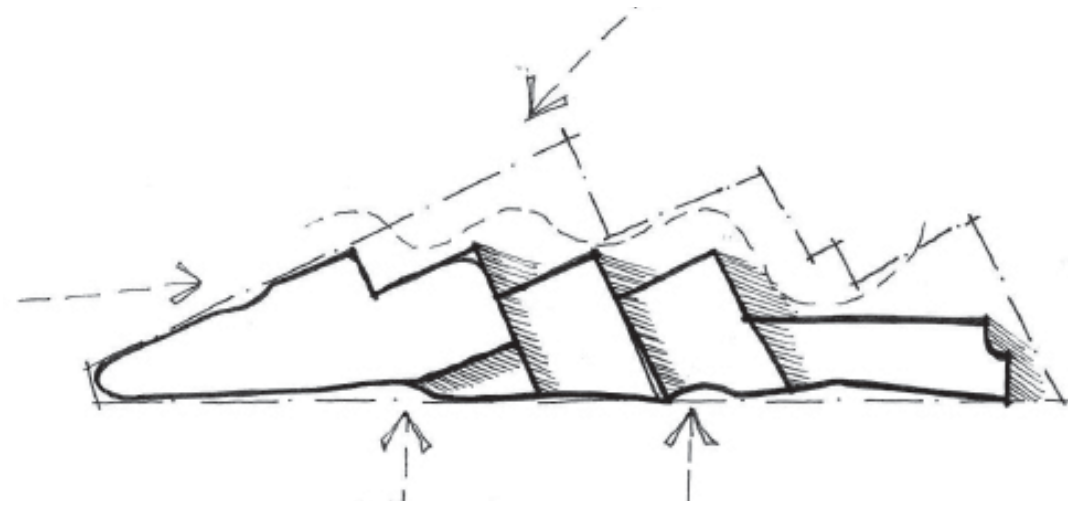


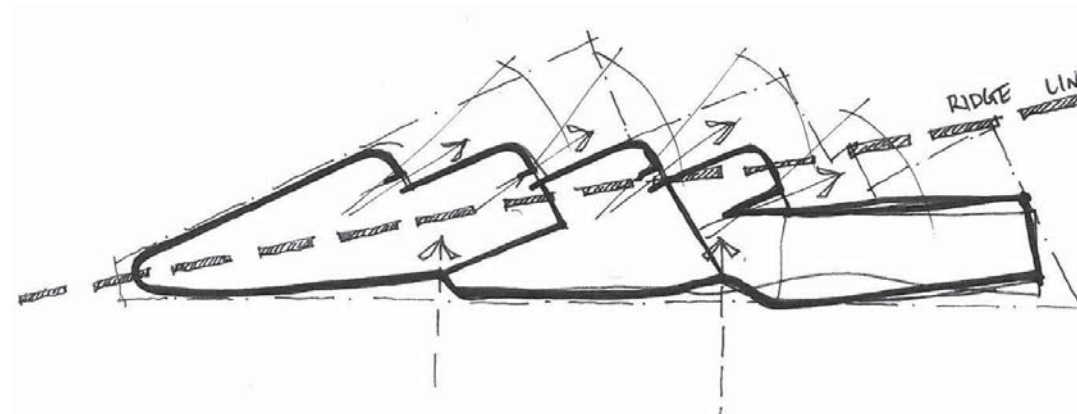
Massing Strategy

The massing strategy for the built form takes advantage of the natural ridge line and City Views. The stepping back of the form in plan respects the setbacks of existing neighbouring buildings facing City Road.

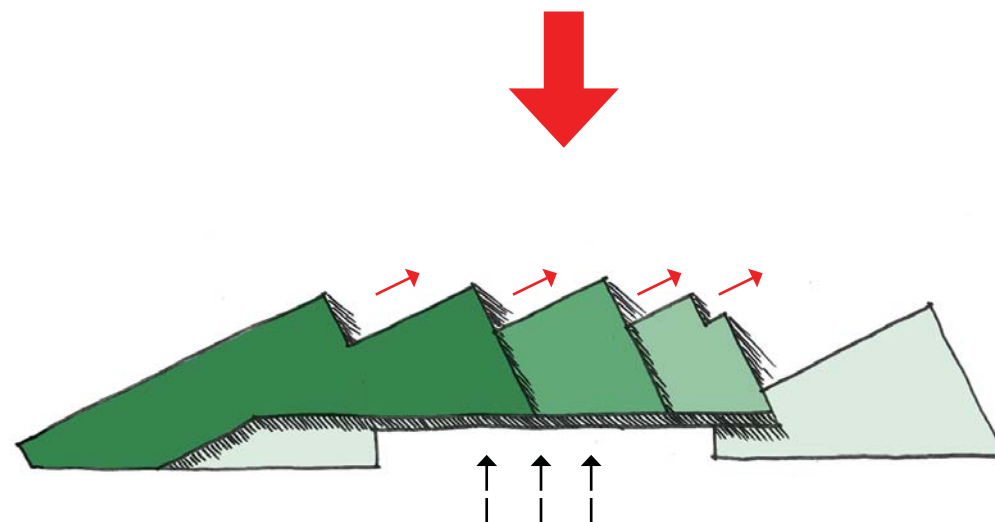
Along Darlington Road the final design adopted steps back along the central portion of the massing to reflect the Terrace house setbacks and to preserve solar amenity to adjoining properties.



The Original Scheme massing Exploration stepped back from City Road.



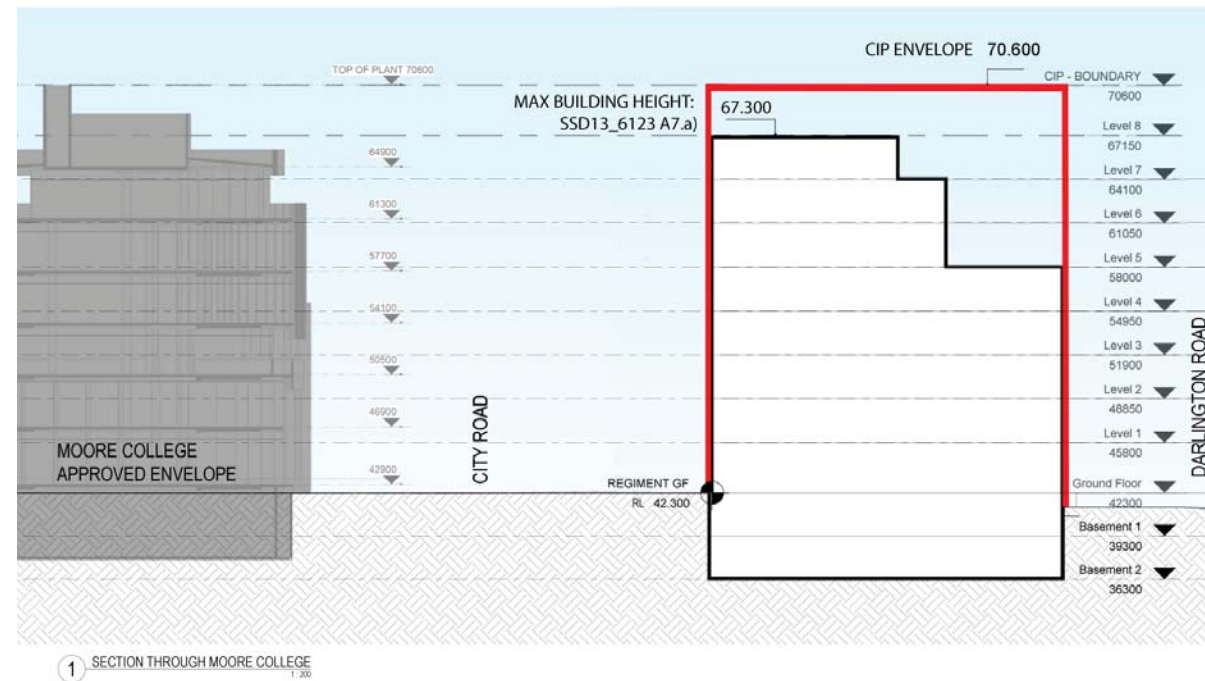
The Original intention was to capitalise city views by stepping back to the ridge line and opening up the building.



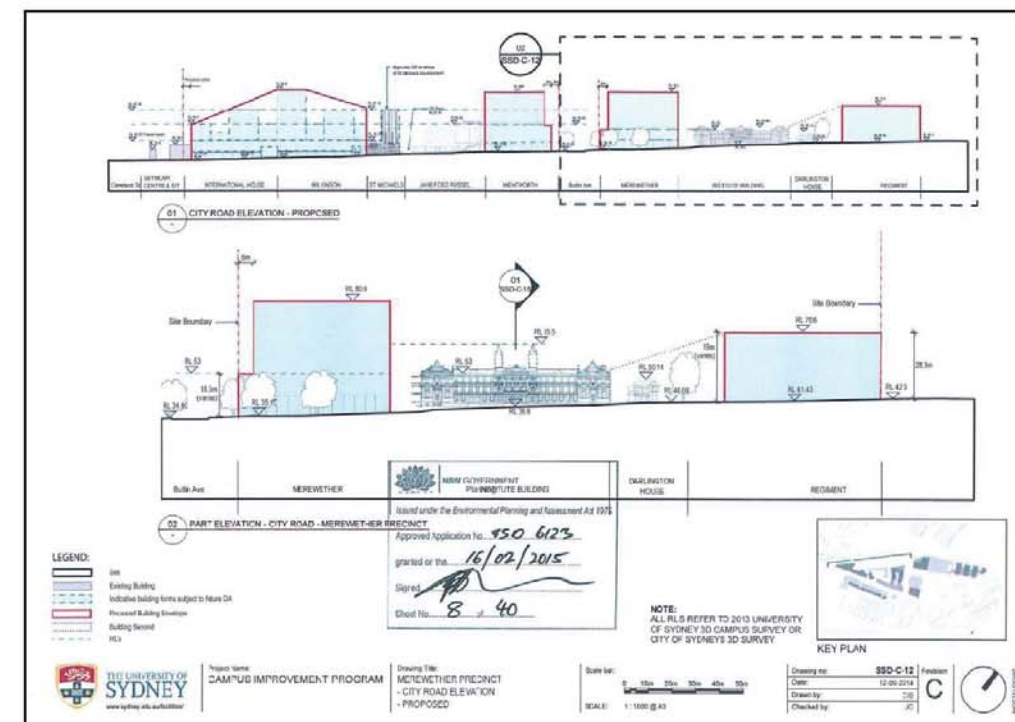
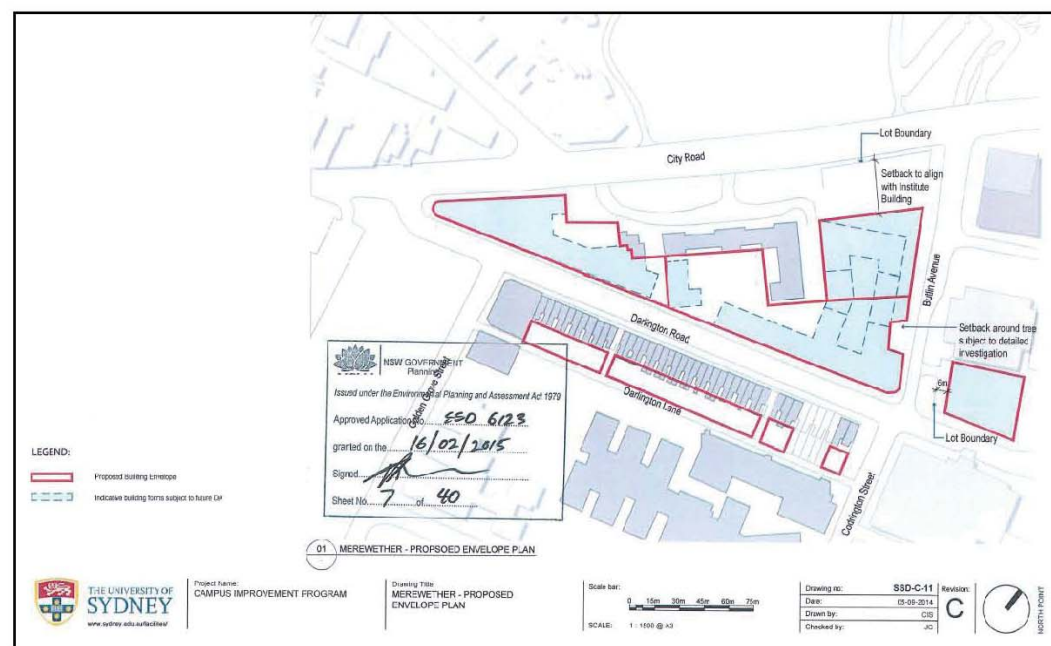
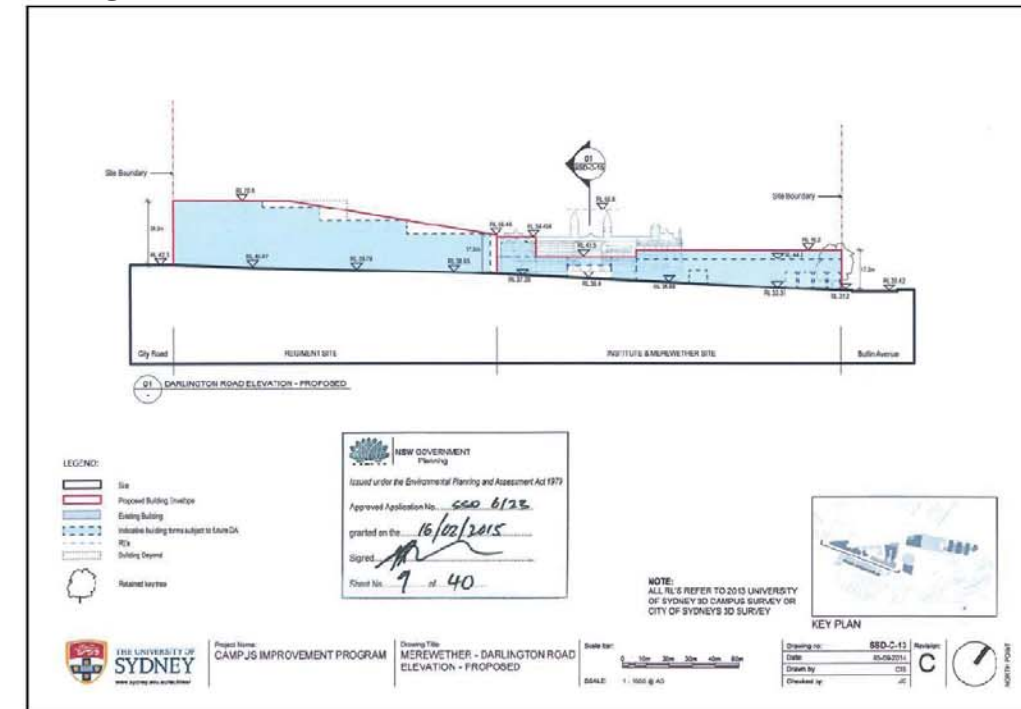
The Final design steps back from Darlington Road to relate to the Darlington Terraces and preserve solar amenity to adjoining properties.

Regiment Building Envelope (No 1.)

The University has adopted the Campus Improvement Program (CIP) as the Stage 1 implementation strategy of development and infrastructure to the Camperdown-Darlington campus. The CIP is a concept State Significant Development that was approved by the Minister for Planning (SSD 13_6123) on 16 February 2015. The site is contained within the Merewether Precinct of the CIP Stage 1 SSD approval. Consideration has been given to the approved Stage 1 SSD CIP Envelope that encompasses the Regiment Building Envelope (No 1.). Furthermore the proposed design complies with the conditions of consent for SSD 6123 Condition A7a) that states maximum height limits of RL 67.3 to the western edge sloping down to RL 55.45 at the eastern edge.

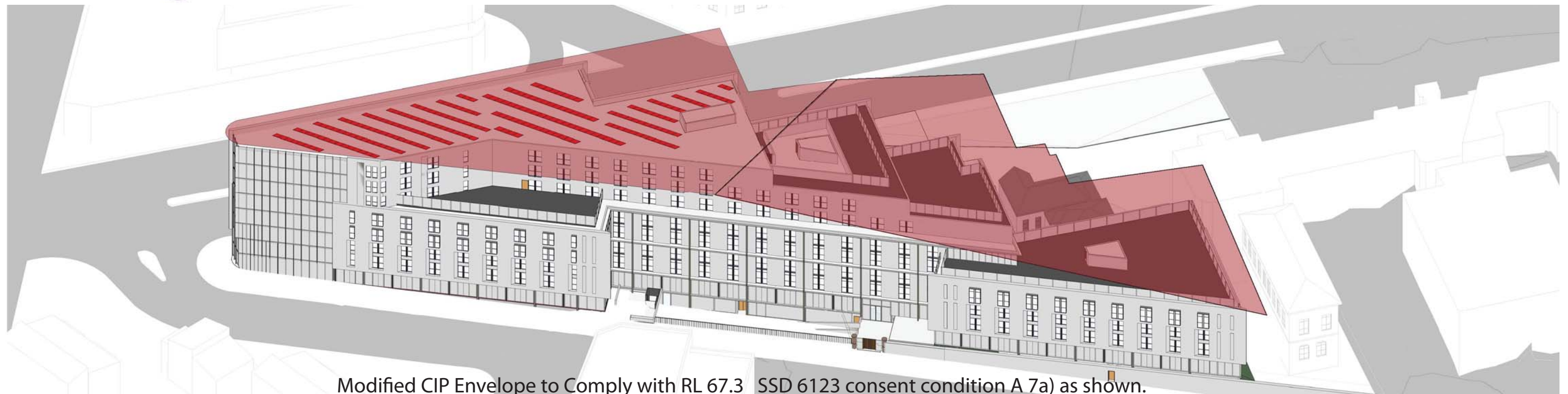
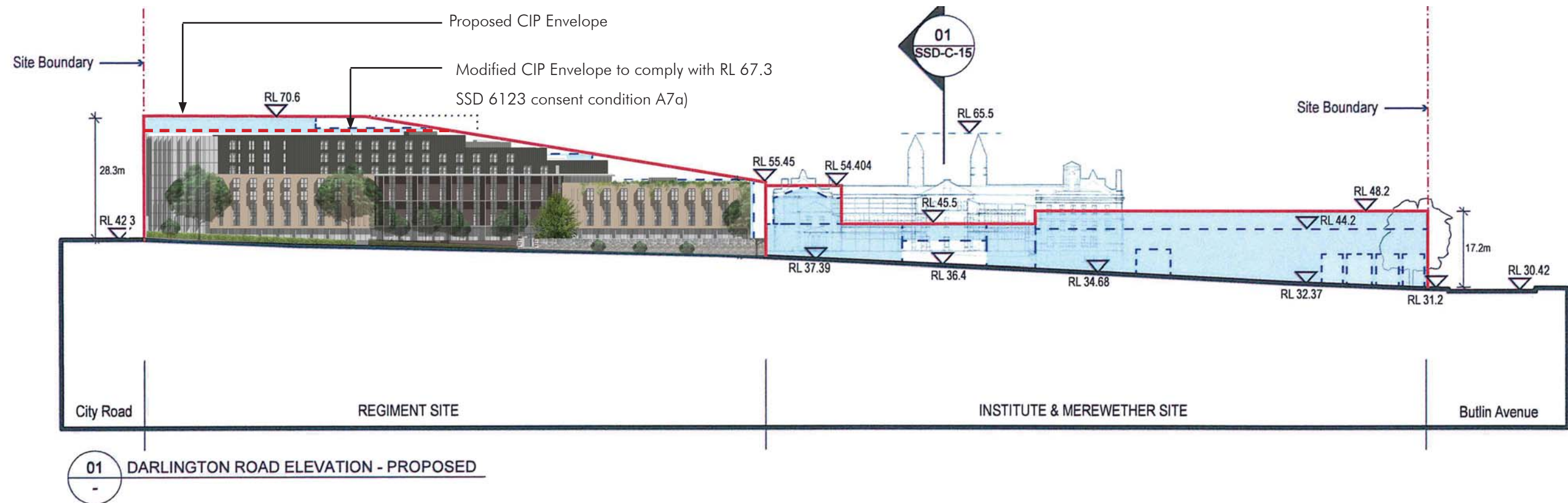


Note: Moore College opposite is approved at Maximum RL 70.6



Regiment Building Envelope (No 1.) Compliance

The proposed building will be compliant to the approved Regiment Building Envelope (No 1.) as demonstrated by these illustrative diagrams. The highest level will be RL 67.3 at the lift core, this will be lower than the proposed CIP envelope and compliant with the approved maximum building height of RL 67.3 SSD 6123 consent condition A7a). Along the Northern part of the site the building mass will be within the Modified CIP envelope and comparable to the RL of the Southern wing of the Institute building. The Institute buildings dual towers are at RL 65.5 and is respected by the stepping down lower than the massing of those towers.

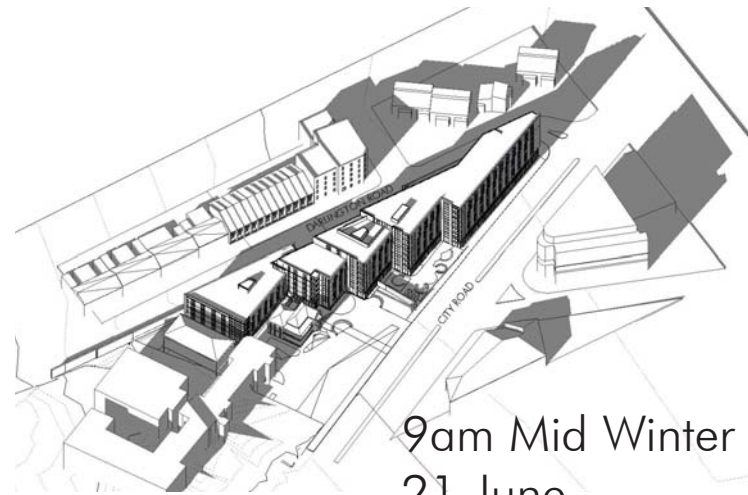


Modified CIP Envelope to Comply with RL 67.3 SSD 6123 consent condition A 7a) as shown.

CIP Approved Envelope and Compliance

Solar Amenity

Consideration has been given to preserve the solar amenity of properties on Darlington Road to provide a minimum of 2 hours direct sunlight between 9am-3pm mid winter to living rooms and private open spaces of adjoining properties. Furthermore private and public Landscaped forecourt spaces proposed on City Road within the Regiment site will receive ample sunlight during mid winter.



Heritage Views and Massing Examination

Analysis has been undertaken to examine the massing of the proposed building in relation to the key Heritage items on the site. A 7.4m set back from the Superintendent's Residence is created by notching the proposed building in plan to create adequate visual separation so the legibility of the Superintendent's Residence is preserved. Furthermore dark brick on the proposed building is located behind the east and south frontages of the Superintendent's Residence to create a recessive backdrop. Detailing of the new building incorporates recessing and shadow play that is complementary to the Superintendent's Residence fine historic detailing.



North view from City Road



City Road View into Entry Driveway towards Darlington Centre



Internal Site View towards Superintendent's Residence



Internal Site View South towards Superintendent's Residence and Heritage Wall



Internal Site View South towards Institute Building

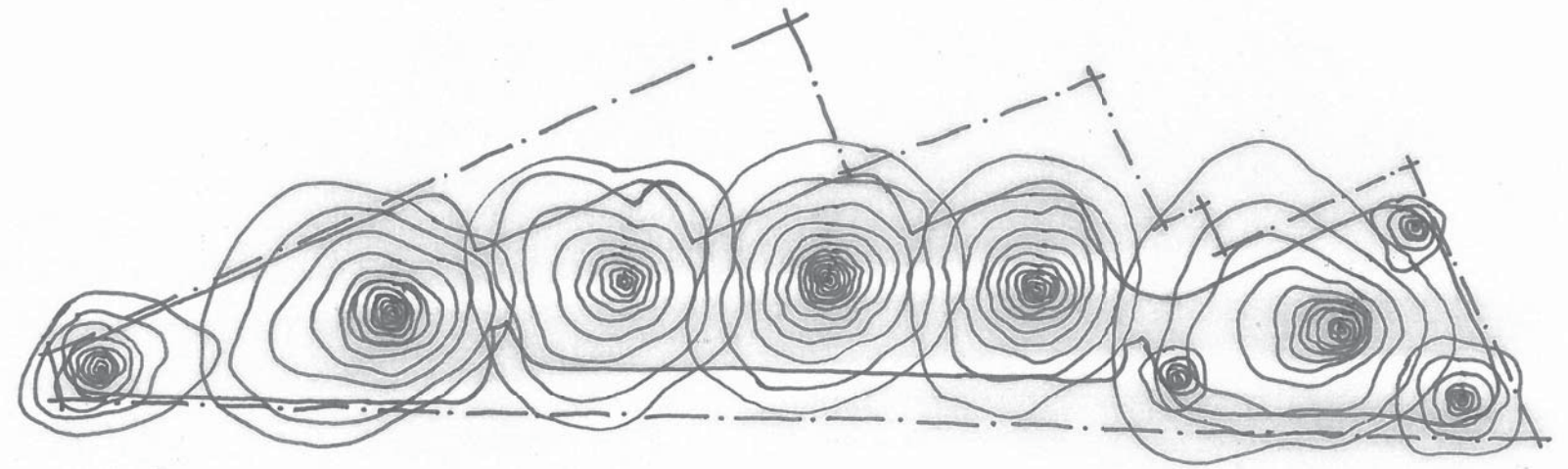


Internal Site View South towards Institute Building and Superintendent's Residence



Planning Strategy

The planning strategy for the accommodation floors aims to create natural communities by clustering groups of rooms around amenities, flexible communal spaces, egress/communication stairs and lift cores.



Original Concept Drawing showing the notion of clustered communities.



Typical Level 5 Plan shows clusters of rooms planned around amenities and shared facilities to promote micro communities and a village feel.

Location of Communal Amenities

A variety of communal amenity spaces are integrated in the design to support the students.

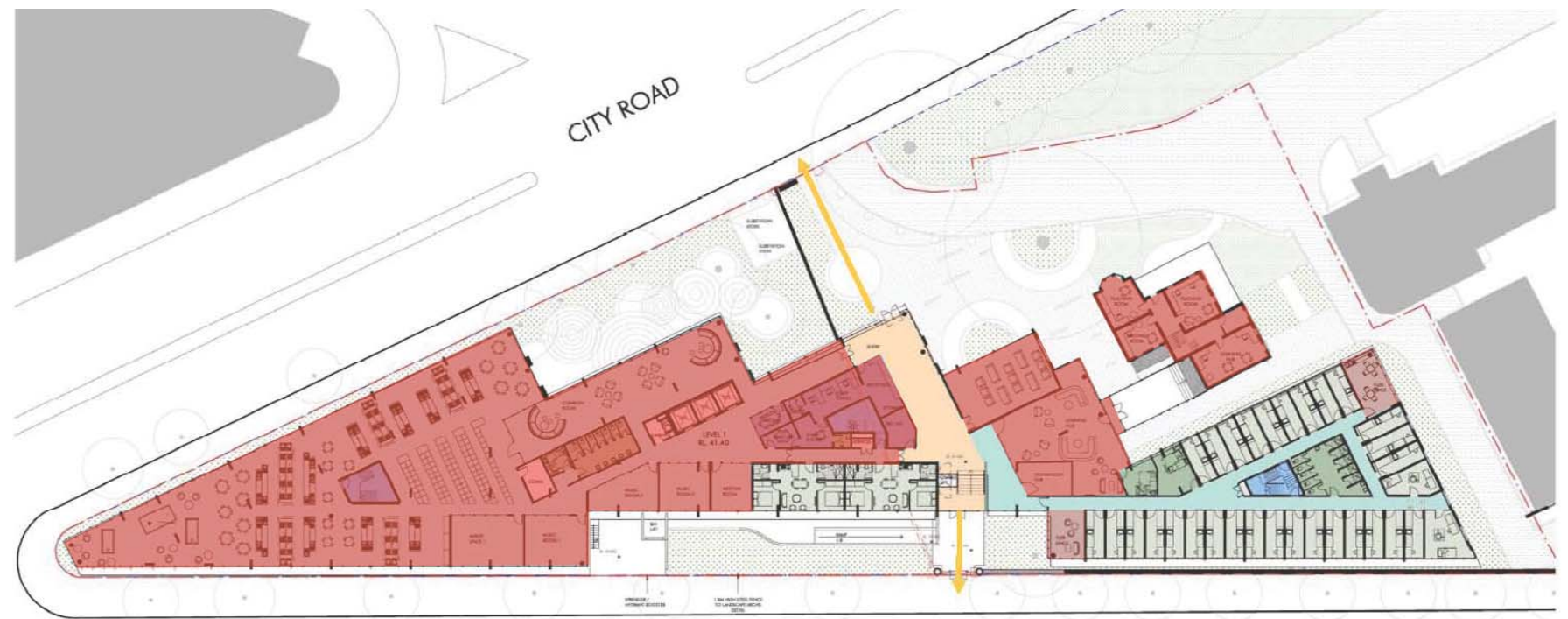
The Ground floor (Level 01) is the main communal hub with major communal facilities located on this level including:

1) Cooking and dining facilities which are a fundamental focus of student life. The communal area is provided to encourage student interaction rather than providing private cooking facilities.

2) Other communal areas such as lounge, games area, music rooms, maker spaces, teaching and theatre spaces are provided to combine the social and learning experience of the students.

3) Management and pastoral support to the student community is also fundamental to student wellbeing and therefore staff and consultation rooms are readily accessible by students.

Typical floors are provided with flexi spaces that act as local meeting places for students living in close proximity. These rooms will have a mixture of tea making facilities, study and lounge furniture and technology points to provide a varied number of social and relaxation opportunities outside of the student bedrooms.



DARLINGTON ROAD

Level 1 is highly activated by integrated shared cooking and dining facilities, shared entertainment zones and teaching/technology rooms.



DARLINGTON ROAD

Typical Level 4 plan with flexi spaces highlighted in red.

Bed Room Distribution and Bed Room Area Distribution.

The bedrooms are typically circa 10.1m²-10.3m² for standard apartments and minimum circa 13.8m² for adaptable rooms, the largest being 21m². They are distributed in a mix of 95% total standard rooms and 5% total large accessible/adaptable rooms respectively around the perimeter of the building. Sydney University has engaged an independent study report "Social and Economic Impact of Student Accommodation Study" by CRED Consulting. This report examines affordability in the context of the residential market. Rent offered by the University will be circa 25% less than the local market which is achieved by offering circa 10m² rooms offset by a greater level of communal amenity area. Once the room area and common area is averaged the GFA per resident will average circa 23m². Further details of the study can be found in the CRED report.



Typical Level 4 shows a dispersal of flexi common spaces to support the accommodation and create localised communities.

Bedroom Sizing and Current Planning Regulations

The University’s ability to offer affordable rents and extensive mixed use facilities is predicated on delivering a minimum number of rooms, which in turn is dependent on provision of room sizes of no less than 10m2 excluding other accessible and shared (communal) facilities.

Under the Sydney DCP 2012 and State Environmental Planning Policy (Affordable Rental Housing) 2009 (AHSEPP), University student accommodation falls under the definition of a ‘Boarding House’ and who’s guidelines require a minimum room size of 12m2. This current numerical guideline represents an increase of 1.5m2 from the previous (repealed) Boarding House minimum room size of 10.5m2.

- Despite some similar characteristics between boarding houses and student accommodation premises, there are nonetheless significant and important differences between the two:
- Students typically spend their first year in University accommodation and then move out into the Private Rental Market – this is not a room for life.
 - The focus of a student is not solely on the room but on the supporting infrastructure and wellbeing services provided both within the building premises as well as the surrounding campus.
 - Pastoral care and residential life programmes are designed to encourage students to get out of their rooms, integrate and study together as research indicates this improves overall student experience, performance and retention – University accommodation is focused on community integration, and not individual room living.
 - Students typically study outside of their rooms with the University’s own space utilization studies indicating on floor break out spaces and learning hubs are the most utilized rooms
 - Student accommodation premises are typically located / juxtaposed to other bespoke University facilities and services including libraries, meeting/tutorial rooms, computer rooms, retail facilities etc. The proximity of the Abercrombie Business precinct to the proposed Regiment development site is such an example.
 - University accommodation is additive to the wider learning experience and has extensive common, teaching and educational facilities not typically provided in a boarding house.
 - University accommodation comprises one component of the wider campus, where additional teaching, research, sporting, cultural and educational facilities are also provided. Such complementary facilities are not typically provided in a boarding house.

This University’s design approach to student accommodation provision is not driven by maximizing bed numbers but by achieving a balance of development feasibility while maintain low rents, delivering a quality educational experience, maximizing communal facilities, and encouraging student interaction within the residence and wider campus.

By providing rooms at a minimum 10m2 area that are supported by extended common and mixed use facilities, the overall Gross Floor Area (GFA) per resident is significantly larger than a standard boarding house.

The GFA per student for the recently completed Queen Mary Building in Camperdown, and the proposed Regiment redevelopment site in Darlington, are as follows:

Facility	Bed Numbers	Gross Floor Area (m2)	GFA/Bed
Queen Mary Building (Completed and occupied)	801	24,000	29.96
H01 Mix Use Redevelopment (Proposed)	656	15146	23

Interstate and Overseas Comparables

When benchmarking the DCP and AHSEPP controls it can be seen that the 12m² requirement is significantly higher than equivalent controls in other states and internationally.

The Sydney DCP control is approximately 40% higher than minimum bedroom size controls in Queensland, Victoria and the Northern Territories, where the minimum requirement for single rooms is 7.5m². The below tables summarise the minimum requirement of bedroom sizes for other Australian states and international countries.

Location	Minimum requirement for 1 occupant
Sydney, NSW	12m ²
Brisbane, Queensland	7.5m ²
Darwin, Northern Territory	7.5m ²
Perth, Western Australia	No specific room control only an apartment definition – all rooms have to be 'useable and functional'
Adelaide, South Australia	Suitably Sized
Melbourne, Victoria	7.5m ²

Country	Minimum Room Size (1 occupant)	Room Type
United Kingdom	6.5m ² (2 occupants: 10m ²)	Bedroom – In house of multiple occupation (HMO)
New Zealand	6m ² (2 occupants: 10m ²)	Bedroom – education hostel
Italy	9m ²	TBA
France	7m ²	TBA
Netherlands	5m ²	TBA

Interstate and Overseas Comparables Continued

Consequently, the City of Sydney's suggestion of a minimum 12m² bedroom size presents significant restrictions on the ability of NSW Universities to not only compete interstate/internationally, but also limits development feasibility and the delivery of affordable student accommodation which could assist with wider supply and demand conditions.

Neither the Sydney DCP, nor the AHSEPP, specifically contain any objectives relating to the bedroom size control. The objectives for boarding houses and student accommodation development in general include:

- (a) Ensure an acceptable level of amenity and accommodation in boarding houses to meet the needs of residents and owners.
- (b) Minimise the adverse impacts associated with Boarding Houses on adjoining properties and the vicinity.

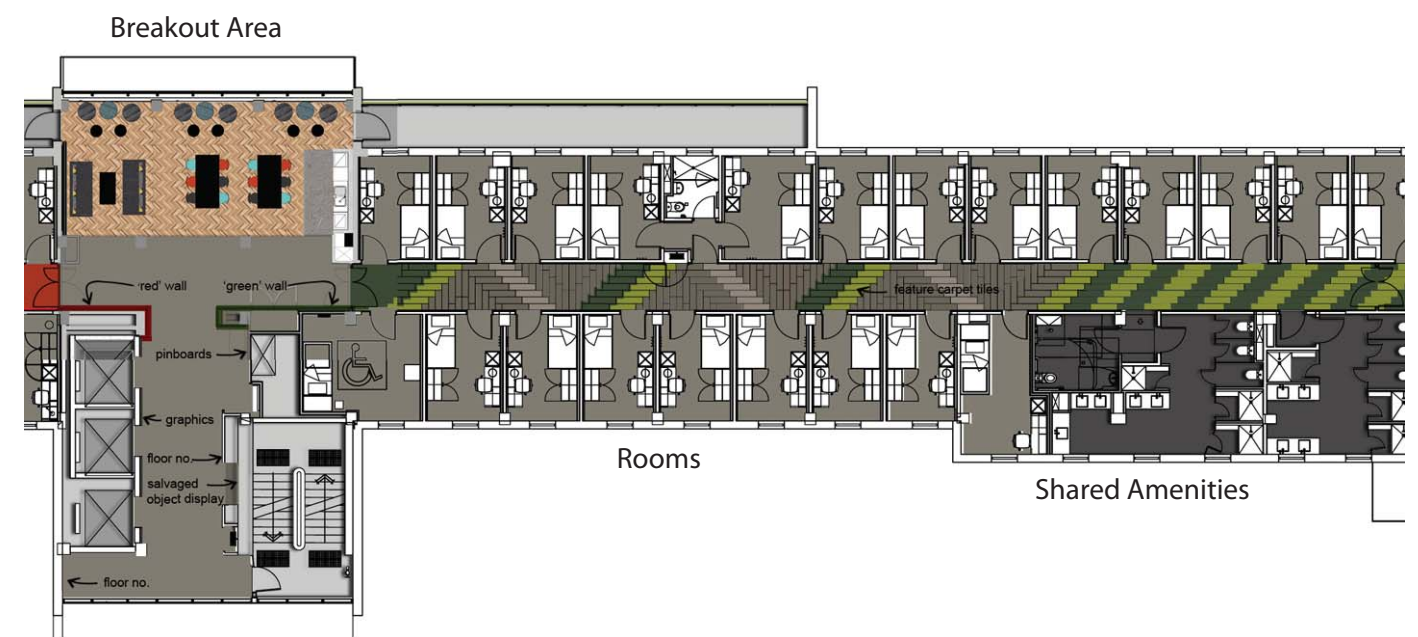
The University believes the proposed Regiment redevelopment comfortably supports both of these objectives and goes significantly further in developing a product that actually assists with a student's education while reducing housing demand in the local vicinity.

Precedents for a smaller Room Size

A number of development applications have been approved under the current DCP Controls but with smaller than 12m² rooms – these include the following at Sydney University and its affiliated Colleges:

DA D/2011/1107 Queen Mary Building – Room sizes approx - 10m²

DA D/2014/1632 Wesley College – Room Sizes 10.9-11.8m²



Queen Mary Student Accommodation Precedent: Part Floor Plan Shown

The Case for a 10.3m2 bedroom supported by increased common facilities.

The University recognises the strong demand for affordable student accommodation on or near the Camperdown-Darlington campus. This has mainly been driven by a shortage of supply and high demand for nearby rental accommodation. In order to work towards achieving the University's goal of delivering 4,000 affordable beds and achieve rents at least 25% below local market rates, an effective dormitory-style design approach has been adopted within the Regiment Mixed-Use Redevelopment Project. This approach, which has been successfully executed at the University's Queen Mary Student Accommodation building (located at Church Street, Camperdown) that involves the provision of smaller bedroom sizes with smart design features and large indoor and outdoor communal living areas.

DCP Provisions

As identified in the minimum bedroom size for student accommodation under Sydney DCP 2012 is:

- 12m2 (including 1.5m2 wardrobe space), plus
- 4m2 when a second adult occupant is intended (which must be clearly shown on plans), plus
- 2.1m2 for ensuite (comprising hand basin and toilet), plus
- 0.8m2 for a shower in ensuite, plus
- 1.1m2 for any laundry (comprising wash tub and washing machine), plus
- 2m2 for any kitchenette (comprising small fridge, cupboards, shelves and microwave).

The total nominal stipulated self contained internal room area for one person is calculated as approx circa 18m2 per head under the Sydney DCP 2012 (calculated as $12 + 2.1 + 0.8 + 1.1 + 2$). There is no common community space provided in this scenario however if external circulation is included the GFA per head would be circa 21m2.

The proposed bedrooms in the Regiment Mixed-Use Redevelopment Project range from 10.3m2 to 21m2, the majority being 10.3m2 (the smallest accessible/adaptable apartment being 13.8m2) .

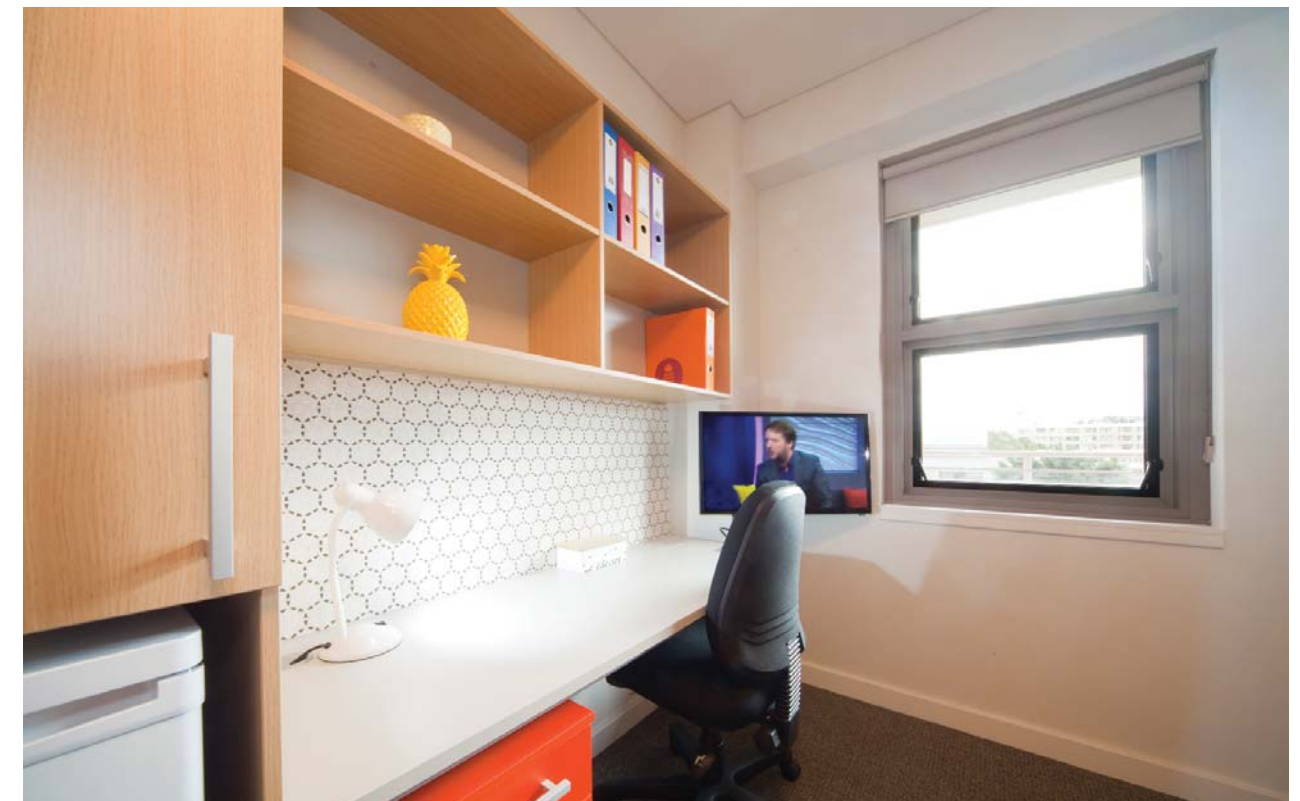
The total nominal GFA average area per head in the proposed scheme is calculated at 23m2 which is above the Sydney DCP 2012 requirements for a self contained room. The added benefit however is the average GFA proposed also includes additional communal areas, entertainment areas, study areas, dining areas, kitchen locker storage and other amenities not stipulated as required in the Sydney DCP 2012.

Furthermore a variety of communal courtyard and terrace spaces are provided totalling 1352m2 (dedicated student communal space) which equates to 2m2 of communal open space per bed in addition to the internal GFA. The Socio-Economic Report prepared by Cred Consulting indicates that the Sydney DCP control is approximately 40% higher than minimum bedroom size controls in Queensland and Victoria, where the minimum requirement for single rooms is 7.5m2. If applied, this higher minimum room size would result in a significant reduction in student room numbers in new developments and the affordability for students.

Prior to the adoption of this control, the minimum DCP requirement was less, being 10.5m2 inclusive of storage area.



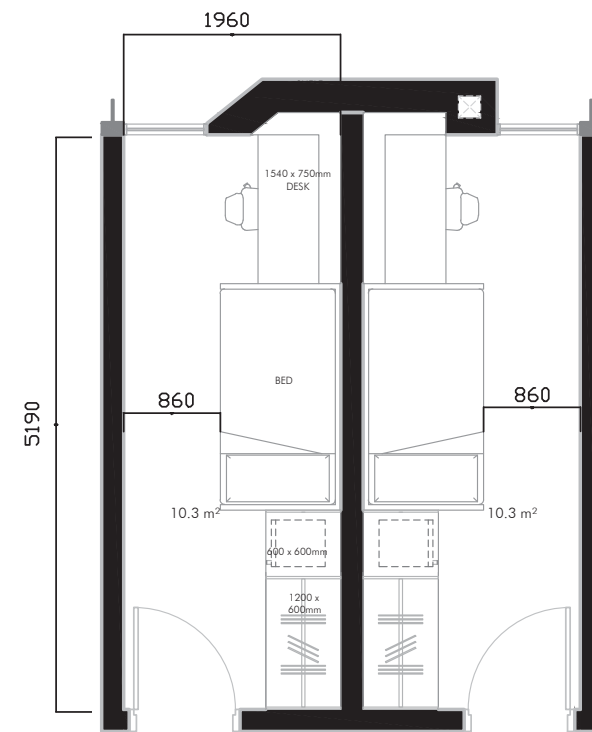
Queen Mary Dining Hall and Kitchens Example



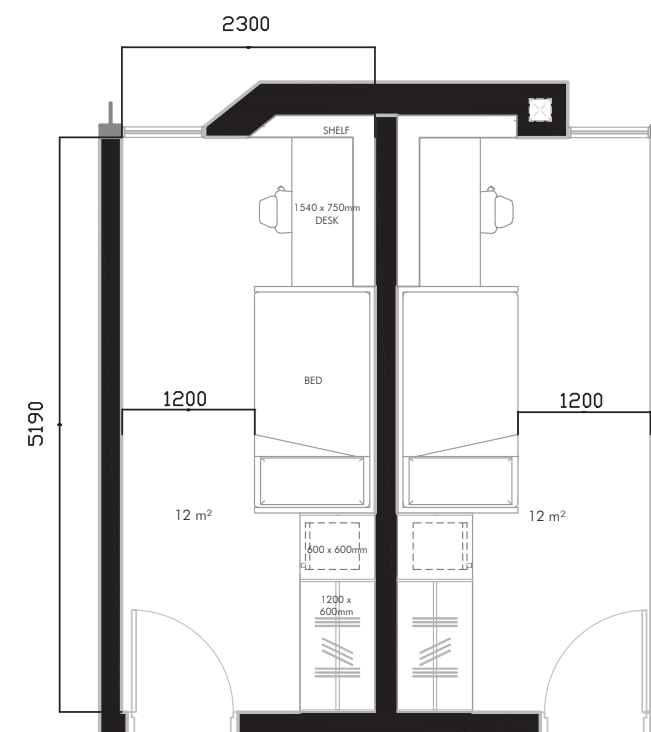
Queen Mary Student Accommodation room Example

The Case for a 10.3m² bedroom supported by increased common facilities continued.

The differences between a 10.3m² and 12m² room layout are illustrated below.



Proposed 10.3m² Layout



12m² Modified Layout

There is no difference in the provision of physical fixtures or furniture in either of the above plans, only a reduced circulation space which is compensated by other common and educational facilities within the building, as well as complementary facilities within the surrounding campus.

The University can comfortably demonstrate clear evidence of the success of a slightly smaller room sizes with the completed and fully occupied Queen Mary Building in Camperdown.

Multiple bedroom design variations for the Queen Mary building were prototyped during the projects design development phase. Students were invited to visit the prototypes and give feedback. The design and general feel of the rooms was well received. Areas of improvement were identified and incorporated into the design.

Consultation with students is ongoing and seen as a key component in successfully delivering developments that maximise the University learning and lifestyle experience.

The Queen Mary accommodation was ultimately approved by the City of Sydney despite having bedroom sizes of between 9m² and 10m² and was subsequently awarded the ACCUHO (Asia Pacific Association for Student Housing) Student Housing Operations of the Year in 2016 for its extensive communal facilities and expansive residential life programme focused on education and retention.

Following an occupant survey by the university, resident students occupying the QMB have not reported any negative reaction regarding the room sizing.

To maintain consistency across the accommodation portfolio the University's preference is to maintain this room size to ensure that the room sizes and prices match as close as possible.

Benefits of Proposed Bed Room Sizes

Benefits of smaller accommodation

The University's ability to provide a higher number of smaller rooms on the same site, thereby housing more students in more affordable rental accommodation, is instrumental in improving the quality of life, health and wellbeing of the student and staff occupants. The impact of smaller room sizes is offset by the provision of large, well-designed communal space that caters to the particular needs of student residents. The communal facilities that contain quiet separate study areas will be supported by the University's Student Accommodation Services department. Smaller bed sizes contribute to a group living situation which is a significantly superior product to that typically found in the private rental market as it enhances the well being of students through community living. The proposal is designed to enhance group living by virtue of additional common spaces. The provision of quality, affordable, small room student accommodation with extensive communal facilities also has the scope to increase the supply and diversity of affordable rental housing as per the aims of State Environmental Planning Policy (Affordable Rental Housing) 2009 and the affordable housing targets outlined in City of Sydney's strategic plan, Sustainable Sydney 2030.

Functional design and amenity

Despite the proposed rooms being smaller than the minimum requirements prescribed in the DCP, smart design features have been adopted to maximise the spaces and provide all the furnishings required for students. Maximising amenity is also a focus, such as exceeding the natural light and communal open space requirements of Sydney DCP 2012. For instance the spatial design of the room positions furnishings on the party wall allowing for adequate circulation, light and air to flow in the space. Awning Windows shall be incorporated in glazed 2.1m high and 0.7m wide windows, the area of the window being 30% that of the Room Floor Area thus maximising light and air in the room.

Common flexi lounge spaces, study rooms and break out spaces will break up the program on typical floors and provide areas for private study, small groups and larger recreational gatherings. The lounge spaces will also take advantage of City views, light and ventilation through shaded glazed facades. Offering this diversity of program dispersed throughout the development will cater for the different ways people live and ensure that spaces are well utilised. This will encourage a sense of community and ownership for these spaces. The location of student accommodation on campus also means that students not only have the supporting communal facilities within the development, but also benefit from the broader range of recreational and communal areas locally available across the University's Darlington-Camperdown Campus.

The University's commitment to affordable housing

ABS data from 2013 identifies that higher education students have a strong desire to live in close proximity to educational facilities, often resulting in many students – particularly international students, living in overcrowded and sometimes unsafe conditions. This is attributed to a significant shortage of affordable housing options in and around the University's Camperdown-Darlington campus, which has been largely driven by high demand from both students and young professionals and a buoyant Sydney housing market that has outpaced the rest of Australia in terms of both rent and house price increases.

The University's 2016-2020 Strategic Plan also recognises housing affordability as a barrier to the recruitment of research leaders and pledges to address this barrier in future campus developments. In order to work towards the University's strategic aim of delivering 4,000 affordable student beds and achieving rents 25% below the private rental market rate, an effective dormitory style bedroom layout design has been developed for the Darlington Terraces Mixed Use Development and is supported by generous communal areas and on-campus facilities and services as identified throughout this report.

By increasing the number of affordable beds in close proximity to the University's Camperdown-Darlington campus, there will be a reduction in competition for the already significant undersupply of private affordable rental housing in the locality. The proposal will reduce the risks associated with overcrowding in illegal and unsafe accommodation and thus improve student health and wellbeing. In doing so, the supply of private affordable rental housing stock for low-income households and key workers in the locality will increase.



Queen Mary Lounge and Games Area Precedent



Queen Mary Flexi Breakout Area Precedent



Queen Mary Roof Terrace Precedent

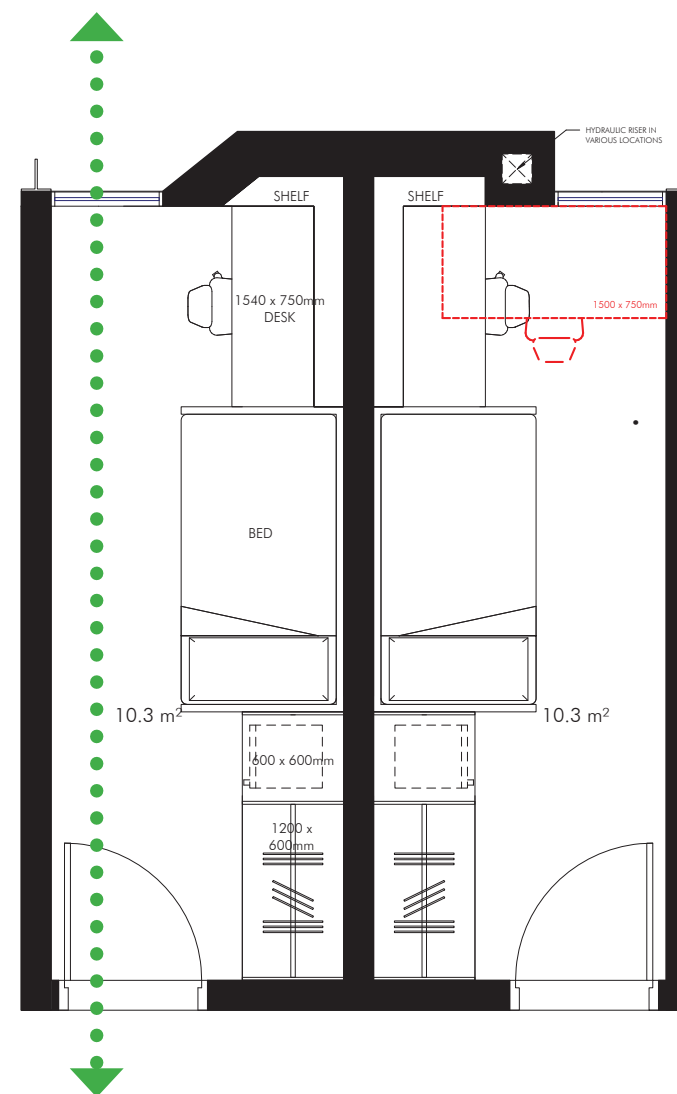
Typical Standard Room Layout and Amenities.

The proposed standard rooms are designed to be affordable, efficient, functional and spacious to meet the required needs of the students. All rooms will feature 2.1m high glazed windows incorporating awning windows to provide ample light and ventilation. Trickle ventilation will be provided where external noise is to be mitigated at night. All rooms will have feature ceiling fans as an energy efficient alternative to air conditioning. The furniture and fittings are located on one party wall to free the circulation space and create a spacious feel of the apartment looking out towards the window. Sleeping, storage and study are the key functions catered for in the room. A bar fridge is provided for food and drinks storage. Fundamental functions for living are provided in the room supplemented by additional common space areas outside of the room with the intention of encouraging students to socialise outside of their rooms for their well being and socialisation. The University's Operational management has carefully considered the appropriate balance of room and common space area to promote a social community.

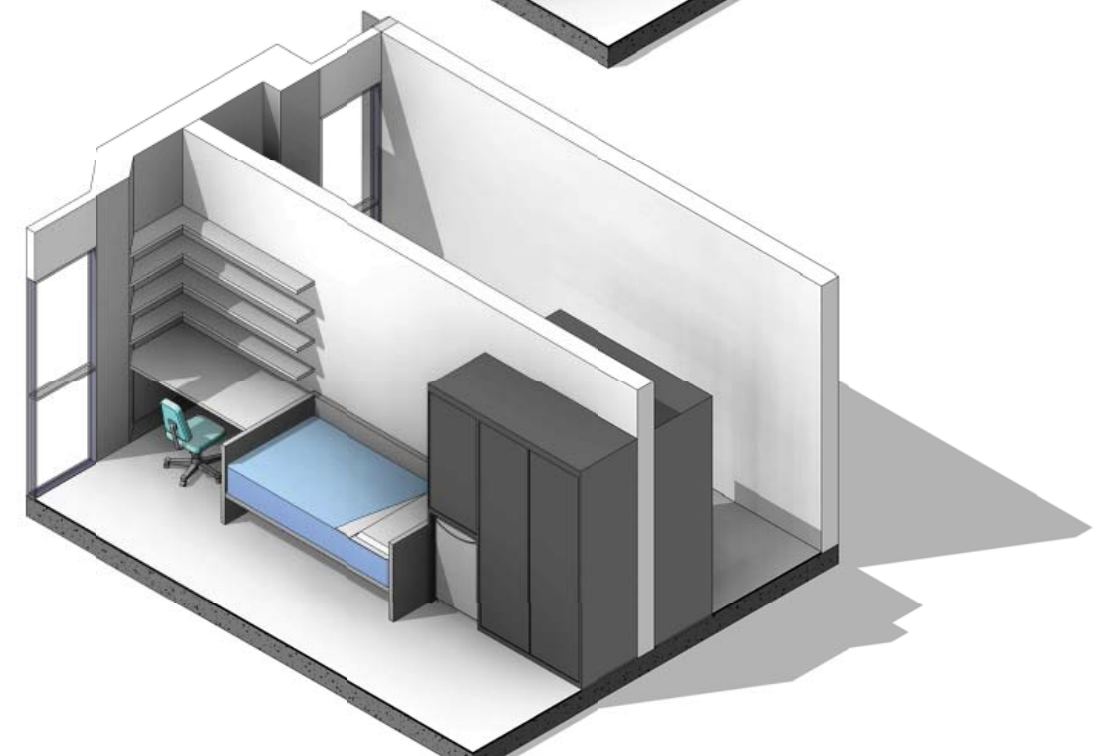
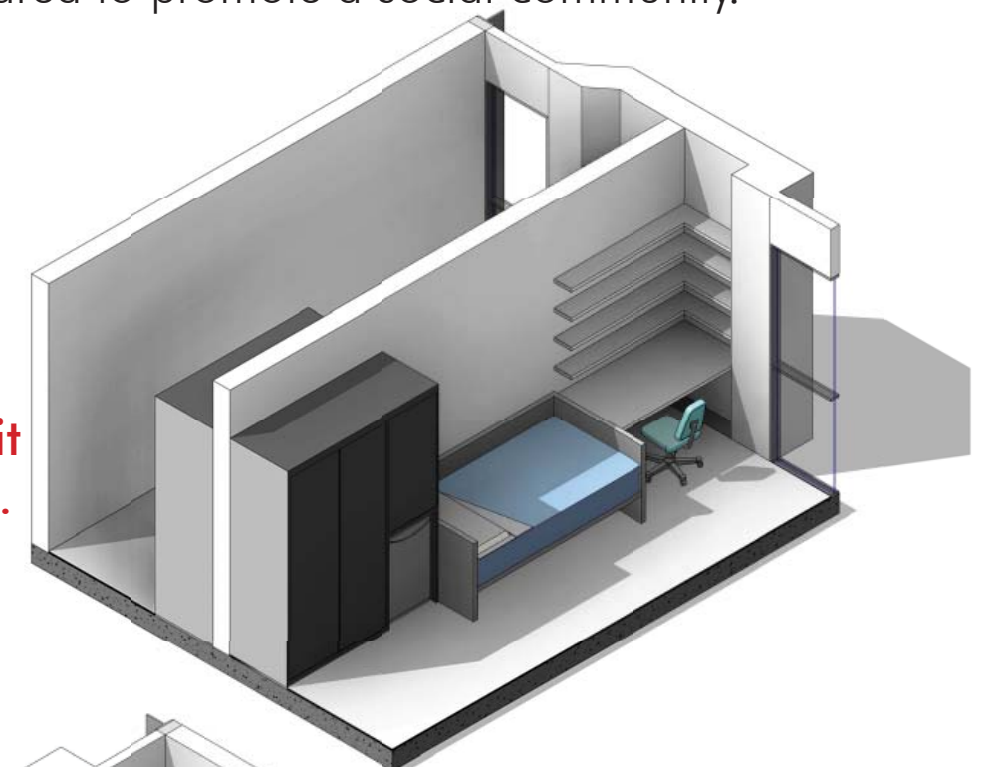
Room Amenities Provided

- King Size Bed
- Study Table + Pin Board
- Overhead Shelves 2.1m in linear length
- Book Shelving
- Wardrobe of 1.2 linear length
- Pantry unit containing bar fridge

Spatial Clarity is preserved by maintaining furniture on party wall.



Students can reorientate their table to suit their preference.



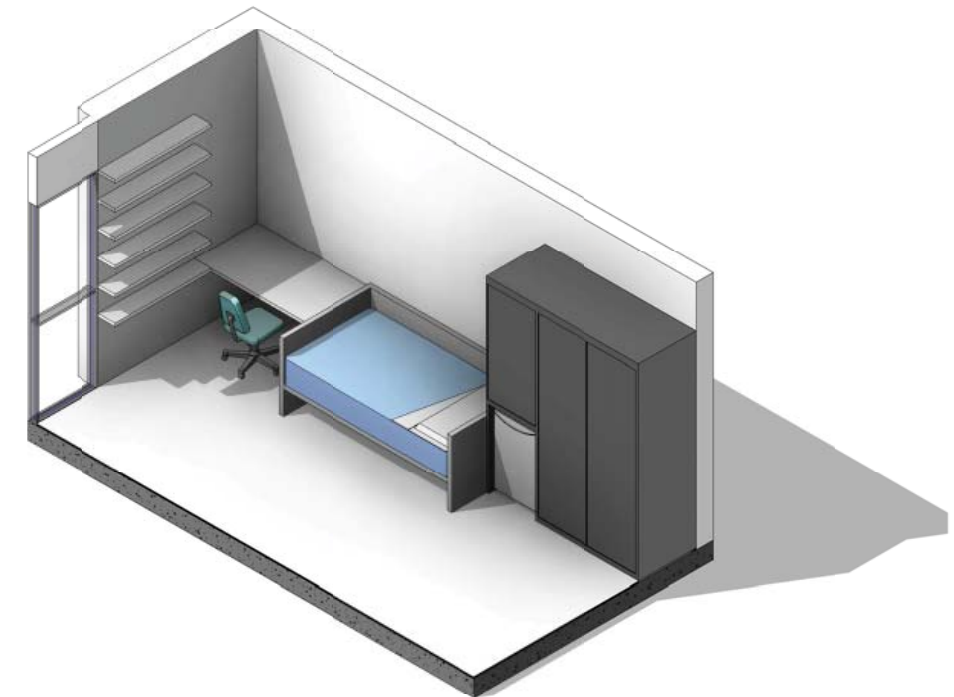
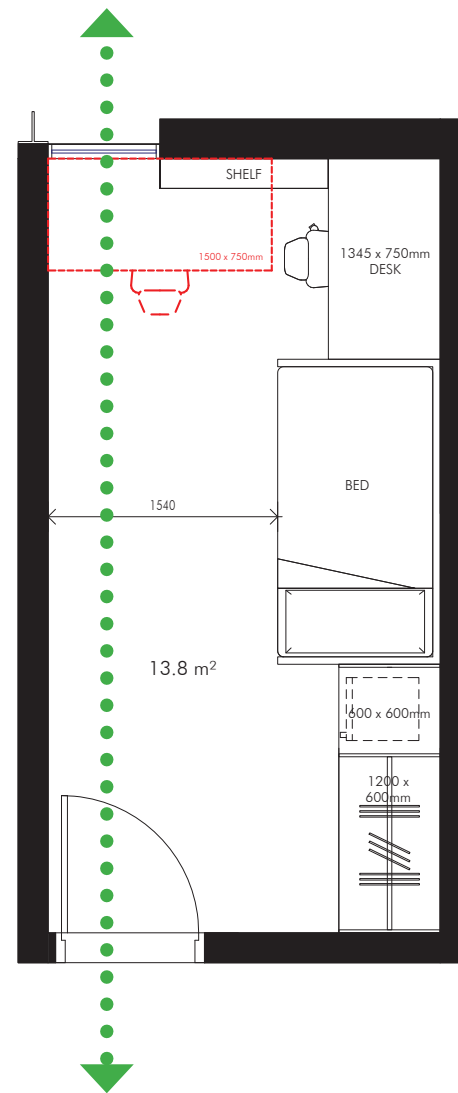
Accessible/ Adaptable Room Layout

Accessible/adaptable rooms shall be provided in accordance with Sydney University DDA Design Standards and Access, NCC, AS 1428.1 and AS 1428.2. The layout shown is the minimum size offered (13.8m²) and shall contain the same functionality as a standard room but within a larger space allowing for the required wheel chair circulation.

It should be noted that based on a total of 656 rooms the BCA standards indicate that 22 rooms are required to be accessible. The University however has adopted a higher design standard that requires 33 rooms to be accessible. The 11 rooms that are over and above the BCA standard requirements shall be adaptable rooms.

Students
can reorientate
their table to suit
their preference.

Spatial
Clarity is
preserved by
maintaining
furniture on
party wall.



Prototyping

Further to the success of the Queen Mary Building , the University has redesigned the basic Queen Mary room prototype to provide an increase in storage, visual aesthetic and the provision of a double rather than King Single bed.

A new 10m2 prototype has been constructed in the outdoor grounds of the Queen Mary building and students invited to review and provide comment. There has been limited reaction regarding the room sizing which while not expansive is more than adequate for their needs with overall feedback being very positive and focusing on functional requirements of ensuring chairs are ergonomic, desk heights adjustable and sufficient storage provision while supporting the University's desire to reduce rents.

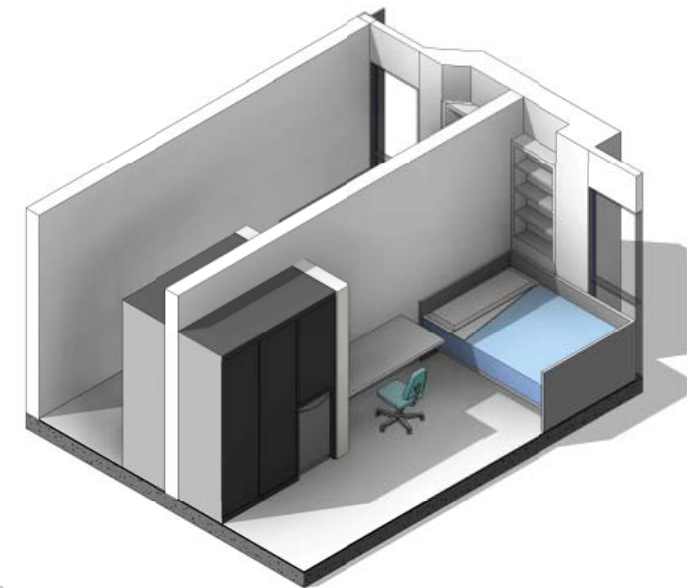
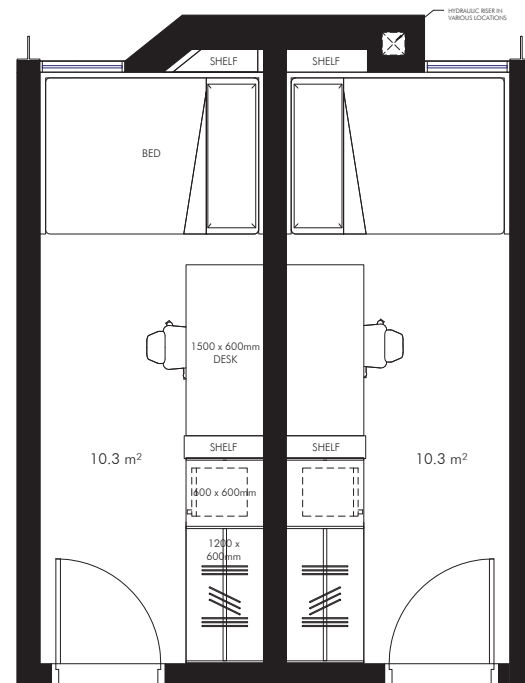
The below visual modelling shows the current design development of the 10m2 room for the Regiment development.

Typical Amenities Provided

- Double Sized Bed
- Study Table + Pin Board
- Overhead Shelves 2.1 m in linear length
- Book Shelving
- Wardrobe of 1.2 linear length
- Pantry unit containing bar fridge



Sydney University Prototype Accommodation Room



Impact of enforcing the 12m2 room size

The University has modelled the project feasibility of a 12m2 room size and dependent on the design response taken would have the following impacts :

Design Response to change to 12m2 rooms	Bedroom Reduction	Rental Rates	Other Affects
No change to current building mass, layouts, amenity	-110	No change	The project is not feasible and would not proceed.
No change to current building mass. Change current layouts, amenity areas	-68	Increase by 15%	No Scholarships to be offered, loss of all on floor flexi-spaces which are the most heavily used rooms according to space utilization study.
Change current building mass with increase GFA	No reduction	Increase by 20%	No Scholarships to be offered, additional floor up to CIP height limit – the current design sits one floor below the allowed limit. Cost of the overall project will increase.

Student Accommodation Services

For students living in on campus accommodation, the residential experience is a significant part of the University's undergraduate education. It extends beyond the lecture theatre, and encompasses more than a safe, affordable bed. Research has shown that the first year of University is critical in relation to whether a student will pursue completion of a course, or drop out prior to course completion. Quality services and programs addressing a sense of belonging, safety, social integration, engagement with study and broader life on campus, and exposure to new people and ideas, are all factors that the University of Sydney's Student Well Being program encapsulates to ensure that students thrive and can have an exceptional university experience.

The University's affordable student accommodation program is therefore an instrumental component in ensuring the retention of students on campus as well as supporting the University's success in education outcomes.

The University has a dedicated department Student Accommodation Services (SAS) that has developed and delivers this program, as well as providing other initiatives including financial assistance, a direct student feedback line, and support service for Aboriginal and Torres Strait Island students.

For clarity, the University:

- funds, owns and manages its accommodation facilities;
- directly controls student applications for accommodation via its in house applications portal;
- provides the operating framework, delivers the Student Well Being programme and oversees the specific residential life programme within each accommodation facility;
- funds and manages a grant scheme for resident suggested activities within its accommodation portfolio for courses, activities and events that align with the University's wider programmes; and
- is the escalation point for all serious incidents, and provides the physical and manned security, at each facility.

In support of the above, the University currently engages a specialist student accommodation operator in the day-to-day running of each facility, reporting back to the University's Student Housing Operations Committee and SAS team. The operator has no ownership of the facility and is simply assisting with the daily tasks of operating facilities of this nature.

Macro Public Domain Strategy

The Macro public domain strategy encompasses the Merewether precinct shown in the adjacent map.

With regards to the Regiment site the key macro public domain strategies are:

- Create a signature gateway building viewed from Newtown along King Street towards the University Campus at the intersection of City and Darlington Road

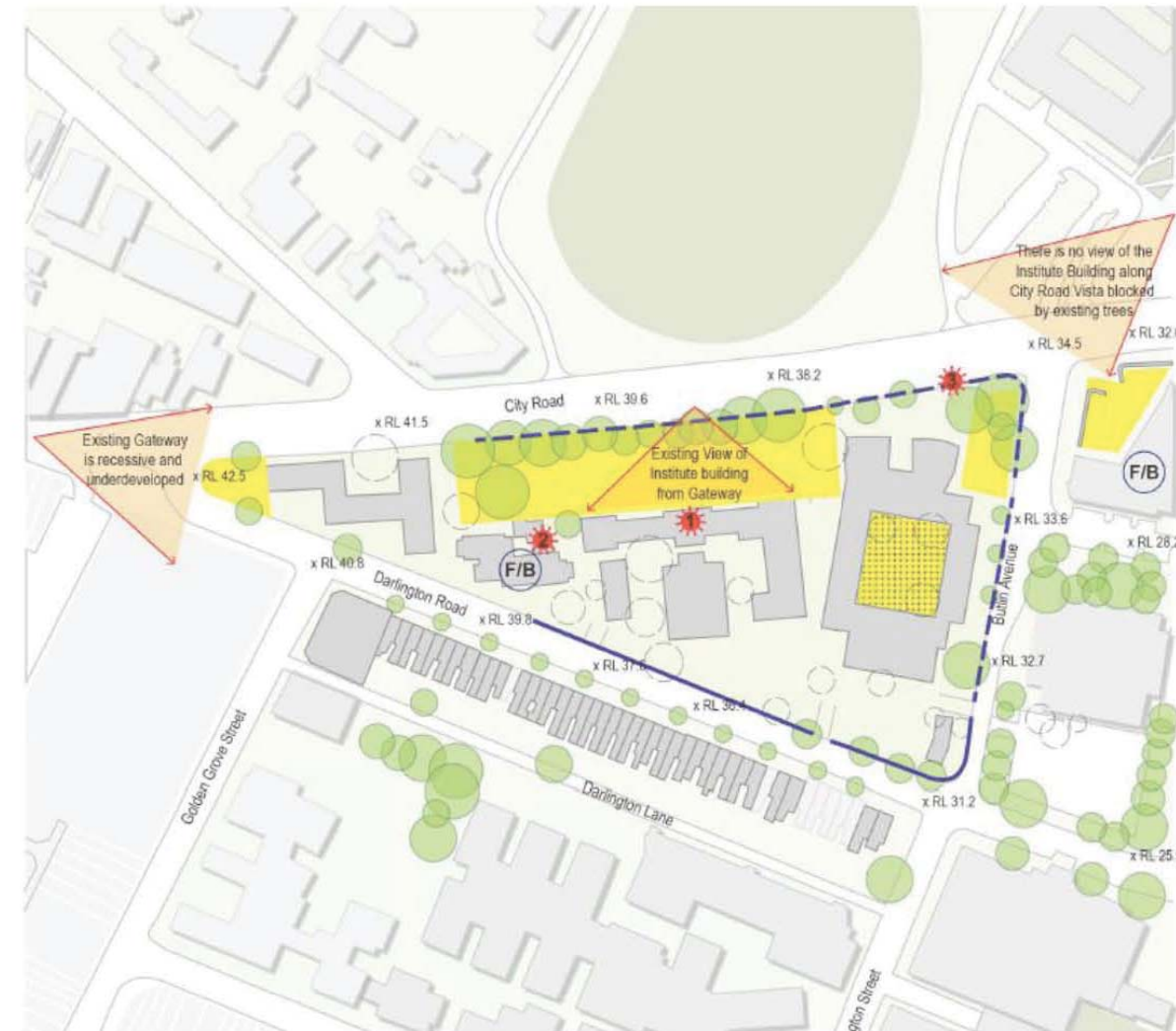
- Protect and enhance the Heritage Significance of the Institute Building and Superintendent's Residence.

- Protect Heritage Palisade Fencing and Heritage Brick Walls around the site.

- Preserve and enhance the existing access and pedestrian pathways around and through the site.

- Integrate the Regiment site with The University of Sydney Campus by upgrading existing links and creating new links ie upgrading links around the Superintendent's Residence and proposing new public through site links.

- The integration of mixed uses around the site including learning and teaching spaces, student accommodation and admin offices.



OPEN SPACE & CONTEXTUAL RELATIONSHIPS EXISTING

-The existing Merewether Public Domain is examined in this diagram with key public domain elements identified. The existing Southern gateway is underdeveloped and will be significantly enhanced by the proposed design.

