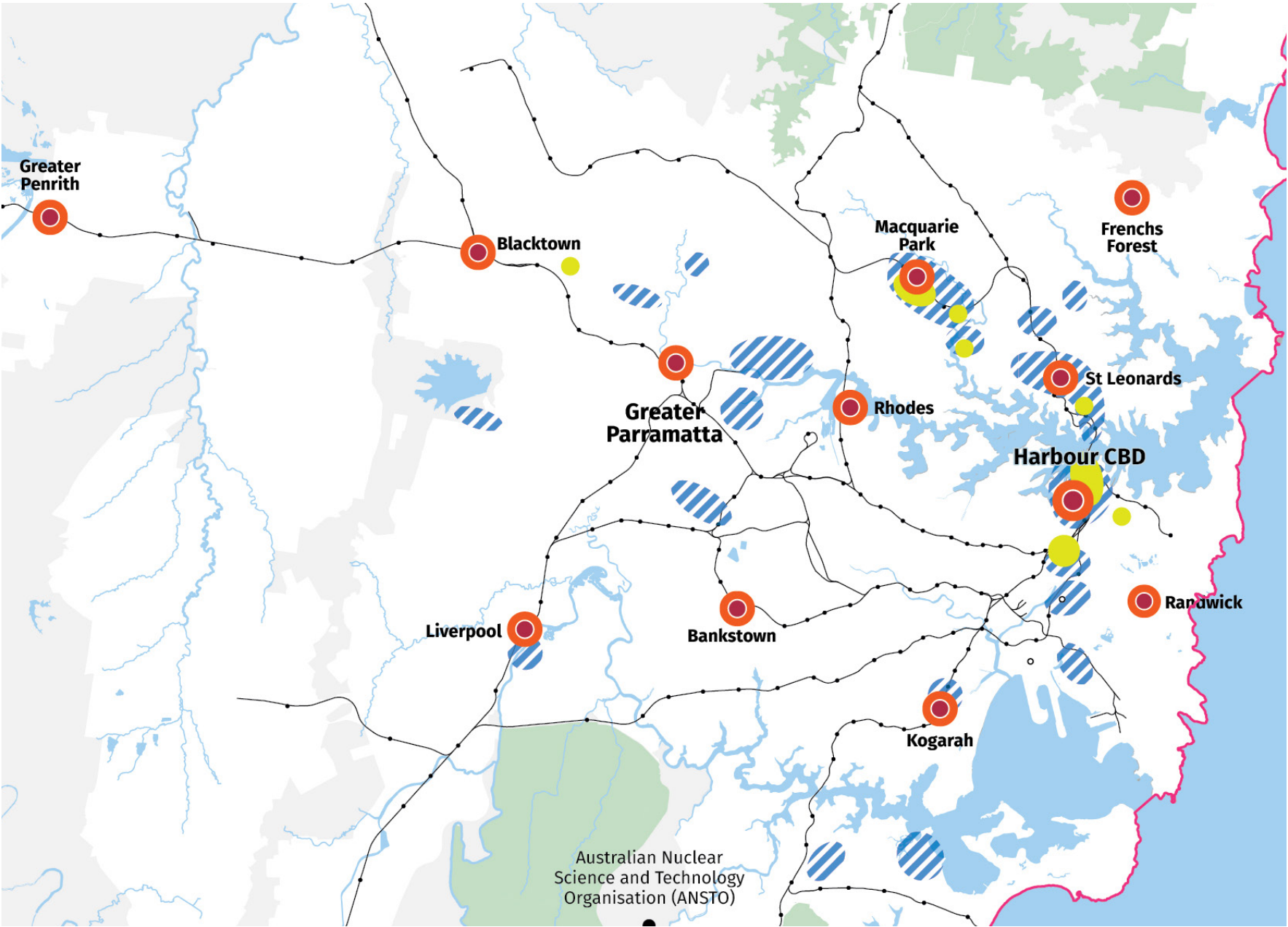
Objective 21 of Greater Sydney Region Plan, A Metropolis of 3 Cities, outlines the following objectives for health and education precincts in Sydney:

"Universities, hospitals, medical research institutions and tertiary education facilities are significant contributors to Greater Sydney's economy. By 2036, 21 per cent of all jobs in Greater Sydney are projected to be in the health and education sectors, up from 19 per cent today.

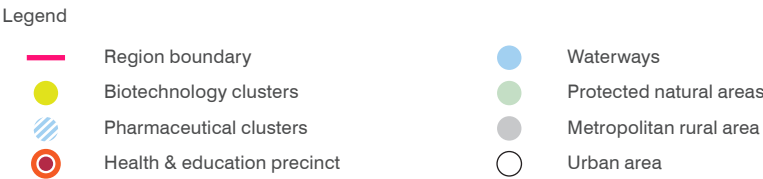
Planned investment in major health facilities at Westmead, Nepean, Campbelltown, Randwick and the Northern Beaches is more than \$3.58 billion, creating significant local opportunities for direct jobs and growth in ancillary services.

Greater Sydney's health and education precincts and current medical industry clusters, such as pharmaceutical and biotechnology precincts offer many opportunities to drive and support international competitiveness."

Greater Sydney Commission, A Metropolis of 3 Cities



Health and education precincts, Greater Sydney Commission, A Metropolis of 3 Cities



UNSW HTH Site and Context

A Strategic Centre

The Greater Sydney Commission's Eastern District Plan highlights the future transport infrastructure for the Randwick district. The site is located adjacent to the newly completed Light Rail network, with a stop on High Street creating a direct connection from Randwick to Circular Quay. The NSW Government is also investigating a new metro line and station within Randwick to form a critical part of its South East Sydney Transport Strategy which was released in August 2020.

South East Sydney is an important and diverse region, with attractive and vibrant centres, an extensive coastline, beaches, parks and recreational venues, world class education and health care, a broad range of employment opportunities and the economically important gateways of Sydney Airport and Port Botany. Both population and employment in the region are growing and while it is benefitting from significant investment in rail, light rail and roads, South East Sydney has the potential to grow more and develop sustainably taking advantage of existing patterns of development and travel, and its strategic location.

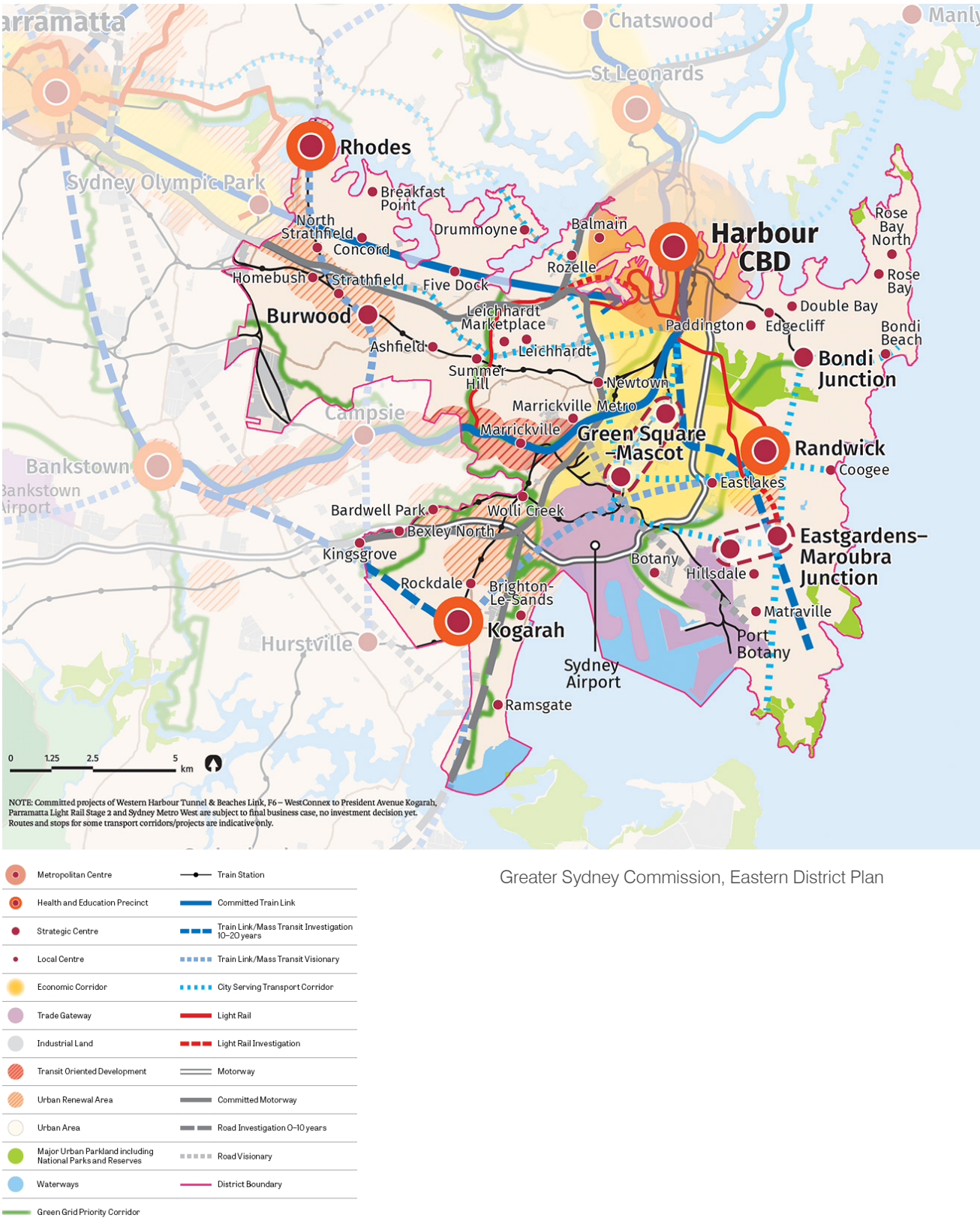
The South East Sydney Transport Strategy (the Strategy) provides a blueprint for transforming the way people travel to, within and through South East Sydney to 2056. The Strategy seeks to support future growth through transport investment within South East Sydney. The proposed transport enhancements support the redevelopment of government land, the growth of strategic centres, and the continued expansion and efficiency of Sydney Airport and Port Botany through improved and reliable access. The Strategy seeks to develop places that encourage more people to make shorter trips by walking, cycling and public transport to access local services, education and employment. It aims to achieve this by providing more trains, better buses, separated bike routes and sustainable local and strategic centres.

South East Sydney Transport Strategy, 2020

These urban objectives demonstrate that Randwick is a strategic centre and of critical importance to the future growth of a greater network of health and education precincts locally and globally and a vital part of the Eastern Economic Corridor as defined by the Greater Sydney Commission.

The Randwick Health and Education Precinct contributes by developing and internationally competitive district that drives economic productivity, health and education services and employment to the district.

The proposed development supports the transition of the RHIP and the broader Randwick Collaboration Area into a future innovation district through a 'maturity pathway', which see the evolution and conglomeration of health and education uses.



Randwick’s Future Growth

The site is located approximately 6 kilometres (km) from the Sydney Central Business District (CBD), within the Randwick Local Government Area (LGA). It is located approximately 4km from Sydney Airport and 2.5 kilometres from Sydney’s Coogee coastline between the UNSW Kensington Campus and the Growing Randwick Health precinct.

The UNSW HTH project recognises the importance of the strategic plans of the Greater Sydney Commission and Randwick City Council and the pivotal role of the future planning and growth on the Randwick Precinct.

In Randwick Council’s Local Strategic Planning Statement (LSPS)- Vision 2040, published March 2020, the Health and Education Precinct (now referred to as the Randwick Health an Innovation Precinct or RHIP) features as a one of two major zones of economic growth.

“Randwick City makes an important economic contribution to the Eastern City District and Greater Sydney through its employment sectors that include education, specialist medical and healthcare, professional services, industry and manufacturing.

The unique agglomeration of health and education land uses provides an anchor for future growth in innovation and research and an opportunity to deliver significant economic growth.”

This economic growth is going to contribute to Randwick’s population increasing by 23% in 2036, and jobs increasing by 40-55% (32,000 -35,000 jobs) within Randwick’s Strategic Centres as outlined in the LSPS. This will place a strong demand on floor space, density, and open space.

The Study found that over the next 20 years, demand for floorspace in centres across the LGA will increase, and that there is limited floorspace capacity to cater for long term demand in most of the areas studied.

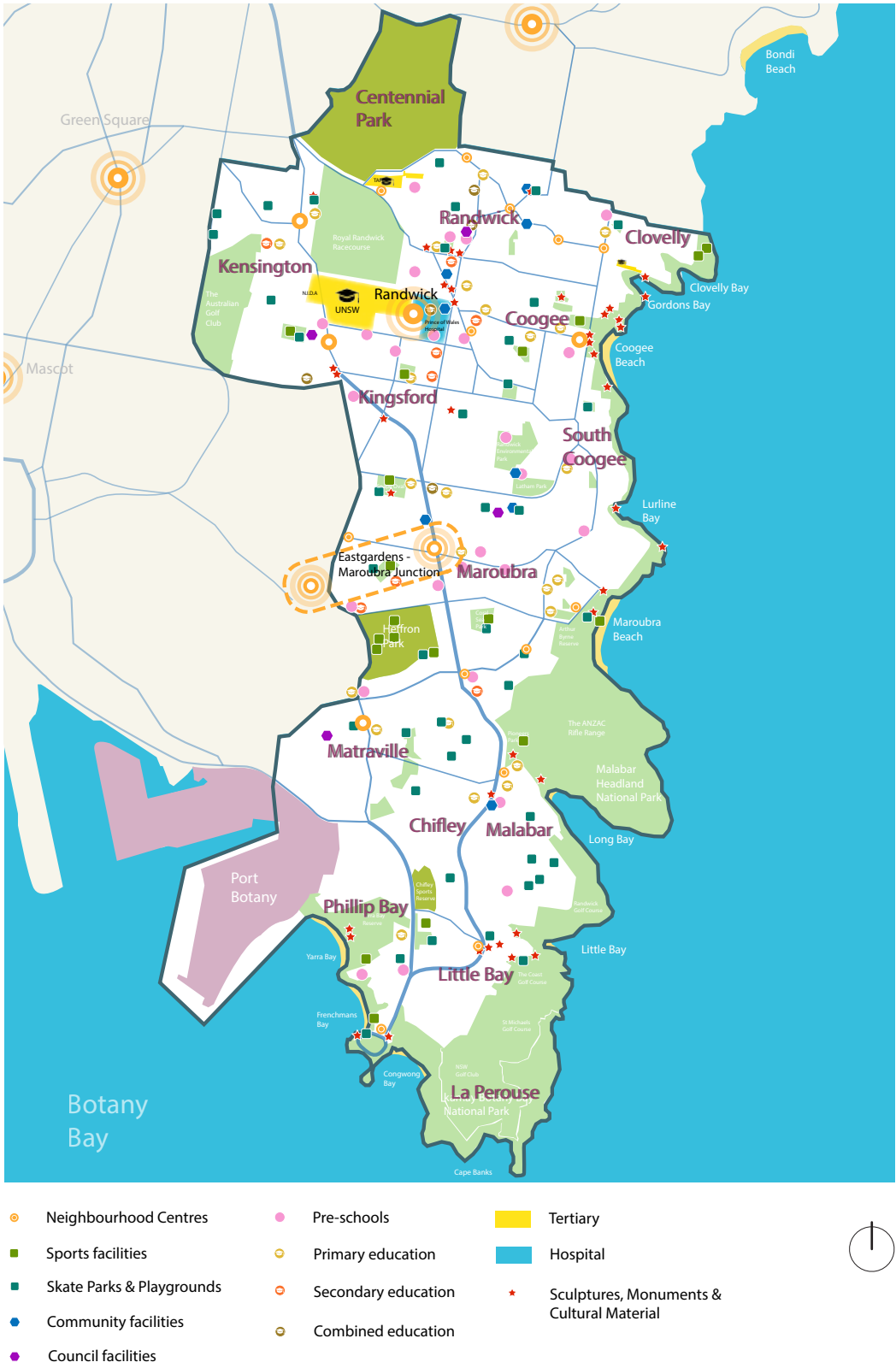
Growth in Randwick City’s population, as well as across the District will add pressure upon our existing open space and recreational assets, as well as increase demand for additional provision and access.

Council will focus on providing additional employment floor space that is responsive to the evolving needs of an agile workforce, encouraging the agglomeration of firms and promoting collaborative workspaces. Population growth will also drive demand for retail floor space across our network of local and neighbourhood centres.

Strategic centres identified in the Eastern City District Plan are important because of their size, diversity of activities, connections to public transport and presence of major institutional activities such as health and education facilities and industry. Well-planned strategic centres stimulate economic activity and innovation through the co-location of activities, provide jobs closer to where people live and use infrastructure more efficiently.

Randwick Council’s Local Strategic Planning Statement (LSPS)- Vision 2040, published March 2020

To meet the demands of this rapid economic growth and balance the creation of quality open space, the UNSW HTH building is designed to utilise a smaller building footprint to deliver public domain opportunities back to the community. Within this strategic centre where growth is expected, the Health Translation Hub must align with the future needs of the precinct and set a benchmark for development growth.



Source: Randwick Council’s Local Strategic Planning Statement (LSPS)- Vision 2040

The Response to Greater Randwick Urban Masterplan (GRUM)

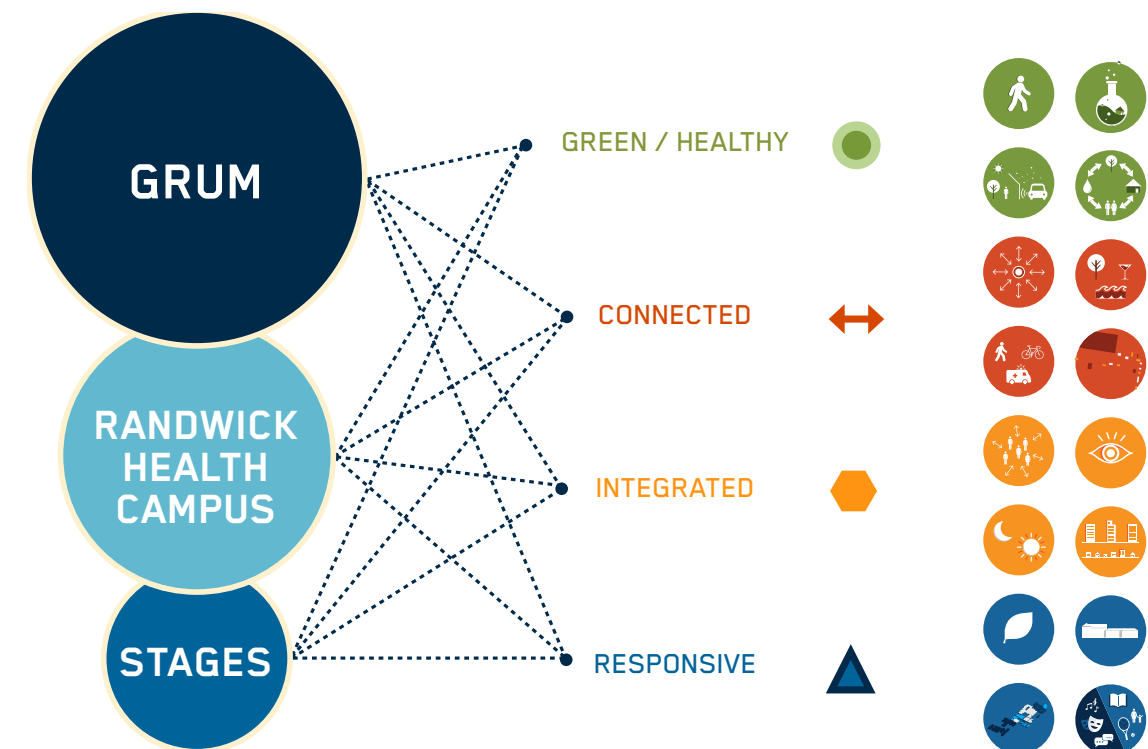
At a precinct level, the Greater Randwick Urban Masterplan (GRUM) was created to guide the aspirational masterplan of the Randwick Health and Innovation Precinct, and these principles underpin the design of the UNSW HTH, SCH Stage 1 and the CCCC and IASB. The GRUM focuses on 4 key principles:

1. Green and Healthy – Provide and promote a healing, health promoting and ecologically sustainable environment
2. Connected – Provide multiple layers of accessibility, being public transport, dedicated footpaths, and cycle ways to promote walkability and easy navigation of the precinct
3. Integrated – The physical connection being the UNSW Campus and the Randwick Health Campus to blur the lines between research, education and health and celebrate the opportunities of co-location.
4. Responsive – Respond and enhance the existing natural and cultural qualities of the site, valuing its heritage through appropriate settings and adaptive re-use.

While each of these key principles have been successfully integrated into the UNSW HTH proposal, and form strong guidelines for the precinct as a whole, the 3rd point of integration and the physical connection between UNSW and the health precinct is in essence of purpose of the Health Translation Hub. The GRUM calls for:

- A physical connection between the university campus and health campus
- A blurring of the boundaries between research, education and health
- The provision of sticky and bump spaces were informal and formal collaboration occurs
- Strengthening its identity as an inviting and permeable precinct
- An abundance of pleasant places to stay and meeting
- The ground levels to be activated with a mix of uses
- Health related uses such as community gardens or meeting places could play a role in the wider community, inviting the local population in.

To achieve these aspirations, the UNSW HTH must create a quality public domain that forms the heart of the development and can bring these two institutions together. A continuous and legible ground floor will blur the lines between the individual sites and stitch them together in to a cohesive whole. A quality landscape proposal will provide the collaborative opportunities that this precinct wishes to achieve and deliver activated amenity for the precinct users and local community.



Source: Greater Randwick Urban Masterplan

UNSW HTH Framework

The UNSW Health Translation Hub solidifies the Universities commitment to the rapid acceleration of health, research and education for the local and global communities. The UNSW HTH project provides critical development for the economic growth of Randwick and the eastern economic corridor.

This building is the pivotal piece that will deliver on the aspiration above to unite the health campus. UNSW outline this in the Randwick Health & Innovation Precinct Strategy 2021-2024

The future of lifelong health

The Randwick Health & Innovation Precinct brings together world-class education, research and healthcare organisations to address real-world problems across the lifespan, from newborns to centenarians.

Together we tackle health challenges through innovations in science, health and medicine, arts and humanities, business and emerging technologies. The Precinct is creating an integrated environment that expands and enhances our capability as a world-leading university, clinical health and business innovation cluster, in a permeable community space where people work, study and live. We exemplify what it means to be an effective and leading global precinct, with partnerships that are greater than the sum of their parts.

Randwick Health & Innovation Precinct Strategy
2021-2024

The UNSW HTH is designed to meet the needs of the precinct over the long term and provide an environment that will foster collaboration and support the future workforce.

The UNSW HTH project has been designed to meet the global, state and regional context, designed in parallel with the UNSW HTH Framework to meet the government priorities and future environment.

The key objectives of the UNSW Framework are:

- **Distinctive:** memorable and unique to UNSW with cohesive spaces to provide a sense of place.
- **Vibrant:** People centric, vibrant, engaging to provide individualised experiences which support the cognitive, social, physical and emotional needs of everybody who experiences them.
- **Inclusive:** Provide safe and inclusive spaces which are accessible for students and staff of all backgrounds.
- **Connected:** Seamlessly connected locally and globally to enable knowledge exchange as well as collaboration and learning opportunities. UNSW will be accessible to everybody, anywhere and anytime.
- **Innovative:** Framework will support innovation and showcase UNSW strengths in professional, scientific and technological fields.
- **Adaptive:** The campus will demonstrate leadership in providing flexible spaces that respond to and cater for future learning, health research and community needs.



Background Documents & Research

The design outcomes have been shaped by a detailed understanding of various statutory and design guidelines from various organisations. A summary of these documents is listed below:

- Greater Sydney Commission, A Metropolis of 3 Cities
- Greater Sydney Commission, Randwick Place Strategy
- Designing with Country, 2020, NSW GA
- Connecting with Country DRAFT, 2020, NSW GA
- Greener Places Design Guide, 2020, NSW GA
- Better Placed, 2017, NSW GA
- Randwick Council DCP 2013
- Local Strategic Planning Statement, Randwick Council
- Randwick Street Tree Master Plan 2002
- Greater Randwick Urban Masterplan
- South East Sydney Transport Strategy, August 2020



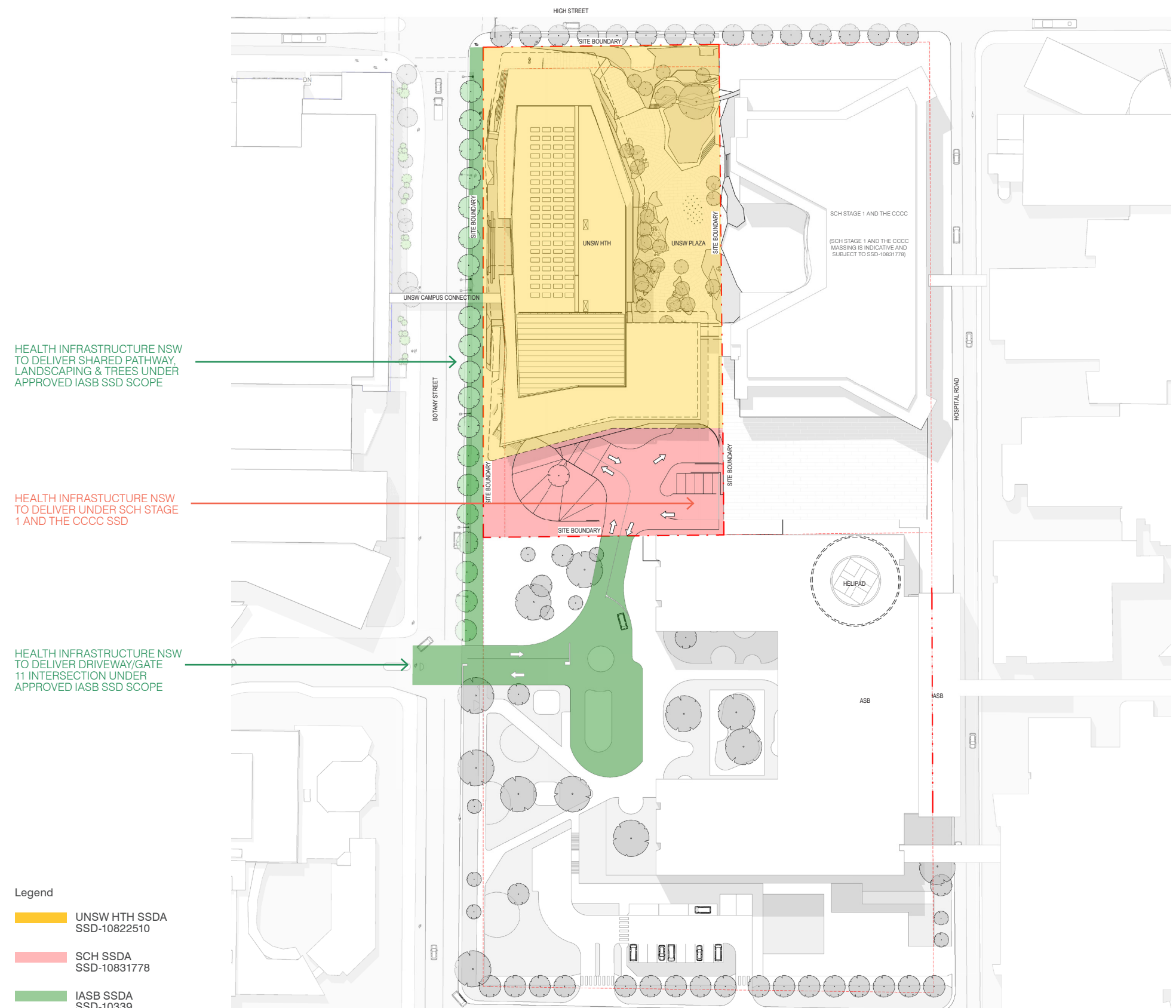
The UNSW HTH Site

The site is located at the corner of High Street and Botany Road, Randwick, NSW 2052. The UNSW HTH site (Lot A1) is bounded by Botany St on the west, High St on the north, the new proposed Sydney Children's Hospital (SCH Stage 1 and the CCCC) (Lot A2) on the east and Integrated Acute Services Building (Lot B2) (Lot B1) on the south.

The UNSW Kensington campus is located to the west of Botany St and the Randwick Hospitals Campus is located to the east of the site. To the north and south of the site are low and medium density residential developments, and Randwick racecourse is located to the north-west of the site.

The UNSW HTH site is currently serviced by the new CBD and South East Light Rail development. The UNSW High Street light rail stop provides an opportunity to create a main gateway into the campus separated from the existing Anzac Parade location.

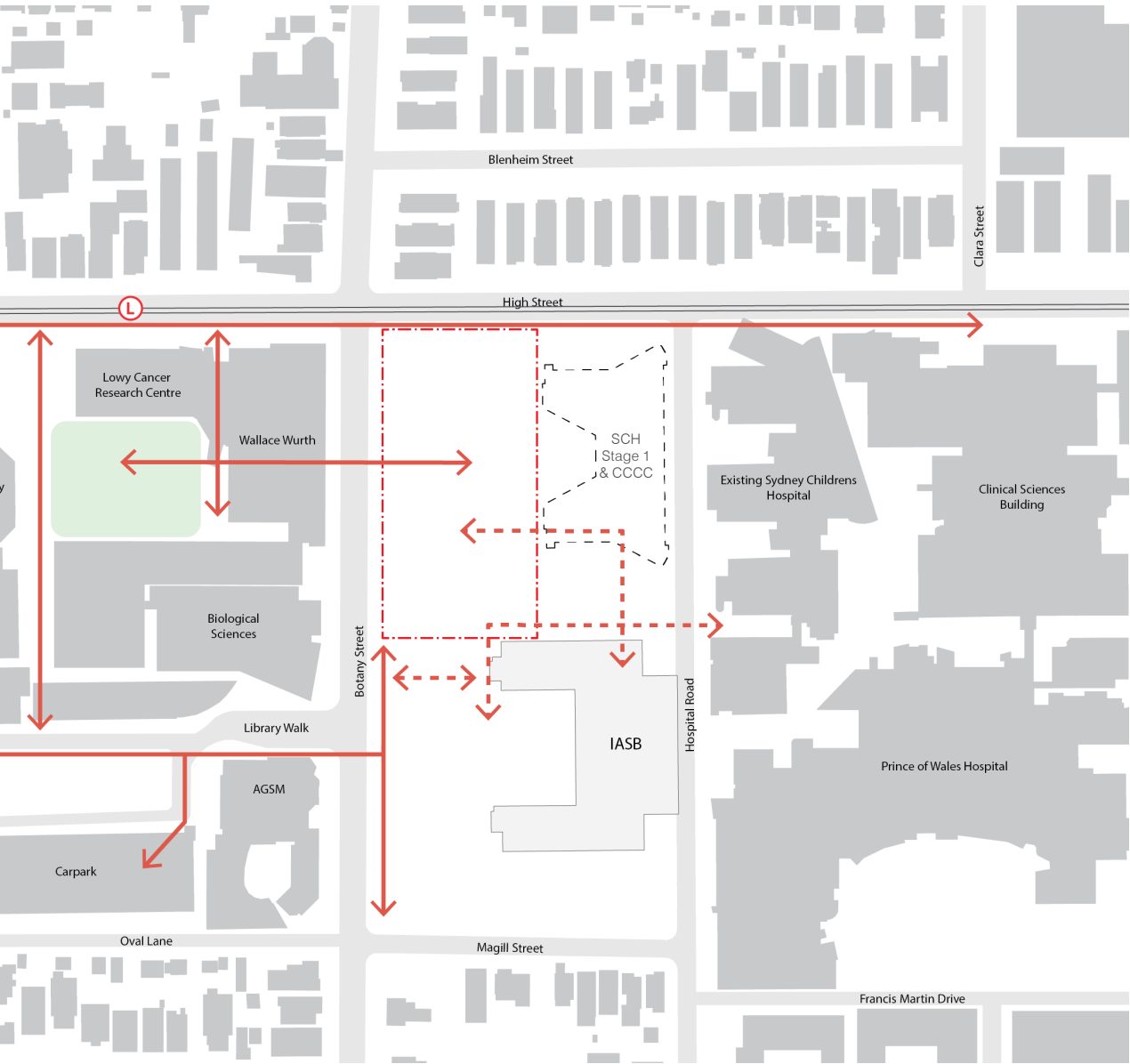
This project forms an integral component in the realisation of the growth of the UNSW Kensington Campus. This building and its surrounding context provide multiple uses and form an integral part of the UNSW Kensington Campus eastward expansion.





Randwick Health and Innovation Precinct represents a once in a generation opportunity to partner in the development of a world-leading integrated and aligned health, education and research environment which will produce significant benefits to the broader community.

1.1 Site Analysis

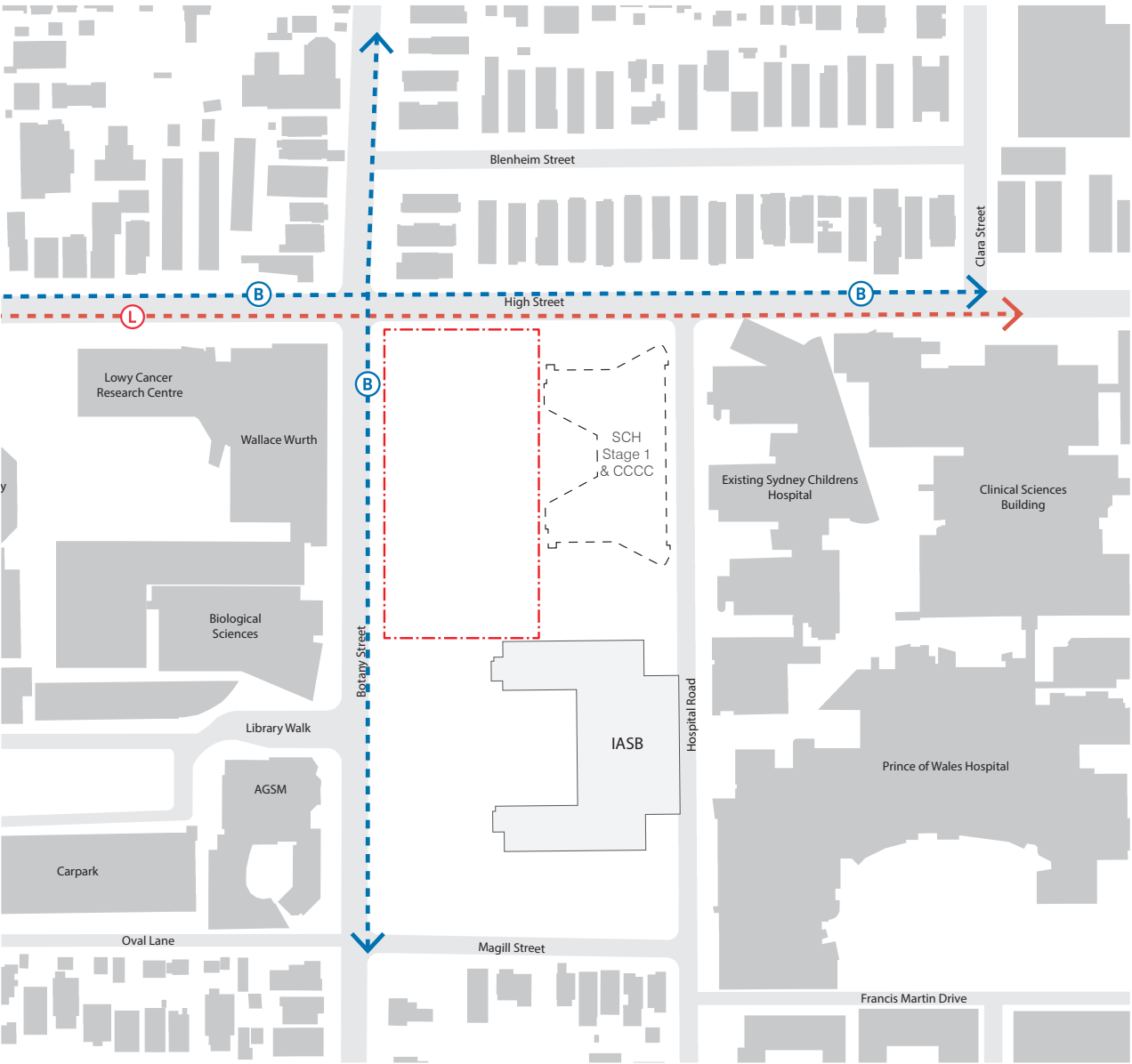


Pedestrian Access

The site is positioned at the end of the UNSW pedestrian network and has a high exposure to the north that can be easily accessed from the light rail and the parking lot to the south west.

The site's connectivity will be increased through future pedestrian links from the Randwick Hospitals Campus.

- Legend
- Pedestrian path
 - - - Future pedestrian path

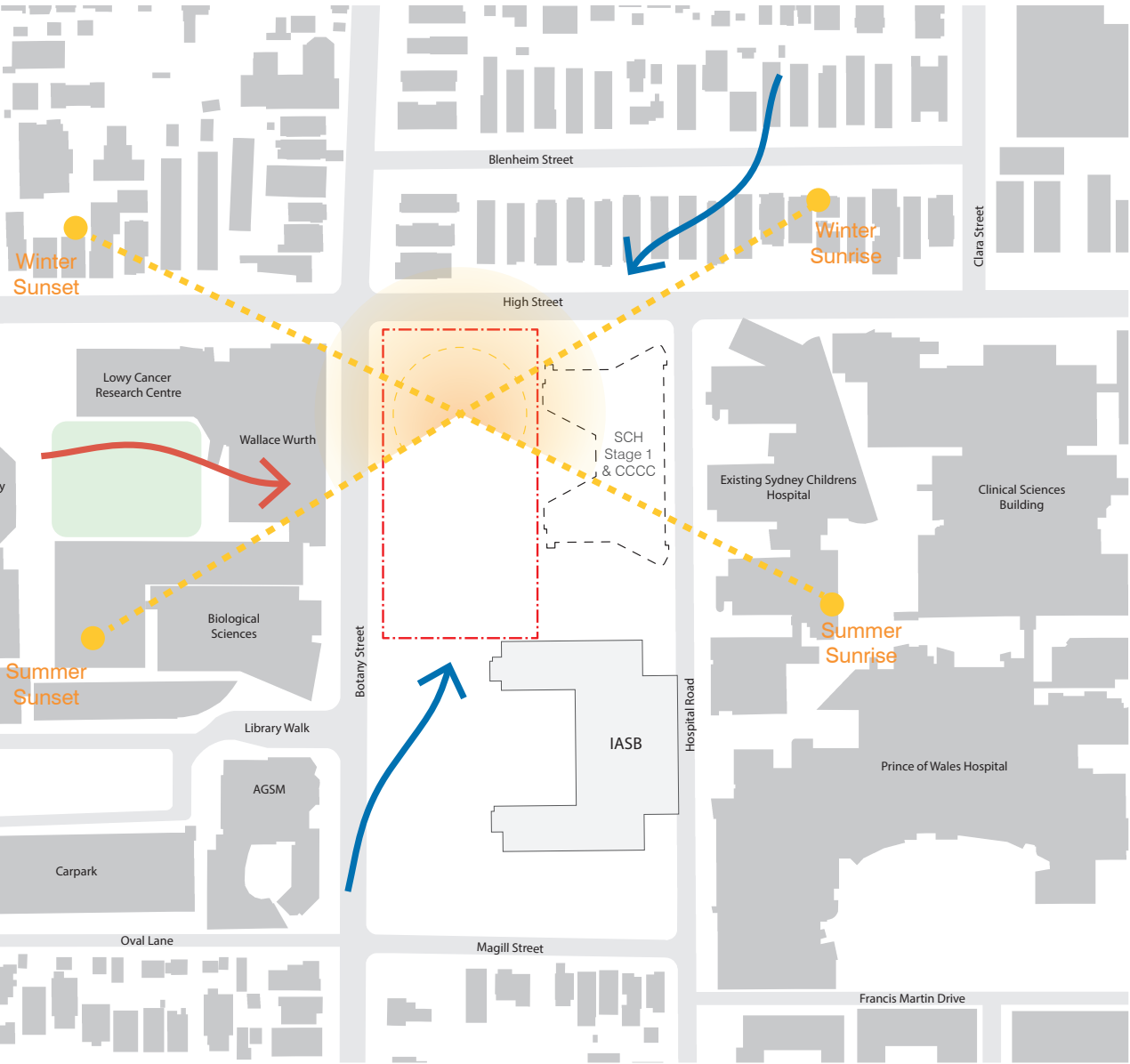


Public Transport

The site is highly accessible from public transport with bus routes along Botany street and High Street, and the light rail along High Street.

- Legend
- Bus route
 - - - Light Rail

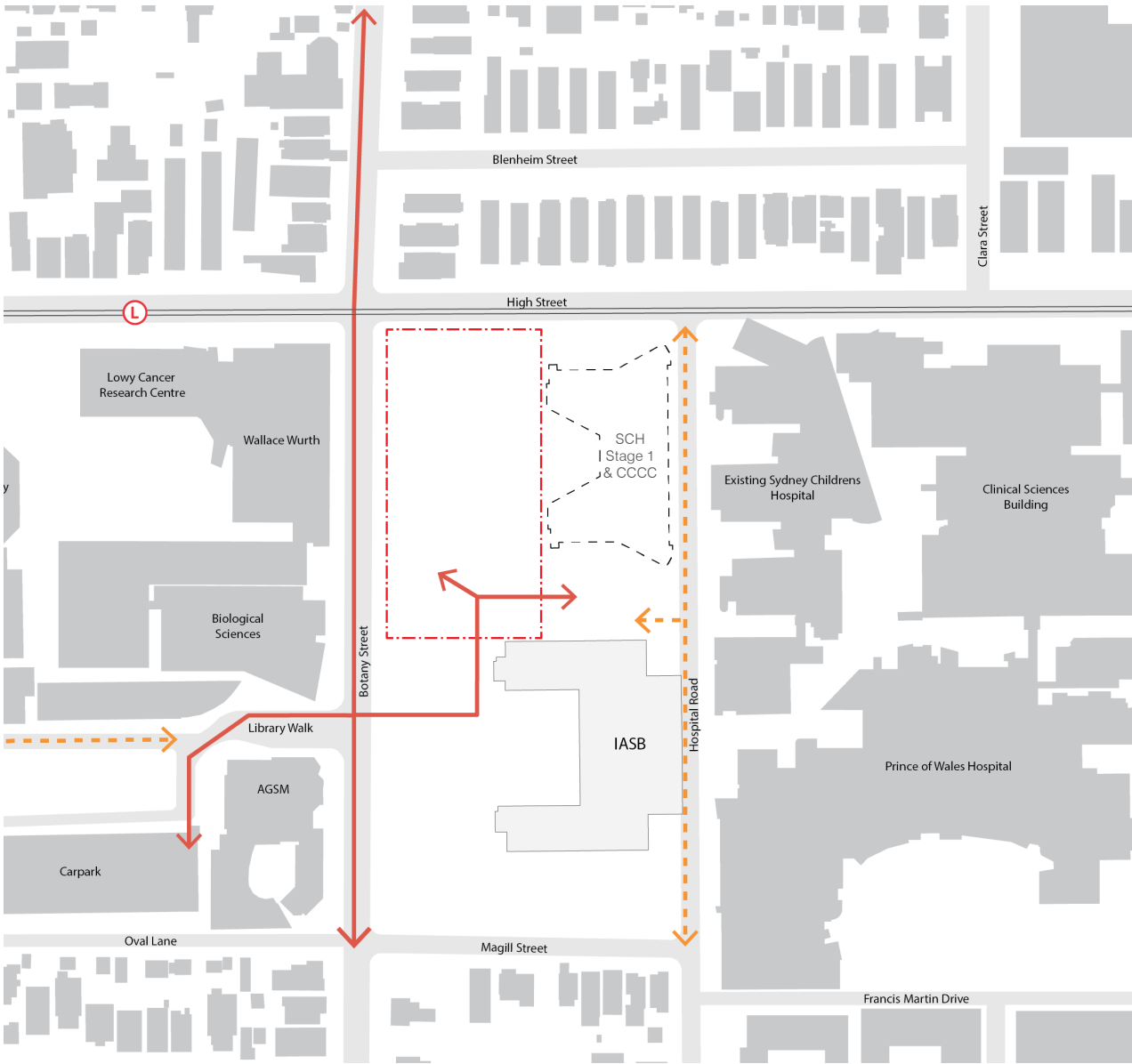
UNSW HTH Site and Context



Solar and Wind Analysis

The site has a large amount of solar exposure to the north and west given the relatively low density surrounding buildings, particularly to the north. The site has exposure to north eastern winds, yet is also exposed to southerly and westerly winds.

- Legend
- Cool winds
 - Hot Winds
 - Sun Path

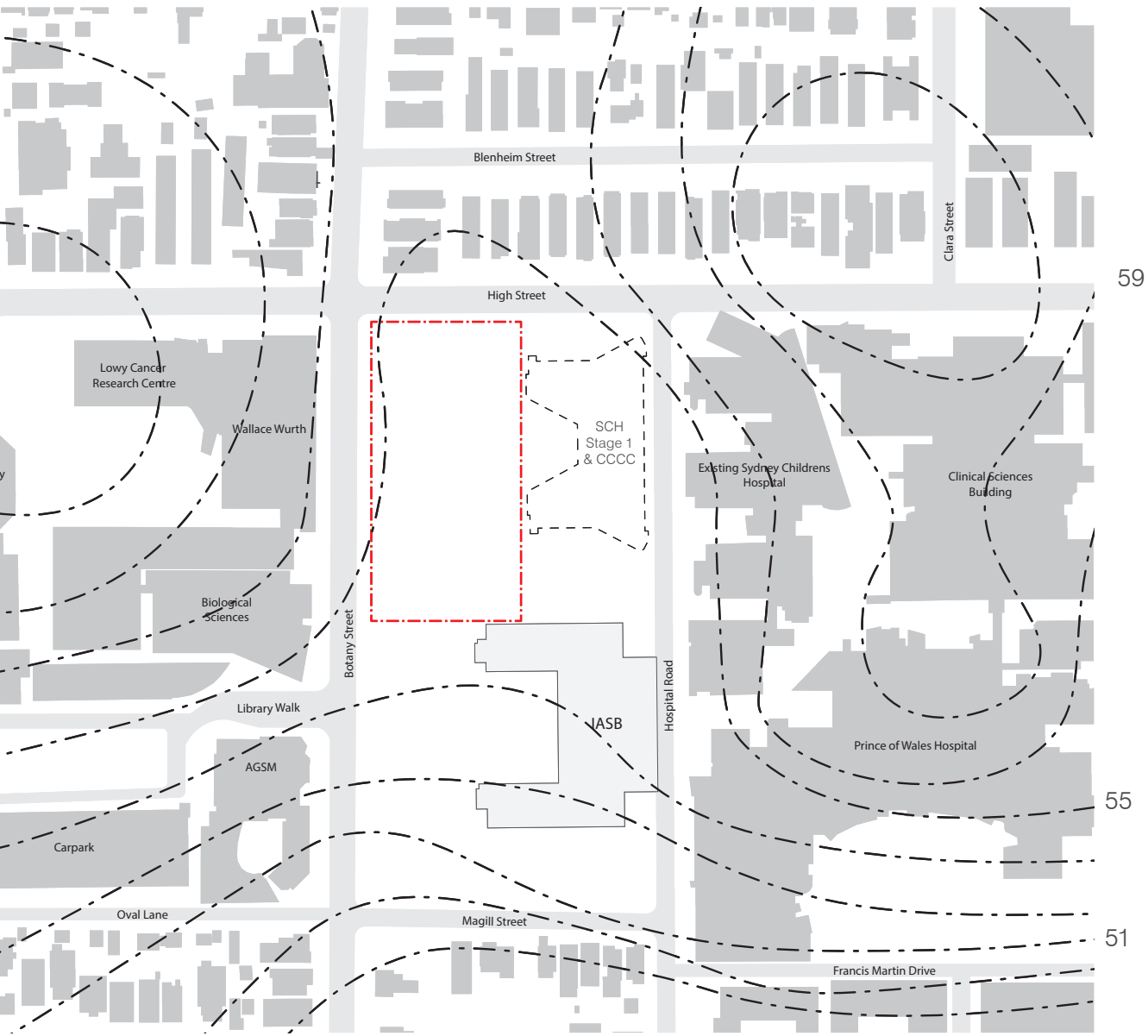


Vehicle Access

Given the limited accessibility along High Street due to the light rail, the site can be accessed through a shared driveway that enters the precinct from Botany Street. Hospital road is reserved for service and emergency vehicles only.

- Legend
- Vehicle routes
 - Service routes

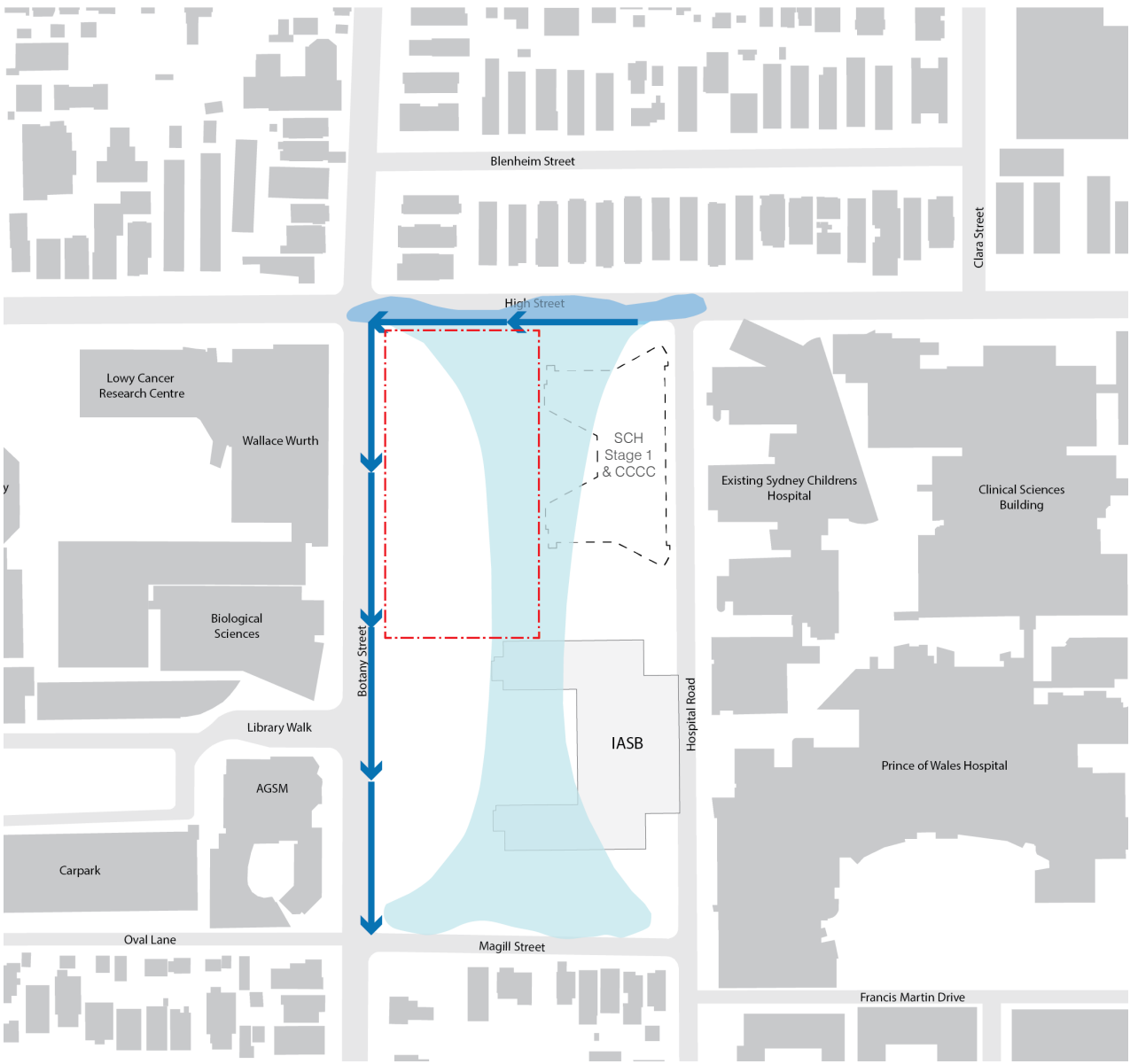
UNSW HTH Site and Context



Topography

The site is at a natural high point within the surrounding area, and has a fall towards the common boundary site, the SCH Stage 1 and the CCCC.

- Legend
- — Contours

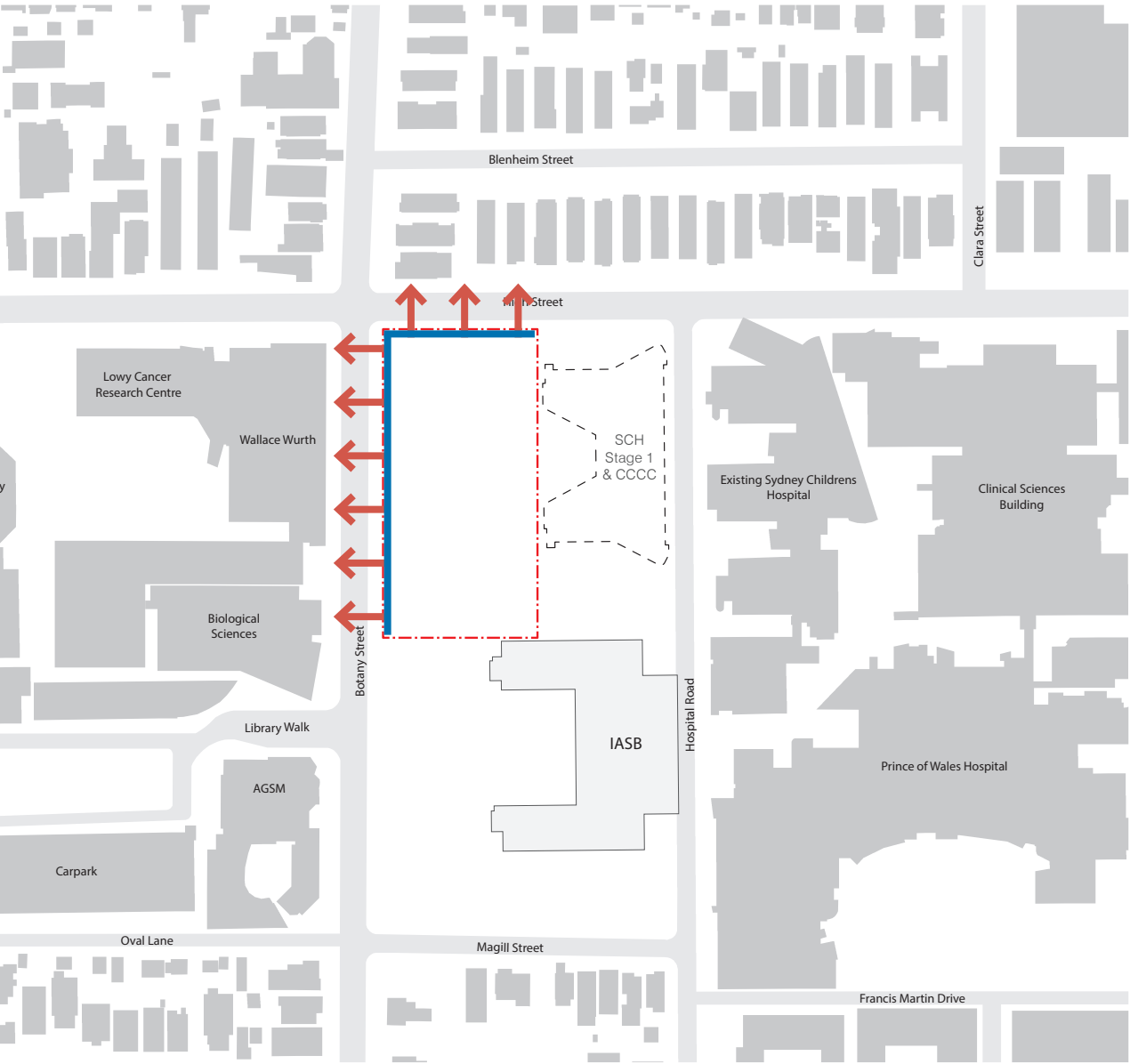


Flood Mitigation

Due to the natural low point between the UNSW HTH and SCH Stage 1 and the CCCC site, the site is subject to flood restrictions and does require a 6m wide easement along Botany St and High St to divert flood waters around the precinct that has already been constructed in parallel with the IASB development.

- Legend
- Potential flood
 - Unmitigated flood projection
 - Culvert flood diversion

UNSW HTH Site and Context



Street Address

Being on the corner of two streets, the site has a strong presentation to the public domain.

- Legend
- Building facade
 - Street Address



Existing and future buildings

The site is a part of a larger precinct which is being developed by way of three individual construction programmes.

- Legend
- Existing buildings
 - Future Buildings
 - Under construction

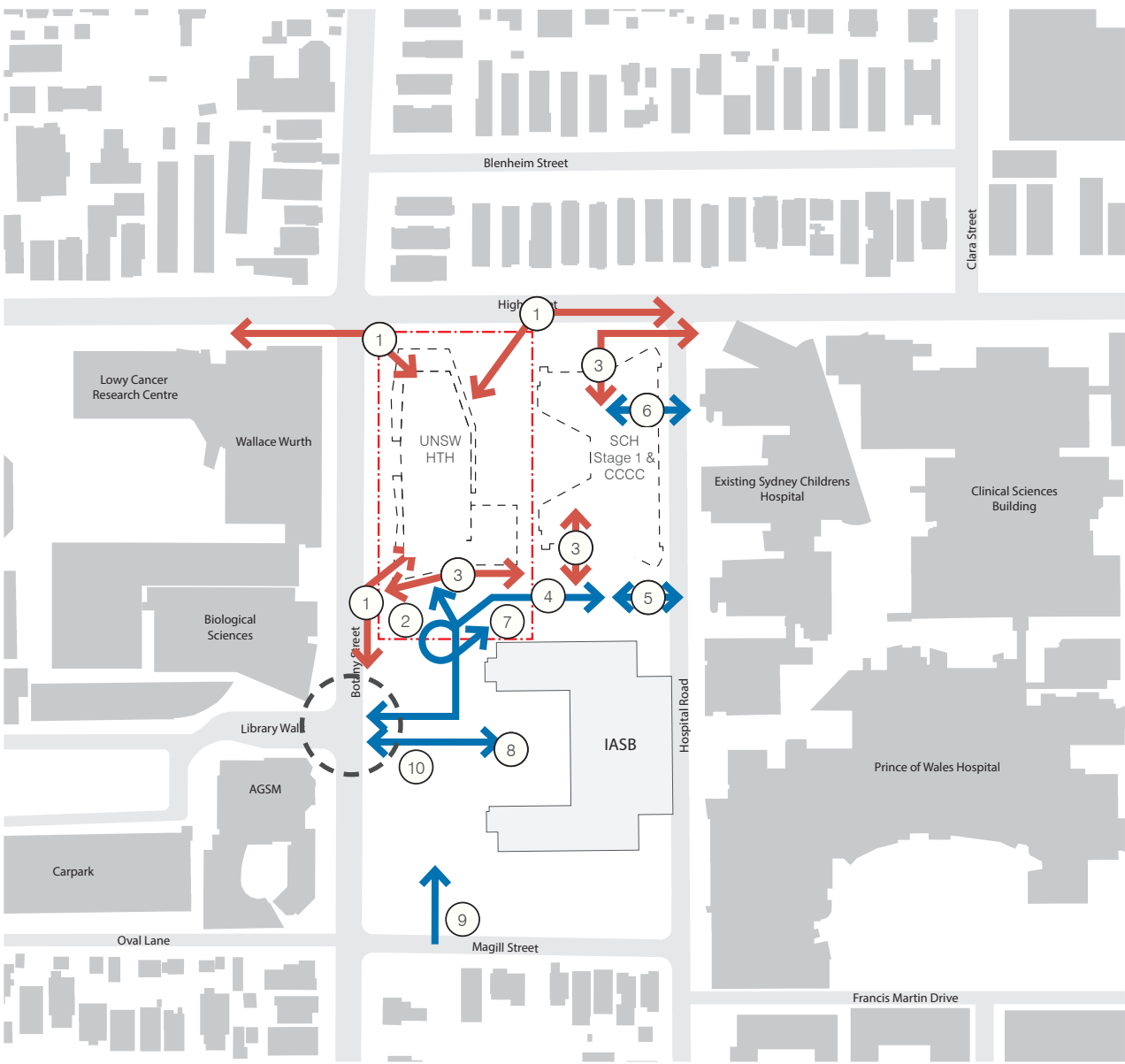


Access and Servicing

The health precinct site including UNSW HTH, SCH Stage 1 and the CCCC and IASB is to function as an integrated whole, which will provide for a diverse profile of people and vehicles requiring access to different parts of the combined site. The focus of this report is on the UNSW HTH, although the requirements of the other facilities are addressed where these require co-ordination with the UNSW HTH design.

The site-wide external access profile includes:

- 1. UNSW HTH pedestrians to the lobby - staff and visitors, arriving from multiple transport modes
- 2. UNSW HTH vehicles to the loading dock – deliveries, waste management, couriers and contractors
- 3. SCH Stage 1 and the CCCC pedestrians, to the FoH lobby and to the Emergency Department – patients and their companions (possibly in a state of trauma), visitors, and staff.
- 4. SCH Stage 1 and the CCCC vehicles to the ED entry – patients and their companions (possibly in a state of trauma)
- 5. SCH Stage 1 and the CCCC Ambulances to the Ambulance bays – set down and pick up of patients and their companions, ambulance staff attending patients to the hand-over point, staff taking breaks
- 6. SCH Stage 1 and the CCCC vehicles to the Loading Dock – deliveries, waste management, couriers and contractors.
- 7. SCH Stage 1 and the CCCC visitor vehicle ramp to second basement
- 8. IASB Pedestrian and vehicles have a public drop-off
- 9. IASB FoH lobby, Emergency Department Entry, Ambulance Bays, and Loading Dock
- 10. IASB flood management system dictating site levels and entries



Legend

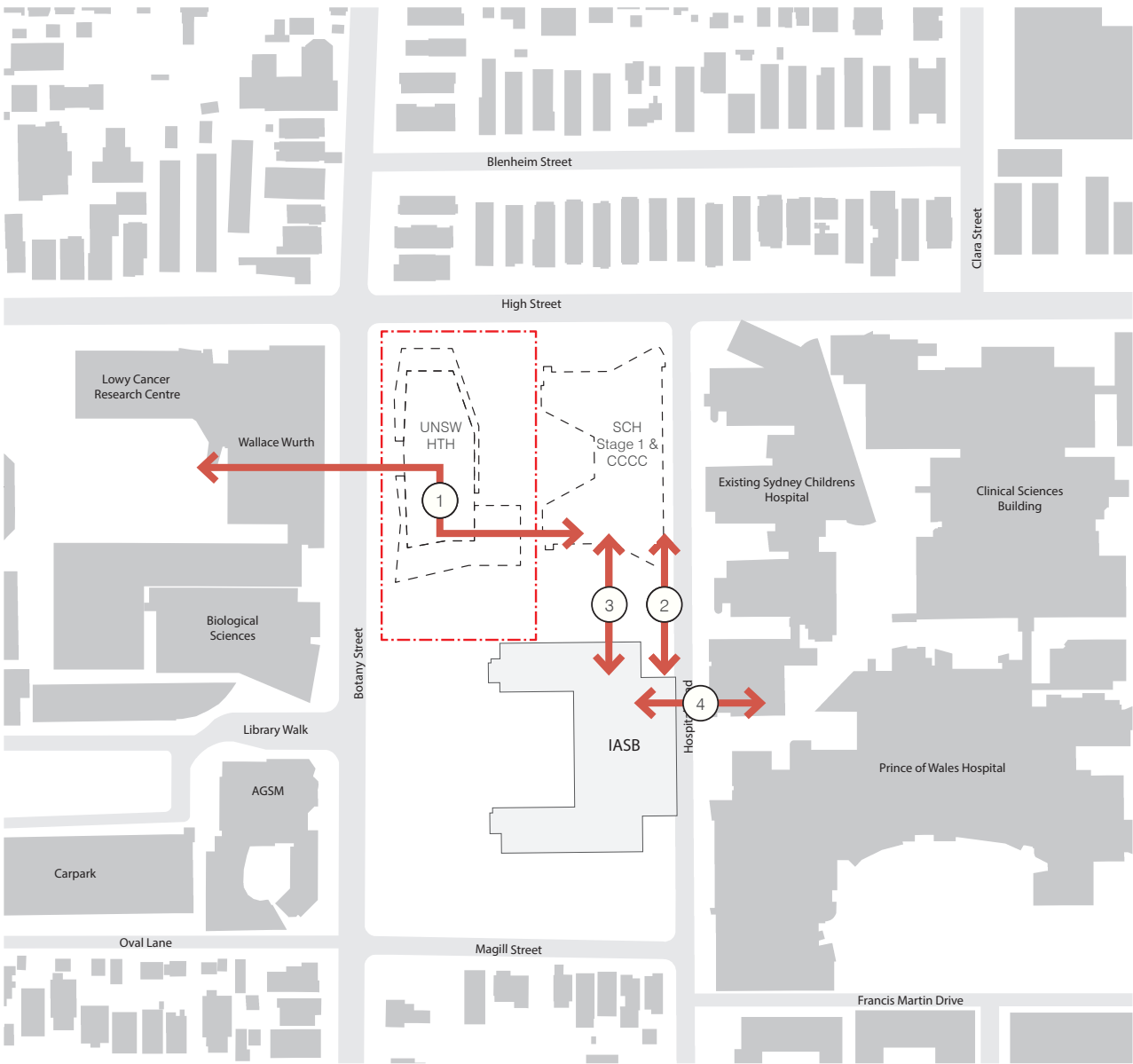
Vehicle Access

Pedestrian Access

Precinct Movements

Precinct movements between the three buildings are provided to facilitate clinical, building user and public connections. The proposed connections include:

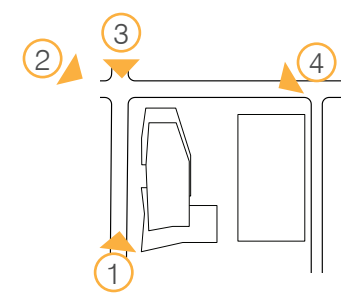
- 1. A level 02 pedestrian bridge over Botany Street connecting UNSW campus with SCH Stage 1 and the CCCC via the UNSW HTH.
- 2. Bridge between SCH Stage 1 and the CCCC and IASB at L01, connecting clinical treatment areas, for staff and patients.
- 3. Connection between SCH Stage 1 and the CCCC ED and IASB at L01, linking the ED with imaging facilities in the IASB, for staff and patients.
- 4. Bridges between IASB and existing Prince of Wales Hospital, connecting Clinical treatment areas, for staff and patients.



Legend
↔ Grade-separated pedestrian connection



1.2 Context & Views



Photography by Grant Leslie



1 - View towards the site looking north from Botany Street



2 - View towards the site looking east from High Street



3 - View looking towards the site looking south from Botany Street

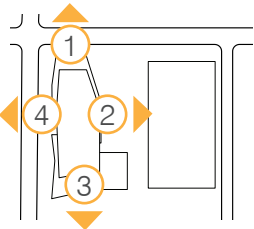


4 - View towards the site looking west from High Street

UNSW HTH Site and Context

District Views

The UNSW HTH building is sited on top of the natural ridge and high point of the surrounding context, providing a unique opportunity to create a landmark building. It has the potential to be a beacon for the new health precinct and also for UNSW.



Photography by Grant Leslie



1 - Northern view from the Library towards the city



2 - Eastern view from the Library towards the ocean



3 - Southern view from the Library towards Botany Bay



4 - View from the Library towards the west

UNSW HTH Site and Context

Campus Architecture

The below photos showcase buildings within the UNSW Kensington Campus.



Name: UNSW Materials Science and Engineering Building
Architect: Grimshaw
Year: 2016



Name: Tyree Energy Technologies Building
Architect: FJMT
Year: 2012



Name: Lowy Cancer Research Centre
Architect: Lahznimmo Architects
Year: 2016



Name: UNSW Village Student Accommodation
Architect: Architectus
Year: 2009



Name: UNSW Bioscience Building
Architect: Woods Bagot
Year: 2017



Name: Kensington College Redevelopment
Architect: Bates Smart
Year: 2015



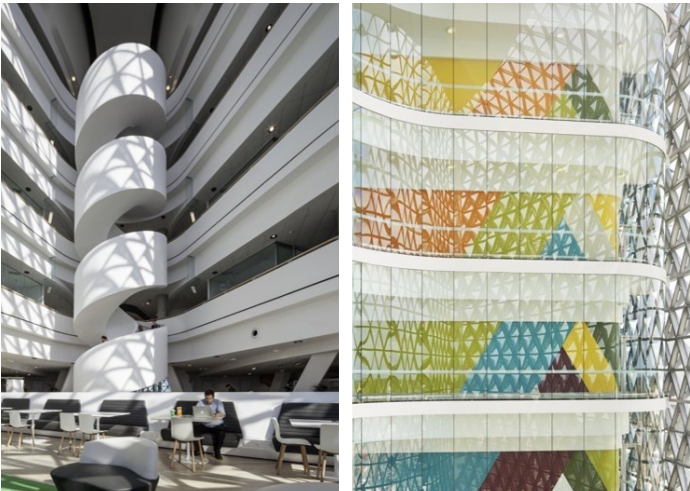
Name: UNSW Wallace Wurth Building
Architect: Lahznimmo Architects & Wilson Architects
Year: 2014

Health & Education Facility Precedents

In the design of this new building, it is important to recognise the design attributes of similar building typologies that may contribute to the success of this project.



Name: Sunshine Coast Health Institute
Architect: Architectus + HDR
Location: Kavanan, Queensland
Floor Area: 200,000m²



Name: Cancer Research Institute
Architect: Swanbury Penglase & BVN
Location: Adelaide, South Australia
Floor Area: 29,800m²



Name: Maersk Tower
Architect: C.F. Moller
Location: Denmark
Floor Area: 42,700m²



Name: Victorian Comprehensive Cancer Centre (VCCC)
Architect: Design Inc
Location: Melbourne, Victoria
Floor Area: 130,000m²



Name: Building 302 Science Centre, The University of Auckland
Architect: Architectus
Location: Auckland, New Zealand
Floor Area: 22,000m²



Name: AHMS
Architect: Lyons Architects
Location: Adelaide, South Australia
Floor Area: 30,000m²



Name: Energy Academy Europe
Architect: Broekbakema, pvan architecten
Location: Groningen, The Netherlands
Floor Area: 14,800m²



Name: The Peter Doherty Institute for Infection and Immunity
Architect: Grimshaw/ Billard Leece
Location: Parkville, Victoria
Floor Area: 26,000m²



Photograph by Grant Leslie

2 Design Strategy

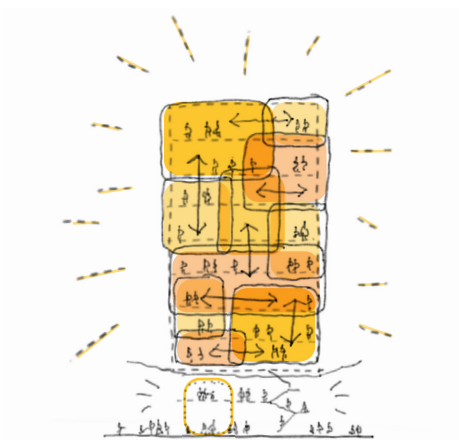


2.1 Project Vision



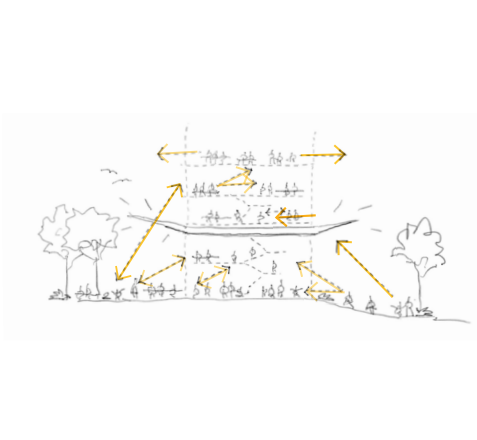
Place

The original wind-blown sand dunes of Sydney’s eastern suburbs are the true character of this landscape positioned on an elevated landform mid-way between Botany Bay and Sydney Harbour. The transitional nature of this landscape over deep time is one that has been in constant motion and it now finds contemporary expression and representation in the UNSW HTH’s architecture and landscape architecture.



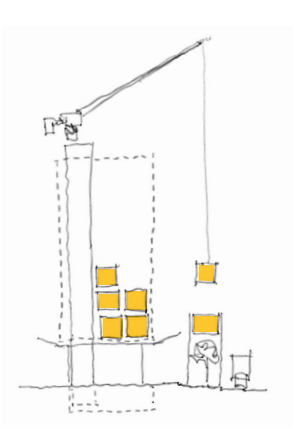
Purpose

Despite this area’s “barren” appearance, the Bidjigal and Gadigal people sourced sustenance from the flora and fauna from this environment. This area has now transitioned to become a place of contemporary nurturing through its merging of education, research and healing activities within a single ecosystem.



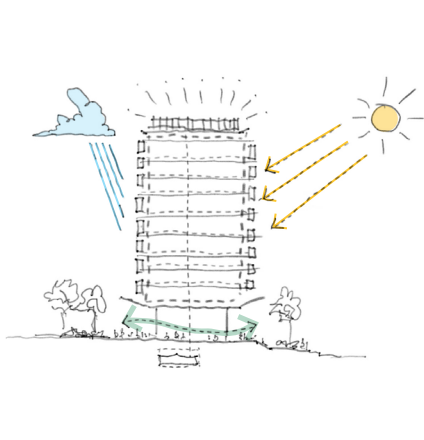
People

The UNSW HTH is to be a welcoming place for all people who visit, work, study and research here. It is to exhibit the characteristics of openness, transparency and optimism. It is to provide the amenable conditions that will support its diversity of health-related activities. It is to be a beacon of hope and optimism for people seeking solutions to their important health needs.



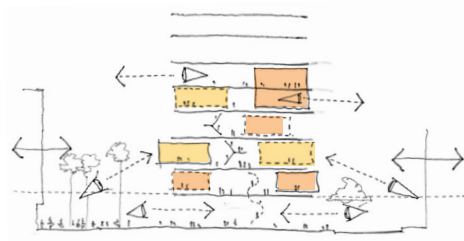
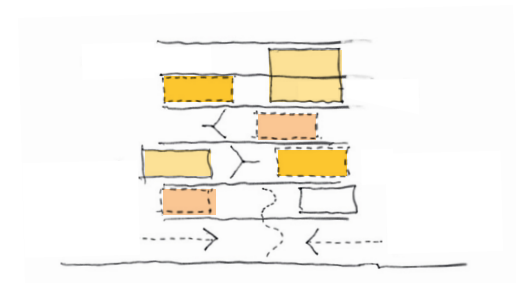
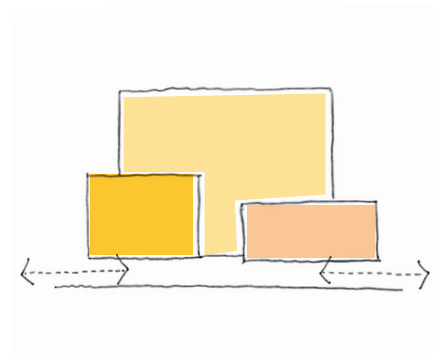
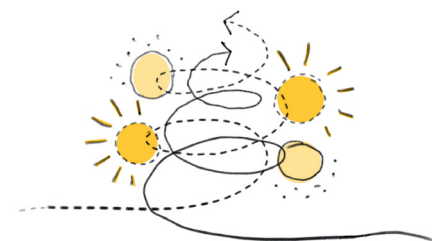
Production

The constructed solution for the UNSW HTH is to be realised with minimal impact upon the significant functions and sensitive activities of its adjacent neighbours through an emphasis on designing for off-site manufacture and swift on-site processes of assembly.



Planet

The UNSW HTH is designed to minimise its environmental impact with an emphasis on passive systems of environmental control, carbon sequestration, the generation of renewable energy and the integration of local endemic flora.



Landmark

The UNSW HTH is to be an architectural and landscape solution that will form a distinctive, optimistic building with a landmark identity to mark the gateway between the education and health precincts and connect UNSW with the RHIP.

The Architectural design will provide a clear expression to the diverse workplace and health sector functions of its brief.

Innovative

The UNSW HTH is to be a showcase for UNSW's strengths in professional, scientific and technological fields in the advancement of innovation technology and practices that will serve our community.

Shared spaces at the heart of facility will support collective and collaborative work environments to promotes engagement, bump and collide encounters and the cross pollination of knowledge.

Integrated and continuous

In the seamless connection of UNSW and Health Infrastructure facilities, the Public Domain is of critical importance for the people-centred success of the UNSW HTH and the wider Health Precinct.

Street level retail and other active social uses will provide amenity to the precinct's public realm, activate street experiences and welcome all members of the community.

Adaptable

With appropriate floor to floor heights and the open plan floor plates will accommodate flexibility in a future change of use. Ultimately, the UNSW HTH is to be adaptable to changing requirements and evolving technologies in research and teaching through floor plates that allow for growth or reduction of zones.

Permeable, open and transparent

The UNSW HTH ground floor will showcase the RHIP activities by allowing people to visually and physically engage with the UNSW HTH's endeavours and achievements.

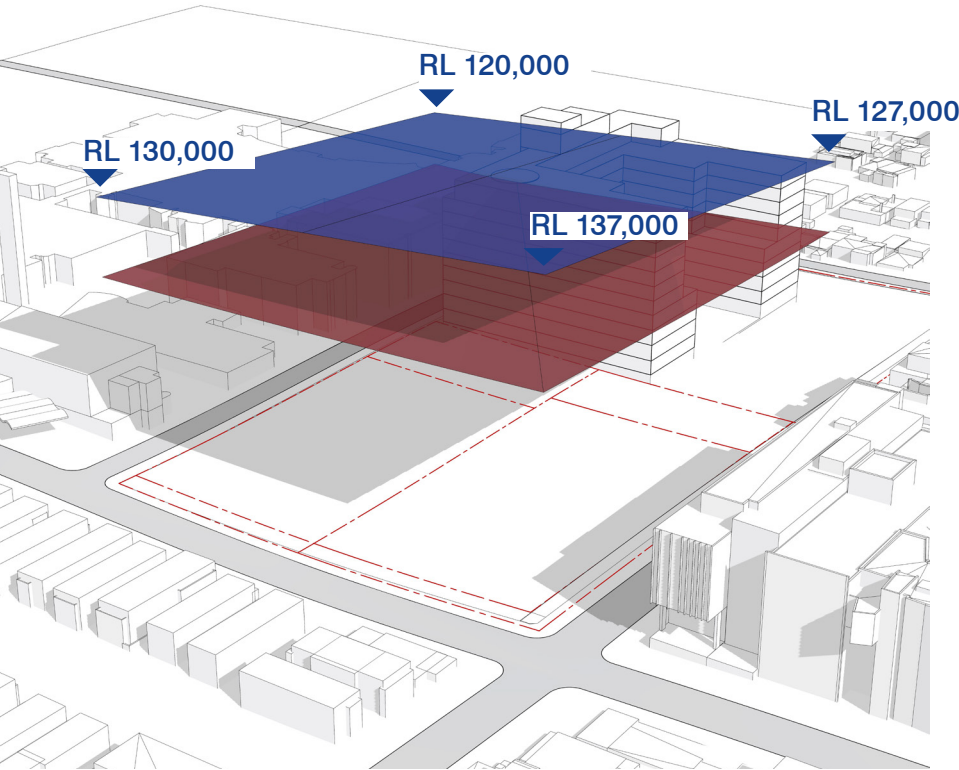
This will provide safe and inclusive spaces, accessible for students, staff, visitors of all backgrounds whilst considering levels of public and private access across the site.

Design Strategy

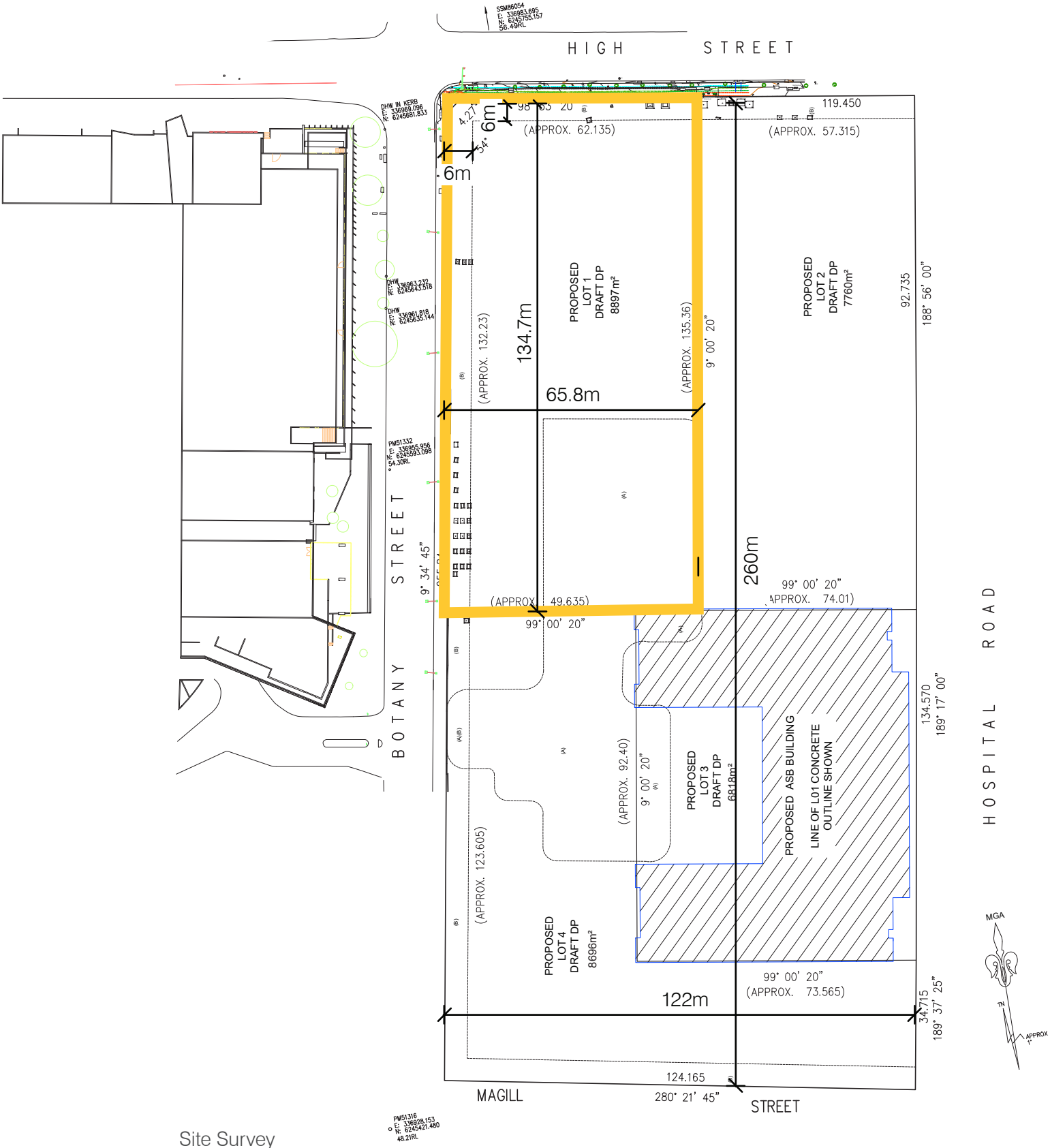
2.2 Site Extents

The UNSW HTH site is located at Corner of High St (on the north) and Botany Rd (on the west). The Sydney Children’s Hospital (SCH Stage 1 and the CCCC) sits on the east and Integrated Acute Services Building on the south. The site is 134.7m long north/south and 65.8m east/west. Within the site boundary the building footprint is governed by a 6m easement setback to the northern and western edges, and a southern setback of 3 grids or 25.2m to allow for roadway logistics, providing a building footprint that is 103.2m north/south and 62.2m east west.

In terms of building height, the site is governed by the PANS-OPS height plane and limits to building to a range between 120,000m in the SE corner of the SCH Stage 1 and the CCCC site to 137,000m in north west corner of the UNSW HTH site.



PANS-OPS Height Plane



Site Survey

Adjacent Massing

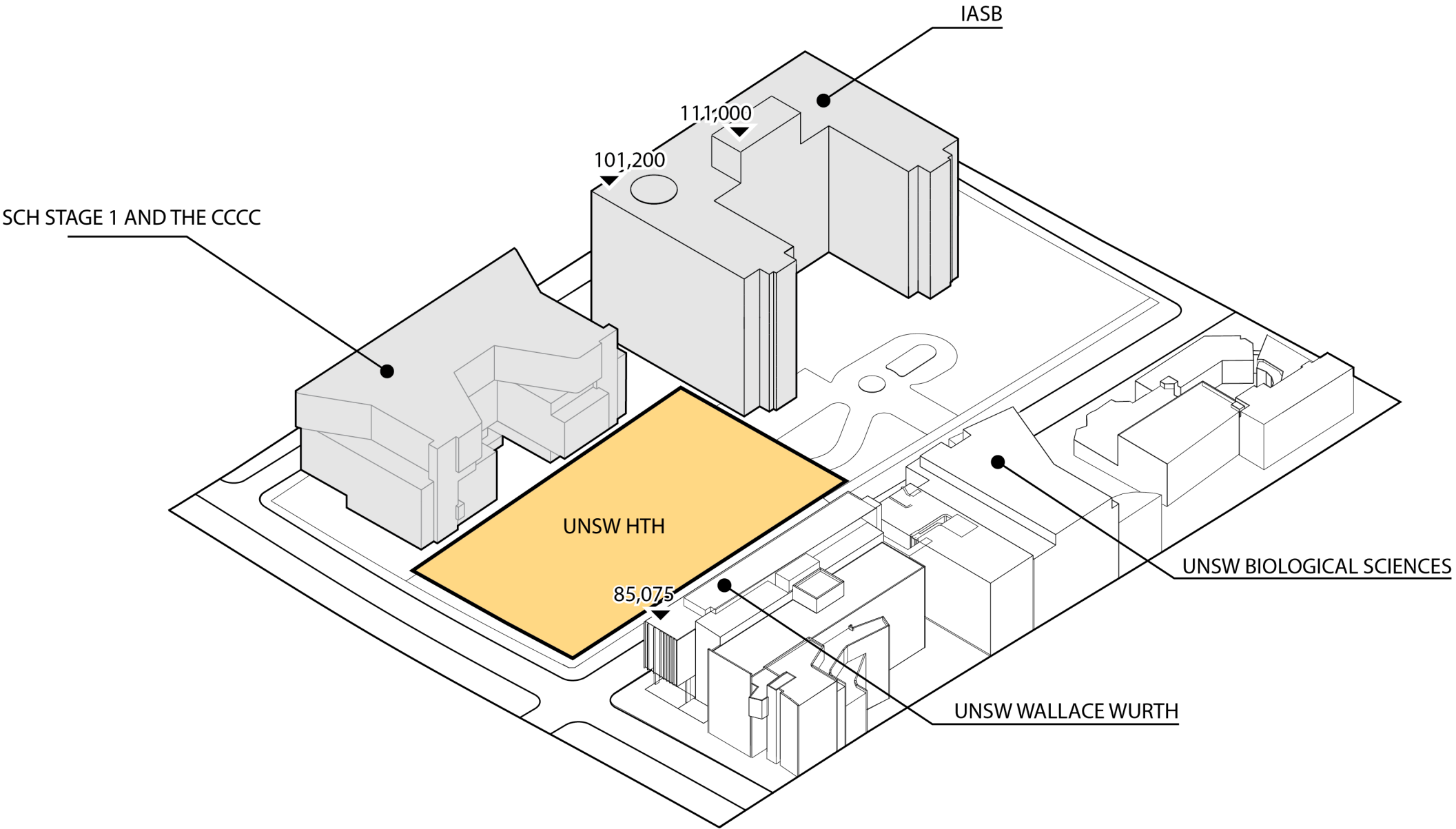
The proposed SCH Stage 1 and the CCCC massing is governed by the same 6m setback from the northern boundary, setback a single 8.4m grid from the west boundary and by a distance of four times 8.4m grids north of the south boundary. Its height is governed by the Helicopter Flight path to the IASB building.

The IASB Building is a “C” shape mass spanning approximately 74m east/west and 101m north/south, with an approximate building height of 55m tall at RL 111.000.

To the west of the UNSW HTH site on the opposite side of Botany St sits the UNSW Wallace Wurth building. It is approximately 86m long north/south along Botany St and approximately 28m high at RL 85,075.

To north of the UNSW HTH site on the opposite side of High St exists multiple mid rise residential apartment buildings, all four stories tall and approximately 10m wide.

Within the broader context of the Randwick area, UNSW HTH is a similar size, scale as UNSW Library, Mathews Building and the recently approved B22 Building.



2.3 Massing Orientation

The following urban design principles were formed in conjunction with the project vision and design brief.

Urban Design Principles

- 1. A landmark Response
- 2. An innovative Response
- 3. Integrated and Continuous public domain
- 4. Adaptable floor plates for Future flexibility
- 5. Permeable, Open and Transparent ground plane
- 6. An Open Public Plaza
- 7. Appropriate response to neighbouring buildings
- 8. Active Edges with diverse programs
- 9. Key Entry Statements and street address
- 10. Legible Pedestrian access
- 11. Legible Public Transport access
- 12. A direct above ground campus and precinct connection
- 13. A considered Solar response
- 14. A considered Wind Response
- 15. Consolidated Vehicular Logistics

Site Constraints:

- 33.6m building setback from the southern boundary to facilitate vehicular logistics
- Minimum 6m easement setback from northern and western boundaries
- 3m setback from eastern boundary
- PAN-OPS Height Control

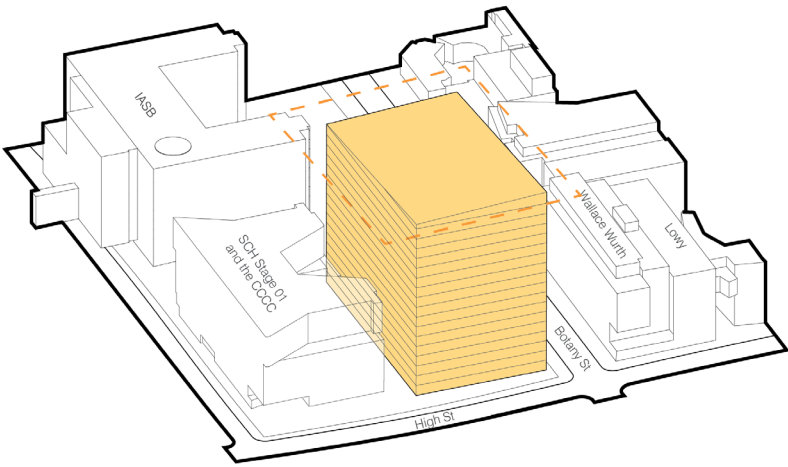
Using these urban design principles and site constraints, the preferred location for the UNSW HTH mass naturally formed and aligned on the western edge of the site.

With the mass on the western edge of the site, it enables over 37% of the usable site area to be dedicated to creating an open public space with over 2,500m² between the UNSW HTH and SCH Stage 1 & CCCC building. This open space provides the opportunities necessary to deliver the integrated and continuous ground plane that will unite the sites with a seamless landscaped solution.

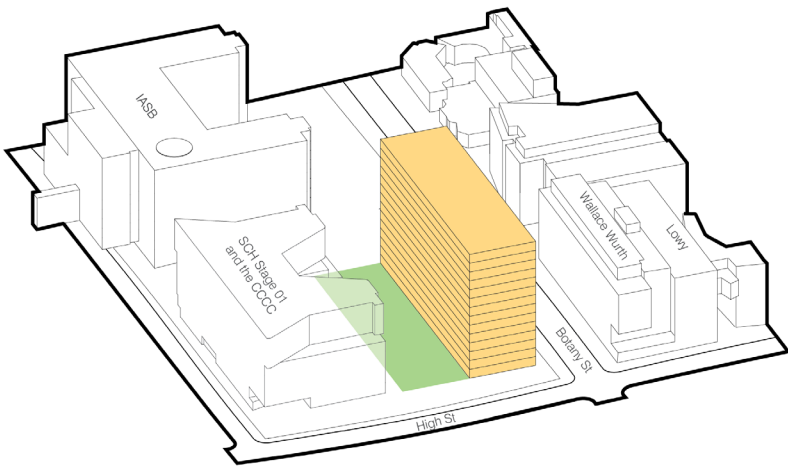
This orientation provides the appropriate distance between the SCH Stage1 & CCCC building to ensure visible and legible sight lines to both the north western and south western corners of their building and provide visual prominence particularly to the emergency department. This further reinforces clear pedestrian pathways around the building and into the public domain as the community will be able to freely circulate through and around the building form.

An important component is to create a landmark building, and by placing the mass on the corner of High St and Botany St, the building will appropriately address the street scape and hold the corner of the site to provide key statement entries. A tall, slender building profile is also able to be achieved, which will provide the HTH with a distinctive presence from both a street level and precinct context.

This location provides the ability to deal with wind and solar conditions of the site, by protecting the public domain from western winds, and ensuring that the public domain receives uninterrupted direct solar access during peak use in the middle of the day.



Control Envelope

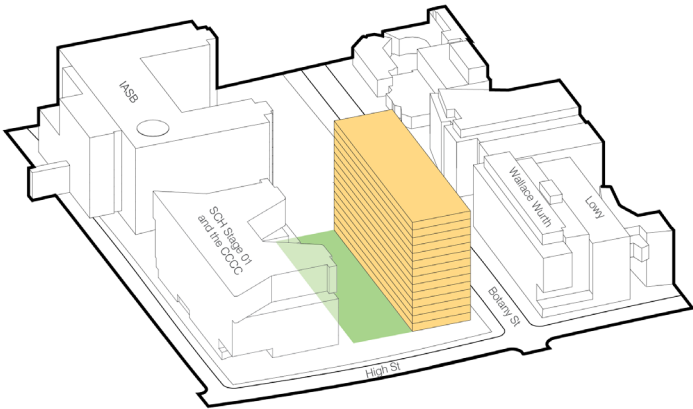


Selected Massing Orientation

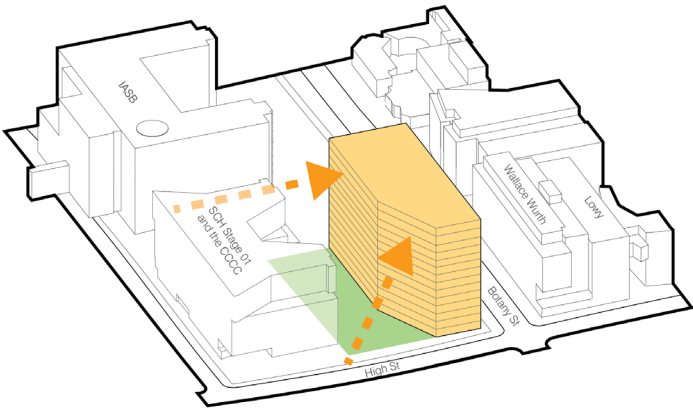
2.4 Massing Refinement

This mass was further refined based on the following key design moves:

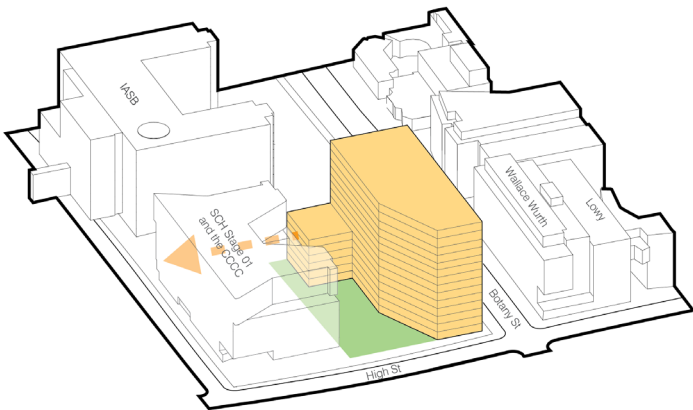
- Chamfer the north east corner to open up the public domain to the street, provide more natural light, provide legible pedestrian connections/sight lines to the plaza and SCH Stage 1 & the CCCC site, and create a slimmer building profile on high street to reduce the building bulk
- Create a physical connection to the SCH Stage 1 & the CCCC building to facilitate cross collaboration and shared tenants
- Push the tower form back from the south to responds to the SCH stage 1 & the CCCC mass and provide increased visibility to their building and ED drop off.



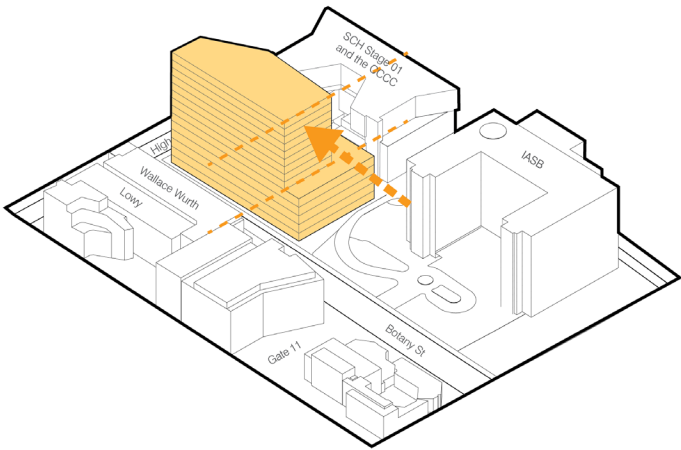
1. The control envelope is defined by the site boundaries, easement and PAN-OPS height plane.



2. The building form was chamfered to create a generous public domain and public plaza between the SCH Stage 1 and the CCCC and UNSW HTH building, and improve solar access to these spaces.



3. A podium connection was introduced between the SCH Stage 1 and the CCCC and UNSW HTH to foster the collaboration between the buildings.



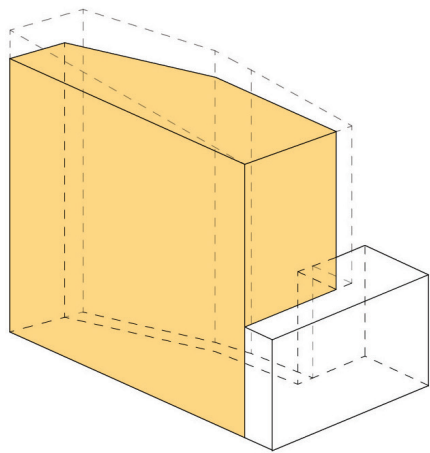
4. To align with the adjacent neighbours and reinforce the podium connection, the tower form was set back from the south.

2.5 Building Articulation

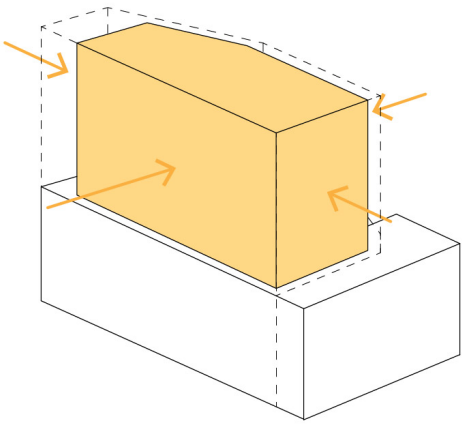
The following series of diagrams show how this mass was further sculptured to respond to its surrounding built context, reduce its height, reduce its bulk and deliver an exceptional public domain. This resulted in 3 key forms:

- A double height ground floor condition
- A podium form
- A tower form

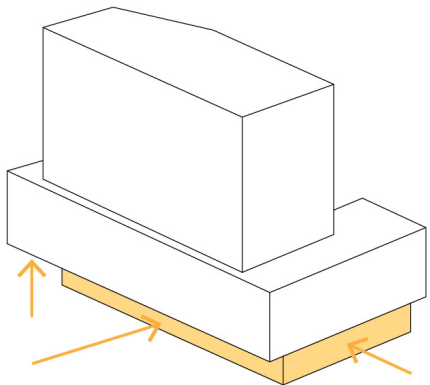
Together these form an appropriate response to the surrounding context and provide the envelope to deliver a unique architectural response for this building's purpose.



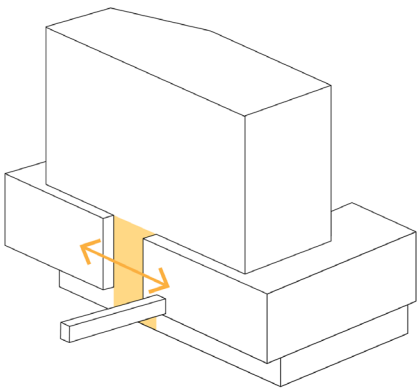
1. Trim down envelope to create a slimmer tower



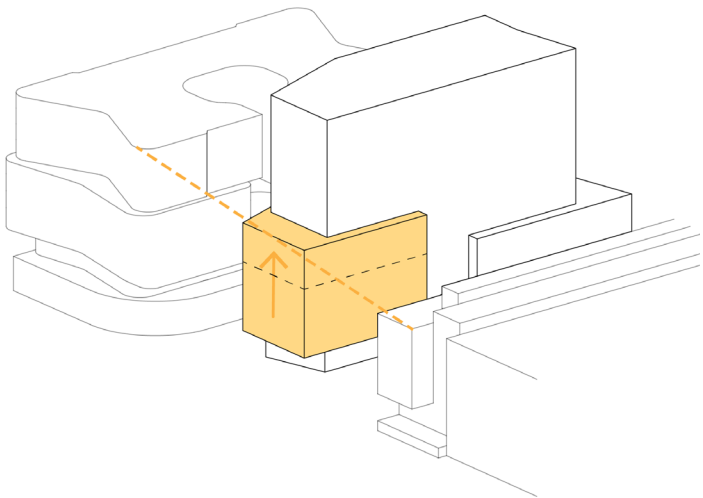
2. Set in tower form



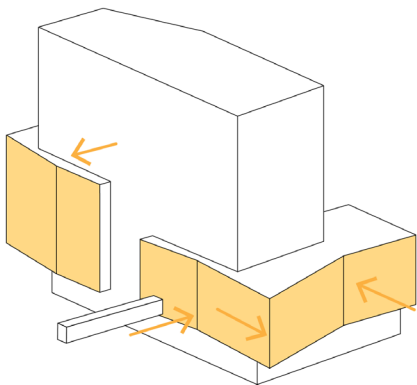
3. Lift and set in ground floor



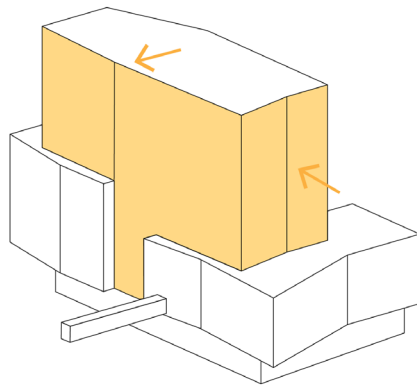
4. Split the podium to form atrium



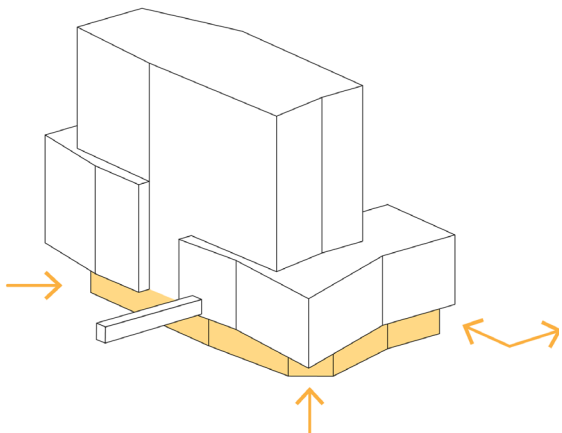
5. Lift podium massing to the north in response to the height and scale of neighbouring buildings



6. Articulate podium facade



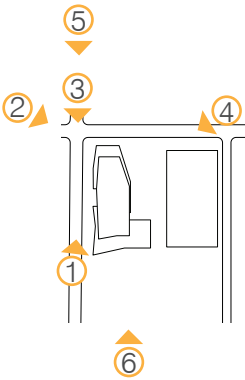
7. Articulate tower facade



8. Shaping ground floor entries in response to pedestrian movements



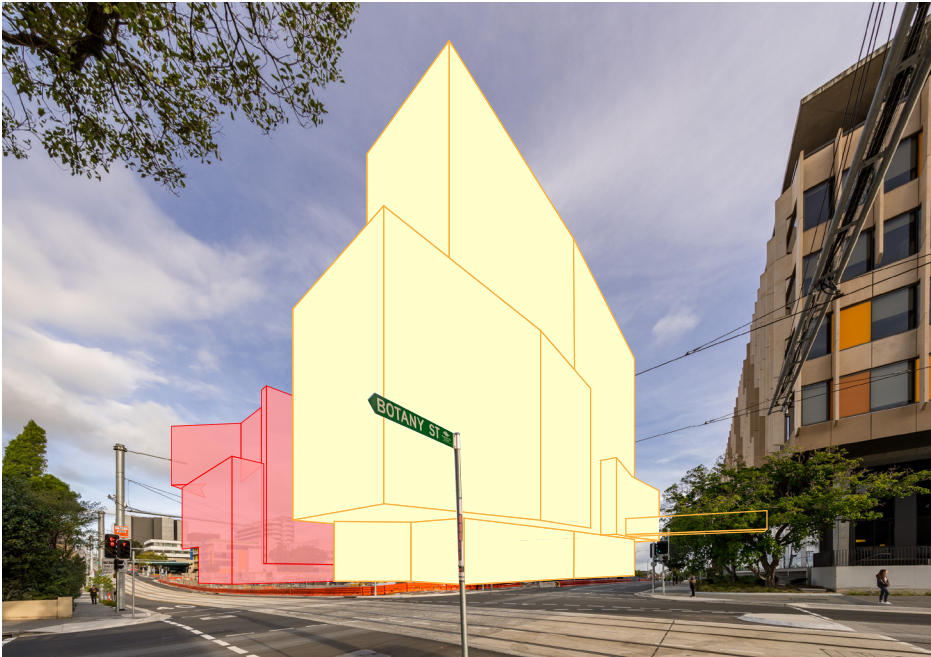
2.6 View Analysis
Street Views



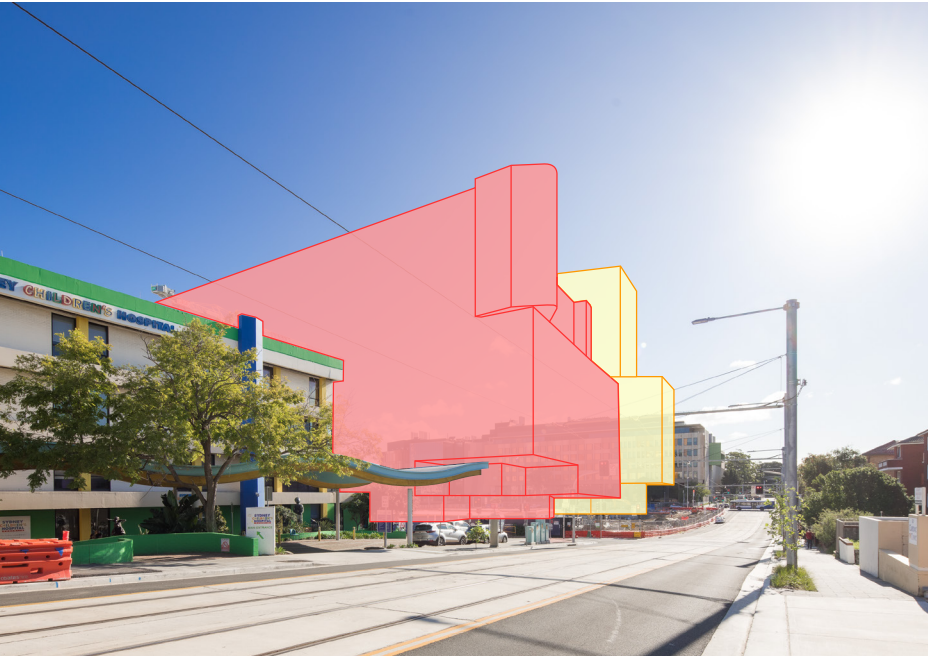
Street View 1 - Looking north from Botany Street
Photograph by Grant Leslie



Street View 2 - Looking east from High Street
Photograph by Grant Leslie



Street View 3 - Looking south from Botany Street
Photograph by Grant Leslie



Street View 4 - Looking west from High Street
Photograph by Grant Leslie



District View 5 - Looking south from Barker & Kennedy Street
Image sourced from Google Maps



District View 8 - Looking north from Magill Street
Image sourced from Google Maps

Design Strategy

District Views

Legend

UNSW Health Translation Hub

Sydney Children's Hospital/IASB



District View 1 - Looking south-east from Alison & Darley Road
Photograph by Grant Leslie



District View 2 - Looking west down High Street from Belmore Rd
Photograph by Grant Leslie



District View 3 - Looking south-east from the Australian Turf Club
Photograph by Grant Leslie



District View 4 - Looking north-east from Barker & Botany Street
Image sourced from Google Maps



District View 5 - Looking east from UNSW Michael Birt Lawn
Photograph by Grant Leslie



District View 6 - Looking north-east from Barker & Kennedy Street
Image sourced from Google Maps

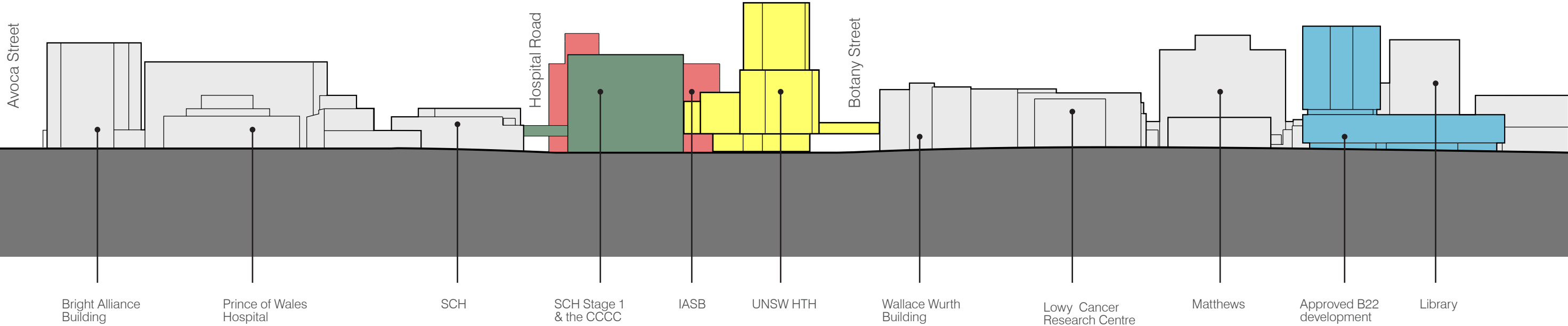
High Street Elevation

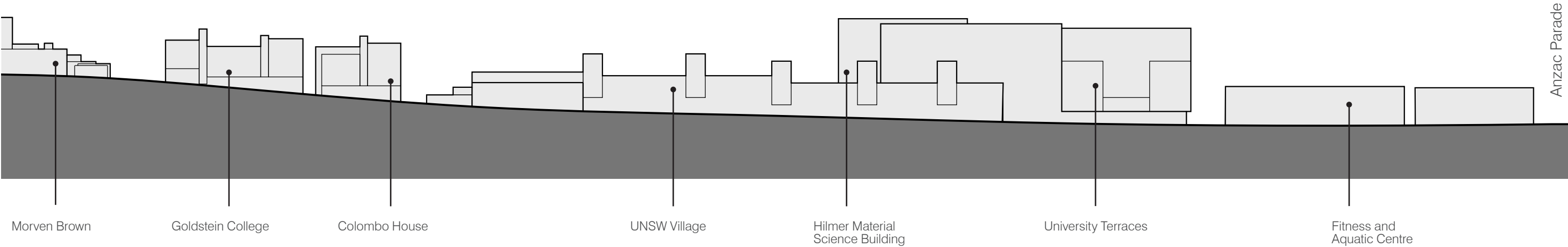
The UNSW HTH site has the potential to be the tallest building in the area at 15 storeys if built to the PANS-OPS height plane. However it's important to put this in context and expect that both the University and the Hospital will be driven to provide taller buildings as land is scarce, services need to be increased and facilities will expand to suit the growing population and increasingly sophisticated needs of the population.

When seen within its broader context, the UNSW HTH will compliment the skyline of buildings of a similar size and scale, such as the UNSW Library, Matthew Building and recently approved B22 Building.

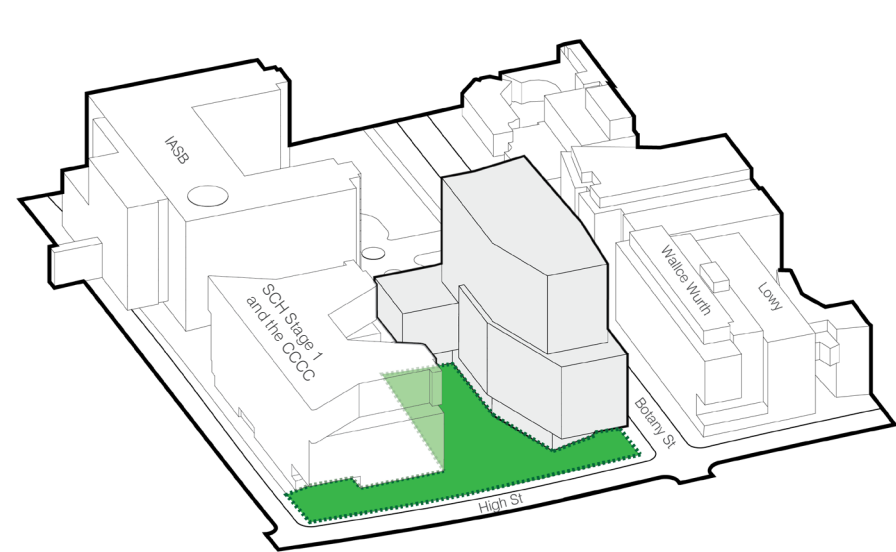
Generally, in metropolitan Sydney there is a threshold change underway in densities and height of development that are well served by public transport as seen by some examples explored in the recent developments within this report. Many institutional uses are not suited to taller buildings and so the uses that are suited have the opportunity to occur in taller buildings rather than take up valuable land that can be returned to public domain amenity and ground level spaces for people to enjoy and use.

- Legend
- Existing context
 - UNSW HTH
 - Proposed development
 - Approved development
 - Development under construction



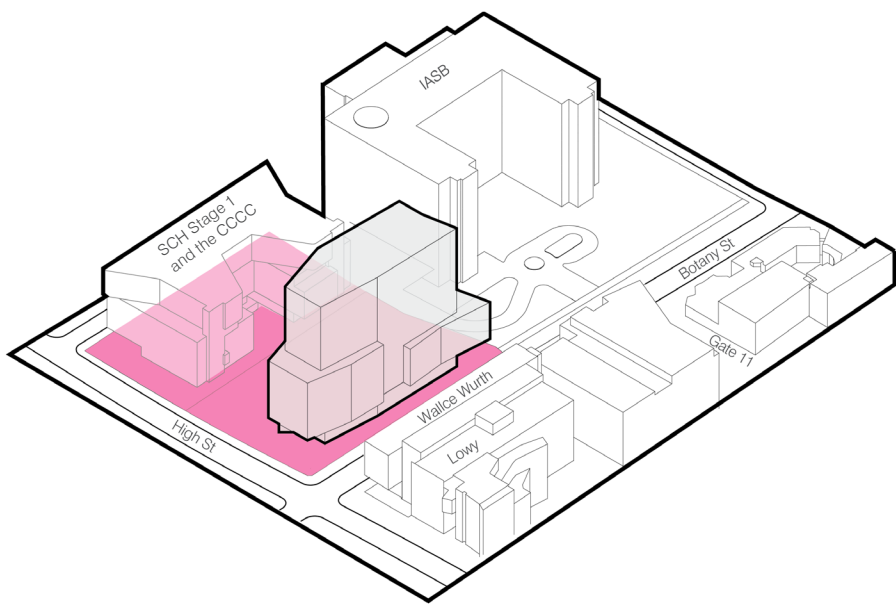


2.7 Urban Design Outcomes



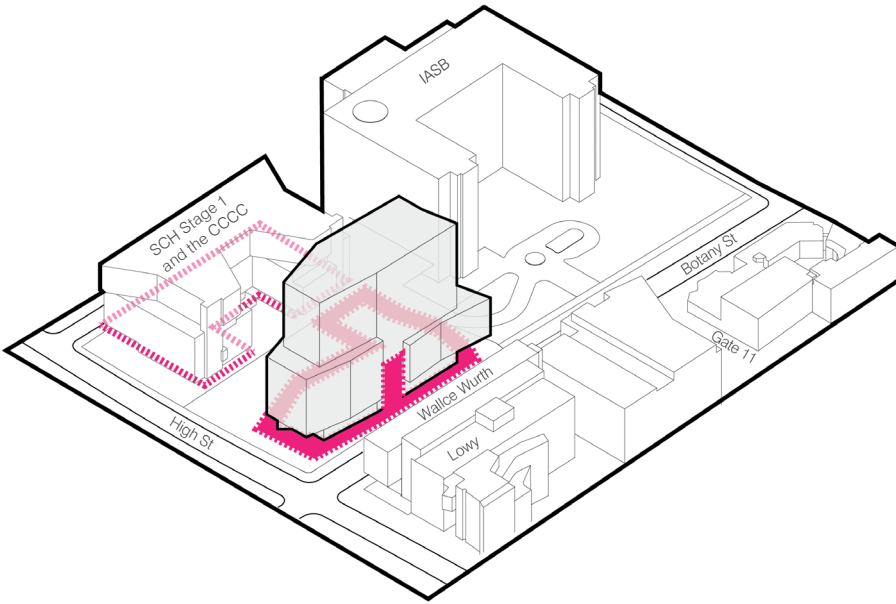
A shared plaza

A central space which celebrates the connection between the UNSW HTH and SCH Stage 1 and the CCCC by providing over 2,500 m² of publicly accessible open space for staff, students, patients and the community to engage both actively and passively. The plaza will provide opportunities for people to connect with nature support health and well-being.



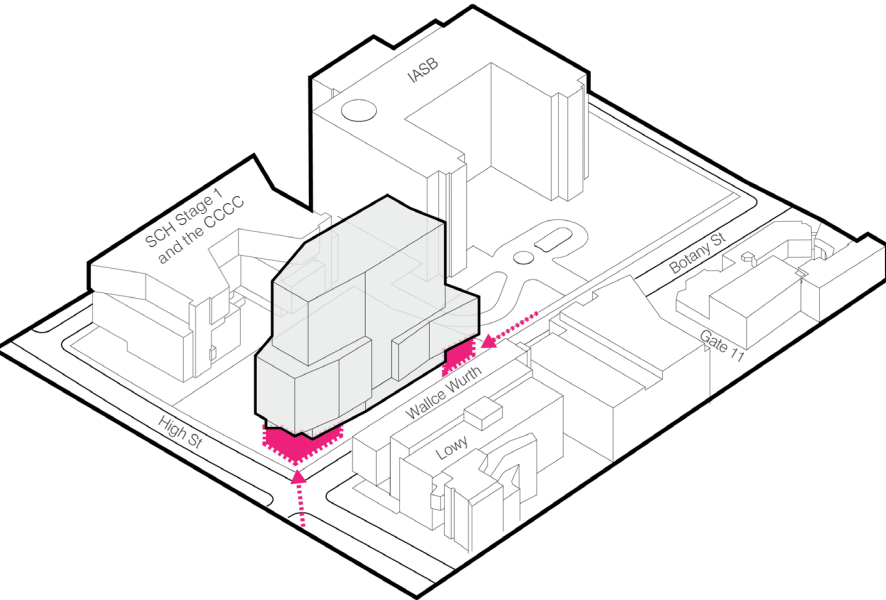
A continuous ground plane

The continuous ground plane will be civic in nature, an extension of the public domain and provide inclusive spaces, accessible for staff, students, visitors of all backgrounds.



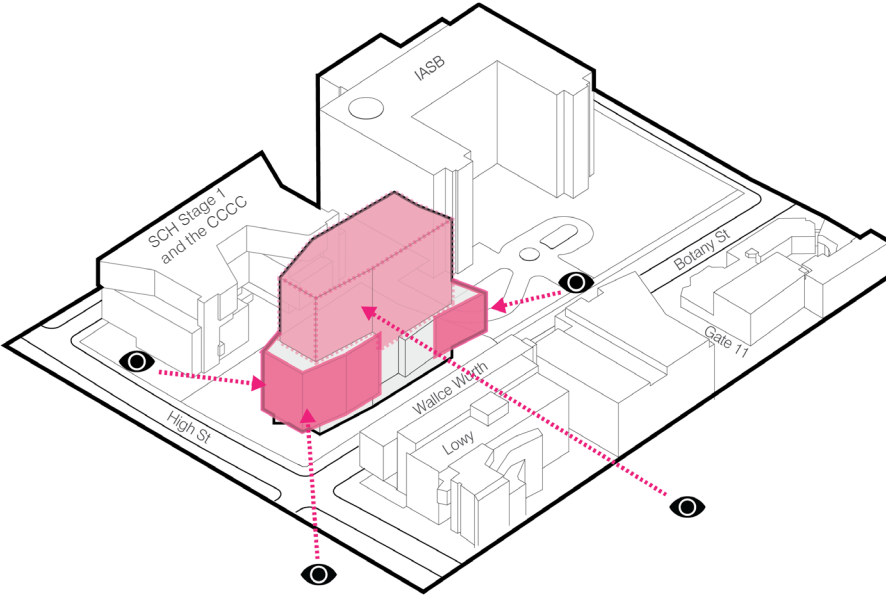
Active edges

The activated edges at street level will provide retail and active social uses providing amenity to the precinct's public realm and activating the street, pedestrian pathways and plaza.



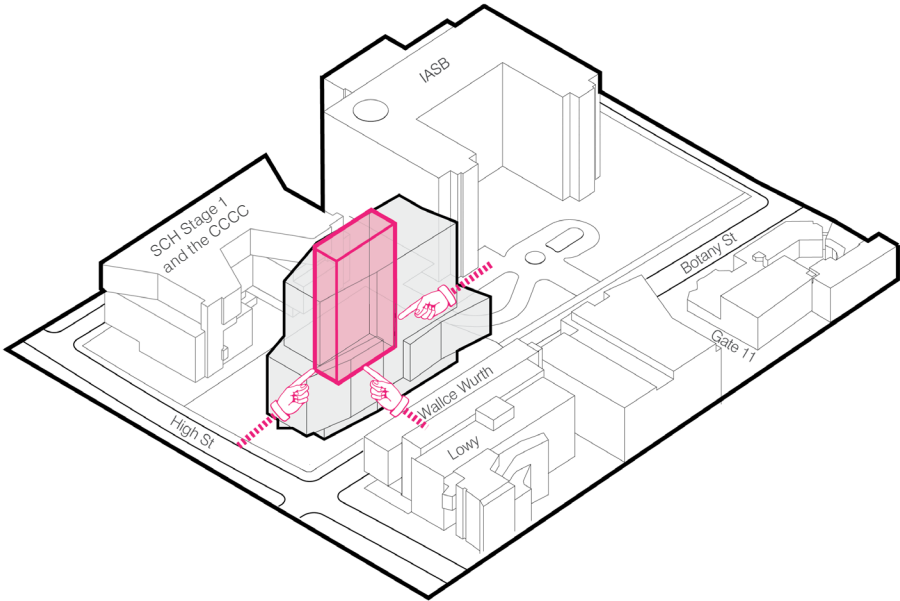
Key entry statements

The NW and SW corners of the site are identified as the main entry points of the UNSW HTH building and will provide a welcoming, generous and recognisable entry statement



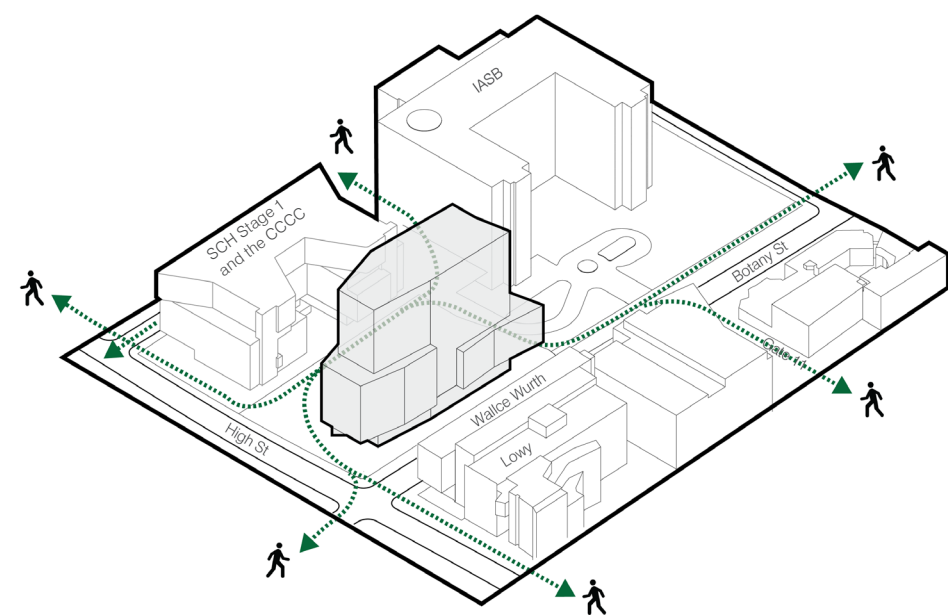
A landmark urban design

The form provides both an appropriate street level and regional landmark response with an architectural and landscape solution that embeds the UNSW HTH within the Randwick Health and Innovation Precinct.



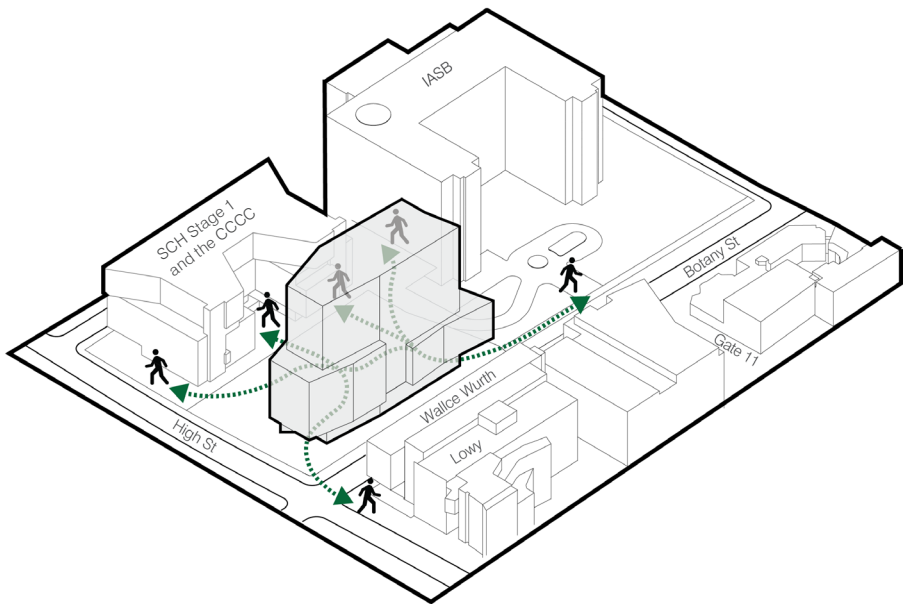
Optimised core location

The building core has been strategically located to maximise the street activation, permeability, transparency and delivery of an exceptional plaza space.



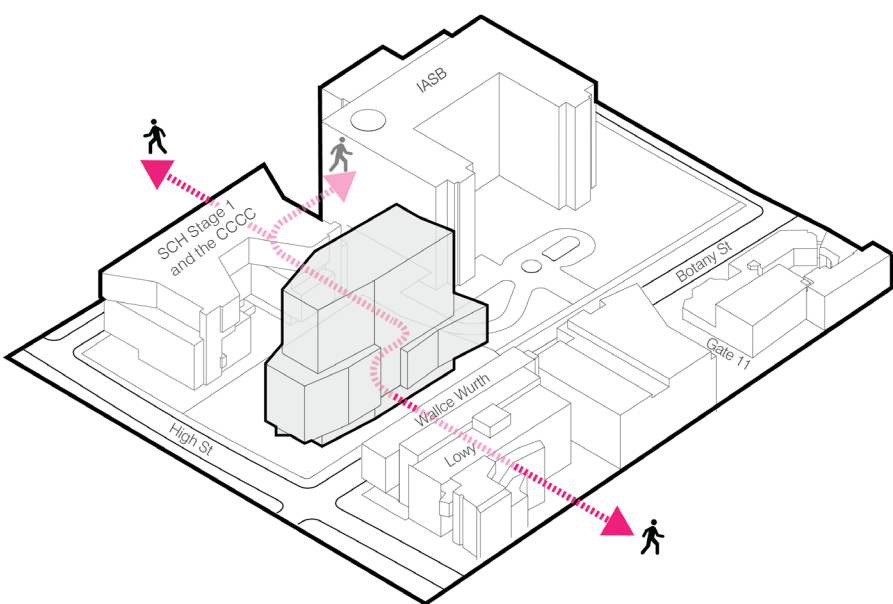
A connected and permeable public domain

The site is highly permeable with public through-site links that respond to pedestrian traffic and adjacent developments with equitable and accessible pathways.



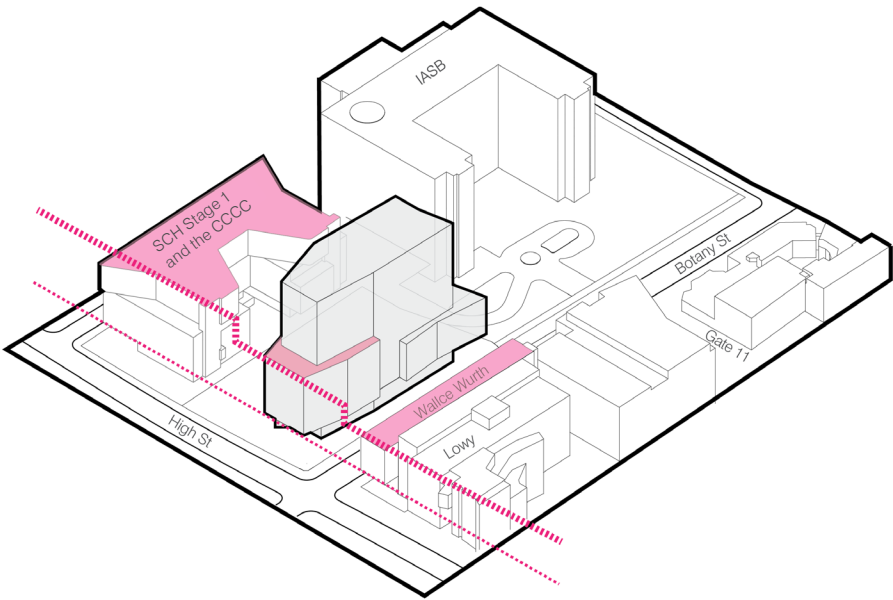
Permeable, open and transparent

The ground floor showcases the building's activities by allowing people to visually and physically engage with the UNSW HTH's endeavours and achievements while reinforcing the civic quality of the public domain.



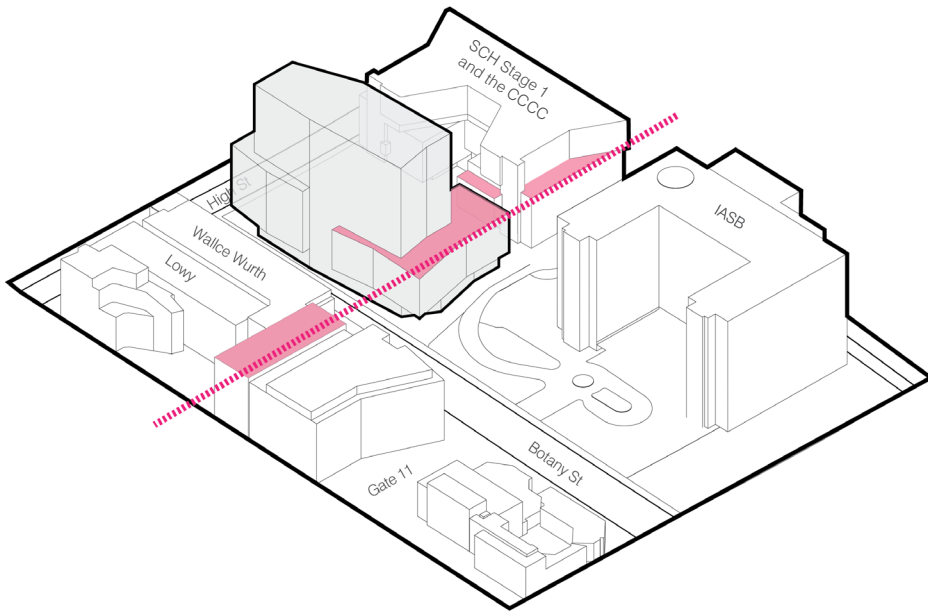
A campus and precinct connection

The campus connection will provide an above ground link to both the UNSW Medical faculties / key stakeholders and the SCH Stage 1 and the CCCC development through to the IASB and Randwick Health and Innovation Precinct.



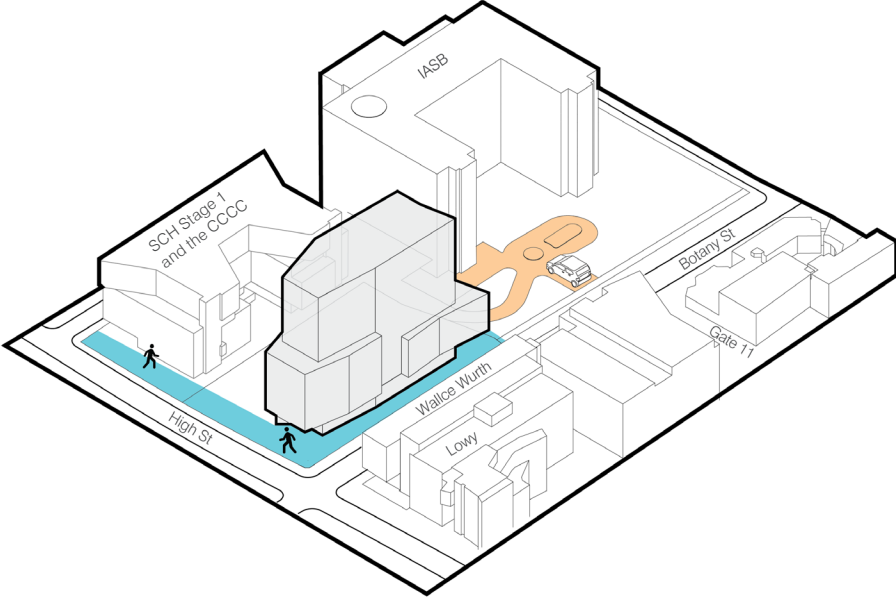
High Street Response

The building form connects the street wall by stepping down from the SCH Stage 1 and the CCCC site to the Wallace Wurth, while aligning to underside of both neighbours to create a consistent street level datum.



Botany Street Response

The southern podium aligns with the adjacent neighbours to create a consistent datum.



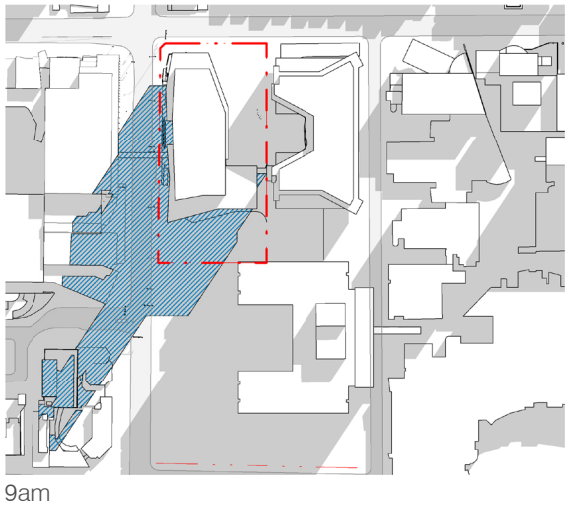
Isolate Vehicular Entry

Containing vehicular entry for the UNSW HTH and SCH Stage 1 and the CCCC to a single shared entry at the south of the site keeps the buildings' street frontages free for pedestrian movement.

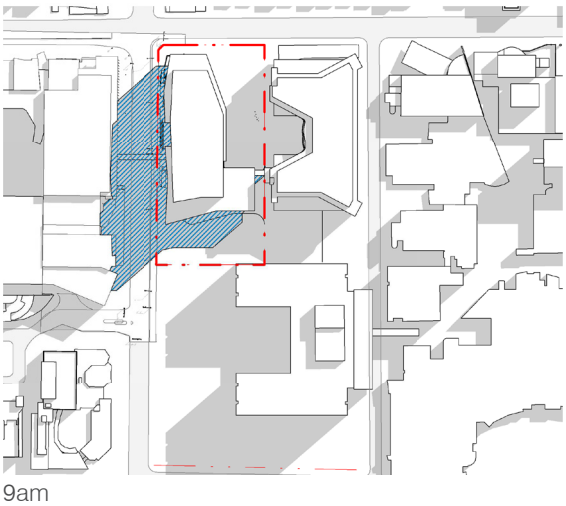
2.9 Shadow Analysis

Through the development of the envelope it was important to consider solar impact. These shadow studies were undertaken to see the full extent of the impact of the UNSW HTH building.

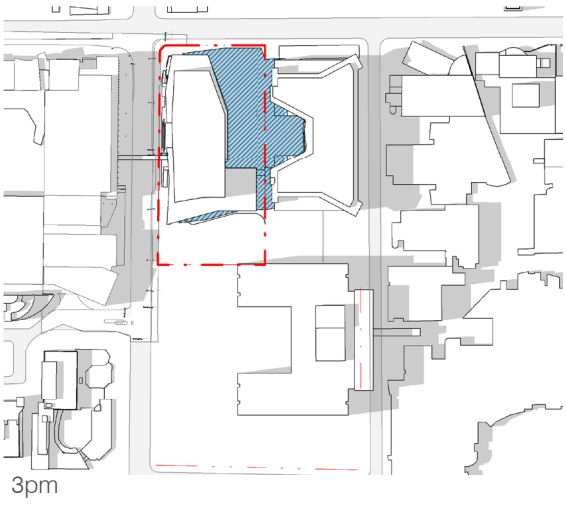
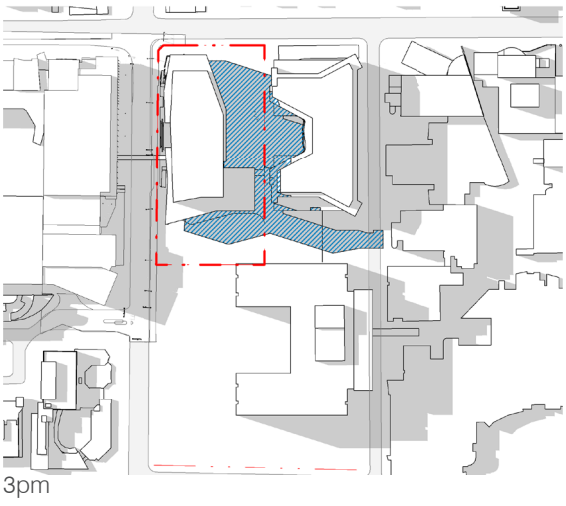
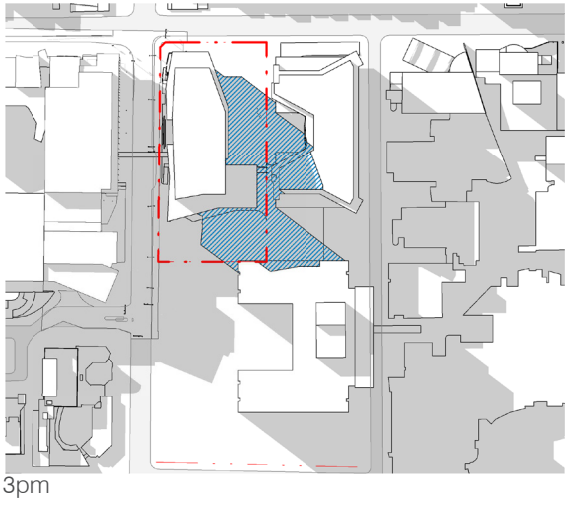
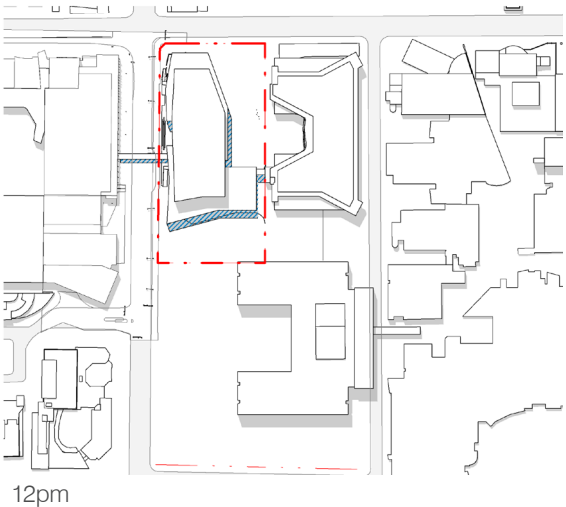
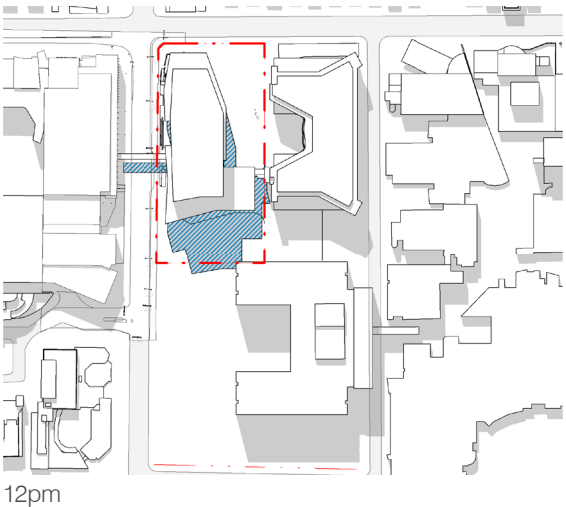
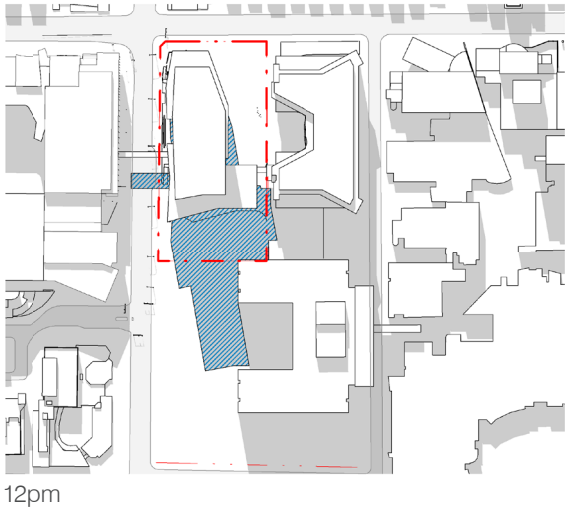
Winter Solstice
21 June



Equinox
21 March & 21 September



Summer Solstice
21 December



2.10 Urban Design Summary

Height and Bulk

The UNSW HTH Site and the Randwick Health and Innovation Precinct is a critical strategic precinct on a global, regional, local and precinct level as referenced in part 1 of this report.

The Greater Sydney Region Plan demonstrates that Randwick is a strategic centre and of critical importance to the future growth of a greater network of health and education precincts locally and globally and a vital part of the Eastern Economic Corridor.

The Randwick Health and Education Precinct contributes by developing an internationally competitive district that drives economic productivity, health and education services and employment to the district. Such growth will lead to an increase in building density, building height and amplify the importance on land use to retain and create a viable network of open space and public domain. UNSW HTH is designed with the context of the future built environment, meeting the strategic requirements for the growth of the precinct.

The massing of the UNSW HTH enables the ability to facilitate the creation of a generous quality public domain by reducing the building footprint and allowing a permeable ground floor plane, creating a slender elegant building whilst meeting the public domain aspirations. The central courtyard orientation and western tower form provides the foundations to create public open space as detailed in section 3 of this report.

In context with the current built environment, the proposed height of the building will be of a similar size and scale to the recently approved UNSW B22 and existing Library and Matthews buildings. It should therefore be viewed in the future context of this rapidly expanding Health and Innovation Precinct. Taller buildings will be required to meet the floorspace demands and meet the aspirations of the precinct.

The height of the building also represents an opportunity to deliver on the landmark aspirations of this development. As it sits on the natural typographic high point, the UNSW HTH is to be an architectural and landscape solution that will form a distinctive, optimistic building with a landmark identity to mark the gateway between the education and health precincts and connect UNSW with the RHIP.

Shadowing

As seen in section 2.7 of this report, the proposed massing has been sculpted to ensure the public domain receives extensive north sun at peak times of use. By orientating the building on the western edge of the site, and chamfering its north eastern corner, the courtyard will receive uninterrupted natural sunlight at midday during the entire year.

Wind

The orientation of the tower form ensures that the public domain is adequately protected from prevailing cool and gusty winds, while welcoming cool summer sea breezes. This is represented in section 2.6 of this report and demonstrates how the building height and bulk outperforms the alternative massing options to deliver and protect the public domain.

Views and Context

In terms of the visual impact of this proposed massing within the precinct, The VIA has found that while the proposal will be a greater visual scale than existing development, this visual impact is considered reasonable as it:

- Is compatible with its context, which is visually dominated by the UNSW and Prince of Wales Hospital campuses, and as such is not isolated or overly prominent in its visual context
- is consistent with the character with the Randwick Health and Education Precinct and the prevailing High Street streetscape
- incorporates a number of layout, form and detailed design measures that mitigate this scale, including:
 - achieving a high comparable to that which already exists or is approved in UNSW
 - massing the building to the west of the site
 - orienting its long elevation in a north-south direction to face the UNSW and Prince of Wales Hospital
 - modulating its form, including a podium and tower form, a recessed ground level and a change in angle of its western elevation
 - a large publicly accessible public plaza and a generous setback to High Street that includes a naturalistic landscape strategy
 - has an acceptable impact on sensitive uses, including residential areas and heritage items and conservation areas

The UNSW HTH is compatible with the prevailing character of the Randwick Health and Innovation Precinct.

Public Domain Benefit

While it has been important to highlight the wider ambitions for the site, it is also equally important to focus on the public and community aspirations that have been well defined by the GRUM and UNSW design brief. These include:

- A physical connection between the university campus and health campus
- A blurring of the boundaries between research, education and health
- The provision of sticky and bump spaces where informal and formal collaboration occurs
- Strengthening its identity as an inviting and permeable precinct
- An abundance of pleasant varied places to stay and meet.
- The ground levels to be activated with a mix of uses
- Health related uses such as community gardens or meeting places could play a role in the wider community, inviting the local population in.
- Distinctive, memorable and unique to UNSW with cohesive spaces to provide a sense of place.
- Vibrant: People centric, vibrant, engaging to provide individualised experiences which support the cognitive, social, physical and emotional needs of everybody who experiences them.
- Inclusive: Provide safe and inclusive spaces which are accessible for students and staff of all backgrounds.
- Innovative: Framework will support innovation and showcase UNSW strengths in professional, scientific, and technological fields.
- Adaptive: The campus will demonstrate leadership in providing flexible spaces that respond to and cater for future learning, health research and community needs.

To achieve these aspirations, the UNSW HTH must create a quality public domain that forms the heart of the development and can bring key health and education partners together. A continuous and legible ground floor will blur the lines between the individual sites and stitch them together in to a cohesive whole. A quality landscape proposal will provide the collaborative opportunities that this precinct aspires to achieve and deliver activated amenity for the precinct users and local community.

A taller, slenderer tower with a small building footprint is the only solution that can achieve these requirements. A shorter, wider building will reduce the public domain to an un-usable scale that cannot support the rich activity, diversity and unique landscape opportunities that are envisioned for this site. The devotion of over 37% of the useable site to quality public domain is important to the precincts aspirations.

Social Impact

The proposed UNSW HTH massing will provide the environment to deliver on many significant social benefits, such as:

- Supporting the planned transformation of Randwick health and education precinct into an “innovation district” delivering significant translation health benefits, economic value and employment opportunities for Greater Sydney residents, and driving productivity and international competitiveness
- Positive impacts to community cohesion associated with increased opportunities for social interactions between workers and students in the Randwick health and education precinct. The proposed development co-locates health and education uses at a single site that is well integrated within the broader precinct, to foster collaboration between sectors and enable research translation.
- Potential benefits to community cohesion associated with provision of 2,500sqm of quality public space, which would provide a new public plaza for people to meet and gather, and would contribute to the improved activation and amenity of the Randwick health and education precinct.
- Social benefits associated with delivery of education and health uses at an accessible location, close to the light rail terminus and within walking distance of daily living needs in Randwick Junction town centre. This supports state and local strategic policy which prioritises delivery of a “30-minute city

- Improvements to accessibility and way of life associated with enhanced walkability and connectivity of the site associated with physically connected health and education use buildings (via link bridge to UNSW Kensington campus, and podium level connection to other health infrastructure in the precinct) as well as improved access and wayfinding integrating the site within the broader campus. Community and stakeholder consultation undertaken by Health Infrastructure has highlighted that improving wayfinding within the new buildings and the precinct is a priority.

Being sited in such a highly strategic location, the UNSW HTH should be maximised to its full potential and envelope limitations to enable the ability to bring these two campus together, provide the building of the future in a cohesive design response that will deliver the rapid acceleration of health research, education and practises for the entire community.



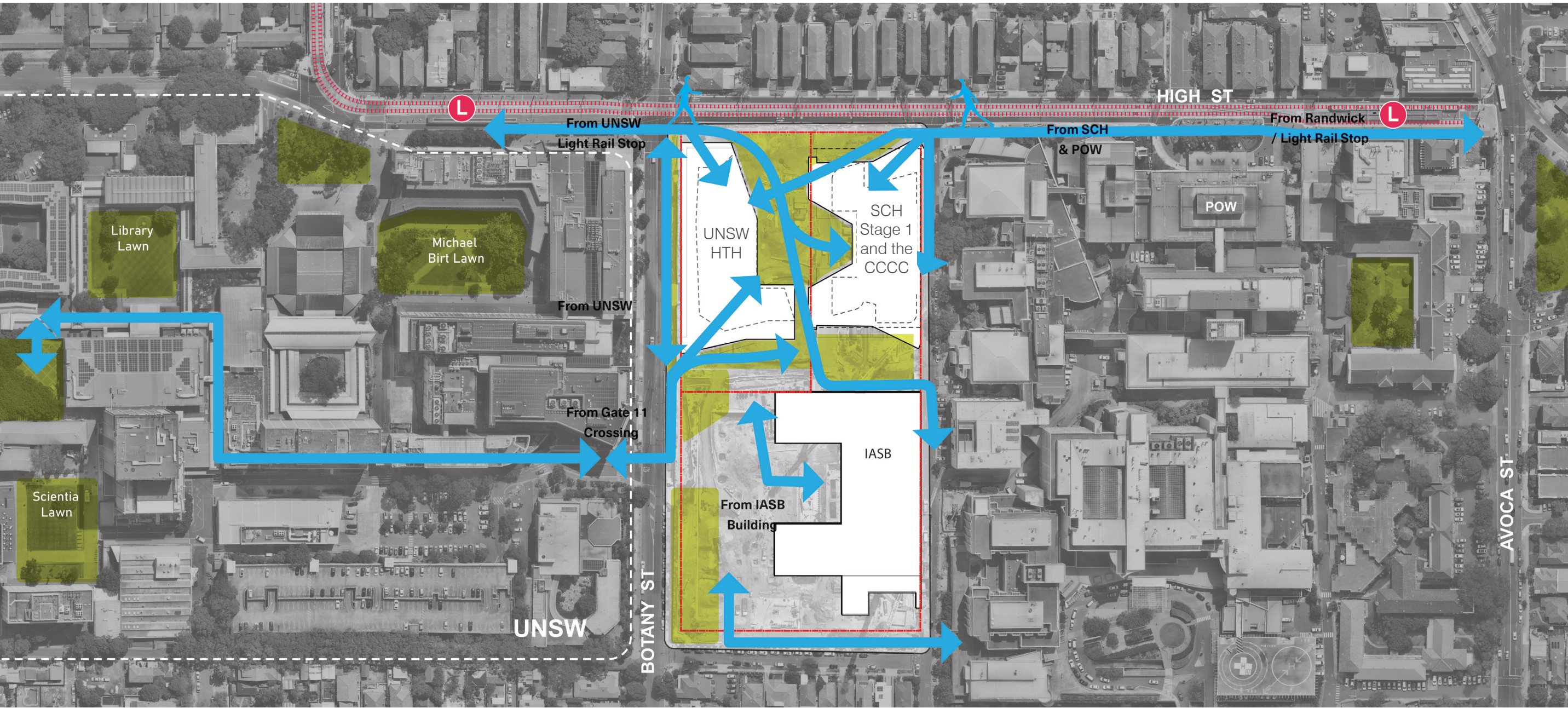
Artist's impression, subject to change. Render by Narrative Graphics



3 Public Realm & Landscape

3.1 Wider Context

The site is located in Randwick, and is situated at a threshold between the hospital and UNSW campus and forms part of a larger network of public space.



Public Realm & Landscape

A place within the ‘Barren Sands’

The recognition of Country and the importance of this to indigenous culture is a key theme explored within the design approach to the public realm. The value of Country as medicine, shelter, and connection and the innovations that sustains the local peoples are woven within an integrated approach to form, materials, and plants.

As the first white settlers explored the area in search of arable land they quickly dismissed the swathes of dunes as having little value for settlement. Arthur Phillip wrote that the ‘sea-coast does not offer any situation ... which is calculated for a town whose inhabitants are to be employed in agriculture’. When John Hunter continued from Philip as governor of NSW, he wrote that from Botany Bay back to Sydney, ‘between which places there was nothing but barren and uneven ground, but everywhere covered with the most beautiful flowering heath’.

This description of a barren but ornamental landscape is in direct conflict with the indigenous values of Country, and their occupation of the site is evident from the hearth discovered during the Prince of Wales Hospital excavation works in 1995, dated to approximately 8,500 years old, and one of the oldest sites of coastal occupation found in Sydney.

The UNSW Health Translation Hub and UNSW Kensington campus sits atop an ancient landscape system of high dunes and swampy swales which has shaped the forms and defined the plant communities endemic to the site.

This collection of dunal systems, drainage lines, and sandstone outcrops are still evident in the immediate and surrounding sites and present a significant opportunity to define a language which shapes the forms and materials of the built form and public realm to create a distinctive sense of place.

These dunes, swales, and endemic landscape types existed into the early 20th century and the scale of these are evident as illustrated on the historical maps below.

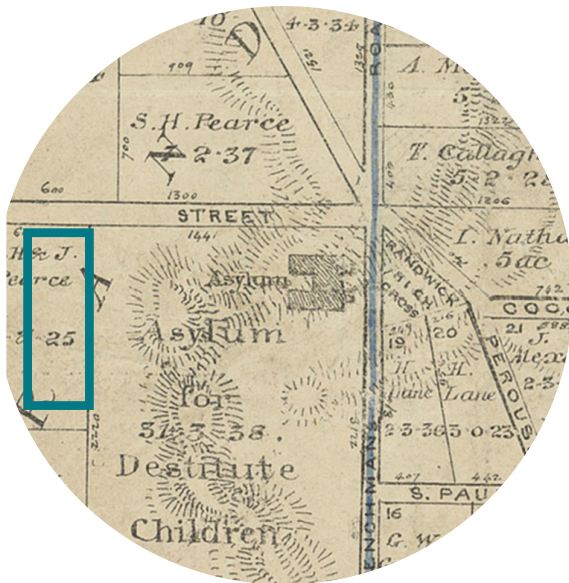
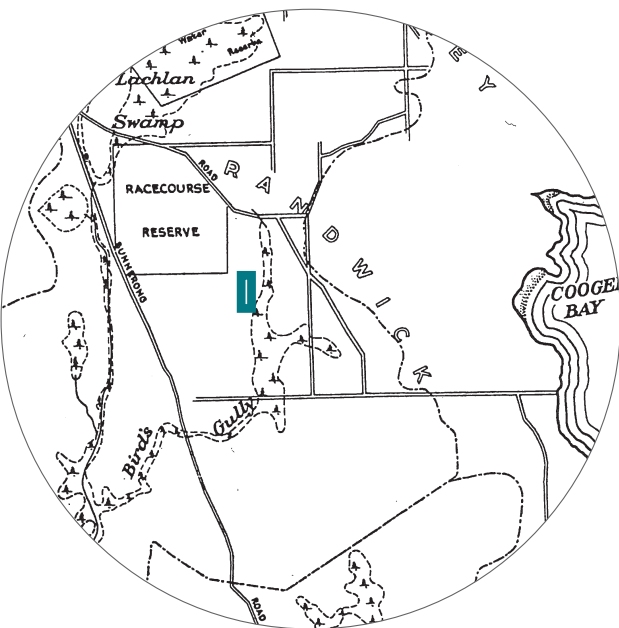
The shifting sands and drainage lines of the former ‘Bird’s Gully’ were a significant feature of the precinct, providing a primary freshwater catchment line for the Randwick locale to the saltwater of Kamay/ Botany Bay. This remained until 1930-1935 when it was converted to a subsurface drainage line as part of the Unemployment Relief Program.



Old Toll Bar, Randwick Road 1865, Samuel Elyard



A map of the hitherto explored country contiguous to Port Jackson 1786



YERRABINGIN

Unique Landscape Types

The public domain and landscape has been designed with an underlying narrative that responds to the long and layered history of the place. Responses to cultural history will be expressed through the design of the ground plane, planting, furniture, play elements and paving.

The narrative developed for the project recognises the endemic landscape types of Randwick within the intersect of 'headland to swamp'.

The land is charged with rich culture and history, and is of great significance for the Aboriginal people of Sydney, New South Wales and the country. The design narrative explores the unique, endemic landscapes types from protected swamp gullies to plateau banksia and eroded sandstones.



Protected swampy gullies in between dunes- 'Bird's Gully'



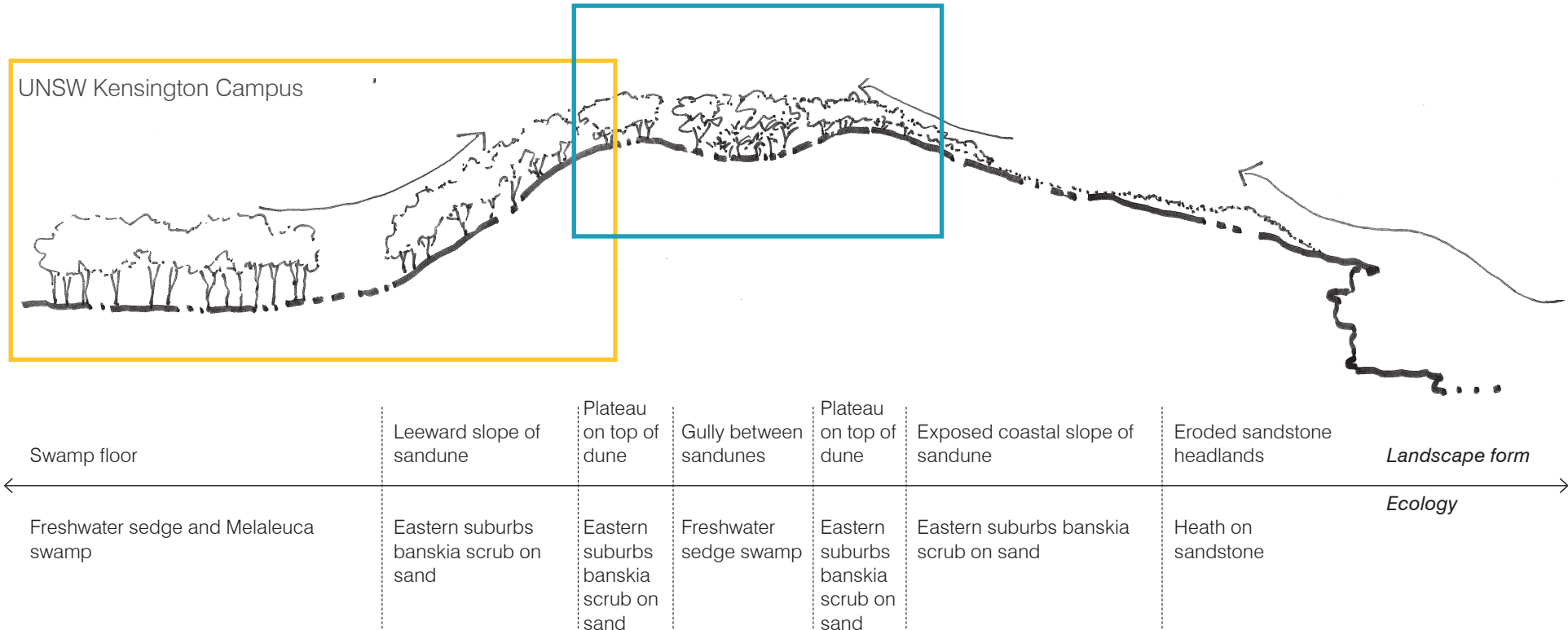
Plateau banksia scrub



Heath on sandstone



Eroded sandstone headlands



UNSW Indigenous Strategy Design Integration

The UNSW Indigenous Strategy, 2018, defines a series of principles and approaches to ensure a meaningful and integrated approach to the indigenous communities and ensure a cultural footprint to all campus spaces.

The cultural themes and design approach for the UNSW HTH recognise and build upon these to ensure a site-specific response which linking in to the broader UNSW cultural response to program, engagement, custodianship, and design outcomes.



Themes	An ancient land	A ‘barren’ land	A place of learning & innovation	A connected land
UNSW HTH Response	– Materials selection and paving pattern – In-ground interpretation – Public Art	– In-ground interpretation – Plant selection of Eastern Suburbs Banksia Scrub – Plant selection of medicinal species	– Plant selection of Eastern Suburbs Banksia Scrub – Plant selection of medicinal species	– La Perouse community / Indigigrow engagement – Custodianship opportunities

Culture & Placemaking Story

A discoverable & diverse place of connection: “The land is our mother, our teacher and our library, the landscape will inspire the next generation of environmental custodians both Indigenous and non-Indigenous, the future of our mother earth”

The UNSW Health Translation Hub has the opportunity to be an extraordinary healing landscape, by which it unites the precincts public domain, responds to the sites indigenous heritage and connects the building users to the land around them. Through using the country as medicine, the experience of a cultural landscape will bring both mental and physical well-being through a landscaping palette containing food and medicinal species.

Working collaboratively with Yerrabingin, five key themes have been developed which will ensure a rich and layered narrative that will permeate through all aspects of the forms, materials, planting and placemaking of the built form and landscape spaces.

Country as Medicine

This site was viewed by the Europeans as barren, but many endemic species were significant as food and medicine that contain amazing properties,.

A landscape network rich with local significant plants allows opportunities for a custodial role for the local community in propagation, research and knowledge sharing of traditional practices and endemic species.

The space presents opportunities to support cultural community well-being whilst allowing all users on site to experience healing through the landscape.

Connecting Communities

There is an opportunity to provide a custodial role to interpret and contribute the broader community's connection to the site. This can be established through using the landscape as a learning platform and inspire the next generation of custodians.

There is a potential to establish platforms of engagement that will share and celebrate Indigenous knowledge and custodianship.

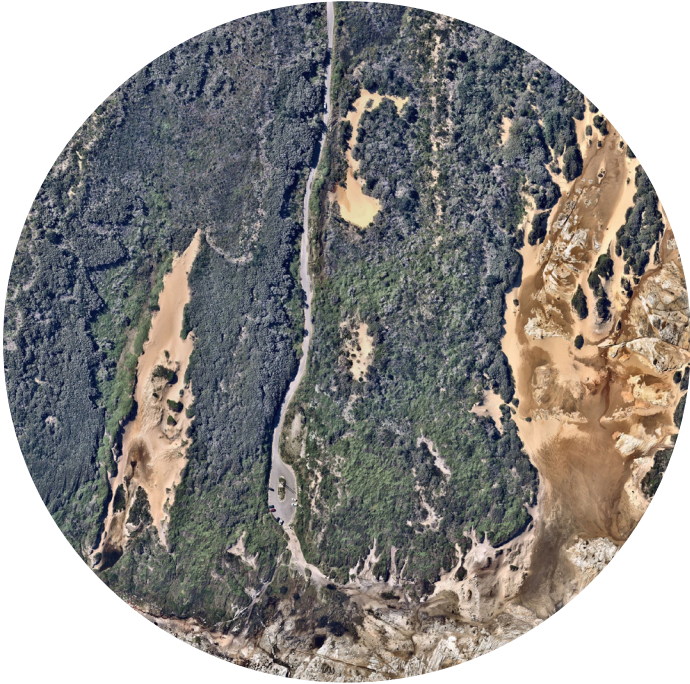
These could include UNSW volunteer programs, Augmented Reality applications and online resources with links to both the school curriculum and broader community.

Freshwater to Saltwater:
Life-giving arteries

The site was part of a significant landscape that linked freshwater and saltwater ecologies. This presents the opportunity to integrate a narrative of water, which diffuses across the site from the freshwater gully to coastal edge landscape.

This could take form in water travelling along surfaces reflecting the natural sandstone contouring and travelling through a creek bed or biofiltration zone.

Water plays an essential role in creating a site ecology and has potential to be explored ecologically, culturally, and can establish a living history that can be discovered, shared and celebrated on the site and further the transfer of environmental knowledge.



Engaging all senses

The UNSW HTH should strive to deliver a sensory experience where the landscape reveals colour, smell, sounds, textures and tastes.

A diverse native plant palette will provide an array of shapes and colours of flowers that will emerge throughout different seasons.

Notions of taste are explored via the sharing of food and beverages inspired by the garden, where food is medicine, and celebrated across many cultures.

Soundscapes accessed through smart phones allow a sharing of soundscapes, providing a voice of wisdom guiding you to each plant of cultural value, to smell, touch and where appropriate taste.

Public Art & Interpretation Opportunities

The site provides a flexible space that can host events which share and celebrate the ongoing cultural practice and tradition of the local people.

This will encourage community led design of motifs, patterns and textures of the materiality in the landscape. This could take form in wayfinding, public art, paving design, colours and structure, to embed an appropriate cultural overlay to the project.



3.2 Design Approach

The public domain and landscape has been designed around three central pillars:

- 1. To provide a site that responds to its users.
- 2. A design approach that responds to the site's natural ecological heritage and features.
- 3. To provide a cultural landscape that responds to the site's indigenous history.



Create a place that responds to people.



Provide a landscape inspired by local ecologies.

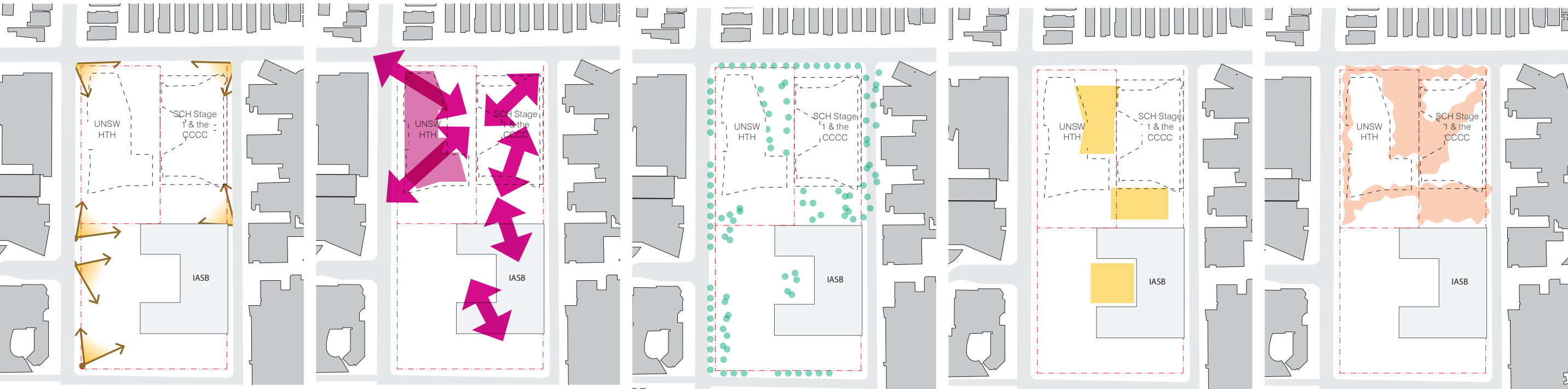


Create a cultural landscape which tells a story.

Public Realm & Landscape

Precinct Design Moves

The public realm design approach for the UNSW Health Translation Hub has been shaped by a series of workshops with the Sydney Children’s Hospital design team to ensure a clear set of principles was agreed to create a design response which blurs the boundaries between a singular public realm response.



Intuitive Wayfinding

Ensure intuitive wayfinding is maintained from the periphery of the site to centre.

Equitable Accessibility

Ensure ease of access through the building ground floor, blurring the lines between public and private.

Landscape Interventions

Use landscape interventions adjacent to the built form to create a human-scale within the public realm.

Consistent Ground Plane

Provide a consistent ground plane treatment throughout all public spaces to ensure a connected public realm.

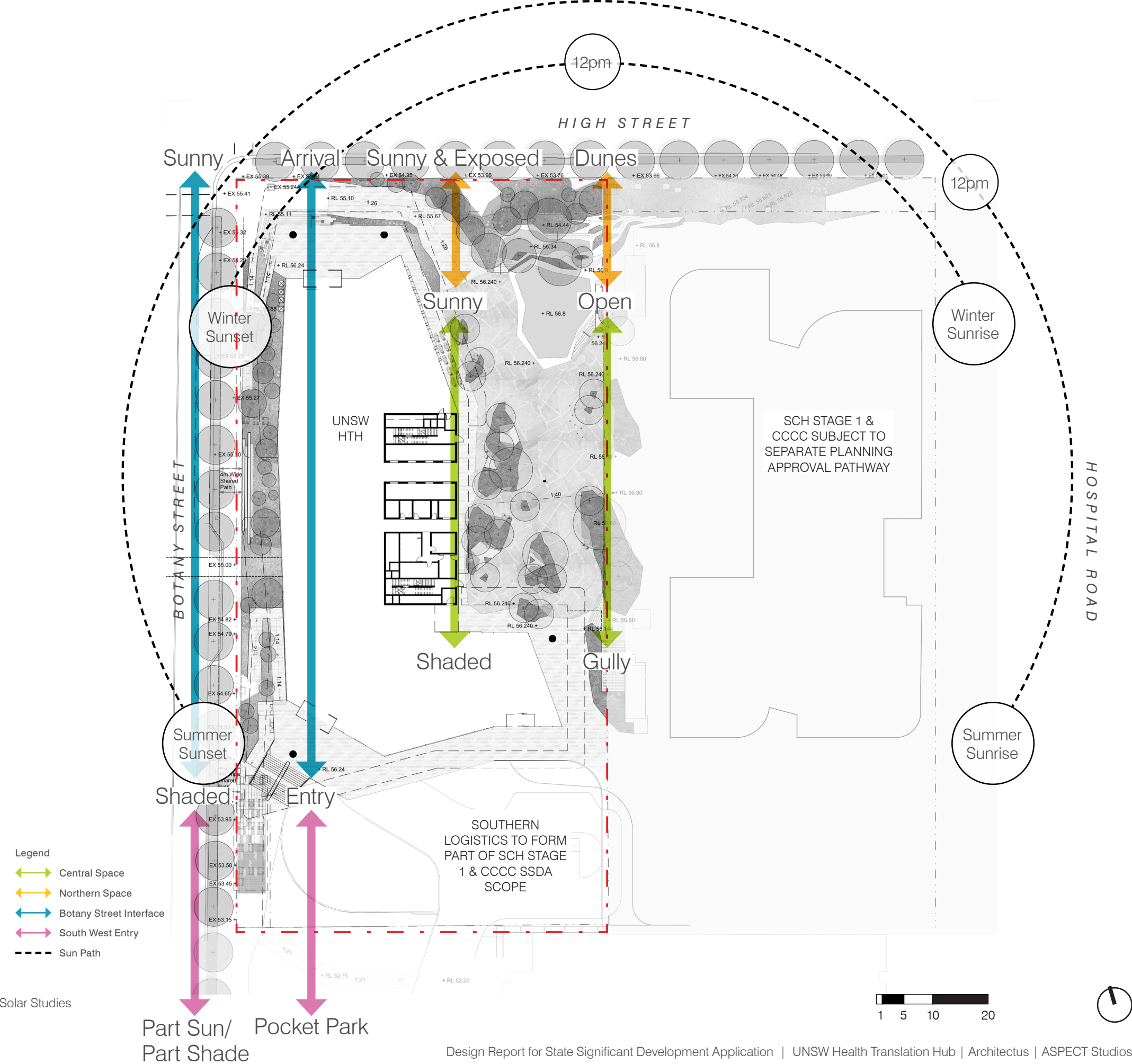
Cultural Overlays

Communicate the cultural history of the place through an integrated approach to landscape, art, furniture and play.

Public Realm & Landscape

Microclimates

Solar analysis to determine distinct microclimates and accompanying spaces.

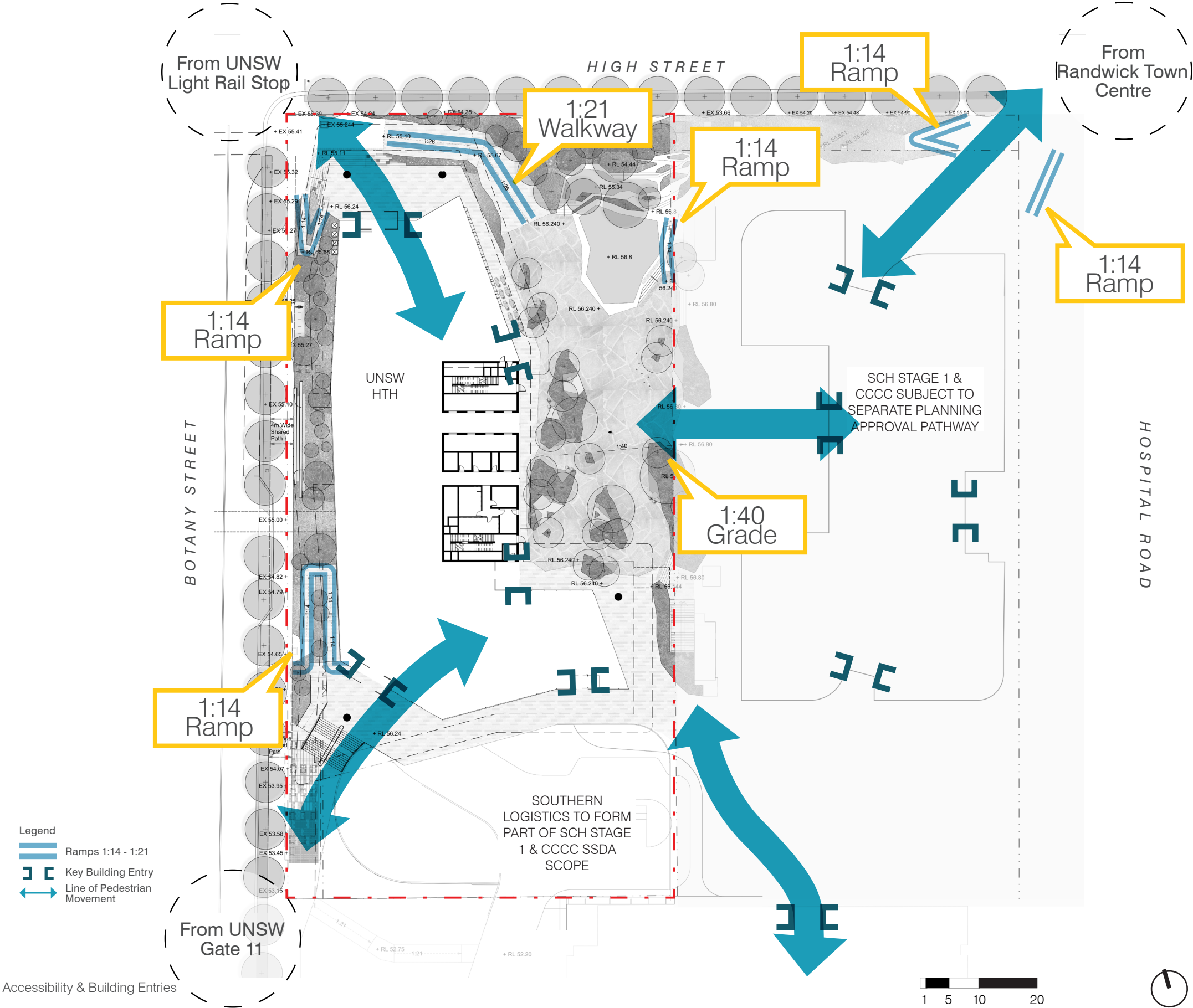


Public Realm & Landscape

Accessibility & Building Entries

The precinct master plan focuses on providing compliant and intuitive access to key building entries and into the site.

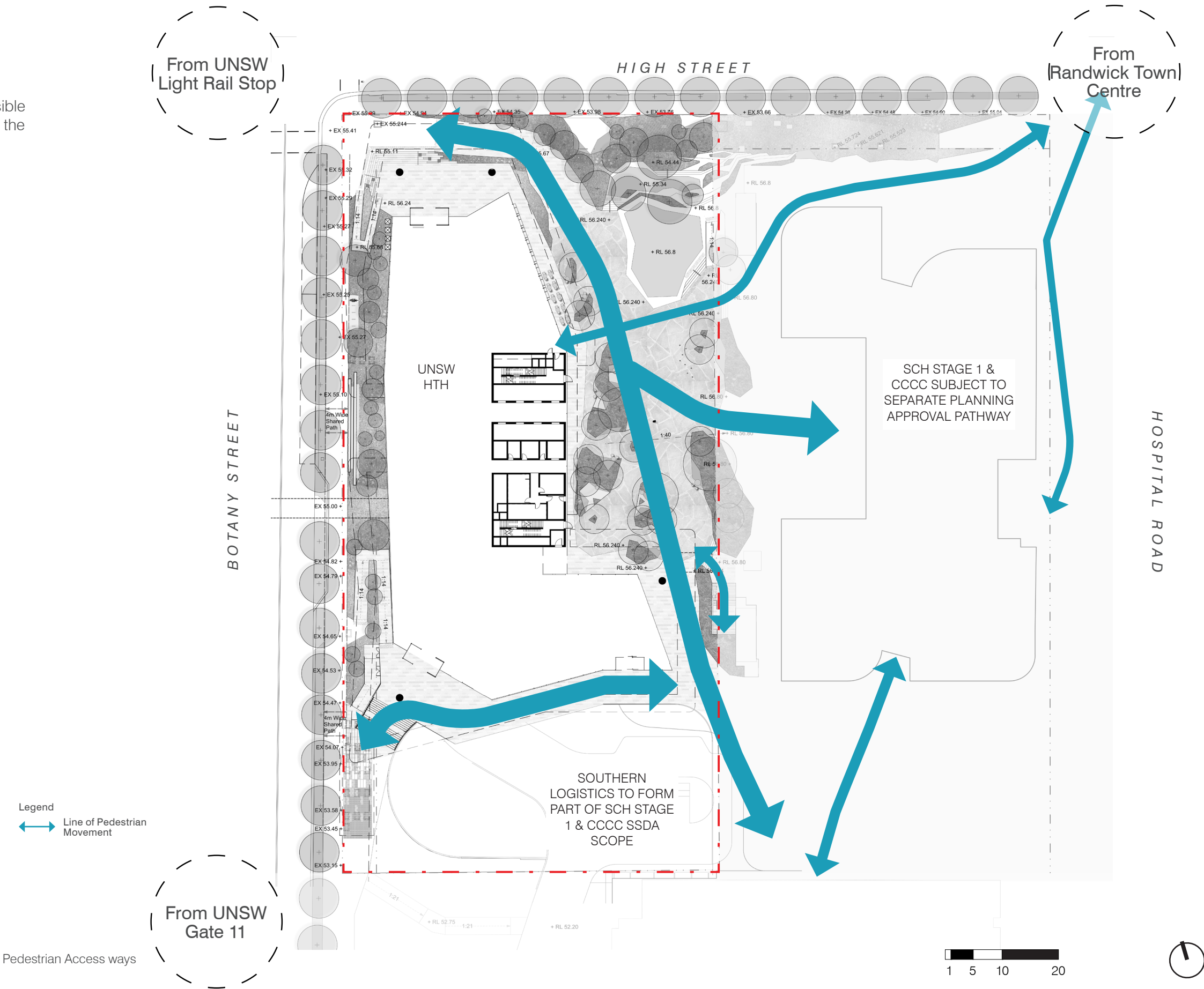
Where possible grading shallower than 1:21 has been provided to ensure comfortable and seamless connections through the plaza and into surrounding hospital buildings.



Public Realm & Landscape

Pedestrian Access Ways

Clear pedestrian access has been considered throughout the site to maintain a safe and accessible journey for pedestrians. Connections to and from the wider context are clear and intuitive.

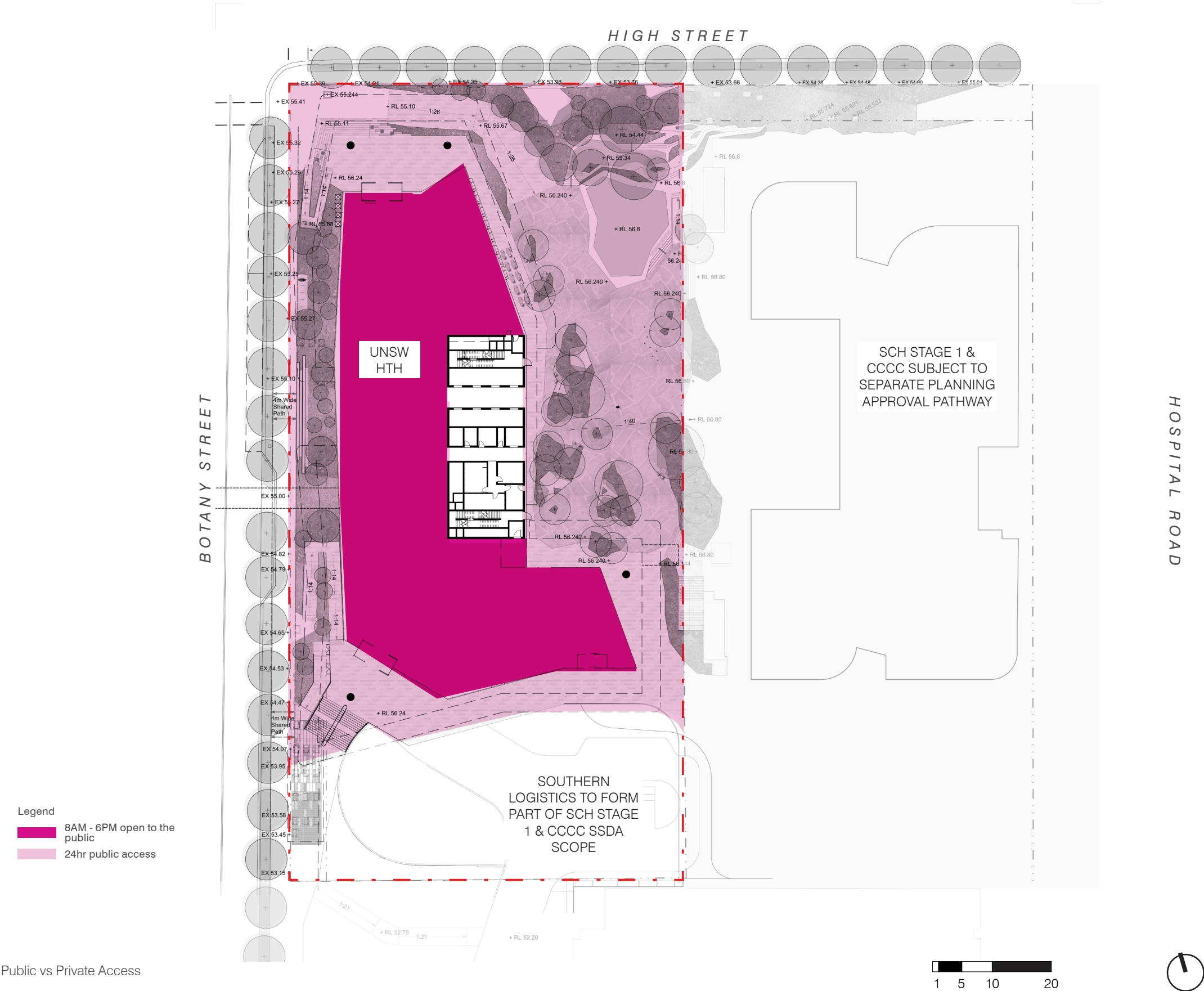


Public Realm & Landscape

Access

A key principle for the site is to ensure the internal and external spaces feel open, public and accessible. This will be achieved through consistent ground plane surface treatment, glazed façades and clear view lines through the building, and open and clear pedestrian paths.

Access in and around the public realm will not be controlled, ensuring a truly public offering.



Public Realm & Landscape

Deep Soil

The project principles for the landscape and built form have maximised deep soil extent to ensure a folding landscape interface between plaza and streetscape. This also ensures generous soil volume is available for trees and planting at grade, as well as opportunities to integrate WSUD strategies to capture and treat site runoff.

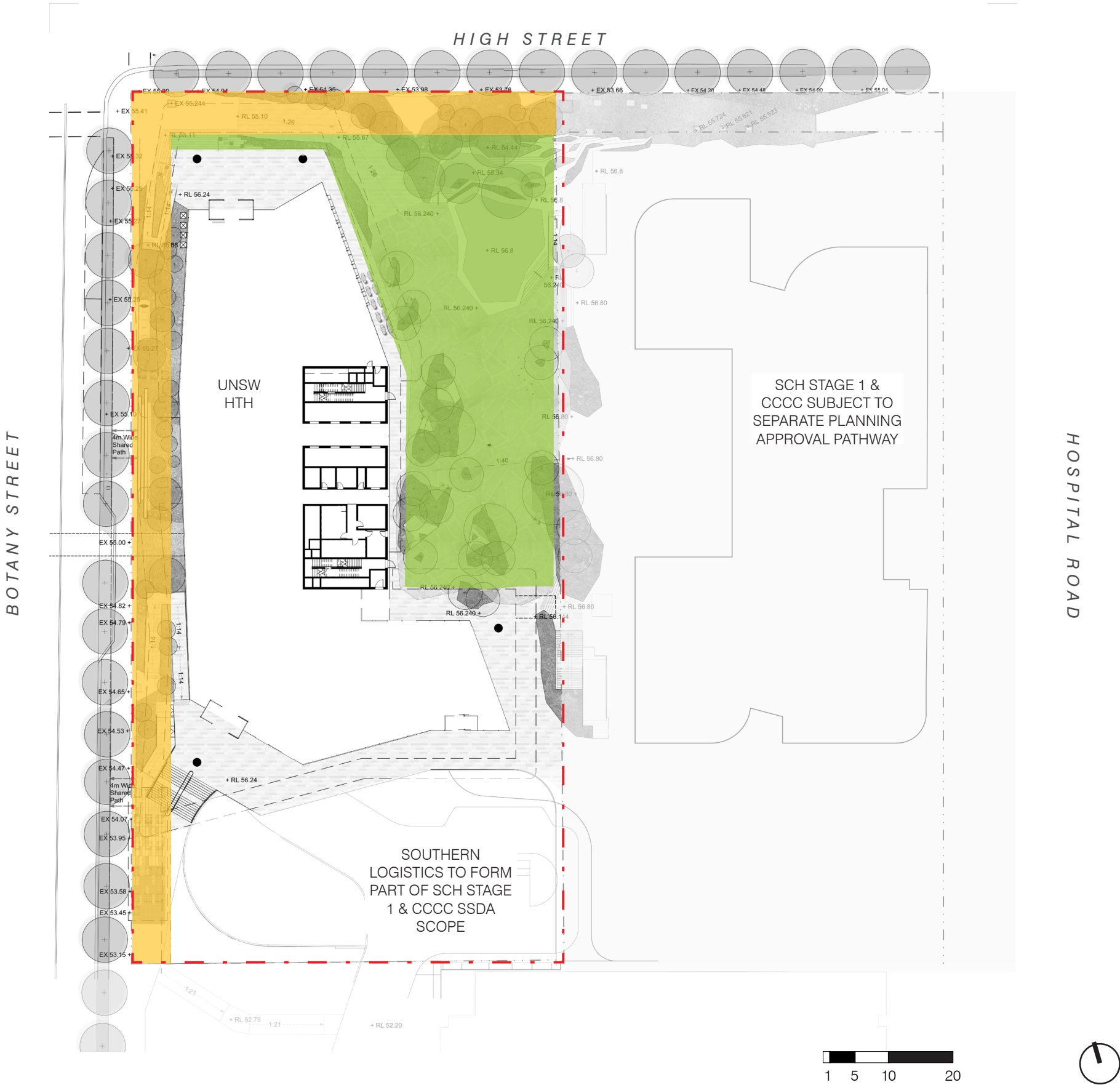
The Deep Soil calculations on site are as follows:

- 21.39% Deep Soil
- 13.25% Existing Stormwater Culvert

Legend

Deep Soil

Existing stormwater culvert



3.3 Design Proposal

Landscape Structure

The UNSW Health Translation Hub is a place for people of all ages, students, researchers, hospital patients and staff, and the public. The landscape provides a green outlook, offering spaces of respite and engagement.

UNSW Plaza

Central Space

The Central Space is comprised of a series of distinct spaces offering diverse use and character. The central plaza space is open and flexible, allowing for various event overlays with potential for retail and F&B opportunities closer to the building's façade. The plaza also includes a series of intimate dwelling spaces, which provide an area for rest and comfort.

Northern Space

The High Street interface responds to the endemic and headland landscape types of Randwick. It is an opportunity for planting to soften the steep level change and create a sense of respite and calmness as one enters the space. It creates legible and welcoming entrances into the UNSW HTH building, providing a lush, green outlook back out.

Break Out Space

The Break Out Space is a cooler, shaded space with opportunity for dwelling and respite whilst being immersed within layered planting.

Botany Street Interface

Botany Street is a shared pathway providing connection from High Street to on the western side of the UNSW HTH building. The landscape embankment is defined by planting mounds with endemic trees and understorey planting with suspended platforms

Gate 11 Entry

The Gate 11 Entry is defined by a ramp and stairs providing equitable access into the Southern entry to UNSW HTH. The hardscapes are met by the Botany Street landscape.



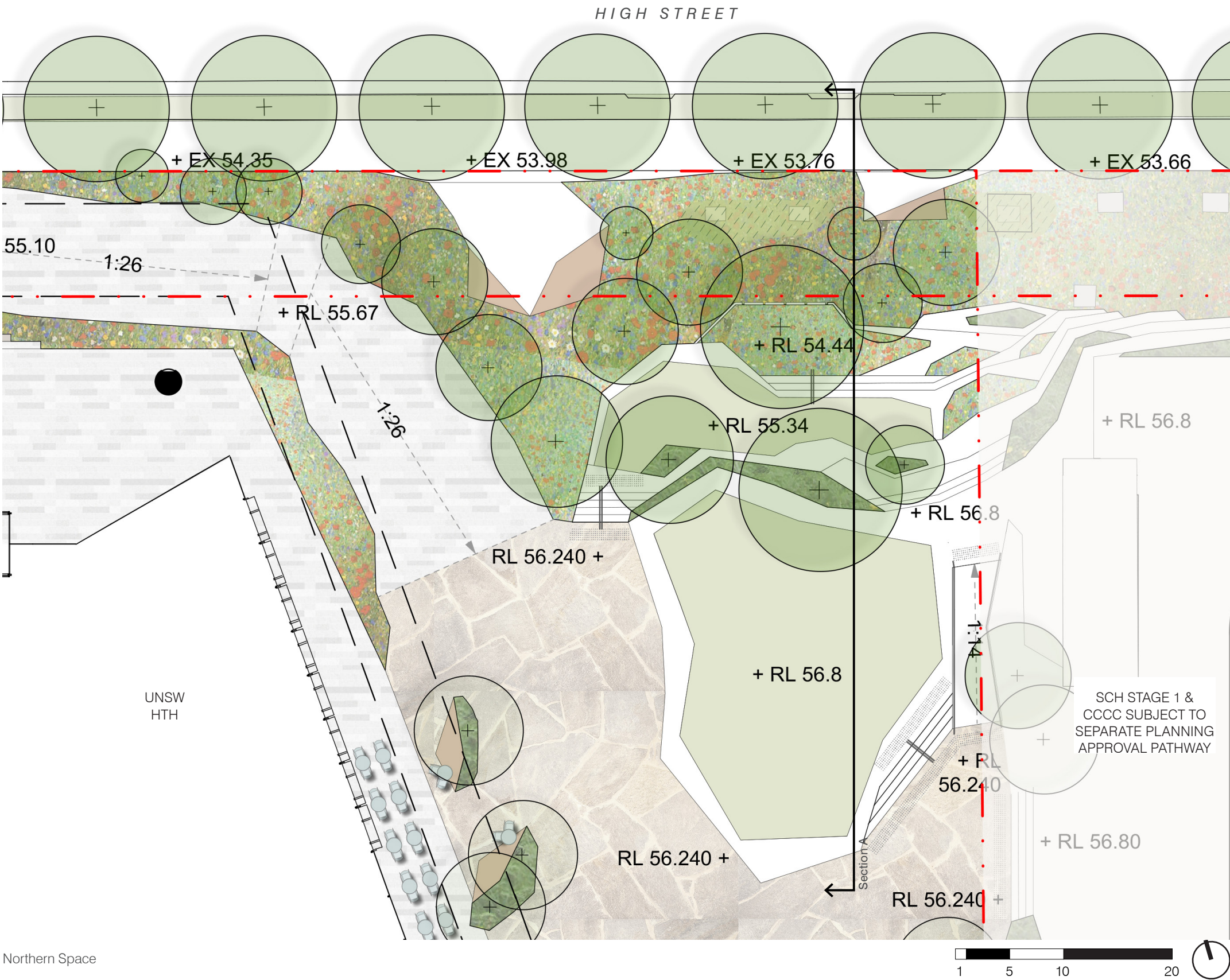
Public Realm & Landscape

Northern Space

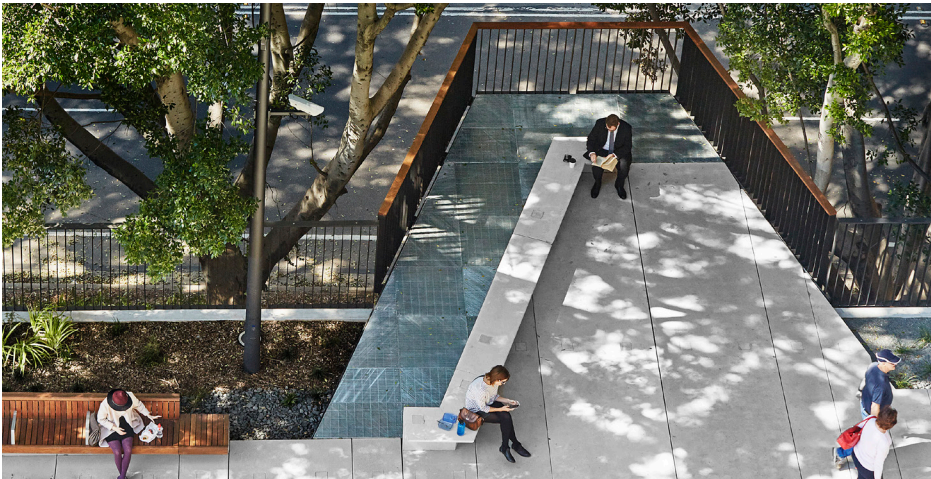
The Northern Space provides an innovative response to a steep level change from High Street into the Central Space. This is achieved via a combination of informal seating platforms and dense, folding landscapes reminiscent of the original dunal landscape.

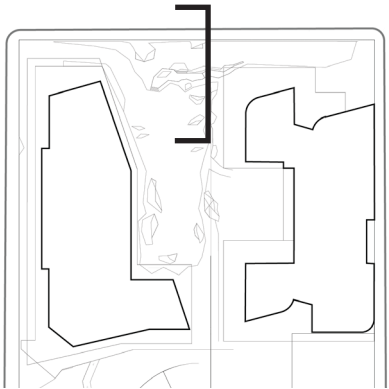
The Northern Space receives notable solar exposure due to its northerly aspect. Elevated platforms embedded amongst lawn and planting provide the opportunity for informal seating within a sunny setting whilst still establishing a cooler, shaded environment.

A raised respite space extending from the Northern Space into the Central Space provides amenity for informal rest and play, as well as servicing a range of outdoor events.



Public Realm & Landscape





Public Realm & Landscape

Central Space

The Central Space is the heart of UNSW HTH. It is a multifunctional space comprised of several smaller zones with distinct character and function.

The Central Space provides a larger open space and gives opportunity to host events, as well as servicing its everyday transitional nature. The space is flexible and can be used for a variety of purposes throughout the year.

The north-eastern section provides opportunity for a F&B space offering an inside-outside experience in which the boundaries are blurred.



Public Realm & Landscape



Public Realm & Landscape

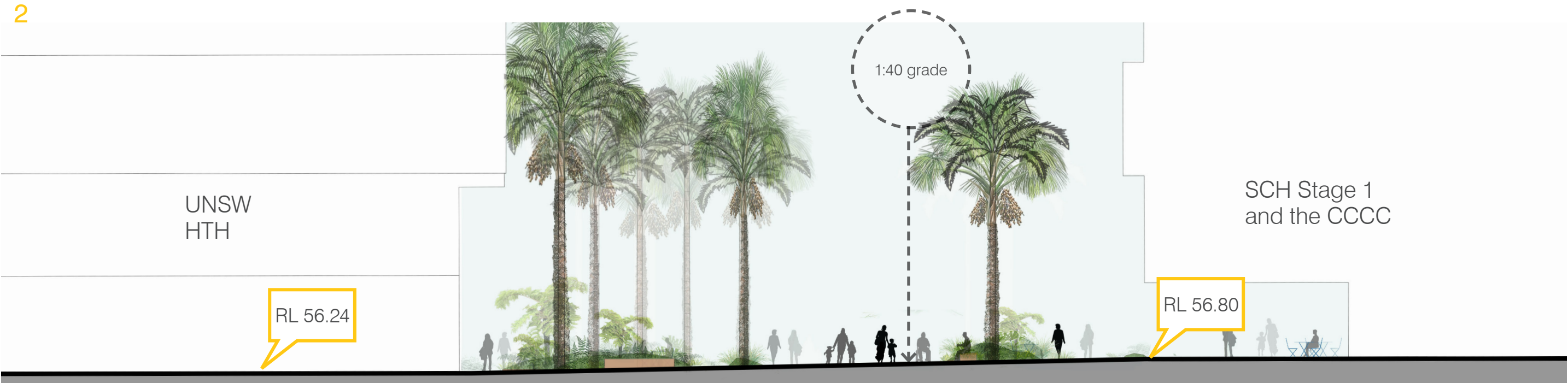
Breakout Space

The southern gully space is comprised of intimate dwelling spaces amongst dense rainforest planting to establish a cool, shaded space for rest. This space also acts as an outdoor extension of the UNSW HTH seminar space and can be used for various events.



Public Realm & Landscape





Public Realm & Landscape

Botany Street Interface

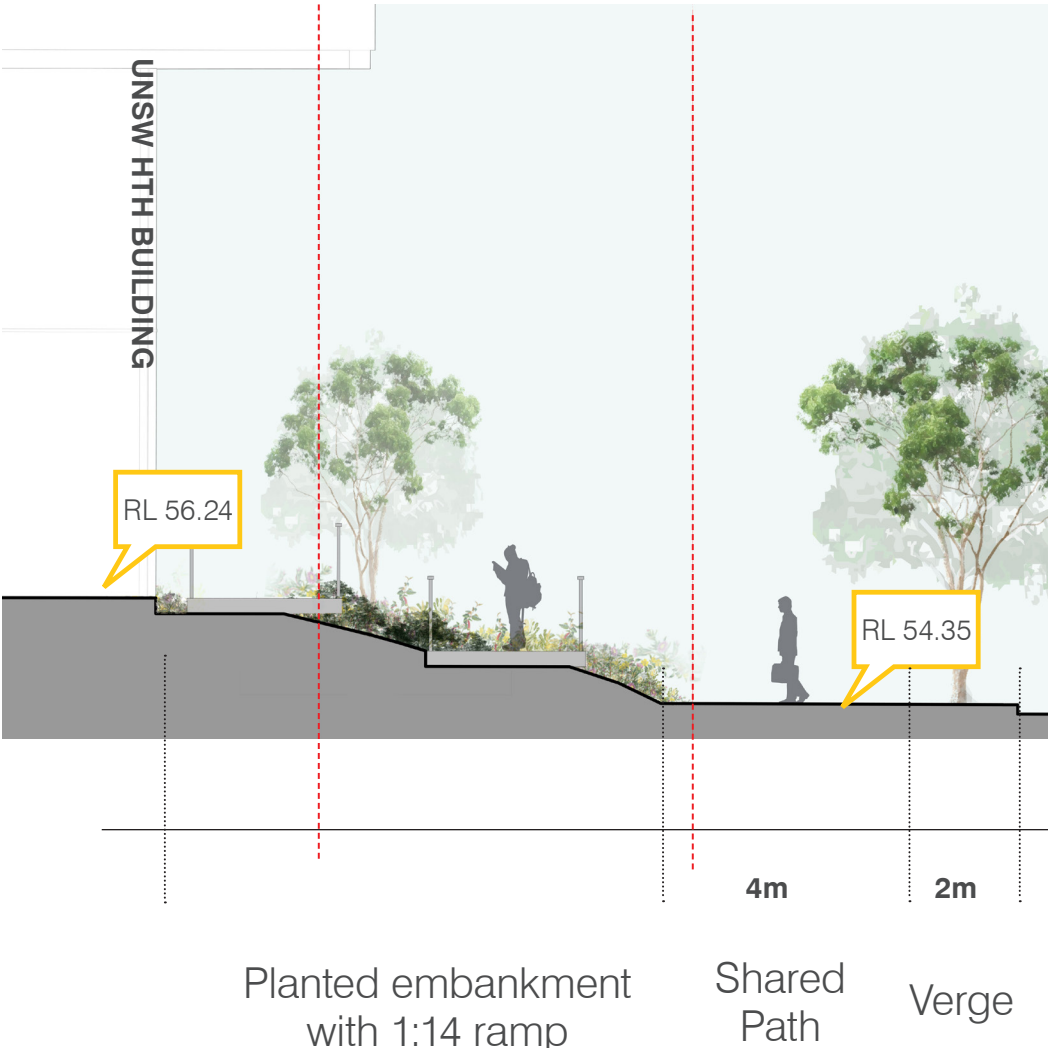
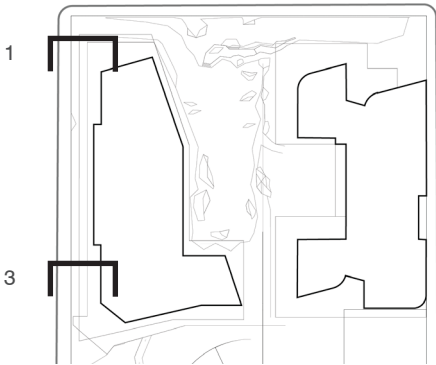
The interface between Botany and High Streets is met with equitable access in the form of a staircase which wraps and directs users into the site, alongside 1:14 ramp access into the site.

Botany Street encompasses a large landscape embankment, 4m wide Shared Path and public seating. A series of private cantilevered platforms extend outwards from the UNSW HTH building providing an outdoor space for UNSW HTH users to find respite.

The landscape planting is comprised of a dense lower understorey of hardy, strappy plants and a tree canopy filtered throughout.







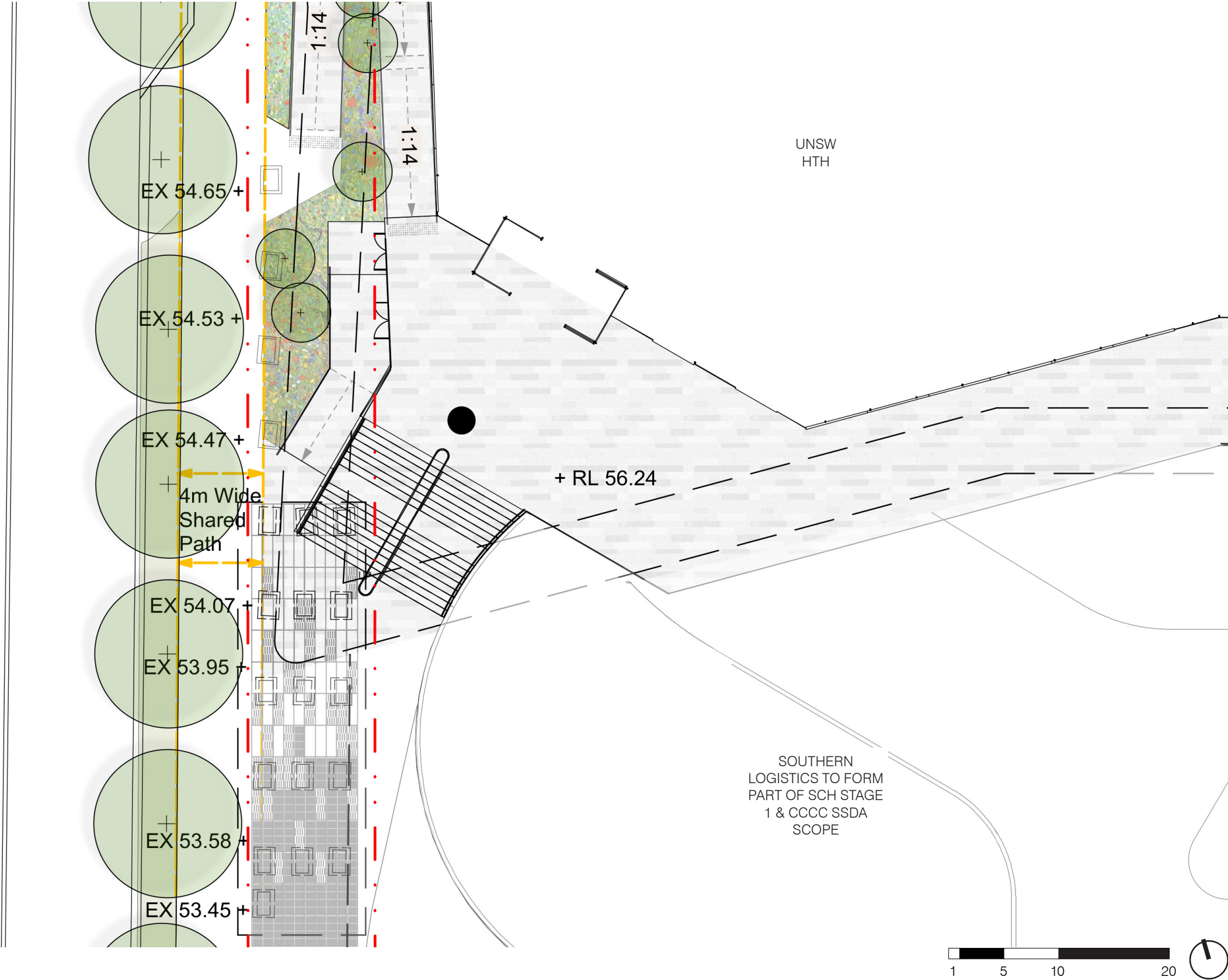
Public Realm & Landscape

Gate 11 Entry

The South West Entry space is a key entry into the UNSW HTH building and Central Space . Users approaching the site from UNSW Gate 11, and from Botany Street can access the site via staircase or ramp for equitable access.

Amongst this lies entry to the EoT facilities which provides over 120 bicycle storage spaces.

These facilities are embedded within the Botany Street Landscape embankment which softens the hardscapes.



Public Realm & Landscape

Public Domain Material Strategy

Materials have been selected for their appropriateness, relationship to Randwick Town Centre and existing palettes of the health precinct and UNSW Kensington Campus.

Simple and elegant paving materials such as sandstone, porphyry, concrete unit pavers and pre-cast concrete will inject a warmth and sense of place to the space whilst connecting it to the surrounding public realms of the light rail development, UNSW and Randwick Town Centre.

Proposed furniture includes robust and easy-to-maintain concrete as well as hardwood timbers, which provide a warm and tactile experience for users of the space.



Public Realm & Landscape

Public Domain Planting Strategy

The planting strategy for the public realm is a layered approach, reflecting the endemic plant communities of the site, developing on the narrative of Country as Medicine, and responding to the micro climatic conditions to ensure appropriate species selection.

Endemic Plant Communities

Prior to settlement, the site consisted of upper dunes on a plateau with a significant drainage line running through it. This supported a swamp ecology, bound by Eastern Suburbs Banksia Scrub and heath planting adjacent to sandstone outcrops. Although dismissed by early settlers as ‘barren sands’, this was a rich, life-giving landscape with the plant communities sustaining the local people for tens of thousands of years.



Pre-settlement Distribution of Plant Communities, Randwick Street Tree Master plan 2002



Eastern Suburbs Banksia Scrub

This is a Critically Endangered Ecological Community which once stretched from North Head to Botany Bay. Commonly a mix of heath scrub and low woodland it is found in nutrient poor wind-blown sand dunes.



Heath on Sandstone

Situated on sandstone outcrops of plateaus in areas of with infertile, shallow, moderately damp soils, this is dominated by mallee shrubs and groundcovers and grasses.



Freshwater Sedge Swamp

Located within swampy swales or intermittent water courses this community is typified by sedges, rushes, and grasses which are able to withstand both dry weather and inundation.



Melaleuca Paperbark

The oil is a great antiseptic and the bark has plenty of uses. To create a place to shelter, paperbark is treated like roof tiles and placed over sticks pushed into the ground or over a Gunyah frame of green branches. The oil was also used tonic for coughs and cold and externally for neuralgia and rheumatism. One of the more important uses is the oil that is found in the leaves and can be used as an antiseptic. The bark can be used as a bandage.



Acacia melanoxylon

Bark is soaked in water to bathe painful joints/rheumatism.



Acacia longifolia

The gum can be used to treat stomach ailments dissolved in water. Wattle seed has always been used to make damper, they are also known as soap plants. To use as soap, simply crush and rub some leaves together with a little water to create a lather. Another use for the leaves is to catch fish. Wattle timber was used for making digging sticks, boondis (clubs), clap sticks and natural elbows in branches were used for making returning boomerangs which were used for hunting birds.



Santalum obtusifolium

A wood decoction is drunk for constipation and stomach aches and pains.



Ficus opposita

The combination the Ficus opposita and the stinking Passion Flower were used in northern coastal communities to relieve itching. The rough leaves of the sandpaper fig were crushed and soaked in water, the rubbed on the itch until it bled. The pulped fruit of the stinking passion flower was then smeared on to the affected area. Sandpaper fig leaves have also been used to treat fungal skin infections such as ringworm, sometimes in combination with the milky sap.



Geijera parviflora

The insides of the outer bark are scraped off, then pounded or chewed and dried. It is then put on open wounds, boils or sores as an anaesthetic. The leaves can be placed over hot ashes for people to lie on to alleviate aches and pains in their joints.



Billardia scandens

The ‘apple berry’ or ‘apple dumplings’ come from it’s traditional use as a bush tucker plant. The attractive edible fruits appear through Summer and ripen from purple to yellow. They have a flavour described as somewhat similar to kiwifruit or stewed apple, they are eaten raw when fully ripened, or roasted if still green.



Solanum laciniatum

The fruit was used as a poultice on swollen joints. The plant contains a steroid which is important to the production of cortisone. The fruit are high in Vitamin C.



Themada australis

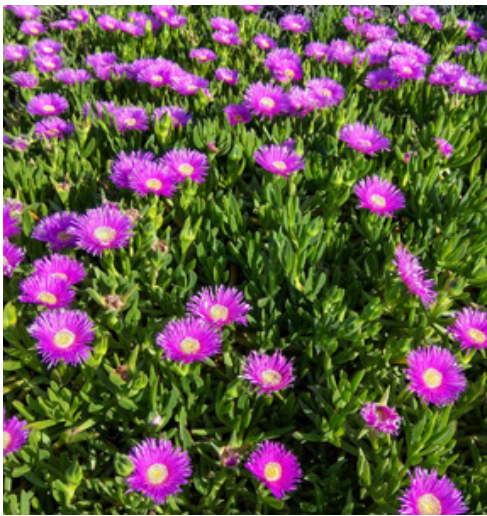
The seeds ripen in summer and people in the tableland and high country areas of New South Wales collected them in great quantities, to grind and bake into cakes.

The Grass was gathered in wooden bowls. The seeds were separated and grinding stones were used to produce flour which was mixed with water and cooked to make damper.



Goodenia ovata

An infusion of leaves and twigs has been shown to have possible anti-diabetic properties. Aboriginal mothers gave an infusion of the leaves to their babies to make them to promote restful sleep.



Carpobrotus glaucescens

The leaves are anti-scorbutic. The juice from the succulent leaves has been applied externally to relieve pain from insect bites, burns and sunburn.



Menta australis

Used as a tonic for mild pain relief and stomach ailments. Leaves of the River Mint were crushed in the hands and the vapour inhaled for colds and coughs. Also used to abate stomach cramps, and as a food flavouring. Sometimes it was used as a lining in earth ovens to add flavour to the food.

Country as Medicine Planting Mix	
Botanical Name	Common Name
<i>Acacia longifolia</i>	Golden wattle
<i>Acacia melanoxylon</i>	Australian blackwood
<i>Atriplex nummularia</i>	Saltbush
<i>Austromyrtus dulcis</i>	Midgen
<i>Billardia scandens</i>	Apple berry
<i>Carpobrotus glaucescens</i>	Pigface
<i>Clematis aristata</i>	Australian clematis
<i>Clematis glycinoides</i>	Headache vine
<i>Dianella revoluta</i>	Blueberry lily
<i>Ficus opposita</i>	Sandpaper fig
<i>Geijera parviflora</i>	Wilga
<i>Goodenia ovata</i>	Hop goodenia
<i>Lomandra longifolia</i>	Spiny-head mat-rush
<i>Melaleuca Paperbark</i>	Broad-leaved paperbark
<i>Mentha Australis</i>	Native river mint
<i>Native Sarsaparilla Smilax glyciophylla</i>	Sweet sarsaparilla
<i>Prostanthera</i>	Mintbush
<i>Pteridium esculentum</i>	Braken fern
<i>Santalum obtusifolium</i>	Sandalwood
<i>Solanum laciniatum</i>	Kangaroo apple
<i>Swainsona galegifolia</i>	Darling pea
<i>Themeda australis</i>	Kangaroo grass
<i>Zieria smith</i>	Sandfly zieria

Public Realm & Landscape

High Street Streetscape & Northern Plaza

Indicative Plant Schedule			
Botanical Name	Common Name	Pot Size	Origin
Trees			
<i>Acacia longifolia</i>	Sydney Golden Wattle	400L	Native
<i>Acacia suaveolens</i>	Sweet Wattle	400L	Native
<i>Banksia aemula</i>	Wallum Banksia	400L	Native
<i>Banksia integrifolia</i>	Coastal Banksia	400L	Native
<i>Corymbia gummifera</i>	Red Bloodwood	400L	Native
Shrubs & Groundcovers			
<i>Actinotus helianthii</i>	Flannel Flower	200mm	Native
<i>Bauera rubioides</i>	Dog Rose	200mm	Native
<i>Bossiaea heterophylla</i>	Variable Bossiaea	200mm	Native
<i>Dillwynia retorta</i>	Healthy Parrot Pea	200mm	Native
<i>Epacris longiflora</i>	Fuchsia Heath	200mm	Native
<i>Eriostemon australasius</i>	Pink Wax Flower	200mm	Native
<i>Hardenbergia violacea</i>	Happy Wanderer	200mm	Native
<i>Kunzea ambigua</i>	White Kunzea	200mm	Native
<i>Lambertia formosa</i>	Mountain Devil	200mm	Native
<i>Leptospermum laevigatum</i>	Coast Tea Tree	200mm	Native
<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark	200mm	Native
<i>Melaleuca squamea</i>	Swamp Honey-myrtle	200mm	Native
<i>Ricinocarpos pinifolius</i>	Wedding Bush	200mm	Native
<i>Styphelia viridis</i>	Green Five Corners	200mm	Native
<i>Xanthorrhoea resinifera</i>	Grass Tree	200mm	Native



Hardenbergia violacea



Actinotus helianthii



Bossiaea heterophylla



Epacris longiflora



Eriostemon australasius



Bauera rubioides

Public Realm & Landscape

Central Space & Breakout Space

Indicative Plant Schedule			
Botanical Name	Common Name	Pot Size	Origin
Trees			
<i>Angophora costata</i>	Sydney Red Gum	400L	Native
<i>Cupaniopsis anacardioides</i>	Tuckeroo	400L	Native
<i>Cyathea australis</i>	Rough Tree Fern	400L	Native
<i>Dicksonia antarctica</i>	Soft Tree Fern	400L	Native
<i>Livistona australis</i>	Cabbage Tree Palm	400L	Native
<i>Tristaniopsis laurina</i>	Water Gum	400L	Native
Shrubs & Groundcovers			
<i>Alpinia caerulea</i>	Native Ginger	200mm	Native
<i>Asplenium nidus</i>	Birds Nest Fern	200mm	Native
<i>Dianella caerulea</i>	Blue Flax Lilly	200mm	Native
<i>Dichondra repens</i>	Kidney Weed	200mm	Native
<i>Doryanthes excelsa</i>	Gynea Lily	200mm	Native
<i>Helmholtzia glaberrima</i>	Stream Lily	200mm	Native
<i>Howea forsteriana</i>	Kentia Palm	200mm	Native
<i>Platycerium bifurcatum</i>	Elkhorn Fern	200mm	Native
<i>Pteridium esculentum</i>	Bracken Fern	200mm	Native
<i>Syzigium sp.</i>	Lily Pilly	200mm	Native
<i>Viola hederacea</i>	Native Violet	200mm	Native
Climbers & Vines			
<i>Cissus antarctica</i>	Kangaroo Vine	200mm	Native
<i>Hibbertia scandens</i>	Climbing Guinea flower	200mm	Native
<i>Pandorea pandorana</i>	Wonga Wonga Vine	200mm	Native



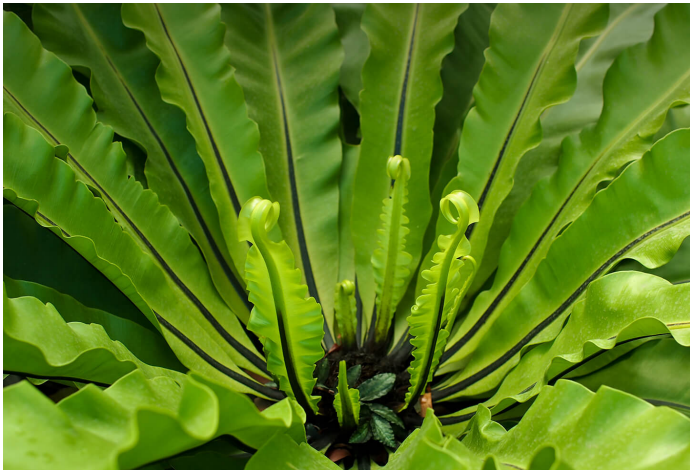
Viola hederacea



Pteridium esculentum



Dianella caerulea



Asplenium nidus



Livistona australis



Angophora costata

Botany Street Streetscape & Southern Landscape Spaces

Indicative Plant Schedule			
Botanical Name	Common Name	Pot Size	Origin
Trees			
<i>Acacia terminalis</i>	Sunshine Wattle	400L	Native
<i>Banksia ericifolia</i>	Heath-Leaved Banksia	400L	Native
<i>Banksia serrata</i>	Old Man Banksia	400L	Native
Shrubs & Groundcovers			
<i>Correa alba</i>	White Correa	200mm	Native
<i>Cyathochaeta diandra</i>	Sheath Sedge	200mm	Native
<i>Dianella revoluta</i>	Blue Flax Lilly	200mm	Native
<i>Dichelachne crinita</i>	Longhair Plume Grass	200mm	Native
<i>Ficinia nodosa</i>	Knotted Club-rush	200mm	Native
<i>Lepidosperma laterale</i>	Variable Swordsedge	200mm	Native
<i>Leptocarpus tenax</i>	Slender Twine-rush	200mm	Native
<i>Lomandra longifolia</i>	Spiny-head Mat-rush	200mm	Native
<i>Microlaena stipoides</i>	Weeping Grass	200mm	Native
<i>Myoporum parvifolium</i>	Yareena	200mm	Native
<i>Pennisetum alopecuroides</i> 'Nafray'	Swamp Foxtail	200mm	Native
<i>Persoonia lanceolata</i>	Lance-leaf Geebung	200mm	Native
<i>Poa labillardieri</i>	Common Tussock Grass	200mm	Native
<i>Poa poiiformis</i>	Blue Tussock Grass	200mm	Native
<i>Rytidosperma</i>	Wallaby Grass	200mm	Native
<i>Themeda triandra</i>	Kangaroo Grass	200mm	Native
<i>Westringia fruticosa</i>	Coastal Rosemary	200mm	Native



Banksia ericifolia



Lomandra longifolia



Correa alba



Banksia serrata



Persoonia lanceolata



Poa labillardieri



Artist's impression, subject to change. Rendered by Narrative Graphics

4 Architectural Response



Architectural Response

4.1 Health Translation Hub Design Statement

The proposed architectural response for the UNSW HTH brings together the aspirations of UNSW and the RHIP into a distinctive landmark design that is innovative and welcoming. This response has been guided by defined project drivers and design principles established during this Schematic Design phase, each of which have been carefully considered to address the needs and goals outlined within the initial brief and rigorously tested through multiple stakeholder engagements.

The UNSW Health Translation Hub is positioned to physically connect the UNSW campus with the adjacent Randwick Health Precinct. Extensive site analysis, massing and shadow studies, and landscape architecture solutions have collectively informed the holistic design of a public domain that unites the urban fabric of Randwick Health and Innovation Precinct and establishes a functional, safe and high-amenity user experience.

An activated and permeable ground plane responds to the specific site conditions by integrating an indigenous interpretation of history and culture of the site into a multi-layered landscape design that supports individual and group experiences with informal and curated programs of use. The proposed endemic local plant species gives expression to the medicinal qualities of native flora, while creating a landscape experience of discovery and education.

The ground level is open, continuous and permeable through the following series of design moves:

- Through-site links connect the perimeter street and public transportation network with the activities of the UNSW campus and Randwick Health Precinct.
- A slender vertical building core is positioned to optimise permeability with Botany and High streets while respecting visual adjacency to the proposed Sydney Children’s Hospital.
- An efficient series of building floorplates with strategically placed columns facilitate ground floor organisation and flexibility of use.
- Distribution of loading functions and services plant away from the street level.
- Organising all vehicle logistics to the south of the site with grade separation from street level.
-

Large active-use tenancies are distributed across the ground and mezzanine levels to provide an activated multilevel entry experience. This will showcase the research and education functions within the building, provide shared collaboration spaces and chance encounters for building occupants, and line the primary access pathways to engage the public, generate interest and physically display the connection between UNSW and the Randwick Health Precinct.

Above ground, the tower form provides a highly flexible floorplate, that can cater to a diversity of tenancy options and most importantly adapt to the multiple programs inclusive of education, workplace, and dry research laboratories. The opportunity for inter-floor collaboration spaces supports the UNSW HTH’s aspirations for ground-breaking innovation, research and knowledge transfer by providing both visual and physical connections between different user groups in key locations.

The tower form has a distinctive envelope that establishes the external identity of the UNSW HTH and addresses solar exposure while optimising views. This is achieved through a façade system composed of projecting shading hoods, double-glazed units and insulated panels which are scaled and position to visually de-materialise the building form of the UNSW HTH. The shading hoods have a gently sculpted form that is welcoming, open and generous in shading the building envelope. The collective composition of these shading elements gives architectural interpretation to a landscape characterised by its wind driven sands – evocatively identified as “the barren sands of Sydney”.

Architectural Response

Building Introduction

The Architectural Response chapter will address together each of the following components of the building design for the UNSW HTH.

Signage

Services & Core (beyond)

Facade

Vehicular Entry & Basement

Atrium & Mezzanine

Site-Wide Connections

Public Domain

Awning

Building Entries



Architectural Response

4.2 Public Domain

The ground floor is designed as an extension of the public realm and generates activation, connection to the UNSW Kensington Campus and health precinct and forms an identifiable entry point for the building users.

It is highly permeable, with multiple entry points that respond to key pedestrian routes:

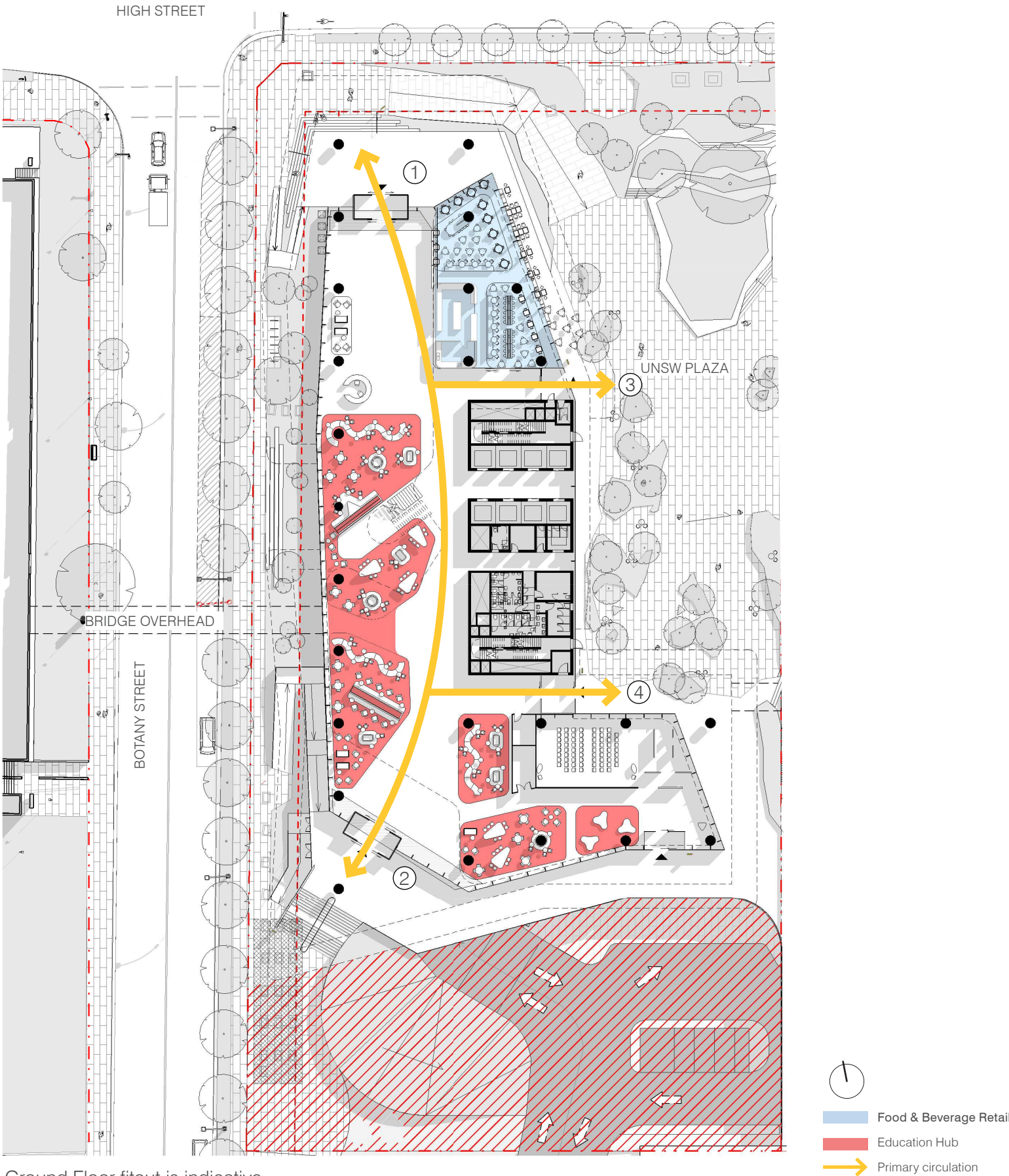
- 1. High Street (light rail stop, bus stops)
- 2. Botany Street (bus stops, UNSW Kensington Campus)
- 3. UNSW Plaza (public), SCH Stage 1 and CCCC
- 4. SCH Stage 1 and CCCC, IASB, POW Hospital

The corners of the building have been pulled in at the main entries to provide a covered entrance. Generous external stairs create a civic approach that negotiates level changes of the site and provide a space for sitting and gathering.

Integrated ramps have been provided at key locations to facilitate through-site links and provide equitable and accessible entry to the plaza, UNSW HTH and SCH Stage 1 and the CCCC.

Within the ground floor envelope there are retail, user-led education, seminar, gallery and exhibition spaces. These spaces are centred around a collaborative atrium space that extends over three levels and accessed by an open stair shown in the centre of the plan.

The core of the building has been placed to the east to ensure maximum street activation and permeability is achieved. This also provides an appropriate backdrop for the intimate gully space within the public domain, as it is envisioned to be a place of respite and refuge.





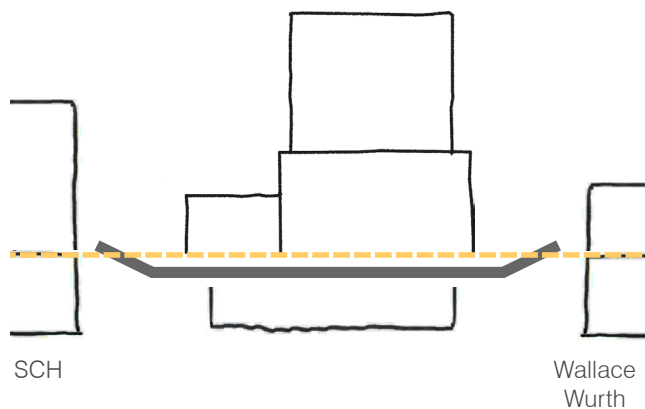
Artist's impression, subject to change

Architectural Response

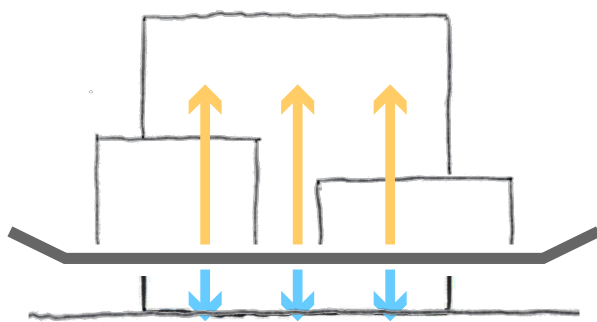
Awning Design

The building awning forms an important part of this design proposal, as it connects the existing street datum of the Wallace Wurth building and proposed SCH Stage 1 and the CCCC masses. This design move identifies and reinforces the public domain by elevating the building mass off the ground and provides the opportunity to deliver a more human centric architecture below.

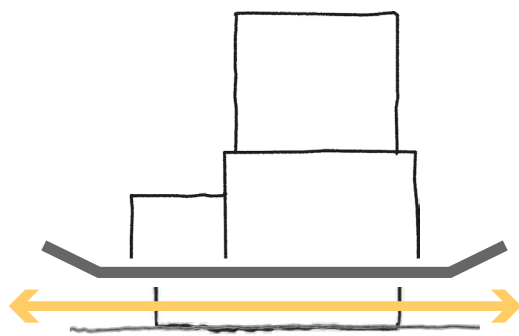
Its soft, sculpted shape celebrates the building's entries with a warm, optimistic and welcoming experience for those moving around it, while also providing the necessary weather protection to the main entries.



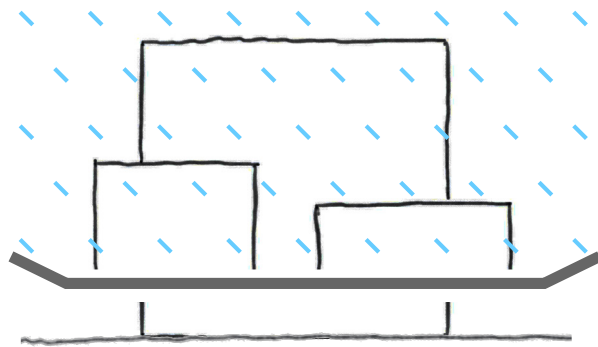
The awning establishes a datum along High Street by aligning to the Sydney Children's Hospital (SCH) and Wallace Wurth buildings



The awning separates the building mass from the public realm to frame an open, inviting and civic ground floor experience



The awning reinforces a continuous public domain from the plaza to Botany St



The awning provides weather protection to the building's perimeter and entries



Artist's impression, subject to change. Render by Narrative Graphics.

4.3 Basement Design

Vehicular Entry

The UNSW HTH, SCH Stage 1 and the CCCC and IASB will be serviced by shared roadways that direct traffic from Botany Street into their respective basements and drop-off zones.

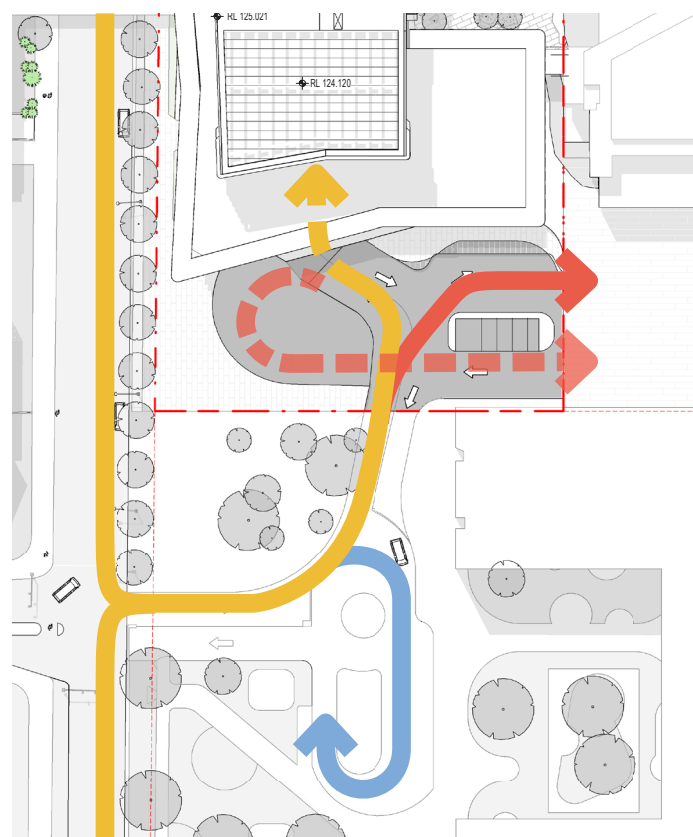
The majority of this road infrastructure will be designed and delivered within the SCH Stage 1 and the CCCC and IASB scope, however the UNSW HTH will use this network to access the single level basement for services, waste and contractor vehicles.

Programme

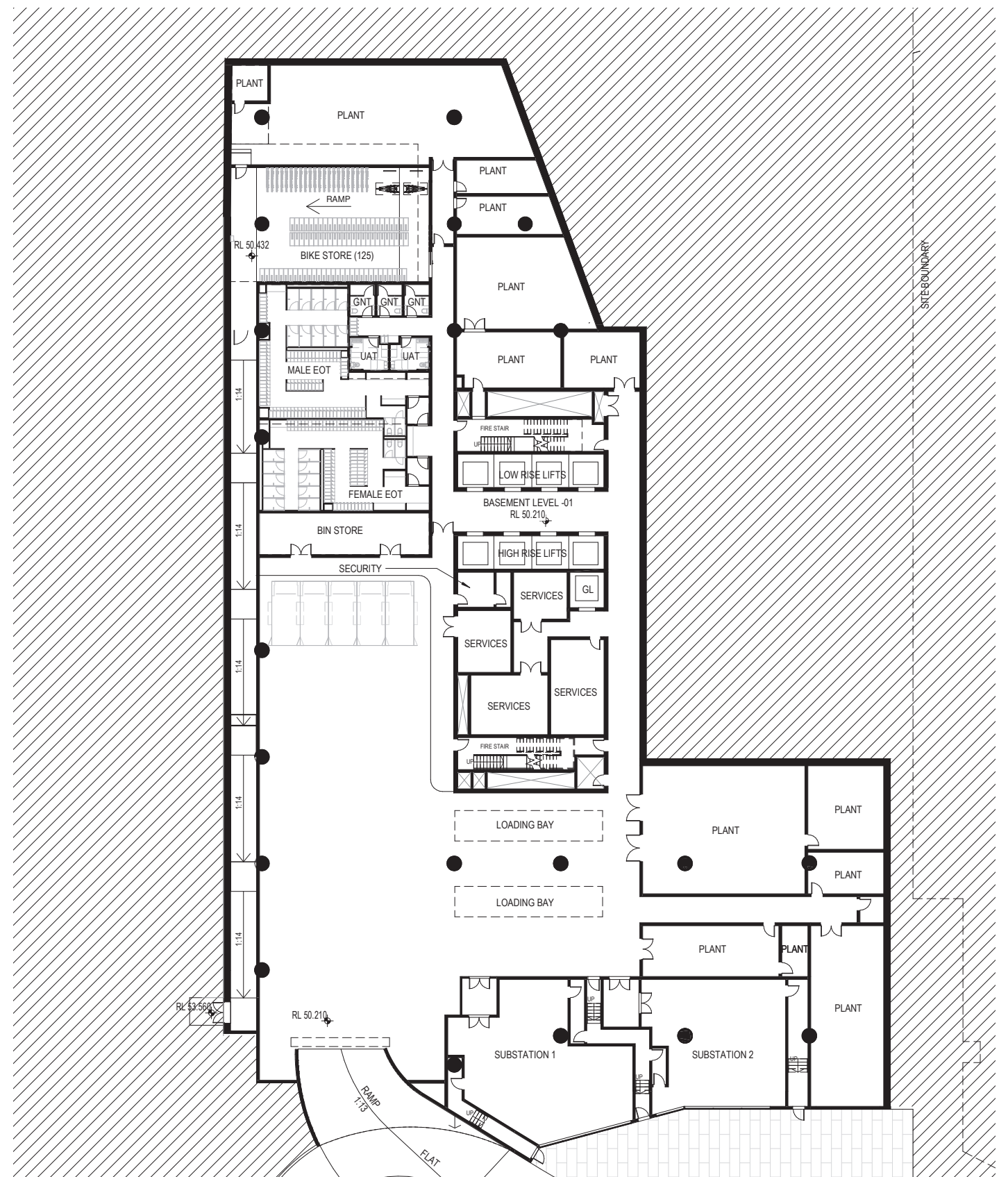
The Basement accommodates the following functions

- End of Trip facilities
- Bicycle storage
- Loading dock
- Substation
- Back of house (bin store, security)
- Mechanical services
- Fire services
- Electrical services
- Hydraulic services

Particular attention has been paid to keeping the basement size within the control envelope to retain deep soil zones for the plaza above.



- UNSW HTH basement entry
- SCH Stage 1 and the CCCC emergency vehicle entry
- SCH Stage 1 and the CCCC B2 entry
- IASB drop-off



Architectural Response

End of Trip Facilities

The provision of End of Trip facilities encourages users of the UNSW HTH to undertake environmentally sustainable modes of transport when commuting.

A bike ramp is accessed from Botany Street and delivers riders into the Basement Level, where they are greeted by bicycle facilities (tire pump, workstands) and storage racks before continuing to the shower and change facilities.

The End of Trip facilities will cater to 3,000 occupants and will provide the following amenities:

- Over 120 bicycle storage spaces in a variety of bike storage methods to suit all users
- Male and female facilities each with 9 showers and 125 lockers
- 3 x gender neutral facilities
- Male and Female accessible facility



241 O’Riordan Street, Architectus



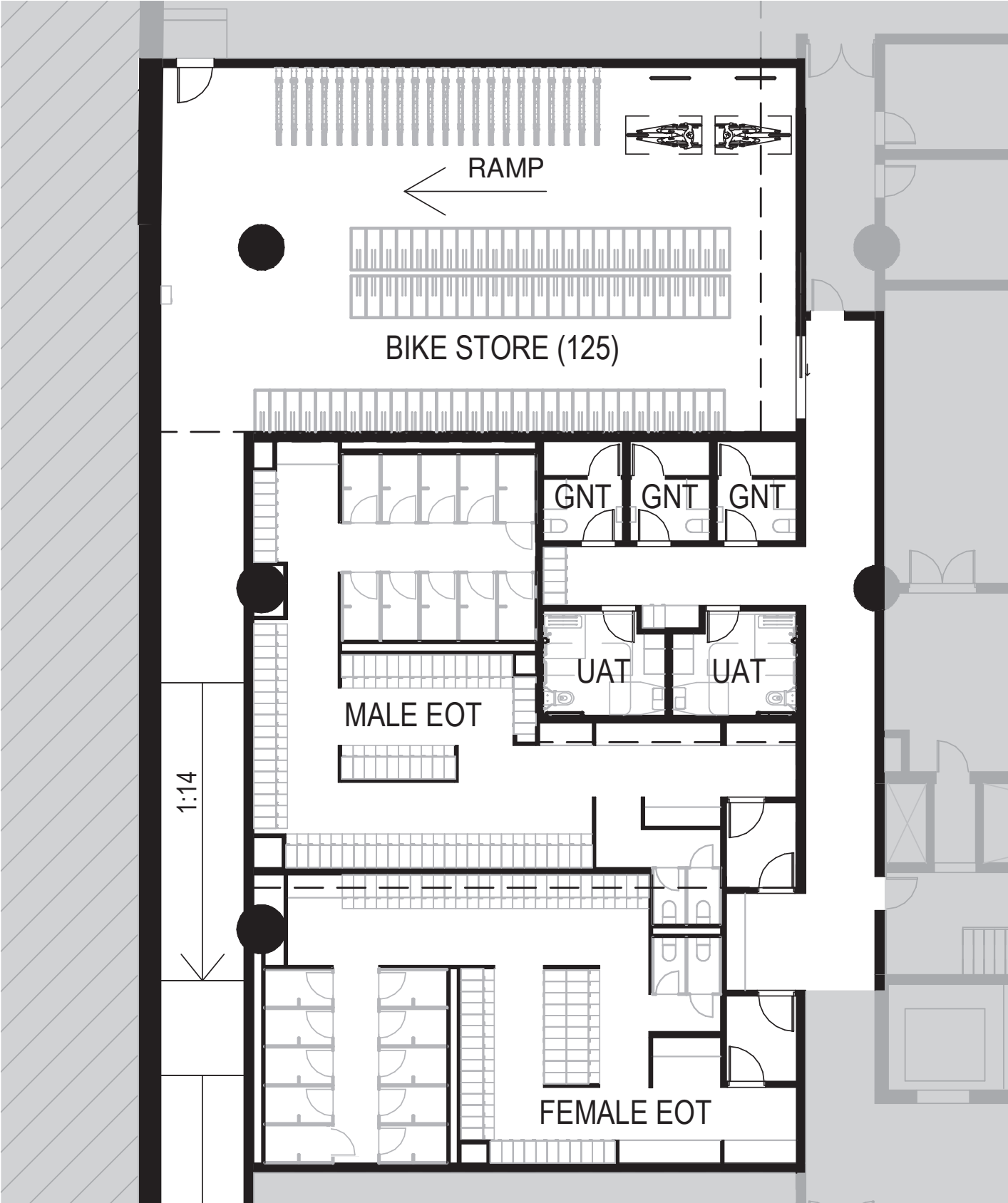
400 George Street, Architectus



151 Clarence Street, Architectus



201 Kent Street, Architectus

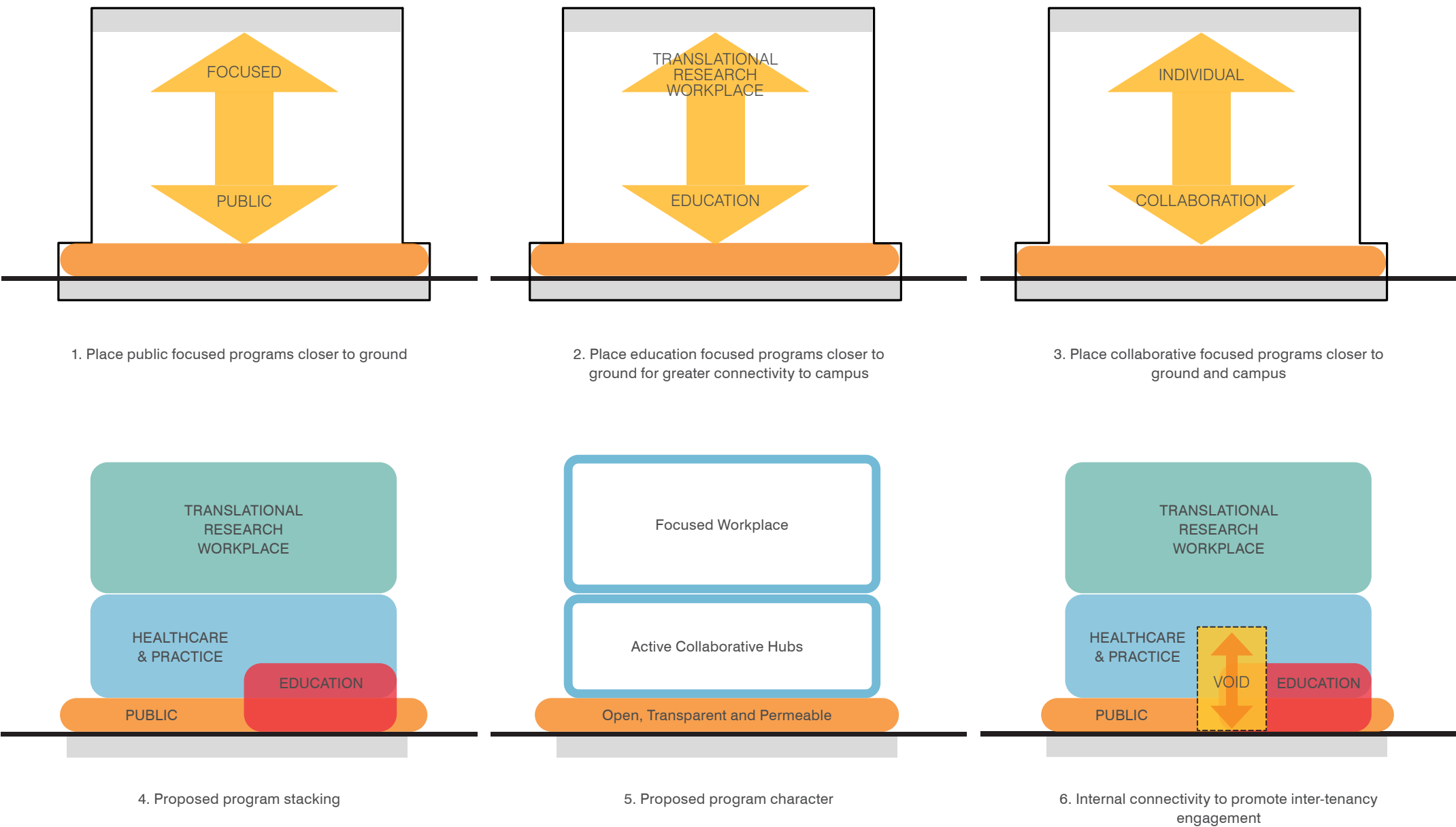


Indicative End-of-Trip layout

4.4 Indicative Programme Breakdown

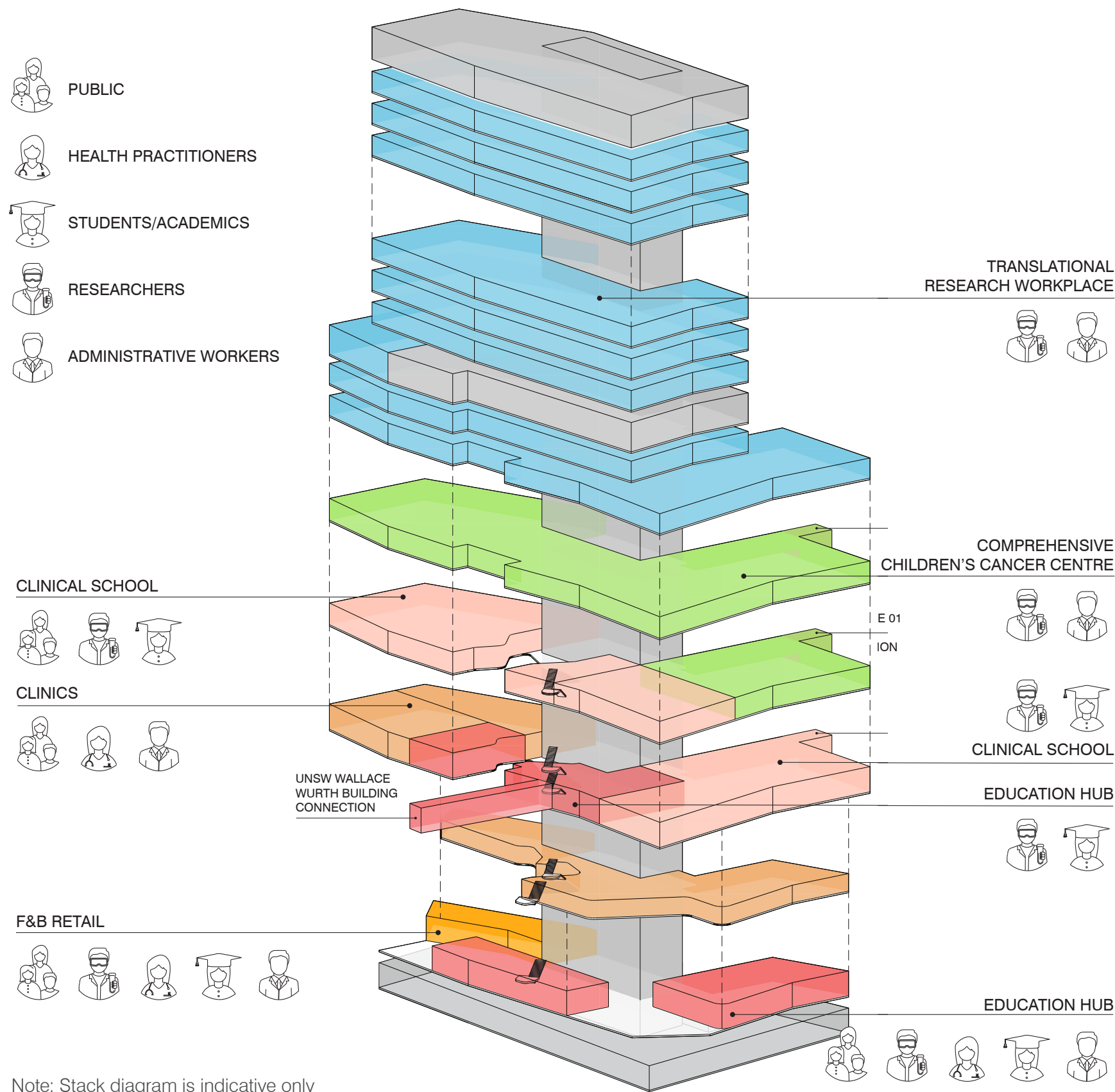
The diverse mix of building programs and co-located activities have been arranged based on the design principles outlined in the adjacent diagrams.

These programs respond and are complemented by the neighbouring buildings and their uses to enable and encourage the cross collaboration and seamless integration between the precincts.



Indicative Building Users

The UNSW HTH will bring together academics and researchers; educators and students; health practitioners and out patients; as well as members of the public. Using the design principles established, the UNSW HTH floor plates have been organised into this diverse hub of stacked activities that will generate new relationships, collaborations and health innovations.



4.5 Atrium Design

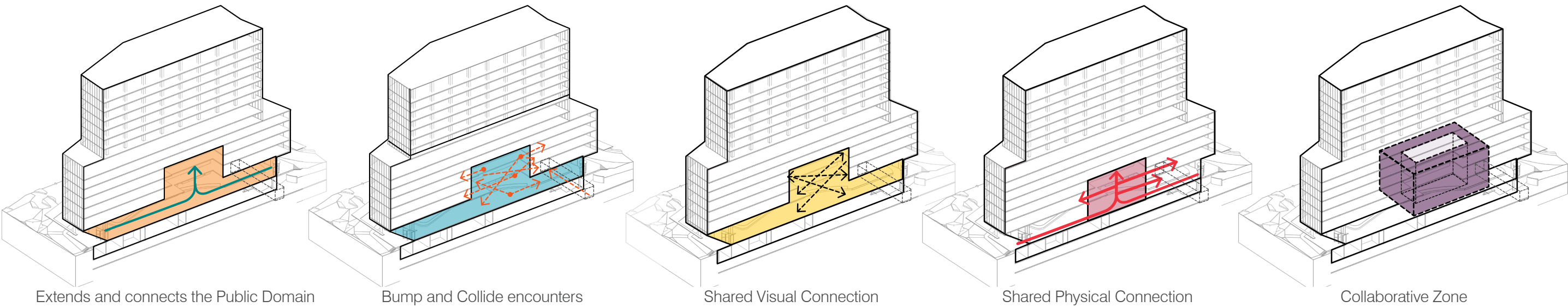
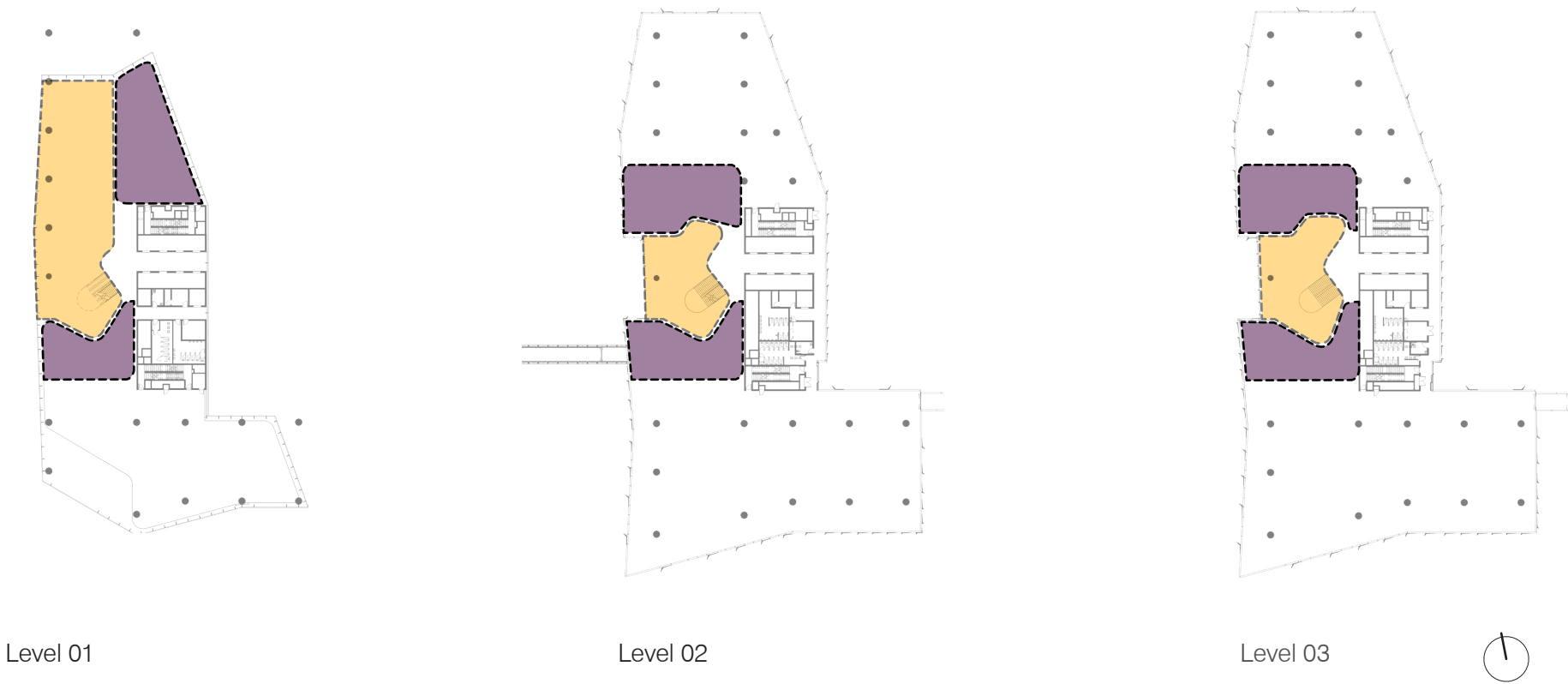
The UNSW HTH atrium is envisioned as the social heart of the building. It is the place where the many diverse co-located activities are brought together into a highly active, collaborative and connected space.

Starting from the ground floor, the atrium connects four levels within the UNSW HTH podium (Ground Floor to Level 03). This will provide public access to the clinical, education and research spaces via a central stair.

The stairs, which will be designed as a feature within the atrium, has been intentionally located centrally on the western edge as to provide clear legibility for users upon entry into the UNSW HTH via the northern and southern entries. Its strategic location also provides tenants with the means to maximise their tenancy lines into the core to make use of the great collaborative zones around the atrium's perimeter, which showcase the inner workings of the UNSW HTH.

By connecting the users vertically – they are able to visually and physically connect with other activities around them, sparking bump and collide encounters and the cross pollination of knowledge.

This showcase moment is brought to street edge, by pulling the podium forms away from the atrium and revealing the inner workings of the UNSW HTH.



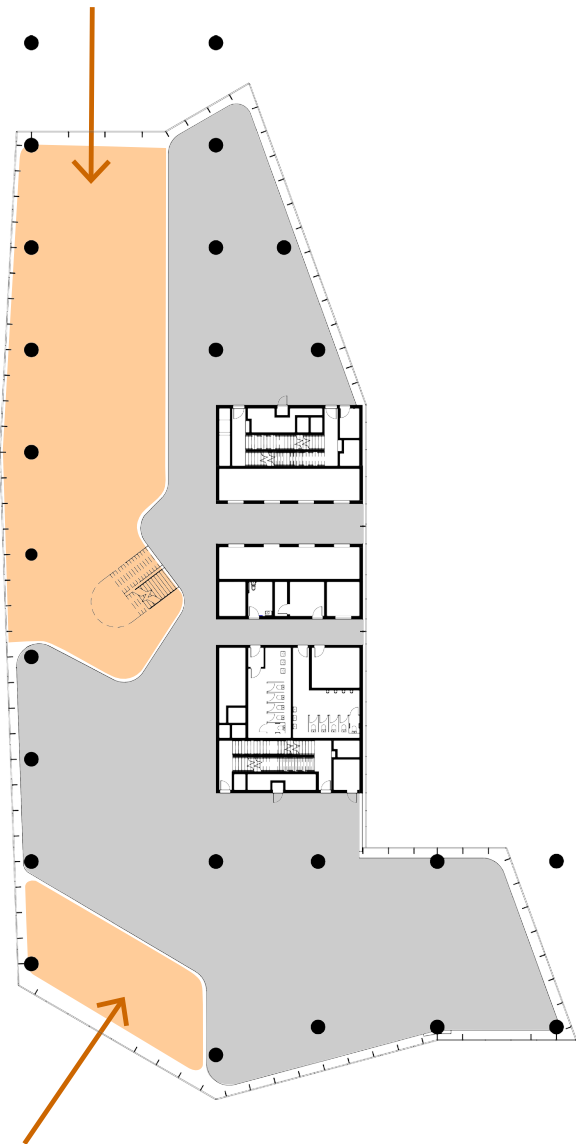


Artist's impression, subject to change. Render by Narrative Graphics.

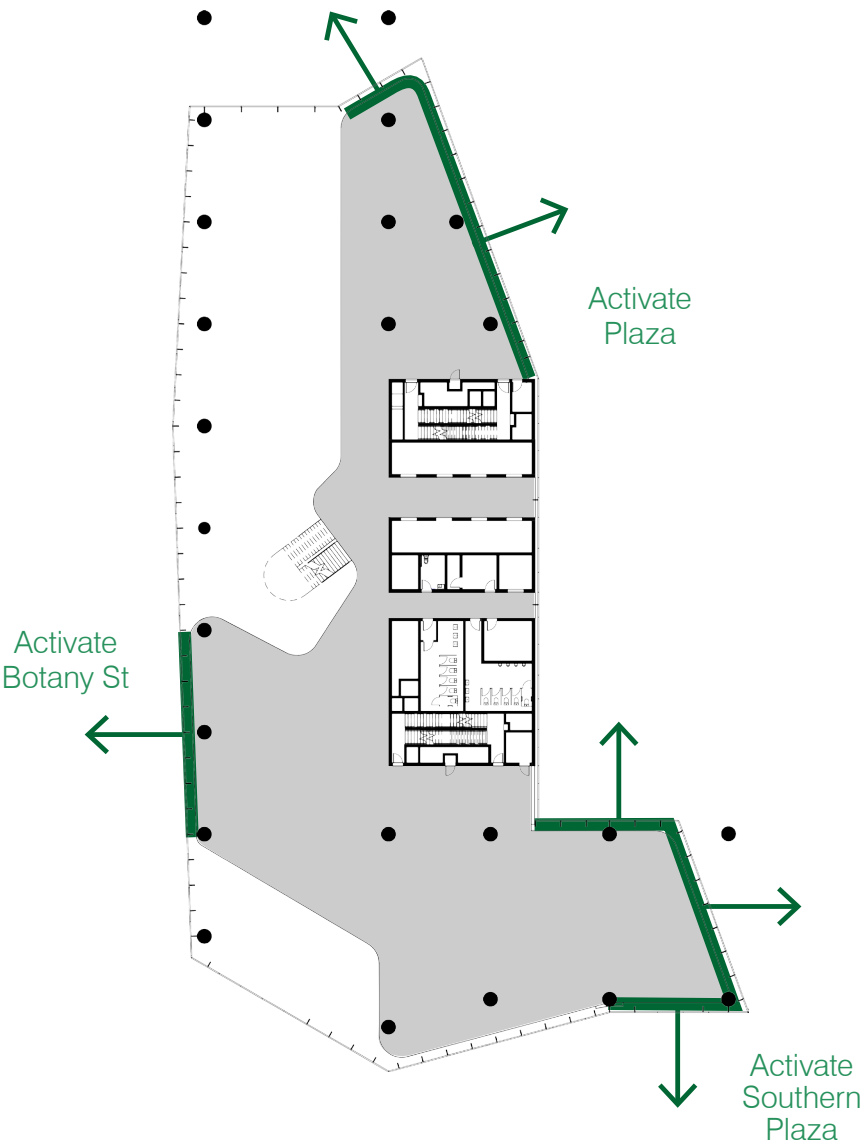
Level 01 Mezzanine

The Level 01 mezzanine is a floor that sits within the ground floor lobby space. It is intended to be a major activator of the space and showcase some of the clinical activities occurring.

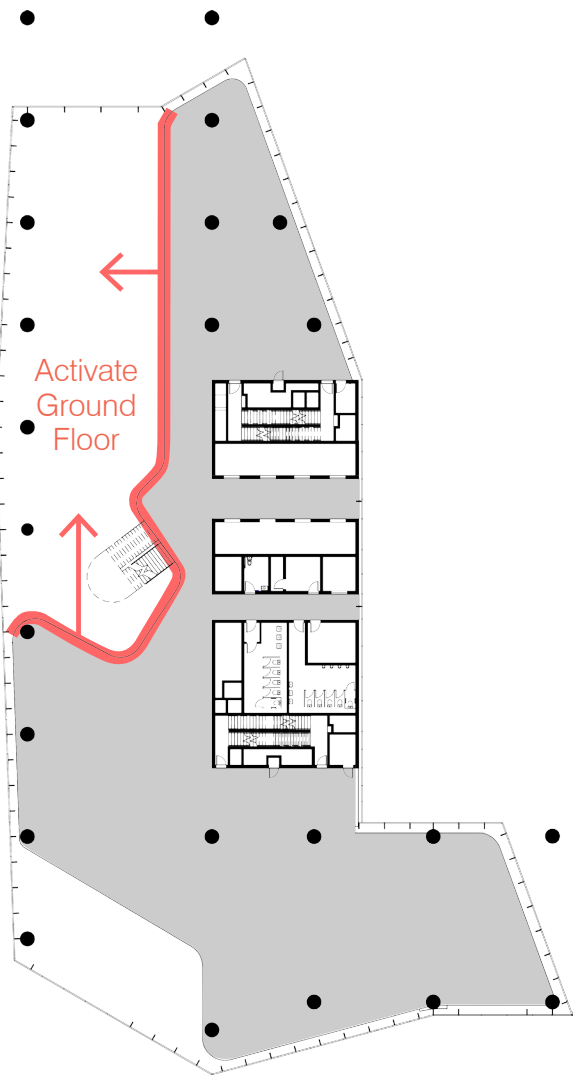
Its has been shaped to provide generous double height spaces around the entries, and then pulled out the building edges in strategic location to activate the streetscape, plaza and pedestrian access ways.



Double-height at entries



Pulled to edges for activation



Activate ground floor entry



Artist's impression, subject to change

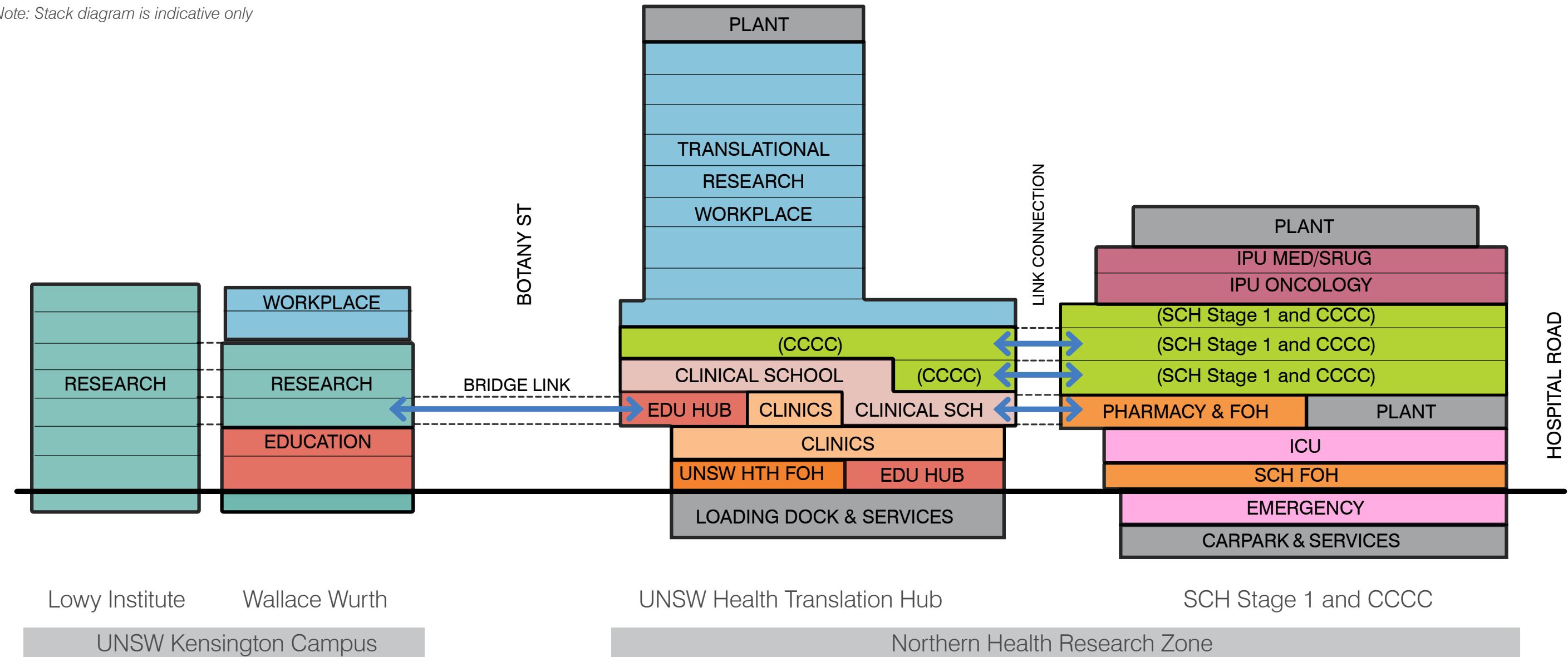
4.6 Site-Wide Connections

An essential element in connecting the education campus and the health precinct are the footbridges between the UNSW's Wallace Wurth Building, the UNSW HTH and the Sydney Children's Hospital.

Visible from the plaza and enclosed in glazing, the bridges will act as a beacon to the public below, highlighting the connection and collaboration inside.

The two bridges will connect common functions across the three buildings, and will facilitate a wider precinct connection to the UNSW campus and IASB.

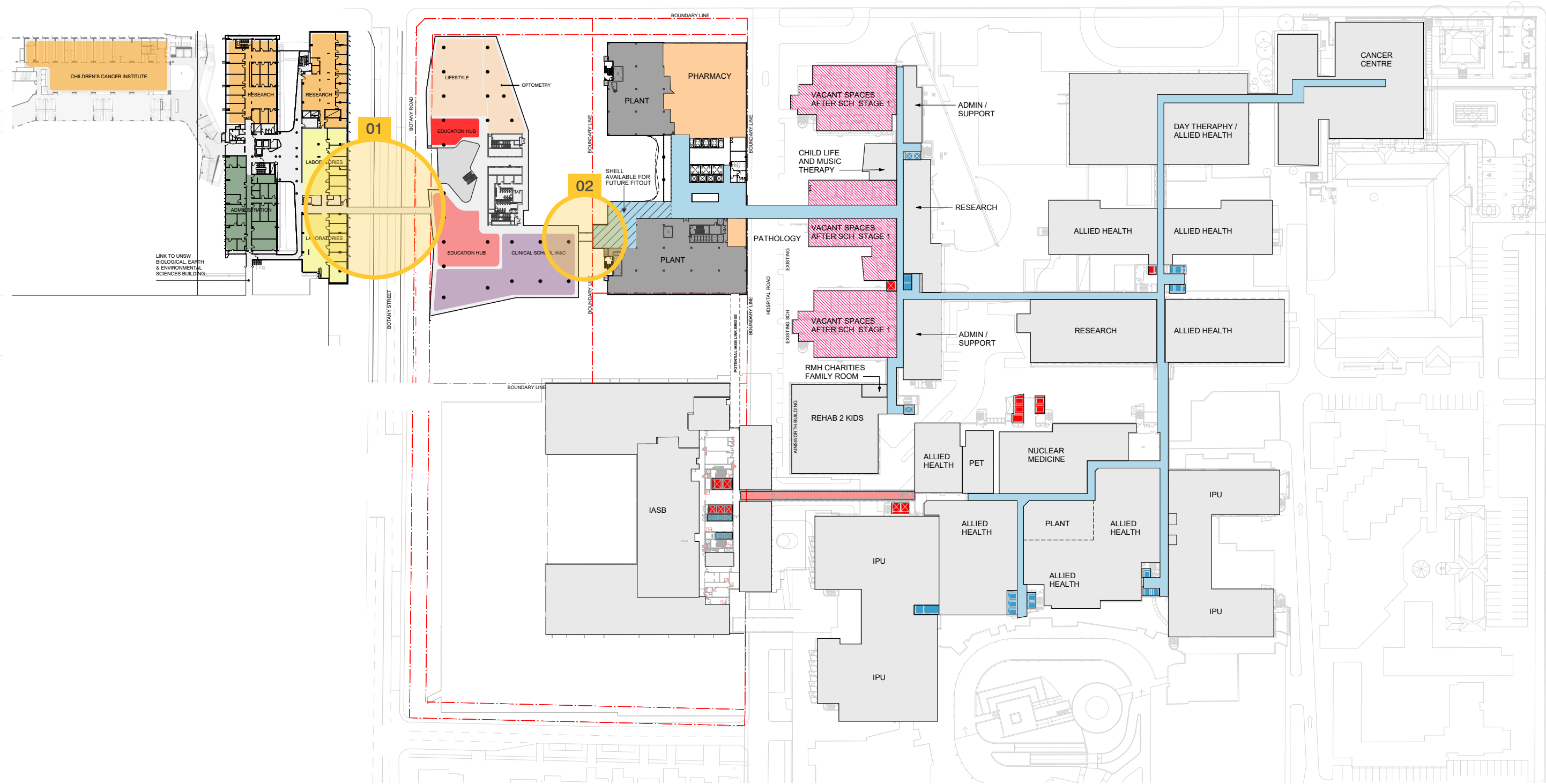
Note: Stack diagram is indicative only





Artist's impression, subject to change

Precinct Network



Level 02 Precinct Plan

- 01 Wallace Wurth Connection
- 02 SCH Stage 1 and the CCCC Connection



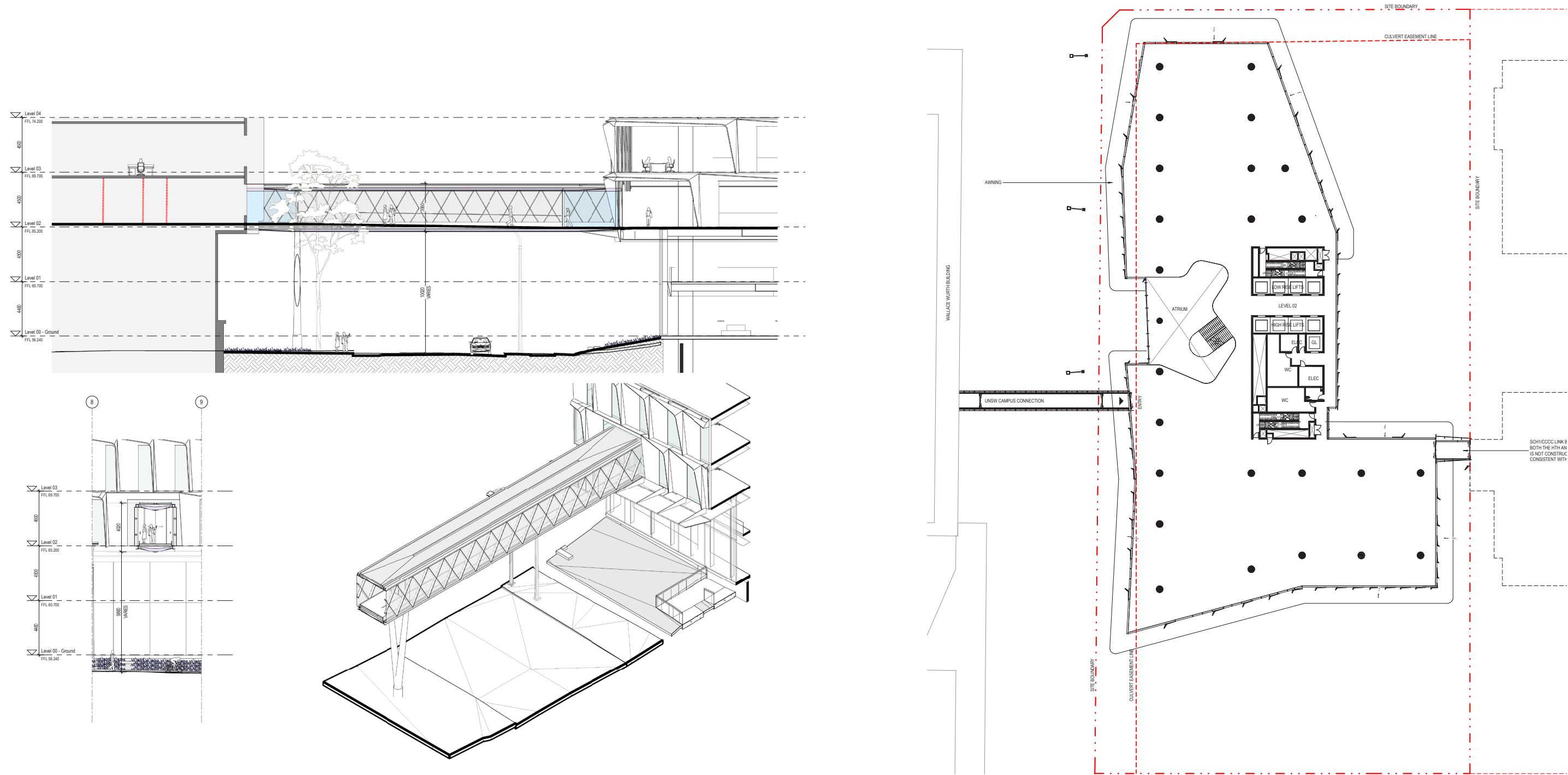


Artist's impression, subject to change. Render by Narrative Graphics.

Architectural Response

Wallace Wurth Connection

This bridge spans across Botany Street to connect UNSW's Wallace Wurth Building and the UNSW HTH. This bridge connects with the western facade of the UNSW HTH on Level 02.

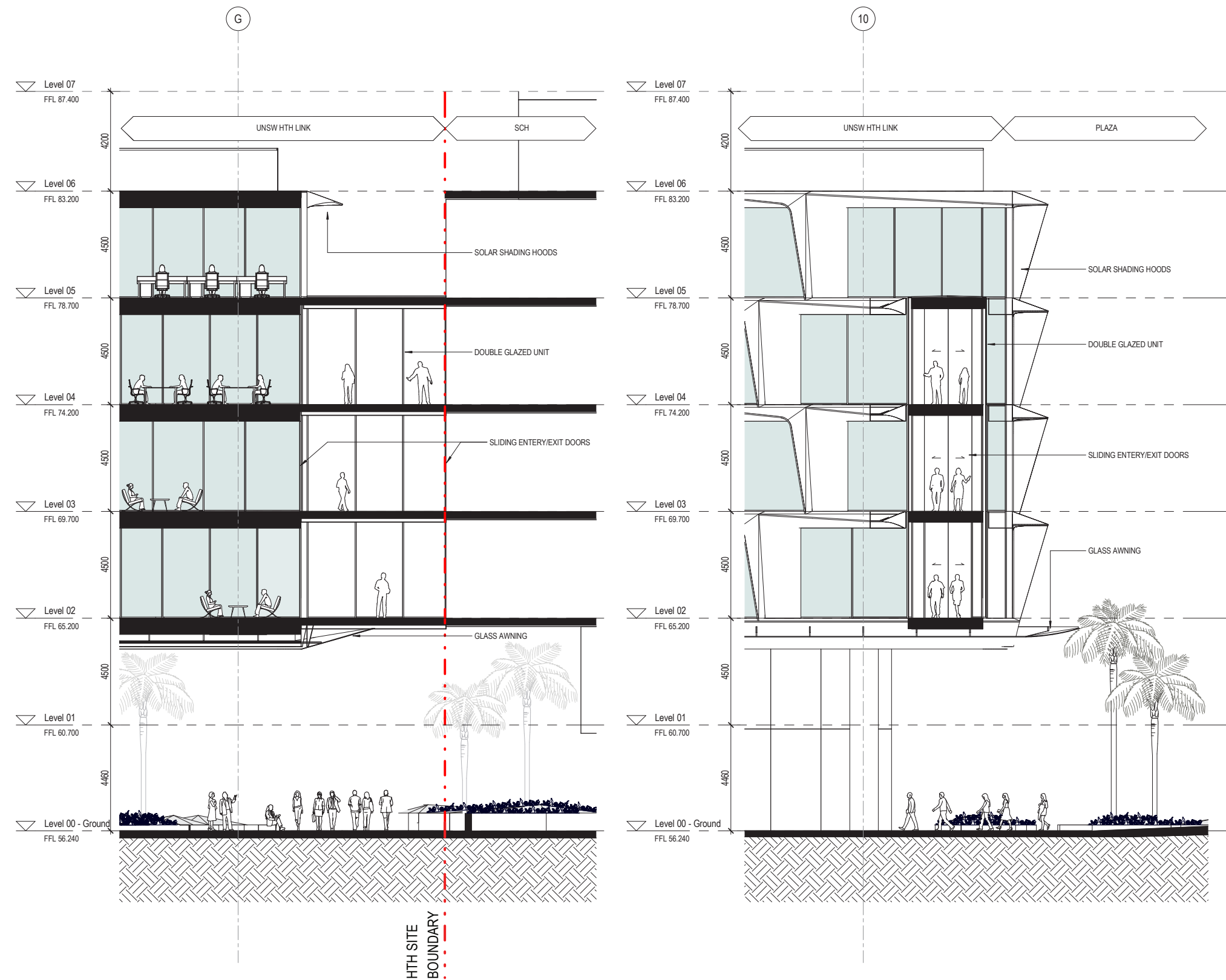




Artist's impression, subject to change

SCH Stage 01 & CCCC Connection

The podium extends out across multiple levels at the south-east of the UNSW HTH to connect to the SCH Stage 01 and CCCC via a multi-level bridge that will provide access across levels 03 and 04 for the Children's Comprehensive Cancer Centre who are a common occupant in both developments, and a public connection at level 02.

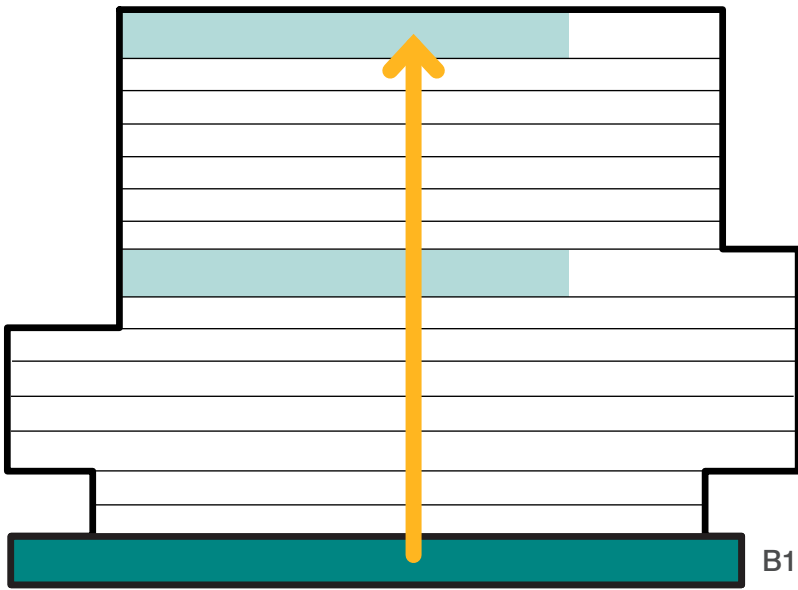




Artist's impression, subject to change

4.7 Services Strategy

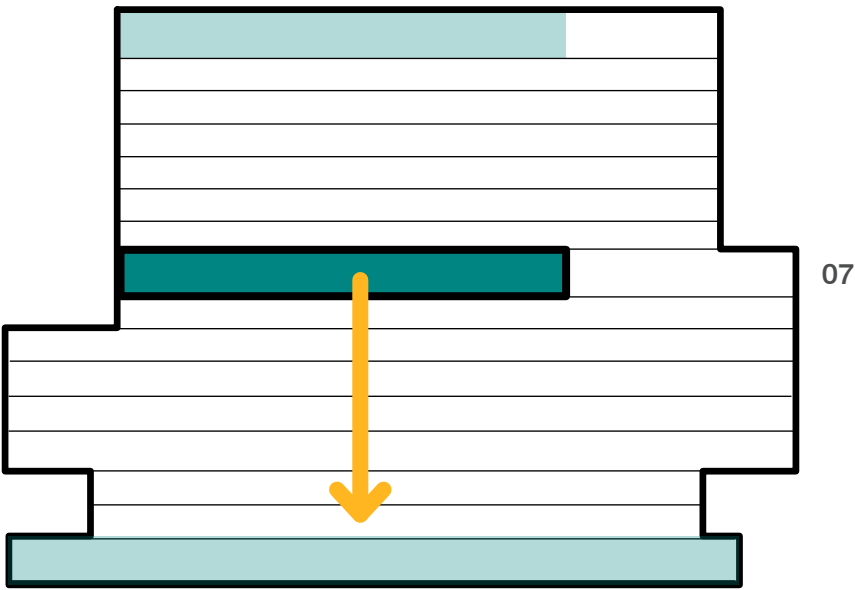
The UNSW HTH is served by three main plant zones located within the building:



Basement Level

The Basement includes the following:

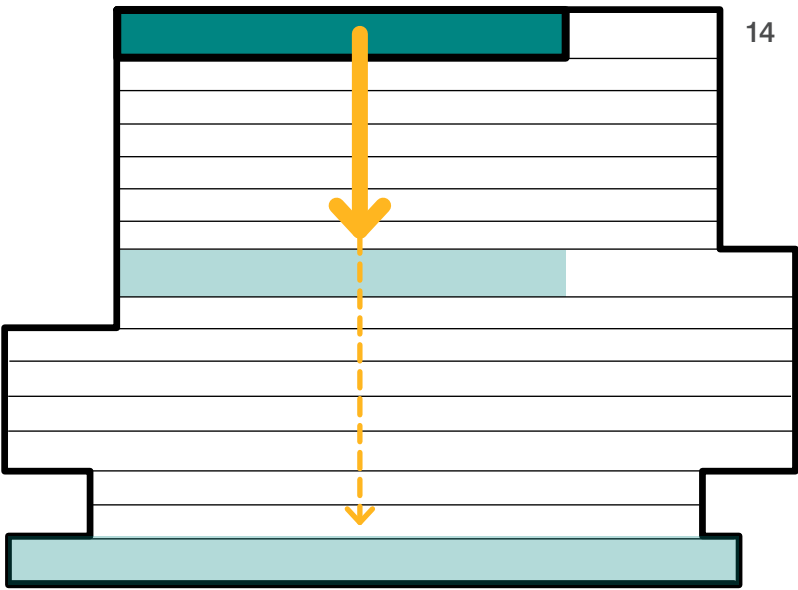
- Substations & Switchroom
- AHUs (ground floor tenants)
- Water cooled chiller plant
- Fire Pump and Tank
- OSD Tank (TBC)
- Rainwater tank
- Grease Arrestor
- Hot Water & Sewer Pump
- Gas meters and cold water pumps
- ICT and Communications



Level 07

The plant on Level 07 includes the following:

- AHUs
- Smoke exhaust plant
- Stair pressurisation plant
- Power Generators
- LV Switchroom
- Supplementary air intake
- Water storage tank
- Domestic hot water tank
- Condensing boilers
- Heating distribution pumps



Level 14

The plant on Level 14 includes the following:

- AHUs
- Smoke exhaust plant
- Stair pressurisation plant
- Cooling Towers
- Air Source heat pumps
- Heating distribution pumps

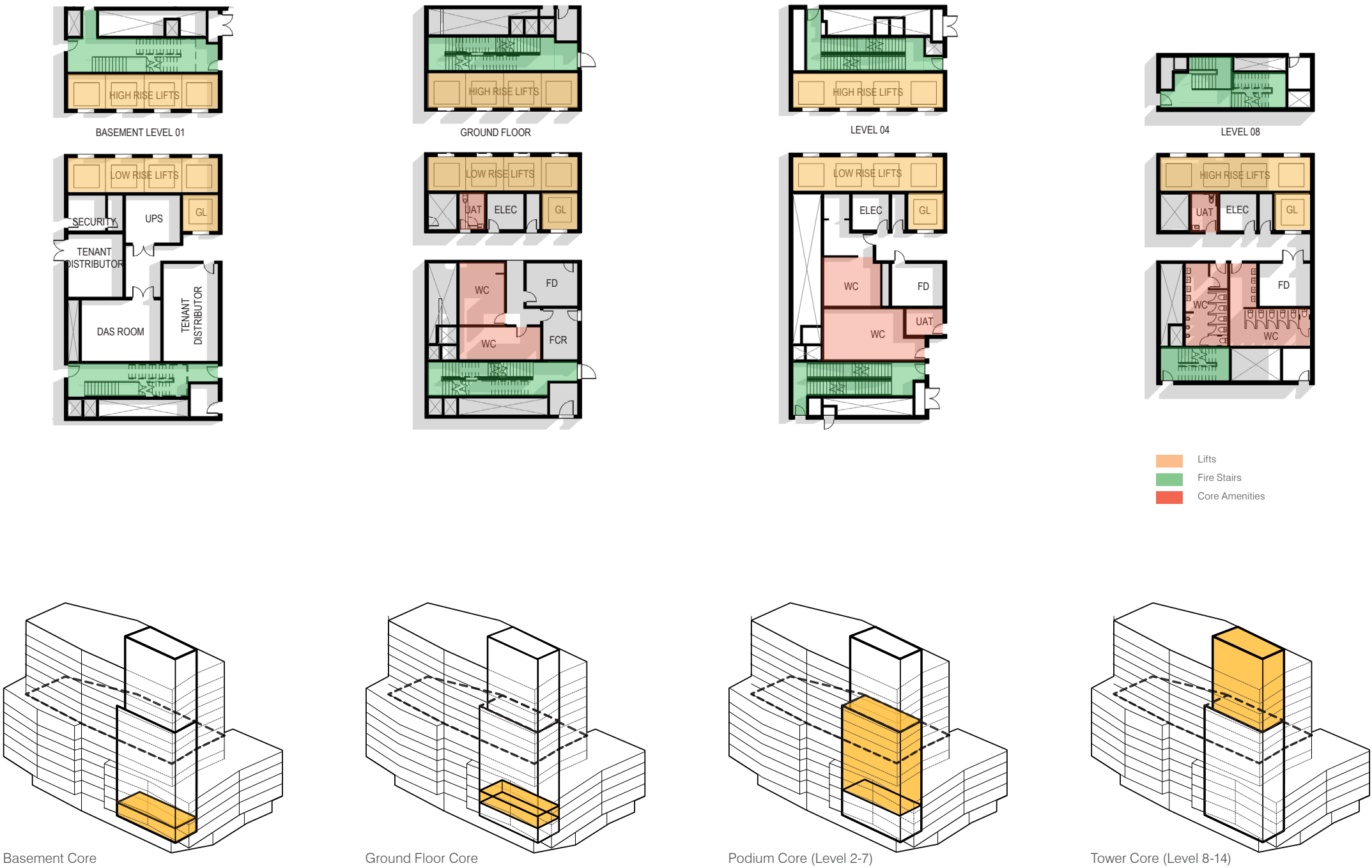
Architectural Response

Core Design

The UNSW HTH core is situated centrally on the eastern edge of the building floor plate. Dimensionally, the core is largest on the podium levels at 33.7m long north-south and 12.9m wide east-west and this will provide a highly flexible and uninterrupted floor plate, that can change and adapt over time.

The core has been consolidated into one location and will accommodate two lift banks (1 high rise, 1 low rise), building amenities and building services and fire egress.

As the building mass changes from the podium to the tower, the core reduces in size to match the floor plate requirements.

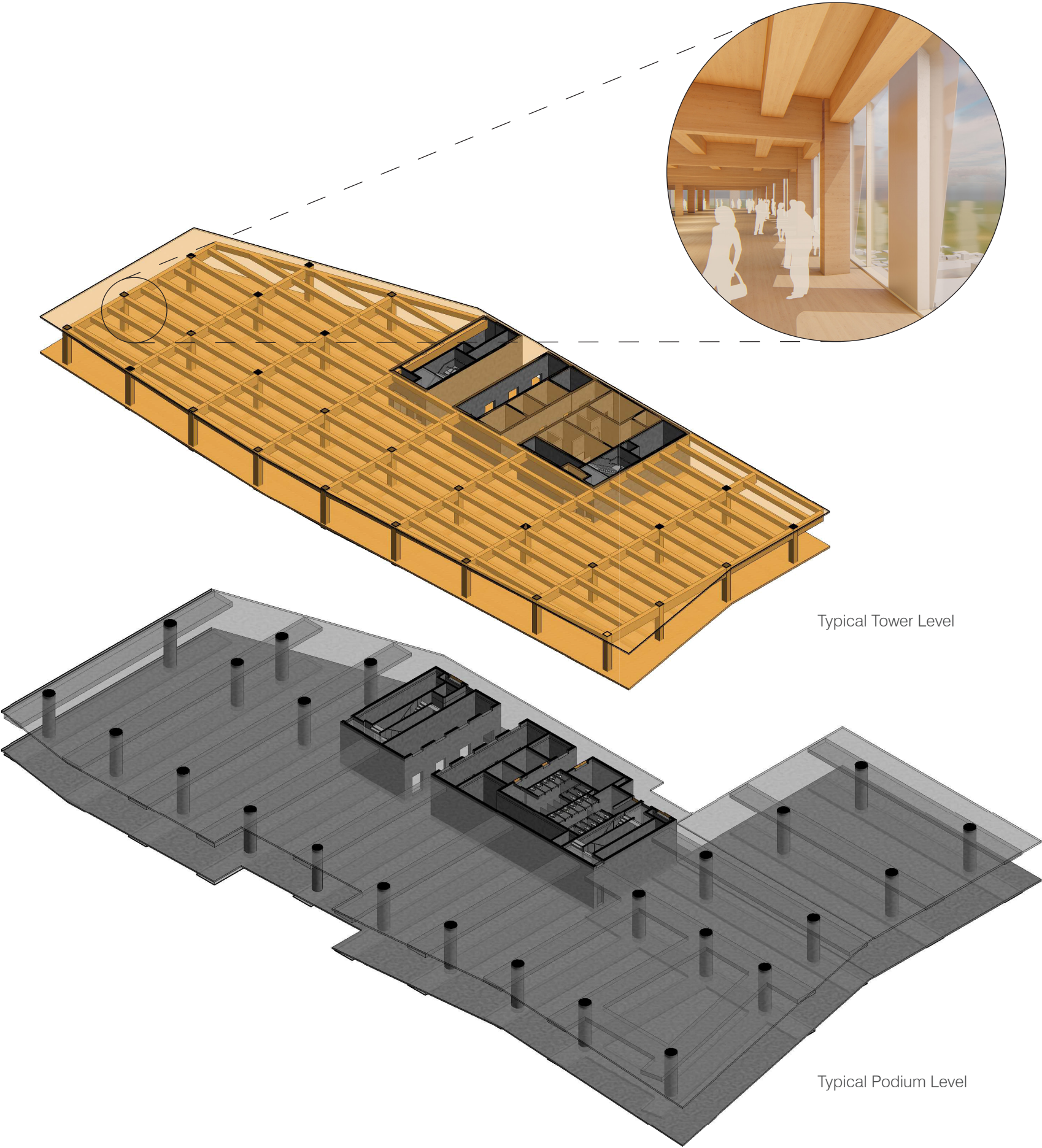
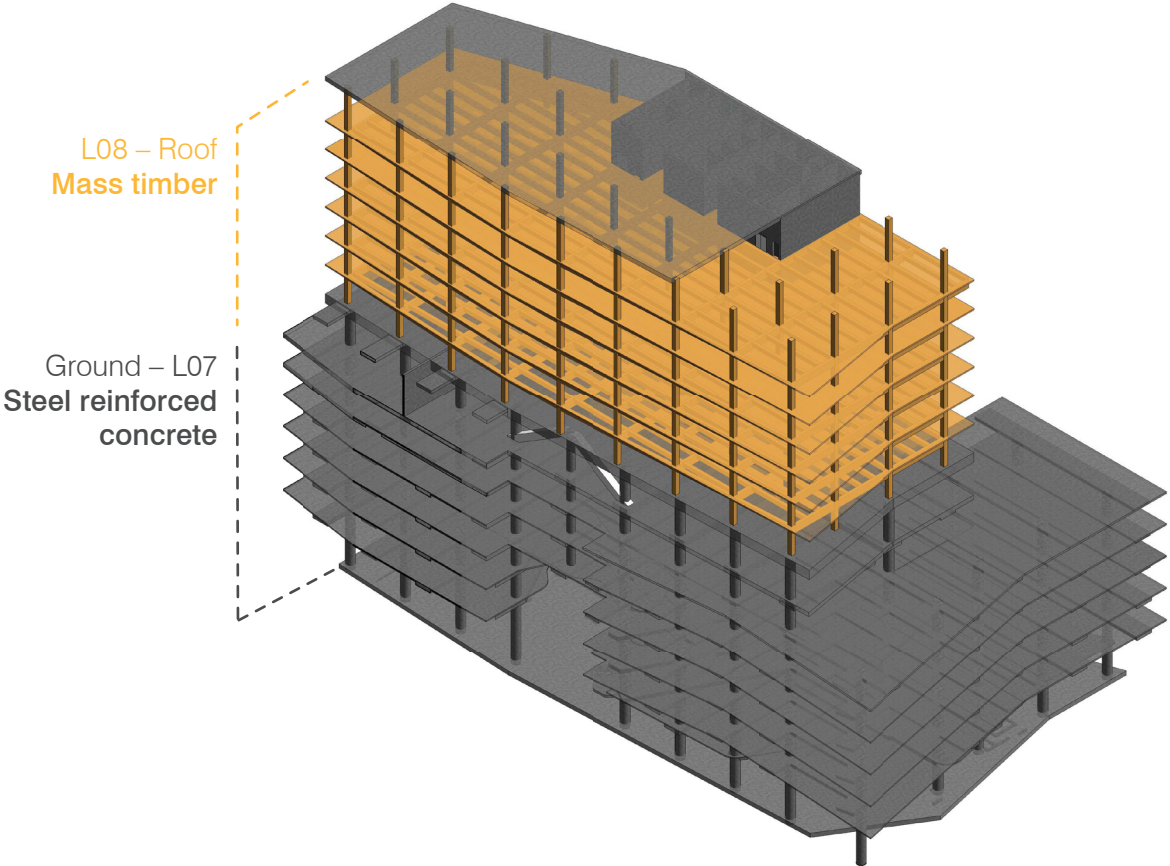


4.8 Structure

The construction methodology for the UNSW HTH is to be realised with minimal impact upon the significant functions and sensitive activities of its adjacent neighbours through an emphasis on designing for off-site manufacture and on-site processes of assembly.

The building will be swiftly realised, utilising a hybrid of cutting edge digital prefabricated construction methods enabled by the multi-level timber engineered structure along with conventional techniques.

With the building's site on the edge of the active Randwick Health and Innovation Precinct, prefabricated timber will markedly reduce waste, vibrations, noise and vehicle movement to and from the construction site whilst also providing UNSW with flexibility of spaces that can evolve over time.



Architectural Response

4.9 ESD Response

The UNSW HTH has been designed to embody four central pillars which support sustainability of the internal, local, and global community.

- Collaboration
- Health and wellness
- Future proofing and resilience
- Carbon efficiency

These pillars have been integrated throughout the building design in the following methods:

1. Minimise embedded operational carbon when appropriate
2. High performance HVAC plant
3. Envelope embedding flexibility in design
4. Central activity and collaboration hub, creating varied and engaging environments
5. Minimised consumption through efficient envelope
6. Future provision for campus connection
7. Inclusive and collaborative spaces
8. Over 2500m² of publicly accessible open space for staff students, patients and the community
9. Waste management and recycling facility
10. End of trip facilities
11. Accessible to public transport
12. Open, inviting and resilient building
13. Ease of access
14. Community engagement and public space
15. Designing with country
16. Diversity of spaces within the building
17. Climate responsive precinct
18. Water efficiency through capture and reuse
19. Drought resilient landscaping
20. Active transport provision with end-of-trip facilities
21. SCH Stage 1 and the CCCC link and Randwick Hospital campus link



Architectural Response

4.10 Facade

The façade solution for the UNSW HTH has been developed according to the following design brief:

Be Generous and Open—Via transparency and legibility, the tower, podium and ground floor facade should display a sense of permeability, activity and welcome.

Landmark Expression—The UNSW HTH façade should be a distinctive innovative expression of its dynamic translational health research both from a distance and at a street level. It should represent a sense of confidence and purpose for the building that blurs the education research and health uses into one.

Celebrate Views – Embrace and enhance the views both at tower level and podium level of UNSW campus, CBD and eastern beaches with the tower façade. Unlike typical university or hospital buildings this building can and should ‘reach out’ and provide a high degree of visibility both in and out.

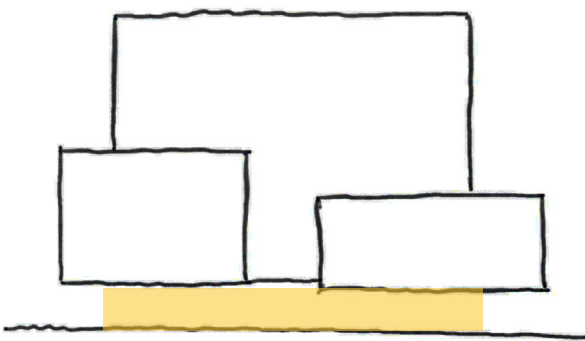
Scale –Use the façade to assist in reducing building mass and express the diversity of activity and function.

Social Heart –The UNSW HTH project should complement the generous and connected public domain, by reinforcing its civic nature, showcasing the many co-located activities and users.

Ensure the Appropriate Comfort—By addressing the solar orientation and optimise views and privacy, the façade solution will provide a comfortable, adaptable and flexible workplace.

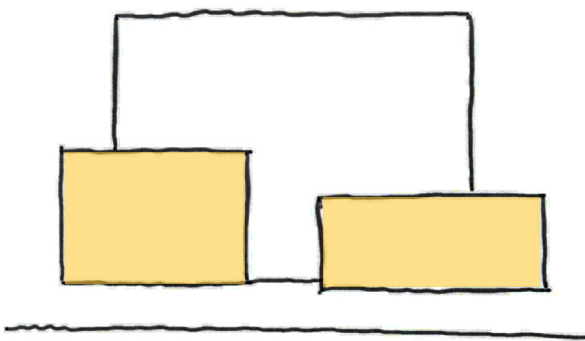
Robust and Resilient—Facade should be robust in design and detail, selecting durable, long-life materials and optimised modular components. It must be low maintenance and resilient considering the proximity of local marine environment.

With this brief in mind, the façade can be broken down in the following components and aspirations.



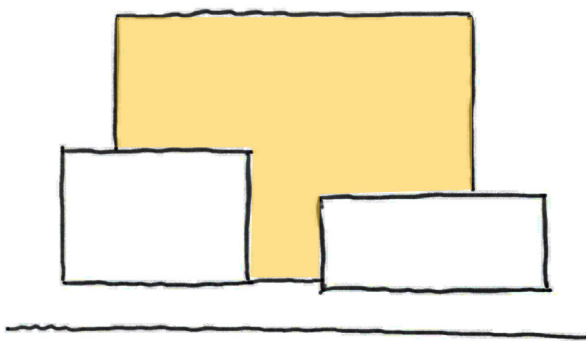
Ground

- 1. Open
- 2. Transparent
- 3. Permeable
- 4. Active
- 5. Civic public domain



Podium

- 1. Open and generous
- 2. Active & transparent
- 3. Distinctive landmark street identity
- 4. Showcase and express the UNSW HTH activities
- 5. Curate the user views and control privacy
- 6. Blur the lines between educational research and health



Tower

- 1. Regional Landmark
- 2. Fine grain
- 3. Be of a lighter weight and of the sky
- 4. Celebrate the district views out

Artist's impression, subject to change.
Render by Narrative Graphics.

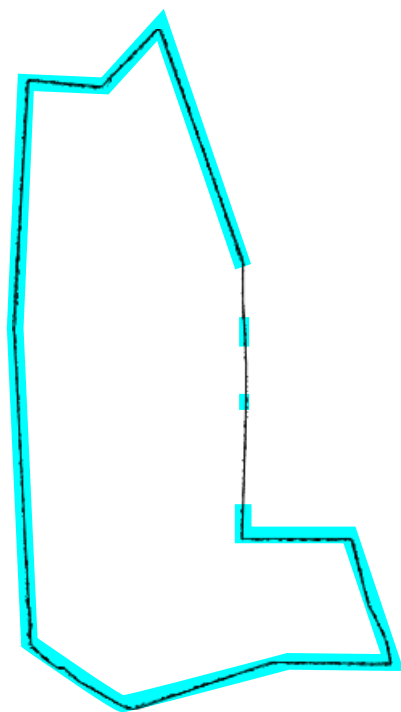


Architectural Response

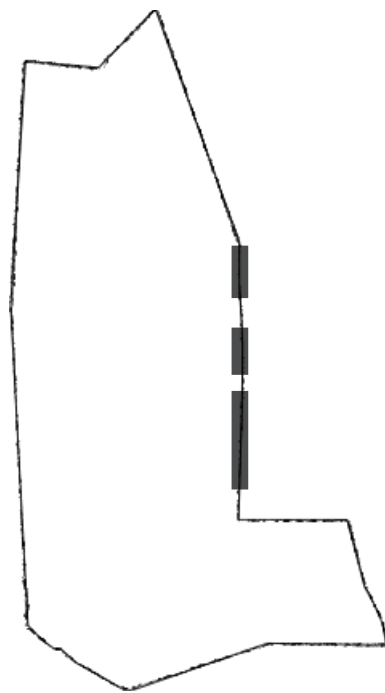
Ground Floor Facade Design

A minimal, elegant and highly transparent approach has been taken around the ground floor and public domain of the UNSW HTH to encourage permeability, user engagement and convey a sense of inclusive welcome throughout this civic space. This minimal approach helps elevate the building mass above and retain legible navigation through and around the building envelope.

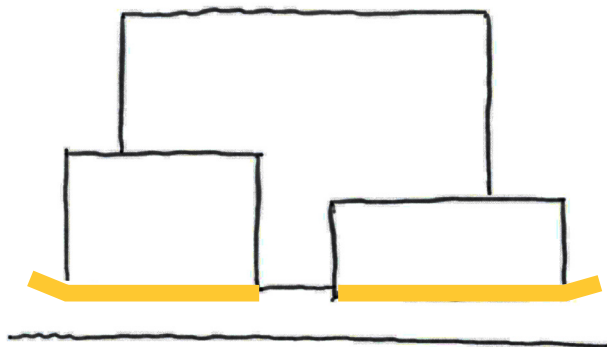
The design response can be represented by the following:



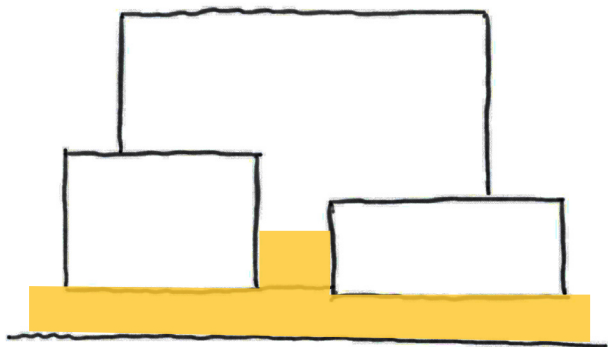
Utilise uninterrupted glazing to provide maximum transparency and openness.



Reduce all services and utility spaces to the core and back of house places.



Integrate an awning device to define the public domain, separate the tower volume from the ground and identify key entry points



Continue this facade around the atrium space to connect it to the public realm, create and showcase the social heart of the UNSW HTH



Artist's impression, subject to change. Render by Narrative Graphics.

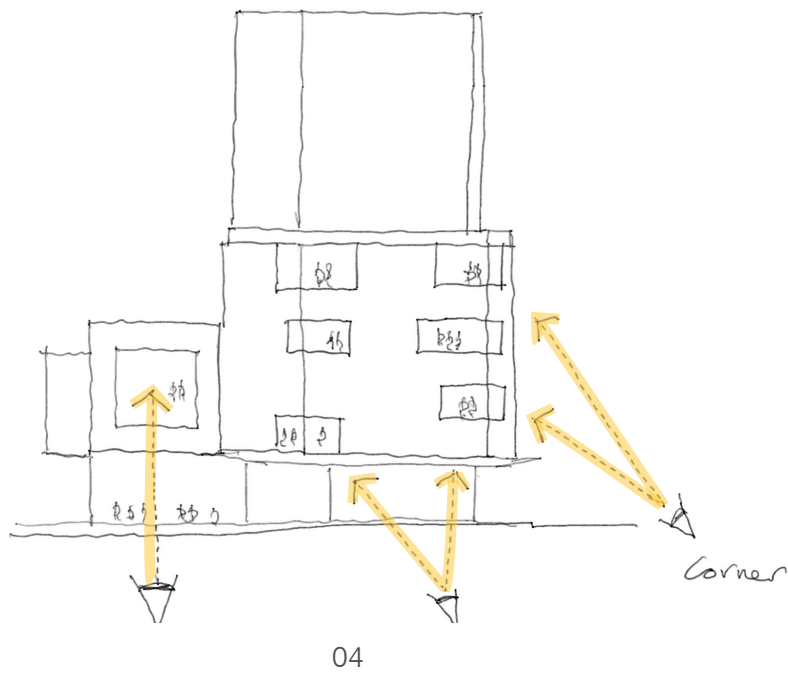
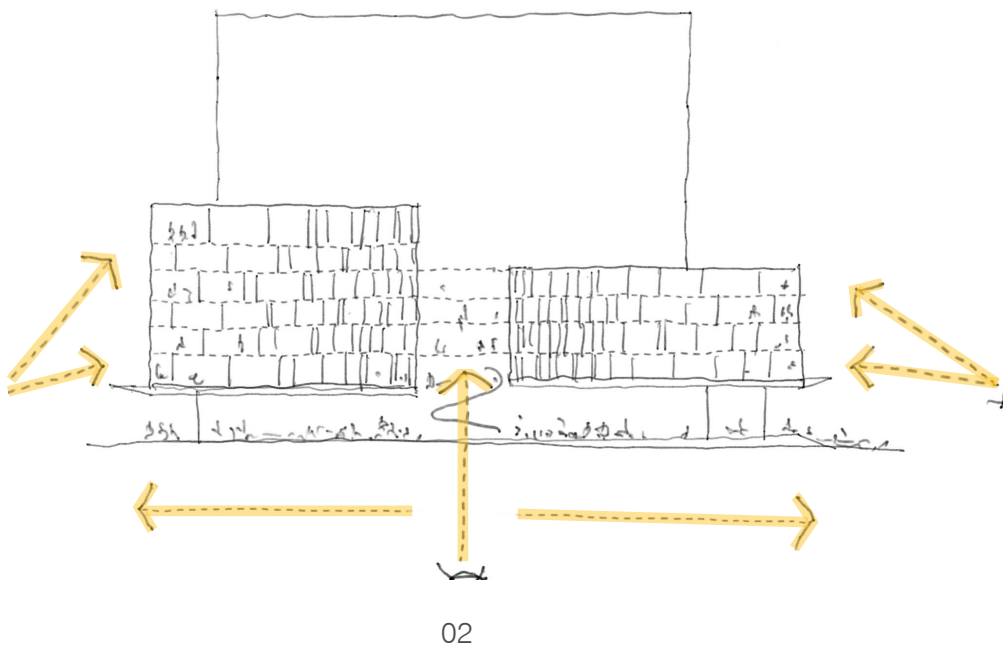
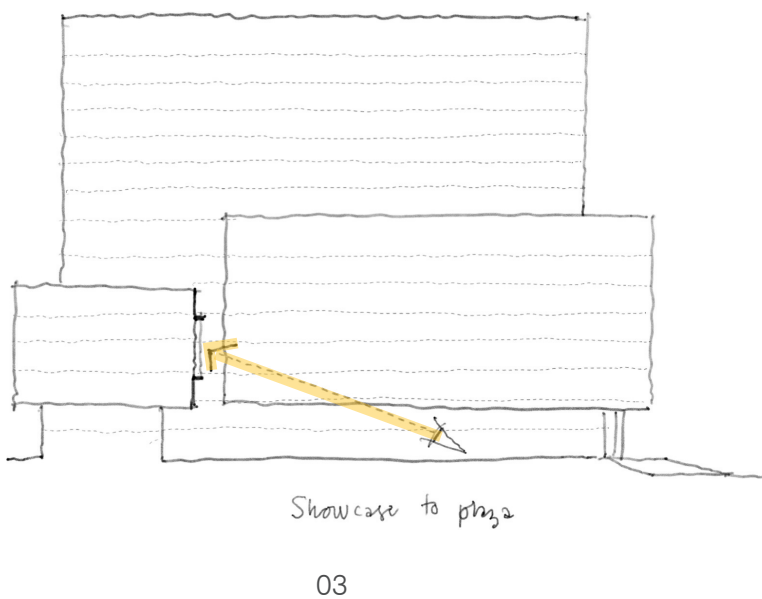
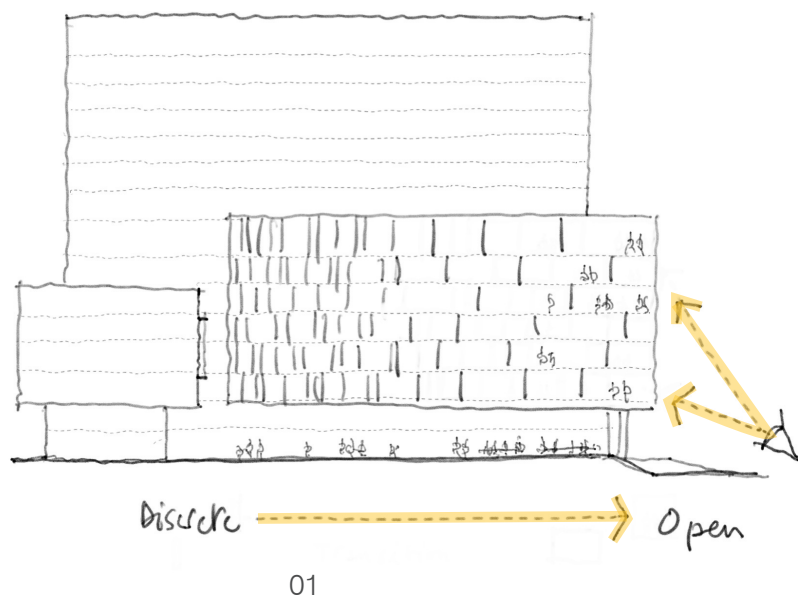
Architectural Response

Podium Facade Design

The podium façade has been largely driven by the surrounding environment to create a dynamic, yet appropriate contextual response. The façade has been designed to open up at key locations and express its internal functions into the public realm, while also being respectful to its immediate neighbours by utilising a series of integrated solid panels to provide privacy both to and from the SCH Stage 1 and the CCCC and IASB patient rooms. These 2 key design moves allow a transition to occur across the façade as these requirements fade from one to another, creating a natural rhythm and ever-changing quality to the façade.

These requirements are best described by the following sketches.

- 1. The East Facade is optimised to provide privacy to the south and transition to a more open condition to the north responding to the public domain and High St
- 2. The West Facade transitions from an open response to High St on the north and Gate 11 to the south to a compressed arrangement either side of the atrium in the centre. This celebrates the social heart as a focal point of the building and allows the façade accelerated out from it.
- 3. Bookending the plaza is the podium connection to SCH Stage 1 and the CCCC, which offers an opportunity to frame and celebrate the common tenant and collaboration between the buildings.
- 4. The open condition on the north and south not only provides an insight into the UNSW HTH, but also provides extensive regional views for the users to enjoy.



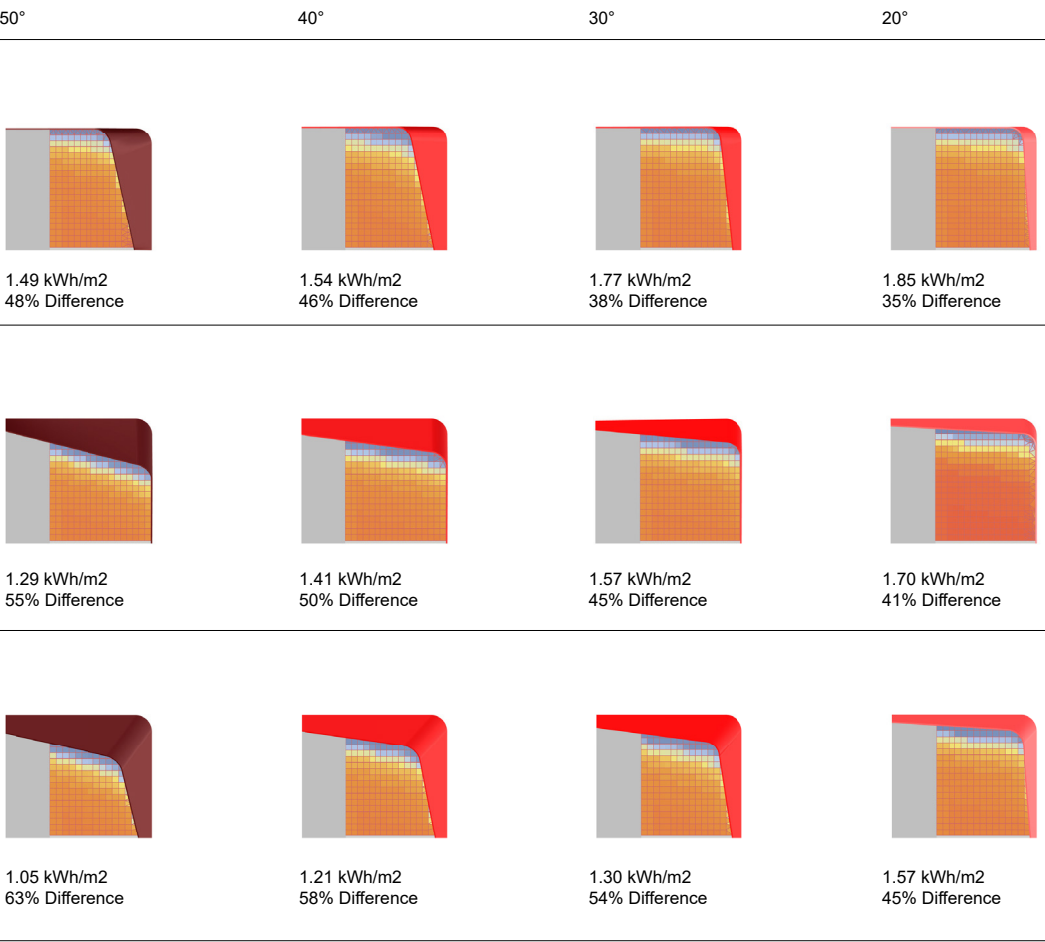


Physical model by Make Models

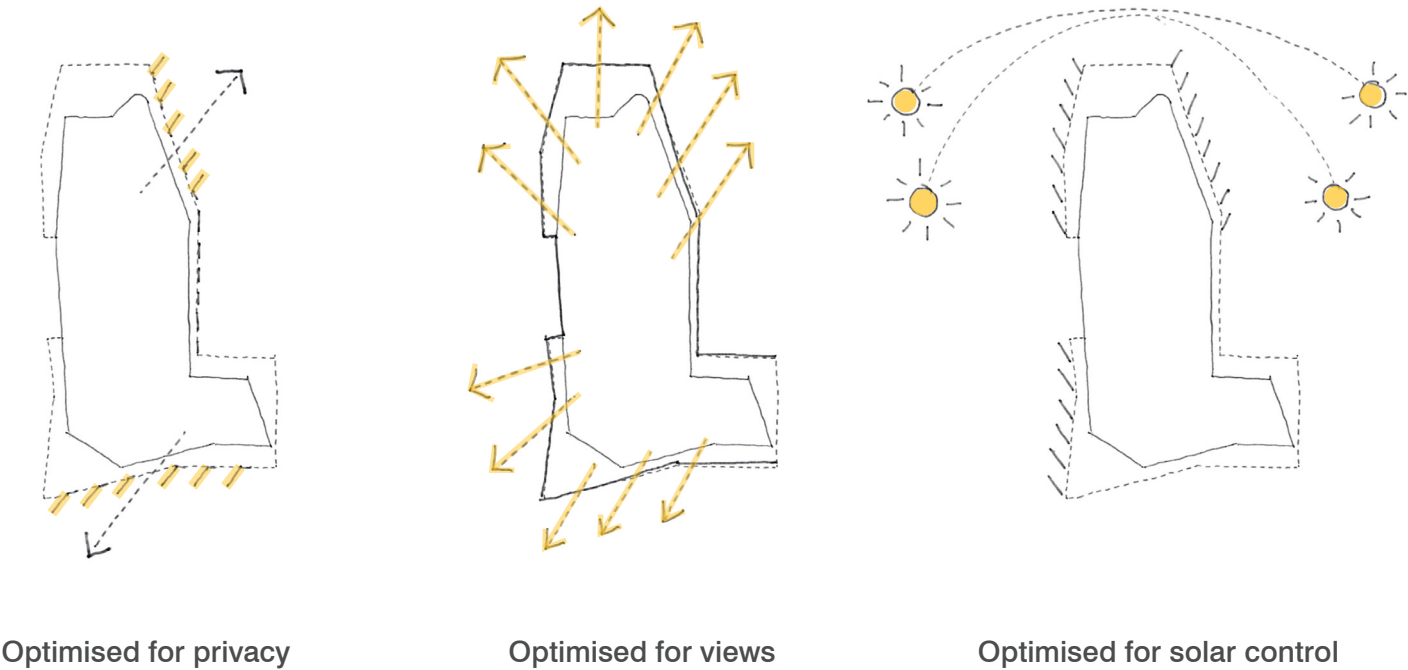
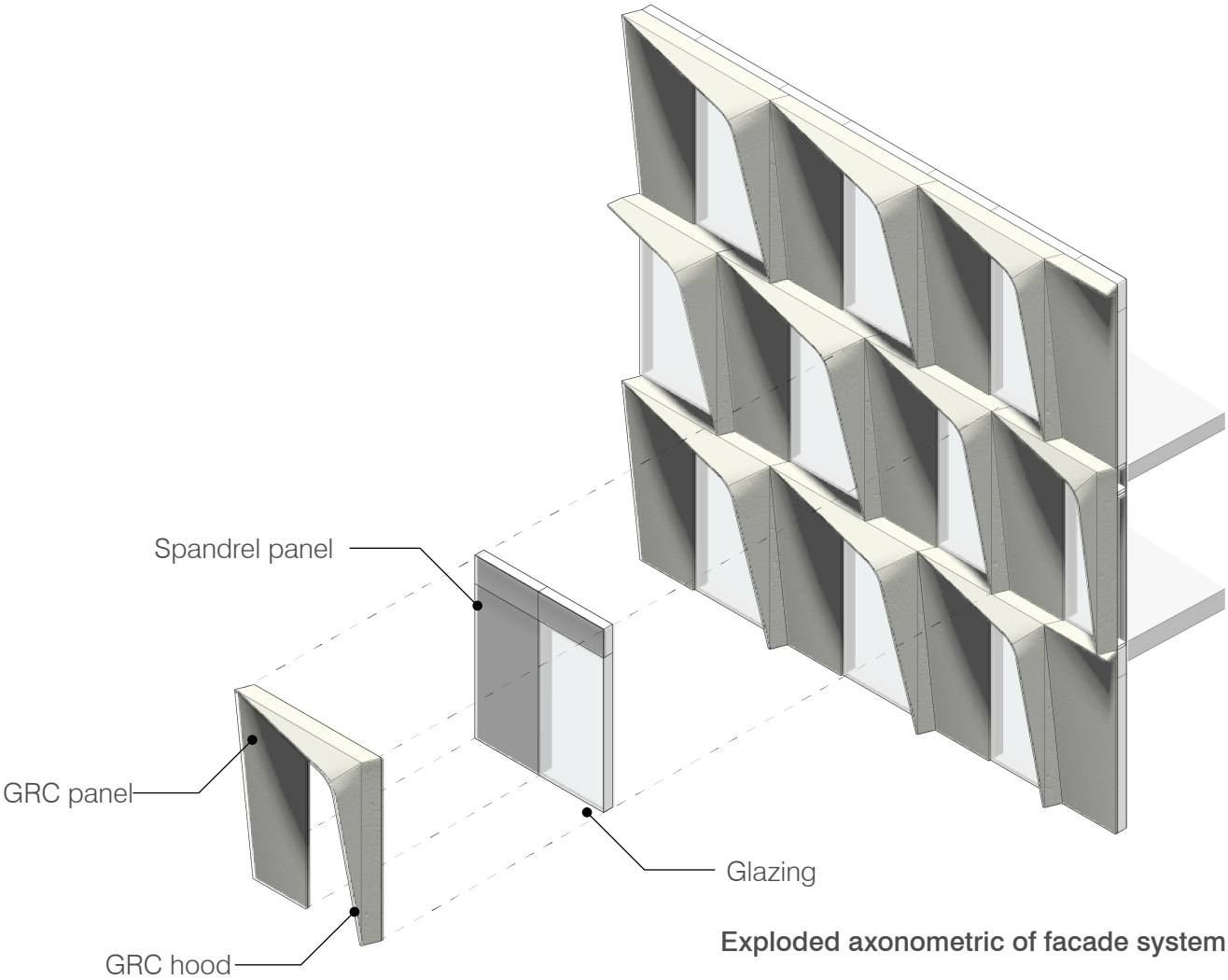
Solar Hood Design Development

To realise this transitional and adaptable façade, a sculpted passive solar shading solution has been adopted for the UNSW HTH podium façade to deliver on the key aspirations for a highly transparent and active façade that showcases the UNSW HTH activity.

The solar shading solution has been created through the lens of a series of soft windswept shifting forms, that combine the curved solar hood, solid panel and vision glazing into 1 unique façade module. Each façade module has been optimised to respond to its relative elevation of the building fabric and adapted to relative views, privacy, solar orientation and ESD requirements.



Solar radiation analysis



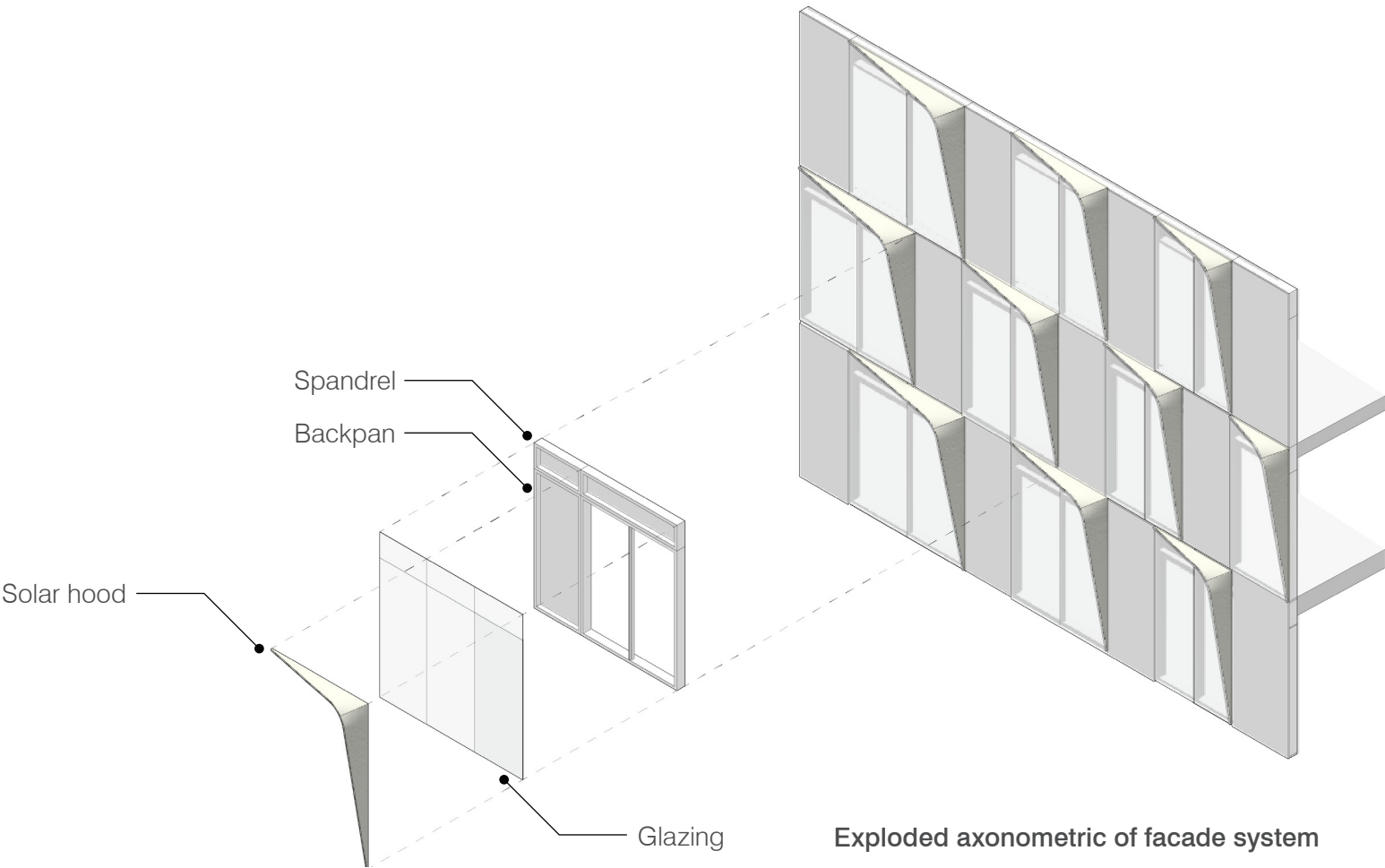
Architectural Response

Tower Facade Design

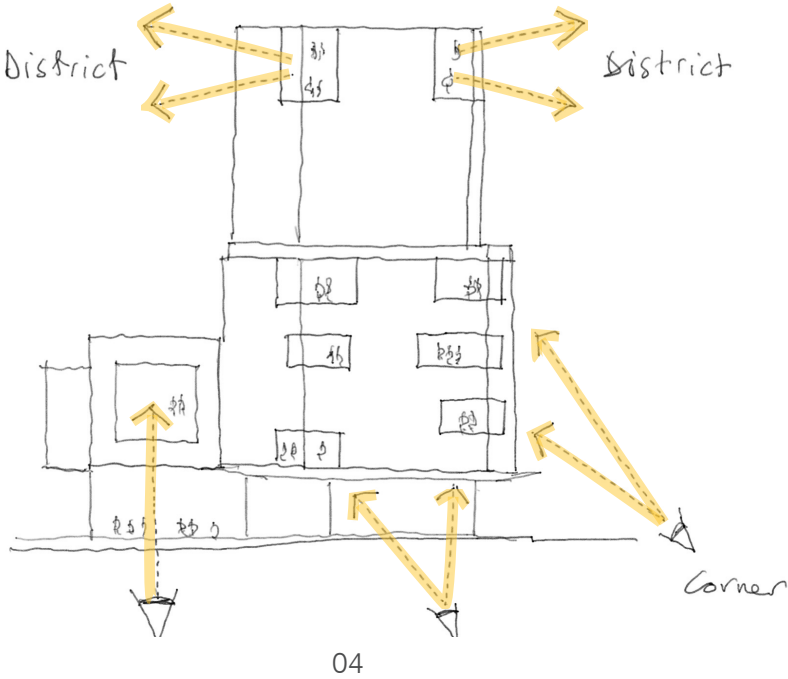
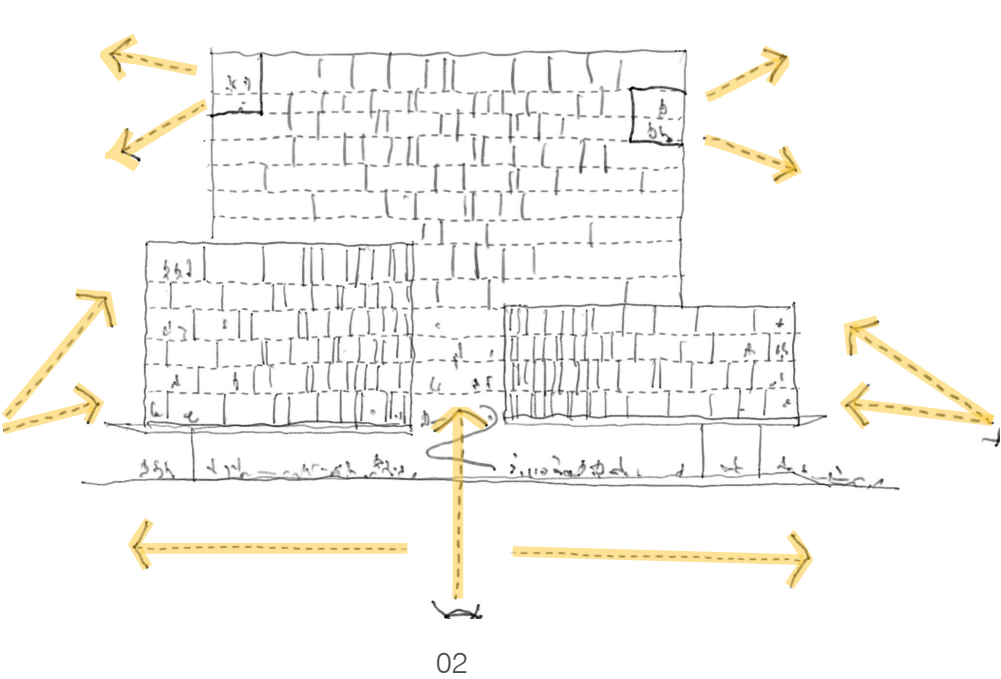
Consistent with the attributes of the podium, the tower mass has been wrapped in a more refined façade approach to provide a lighter aesthetic that can be described as “of the sky.” Utilising a solid back-pan (also known as a shadow box), the tower is able to conceal the opaque panels behind a layer of vision glass to provide a consistent glazed expression.

Similar to the podium, a lightweight, sculpted solar fin provides protection to the vision panels within the tower façade and when seen on mass, will provide a tactile texture to the surface. These façade units transition from a denser arrangement in the centre of the east and west façade to more open condition on the north and south to take advantage of the impressive district views, while protecting the building from the harsh east and western solar radiation.

Being on top of the natural ridge line, the UNSW HTH tower will be a beacon to the surrounding region and aspirational addition to the skyline.



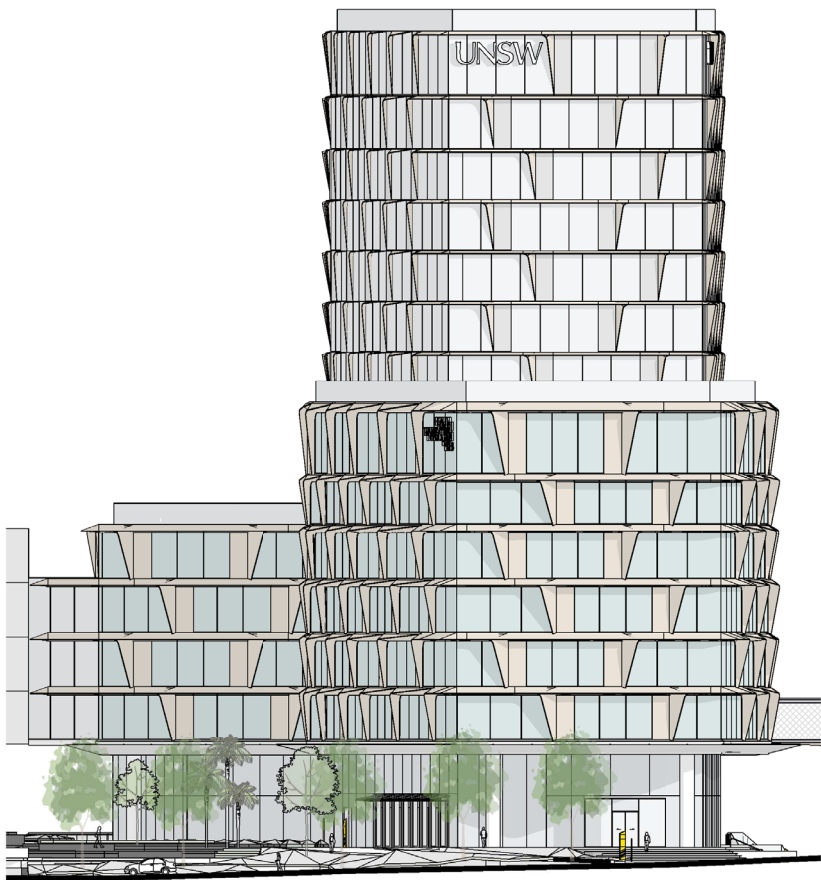
Exploded axonometric of facade system



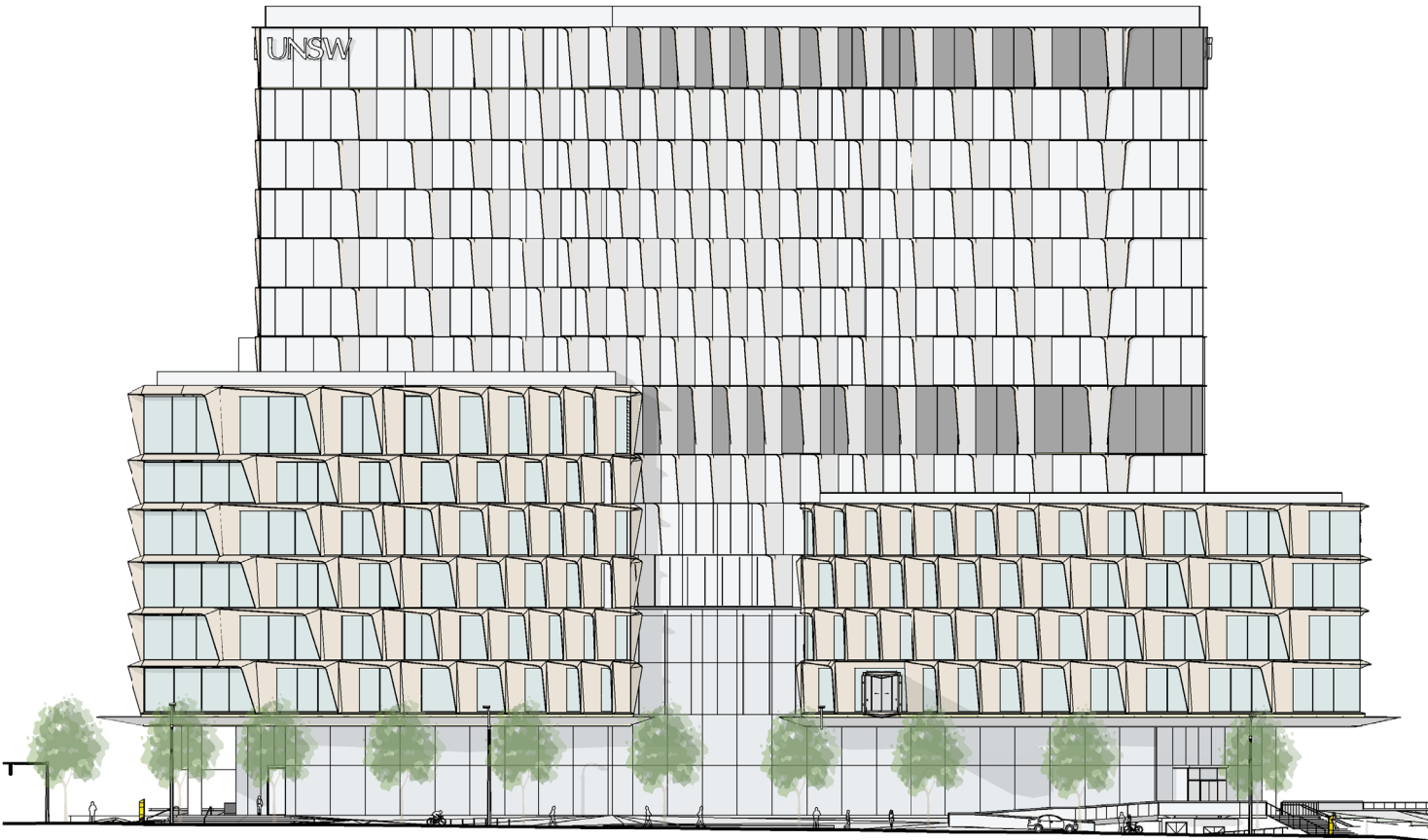
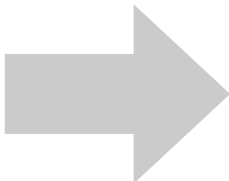
Architectural Response

A Holistic Facade Response

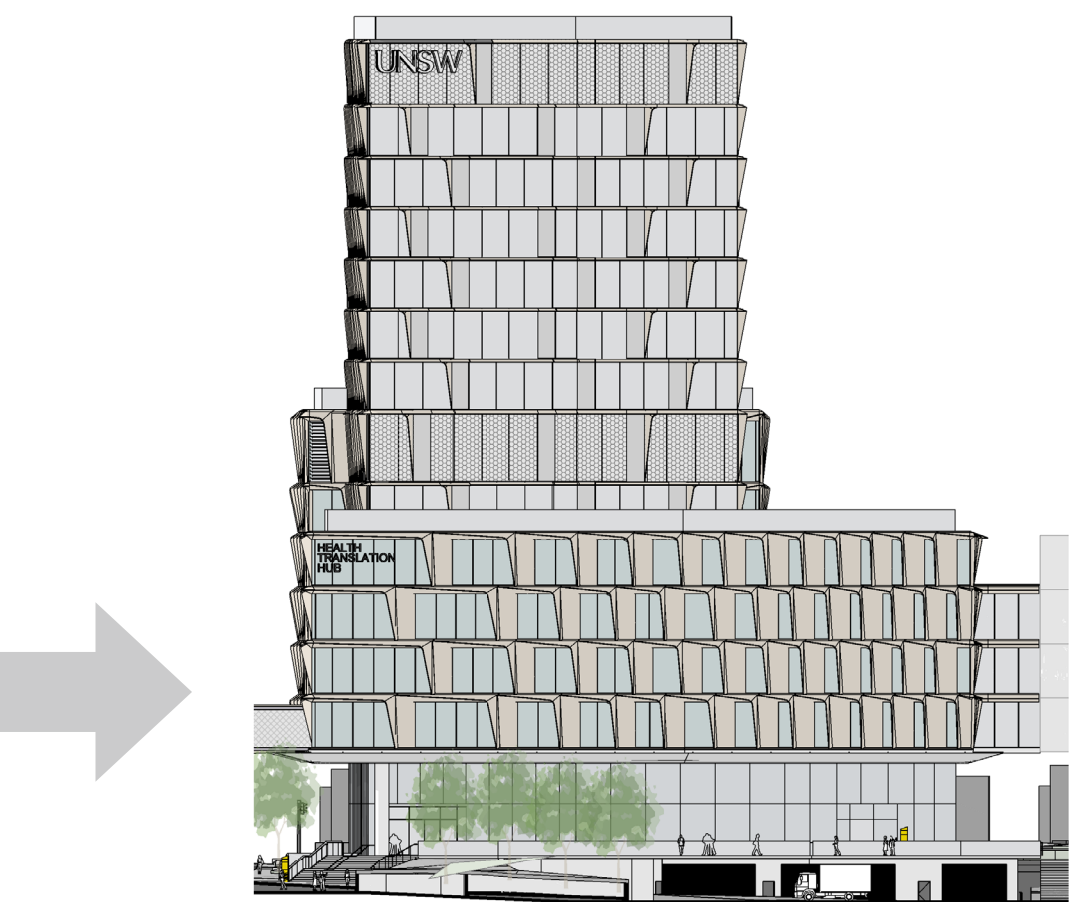
When placed side by side, the unwrapped elevations of the UNSW HTH describe the ever-changing façade condition, which adapts to its surroundings, expresses its purpose, respects its neighbours, provides excellent user comfort and presents a landmark design that will be experienced at close and distant view points.



Northern elevation



Western elevation



Southern elevation



Eastern elevation

Architectural Response

4.11 Materiality

The materials palette has been inspired from the site of which the building sits. The original wind-blown sand dunes of Sydney’s eastern suburbs are the true character of this landscape positioned on an elevated landform mid-way between Botany Bay and Sydney Harbour.

The transitional nature of this landscape over deep time is one that has been in constant motion and it now finds contemporary expression and representation in the UNSW HTH’s architecture and landscape architecture.

The proposed materials follow this narrative by using soft, lightly coloured masonry finishes within the opaque façade components. These are complemented with an earthy toned glass and mullion system, concrete finishes and endemic landscape.



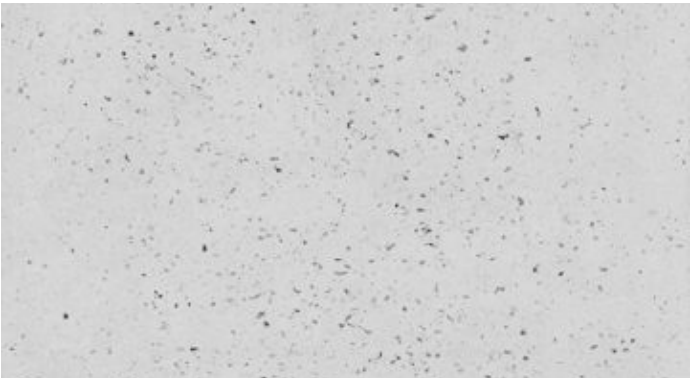
A natural, curved shape with a sculptural three-dimensionality



Architectural Response



01 Solid composite material solar hoods



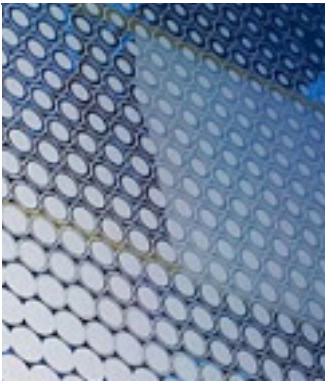
02 Concrete



03 Glass



04 Window & door profiles



05 Glass awning
Gradient frit



06 Planting



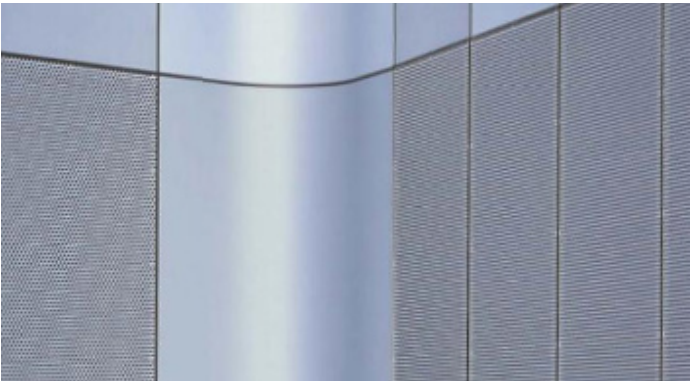
07 Glass awning
Glowing at night



08 Vision glazing
& backpan



09 Soffit
Warm & tactile panelling



10 Anodized mechanical louvre with
external mesh screen

Note: Sample images are indicative only

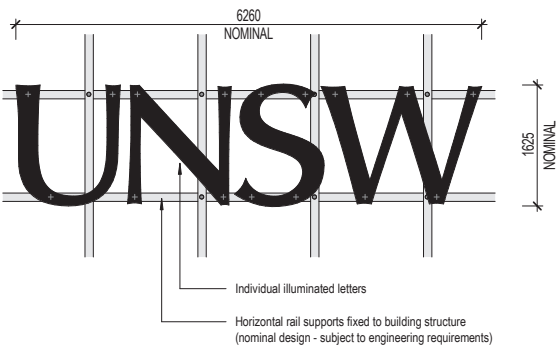
Architectural Response

4.12 Signage

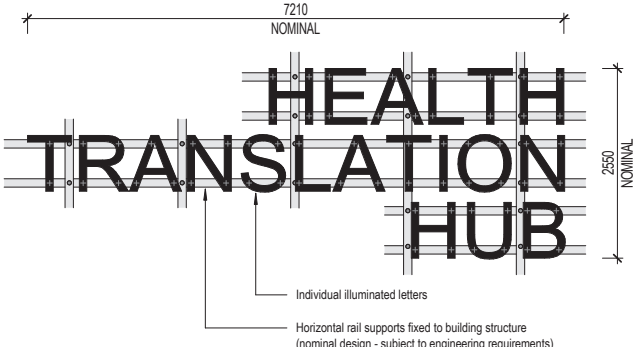
The prominence of the UNSW HTH provides the opportunity to use signage to identify the building and the UNSW campus both from a street and district level.

The signage has been placed at key corners of the building that are visible throughout the district context, as well as from immediate pedestrian approach on High and Botany Street. The signage will signify that the UNSW HTH belongs to the UNSW campus, and will tie the building to others across the campus context.

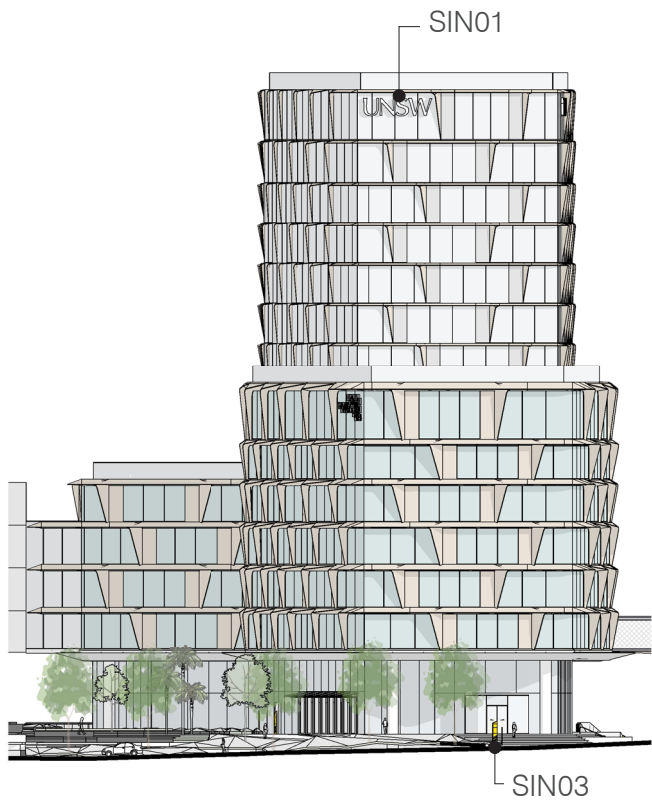
The signage has been integrated into the facade design to ensure legibility, ease of installation and a consistent aesthetic across all elevations.



SIN01 Facade-mounted signage



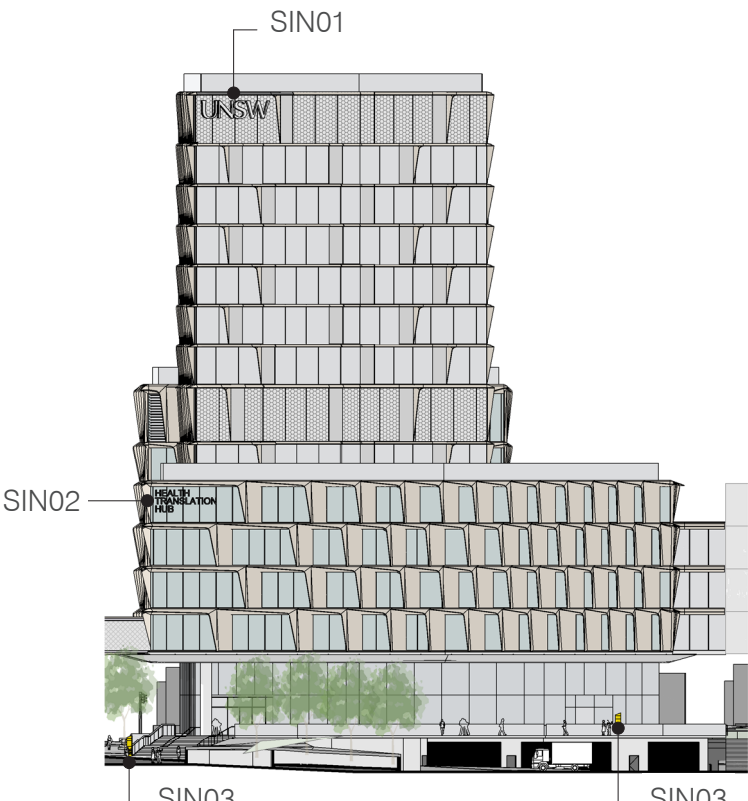
SIN02 Facade-mounted signage



Northern Elevation



Western Elevation



Southern Elevation



SIN03 Welcome totem signage



Eastern Elevation

Artist's impression, subject to change



4.13 Views



The HTH and the UNSW Plaza

Artist's impression, subject to change. Render by Narrative Graphics.



The western facade of the HTH

Artist's impression, subject to change. Render by Narrative Graphics.



The HTH viewed from High Street

Artist's impression, subject to change. Render by Narrative Graphics.



The HTH viewed from the UNSW Plaza

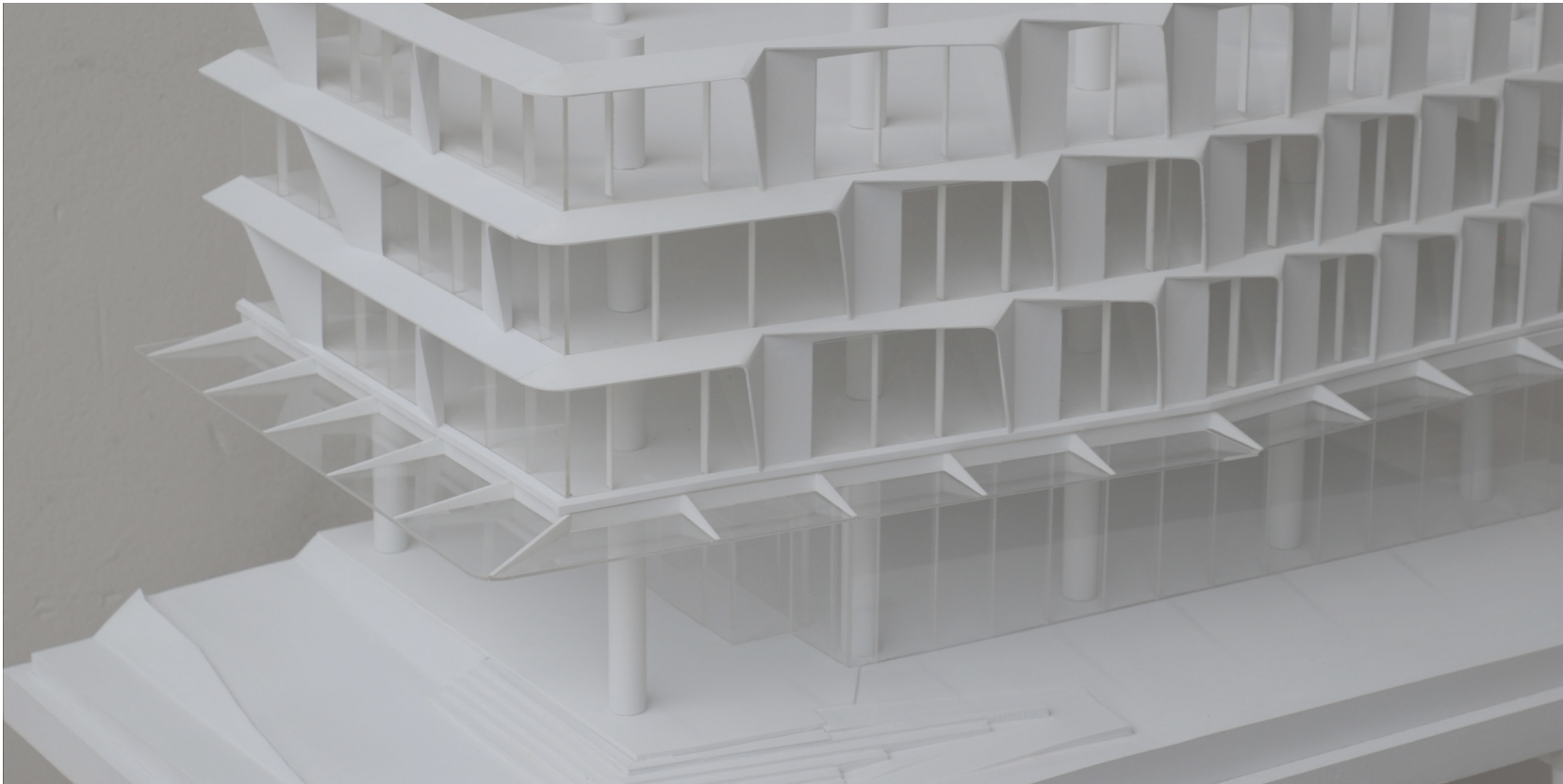
Artist's impression, subject to change. Render by Narrative Graphics.



Inside the HTH atrium

Artist's impression, subject to change. Render by Narrative Graphics.

4.14 Facade Study Model



Physical model by Make Models



5 Design Excellence



5.1 Crime Prevention

This report has been compiled in accordance with guidelines prepared by the former NSW Department of Urban Affairs and Planning Crime Prevention Through Environmental Design (CPTED). The guidelines assess the appropriateness of proposed developments to provide a safe, crime free environment.

The objectives of the CPTED are to create a safe, crime free environment that: Increases detection and apprehension of offenders, maximises efforts required to commit crime , minimise environments and conditions which may instigate unacceptable behaviour, and reduce the actual and perceived benefits of crime.

The “Safer by Design” guidelines have been adopted following the following design principles;

Territorial Reinforcement

Community ownership of public space sends positive signals to the community. Places that feel owned and cared for are likely to be used, enjoyed and revisited. People who have guardianship or ownership of areas are more likely to provide effective supervision and to intervene in crime than passing strangers and criminals rarely commit crime in areas where the risk of detection and challenge are high. Effective guardians are often ordinary people who are spatially 'connected' to a place and feel an association with, or responsibility for it.

The following provides an assessment of the proposed Health Translation Hub against the territorial reinforcement principles;

- Given that the UNSW HTH ground floor and public domain is elevated above natural street level, the boundary's of the site are extremely clear through the hierarchy of external circulation spaces, and physical thresholds such as stairs and ramps.
- The public domain will be the uniting fabric within the precinct, providing many everyday users that are connected to the space and will contribute to it feeling owned.
- The landscape concept is one of learning and healing, providing an education platform to engage the wider community and provide them the opportunity to feel part of the space.

- The ground floor is activated with publicly accessible activities that make the space have a civic appearance
- The space will be maintained by the UNSW Estate Management, ensuring that the space is cared for, cleaned and which reinforces the requirement of respect for the territory by others
- Way finding signage will be introduced with the new development to ensure the campus is understood and avoids people loitering in unintended places.

Surveillance

People feel safe in public areas when they can see and interact with others, particularly people connected with that space, such as shopkeepers or adjoining residents. Criminals are often deterred from committing crime in places that are well supervised.

Natural surveillance is achieved when normal space users can see and be seen by others. This highlights the importance of building layout, orientation and location; the strategic use of design; landscaping and lighting – it is a by-product of well-planned, well-designed and well-used space.

Technical/mechanical surveillance is achieved through mechanical/electronic measures such as CCTV, help points and mirrored building panels. It is commonly used as a 'patch' to supervise isolated, high risk locations.

Formal (or Organised) surveillance is achieved through the tactical positioning of guardians. An example would be the use of on-site supervisors, e.g. security guards at higher risk locations.

The following provides an assessment of the proposed Health Translation Hub against the Surveillance principles:

- Clear sight lines have been provided between public and functional spaces for example, the entrances to all “public” facilities can be seen from the central courtyard, lobby and street vistas.

- External pathways and circulation areas are wide and open and constrained corridors are minimised. External pathways are a minimum of 3500mm in width allowing clear sight lines to shared users.
- The façade treatment for the ground floor is one of high transparency, allowing very clear and legible views through the UNSW HTH lobby from one side of the site to the other for natural surveillance.
- After hours external lighting is consistent along pathways and areas such as around the core will have increased lighting.
- There has been careful consideration to remove any closed or recessed “hidy hole” spaces around the perimeter of the building, and ensure all service doors and spaces finish flush with the façade. This will also help limit 'dead end spaces' or blind spots which minimises the risk of crime and maximises the opportunities for passers-by and users to observe what happens in an area.
- Egress paths are open and integrated into the overall design - access is egress.
- Areas that are deficient in natural surveillance will be supported with electronic measures such as CCTV.
- Both UNSW and the neighbouring SCH Stage 1 and the CCCC development will have organised security detail supervising the site a certain times.

Access Control

Access control treatments restrict, channel and encourage people and vehicles into, out of and around the development. Way-finding, desire-lines and formal/informal routes are important crime prevention considerations. Effective access control can be achieved by using physical and symbolic barriers that channel and group pedestrians into areas, therefore increasing the time and effort required for criminals to commit crime.

Natural access control includes the tactical use of landforms and waterways features, design measures including building configuration; formal and informal pathways, landscaping, fencing and gardens.

Technical/Mechanical access control includes the employment of security hardware and/or includes on-site guardians such as employed security officers.

Formal (or Organised) access control includes on-site guardians such as employed security officers.

The following provides an assessment of the proposed Health Translation Hub against the Access Control principles:

- Vehicles and pedestrian have been very clearly and deliberately separated. All logistics are contained to the south of the site within a dedicated shared zone and pedestrians are directed and around this space with a grade separated solution.
- Clear sight lines have been provided between public and private spaces which contributes to a clear hierarchy of spaces and wayfinding. The public areas are highlighted by different surface treatments, landscape interventions and accessible amenities. The private lobby is defined by a highly transparent façade that will can be open and closed as required with very clear and legible entry points.
- Key landscape barriers have been integrated with in the threshold between the public and private zones, such as along Botany St.
- Both UNSW and the neighbouring SCH Stage 1 and the CCCC development will have organised security detail supervising the site a certain times.
- Access to the Lobby space of the UNSW HTH will be controlled outside of working hours to restrict access within it and through it.

Space/Activity Management

Space/Activity Management strategies are an important way to develop and maintain natural community control. Space management involves the formal supervision, control and care of the development. All space, even well planned and well-designed areas need to be effectively used and maintained to maximise community safety. Places that are infrequently used are commonly abused. There is a high correlation between urban decay, fear of crime and avoidance behaviour.

The following provides an assessment of the proposed Health Translation Hub against the Space/Activity Management principles:

- The Public realm of the UNSW HTH site is envisioned and designed to accommodate a rich and diverse mix of users across most times of the day and night. It will be a high traffic pedestrian area utilised by many users from surrounding buildings and the local community, ensuring that it is frequently used.
- The strong landscape concept of community engagement contributes to natural community control which will be further supported by UNSW's Estate Management team.
- The façade and building fabric will ensure maximum user safety, encouraging people to stay, use and enjoy the space which will reduce the

- potential for criminal activities.
- Management methodologies have an emphasis on damage, graffiti and maintenance management to ensure the facility presents a clean, cared-for environment. Detailed requirements are outlined in the Preliminary Operational Management Plan.
 - Selection of materials, furniture, fitments and fittings will have an emphasis on reducing vandalism to assist in space management.
 - Gathering spaces will be integrated into the design, minimising vandalism.

5.2 Better Placed

Better Placed is a policy prepared by the NSW Government Architect in August 2017. It is an integrated policy for the NSW built environment to improve design outcomes across projects to achieve design excellence. There are seven distinct objectives which help to define the key considerations in the design and delivery of the built environment.

Each item is addressed as follows:

Better Fit

Contextual, local and of its place.

Good design in the built environment is informed by and derived from its location, context and social setting. It is place-based and relevant to and resonant with local character, heritage and communal aspirations. It also contributes to an evolving and future character and setting.

The original wind-blown sand dunes of Sydney’s eastern suburbs are the true character of this landscape positioned on an elevated landform at Randwick, in-land from the rocky coastline of sandstone headlands and mid-way between Botany Bay and Sydney Harbour. The transitional nature over deep time of this dune landscape is one that has been in constant motion and it now finds contemporary expression and representation in the proposed architecture and landscape architecture of the UNSW Health Translation Hub (UNSW HTH).

The proposed design solution responds positively to its specific urban location, anchoring the block’s corner with a prominent pedestrian entry and reinforcing the built edge to Botany Street. At the north of the site the proposed massing of the UNSW HTH is purposefully shaped to open a generous and sunny

external public space that is to be planted with local endemic plant species. The materials of the ground plane, retaining structures and the building itself reference the sandy aeolian landscapes of Randwick and Kensington. These design solutions are borne out of a recognition for the identity of this place and an intent to give that identity meaningful expression in built form.

Supporting this intent has been the insightful input from the project’s indigenous advisor and the generation of solutions that are founded in connection with country through the specification of local endemic plant species that have medicinal qualities – interpreting the contemporary purpose of the this modern health precinct in a manner that is respectful of its ancient human-inhabited past.

Better Performance

Sustainable, adaptable and durable.

Environmental sustainability and responsiveness are essential to meet the highest performance standards for living and working. Sustainability is no longer an optional extra, but a fundamental aspect of functional, whole of life design.

A sustainable approach has been pursued for the proposed design solutions of the UNSW HTH. In support of the University’s ESD framework, the UNSW HTH is designed to minimise its environmental impact with an emphasis on passive systems of environmental control, carbon sequestration within elements of the specified building materials, the generation of on-site renewable energy and the integration of local endemic flora.

The proposed façade of the UNSW HTH has been designed with projecting shade hoods that respond to their specific orientation and contribute positively towards reducing annual solar loading to the external envelope. Double glazing and insulated wall panels further minimise the transference of energy between inside and outside environments thus reducing the building’s need to rely upon supplementary mechanical systems to cool and heat.

The design solution for the structural planning grid provides for an adaptable floor plate that optimises its long-term flexibility to a variety of educational, workplace and research-based activities. The sectional profile of the building supports the adaptable reticulation of building services and similarly anticipates a future where the accommodation of change in use over time can be sustained.

The UNSW HTH is designed to be realised with long-life low-maintenance materials that are robust and elegant to endure the long-term vagaries of weathering and fashion.

Better for Community

Inclusive, connected and diverse.

The design of the built environment must seek to address growing economic and social disparity and inequity, by creating inclusive, welcoming and equitable environments. Incorporating diverse uses, housing types and economic frameworks that will support engaging places and resilient communities.

The UNSW HTH is to be a welcoming place for all people who visit, work, study and research here. It is to exhibit the characteristics of openness, transparency and optimism. It is to provide the amenable conditions that will support its diversity of health-related activities. It is to be a beacon of hope and optimism for people seeking solutions to their important health needs.

A major design driver of this project has been to establish a high-quality public domain and civic experience at this landmark location with clear paths of pedestrian travel that are welcoming, safe and engaging.

This is achieved with much transparency of the architecture from street edge to building interior. The design solution for architecture and landscape architecture establish activated edges, places for social gatherings and places for individual respite.

The landscape architecture offers public engagement with its local community and provides intersections with nature and the healing properties of medicinal plants.

The UNSW HTH public domain is to be a place of high public amenity and to be a place of learning and display through the curated exhibitions of the innovative health research that occurs within the UNSW HTH.

Better for People

Safe, comfortable and liveable.

The built environment must be designed for people with a focus on safety, comfort and the basic requirement of using public space. The many aspects of human comfort which affect the usability of a place must be addressed to support good places for people.

The UNSW HTH has been designed to ensure equity of accessibility is maintained throughout the built environment supporting all users to safely and easily navigate the precinct and the interior accommodation.

Human comfort is central to the design of the workplace and public realm. All spaces have direct access to natural light and views, creating a high-quality working and research environment that is supported by high performing facade, shading and ventilation systems to ensure that the internal areas are not subject to uncomfortable levels of solar gain or glare.

The public domain of the northern plaza has been oriented to receive direct sunlight throughout the majority of the day, and the building massing has been shaped to protect this external space from prevailing winds and provide good levels of comfort. All spaces meet crime prevention through environmental design (CEPTD) standards with regard to surveillance and pedestrian safety.

Better Placed

Better Working

Functional, efficient and fit for purpose.

Having a considered, tailored response to the program or requirements of a building or place, allows for efficiency and usability with the potential to adapt to change. Buildings and spaces which work well for their proposed use will remain valuable and well-utilised.

The UNSW HTH has been designed with flexibility use as a key design driver. This approach has informed an efficient structural grid that minimises columns within the floorplate and cantilevers at podium and tower levels to create highly flexible spaces and large span environments that will host research, education, clinical and workplace activities.

The combination of a side-core, generous floor to floor spacing and relatively unimpeded plan configurations, ensures that the building can adapt to inevitable change over its lifetime and accommodate a variety of functions suitable to an evolving and dynamic university focused on progressive and innovated practices.

Better Value

Creating and adding value

Good design generates ongoing value for people and communities and minimises costs over time. Creating shared value of place in the built environment raises standards and quality of life for users, as well as adding return on investment for the industry.

The UNSW HTH's primary purpose is to create spaces and relationships that will accelerate clinical and health related innovations focused on the betterment of our community. This represents unquantifiable value and benefit for the community both locally and globally.

The significant contribution to the public domain and urban fabric will not only engage but will provide the community with high-quality public spaces that will nurture, educate and bring enjoyment to those who use it.

Better Look and Feel

Engaging, inviting and attractive

The built environment should be welcoming and aesthetically pleasing encouraging communities to use and enjoy local places. The feel of a place, and how we use and relate to our environments is dependent upon the aesthetic quality of our places, spaces and buildings. The visual environment should contribute to its surroundings and promote positive engagement.

The architectural and landscape design solutions for the UNSW HTH establish a welcoming and open expression at this landmark corner location.

The creation of a generous, accessible and sun-filled public domain that offers social engagement, individual respite, play opportunities and active engagement with retail food and beverage provides the conditions of high amenity that will attract local community to enjoy this new place within the Randwick Health Precinct.

The establishment of a legible and easily accessed ground plane with a highly transparent interior at ground level invites visitor entry and engagement.

A large internal volume addressing Botany Street provides an opportunity to showcase the activities and internal circulation paths of the UNSW HTH to the passing community.

The UNSW HTH's external expression is appropriate to its purpose as a place of intersection between health, research and educational functions. It is an expression of open-ness, optimism and advancement.

With its open and well-appointed ground plane, highly transparent workspaces, and elegant façade system the UNSW HTH is purposefully designed to generate an environment that is welcoming and aesthetically pleasing, providing a sense of optimism and hope for the communities and individuals seeking solutions for their health-related needs.



Artist's impression, subject to change

5.3 State Design Review Panel Feedback

Below is a summary of the feedback provided by the Government Architect of NSW State Design Review Panel.

- Session 1: 29/07/2020
- Session 2: 21/10/2020
- Session 3: 16/12/2020
- Session 4: 10/02/2021

Session 4 feedback and responses are located on the next pages.

Site Strategy			
SDRP Session 1 Comments		SDRP Session 2 Comments	SDRP Session 3 Comments
– Ensure desired integration of the UNSW HTH and Sydney Children's Hospital projects is achieved through creation of integrated design development and masterplan drawings. Presentation of both schemes to the SDRP at a joint session is also recommended to support this outcome. – Investigate and incorporate further opportunities for ESD such as green roofs, energy generation, water capture and reuse and demonstrate how these will drive building forms and architectural expression in a whole-of-site approach. – Clarify and illustrate how the proposal will deliver the principles and vision set out in the Greater Randwick Urban Masterplan.		– Site wide principles across the UNSW HTH and Sydney Children's Hospital that tie public domain and built response together are required. These principles will ensure cohesiveness across the site, along with the next stage of Prince of Wales and future development. – Clarify and illustrate how the proposal will deliver the principles and vision set out in the Greater Randwick Urban Masterplan. – Consider the site as a critical intersection point that knits together disparate organization in the precinct and creates an opportunity to resolve levels across the site. – Investigate and incorporate further opportunities for ESD such as green roofs, energy generation, water capture and reuse and demonstrate how these will drive building forms and architectural expression in a whole-of-site approach.	– The initial site wide principles as presented are supported. These require endorsement from the Sydney Children's Hospital and further integration between the two projects. These principles will ensure cohesiveness across the site, along with the next stage of Prince of Wales, and future development. – Resolve the 'green link' connection into the south of the plaza and demonstrate if/how this continues through to Botany Street.

Building Massing & Architecture			
SDRP Session 1 Comments		SDRP Session 3 Comments	
– Prioritise solar access and wind mitigation to the central plaza, potentially by sculpting the building form in response to climatic conditions. – Clarify the proposed height, bulk, scale and massing of the development, including benchmarks for surrounding sites and proposed public domain benefits in exchange for exceedance of controls.		– As a landmark research facility there needs to be a focus on enhancing the educational and health aspects of the design. A more permeable building that allows for transitional outside/ indoor experiences should be explored. Explore opportunities for operable facades as well as roof terraces, balconies and outdoor learning areas. – At the main entry and the ground floor explore opportunities for permeability to the plaza and landscaping. – Exploring the patterns of use by students, researchers and educators will enhance the design so that the building is conceived as more than tenancies and floorplates. – As the largest building on the street, and in a corner position, provide information to show what this street wall will look like. – The podium and tower facades to the east and west currently present as very uniform due to sunshading. Explore opportunities to break up these facades.	
SDRP Session 2 Comments			
– The materiality and architectural expression of the SCH and UNSW HTH need to relate to each other to ensure cohesive across the site. Regular meetings between design teams for both projects are encouraged. – Provide sections and plans illustrating the bridge link from UNSW HTH to Wallace Wurth building. Demonstrate what services are being connected.		– The relationship between the glass awning and the building needs to be resolved. – The pedestrian bridges need to be further integrated into the design as currently they do not fit with the architectural expression of the building; – The materiality and architectural expression of the SCH and HTH need to relate to each other to ensure cohesiveness across the site. Regular meetings between the design teams for both projects are encouraged. – Provide sections and plans illustrating the bridge link from the HTH into the Wallace Wurth building. Demonstrate what services are being connected. – Provide details and views of the air bridges connecting levels 2, 3 and 4 of the HTH and SCH including materials, scale, transparency and impacts on open spaces; – Demonstrate how this building will deliver on net zero carbon initiatives and clarify the sustainability targets.	
– Provide details and views of the air bridges connection levels 2,3,4 of UNSW HTH and SCH including materials, scale and transparency and impacts on open spaces. – The location of the core on the eastern side of the building presents a large blank unarticulated wall to the plaza. Provide views from inside the plaza looking north, south, east and west to illustrate how the adjoining building relate to the plaza. – Clarify the proposed height, bulk, scale and massing of the development, including benchmarks for surrounding sites and proposed public domain benefits in exchange for exceedance of controls.			

Landscape & Public Domain

SDRP Session 1 Comments

- The focus on landscape as a unifying element of the public domain is commended and should be prioritised. Further detail should be provided on the proportion of soft to hard landscape, deep soil zones and tree canopy cover targets to support the delivery of state government priorities.
- Further develop and illustrate the overall vision for connectivity at the ground plane and upper levels between the UNSW HTH and the Sydney Children's Hospital building adjacent. Future presentations should clearly illustrate access to public green spaces from both buildings.
- Illustrate the edge conditions on either side of the central plaza, noting transparency and permeability of the building facades is required to create active edges.
- Clarify and illustrate the connection from the central plaza along the southern end, clearly indicating the quality of space and pedestrian amenity envisioned.
- Clarify and illustrate proposed security lines at all edges of the site, noting permeability and 24/7 access to public spaces should be maintained.
- Provide details of how the connection to Country and expression of Aboriginal Cultural Heritage will be made evident throughout and integrated with the built forms: for example, using place naming, landscape, materials, plant selection, art installations/murals, wayfinding devices, paving, colour, texture and so on.
- Provide large sections across the site in both

- East/West and North/South directions to illustrate resolution of levels and connections to ensure the permeability envisioned by the site plan can be realised.
- The resolution of levels including vehicular, service and pedestrian access at the southern end of the site remains unconvincing. Provide sections and 3D diagrams to clearly illustrate the quality of spaces, linkages, permeability and access.
 - Demonstrate how accessibility will be achieved, indicating locations of ramps and stairs and illustrating how these will integrate with the overall landscape and central plaza.

SDRP Session 2 Comments

- The engagement of a landscape Architect across both sites is commended and supports the focus on landscape as a unifying element and demonstrates a commitment to the public domain
- Consider the plaza, central to the UNSW HTH and SCH, as an integrated whole and an opportunity to bring these two institutions together. Develop and illustrate the overall vision for connectivity at the ground plane. Consider ways to achieve levels and accessibility across this public space without a step down, for example by grading the ground plane at 1:33.

- Clarify and illustrate proposed security lines at all edges of the site, noting permeability and 24/7 access to public spaces should be maintained.
- Resolve the green link connection into the south of the plaza and demonstrate if/how this continues through to Botany St.
- Demonstrate how accessibility will be achieved, indicating locations of ramps and stairs and illustrating how these will integrate with the overall landscape and central plaza.
- Avoid the use of 1:14 ramps where possible
- Further detail should be provided on the proportion of soft to hard landscape, deep soil zones and tree canopy cover targets to support the delivery of state government priorities.
- Future presentations should clearly illustrate access to public green spaces from both buildings
- Provide sections to clearly illustrate the edge conditions on either side of the central plaza, noting transparency and permeability of the building facades is required to create active edges and ones of respite.
- The resolution of levels including vehicular, service and pedestrians access at the southern end of the site remains unconvincing. Provide 3D white card views with levels to clearly illustrate the quality of spaces, linkages, permeability and access.
- The relationship and connectivity to the south of the site requires resolution to reinforce this as a public space. Public access into the pointy edge of

- the building does not encourage connectivity to the UNSW campus.
- Provide large sections across the site in both East/West and North/South directions to illustrate resolution of levels and connections to ensure the permeability envisioned by the site plan can be realised.
 - Confirm the intention of plant dunal and coastal planting will be achievable in this location.

SDRP Session 3 Comments

- Solar access to the breakout spaces to the south of the plaza needs to be resolved.
- Provide 3D views of the plaza showing the SCH building to illustrate a holistic view of the plaza.
- Reduce the usage of 1:14 ramps where possible to allow for permeability, 1:20 should be explored.
- Clarify and illustrate proposed security lines across the site noting permeability and 24/7 access to public spaces should be maintained.
- Further detail should be provided on the proportion of soft to hard landscape, deep soil zones and tree canopy cover targets to support the delivery of state government priorities.
- The resolution of levels including vehicular, service and pedestrian access at the southern end of the site remains unconvincing. Provide sections and 3D white card views with levels to clearly illustrate the quality of spaces, linkages, permeability and access.

Aboriginal Cultural Heritage

SDRP Session 1 Comments

- N/A

SDRP Session 2 Comments

- Provide details of how the connection to Country and expression of Aboriginal Cultural Heritage will be made evident throughout and integrated with the built forms: for example, using place naming, landscape, materials, plant section, art, installations/murals, wayfinding devices, paving, colour, texture and so on.

SDRP Session 3 Comments

- The use of water in the public space is supported and could also look at the re-use of water on the site as well as explore connections to country.

State Design Review Session #4 Feedback & Response

Building Massing & Architecture

Government Architect Feedback	Response
– The construction of the upper portion of the building in engineered mass timber is supported. – The PV solar array on the roof is supported.	
– The ambition to naturally ventilate the foyer and the heart zone for most of the year with the potential to extend this to other zones is supported.	– Following initial reviews, appropriate thermal comfort levels for our collaborative atrium and ground floor spaces are unlikely to be achieved for most of the year with a naturally ventilated system. Viability of natural ventilation opportunities will be reviewed in greater detail during the Design Development stage.
– The elegant façade language and detailing is supported. – The commitment by UNSW to sustainability initiatives and the engagement of Atelier 10 to support delivery of this is supported.	
– As a landmark research facility there needs to be a focus on enhancing the educational and health aspects of the design, including greater permeability that allows for transitional indoor/outdoor experiences. Explore opportunities for roof terraces, balconies and outdoor learning areas.	– The proposed solution for the HTH achieves a high degree of visual permeability to the public domain. Physical permeability and the transitioning of people between internal and external areas is the subject of further development of the project-specific security and operational measures. Typically the public areas of the UNSW HTH will be accessible during normal business hours.
– The podium levels are intended to step down toward Botany Street however the SCH podium is lower than HTH. Provide a street elevation to High Street showing both HTH and the SCH.	– A street elevation to High Street showing both UNSW HTH and the SCH1 and CCCC is included in the SSDA Documentation.
– The Wallace Wurth bridge as currently shown is competing with the elegant resolution of the HTH and the width seems minimal to support comfortable circulation.	– The pedestrian bridge over Botany Street has been re-positioned as per SSDA comments such that it does not compete with the UNSW HTH. The bridge width is sized to support the anticipated volume of pedestrian movements.
– The air bridges connecting levels 2, 3 and 4 of the HTH and SCH requires further resolution. Consider, for example, simplification of its architectural expression through streamlined horizontal banding to better integrate with the SCH. Provide views of this area from both north and south which incorporate the SCH portion of the link-bridge zone. Ensure the width is adequate for the required circulation as a main connection path.	– The pedestrian link between the UNSW HTH and the SCH1 and CCCC adopts the streamlined horizontal banding. Views of this area from both north and south are included in the SSDA Documentation.
– At the main entry and the ground floor explore further opportunities for permeability to the plaza and landscaping. Explore the potential to have tilt up doors or other significant elements of the façade opening onto the shared plaza.	– The detailed resolution of the façade at the main entry and the ground floor will be developed with respect to optimising visual permeability, security requirements, and the detailed retail strategy brief that will be advanced during the Design Development phase.
– Exploring patterns of use by students, researchers and educators will enhance the design so that the building is conceived as more than tenancies and floorplates.	– The UNSW HTH is to be highly flexible in its capacity to accommodate adjusting needs and user accommodation profiles. The associated programmatic requirements will be advanced during the Schematic Design & Design Development phases. The centrally positioned multi-level atrium provides a legible spatial experience through which the activities of students, researchers and educators will be showcased.

Site Strategy

Government Architect Feedback	Response
- The site wide principles, as endorsed by the Sydney Children's Hospital, continue to be supported. - Create a wider pedestrian 'green link' and clear lines of site through to Botany Street along the southern edge by, for example, shifting the ground floor façade line towards the north.	- The proposed pedestrian link is 5.5m wide and capable of supporting the anticipated volume of pedestrian flow. Clear lines of sight are achieved with the current proposal.

Landscape & Public Domain

Government Architect Feedback	Response
- The re-use of water run-off into a bio water facility as well as using the theme of water to inform the detailing and material selection to the plaza is supported. - The resolution of levels including vehicular, service and pedestrian access at the southern end of the site is critical and should be clearly illustrated through sections and 3D diagrams.	- Adequate public access and walkways have been accommodated within the HTH scope to the north of the southern logistics zone. Please refer to SSDA Documentation in the SSDA Application by the Sydney Children's Hospital for the vehicular and services logistics as this falls outside of the HTH scope.
- Resolve the circulation hierarchy in the public domain. Consider strengthening wayfinding to the main 1:26 walkway as the primary accessible route.	- The design of signage and wayfinding will be progressed in the Design Development phase, taking in to consideration the requirements of equity of access, choice, and legibility.
- Consider if the rectangular stair to the north western corner can be developed to align more closely to the geometry of the ground plane.	- Assume that this item of feedback relates to the SCH1 and CCCC project. The stair to the north western corner of the UNSW HTH is accommodated within the geometry of its ground plane.
- We understand that the stormwater culvert along Botany and High Streets reduces the access to deep soil. The reduced tree canopy cover and deep soil on the site can be augmented with green vertical and/or roof elements. Further details are required on the bio water facility to enable re-use of water from the plaza run-off.	- The deep soil opportunities in the UNSW Plaza have been optimised for tree canopy inclusion and a balanced approach to the creation of sunny external spaces. Further details regarding the bio water facility will be developed in the Design Development phase.

Aboriginal Cultural Heritage

Government Architect Feedback	Response
- N/A	- N/A

architectus™ + ASPECT Studios™