

SSDA DESIGN REPORT

UNIVERSITY OF SYDNEY HEALTH PRECINCT STAGE 1



Revisions

1	07/07/2017	For Review
2	09/08/2017	For Review
3	22/08/2017	For Review
4	28/08/2017	For Review
5	31/08/2017	For Review
6	14/09/2017	For Review
7	19/09/2017	For Review



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1. Project Vision + Objectives

PROJECT VISION & OBJECTIVES

The University of Sydney Health Precinct Stage 1 design is driven by principles set for the University's Campus Improvement Program 2014-2020 Environmental Impact Statement (EIS) including:

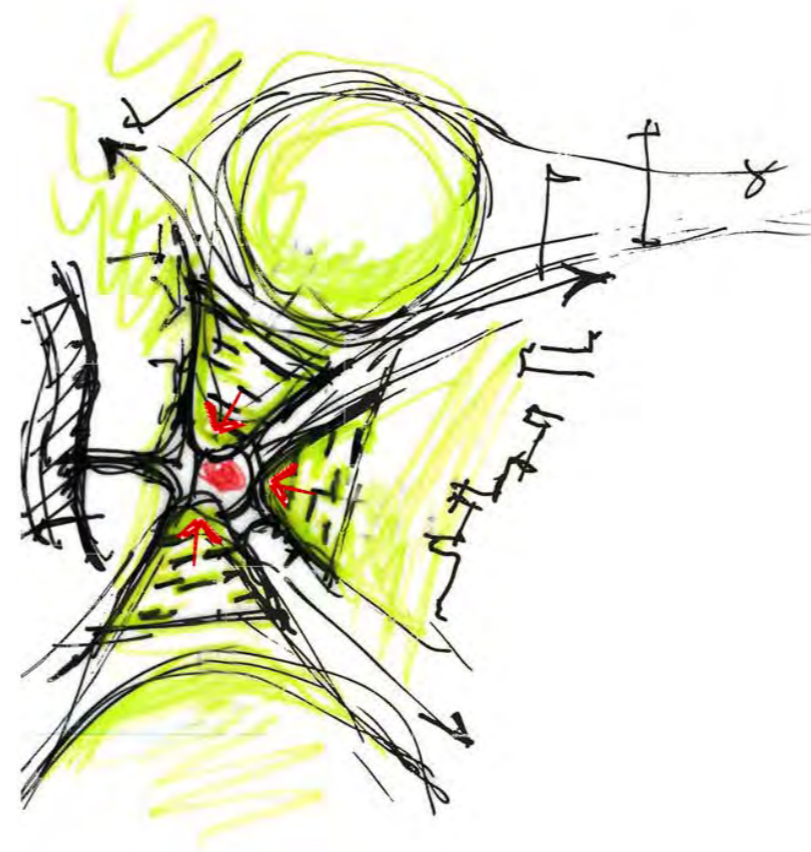
- To create a new multifacility space for Health disciplines
- Interface and integrate creatively with the western boundary of Royal Prince Alfred Hospital (RPAH).
- Respect and respond to the heritage significance of nearby heritage buildings and spaces, and improve the interface with St Andrews College.
- Improve permeability and pedestrian access from Missenden Road into and through the campus.

University of Sydney Project Requirements for the Health Precinct Stage 1 states the following project vision:

"To enable the University's health disciplines to be at the forefront of innovation, teaching and learning; and to create unique inter-professional learning programs and multi-disciplinary research opportunities."

The following are some of University of Sydney's key design objectives for Stage 1:

1. Create a vibrant and attractive workplace that can create multi-disciplinary academic and professional staff teams while maintaining strength and identity at the faculty and discipline levels; creates an open, welcoming, interconnected, functional & flexible working environment that supports interaction between staff & students; supports greater connectivity with industry partners, including RPAH and attracts and retains outstanding faculty.
2. Create teaching and learning spaces that create a 'home' for students of the health disciplines; provide centralised information, support and access to student services; provide a range of engaging learning modes: formal, informal, technologically enabled, individual, and group learning; and provide inter-professional learning opportunities and make provision for a diverse student and staff population.
3. Enhances the campus experience including the following:
 - plan for clear and intuitive wayfinding to the site, across the site and within the buildings;
 - prioritise pedestrians and cyclists over vehicles;
 - maximise views of and access to campus green spaces and heritage architecture;
 - enliven the boundary relationship and establishes strong connections with the RPAH and adjacent health and research organisations;
 - respect and enhance the amenity of adjoining residential colleges;
 - create places that allow the University to engage with the community;
 - respond to the universities social inclusion strategies such as
 - Wingara Mura Buna Barrabugu strategy
 - The University's student well-being strategy
4. Design a building that: is future proofed, flexible and adaptable; aspires to the highest rating within the University sustainability framework and consolidates back of house and support services, with a view to future expansion around redevelopment zones.



PROJECT ASPIRATIONS

The University identified the project scope as delivering a masterplan for the Health Precinct as well as a building design for Stage 1. Through the competitive design process the project team responded to these objectives by framing the following project aspirations for both the Health Precinct and the Stage 1 building:

COMMON GROUND: The new Health Precinct buildings will grow dramatically out of the historic campus landscape—lifting it up, shaping it, connecting to it at every level from inside to outside. This new landscape will form a strong connective fabric between the University, the Hospital and the Charles Perkins Centre (CPC), unifying education and practice. Its shaded gardens, terraces, ledges and paths will extend the spaces of learning, reflection, and social exchange into the outdoors.

NEW HEART: At the core of the plan for the New Health Precinct will be a vibrant new commons—a multivalent and dynamic reinvention of the campus quad. A warm and inviting space of identity, gathering, study and activity.

NETWORK OF COMMONS: Permeating the building, across all levels, there should be energetic and interconnected spaces of gathering for both learning and social life, linking indoor and outdoor spaces.

PERFORMATIVE SKIN: The building's enclosure should be a membrane which mitigates any extremes of climate, shading and comforting to individual users within, drawing fresh air and daylight into all parts of the building.

HISTORY OF PLACE: The building and landscape of the New Health Precinct express themselves as inspiring contemporary spaces emerging out of a deep sense of material and cultural connection to the historic grounds. Through innovative integration of art, planting, stone, and water, the architecture and its landscape will re-awaken the diverse histories of the place, including that of the Cadigal people.

2. Site Analysis

SITE DEFINITIONS & OBJECTIVES

The Health Precinct site is located on the western end of the University's Camperdown campus and is directly adjacent to the Royal Prince Alfred Hospital (RPAH). Currently, the 13,000m² site is home to the Bosch 1A and 1B Buildings, the Bosch Glasshouse, the Blackburn Building and the associated Dangerous Goods Store.

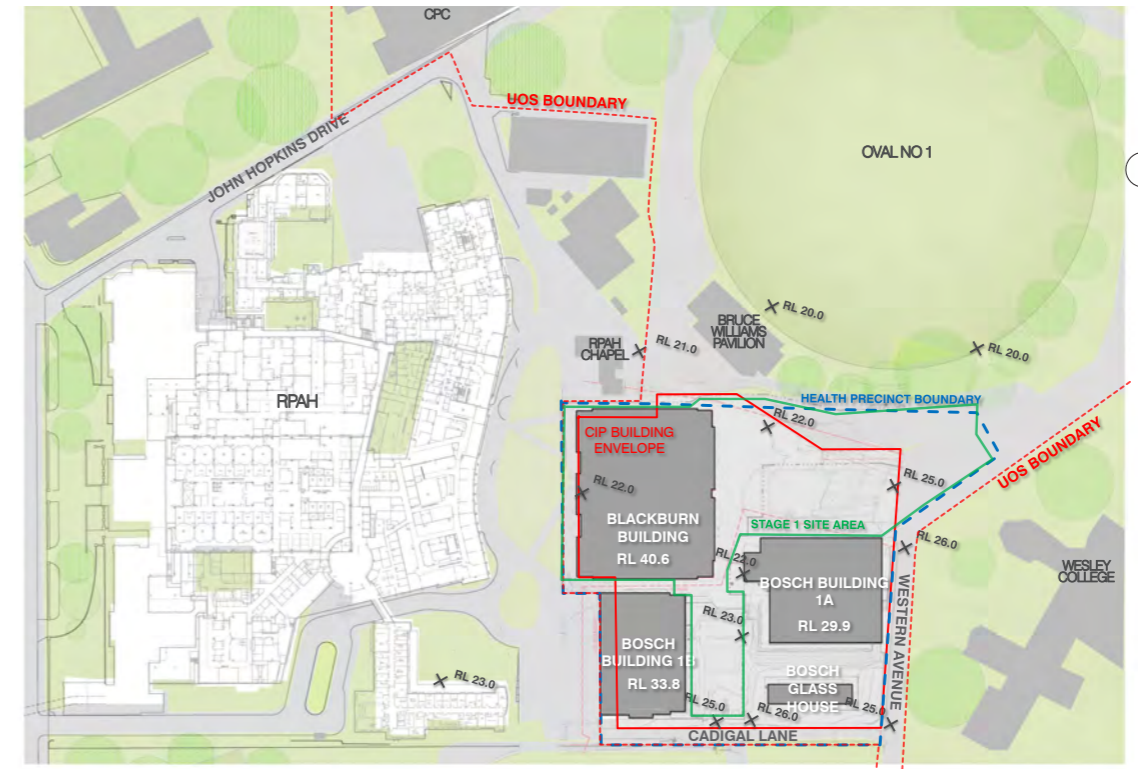
Bordered to the East by Western Avenue, to the West by RPAH and the South by Cadigal Lane, the site slopes steeply down to the North where it is bordered by the University Oval Number 1.

The site is almost the lowest point on the campus and is significantly affected by the requirement to manage the overland flow of stormwater.

The following diagram shows the Health Precinct Site, the Campus Improvement Program (CIP) boundary & the Stage 1 site area.

The enabling works for the Stage 1 site include the decanting and demolition of the Blackburn Building and the adjacent Dangerous Goods Store and required services diversions. The site constraints at the completion of these enabling works are shown in the following diagram and noted below:

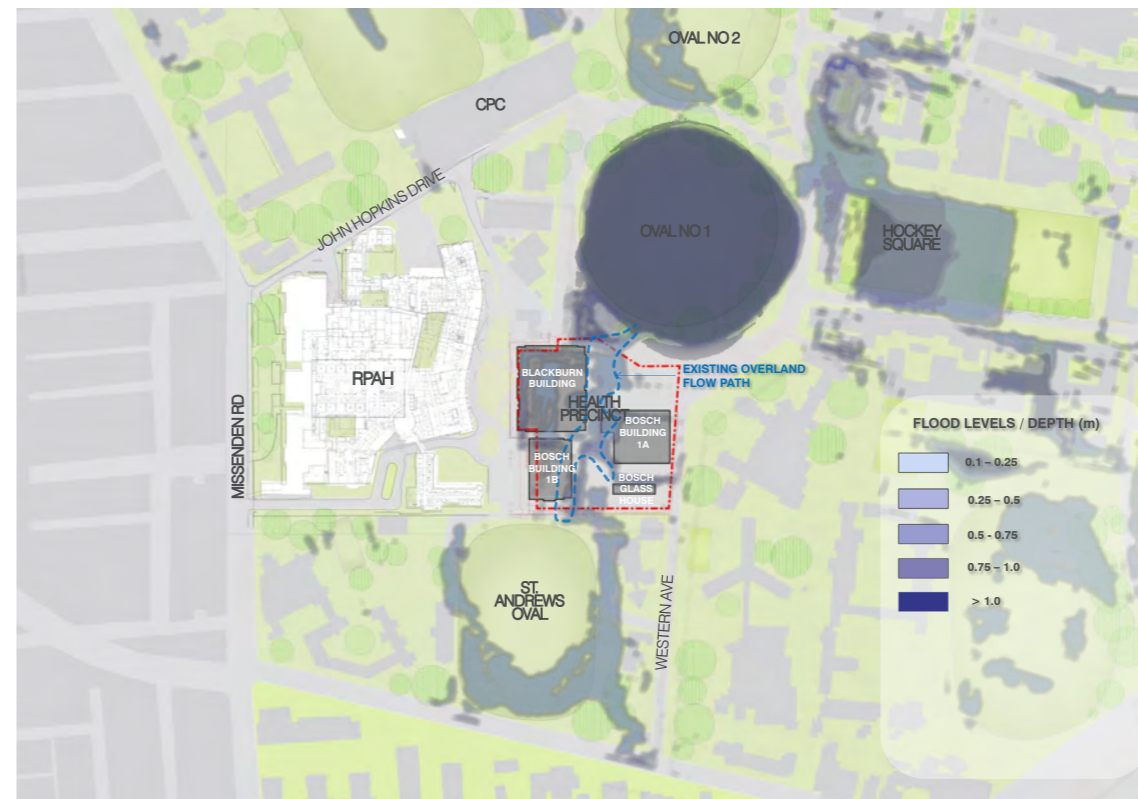
- The CIP envelope
- The location of underground services including two major sewer lines
- The requirement to maintain a significant landscaped area to the north east of the site
- The requirement to maintain the existing overland flow path



Site Boundaries & CIP Envelope



Site Constraints

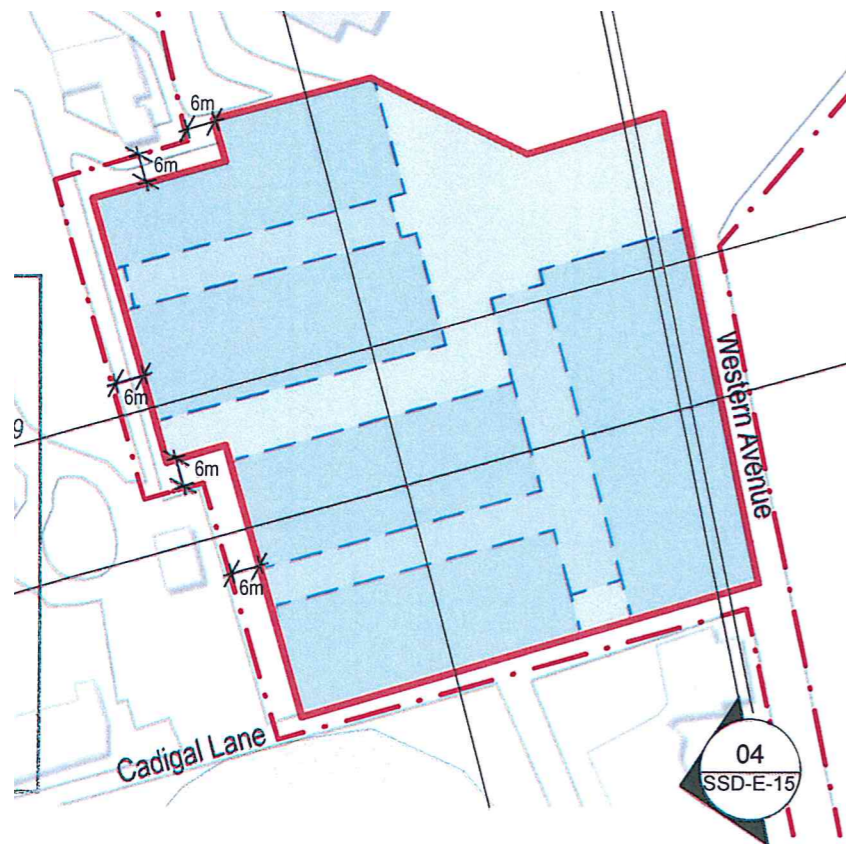


The overland flow path

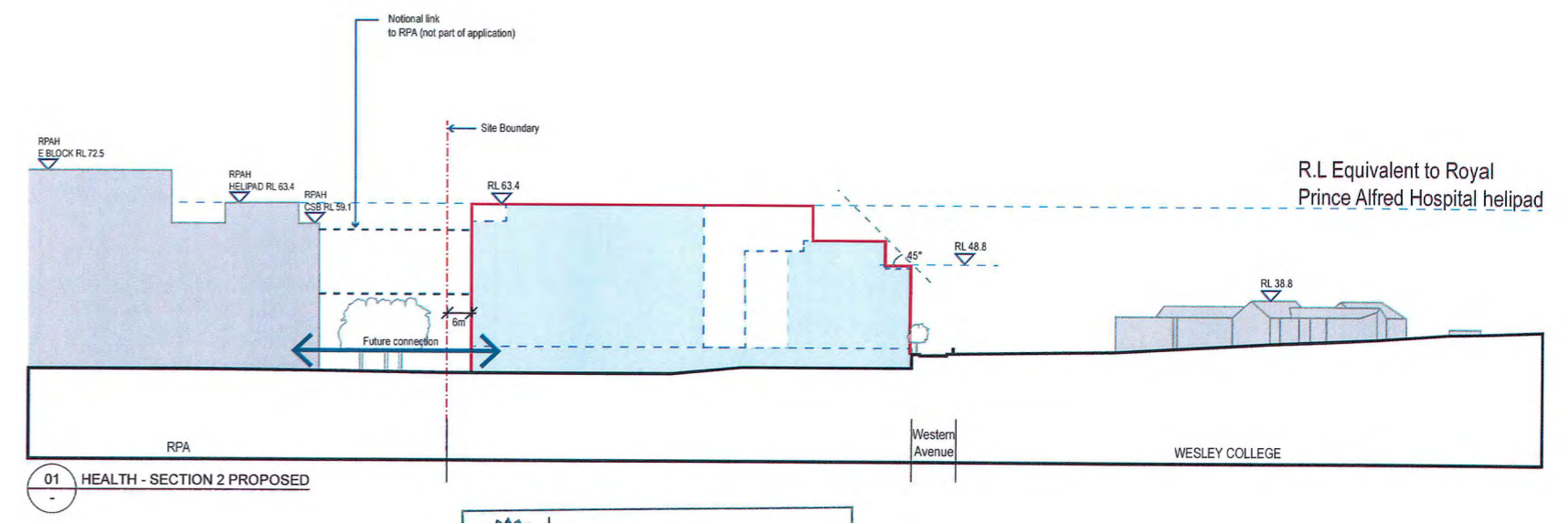
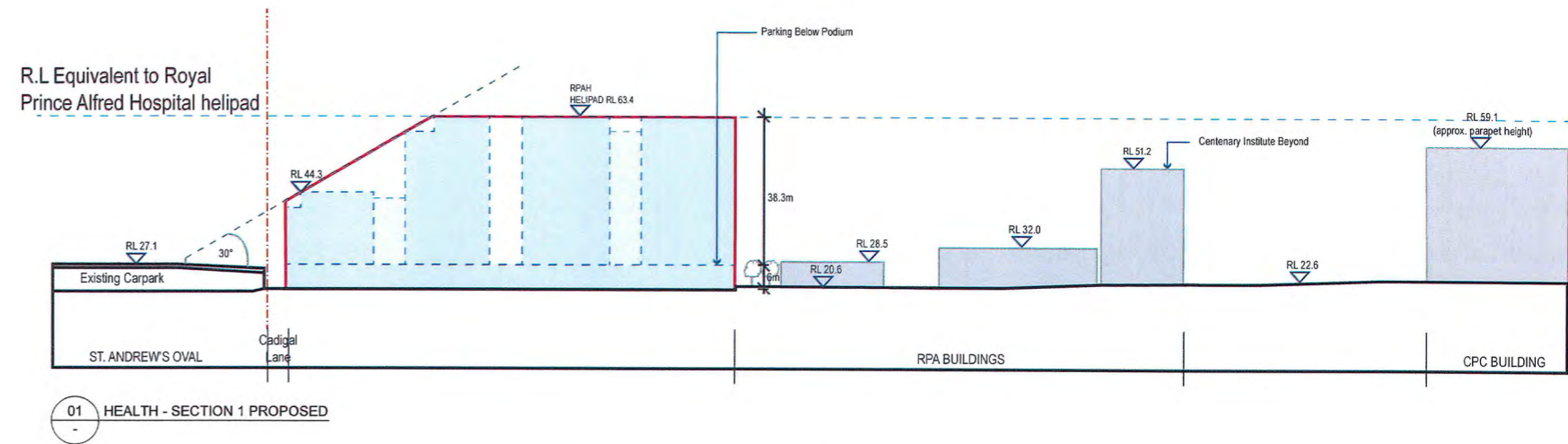
DEVELOPMENT CONTROLS

The CIP envelope is the instrument that assesses built form of the Health Precinct under the Campus Improvement Program. It is based on the principle that future building envelopes include built forms that will transition in height from Western Avenue towards RPAH to the west; and from St Andrew's Oval at the south towards the University Oval No.1 to minimise overshadowing impacts. It consists of:

- A sloped building envelope projecting upwards from the existing car park of St Andrew's Oval to the north to reach a maximum height equivalent to the RPAH Helipad. This will allow buildings to step down to St Andrew's Oval.
- A building envelope stepping back from the eastern side of Western Avenue, adjacent to the Wesley College property boundary to the west. This will facilitate buildings heights that are lower in scale along Western Avenue similar to St Andrew's College Gillespie Hall and taller buildings towards RPAH.



CIP Envelope



EXISTING CONNECTIONS

Vehicular access to the Health Precinct is currently off Western Avenue with a rear access from John Hopkins Drive via RPAH land. There are a number of small open on-grade parking spaces within the precinct. Various service vehicles access loading areas located centrally in the site within the Blackburn and Bosch buildings. Some service vehicles access Blackburn from the rear access.

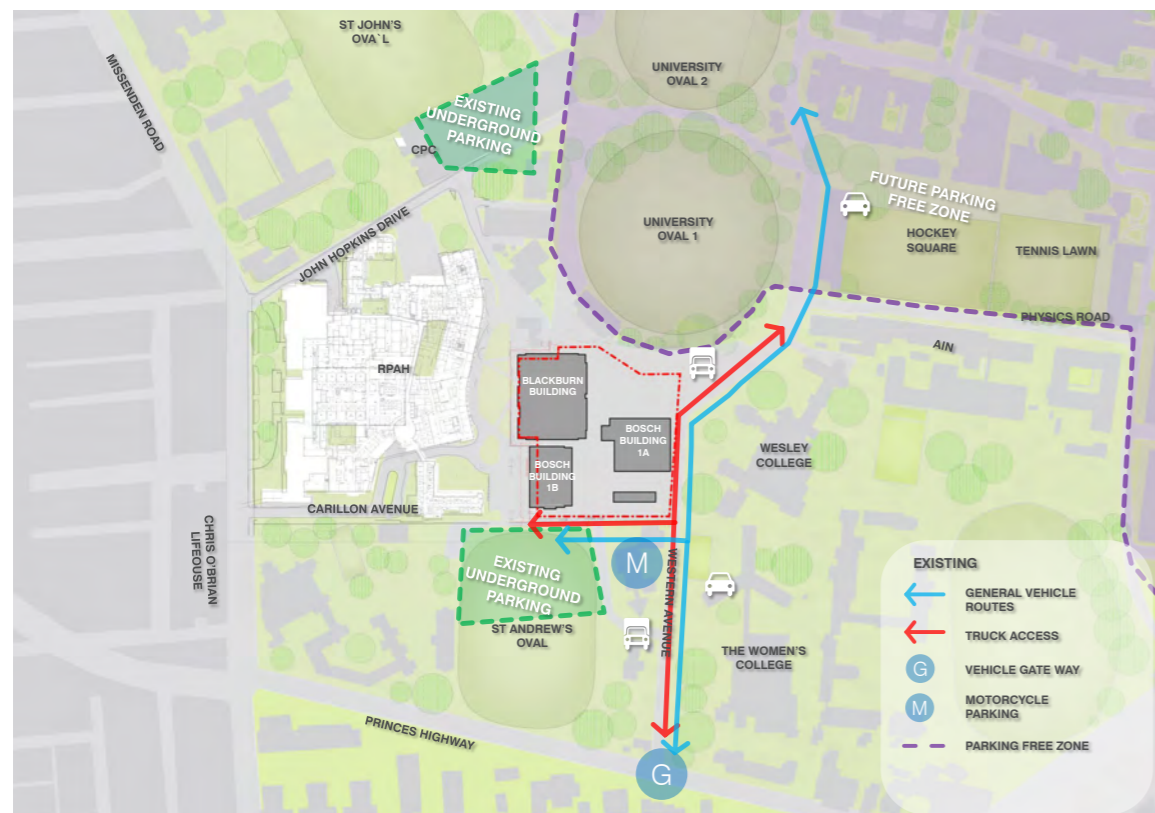
The site is not universally accessible because of the dramatic grade changes across it that are currently navigated by steep ramps and stairs.

Cadigal Lane to the south of the site drops down below the level of St. Andrew's Oval cutting off pedestrian access between St. Andrew's College and the Health Precinct.

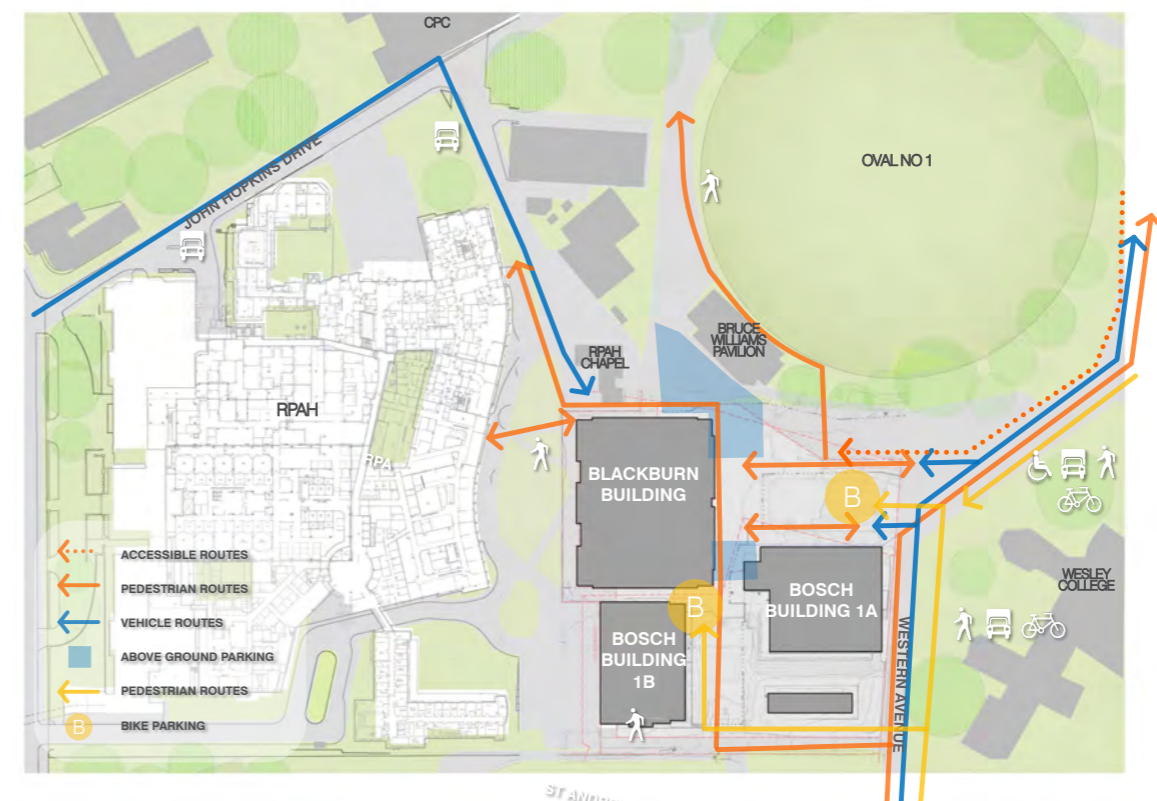
There is some open on-grade bike parking in the Blackburn forecourt and next to the central open space but traversing the site on foot and bike is difficult due to the changes in level in many directions.



Existing campus pedestrian & bike path



Existing campus vehicular connections



Existing Health Precinct connections

EXISTING AMENITY

The existing site has developed organically over time. The existing open space is generally fragmented with different uses, on-grade parking, service access & plant. There are two defined open spaces on the site. The Blackburn forecourt and the central Bosch open space.

While the topography and context poses challenges, the site also has attributes in terms of vistas and open spaces that should be tapped into and exploited by the new buildings.

- The future Stage2/3 buildings should face south to take advantage of long views across St. Andrew's College Oval.
- The Stage 1 building should be oriented to the northwest to create visual connection to the historic Medical School tower.
- The University Oval No.1 to the north provides expansive views and the opportunity to tie to the precinct's health mission.

The Bruce Williams Pavilion blocks the view of University Oval No. 1 from the Stage 1 site.

In terms of potential connections to the RPAH, the west side of the Stage 1 site faces the loading docks of RPAH which will pose some challenges in terms of pedestrian connectivity. Additionally, the connection to the cafe level (and subsequently, the entry level) of the hospital is 9 metres above grade along the western site boundary.



Existing Amenity



The site is not universally accessible because of the dramatic grade changes across it that are currently navigated by steep ramps and stairs.



Cadigal Lane to the south of the site drops down below the level of St. Andrew's Oval cutting off pedestrian access between St. Andrew's College and the Health Precinct.



The Bruce Williams Pavilion blocks the view of University Oval No. 1 from the Stage 1 site.



The west side of the Stage 1 site faces the loading docks of RPAH.



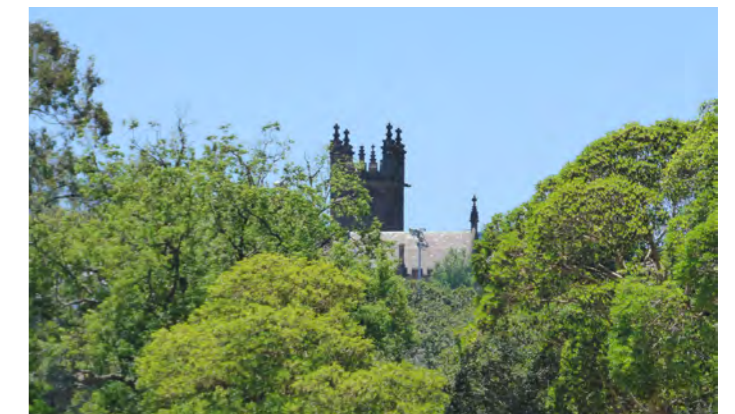
Stage 2 building faces Wesley College to the east across Western Ave.



The University Oval No.1 to the north provides expansive views and the opportunity to tie to the precinct's health mission.



The Stage 3 building should face south to take advantage of long views across St. Andrew's College Oval.



The Stage 1 building should be oriented to the northwest to create visual connection to the historic Medical School tower.

3. Design Response

Health Precinct Masterplan

CAMPUS PLAN

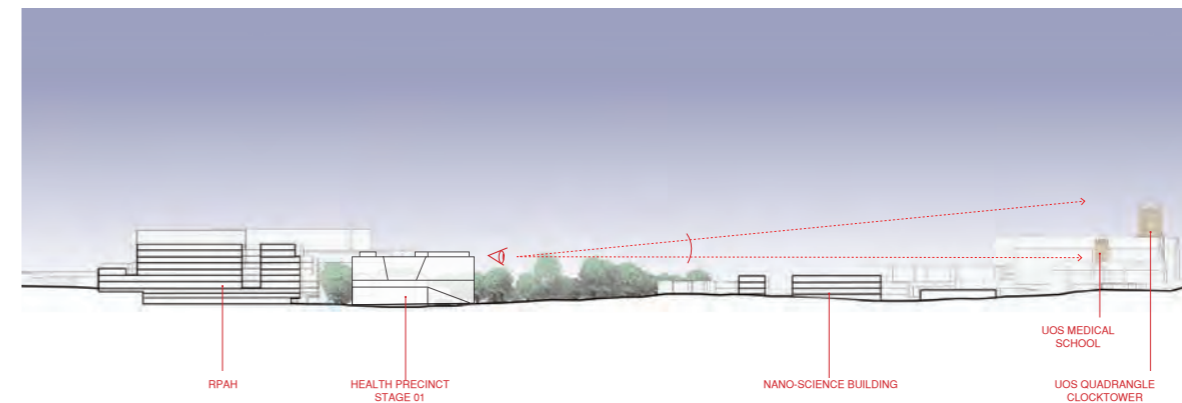
As part of the University of Sydney Camperdown Campus Improvement Plan, the University has proposed a broader Health Precinct to encompass the Stage 1 Health Precinct site as well as the CPC to the north. Looking at the Campus as a whole, this demarcation could be expanded to include the Sydney Medical School, the Sydney School of Public Health and, though it is not a part of the university proper, the buildings of the Royal Prince Alfred Hospital. Incorporating those facilities as well as the Arena Sports Centre and athletic fields would create a larger health region that incorporates both the study of health and the practice of healthy living. Since students and faculty in the health fields are occupying and moving between all of these buildings, the CIP master plan should take advantage of visual links and pedestrian connections to make all feel part of one precinct.

Within the precinct, there is already an expansive network of pedestrian paths: some formal, others incidentally formed by use. To strengthen the Health Precinct as an interconnected district several paths need to be added or strengthened. The pedestrian path between the Health Precinct and the Charles Perkins Centre can be improved to strengthen the link between them. The path around University Oval No. 1 is incomplete and should be completed.

To strengthen the pedestrian character, cars and truck traffic entering the Campus from the south along Western Avenue. should be limited. By directing traffic onto Cadigal Lane and providing a drop-off at the Stage 1 site, the Health Precinct can be a pedestrian and cycling zone, free of cars and trucks.



The site within the greater Health District

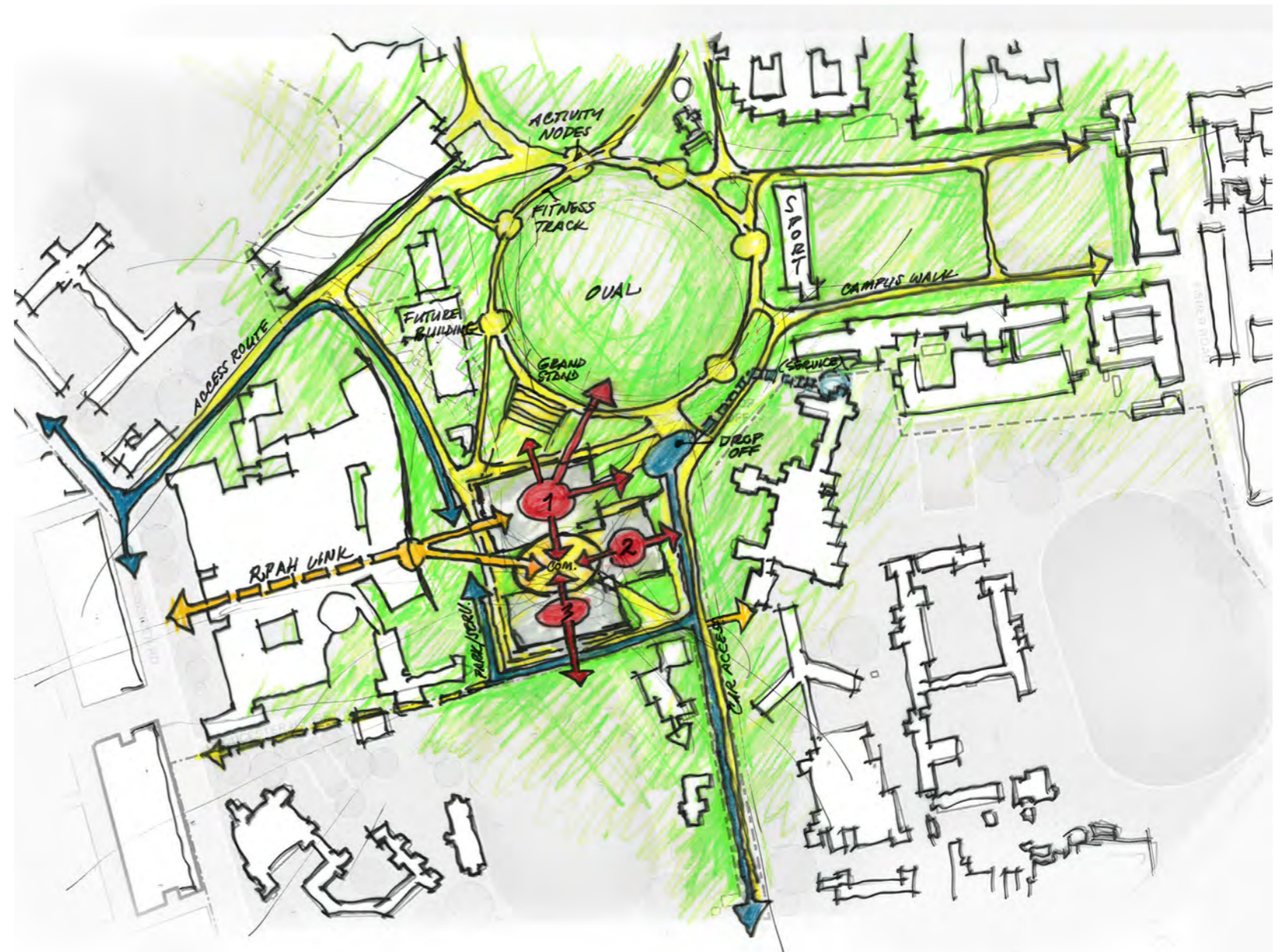


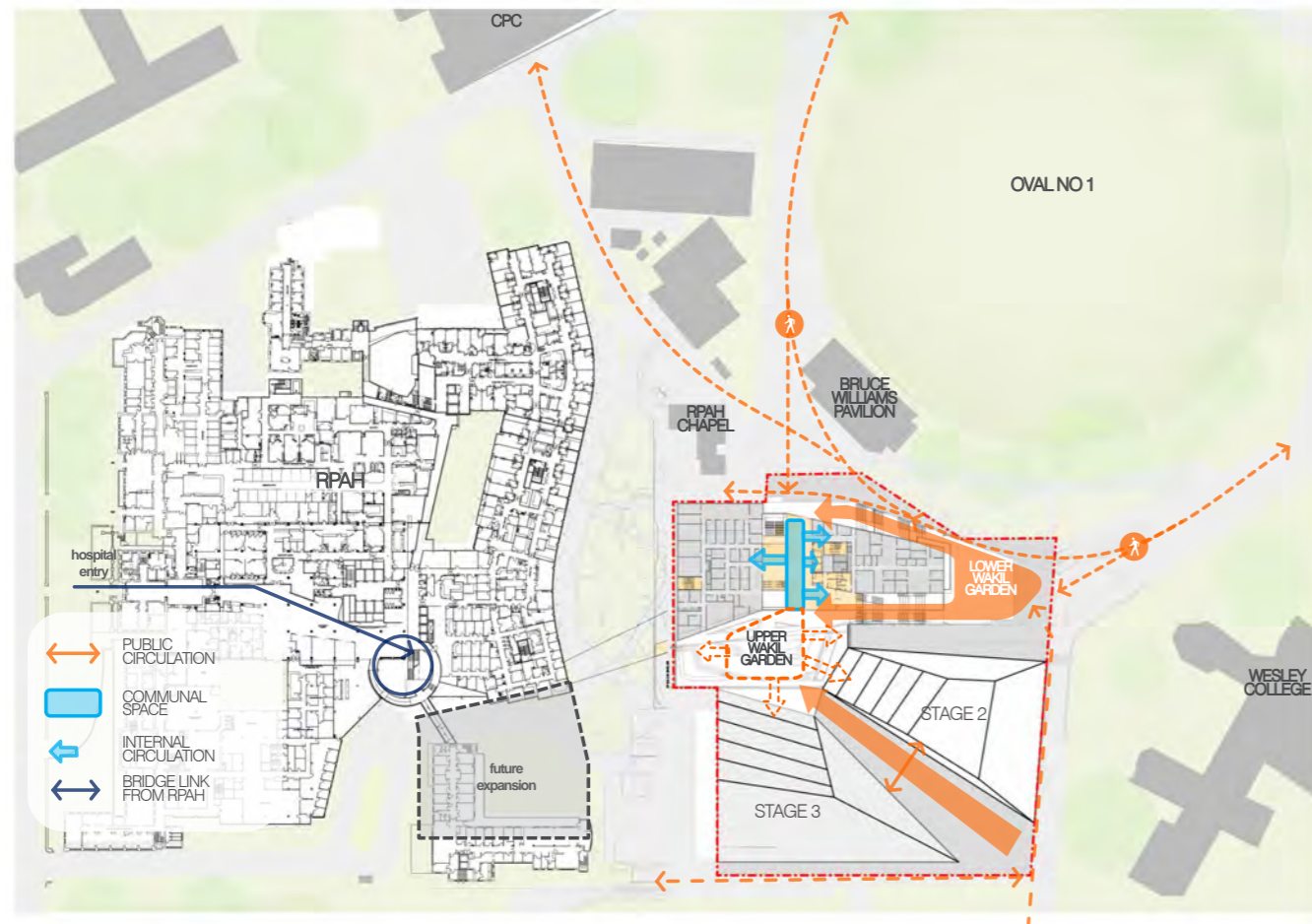
PRECINCT CONNECTIONS

Analysing the section through the site and its surroundings it becomes evident that the physical obstacle to making pedestrian connections is the multiple changes in level which isolate the site from its surroundings. There is a 3 metre drop from Western Avenue to the middle of the site. To the west, the cafe of the Royal Prince Alfred Hospital to which the site should connect is 9 metres above the site. To the south, Cadigal Lane drops 3 metres below the grade of the south-western corner of the site, cutting the connection to St. Andrew's College oval.

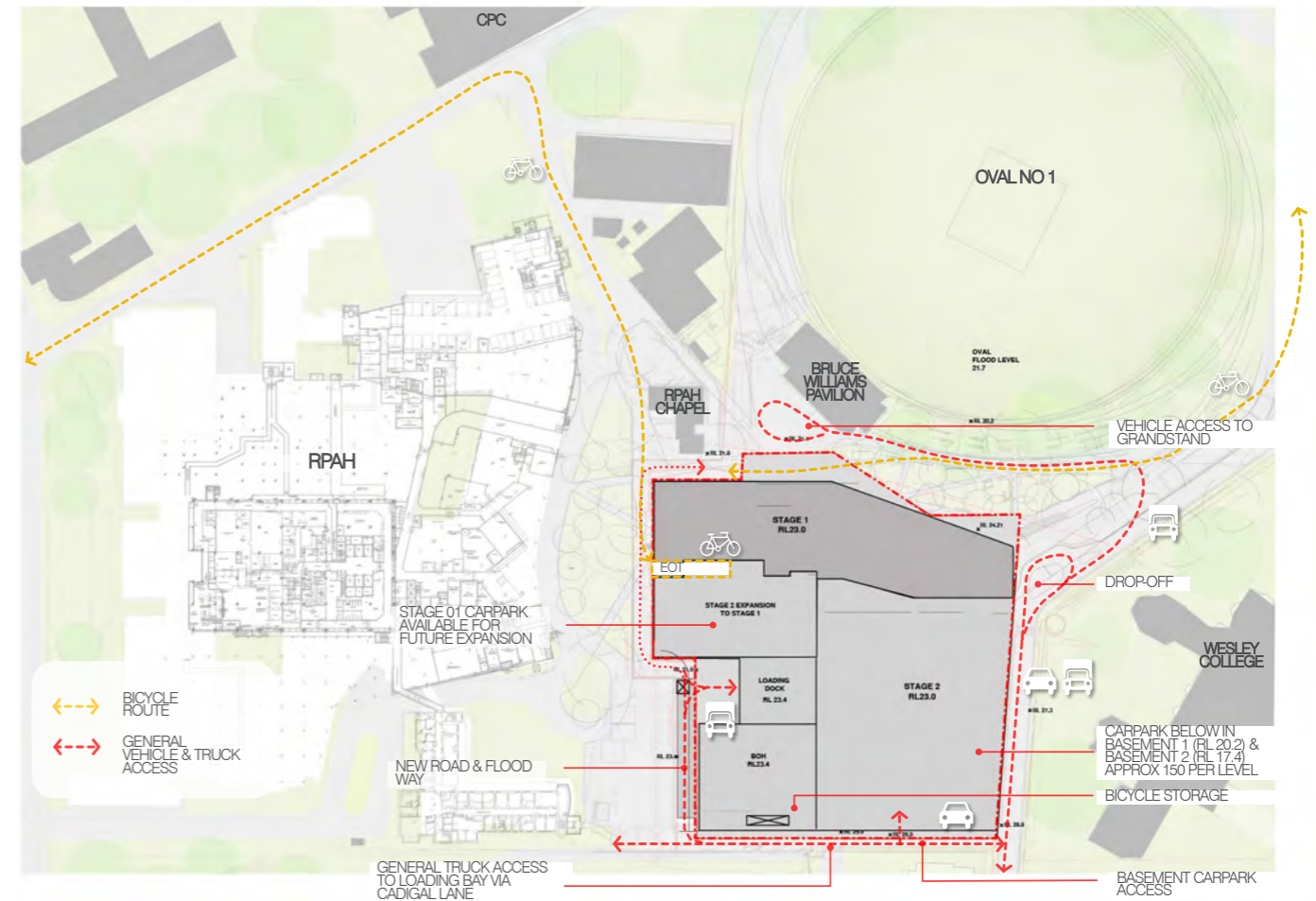
The Health Precinct Master Plan developed as part of the Design Excellence Process has the following underpinning goals:

- New pedestrian paths should complete those ringing the University Oval No. 1 as well as connecting to CPC, RPAH, west to Chris O'Brien Lifehouse, and to the adjacent residential colleges. To complete the path around the Oval to the Precinct and more broadly to strengthen pedestrian connections across the campus east to existing medical school. At the Oval a health and fitness circuit can provide activity and exercise stations. This enhanced pedestrian network can feed into and through a new commons at the heart of the Health Precinct among Stages 1-3 buildings, a new center of campus social life and identity.
- The new health education buildings will group around their own central commons, Upper Wakil Garden. It is located above the car park, with a possible future bridge connection to the RPAH café or entry level.
- The precinct will have its primary entrances from the east, oriented to Western Ave, with inviting secondary entrances toward the Oval and CPC building, to the Commons, and to RPAH to the west.
- To encourage bicycle usage, new designated bike routes should tie into the existing bike path network, making the New Health Precinct building approachable from all directions. The health precinct will have central end of trip facilities.
- At the completion of the master plan vehicular access from Western Avenue will terminate at a drop-off and turn around point south of the Oval at the Lower Wakil Garden forecourt in keeping with the CIP restricting vehicular access within the campus.
- A new access road along the western edge of the site accessed via Cadigal Lane will provide access to service docks. Access to basement carparks in Stage 2&3 will also be via Cadigal Lane.
- Access to the grandstand will remain to the northern side of the building.





Health Precinct masterplan pedestrian connections



Health Precinct masterplan vehicular & bike connections

MASTERPLAN CONCEPT

The competitive design excellence process required that a Health Precinct Masterplan is developed which identifies the Stage 1 building in the context of future stages. The following is a description of the masterplan concept:

The new buildings within the Health Precinct are seen as an extension of the landscape. Much learning occurs outside the formal didactic format, and these opportunities are integral to the expression of the built form and its connection to the site and landscape approach. Both the site history and the current purpose are utilised as drivers of the project.

The site was originally at the confluence of two waterways and as such would have been an important site for the Cadigal people. This history is still prevalent in the overland flow that is a constraint on the site and determines the ground plane levels. This unseen history is one manner in which the site is directly connected to the wider University. The more obvious yet still understated network of pedestrian pathways is another manner in which connection is made. The site sits within the context of a Health Precinct and the project's purpose is to another form of connection.

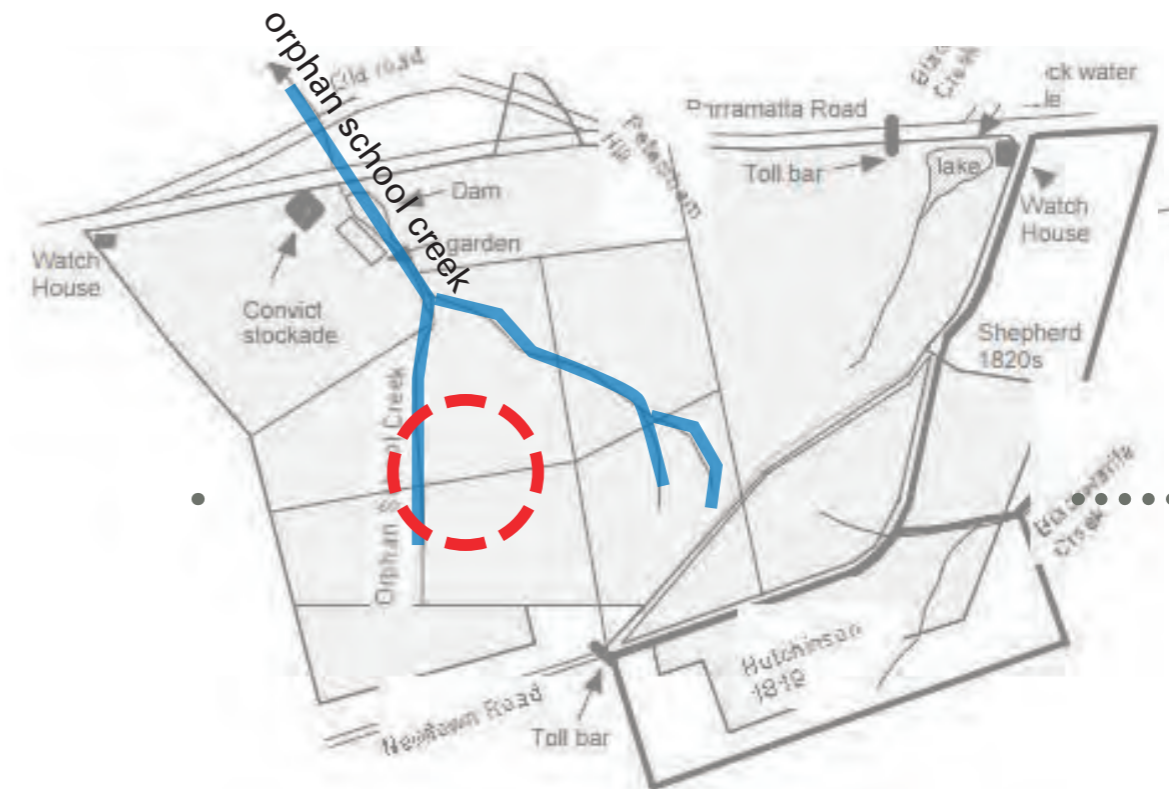
The intention of the masterplan is to respect the former history while reinforcing its current designation within a modern University context, both physically and programmatically. The themes of landscape and healing permeate all aspects of the design, from healing gardens to the concept of the Health(y) buildings.

The site is conceived of as a broad Ground upon which the building is founded. The ground plane is folded and rises up from the oval, through the building entry and up to an outdoor commons at level 3, creating rooms and spaces as it rises. This plane is used to resolve the many differing levels of the site while at the same time allowing for the flow between interior and exterior of the building.

The heart of the Masterplan is the outdoor commons at Upper Wakil Garden. The Commons is formed by the ground plane rising up in the center of the site. The three stages of the Health Precinct face the central commons and paths radiate out from the commons to connect the New Health Precinct to the Historic Campus, City, Hospital and CPC.

At their center, the buildings converge on the dynamic multi-level commons, Upper Wakil Garden, animated by terraces, gardens, and places for communal gathering or collaboration. Each building faces an adjacent green: the Oval to the north, Wesley College to the east, and St. Andrew's College oval to the south. The carve on the north side draws daylight deep into the building while terraces provide immediate access to outdoor space and fresh air for lower classrooms, middle clinical and research spaces, upper offices.

The Upper Wakil Garden gives the new Health Precinct a heart. In Stage 1 the gardens of Upper Wakil commons flow out onto the pathways that connect to the building to the Campus beyond. The outdoor stairways provide circulation for the Stage I building tying together exterior gathering terraces and interior commons.

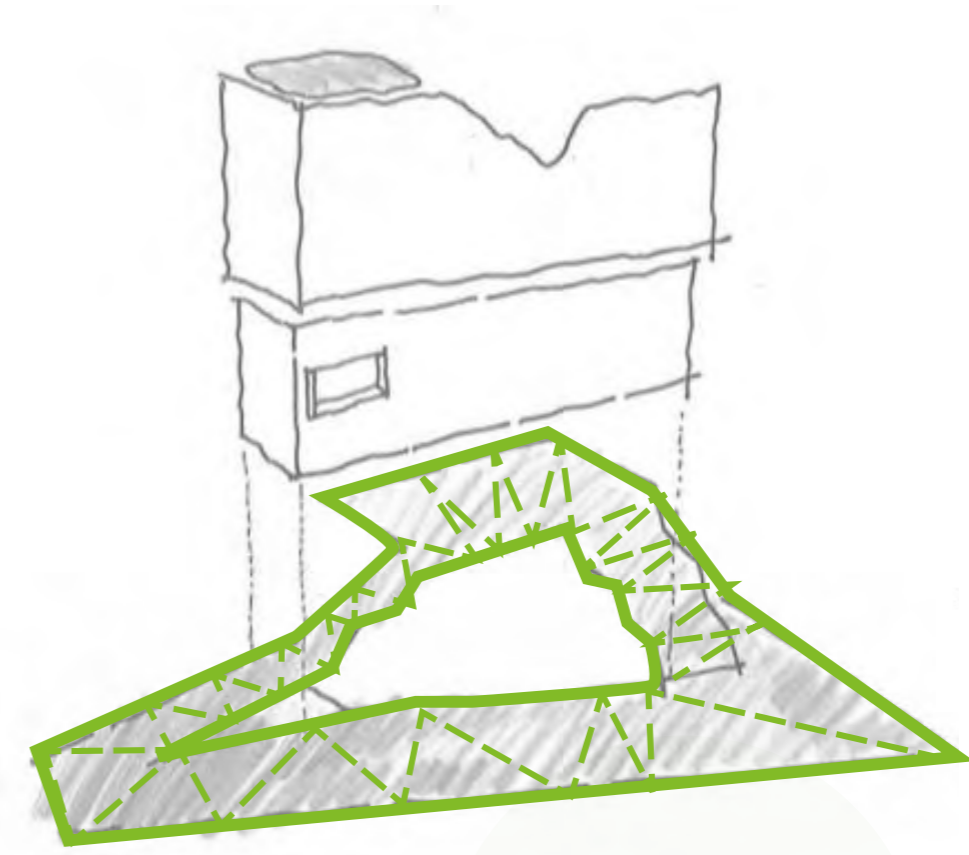


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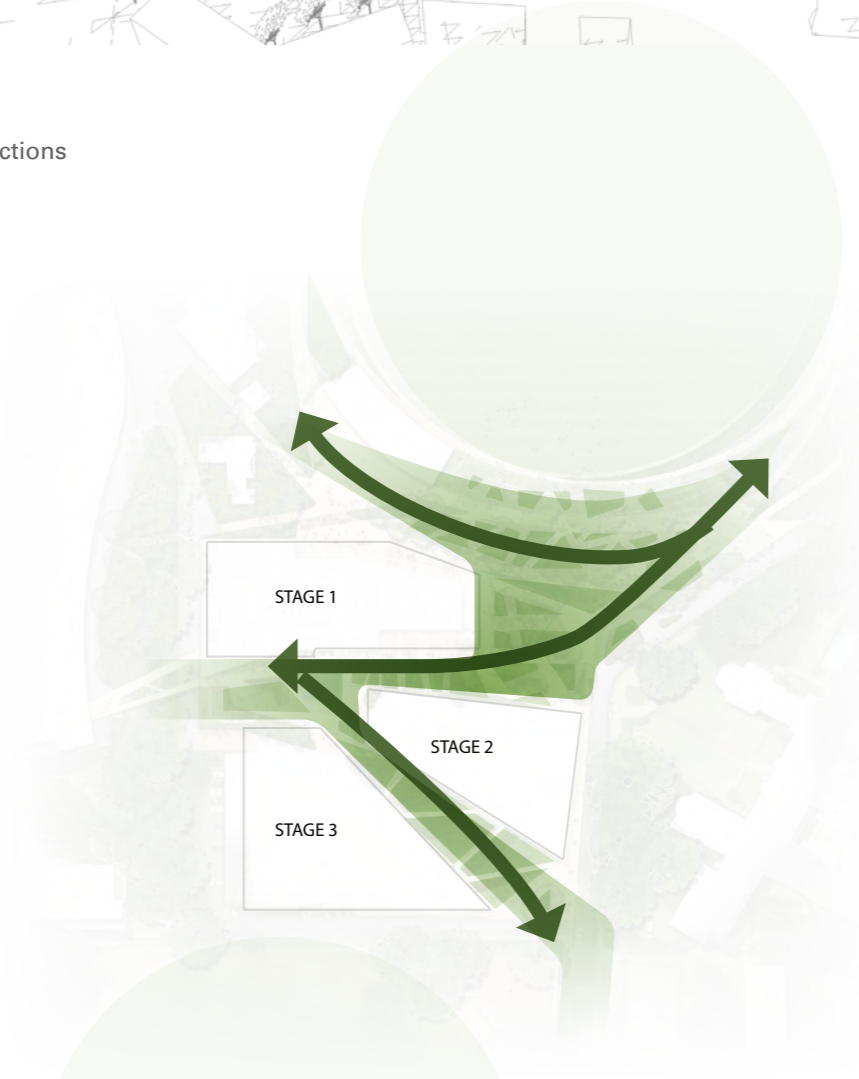
The University of Sydney Grounds are of heritage significance because, among other values, they retain evidence of the continuous human occupation of the place from Aboriginal time, through the earliest period of European colonization of Australia, to the current day.



Creating connections



The folded landscape



The connected landscape



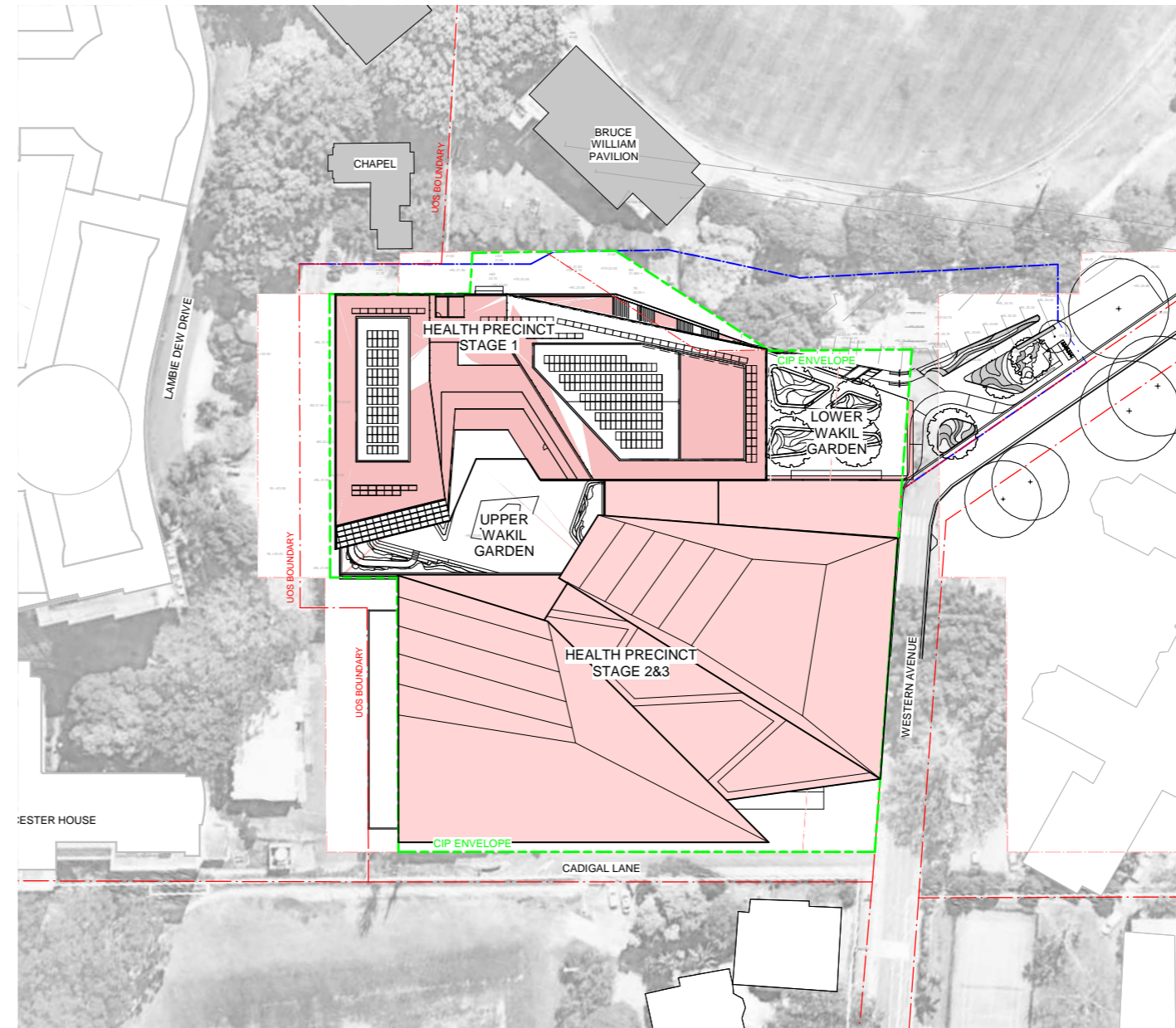
Building & Landscape as one

MASTERPLAN RESPONSE TO DEVELOPMENT CONTROLS

The masterplan concept for the health precincts sits within the CIP building envelope. The folded ground connects the existing street levels at the western corners of the health precinct with building entry levels and form diagonal pathways through the site to the elevated central commons.

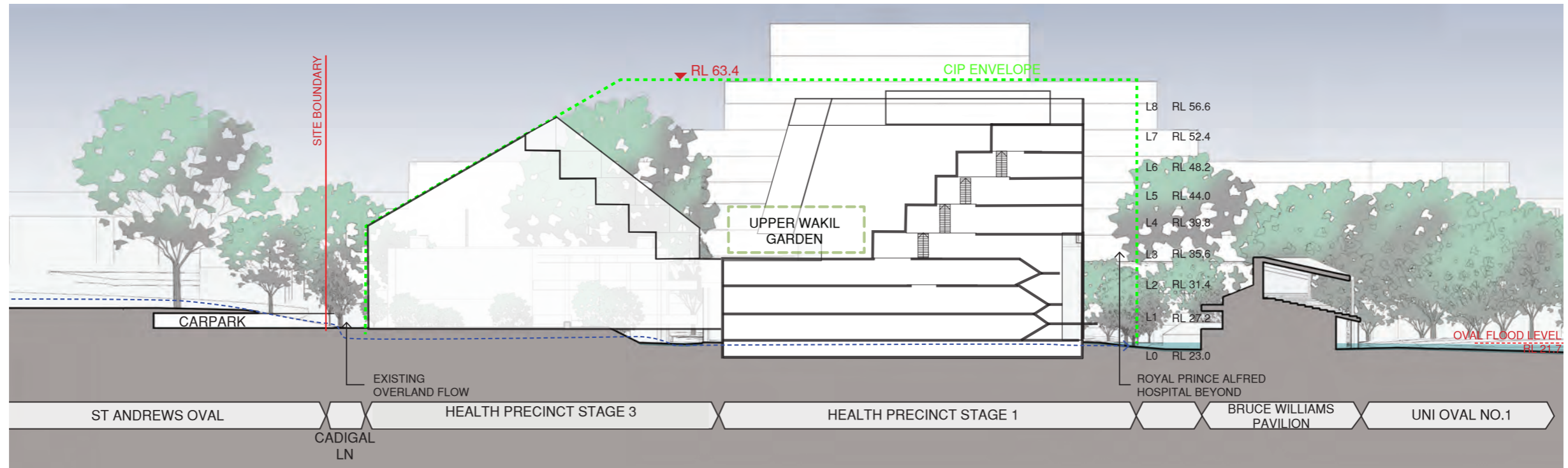
The building volumes of the three stages sit above this folded ground facing both the central commons and the site boundaries. The Stage 1 built form aligns with the CIP envelope on the western and northern edges before stepping back from the east to create the entry forecourt and maintain vistas of the oval from Western Avenue. The Stage 2 built form tapers back from the Western Avenue edge from a height similar to Gillespie Hall across the road. Stage 3 tapers back from the St Andrews Oval following the CIP envelope incline.

The buildings also step back from the central commons to create unique crystalline built forms.

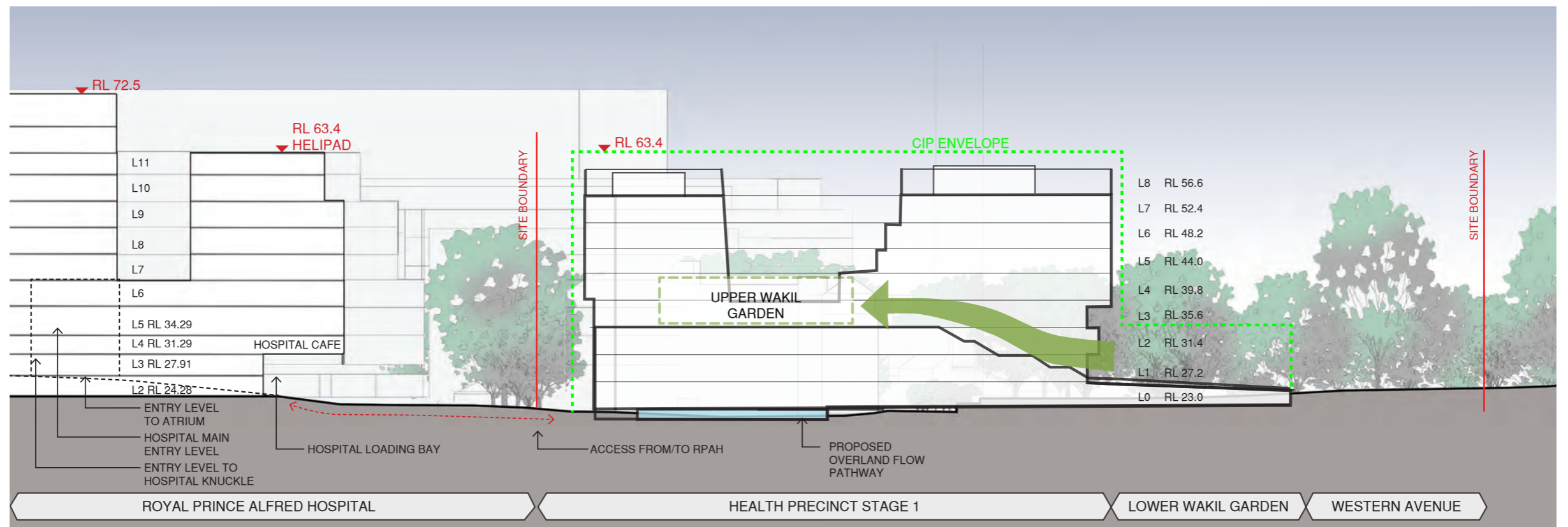


Health Precinct Masterplan

NORTH-SOUTH SITE SECTION



EAST-WEST SITE SECTION



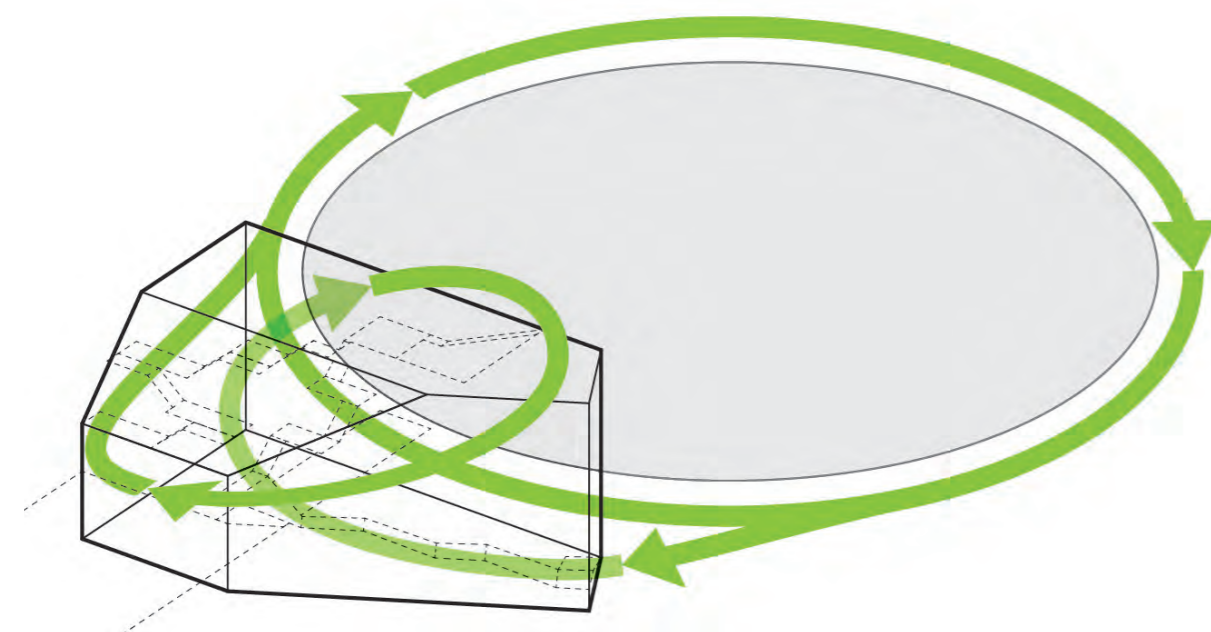
4. Design Response Stage 1 Building

STAGE 1 BUILDING CONCEPT

The Health Precinct Stage 1 building and grounds developed as part of the Design Excellence Process is conceived as a total health environment, engaging both mind and body. The building will offer oxygen and sunlight, biophilic spaces, active animated spaces, spaces of community gathering as well as quiet reflective spaces of repose.

It has the following underpinning HEALTH(Y) BUILDING concepts that are derived from the university's project vision and objectives:

- SOCIAL GATHERING
- CONNECTING TO PHYSICAL ACTIVITY
- ACTIVE CIRCULATION
- LINK TO INDOOR / OUTDOOR SPACES
- REJUVENATING LANDSCAPES
- SUSTAINABILITY AND ENVIRONMENTAL HEALTH



Weaving Health & Fitness into the building

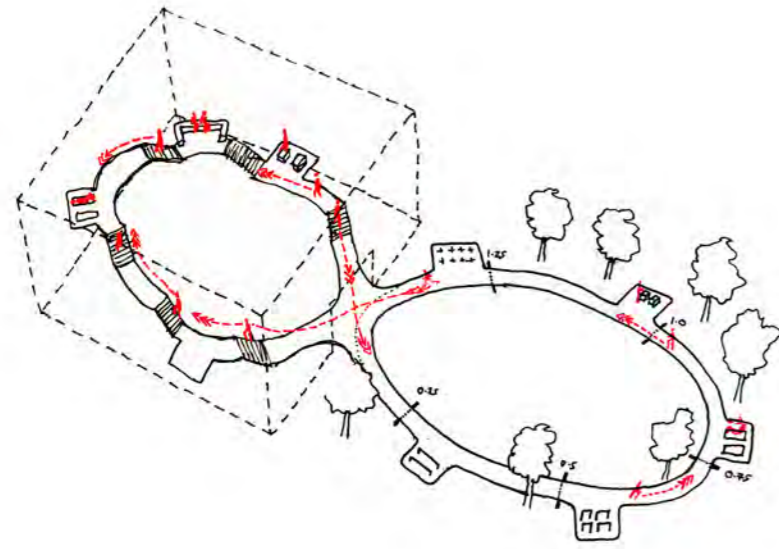


SOCIAL GATHERING

The campus buildings at the University of Sydney are not object buildings, but are shaped around their open spaces. While this strategy produces active and vibrant patterns of use, the New Health Precinct building should balance a sense of place with a new sense of porosity that encourages interaction and mixing.

The historic campus quadrangle is enclosed on 4 sides creating a secluded cloister feeling. An open, porous commons reaches out to create a welcoming gesture. That engages the larger campus, the neighbouring residential colleges as well as the hospital.



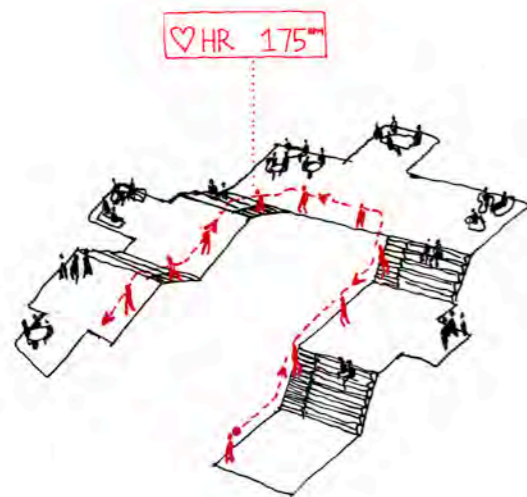


CONNECTING TO PHYSICAL ACTIVITY

The buildings' siting, paths and entrances should link to outdoor active zones. With careful consideration, corridors inside the buildings can double as activity spaces and lead to pocket activity zones

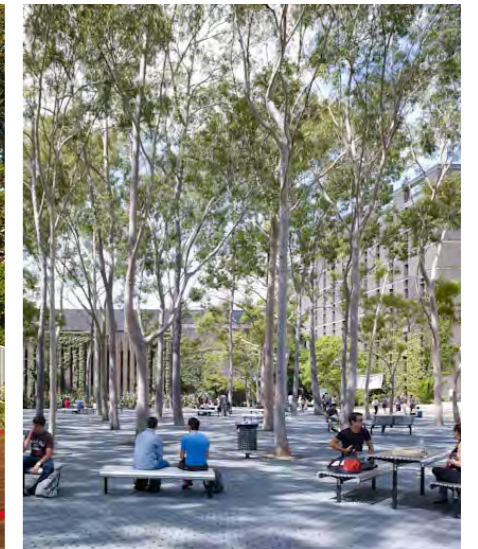
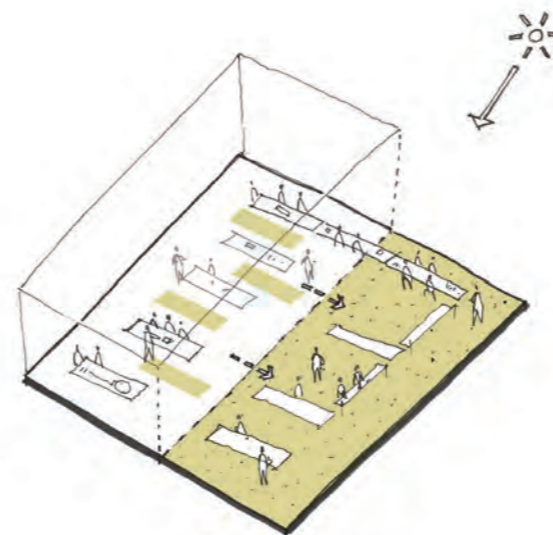
ACTIVE CIRCULATION

Integral to a health campus are buildings that promote healthy living. By placing stairs in prominent locations within public spaces and making them generous and inviting with the destination spaces visible from multiple levels, students and faculty are more likely to take the stairs and incorporate exercise into their daily routine. Beyond operating as connectors, stairs and landings can expand to become social spaces which bring building occupants together and provide moments of informal interaction—a healthy social environment. With a special focus at the main entrance and the central building commons.



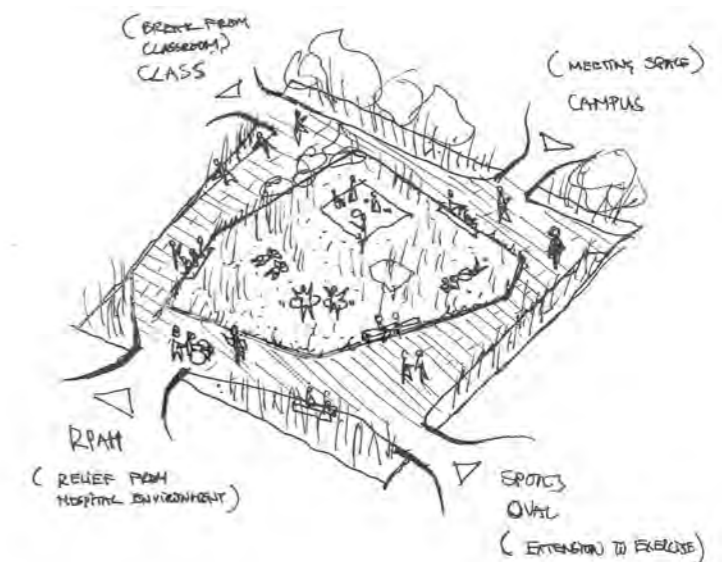
LINK TO INDOOR / OUTDOOR SPACES

Not only can outdoor spaces be connected directly to interior spaces, but nature can be brought into the spaces. Outdoor seat groupings and tables become informal places of gathering and exchange. When the climate is favourable, outdoor spaces can be appropriated for both formal and informal teaching, expanding the inventory of usable spaces of the building.



REJUVENATING LANDSCAPES

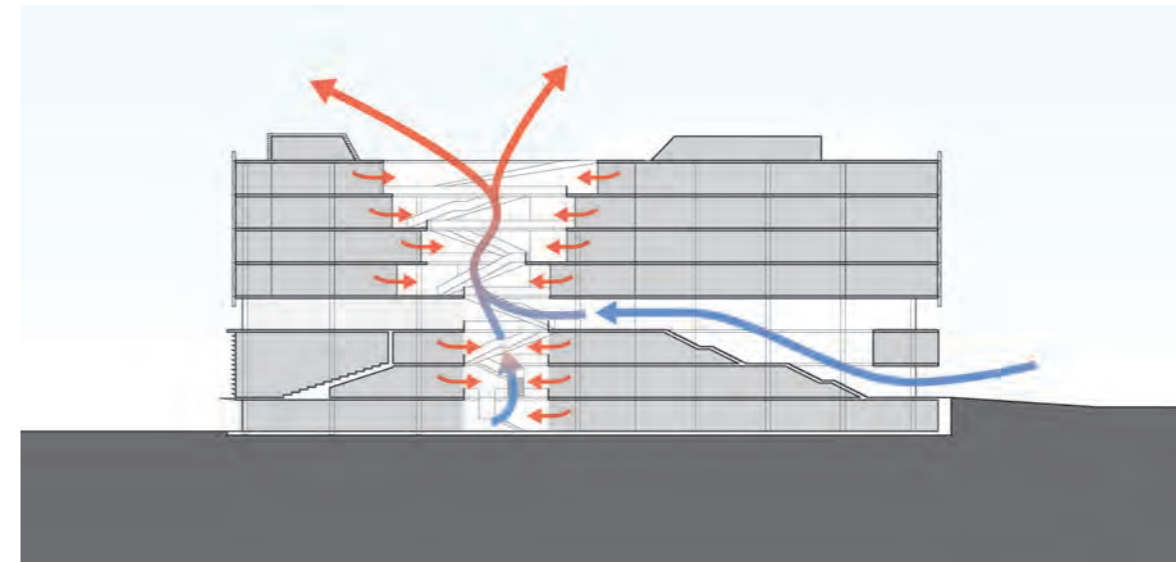
The Wakil Gardens will provide places to sit and relax, take a break from the concentration and sometimes stressful activities the building hosts and get some fresh air. They provide a calm, healing zone made of sensory gardens, groves of trees and inviting lawns. They are also 'mixing spaces' which bring the many user groups that will be visiting or based in the building together in a low-key informal setting.



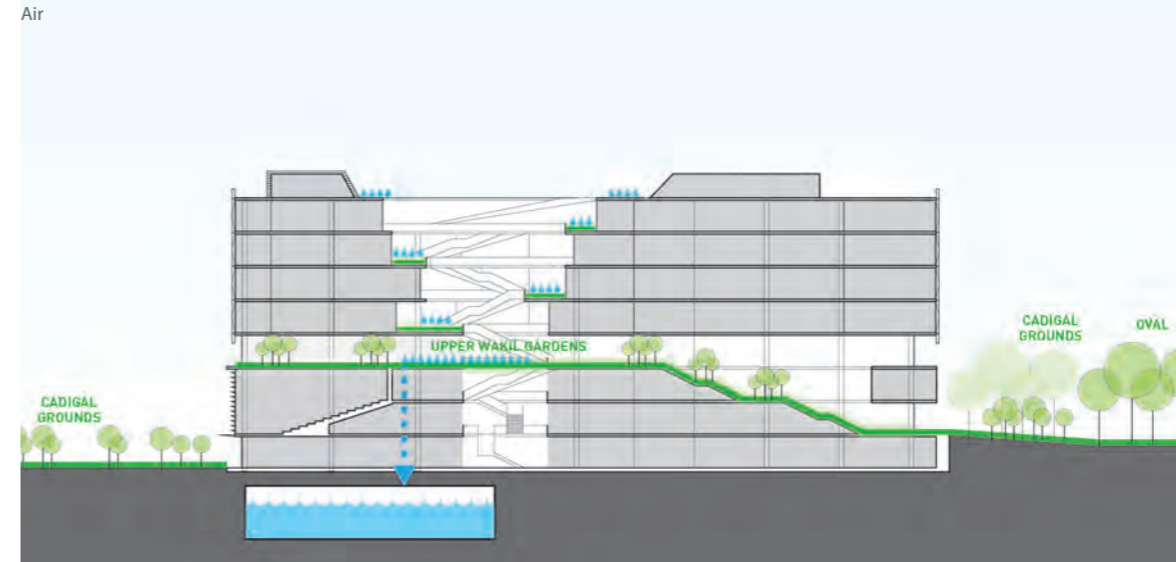
SUSTAINABILITY AND ENVIRONMENTAL HEALTH

The building form, façade, and orientation is thought of as an inherently low energy building underpinned by the following themes:

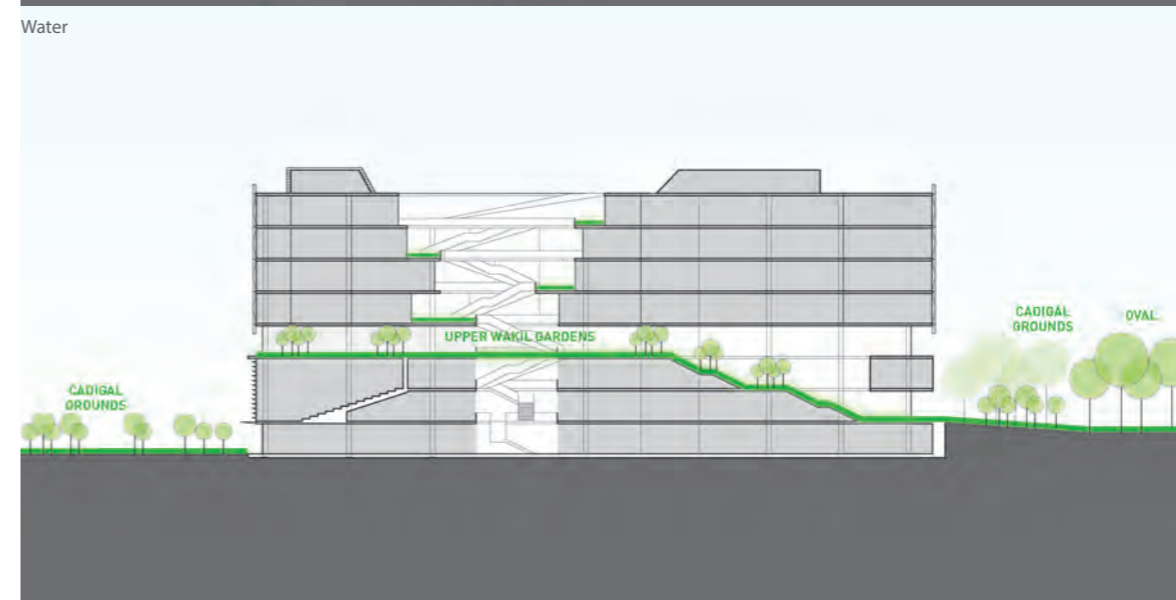
- Light—an atrium to the north draws daylight deep into the building.
- Water—Rainwater will be collected from roofs and terraces for irrigation
- Air—Opening the atrium at the top and main entrance can provide a stack effect drawing hot air out of the building.
- Gardens—outdoor gardens filled with biodiversity reduce rainwater run-off and provide recreation space.



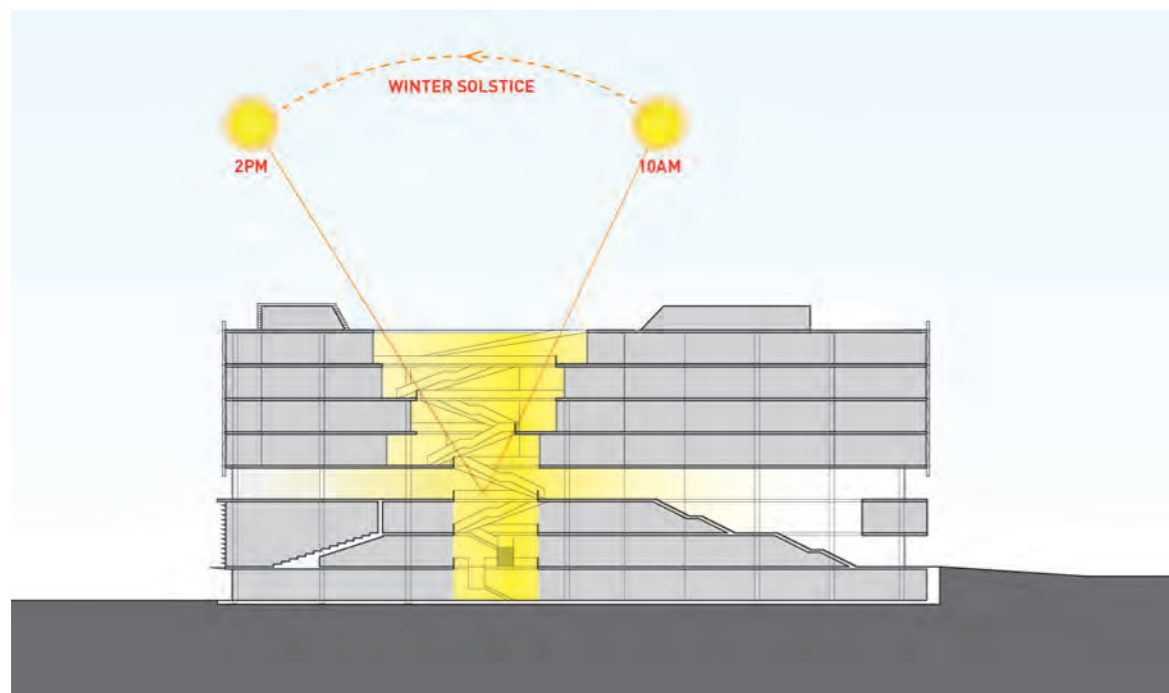
Air



Water



Gardens



Light

STAGE 1 CONNECTIONS

Historically, a new commons would be created by making a closed form with a cloistered private central commons. With the Upper Wakil Garden we propose a new model of commons that spills out beyond the typical borders, energizing the surrounding buildings, spaces and pathways and reaching out to the hospital. The energy of the students, teachers & clinic patients will flow out of the central commons, tying together the Health Precinct.

Weaving health and fitness into the fabric of the Stage 1 building is paramount. The Central circulation system of the precinct and the building are an extension of the campus paths and the future fitness loop path that will ring University Oval No. 1.

At Stage 1, the main public entrance is off the Oval at Level 1 at the end of the building. Visitors are greeted by the Lower Wakil Garden with a stand of trees and lush plantings.

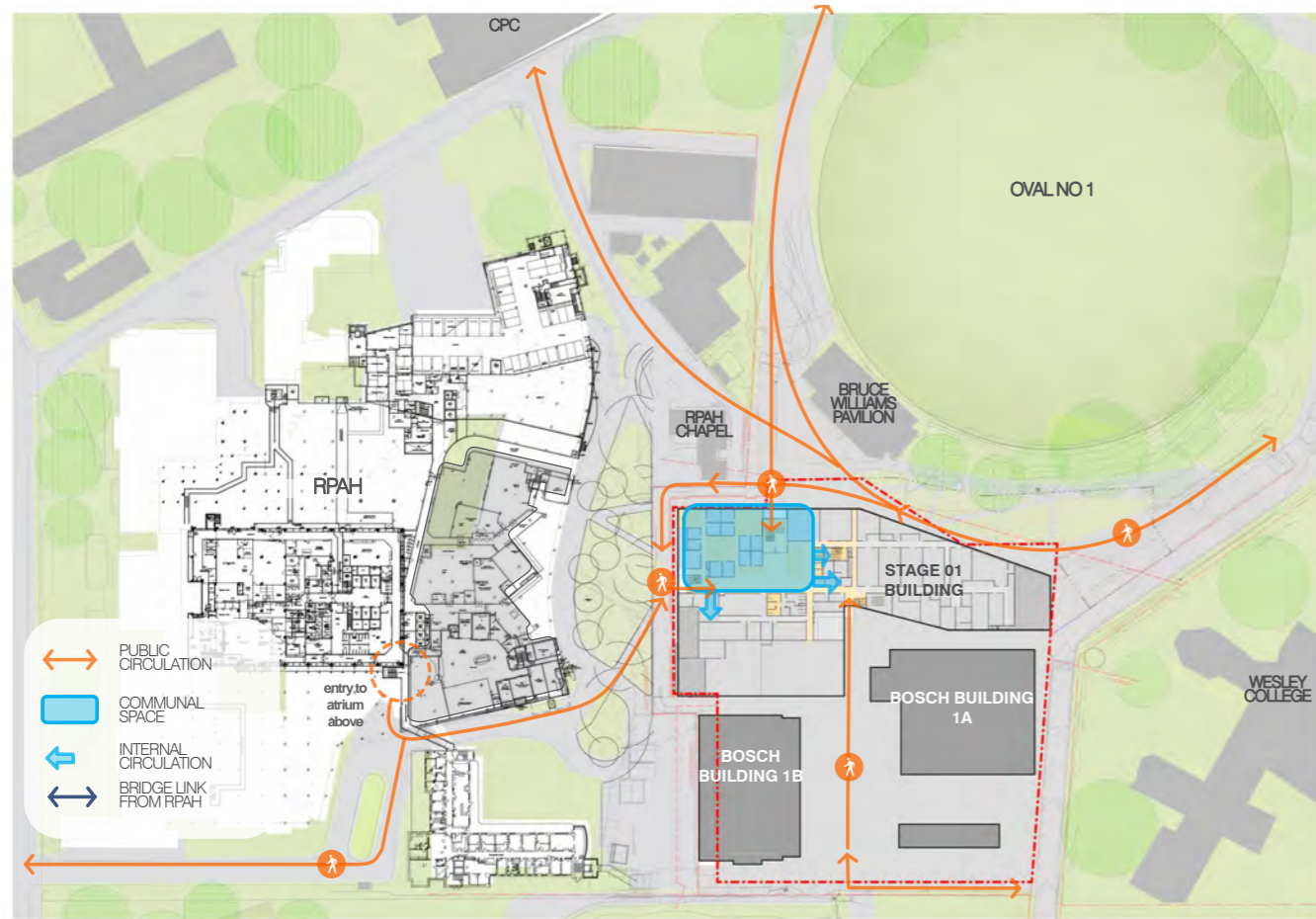
The connection to RPA will be via a pedestrian path traversing the hospital garden leading to the western entrance of Stage 1 at Level 0. This entry will lead to the Multi-use Commons, which provides a direct link to the central core of the building. A bridge link can be provided at Level 2 in the future which will connect the hospital café with the central public space of the building.

A path from CPC leads to the building's north entrance which doubles as another entrance for the Multi-use Commons that is open after regular building hours.

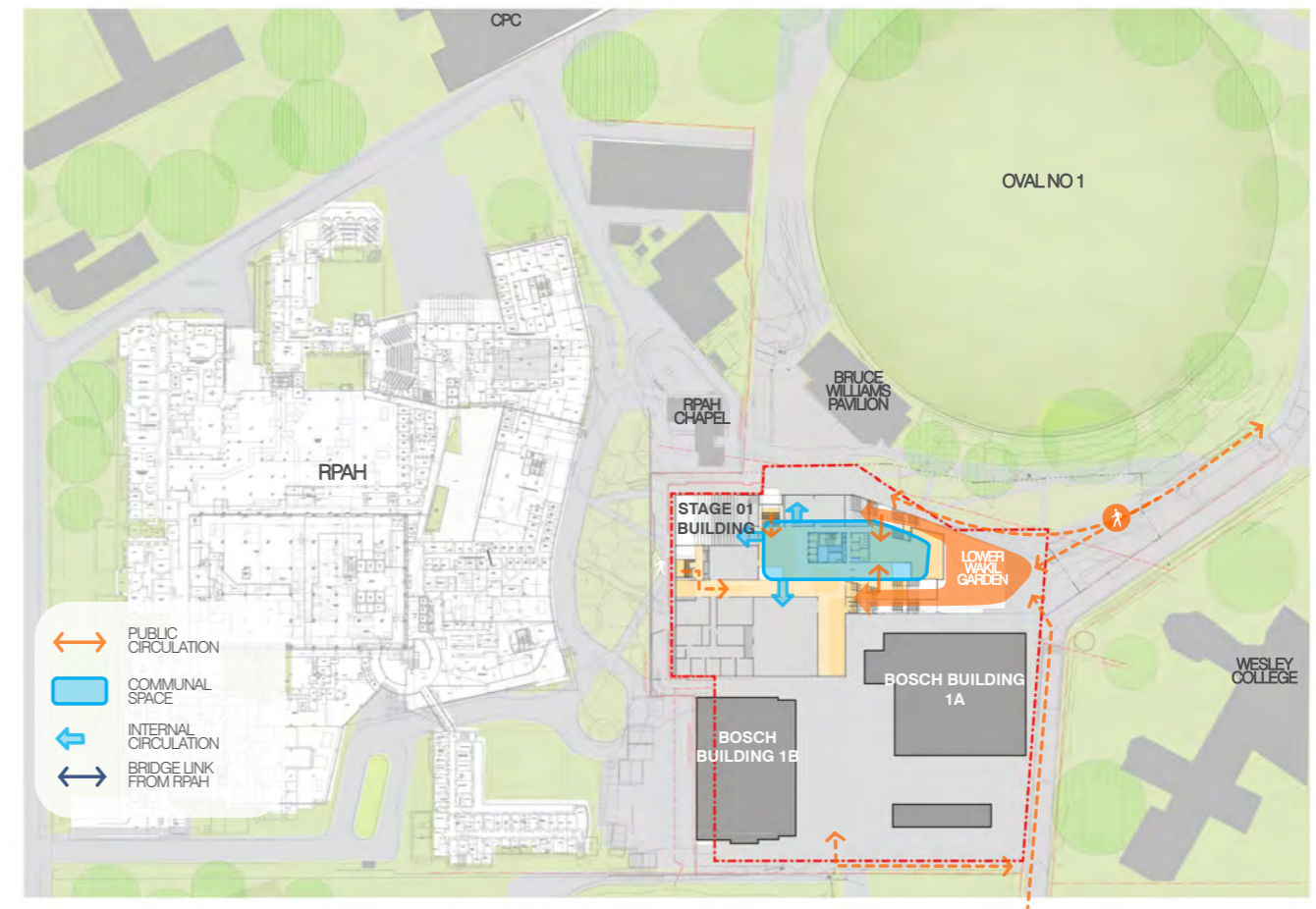
All entries are weather protected. The lower podium levels leading up to the Upper Wakil Garden are highly transparent and porous allowing for a high level of passive surveillance.

End of Trip facilities are centrally located on Level 0 at the convergence of pathways from the east, west and north.

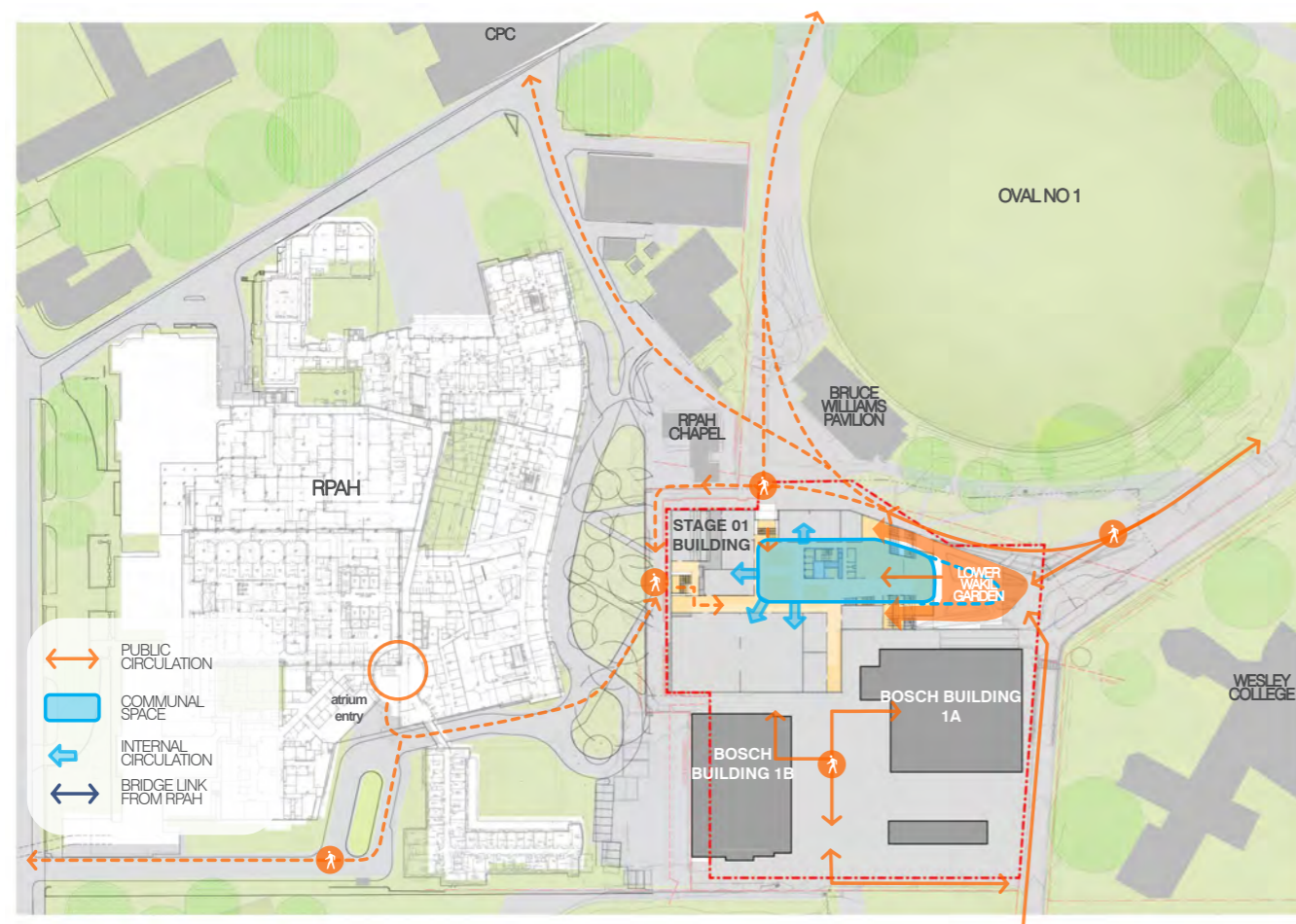
At Stage 1 carpark and loading dock access will occur via Western Avenue. This access route will maintain existing loading access to the Bosch Buildings. Vehicle access to the grandstand will be from a shared pathway to the north of the building.



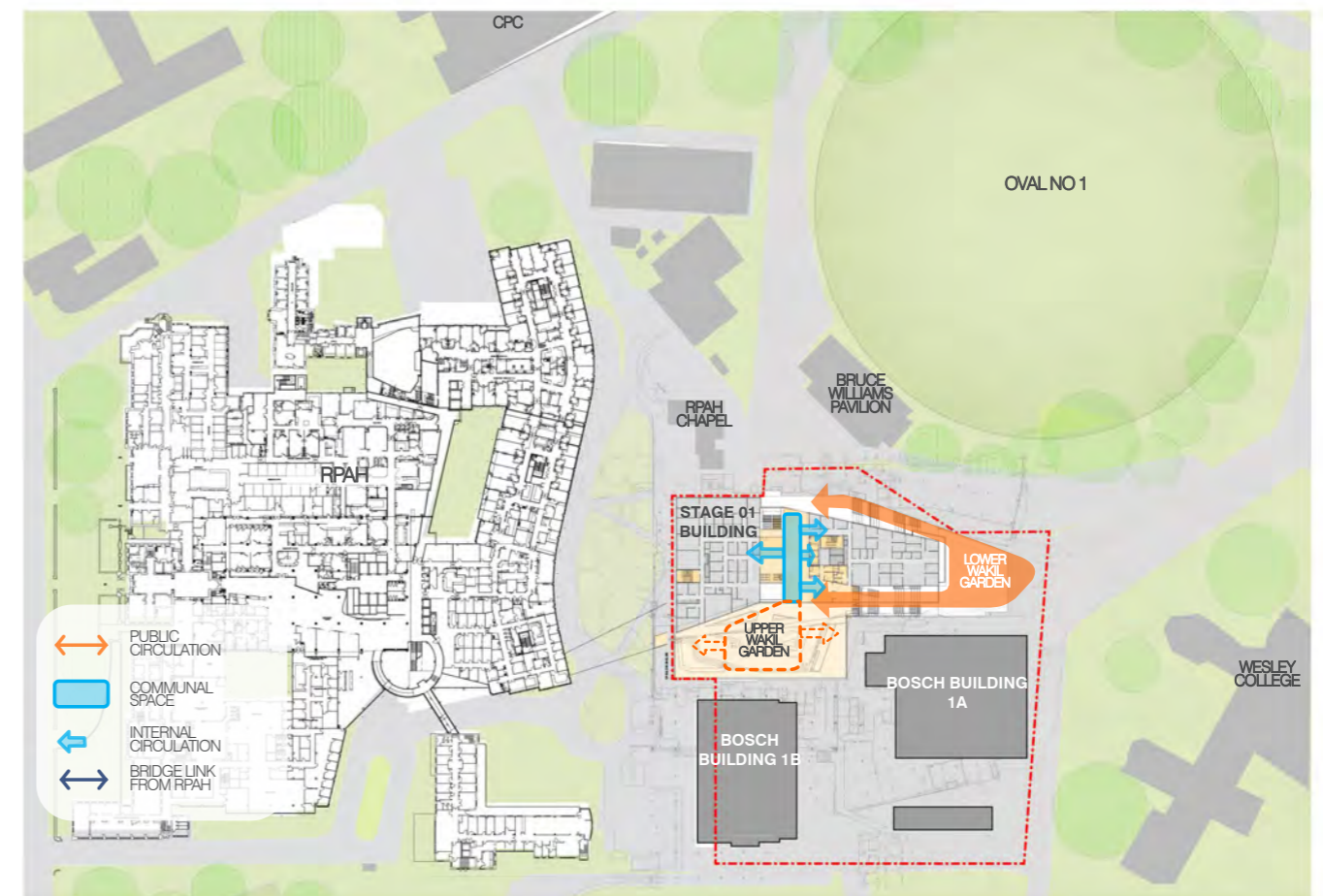
Pedestrian Connections and Communal Spaces at Level 0 (Multi-Use Commons Level)



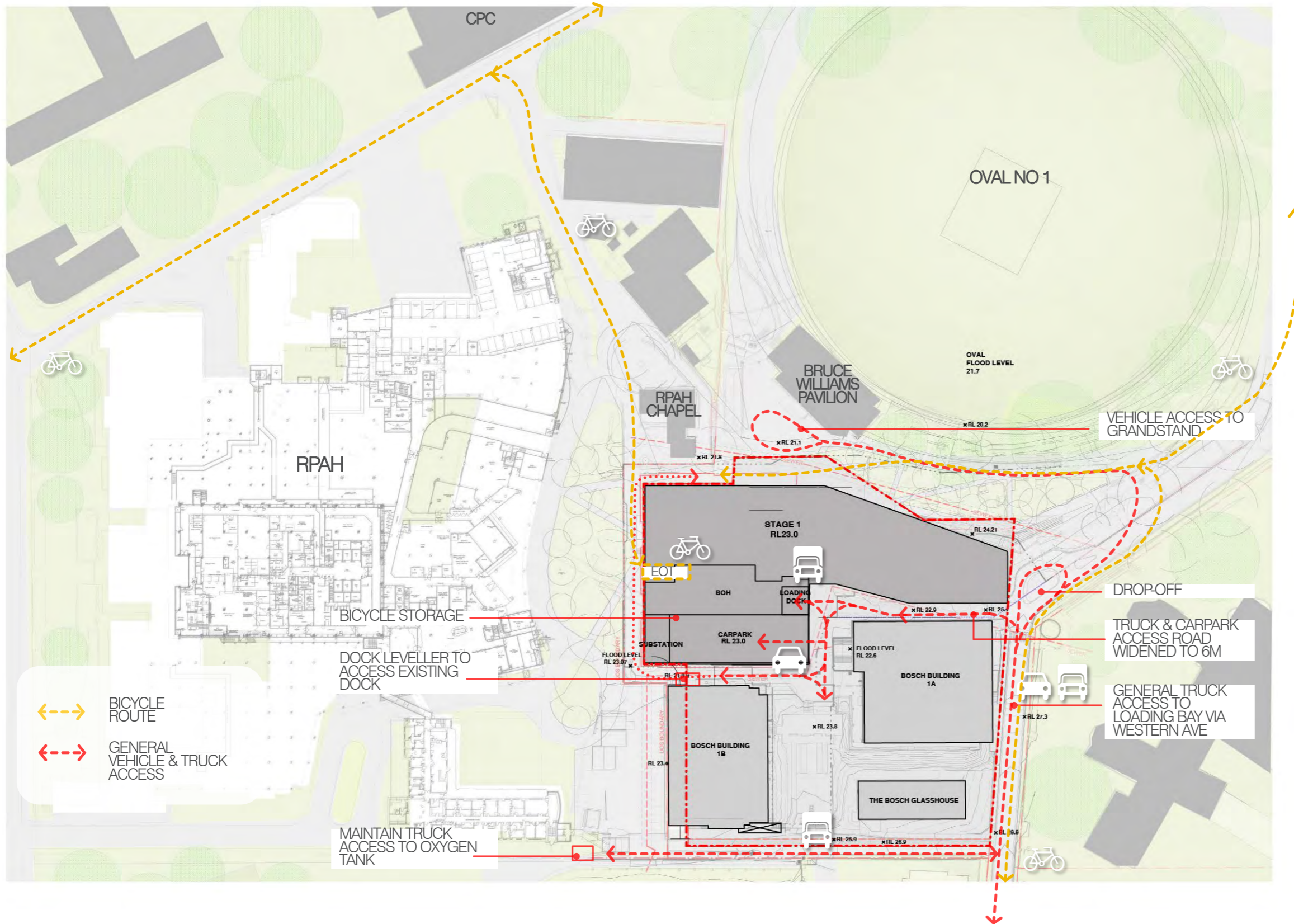
Pedestrian Connections and Communal Spaces at Level 1 (Main Entrance)



Pedestrian Circulation and Communal Spaces at Level 2



Pedestrian Circulation and Communal Spaces at Level 3 (Upper Wakil Garden level)



Stage 01 vehicular and bike connections

STAGE 1 BUILDING DESIGN

The Health Precinct Masterplan & Stage 1 design was subject to a Design Competition at the conclusion of which the Design Competition Jury identified specific areas of the design that would require further refinement to achieve design excellence. Over a series of three Design Excellence Review Panel (DERP) sessions the Design Team have refined the winning design and received confirmation from the DERP that all the design has adequately addressed all of the Jurys issues.

Some of the key items are addressed included:

- Northern Level 0 entrance made more prominent through the introduction of a canopy and alignment with the cleave above.
- Significant improvements to the planning and stair placement throughout the scheme.

DERP sessions will continue to be held monthly until the conclusion of the ECI phase to ensure Design Excellence is maintained. Some items that require further refinement include:

- JV3 modelling underway to inform glass selection, glare reduction and the possibility of interstitial glazing treatment.
- Further resolution of the cleave

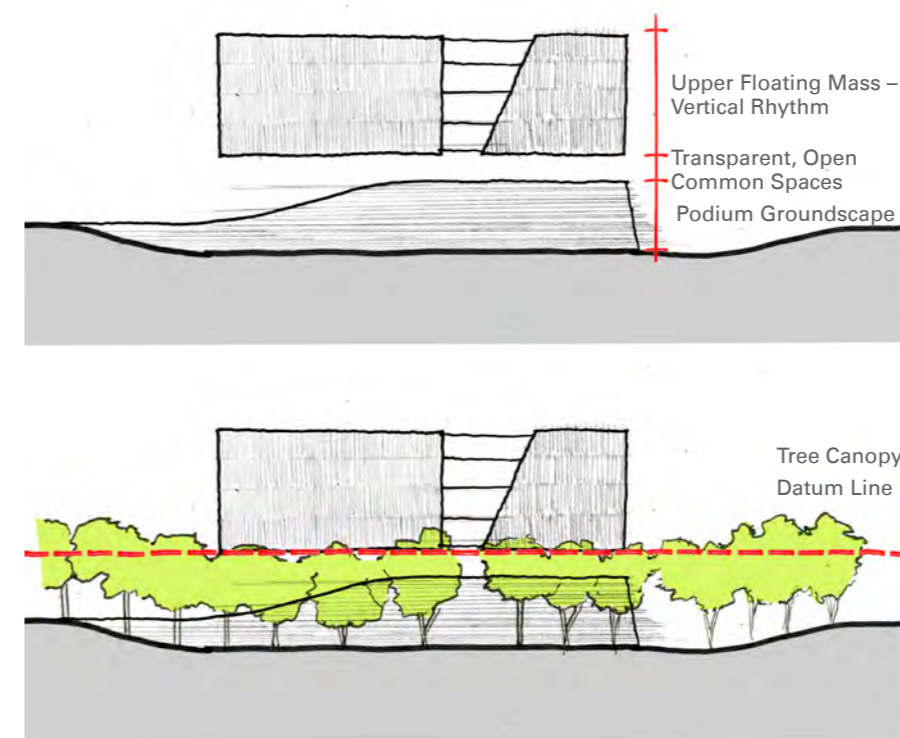
The folded ground plane serves to tie the Stage 1 building strongly to the land and bring the ground into the buildings. It creates a porosity of the ground floor that welcomes staff, students and visitors alike. With an open ground floor, the building volumes appear to float above. The floating boxes are broken into two by the "cleave" to create a central atrium providing light into the building and breaking down the scale of the building facing the oval.

The Lower Wakil Garden is the forecourt to the building and primary entry space. As noted the centrepiece of the completed development is the Upper Wakil Garden, lifted two floors above the entry to the building. Broad internal and external stairways connect lower floors to the Upper garden, and provide terraces for informal learning.

The rising ground plane allows for larger floor plates to the lower levels, where large general and specialist teaching facilities are accommodated. Above the Upper Wakil Garden the building form reduces and is 'cleaved' to allow extended solar access to the garden. The 'cleave' forms the central circulation spine at the upper levels of the building, with open stairs & voids that visually and physically link collaborative hubs and learning commons. In the upper levels the clinic, academic workplace and the teaching and learning spaces are stacked up side by side rather than on top of one another to encourage mixing.

The Stage 1 building is oriented to the northwest to create visual connection to the historic Medical School tower as well as providing expansive views across University Oval No.1 to the north and tying into the precinct's health mission. The future Stage 2/3 buildings face south to take advantage of long views across St. Andrew's College Oval.

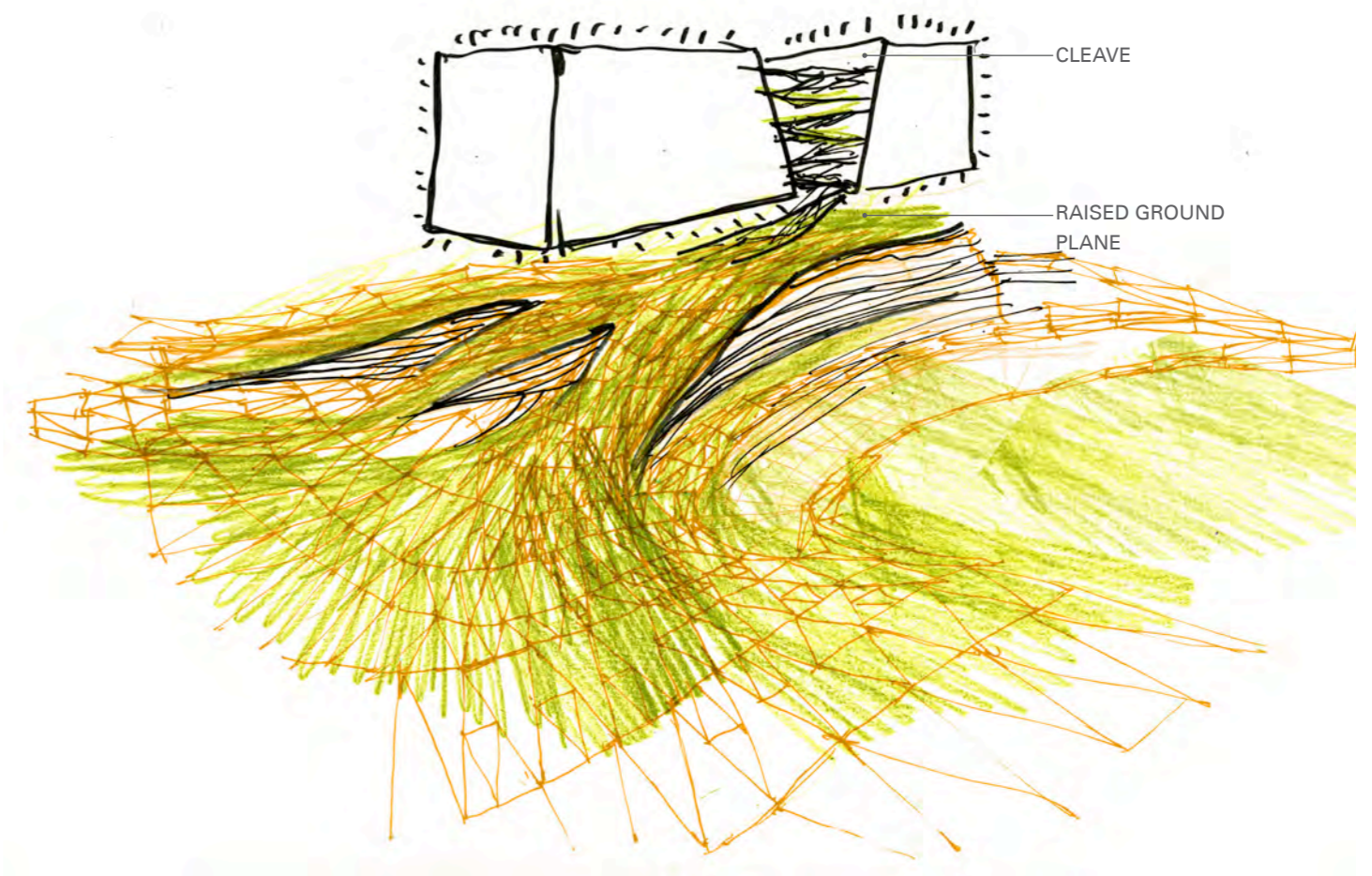
The raised ground plain lifts the public plaza level allowing views over the Bruce Williams Pavilion to University Oval No. 1 from the Stage 1 site.



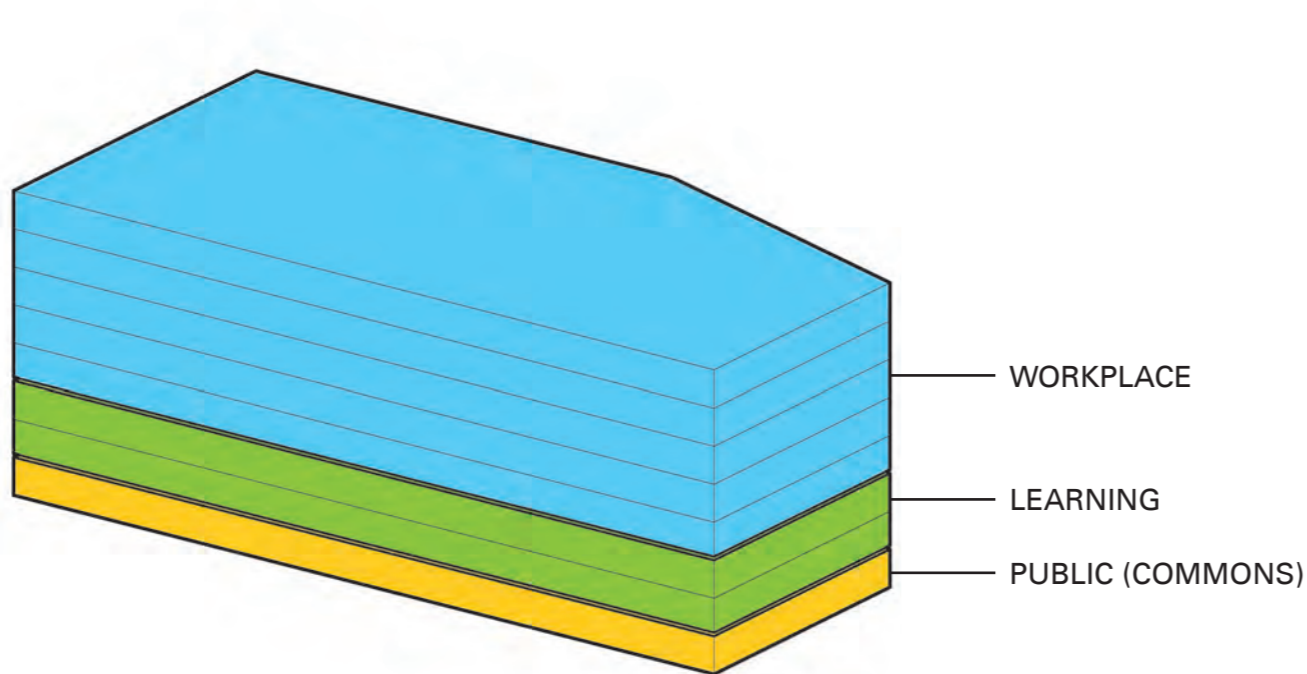
The building masses float above the tree canopy datum.

Lifting the expression of the building's mass up above the tree line, generates an inviting open entry into the building. It sets a new datum that aligns with the entry to the hospital. Effectively, it creates a new raised ground plane along the south of the building. The ground rises up from the main entrance at the northeast up to the central Health Precinct commons, Upper Wakil Garden. The sloping ground plane reaches out and connects the greater Campus to the Hospital to the west.

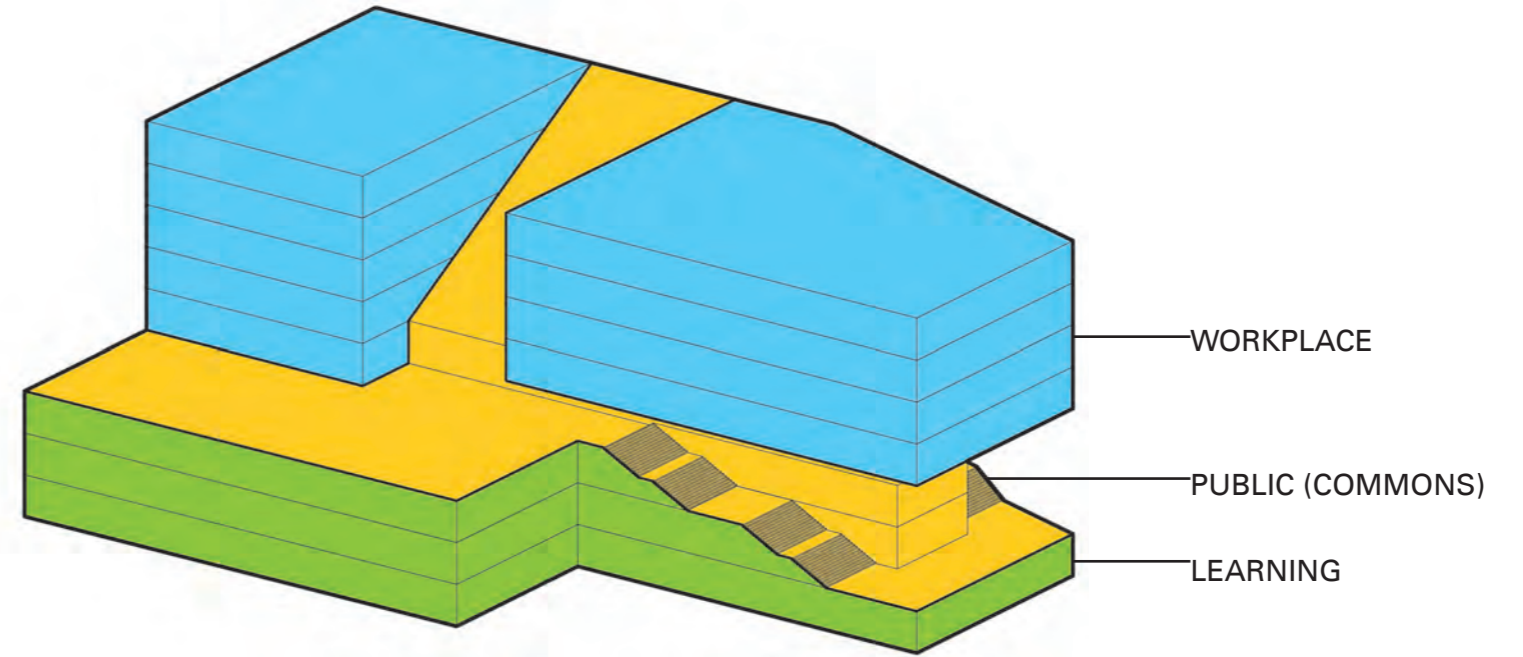
The building no longer has a back door but porous lower entry levels. By having entrances at multiple levels, it effectively shortens the distance people travel within the building, making use of stairs more inviting and manageable.



STACKING DIAGRAM



1. Typical Program Stacking

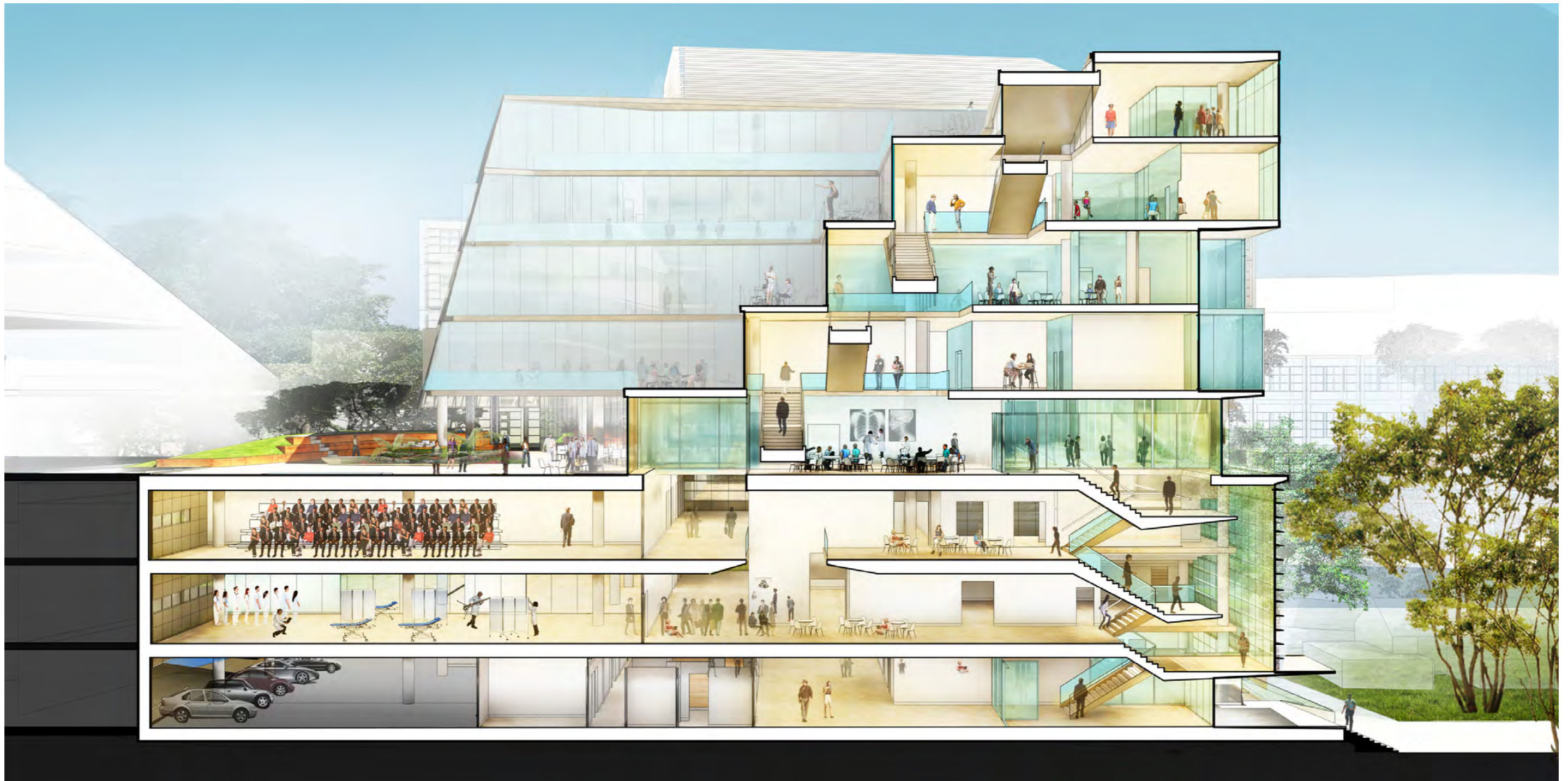


2. Program Stacking to encourage mixing



The main vertical circulation stairs carve an atrium through the interior of the building and tie together commons, mixing zones and gathering spaces.

THE CLEAVE



Section perspective through the "cleave" atrium with informal gathering spaces, study stairs and seminar rooms where professors, students and clinic visitors mix.

STAGE 1 RESPONSE TO DEVELOPMENT CONTROLS

The Stage 1 built form aligns with the CIP envelope on the western and northern edges before stepping back from the east to create the entry forecourt and maintain vistas of the oval from Western Avenue. Other existing axes and vistas noted in the CIP are maintained.

The Stage 1 site area is 8711m²
The Stage 1 building GFA is 21198m²
The FSR is therefore 2.43

The built form is articulated with overhangs and shading to minimise the effect of prevailing wind and solar heat gain.

The building setbacks from the boundary and the CIP envelope are noted in the drawings in Appendix A. The maximum building height is RL 61.8 which is 1.6m below the CIP envelope at RL 63.4.

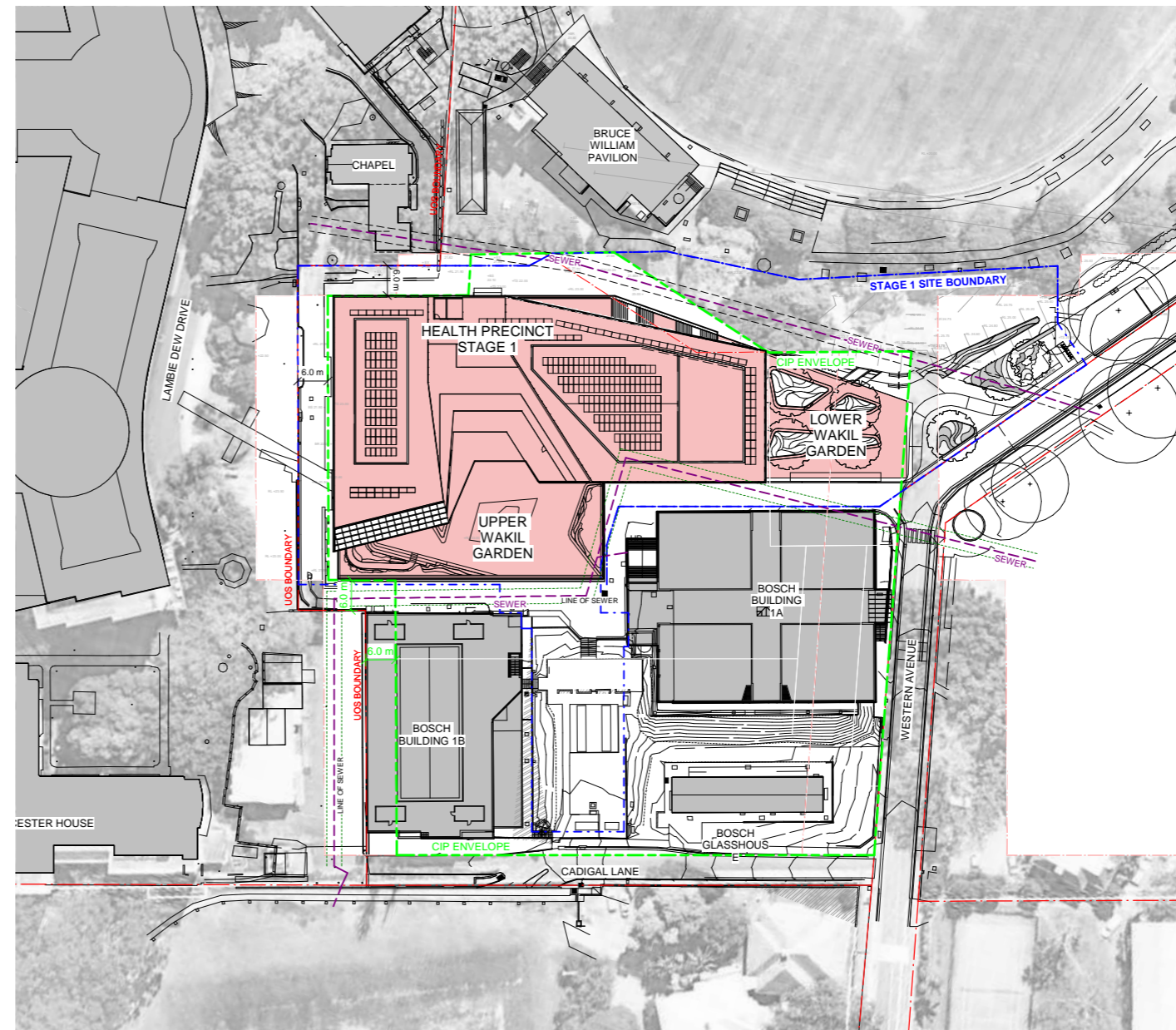
The Stage 1 building which occupies the northern edge of the site deliberately steps back from its southern edge to provide solar access to new and existing public open spaces.

Adequate solar access is provided throughout the year to Lower Wakil Garden and the existing public central open space between the Bosch buildings.

The central cleave through the building allows good solar access to the Upper Wakil Garden throughout the year.

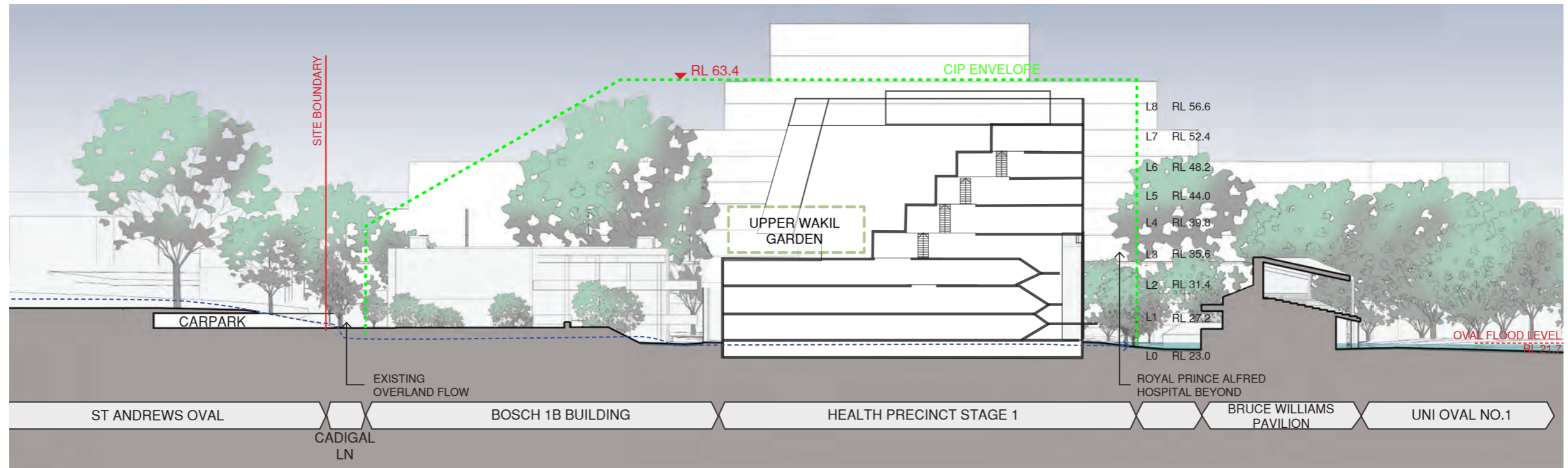
The shadow diagrams in Appendix A show the extent of overshadowing and solar access which does not result in adverse impact to the Bosch buildings and existing public open spaces.

Stage 1 provides 30 standard carparks and 1 accessible carpark. Bike parking is provided as per the UoS sustainability framework.

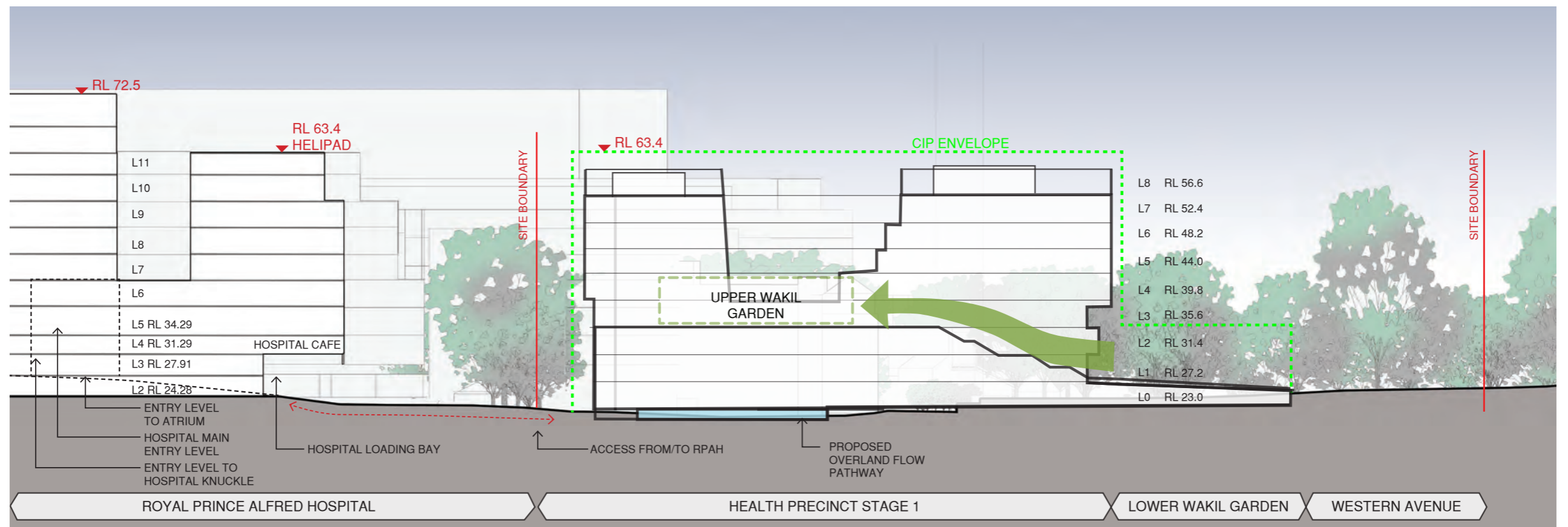


Health Precinct Stage 1

NORTH-SOUTH SITE SECTION



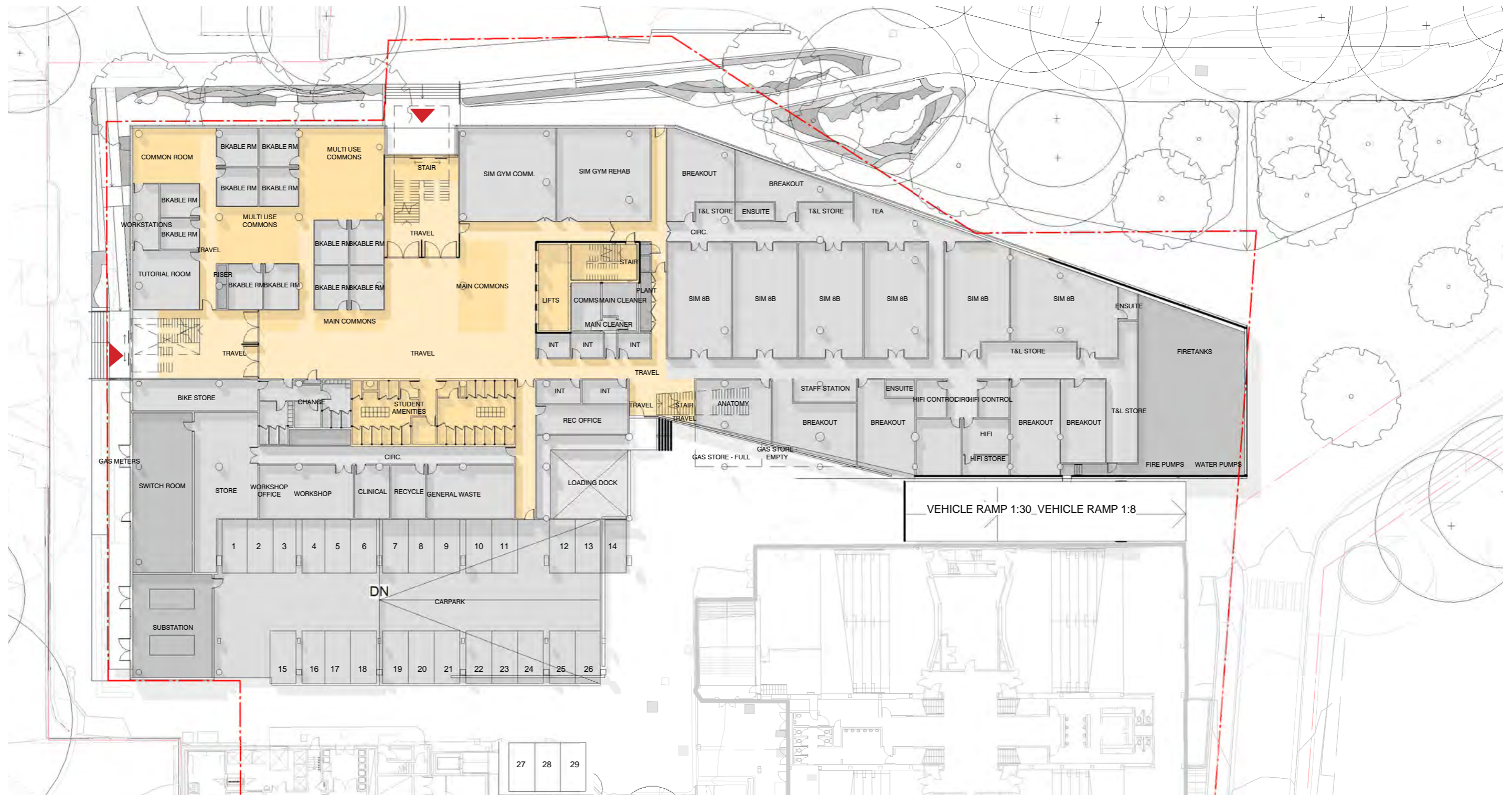
EAST-WEST SITE SECTION



6. Schematic Design

STAGE 1 BUILDING PLANNING

LEVEL 0



Level 0 is entered via the lower forecourt through to the 24 hour Multi-use Commons which occupies the western half of this level.

The lower forecourt connects pathways leading to RPAH on the west, CPC to the north and Physics Avenue to the east.

The Multi-use Commons is a series of large open plan spaces with pods of bookable rooms interspersed among group and individual learning spaces. It has entries from the North and the West each adjacent to a stair in a double height void providing direct links to the main entry level. Way finding is enhanced by providing line of sight from

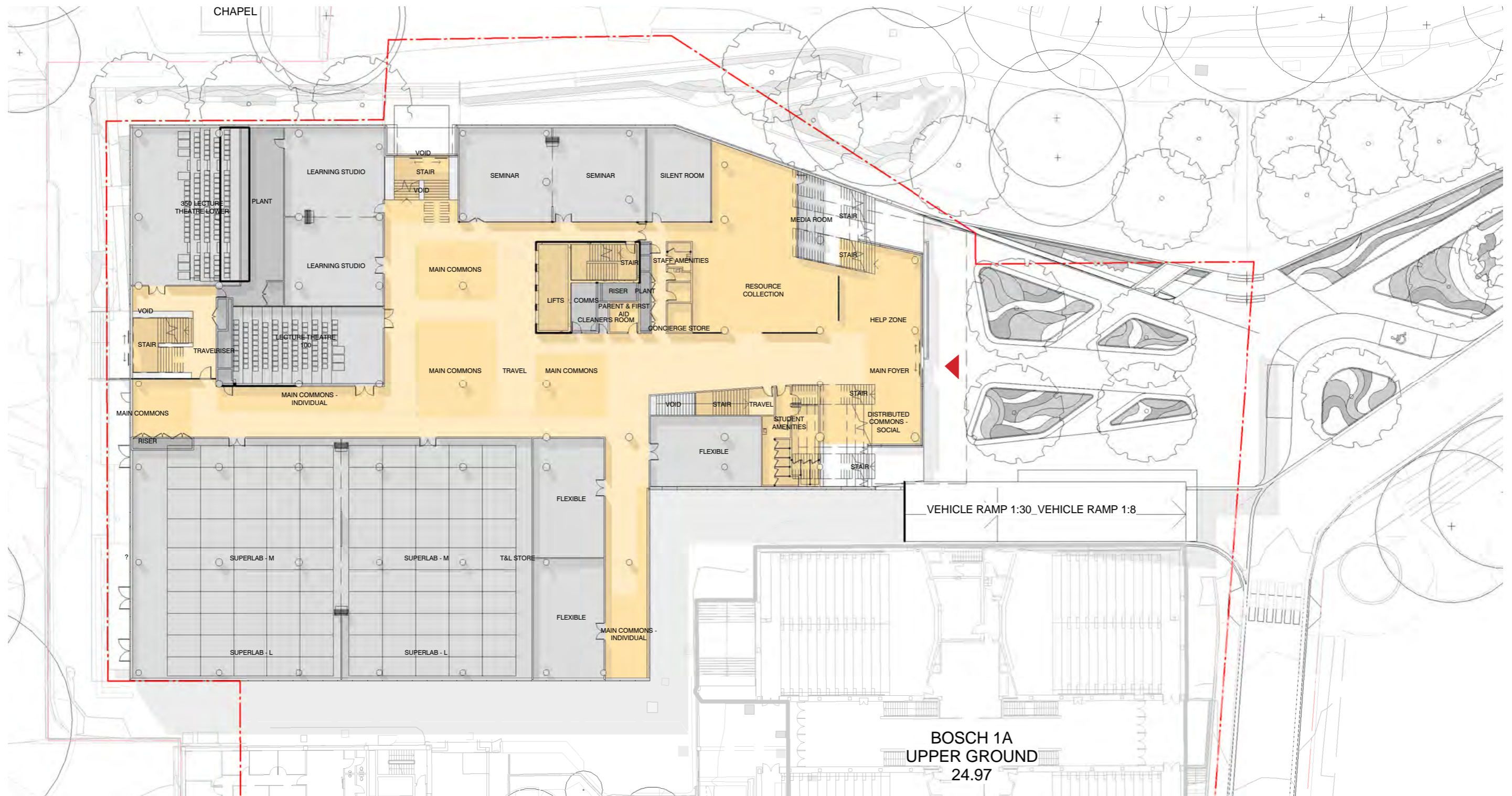
these entries to the central lift core. Yorang Goorang is located beside the West entry with access to an external terrace.

The Simulation Studios are on the eastern half of this level. Simulation bedrooms are aligned in a central pod allowing flexible use of the adjacently located breakout rooms.

This level also has the Back of House & carpark, which is conceived as flexible soft space for future expansion once Stages 2 & 3 are completed. Visitors arriving at the carpark can find the central lift core via a short direct corridor. Cyclists can access the End of Trip facilities on this level via Western Avenue.

An entry on the south side provides student access to and from the existing open space off Cadigal Lane.

LEVEL 1



Level 1 is the main entry level for the building and connects the multi-use commons with the main learning commons. It is entered from Western Avenue via the Lower Wakil Garden, which is the forecourt to the building. The entry hub provides opportunity for a future café and social commons with garden views.

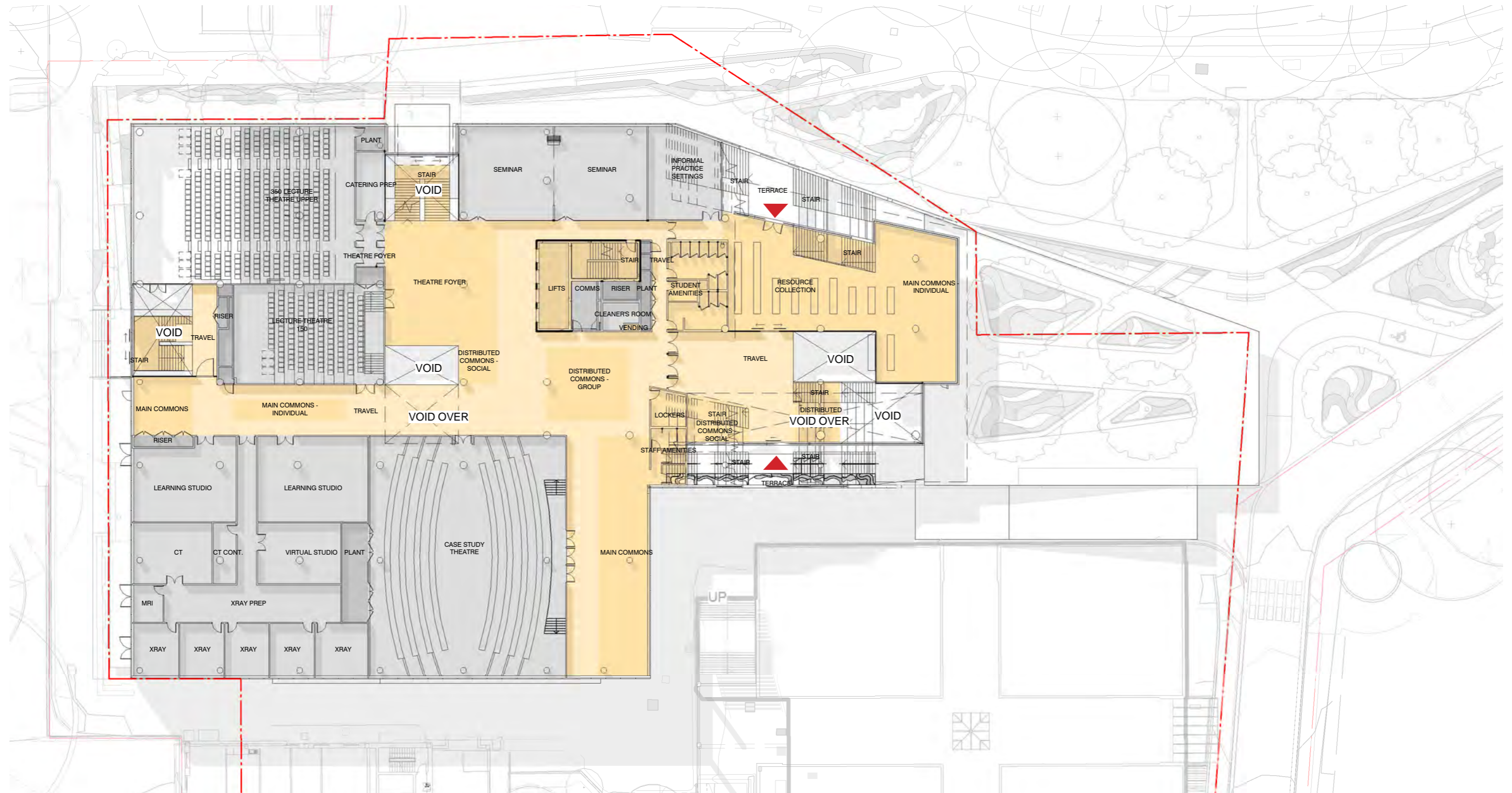
Two wide stairs ascend from this level straddling the northern and southern facades connecting the Lower garden with its upper equivalent on Level 3. These stairs are part of a system of stairs and voids connecting a central open learning commons that permeates through the building.

At Level 1 the Main Commons is located centrally beside the lift core with a visual connection to the theatre foyer above.

The Resource Collection, Lecture Theatres, Seminar Rooms and a Specialist Cluster that includes the Super Lab are collected around the main commons which provides open circulation and spill out space.

Learning spaces are also organised around an open Resource Collection with secure gates and a central help desk. The book stacks provide separation between more focused Individual Commons and the Group Commons.

LEVEL 2



Level 2 connects the main learning commons on Level 1 with the central theatre foyer beside the main lift core.

The stairs on the north and the south discharge at this level. The generous width of these stairs allow informal gathering to happen on adjacent tiers.

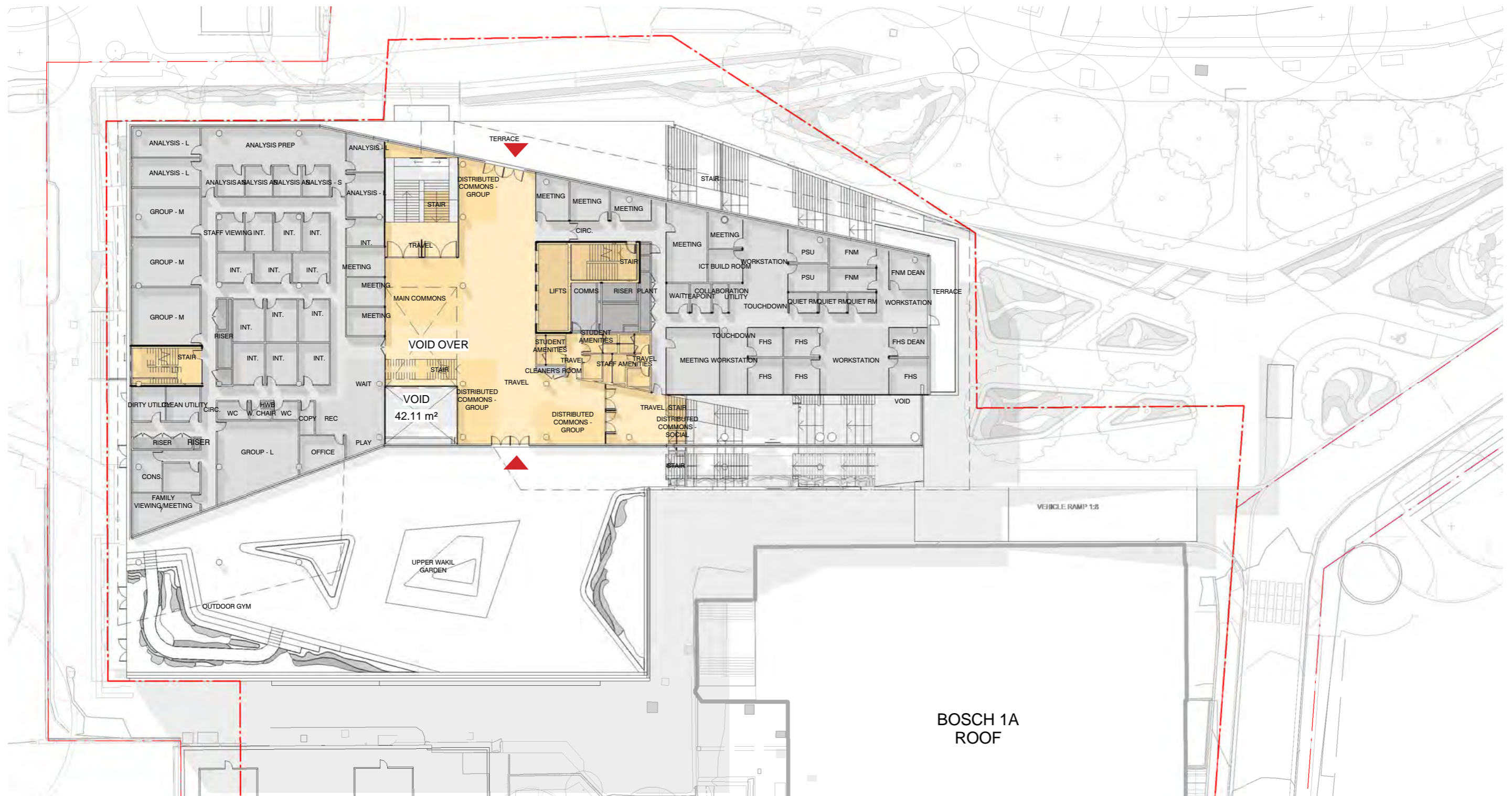
The theatre foyer forms the spill out space for the main lecture theatre, case study theatre & seminar rooms on this level and doubles as the event space next to the catering kitchen.

The informal learning zone extends up from Level 1 & down from the Level 3 terrace to this level via stairs and double height voids. This provides further circulation and spill out space for the main theatres.

As with Level 1, learning spaces are also organised around the remainder of the Resource Collection. The small mods specialist cluster is also on this level.

The corridor beside the western stair at this level provides good opportunity for a future bridge link to the RPAH café and 'knuckle' atrium. It has a clear line of sight to the lift core to provide easy way finding for first time visitors to building.

LEVEL 3



Level 3 is defined by the Upper Wakil Garden. It's the central indoor-outdoor place of respite midway through the building and the heart of the health precinct master plan

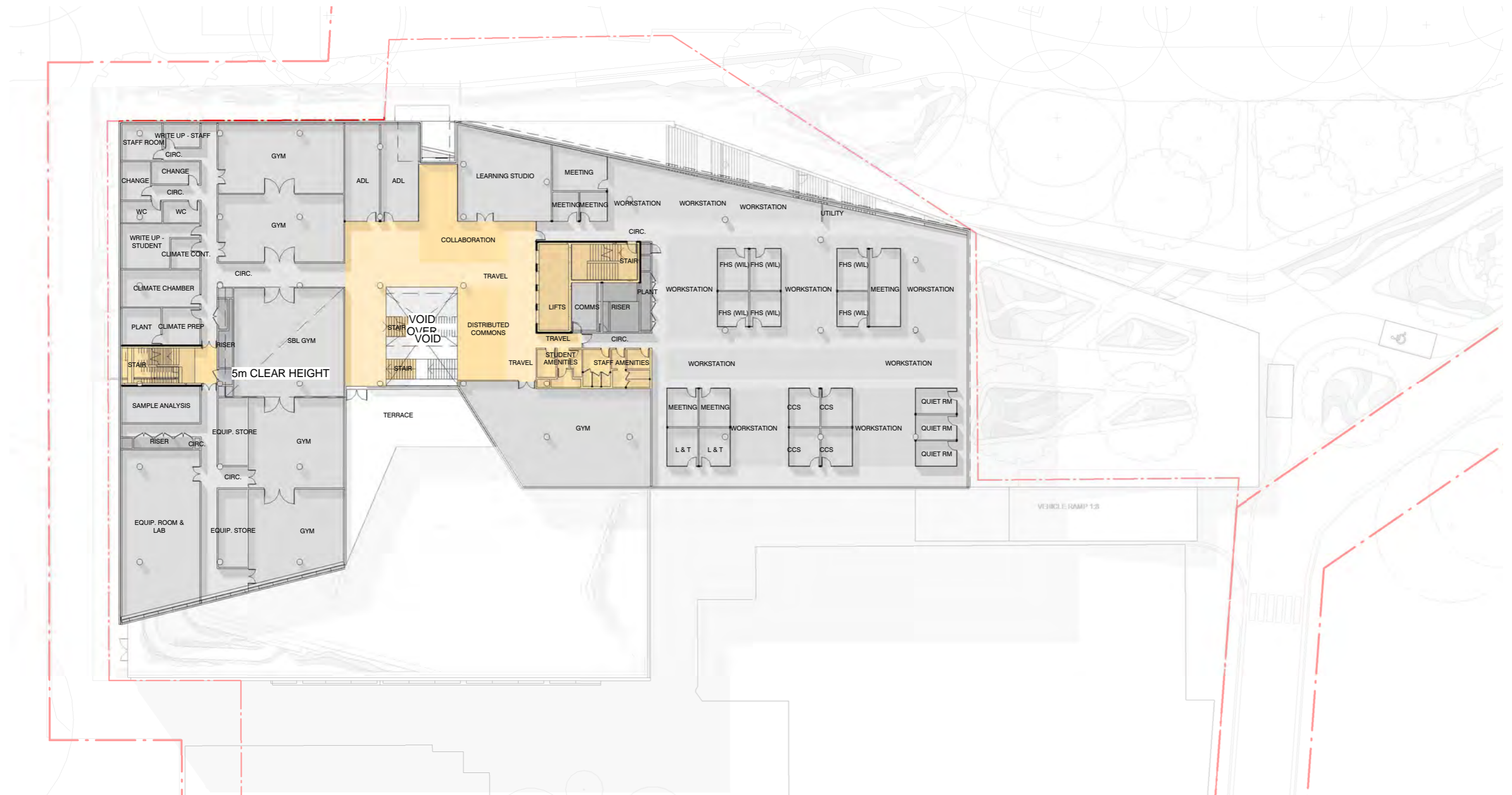
The tiered stairs as well as the interconnected voids extend the learning commons up to this level making this terrace a major destination for the building users.

The distributed commons and collaborative hubs extend up through the building from this level.

The western half of Level 3 is occupied by the Clinic & Research Hub with the main lift

core discharging directly to its front door. The Dean's Custer occupies the eastern half of the level. A Dean's terrace at this level provides a strong visual link to the historic Quadrangle clock tower & Medical School.

LEVEL 4

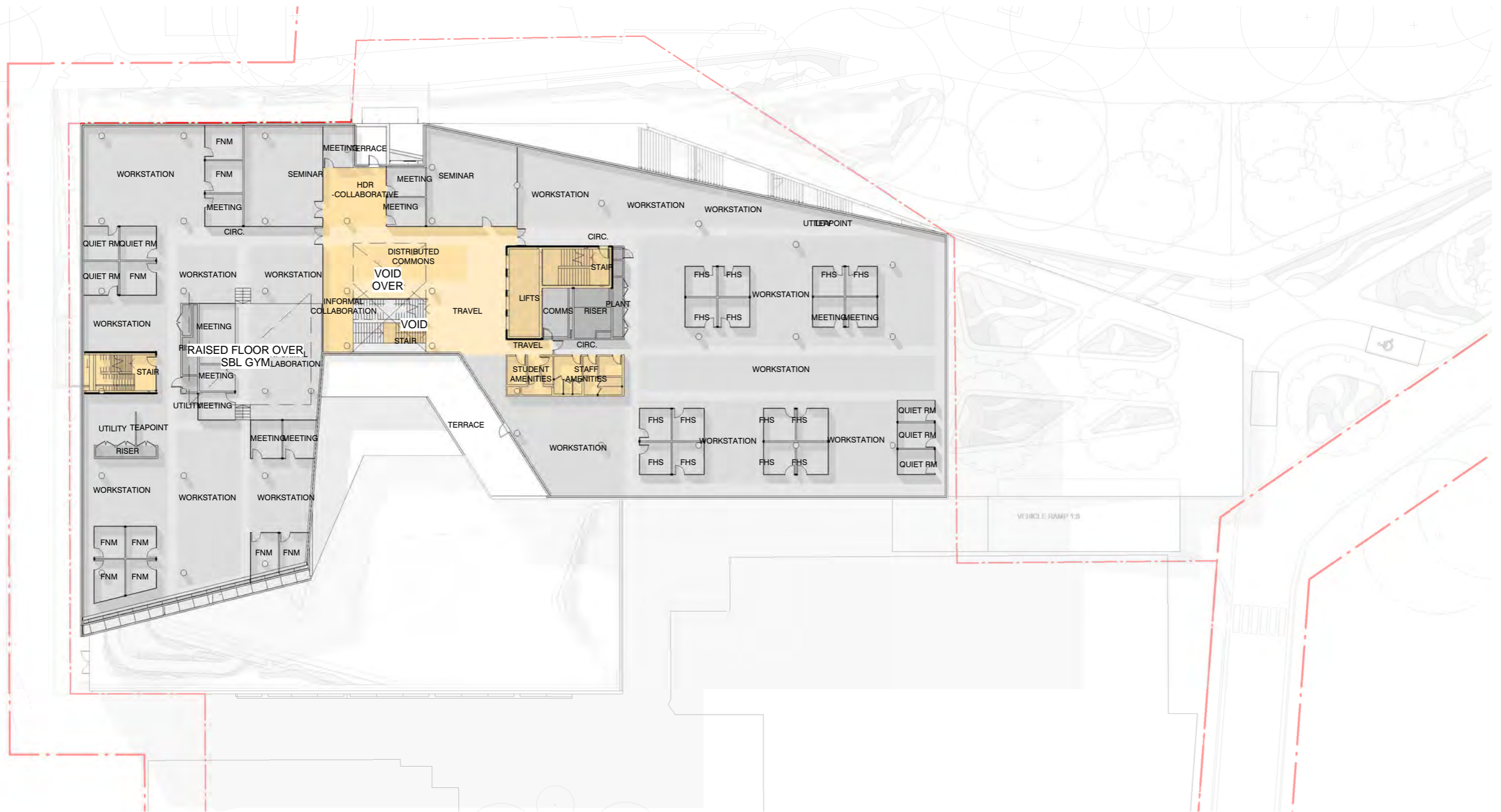


On Levels 4-6 Seminar Rooms and Learning Studios punctuate the sequence of cascading stairs and open voids that visually and physically link collaborative hubs and a central learning commons within the cleave.

On Level 4 the western half contains further Clinic and Research Hub spaces with the Gyms lined up to provide the long movement space for the Sydney Biomechanics Lab (SBL) Gym in the middle. The floor slab is also raised up to provide the height required for the SBL Gym which also presents an opportunity on the level above to create a mezzanine collaborative hub.

The eastern half contains the Teaching & Research cluster consisting of Work Integrated learning (WIL), Central Clinical School (CCS), Clinical Placement Services (CPS), Student Services & Teaching & Learning Teams. It has easy stair access to the Dean's Cluster on the level below.

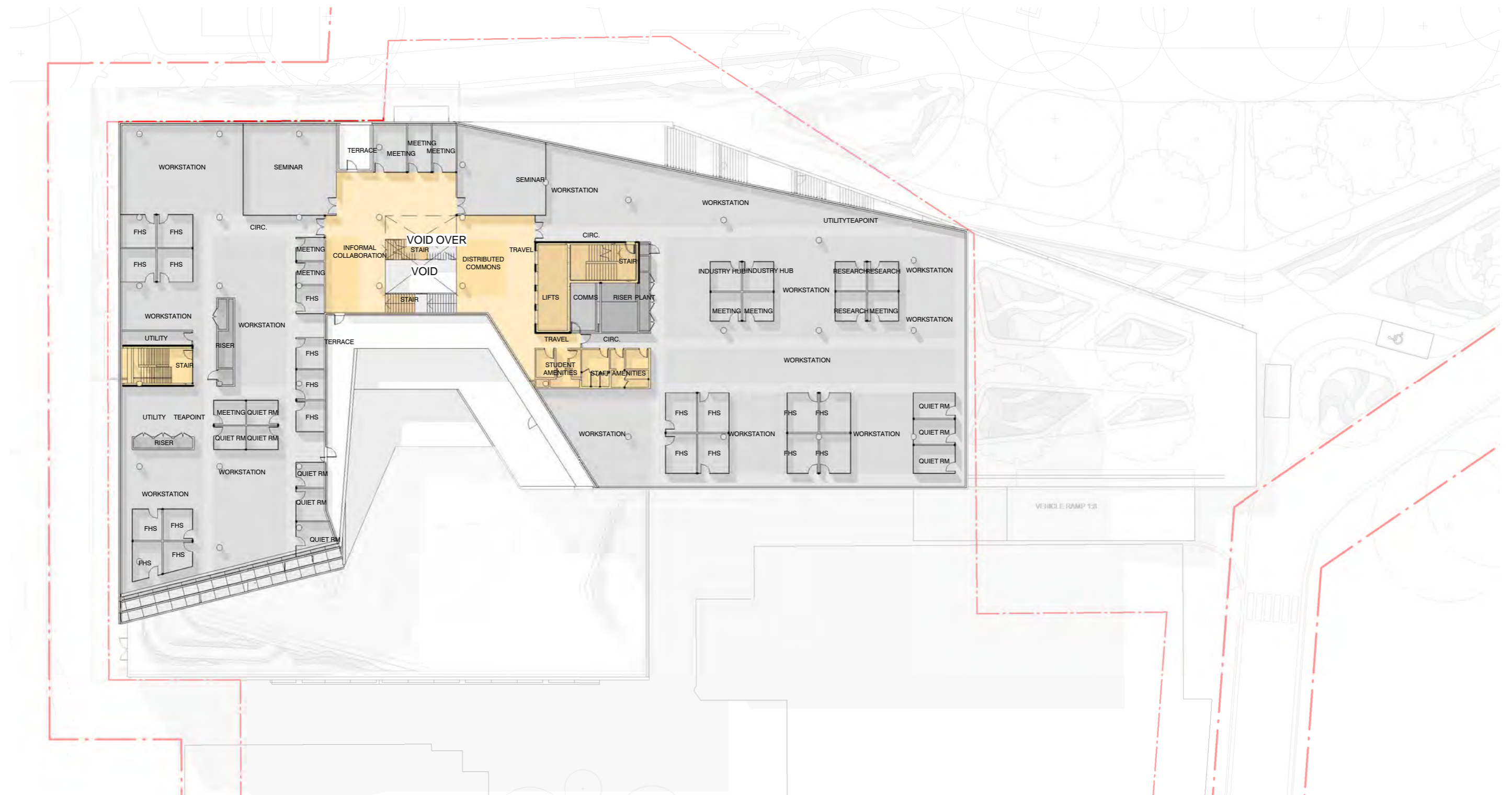
LEVEL 5



Level 5 contains the FNM Teaching and Research cluster on the western half and part of the Faculty of Health Sciences (FHS) Teaching & Research Cluster on the eastern half. The Higher Degree Research (HDR) clusters are interspersed with the teaching and research clusters to maximise interaction.

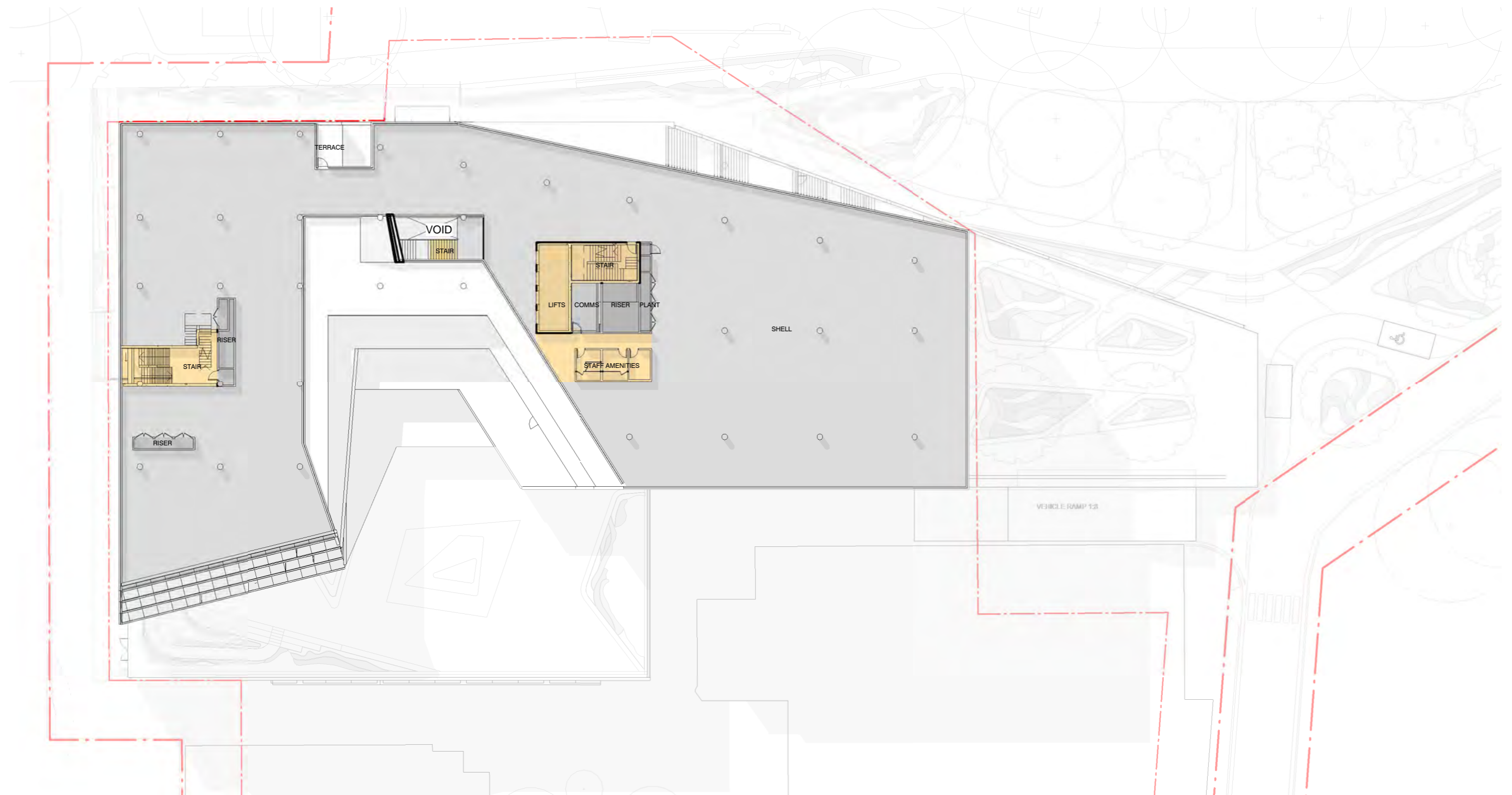
The academic workplace has been planned as an open, activity based, highly collaborative space that maximises opportunities for focused individual work.

LEVEL 6



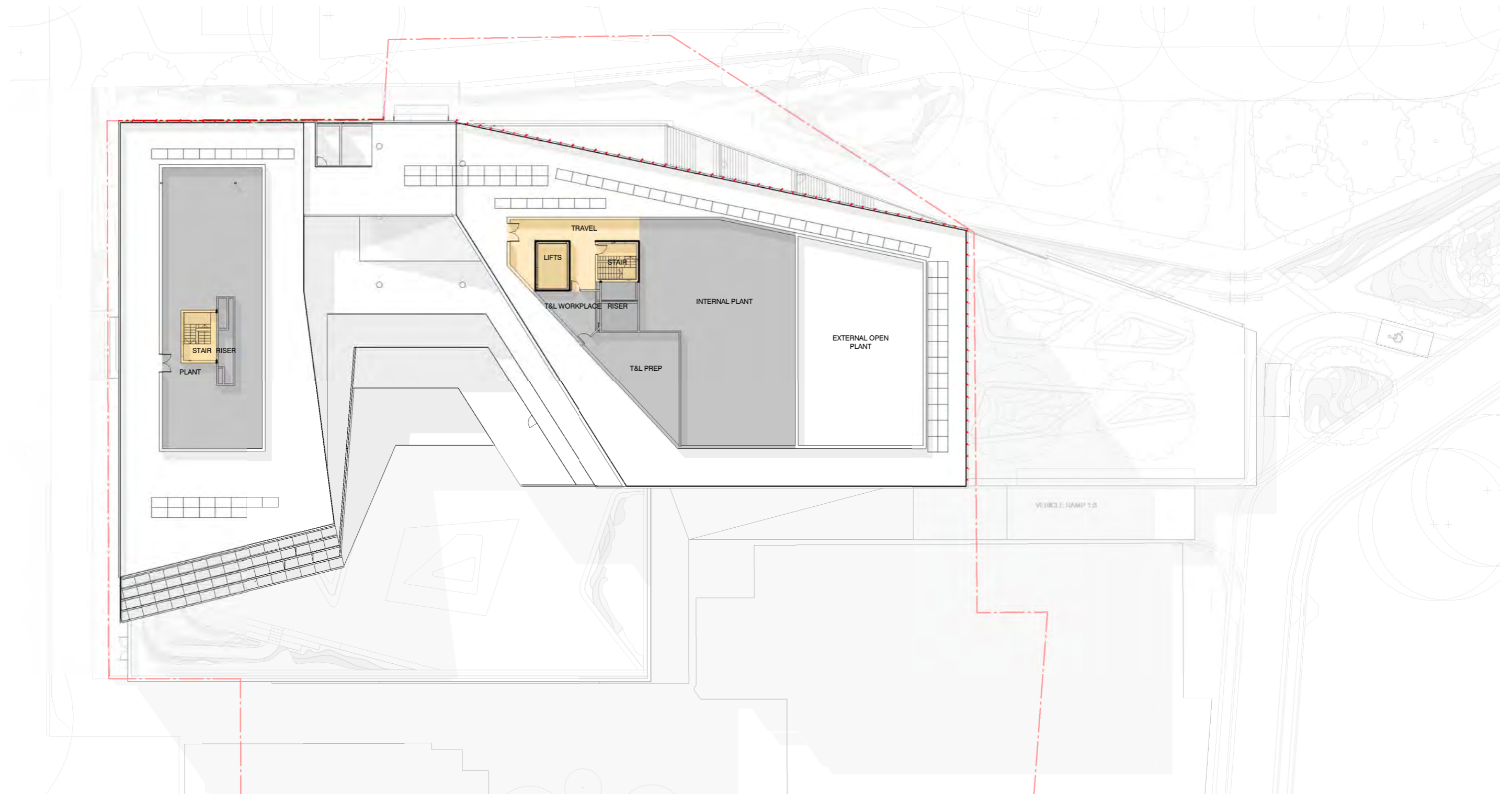
Level 6 contains the remainder of the FHS Teaching and Research cluster & HDR cluster. The Industry Hub is also located on this level. As with the level below the collaborative hubs in the central cleave provide an interface for the students and visitors to the workplace.

LEVEL 7



Level 7 contains future Shell spaces.

LEVEL 8



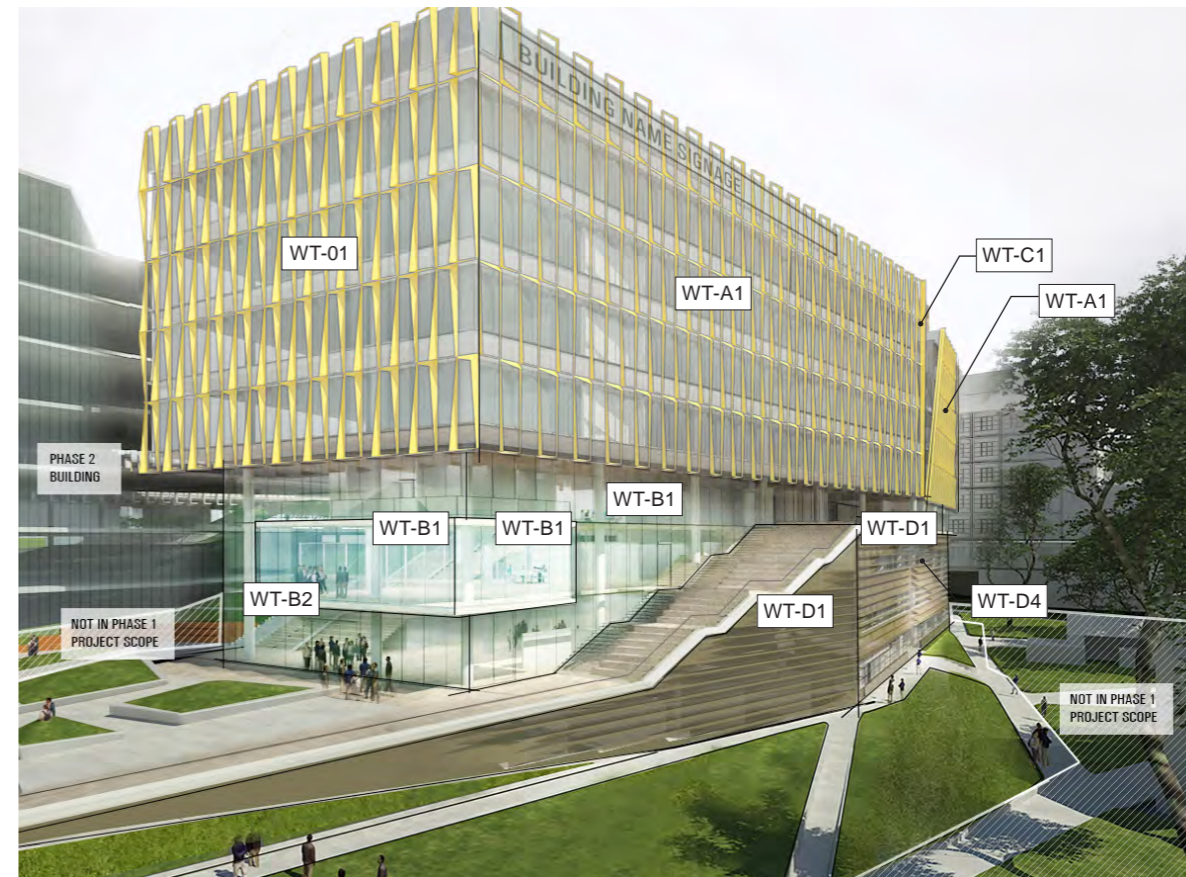
Level 8 contains the central mechanical and hydraulics plant rooms to service the building including Level 7 shell space.

STAGE 1 FACADE EXPRESSION

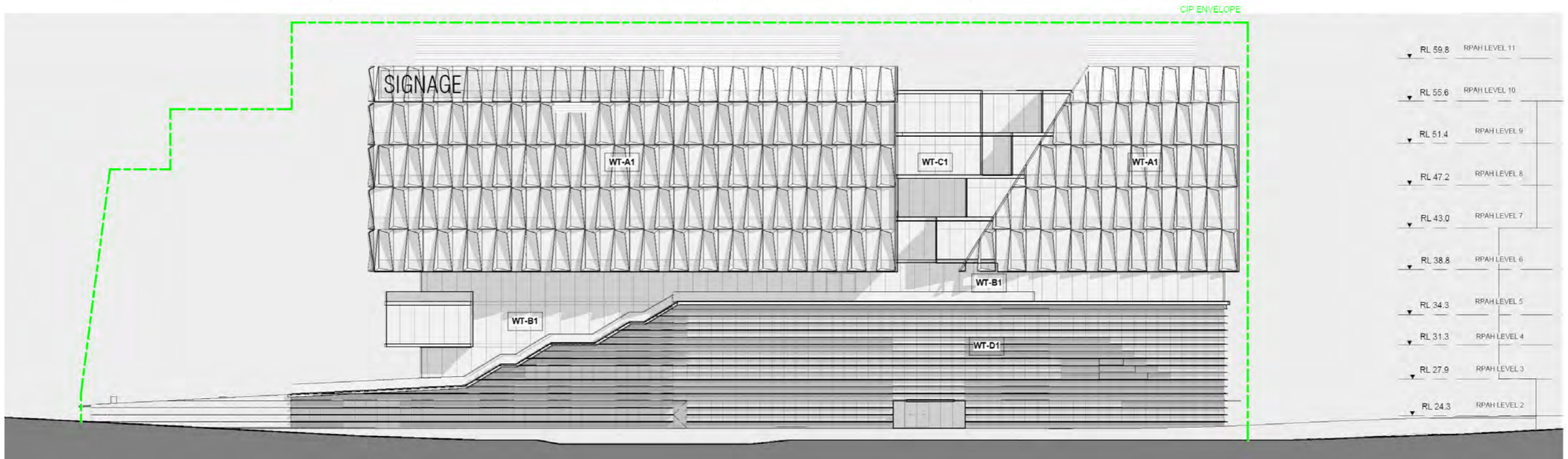
The raised upper box of the facade has a simple curtain wall system with double glazing and a stick screen sunshading system on the exterior that provides texture and warmth while at the same time shading the interior spaces.

The lower portion of the facade is a curtain wall system that is structurally glazed with the steel reinforced aluminum mullions on the interior. On the north side of the building, this system is shaded by the tree canopy that rings the University Oval No. 1 as well as the grove of Turpentine trees that will form the Wakil Garden to the northeast of the main entrance.

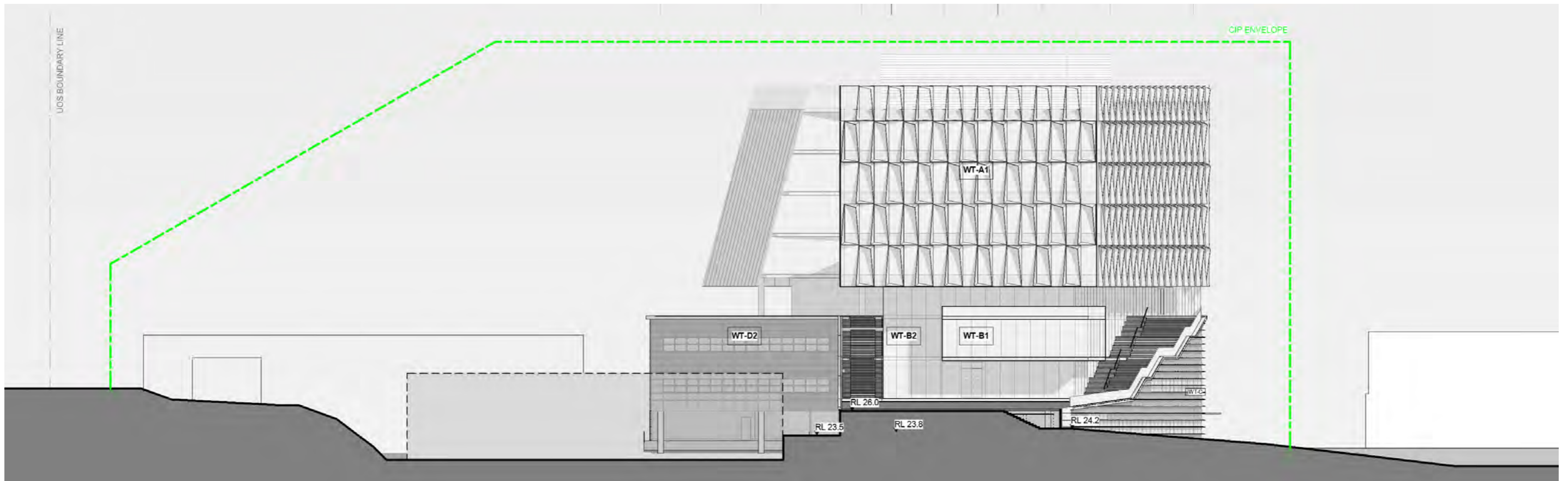
The base of the building will have a series of light weight panels with a minimal punched windows.



TYPE	FAÇADE SYSTEM LOCATION	DESCRIPTION
WT-A1	UPPER BOXES (N,E,W)	STRUCTURALLY GLAZED UNITISED CURTAIN WALL WITH VERTICAL AND HORIZONTAL SUNSHADES, GLAZED SPANDREL SHADOW BOX
WT-A2	UPPER BOXES (S)	STRUCTURALLY GLAZED UNITISED CURTAIN WALL WITH GLAZED SPANDREL SHADOW BOX
WT-B1	CENTRE & ENTRY (E,S)	STRUCTURALLY FLUSH GLAZED FLOOR TO CEILING UNITISED WINDOW WALL WITH LOW-IRON GLASS, FIXED TO SECONDARY STEEL FRAMING
WT-B2	CENTRE & ENTRY (N,E,S,W)	STRUCTURALLY FLUSH GLAZED SEMI-UNITISED CURTAIN WALL, WITH LOW-IRON GLASS, FIXED TO SECONDARY STEEL FRAMING
WT-C1	CLEAVE (N,S)	STRUCTURALLY FLUSH GLAZED FLOOR TO CEILING UNITISED WINDOW WALL
WT-D1	BASE (N,W)	ALUMINIUM FRAMED STRIP WINDOWS, STEEL STUD FRAMED INSULATED SPANDREL WITH FC RAINSCREEN CLADDING, HORIZONTAL LOUVRES OF EXTRUDED ALUMINIUM, PERFORATED TRIANGULATED CLADDING
WT-D2	BASE (S,E)	ALUMINIUM FRAMED STRIP WINDOWS, STEEL STUD FRAMED INSULATED SPANDRELS WITH FC RAINSCREEN CLADDING (LOUVRES OMITTED)



North Elevation



East Elevation



PHASE 2
BUILDING

NOT IN PHASE 1
PROJECT SCOPE











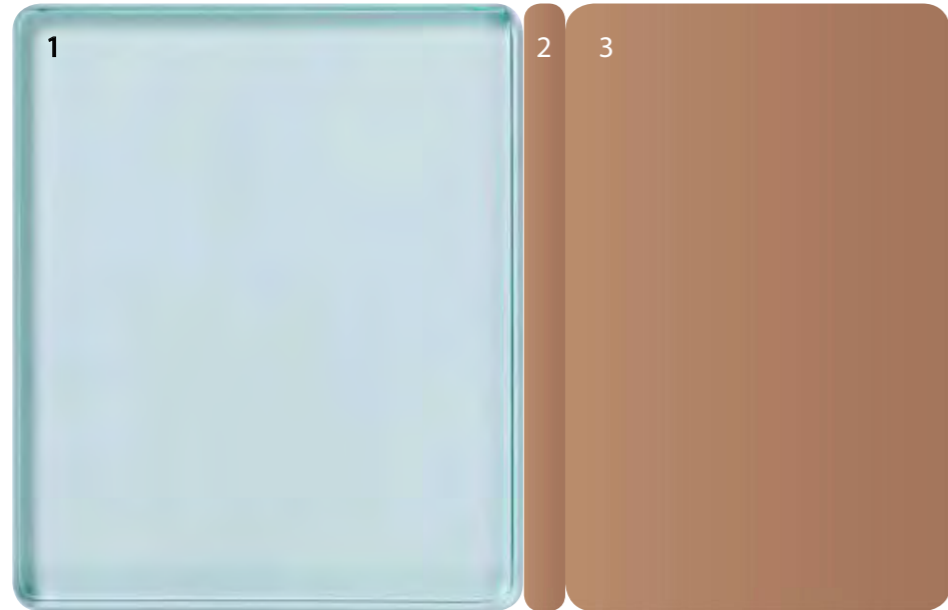
STAGE 1 MATERIAL FINISHES

The vertical organisation of the building is expressed in the material of the elevations. The lower floors, from the building entry to the Upper Wakil Garden are required to be as transparent as possible, allowing the reading of the ground plane both inside and out of the building as it folds up. The floor surface is one material, terrazo paving, and insitu terrazo inside and out, with terraces adjacent to stairs. The podium below is a neutral glass façade with horizontal shading devices that twist to create a more solid expression. The upper form, above Upper Wakil Garden, is clad in a shading device that creates a monistic reading of the form on either side of the 'cleave'. The primary understanding of the building is as a ground plane that folds and rises though the building, as if the monistic form above is simply hovering in space.

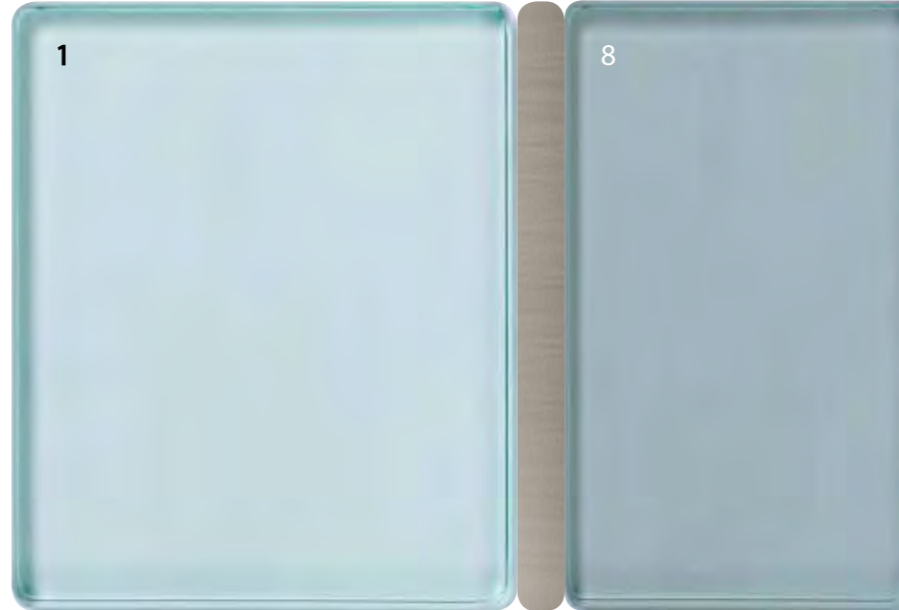
All materials used on the Stage 1 building will undergo a qualitative review with the objective of mitigating glare and reflectivity levels.

EXTERIOR MATERIALS

WT-A1/2 (UPPER BOXES)



WT-B1/2 WT-C (ENTRY & CLEAVE)



LEGEND

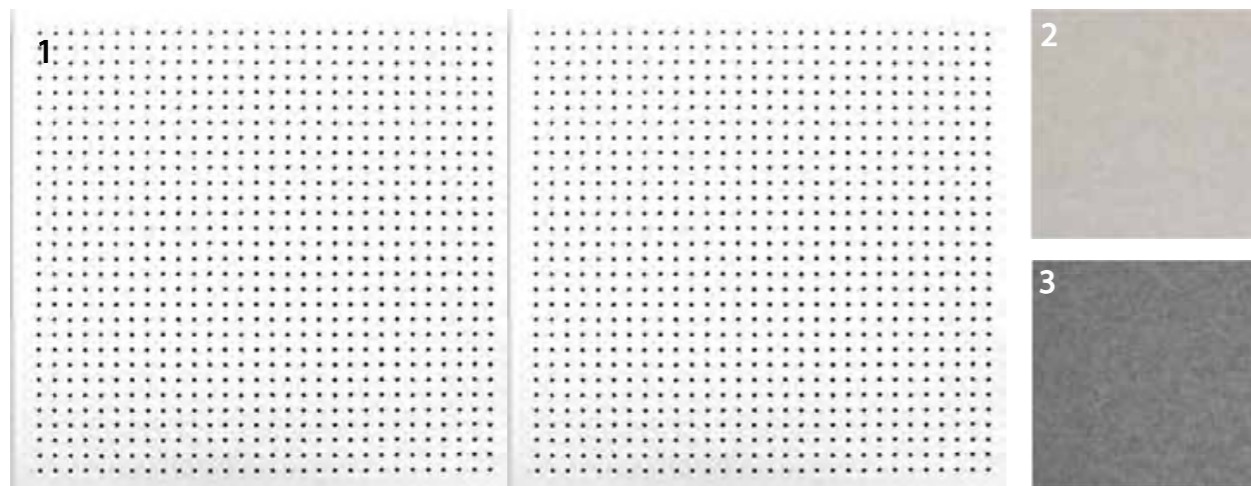
1. Insulated Glazing Unit in a Curtain Wall System
2. Composite Panel Glazed into Curtain Wall System with Insulated Panel behind
3. L shaped Folded Fins Fixed to Slab Edges
4. Composite Panel Glazed into Curtan Wall System with Insulated Panel behind
5. Horizontal Fins Fixed Fixed to Shopfront Framing System with powdercoat finish.
6. External tile panels with Concealed Fasteners on Light Weight Metal Framing System
8. Glazed Spandrel Panels with Selected ACP Back Plan

WT-D1/2 (BASE)





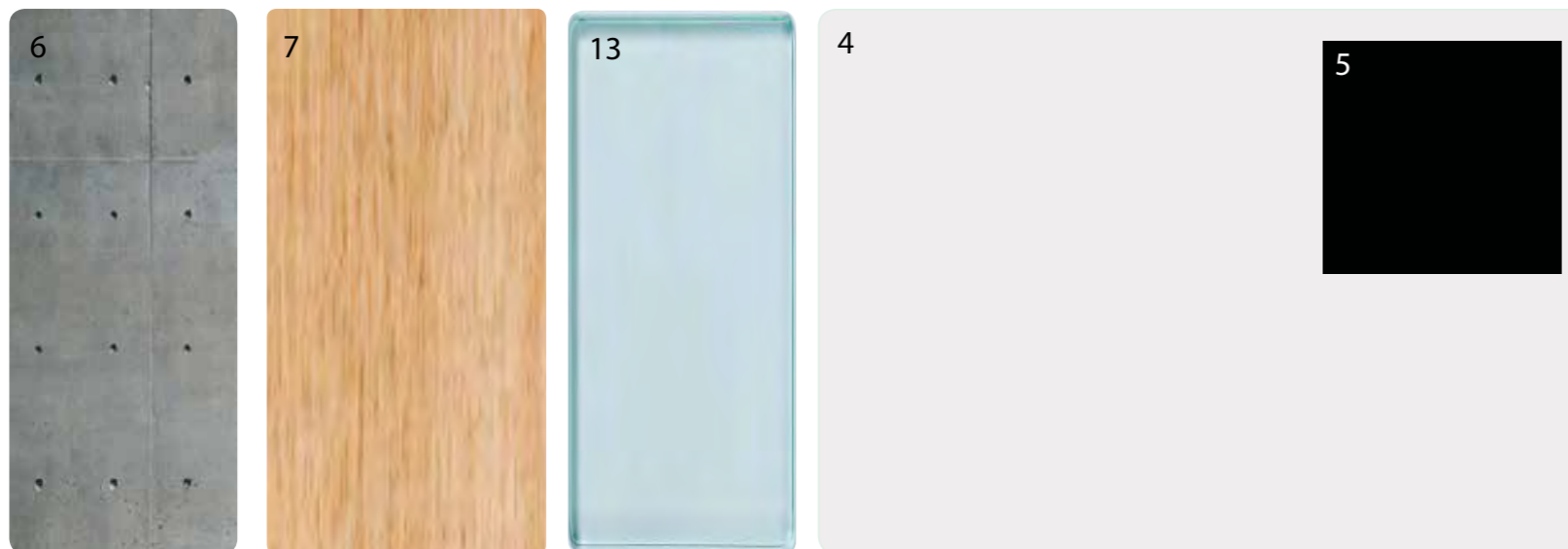
INTERIOR MATERIALS



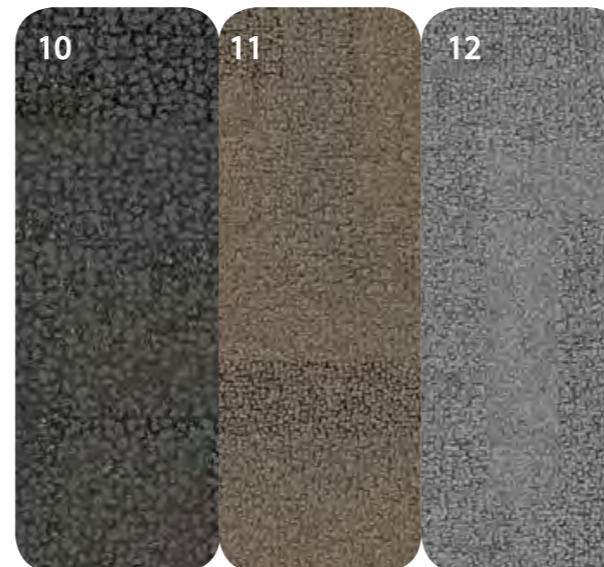
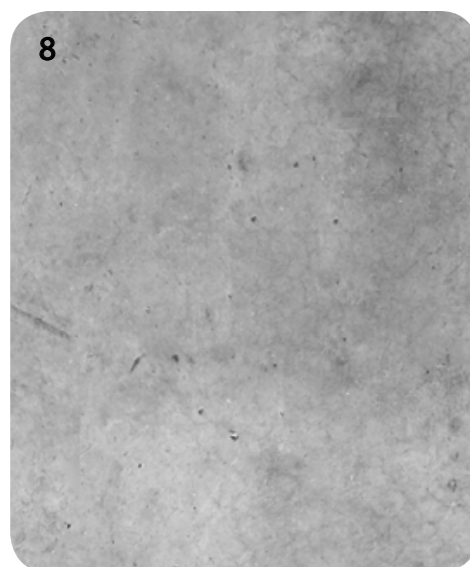
ACOUSTIC PANEL

LEGEND

- 1. Perforated Acoustic Plasterboard
- 2. Polyester Acoustic Panel - Cube - Savoye
- 3. Polyester Acoustic Panel - Cube - Flatiron
- 4. General Paint Colour
- 5. Door Paint Colour
- 6. Feature Wall Exposed Concrete
- 7. Solid Timber
- 8. Polished Concrete Flooring
- 10. Carpet Tile
- 11. Carpet Tile
- 12. Carpet Tile
- 13. Glass wall partitions

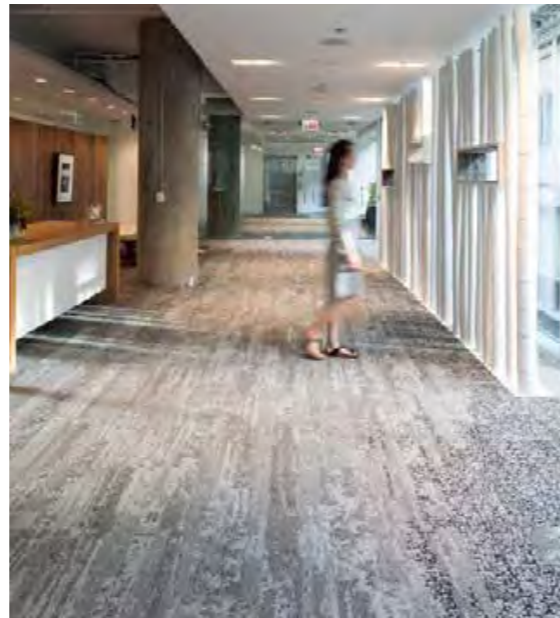


WALL



FLOORING

INTERIOR MATERIALS





PHASE 2
BUILDING

NOT IN PHASE 1
PROJECT SCOPE

Appendix A

Architectural Drawing Set

Appendix B Stage 1 (CIP) consent conditions

STAGE 1 (CIP) CONSENT CONDITIONS

ITEM	DESIGN RESPONSE	REFERENCES
B1		
<p>i) Whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved</p>	<p>Refer to the following sub sections under following sections of the Report:</p> <p>Section 3 Masterplan Concept</p> <p>Section 4 Stage 1 Building Concept Stage 1 Building Design</p> <p>Section 5 Stage 1 Building Planning, Stage 1 Façade Expression & Stage 1 Material Finishes</p>	<p>See Appendix A Architectural drawing Set Section 3 Masterplan Concept</p> <p>Section 4 Stage 1 Building Concept Stage 1 Building Design</p> <p>Section 5 Stage 1 Building Planning, Stage 1 Façade Expression & Stage 1 Material Finishes</p>
<p>ii) Whether the form and external appearance of the building will improve the quality and amenity of the public domain</p>	<p>Refer to the following sub sections under following sections of the Report:</p> <p>Section 3 Precinct Connections Masterplan Concept</p> <p>Section 4 Stage 1 Building Concept Stage 1 Connections Stage 1 Building Design</p>	<p>See images:</p> <p>Section 3 Precinct Connections Masterplan Concept</p> <p>Section 4 Stage 1 Building Concept Stage 1 Connections Stage 1 Building Design</p>
<p>iii) Whether the building meets sustainable design principles in terms of sunlight, natural ventilation, wind, reflectivity, visual and acoustic privacy, safety and security and resource, energy and water efficiency,</p>	<p>Refer to section 'sustainability and environmental health' under Stage 1 Building Concept for high level principles</p> <p>Refer to section 5 Material Finishes for reflectivity .</p> <p>Refer to the Sustainable Design Statement Report by Umow Lai for details on response to sunlight, natural ventilation resource energy and water efficiency.</p> <p>Refer to Acoustic Report</p> <p>Refer to Wind Report</p> <p>Refer to CEPTED report</p>	<p>Refer to the Sustainable Design Statement Report by Umow Lai for details on response to sunlight, natural ventilation resource energy and water efficiency.</p> <p>Refer to Acoustic Report</p> <p>Refer to Wind Report</p> <p>Refer to CEPTED report</p>
<p>iv) If a design competition is held in accordance with the requirements of clause 6.21 Design excellence of Sydney Local Environmental Plan 2012, the results of the competition.</p>		<p>Refer to Design Excellence Review Panel report and Design Competition Jury Report</p>
B3	<p>The architectural design response has been cognisant of a number of documents as per the consent conditions. These include:</p> <ul style="list-style-type: none"> • Camperdown Darlinghurst Strategy Plans (Appendix C EIS) • Design Principles (Appendix F EIS) • Campus Improvement Program 2014-2020 State Significant Development Application (SSD 13_6123), Urban design Justification 	