



UCD STUDENT RESIDENCES
MASTERPLAN

BASIS OF DESIGN REPORT

27th June 2017

REDDY ARCHITECTURE + URBANISM

1.0 RESIDENCES DESIGN CONCEPT

2.0 PROJECT BRIEF

PROJECT OBJECTIVE

- Maximize capacity (current proposal is for c. 3,000 additional beds taking the total on campus to c. 6,000)
- Provide Student accommodation and Student ancillary facilities to service the needs of the residential student community on a year-round basis, including occasional summer students
- Sustainable Campus Land Use

The development will utilise a range of building heights (up to 10 stories)

Underground car parking to accommodate surface parking

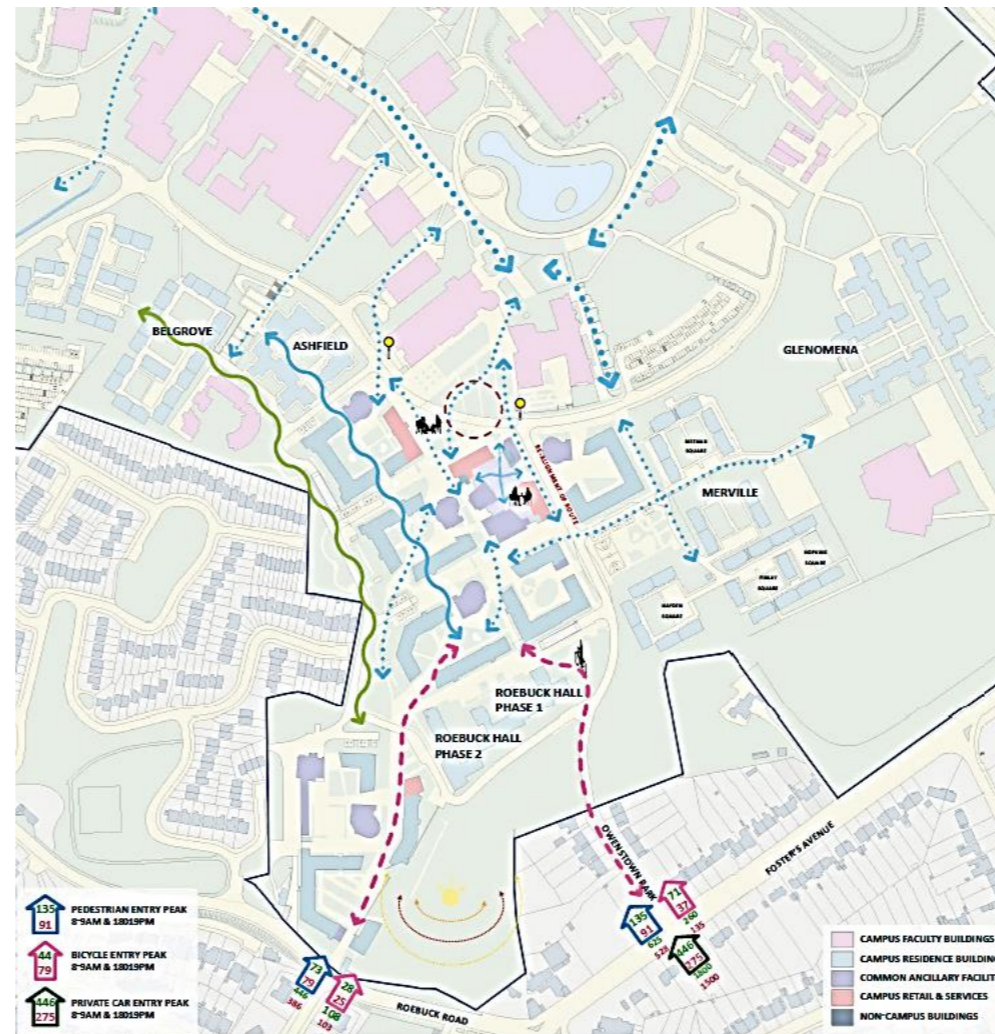
CONCEPTUAL APPROACH

The Masterplan Scheme connects the existing student residence enclaves of Merville, Belgrove, Glenomena and Roebuck with a new series of buildings. The sequence of buildings are generated around courtyards in deference to the context of existing student resident village typologies but interpreted in a modern courtyard residential building form. An emerging residential quarter with a strong identity fronting onto the academic core to engage and address the campus with a new public plaza, meaningful visual and pedestrian connections.

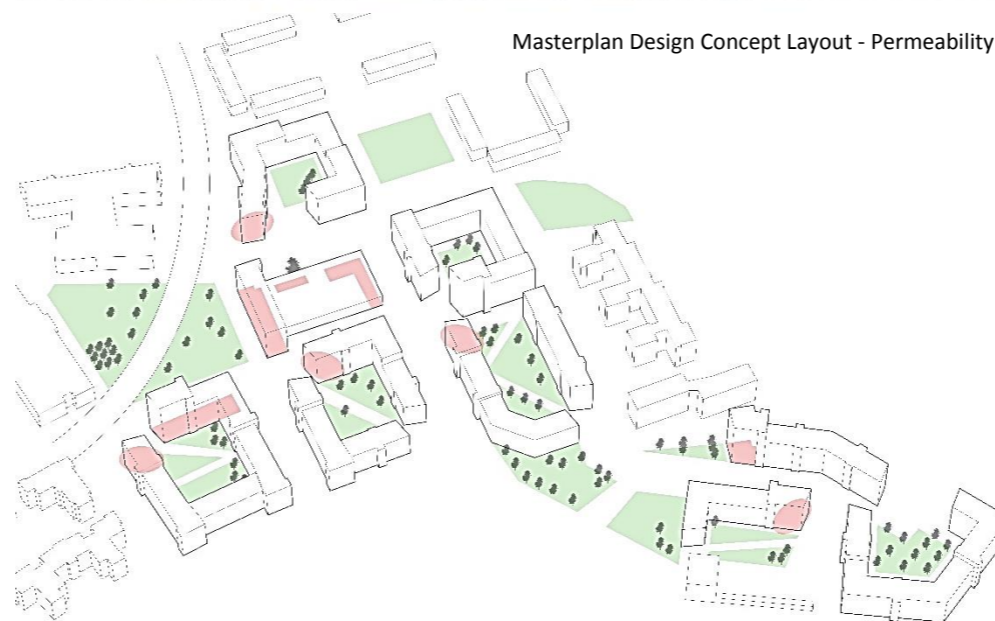
In addition to considering what will make an inspirational living environment for students we have also investigated the more prosaic design constraints which will have a strong influence on the overall built building forms. Based on the UCD brief we have distilled a number of key elements which have shaped the emerging design.

- Adhering to the key organisational principles of the UCD Strategic Masterplan Scheme
- Addressing the campus pedestrian, cyclist and movement patterns.
- Integration with university landscape and open space amenity
- Consideration of how a new campus services centre can be created
- Centrally located public plaza with retail/commercial activity
- Meaningful integration of traditional Academic Core and emerging Residential Quarter
- Development of student amenity hubs and a central student facility – the Fulcrum
- Value for Money & Affordability

When starting to develop the form and massing of our proposals we have tried to build upon the UCD campus building grain and successful student residence villages.



Masterplan Design Concept Layout - Permeability



Masterplan Design Concept Layout – Amenity Spaces

Defined edges

The edges of each village are clearly defined within the Urban Form to provide enclosure to the adjacent campus spaces and reinforce passive overlooking and security

Courtyard Spaces

The courtyards of the residential blocks are conceived as amenity gathering spaces and students will be encouraged to linger by provision of appropriate seating, shelter, lighting and activity and by appropriate adjacent uses. We believe that the courtyard spaces will be one of the main defining features of the developing phases of the masterplan scheme so we are eager to make these public realm spaces as generous as possible in order to maximise light penetration. We have increased the size of the courtyard space to 35 -40m wide, which is 10m wider than the existing courtyards spaces on campus.

Connections to the Wider Masterplan

The Urban Grain must support the range of student who live on the campus, their activities and movement. A significant degree of permeability, leading pedestrians to and through a range of distinct, discoverable spaces is a core requirement of our Masterplan. The positions of routes through the scheme's courtyard spaces have been closely considered and mapped to coincide with the Belgrove phase 2 pedestrian access routes.

Retained Trees

The building forms are influenced by the retention of existing trees -which we see as positive opportunities for the buildings to create a strong dialogue with the landscape.

Building Height

UCD's available land banks are precious. The most sustainable use must be made of the University's available lands to ensure the green campus landscape character which defines it is not eroded with poor use of land to meet immediate needs.

The Student Residents Masterplan has sought to maximise the available sites with high density building forms. The heights have been considered with regard to overlooking, proximity to adjoining residential context and the topography of the site.

3.0 RESIDENCES DESIGN CONCEPT

4.0 FUNCTIONAL BRIEF

BEDROOM NUMBERS REQUIRED

- Maximize capacity (current proposal is for c. 3,000 additional beds taking the total on campus to c. 6,000)

STUDENT SERVICES

- Ad Astra Scholars, Practice/Music Rooms with good acoustic and sound properties
- Student Study Space 24 person
- Breakout Rooms 24 person
- Student Hall 50 person:
- Flexible seating area
- Catering to seat 350
- Fully fitted out commercial kitchen
- Medical/Nurse Area
- Contemplation Space
- Area for pastoral care and counselling
- Community Liaison Area
- Catered Laundrette
- Parcel Drop Area
- Gym
- Maintenance Support Office
- Administrative and Contact Centre:
- Central Comm's and DVR Hub

The functional brief can be divided into two sections. The residential bedrooms/living spaces and the ancillary support services which serve the student residents. This includes administration and support services as well as student amenity and study facilities. One of the key design concepts has been to locate these facilities locally to each building and also in a central large student facility building.

As UCD strives to achieve a district residential character, the proposed schemes are in keeping with the UCD Campus Development Plan in terms of aesthetic and design language.

It is UCD's expectation that this project will deliver a design of high quality and architectural merit, providing university, student residential and community facilities.



Student Amenity – Study



Informal seating



Communal seating



Student Amenity – Semi Private Study



Group Study Informal seating



Study Pod's

Student Residences Amenity Spaces

5.0 RESIDENCES DESIGN CONCEPT

6.0 MASTERPLAN CONTEXT

MASTERPLAN CONNECTIVITY

The design strategy of the Masterplan aims to create a residential and mixed-use environment offering a strong identity and sense of place based on an interpretation of UCD culture.

The new Student Residential Quarter is envisaged to strategically link all the residences and at the same time provide all the needed supporting facilities to resident students.

The connecting node at the intersection of the academic core and the residential quarter is a suitable location to locate a vibrant series of student services, including public realm, shops, bank, post office and restaurant's.

The access ring road in the campus has been heretofore a limiting factor in expansion of the campus. This is now re imagined as a street with vibrant and active frontages which engage and identify with the flow of pedestrian movement across the campus.

A series of courtyards created by individual residential buildings to complement and connect with the Belgrove, Glenomena, Roebuck and Merville Residential communities

Pedestrian movement patterns are facilitated by encouraging walkways through the courtyards as well as around the buildings

The plaza which is bisected by the road will offer traffic calming and ensure a shared surface for pedestrians and traffic alike.

This new Student Residential Village is located South West of the centre of UCD Main Campus, envisaging c.3,006 residences at approximately c.92,519m²



7.0 RESIDENCES DESIGN CONCEPT

8.0 MASTERPLAN CONTEXT

MASTERPLAN DESIGN CONCEPT

A series of courtyards created by individual residential buildings which will complement and connect with the Belgrove and Merville Residential communities

Pedestrian movement patterns are facilitated by encouraging walkways through the courtyards as well as around the buildings

Student Amenities are provided locally for each building cluster (laundrette, lounge space, fitness suite etc)

The student hub facility is located close to the Quinn School of Business and Sutherland School of Law

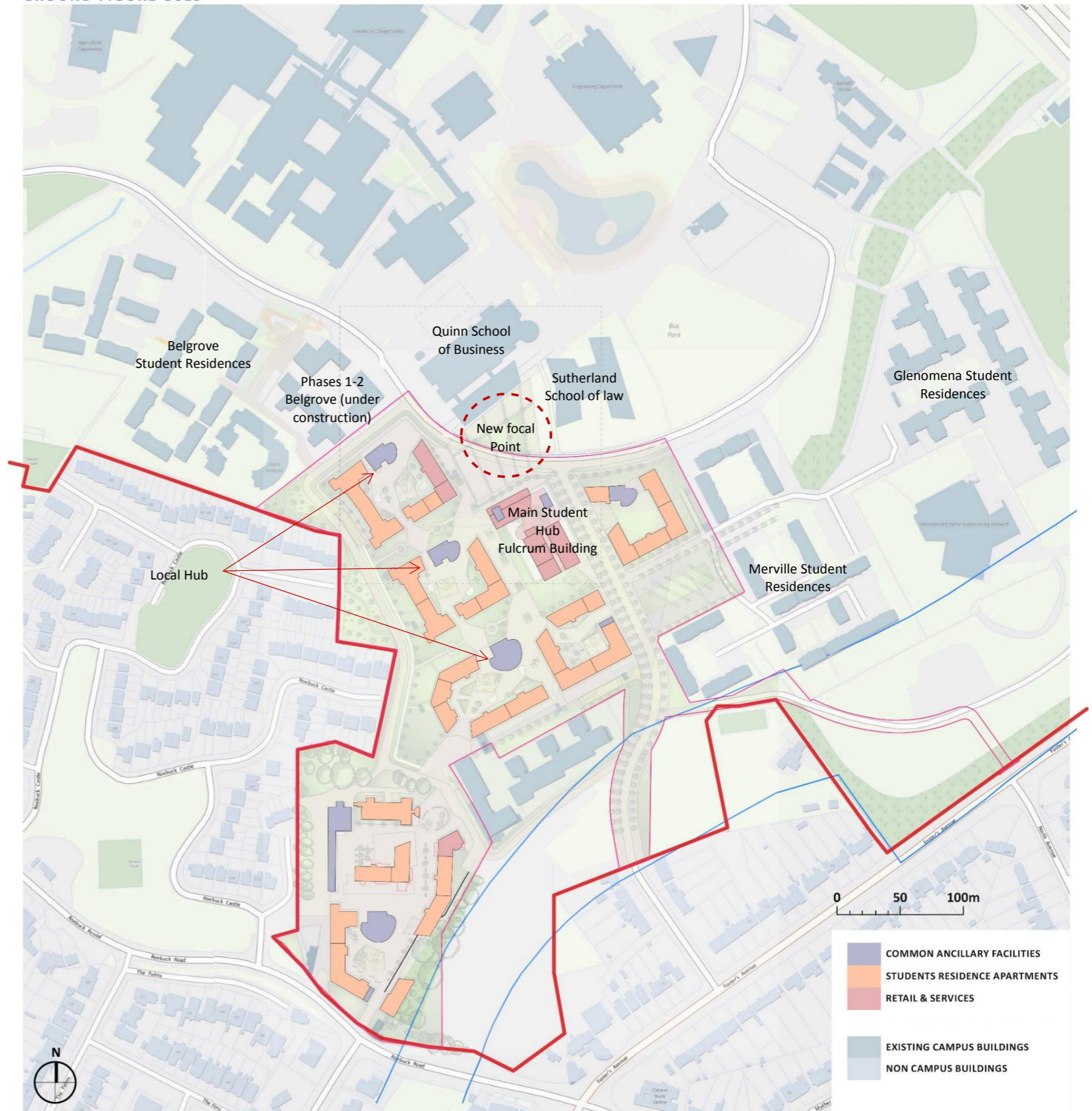
A vibrant public space is created where the residential quarter meets the academic core

The pedestrian will be given priority at this focal point in the campus with appropriate traffic calming measures

Car parking is located in a single storey basement (under 3 blocks only) which frees up the lands for use at ground level as amenity and landscaped open space

Masterplan Design Concept Layout
Proposed Uses

GROUND FIGURE USES



9.0 RESIDENCES DESIGN CONCEPT

10.0 MASTERPLAN CONTEXT

MASTERPLAN DESIGN CONCEPT

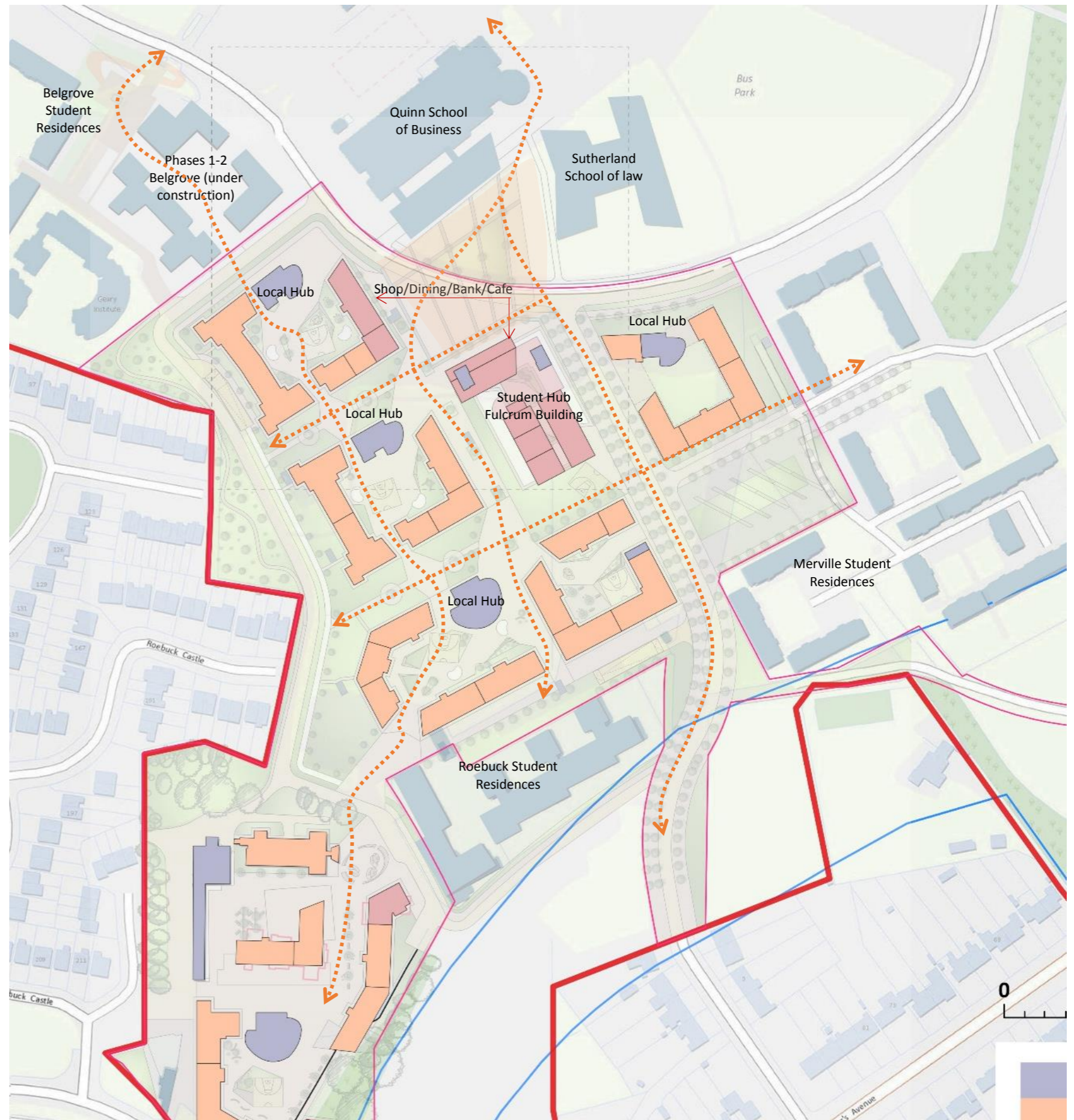
DESIGN CONCEPT

The Student Hub and the plaza provide active street frontage for facilities such as bank/post office/food/beverage facilities etc

This strategic location will serve as an amenity to the 6,000 residents and the Academic Quarter

Social interaction is maximised by the arrangement of the central and local student amenity spaces

Integration with the woodland walk and movement through the campus is a design priority of the masterplan scheme.



Masterplan Design Concept Layout
Permeability

11.0 RESIDENCES DESIGN CONCEPT

12.0 MASTERPLAN CONTEXT

SCALE AND MASSING

Composition of Building Form

The DLRC Development Plan does not have any restrictions on height in the area of the UCD Campus. The UCD Strategic Development Masterplan is not prescriptive in terms of building heights. Therefore we have developed the height strategy for the masterplan in accordance with each buildings immediate context.

The sections below indicate the overall building height guidelines for the Masterplan, illustrating that most buildings will be between 5-8 stories or, where the building is in a location deemed suitable for wayfinding and is not considered to negatively affect the existing context 8-10 stories in height.

These heights will, in conjunction with the proposed urban form, create an Urban Quarter with a distinct character.

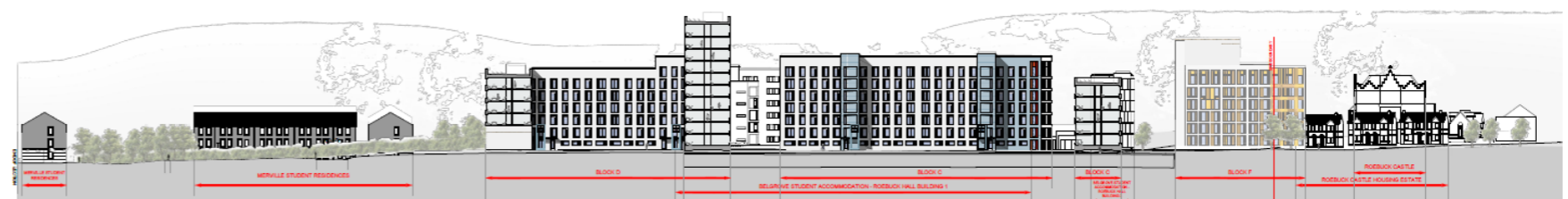
The design of the buildings footprint, height and layouts has been developed to allow maximum daylight to enter buildings, increase the amount of natural ventilation, minimise overshadowing of existing neighbouring buildings, and of landscaped areas, as well as to ameliorate existing wind conditions on site.

The design of the new buildings has been developed to incorporate passive design measures to enhance and maximise sunlight and daylight access

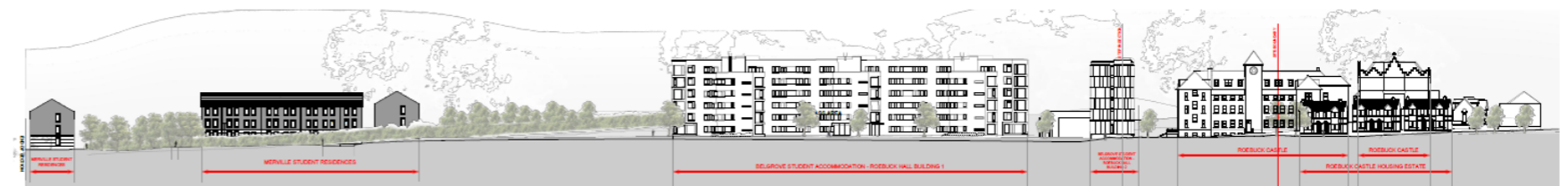
One of the consequences of this approach is that the buildings inevitably become taller. The overall quantum of development will meet expected demand for on-site accommodation for the foreseeable future.

The massing of proposed new residences to the Roebuck Castle and associated outbuildings on the site has been carefully considered so as to not adversely impact on the adjacent protected structures, instead respecting the scale and character of these buildings.

In order to demonstrate that our proposed building heights will not have a detrimental effect on the neighbouring buildings - we have undertaken a series of design studies to model the most sensitive wings - to the north and west - at various heights in order to assess their impact on the surrounding context



Site Section - Proposed



Site Section - Existing

13.0 RESIDENCES DESIGN CONCEPT

14.0 MASTERPLAN CONTEXT

SCALE AND MASSING

Composition of Building Form

Form & Materials

The Courtyard Building Form

The form of the typical courtyard residential building is guided by the functionality of the arrangement of the living spaces and the bedrooms.

We have concentrated on designing a scheme which will enhance the image of UCD and act as an exemplar to future designs in terms of how a student residence building can physically and visually integrate and engage with their surroundings. The buildings are a contextual response to the UCD campus and has also been specifically tailored to UCD's needs.

When developing the form and material proposals for the typical residential buildings form we have responded to the local university context of the green UCD Campus in its natural surroundings. The form and materials respond to this requirement by concentrating on the following principles:

- profile and skyline of the buildings from distance and on approach;
- the interplay of light and shade;
- the relationship and coherence of the parts to the whole;
- consistency and attention to detail;
- the integration of architecture and landscape design
- the use of materials to reflect the surrounding environment.

Massing

The overall form of the buildings aims to provide a unique identity. The concept behind the massing is based on the (literally) central idea of creating a very pure, regular and square courtyard form around which the buildings are set.

The emphasis on creating strong and clear connections between the courtyard and the surrounding public realm, pedestrian movement and existing student villages has resulted in the creation of thoroughfares which ensure that the aspect of the courtyard space is kept as open as possible to daylight and sunlight.

By locating the local hub at the main entrance to the courtyard space, we are ensuring visibility and connectivity to the amenity aspects of the student residences from both outside and inside the courtyards.

Below : East West Sectional Diagram illustrating relative height of existing and proposed buildings across the campus.



Masterplan Design Concept Layout - Composition

15.0 RESIDENCES DESIGN CONCEPT

16.0 PUBLIC REALM

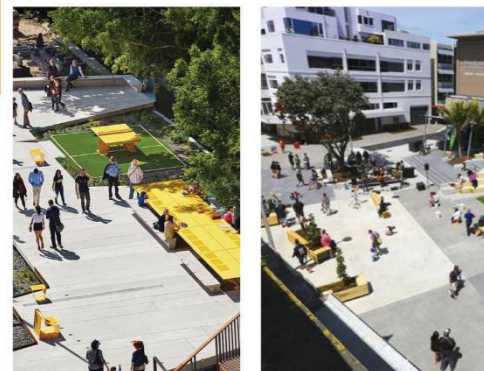
We have sought to support UCD’s aim to create a connected and legible residential student quarter with a clear urban design hierarchy based on vibrant public spaces, active streets and connecting routes along with the incorporation of existing Structures, all of which provides a strong sense of identity and place.

Connections and integration with the surrounding campus fabric are an important part of the key structuring principles. In particular the integration of the academic edge of the campus with the residential character zones which heretofore have been separated by the access road, is now provided with a new public realm and open space opportunity. This plaza can be a new heart to the campus with an active ground floor of cafes, shops and services re located from un suitable locations to a new UCD village square at the centre of the campus.

As well as creating an external publicly-accessible pedestrian route that links the student residences buildings and connects with the campus residential quarter existing and future facilities, this publicly-accessible route also links across the road in a traffic calmed plaza connection to the academic core.

The overall intention of these links is to create a very permeable and well connected sequence of outdoor spaces and public realm connections in the University Landscape tradition

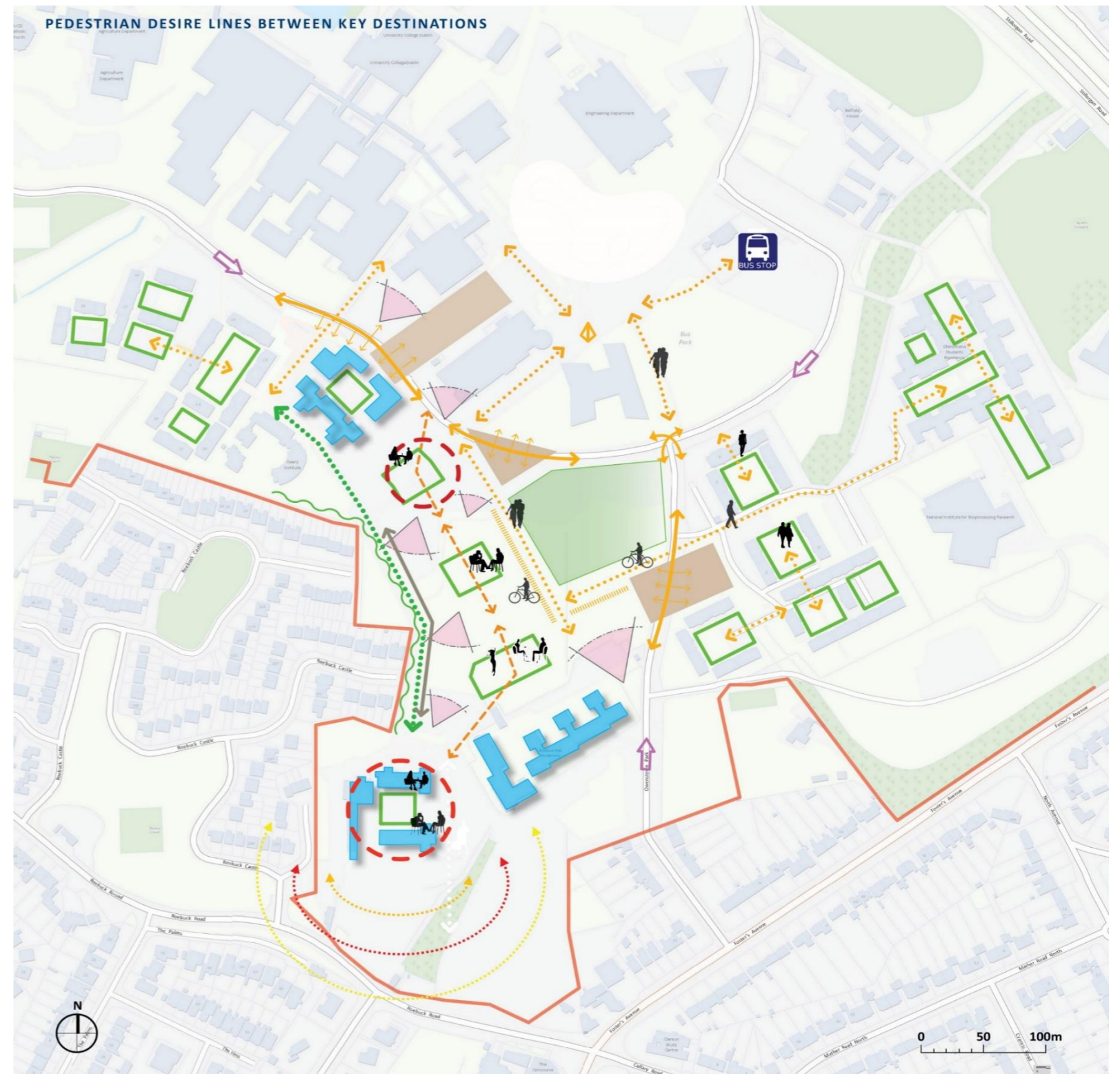
LINEAR RECREATION STREETS



MEETING NODES AND SEATING AREA



MITCHELL + ASSOCIATES



Masterplan Design Concept Layout – Proposed Public Realm

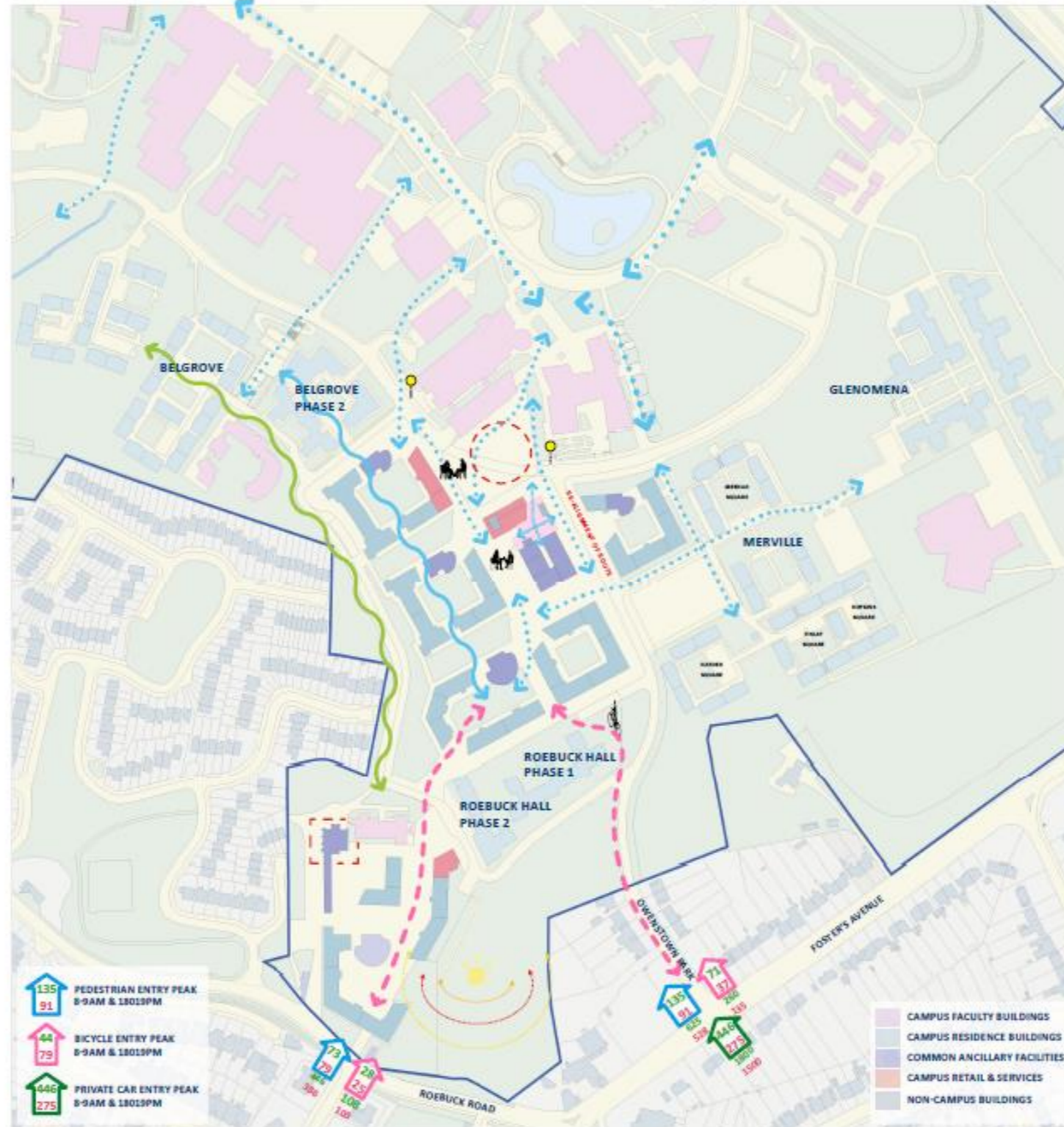
UCD Campus Development

Urban Strategy - Shared Surface Square

COVENTRY UNIVERSITY, PRIORY STREET
Shared Space



UNIVERSITY OF LIVERPOOL, CROWN PACE
Shared Space



ASTON UNIVERSITY, BIRMINGHAM
Shared Space



LIMERICK UNIVERSITY, MEDICAL PIAZZA
Shared Space



UNIVERSITY CONNECTICUT, MANSFIELD
Shared Space



17.0 RESIDENCES DESIGN CONCEPT

18.0 RESIDENTIAL TYPOLOGY

There are a number of Student Residence Design Typologies for third level campus living. The arrangement of the living community on a campus is a function of several factors of which functional design and life cycle cost are the primary drivers. There are various living arrangements which have been prevalent and successful in the Irish University traditions. The UCD brief calls for a mix of these which includes:

- Apartment style Student Living 6,7 and 8 bed apartments
- Halls of residences style living 10-14 bedroom with dining study facilities
- Studio Unit style living 1 bedroom Apartments living

Apartment Style Student Living

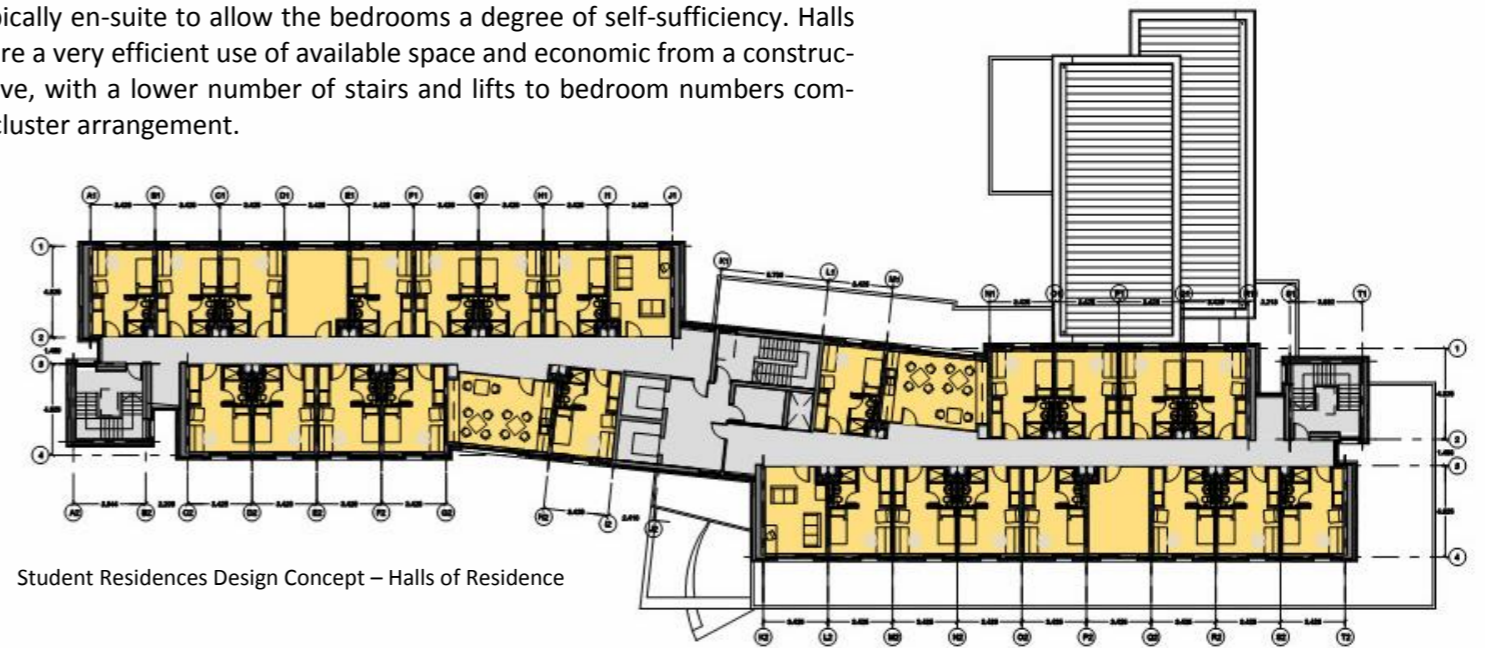
Apartment modules or clusters are typically arranged as 5,6,7 and 8 bed arrangements with living/dining spaces. The bedrooms are typically en-suite to allow the bedrooms a degree of self-sufficiency. Apartment clusters lend themselves to arrangements in courtyard clusters with a lift and stair core location serving 2-3 apartment clusters.



Student Residences Design Concept – Apartment Cluster

Halls of Residence Student Living

Precedent halls of residences are arranged multi bedroom arrangements with living/dining spaces complimented by additional lounge areas and study rooms. The bedrooms are typically en-suite to allow the bedrooms a degree of self-sufficiency. Halls of residence are a very efficient use of available space and economic from a construction perspective, with a lower number of stairs and lifts to bedroom numbers compared with a cluster arrangement.



Student Residences Design Concept – Halls of Residence



Studio Student Living

Residential guidelines for student residences stipulate 25m2 minimum for a studio type unit.

In comparison with allowable studios in the UK and mainland Europe, this size is effectively 2 times the size of the typical single bedroom module and is comparable with a one bedroom unit.

The living dining is co-located with the bedroom unit which is typically en-suite. The overall scale of the unit reduces the efficiency of a layout from a construction and economical perspective when compared with the two former typologies.

Student Residences Design Concept – Studio Plan Typology

| Student Residences Typology | Number of Beds Proposed | Total Beds Proposed |
|-----------------------------|-------------------------|---------------------|
| Apartment Cluster | 2656 | 2656 |
| Studio | 62 | 62 |
| Halls of Residences | 288 | 288 |
| | | 3,006 |

Proposed Mix of Bedroom Typologies

19.0 RESIDENCES DESIGN CONCEPT

20.0 BEDROOM DESIGN

We have carried out a comparison of all the current existing bedroom sizes on the UCD Campus for the purposes of establishing the optimum design for the student residences masterplan.

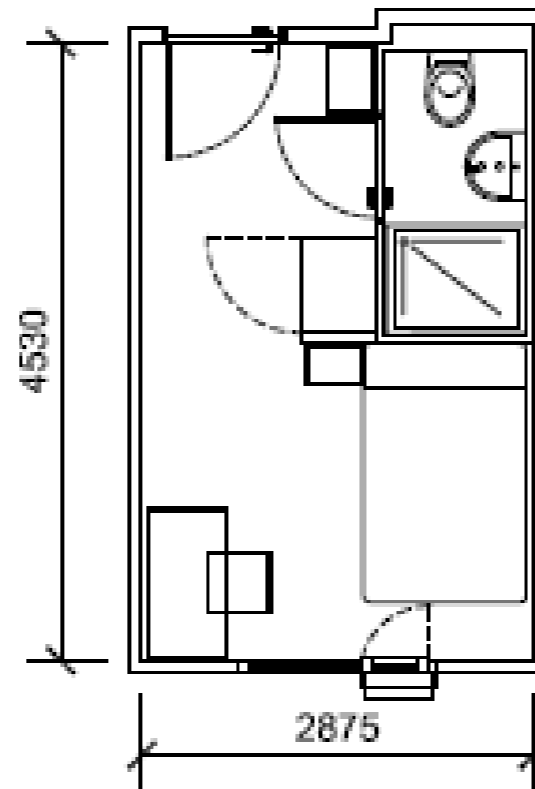
Proposed Bedroom Layout

- Optimum area 12-13m²
- Bedroom depth 2.8-2.9m
- Bathroom area 2.0-2.2m²

The size of a bedroom to comply with development standards (DLRCC and residential guidelines) state a minimum area of 9m² for a bedroom in a residential context.

Student Residence living on the campus has been developed with en suites located in the bedroom unit, which is generally accepted as the most effective and well received design.

In accommodating a twin bedroom size (as opposed to a single bed), storage, study desk and chair an area of 12-14m² is required.



Proposed Bedroom Layout



Design Concept

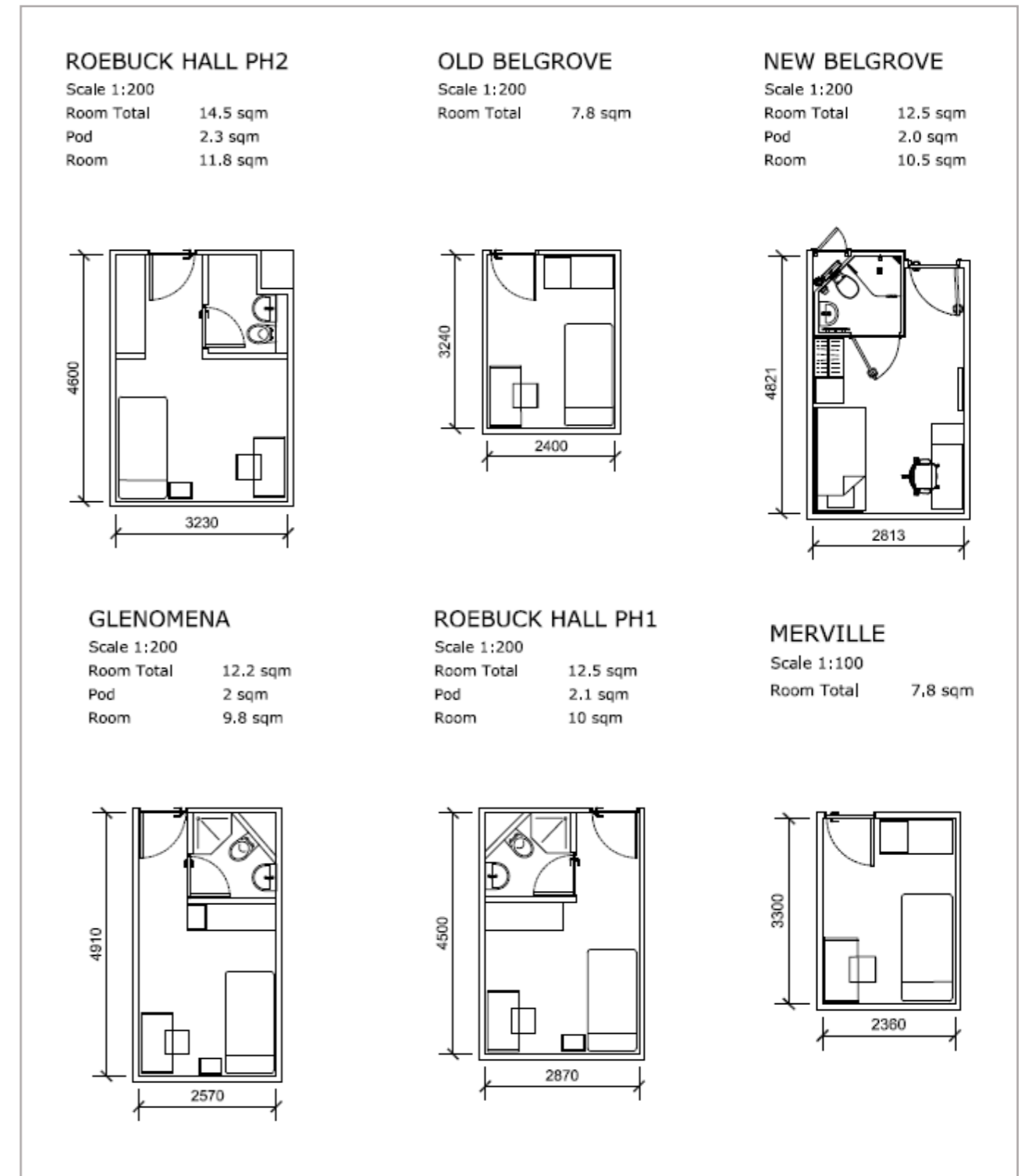
The en suite is located adjacent the corridor wall to allow for ease of access to services and to aid stacking

The Bed head is located to back onto the en suite, housing shelving, storage and power locations for phones etc.

Task chair and desk locations adjacent the window for optimum daylight use

The large window features an opening section with external grill for safety and rapid venting.

Location of radiators and lighting restricted to accessible locations, whilst reducing effects on the spatial demands of the room.



Area comparison of all the current existing bedroom sizes on the UCD Campus

21.0 RESIDENCES DESIGN CONCEPT

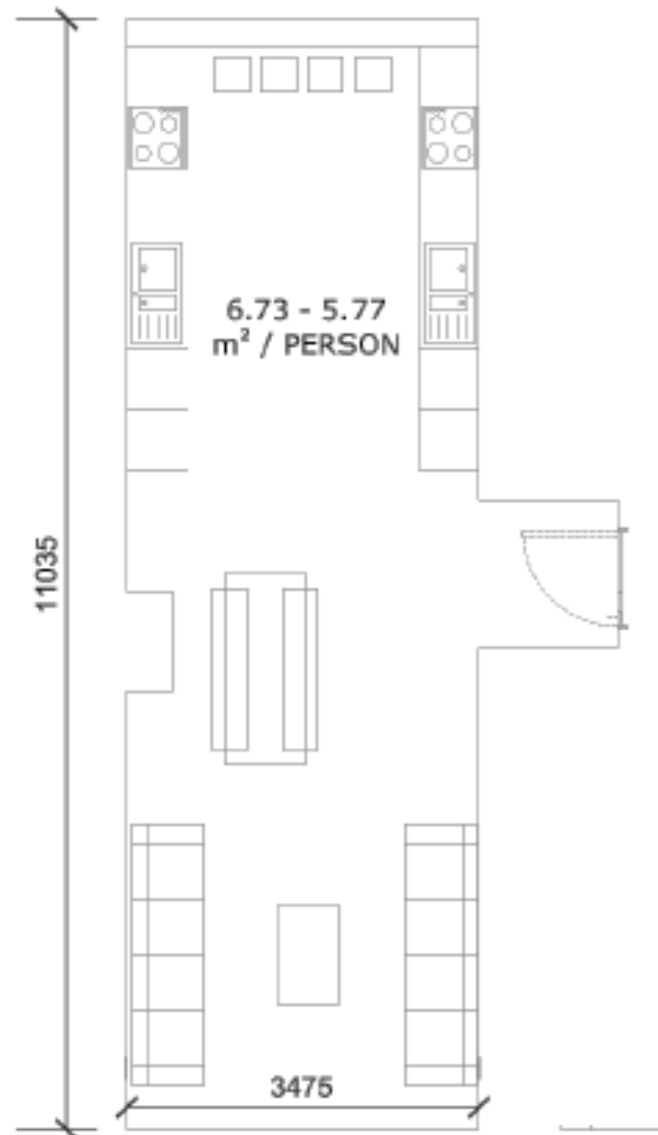
22.0 LIVING AREA DESIGN

Our starting point for the living/dining areas of a cluster has been the functional requirements of modern student living whilst recognising the opportunities which exist to create areas of diverse identity within the familiar design of a “homely” living space.

Proposed Livingroom Layout

- Optimum area 5 person cluster 32m²
- Kitchen/Dining Area 15m²
- Living Room Area 17m²

Proposed Living Room Layout



Design Concept

Rooms must fulfil the basic needs of the student whilst allowing for term/summer uses.

The kitchen is designed to cater for the modern day usage of a unit for a 7/8 bedroom cluster with regard to life cycle and maintenance issues. The developed design considers sufficient storage space to accommodate the following:

- “Tall boy” units for mops, floor brushes and vacuum cleaners
- Fridge space and oven locations
- Screened storage for recycling bins

We have consciously sought to provide distinct areas in the living spaces to accommodate learning outside of the structured spaces and study. Our focus has been on how to arrange the available space to multi task for the changing nature of the environments in which we live, learn and work.

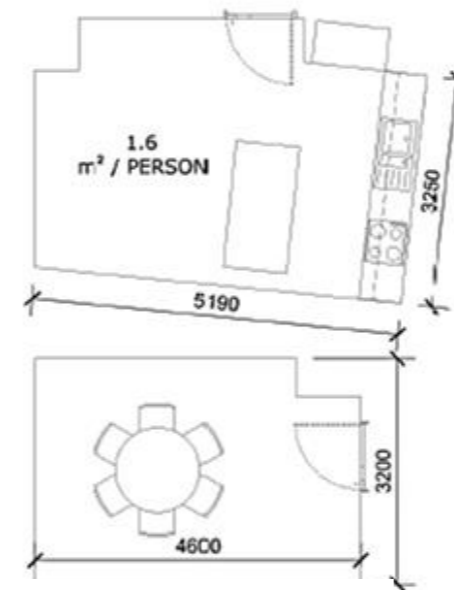
- This has evolved into consideration of multi-use seating for bench style group/individual study and/or dining
- Easy/casual seating for relaxation/study
- Bench style seating for grab and go/breakfast bar/hot desking

ROEBUCK HALL PH2

Scale 1:100

| | |
|-------------|----------|
| Kitchenette | 19.5 sqm |
| Study Room | 14 sqm |
| Total | 35 sqm |

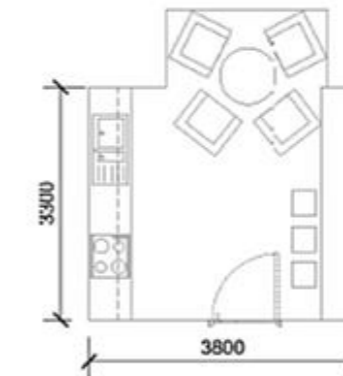
12 BED UNIT



OLD BELGROVE

Scale 1:100

| | |
|--------------|--------|
| Kitchen | 10 sqm |
| Living space | 5 sqm |
| Total | 15 sqm |

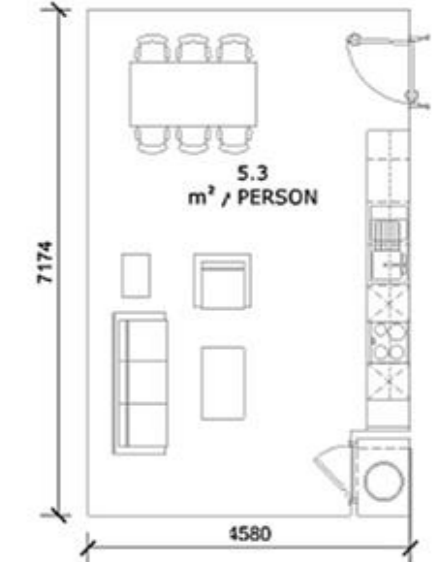


NEW BELGROVE

Scale 1:100

| | |
|--------------|--------|
| Kitchen | 21 sqm |
| Living space | 11 sqm |
| Total | 32 sqm |

6 BED UNIT

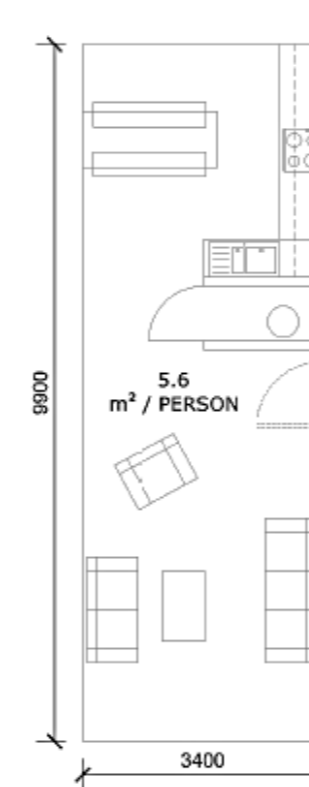


GLENOMENA

Scale 1:100

| | |
|-------------|----------|
| Kitchen | 13 sqm |
| Living area | 19 sqm |
| Room Total | 33.5 sqm |

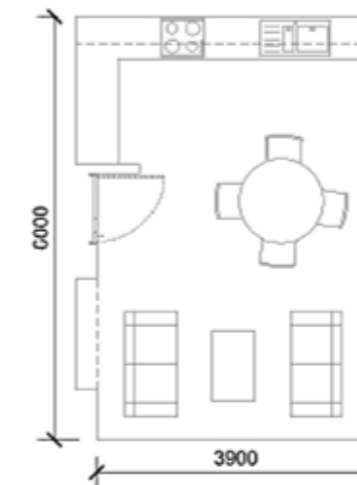
6 BED UNIT



MERVILLE

Scale 1:100

| | |
|--------------|----------|
| Kitchen | 15.5 sqm |
| Living space | 9 sqm |
| Total | 24.5 sqm |

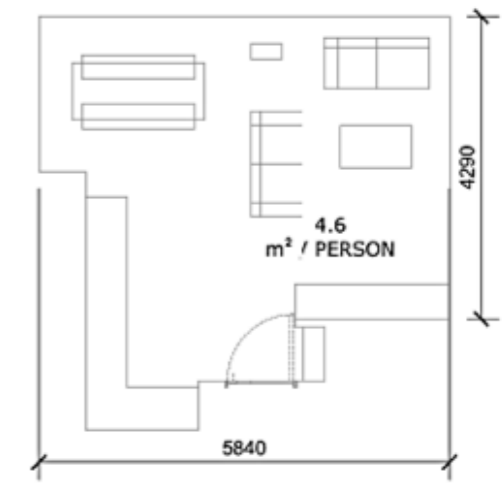


ROEBUCK HALL PH1

Scale 1:100

| | |
|-------------|----------|
| Kitchen | 11 sqm |
| Living area | 15 sqm |
| Room Total | 27.5 sqm |

6 BED UNIT



Area comparison of all the current existing living area sizes on the UCD Campus

RESIDENCES DESIGN CONCEPT

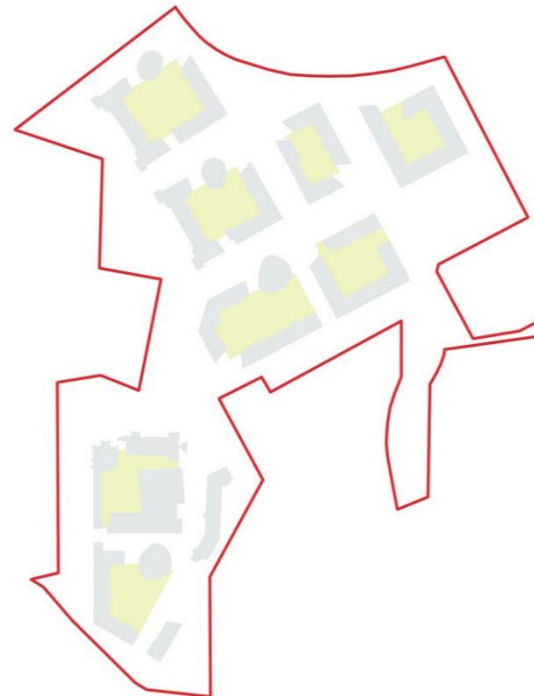
COURTYARD FORM

The courtyards are conceived as student spaces and people will be encouraged to linger by provision of appropriate seating, shelter, lighting and public art and by appropriate adjacent active student amenity uses.

We believe that the courtyard spaces will be one of the main defining features of each building in the scheme so we are eager to make these public realm spaces as generous as possible in order to make them true active heart spaces.

We have increased the size of the central courtyard spaces from the existing courtyard arrangements on campus, partly due to a recognised need to have more active uses in the courtyard and partly to reflect the increased scale/heights of the buildings relative to existing residences on UCD.

The existing courtyard widths are 25/20m. The proposed new courtyards are 35-40m wide.



Design Concept

Traditional courtyard building arrangements are common place in the university campus, with the form providing connectivity and enclosure, which contributes to security and passive overlooking. The scale of the courtyard can vary depending on the internal function of the space. The block width of 12m suggests a 3/4-1 ratio of courtyard width to block depth. We have designed the blocks to have 30 wide courtyard depths.

Fracturing the block

Permeability through the courtyard form is a key element of the masterplan to ensure the tradition of movement to and through the internal spaces make the residences as welcoming and engaging with the campus as possible. The location of the through routes coincides with established and future paths through the UCD campus, such as the woodland walk. Landscaping to the courtyard should take advantage of its sheltered nature and provide amenity for residents, an element of play and engagement. Places to study and sit, but also to take part in group activity.

Opportunity

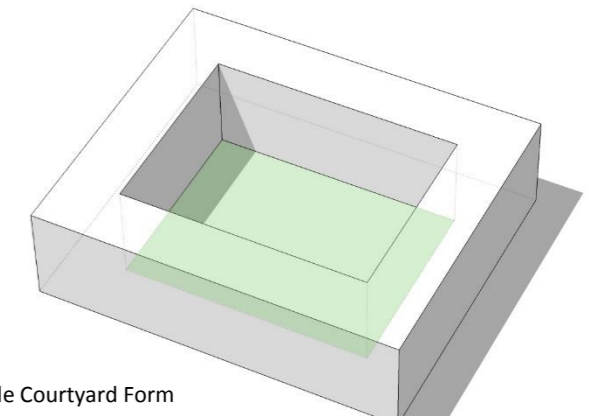
- Creating engagement between clusters of apartments within the block with visual connectivity
- Permeable routes for pedestrians and emergency access
- Definition of hard and soft landscape areas
- Location of entrances to allow the egress routes to be immediately visible
- Logical co-ordination of activity in the courtyard to suit the intended residential use

Creation of identity

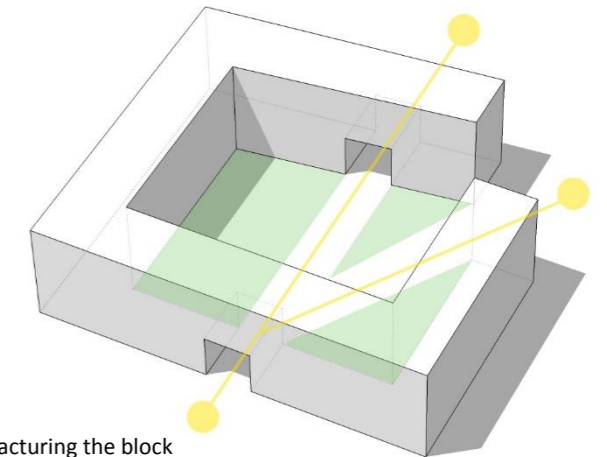
The blocks are designed to relate to existing villages, but the mass and form will primarily be experienced from the main academic campus.

We have therefore widened the block access location at these junctures.

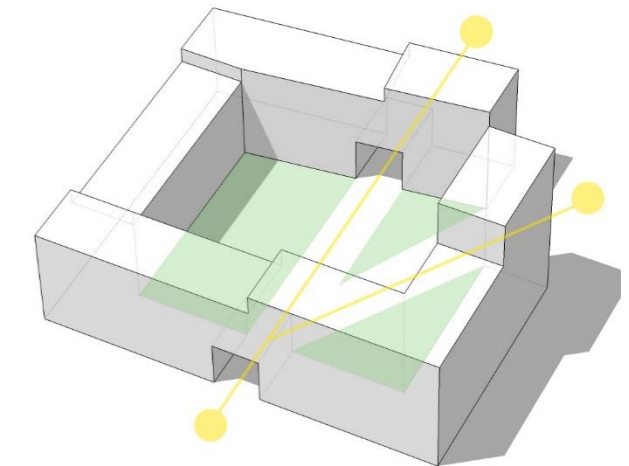
As a recognised main access, visually and physically, the co-location of the local amenity hub at ground floor to cater for study rooms, laundry, activity and break out spaces identifies each hub for the student and visitor.



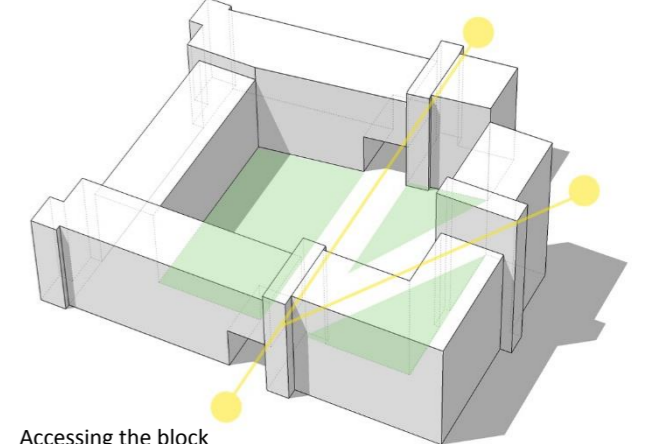
Simple Courtyard Form



Fracturing the block



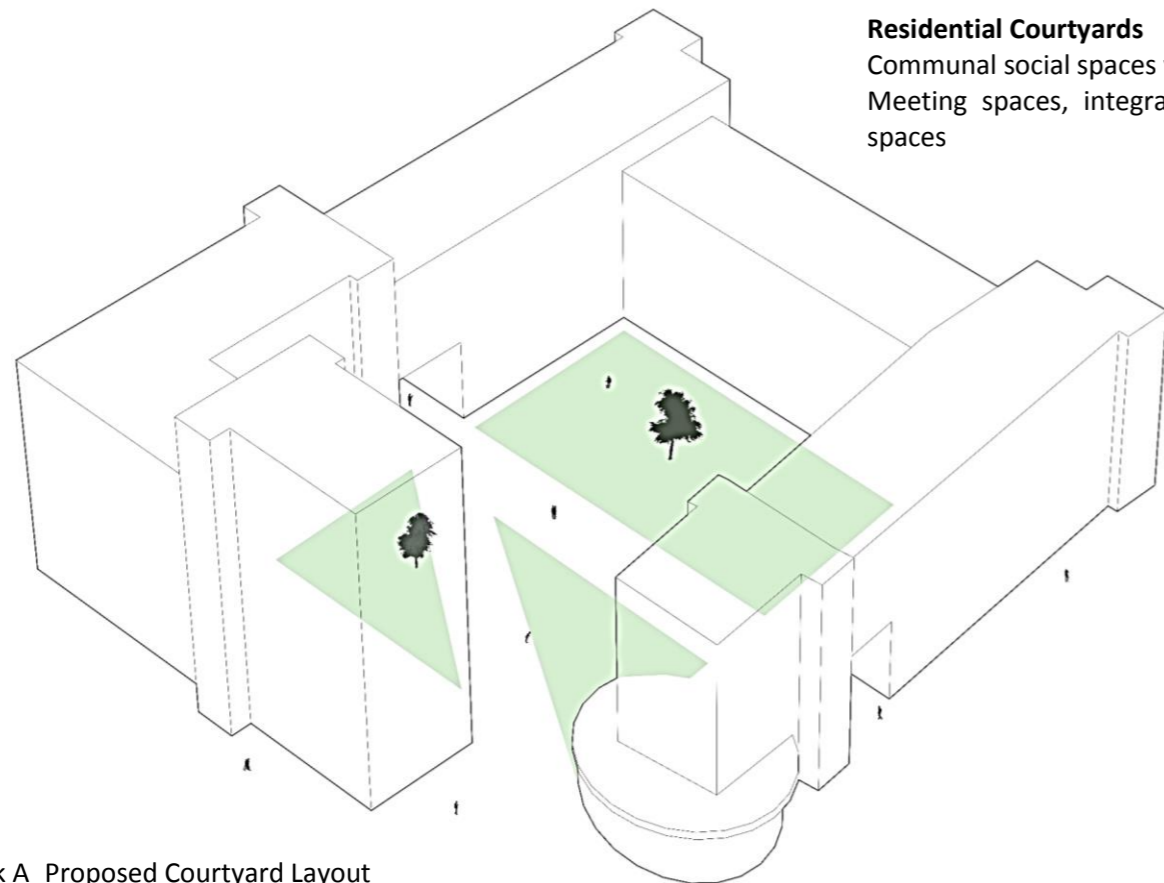
Composing the massing



Accessing the block

Residential Courtyards

Communal social spaces with individual identity
Meeting spaces, integrated seating and amenity spaces



Block A Proposed Courtyard Layout Plan Form

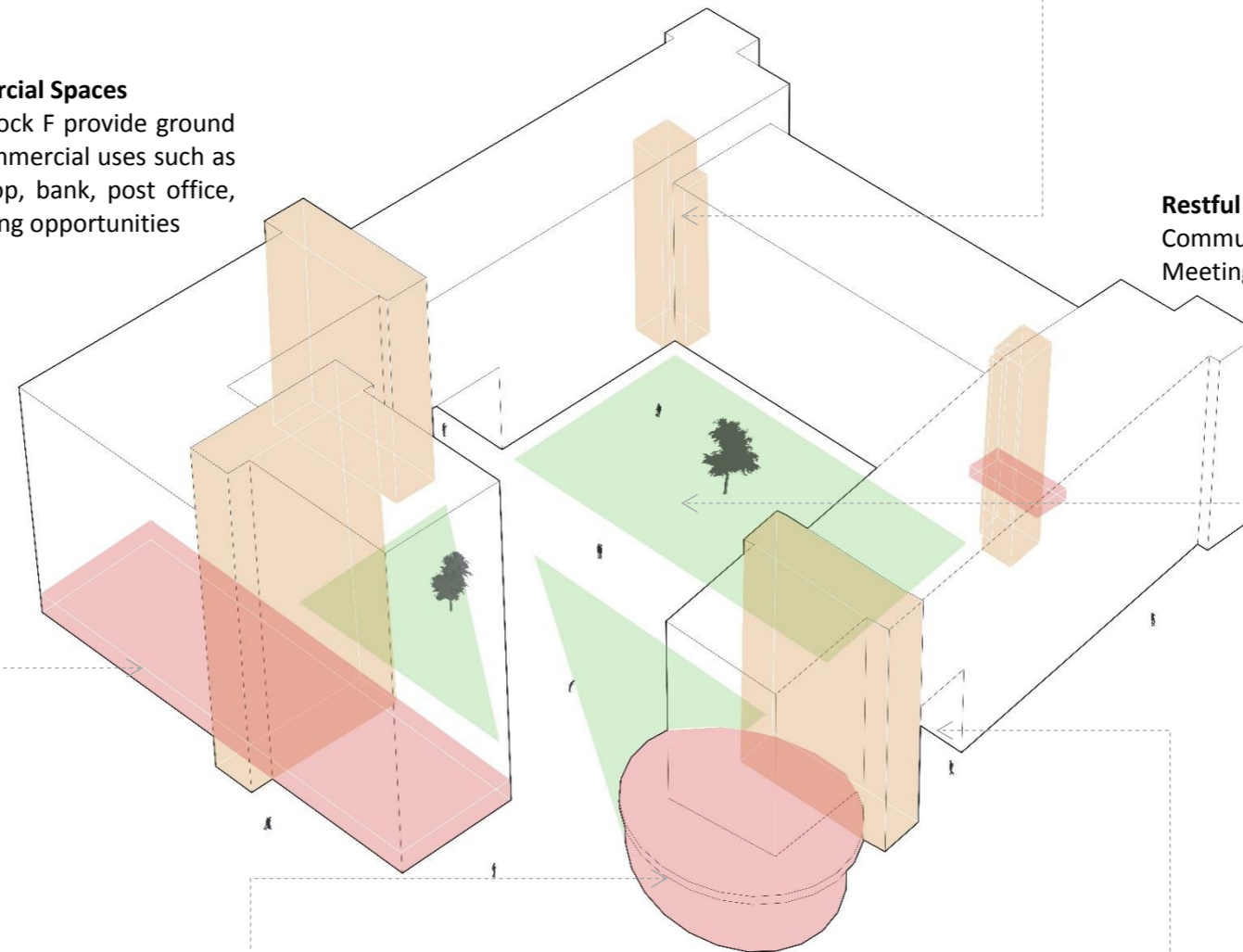
RESIDENCES DESIGN CONCEPT

COURTYARD FORM

The courtyards are conceived as student spaces and people will be encouraged to linger by provision of appropriate seating, shelter, lighting and by appropriate adjacent active student amenity uses.

Retail/Commercial Spaces

Block A and Block F provide ground floor retail/commercial uses such as cafes, bike shop, bank, post office, dining and eating opportunities



Access from courtyard

The entrances to the residences are located off the courtyards to engender footfall and activity. The vertical circulation is easily identified with extensive glazing for visibility/transparency



Restful Courtyards

Communal social spaces with individual identity
Meeting spaces, integrated seating and study areas



Local Hubs

The local hubs provide student amenity such as communal social spaces with kitchenette, laundry, multipurpose rooms, bookable study areas
To engender a sense of community and ownership by the students within each block.

Archways and Permeability

Pedestrian movement through and to the courtyards is facilitated by punching double height entrances on opposing sides of courtyards to compliment the open nature and accessibility of the existing campus student residences

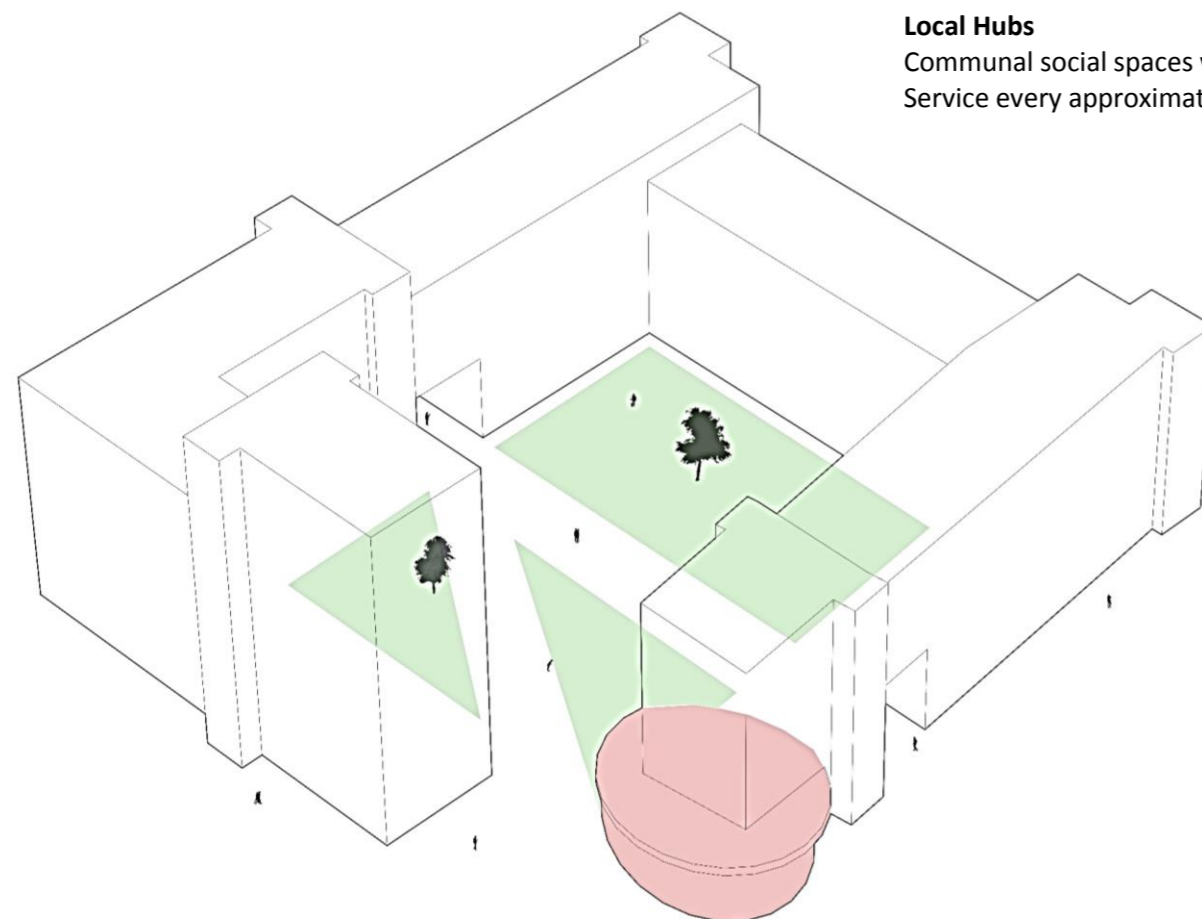


1.0 CREATING A COMMUNITY

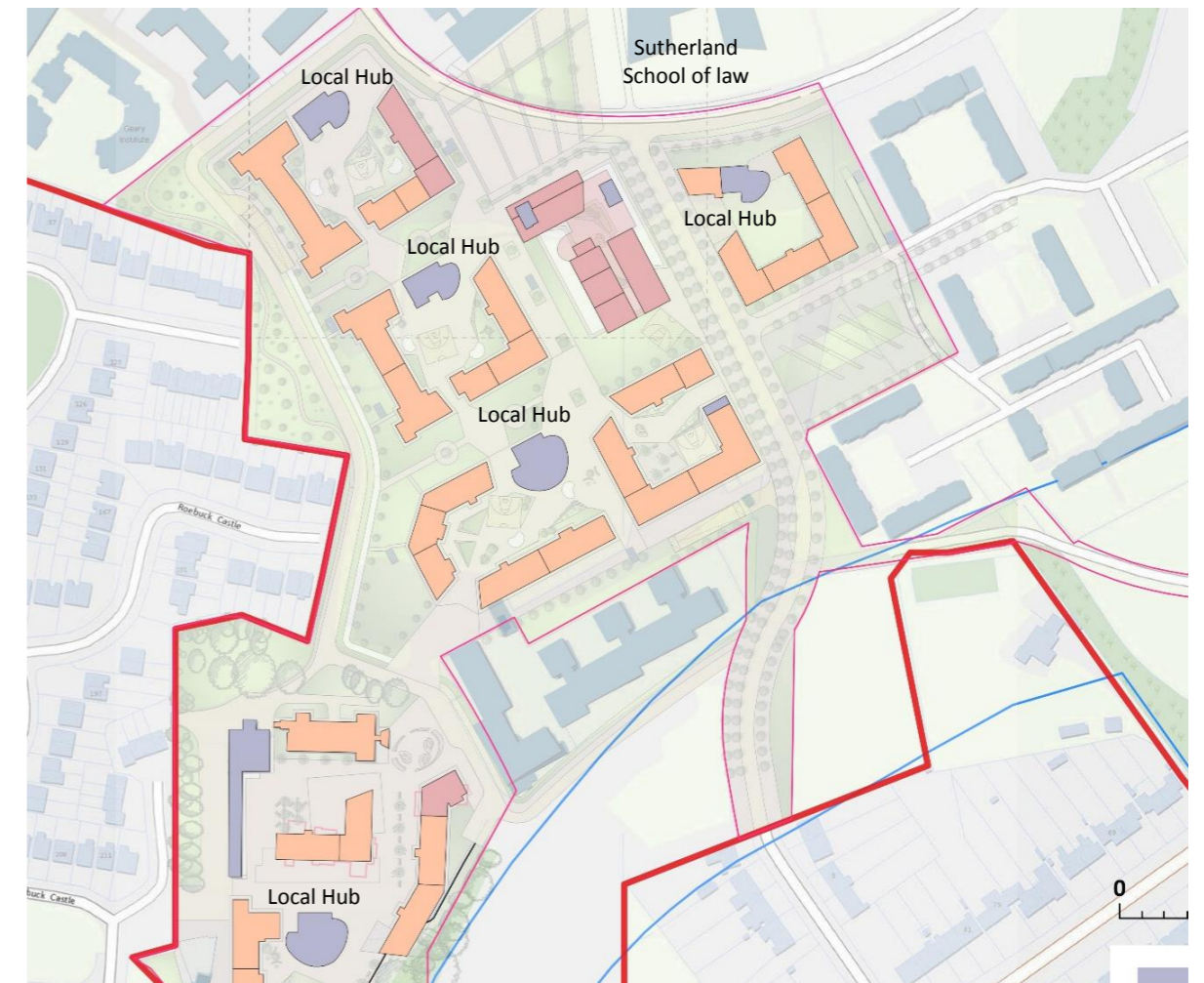
1.1 STUDENT FACILITIES - LOCAL HUB

Each of the local hubs has been designed as a specific contextual response to the neighbouring buildings or public realm. This means that as people move around the perimeter of the buildings and move through the main courtyard spaces, there is always visual interest, as the different character parts of the buildings gradually reveal themselves.

- For instance, the local hubs free form, colour and cladding distinguish it as a destination.
- Located at the entrance to the courtyard, it is a node of interaction.
- Two storey glazing with an emphasis on transparency, the design concept denotes it as a location for information/meeting and amenity.
- In this way both the immediate external spaces will be interesting to look at and move around in.
- Activity will be visible from the residences that overlook the courtyard entrance and courtyard space.
- The inner workings of the building will be revealed as pedestrians circulate around the building



Local Hubs
Communal social spaces with individual identity to Service every approximate 600 bedspace's



Local Hub Concept

Each space is designed as a place with its own unique character that is strongly linked to its student residence context and designed to cater for the requirements of students who simply wish to get out of their bedrooms to study or interact.

The Local Hubs located just off the main courtyard space have different scales of casual seating areas, with appropriately comfortable furniture seating and material finishes selected from a simple palette, in order to create a series of linked informal study and lounge spaces. Sometimes students will want a more casual social environment for very informal study or interaction. This can take place in the local hub space.

Alternatively, other students may want to undertake their informal study in a more introspective type of space. The learning alcoves, bookable more formal rooms are situated along the upper floor or mezzanine space which provide this space for smaller groups or individual study.

Both the ground floor and upper floors of the hubs feature study/lounge spaces which are visually connected. In this way the Hub internal spaces will be interesting to look at and move around in.

2.0 CREATING A COMMUNITY

2.1 STUDENT FACILITIES

The functional brief (see appendix 1) captures a series of space requirements for the student residences consisting of

- **amenity areas for students**
 - Breakout rooms
 - Flexible seating
 - Contemplation space
- **facilities for students**
 - Laundry
 - Catering for 350 students
 - Pastoral care/counselling
 - Gym
- **administration facilities to deliver the service to the students**
 - Contact centre
 - Parcel drop
 - Maintenance support

Design Concept: Local Hub

Each residential building facilitates a population of 400-600 students. In a typical block, we have sought to foster a sense of community by locating a series of essential amenities to each new building in the masterplan. These hub spaces require a considered design approach to the common parts needed to support a complicated social infrastructure for socialising, study and care for hundreds of young people.

These local Hubs house facilities which enable students for the demands of university and life:

- Bookable rooms which can be used for group or preparation of presentations/submissions
- Breakout or casual seating areas, which are specifically designed to ensure individual and group interaction
- Kitchen facilities for dinner parties/social events
- Flexible space/rooms for sub division
- Administration office for student services

Each hub is scaled appropriately to the no of units in the immediate context. Located at the front (facing south to the main campus) of each building, the hubs are intended to signal and attract activity and provide each block with a recognisable transparent form, signalling the communal nature of its intended use.

- A place for students to meet outside of the apartment



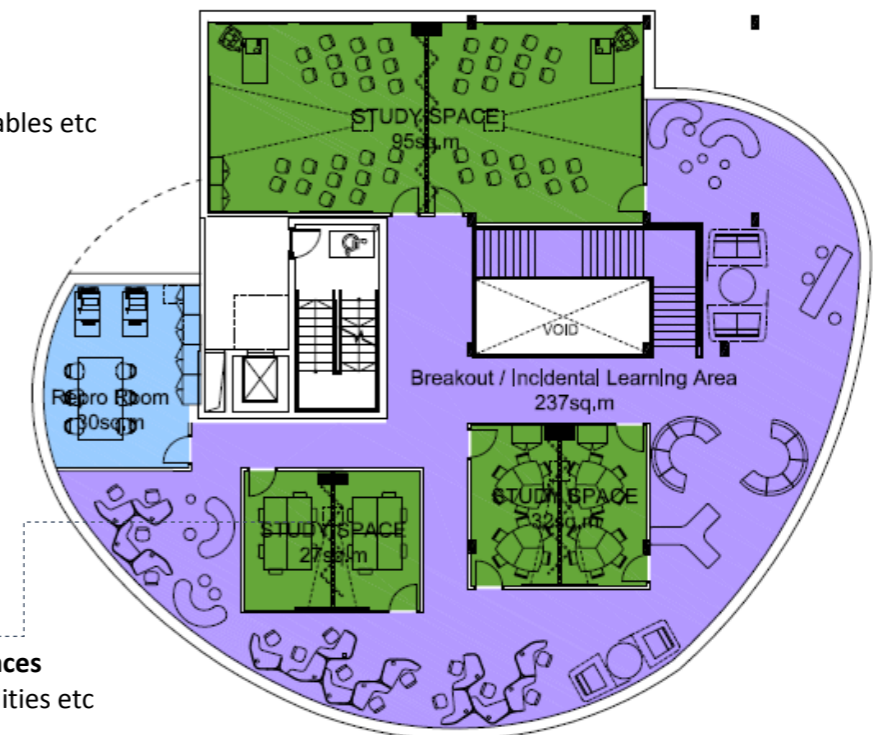
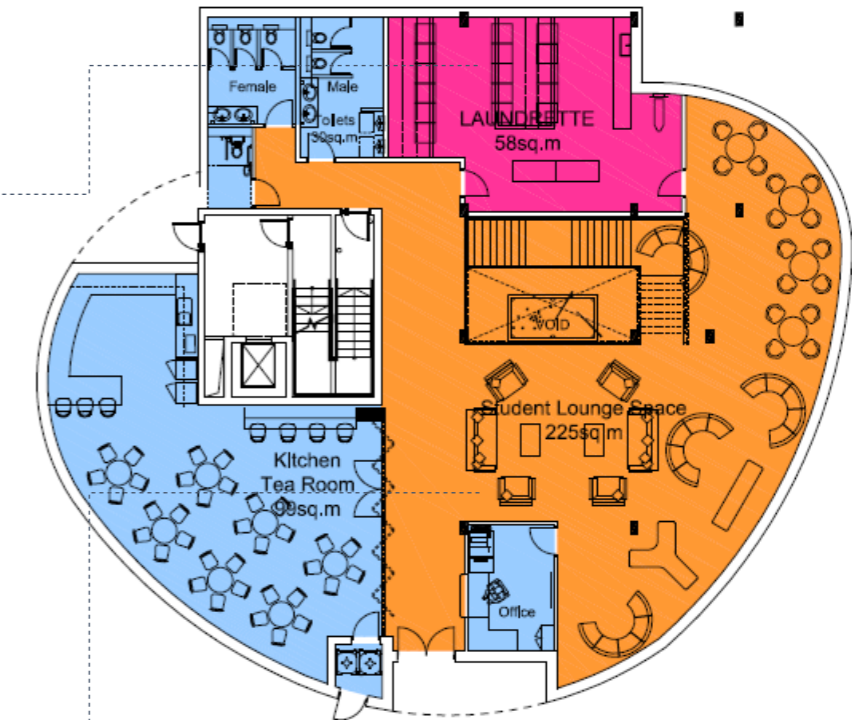
Student Services
Laundry, kitchen etc



Commons/Break-out
Seating pods, study tables etc



Bookable Study/Spaces
Meeting rooms, facilities etc



Local Hubs

Designed over a self-contained 2 storey free form containing services and amenity for the residential block and associated student population

3.0 CREATING A COMMUNITY

3.1 STUDENT FACILITIES – MAIN HUB STUDENT SPACE

Design Concept: Main Student Hub Building – Benchmarking

UCD/Reddy A+U identified the following student residences which represent best practice in international design terms for UCD.

Student Residences London

- Scape Mile end road – 600 bedroom Units
- Purealgate – 750 Bedroom Units
- Nido Kings Cross – 700 Bedroom Units
- Urban nest kings cross – 900 Bedroom Units

These residences consisted of multi storey apartment cluster types with studio design of varying sizes. The amenity available included reception, study areas, breakout spaces, external play areas, laundrettes, parcel drop off.

Student Residences Manchester

- Peel Quarter

This development consists of 2,000 Student bedrooms on Salford University Manchester. The units are in a range of sizes, typically grouped into clusters of five to seven, with shared kitchen and dining areas. All bedrooms have en-suite modular bathroom pods and benefit from queen-size beds and full-height windows. Designed to be built over two phases, the development incorporates social spaces including a cinema room, fitness suite and games rooms, along with a fully integrated management suite.

Student Residences Exeter

- The Forum Building – Student Amenity

The Forum features an extended and refurbished library, new learning spaces, student services, catering and retail outlets, a landscaped plaza and a new reception as part of a £450 million capital investment programme.



Student Residences London – Scape



Student Residences Peel Quarter Salford University Manchester



Exeter University Forum Student Amenity Building

4.0 CREATING A COMMUNITY

4.1 STUDENT FACILITIES – MAIN HUB STUDENT SPACE

Design Concept: Main Student Hub Building

Following a review of the UCD brief for services to the students on campus, various test fit layouts were prepared for how best to accommodate the various and diverse activities.

A masterplan review of the optimum locations on the campus to create synergies with the student residences suggested two locations:

- Roebuck Castle
- Adjacent the Sutherland School of Law and the Quinn School of Business

The Roebuck Castle location provided an opportunity to engage with the existing protected structures with a student orientated facility and centralized hub for dining/shops and study. A key consideration for this location was its unique ambience and semi secluded context which would reinforce the facility as a student residences community facility. However, potentially this could also serve to develop a level of isolation which would contrary to the intended project objective.

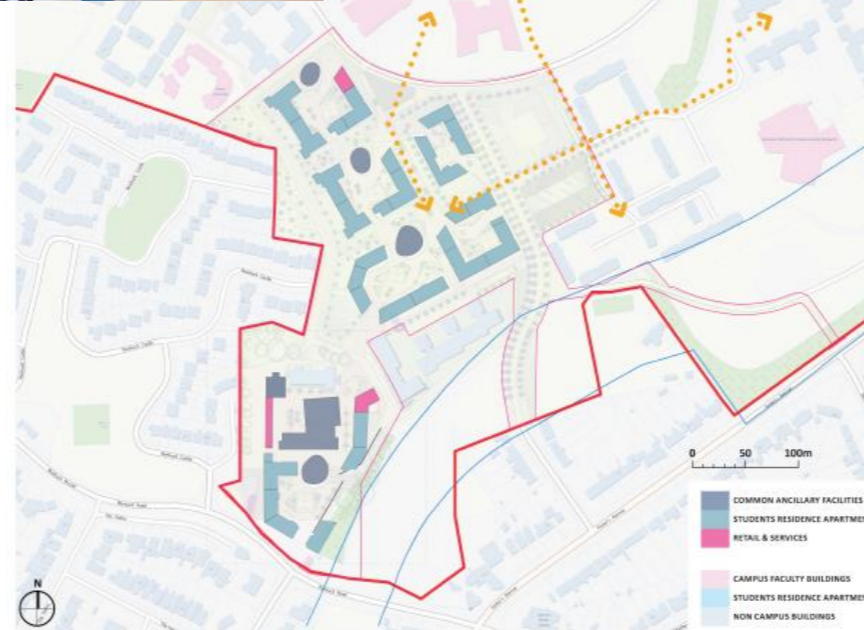
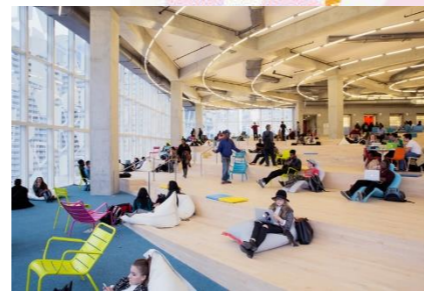
It was considered that the location closer to the academic campus core would provide an opportunity to connect more meaningfully the residential quarter with the academic campus core. A new active campus village which serves the residences but also provides a focus of activity for students in the academic core developed in the analysis of this location.

The immediate and developing context was deemed to be more suitable and conducive to engagement with the main campus and the generation of a “centre of gravity” to underpin the student amenity element of the student residences masterplan.

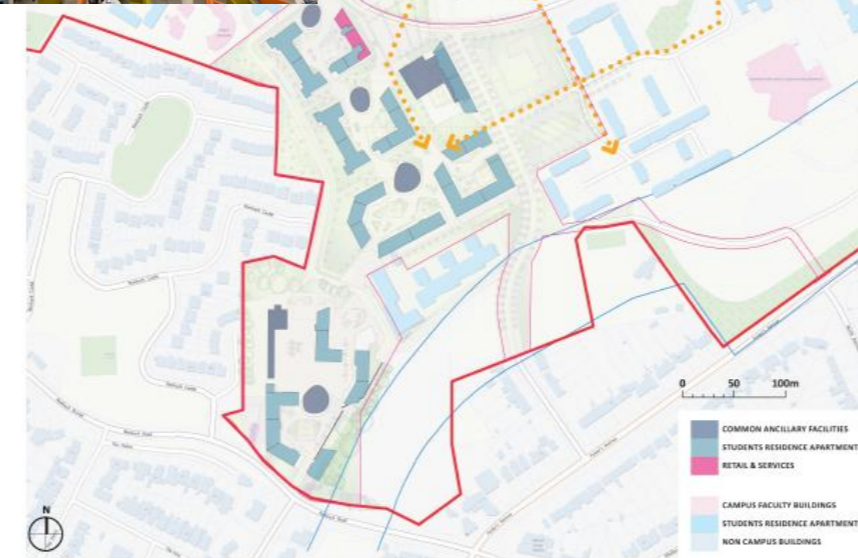
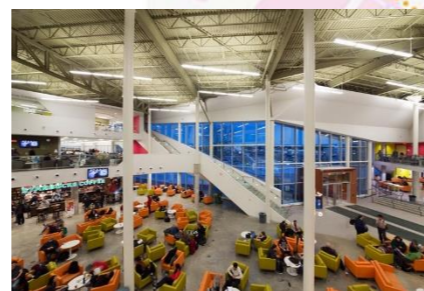
A series of study’s was carried out on how to further animate this location with additional services which existed on campus:

- Shops
- Food outlets
- Bank
- Post Office
- Bicycle Shop
- Copying Centre
- Book shop

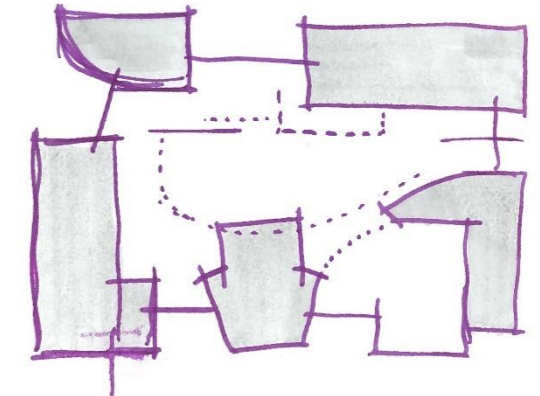
The principle aim to generate a successful student orientated amenity, with a footfall arising from the existing access locations and general location.



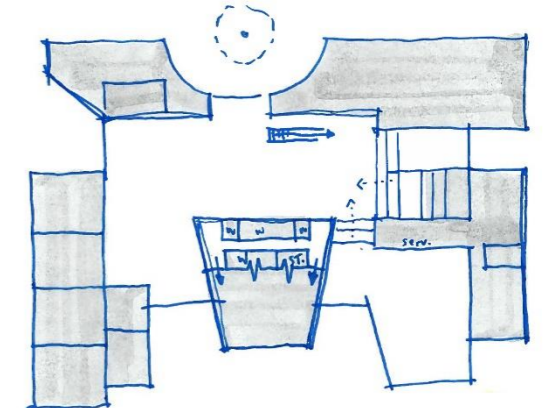
Roebuck Castle Option 1



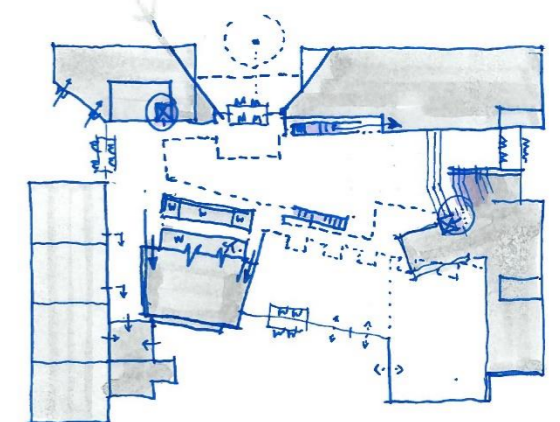
Roebuck Castle Option 2



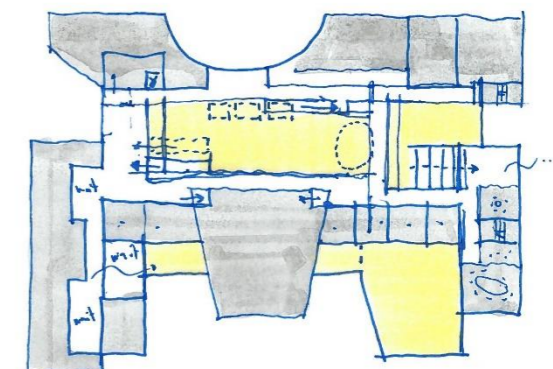
Arranging the forms



Arranging the functions



Opportunity for spaces between



Clarity of movement through

5.0 CREATING A COMMUNITY

5.1 STUDENT FACILITIES – MAIN HUB STUDENT SPACE

As with the Local Hubs, the functional brief (see appendix 1) captures a series of space requirements for the student residences which are more conducive to be clustered together:

- Convenience Store
- Lecture/Performance Theatre
- Practice/Music Rooms with good acoustic and sound properties
- Student Study Space 24 person
- Breakout Rooms 24 person
- Student Hall 50 person:
- Flexible seating area
- Catering to seat 350
- Fully fitted out commercial kitchen
- Medical/Nurse Area
- Area for pastoral care and counselling
- Community Liaison Area
- Parcel Drop Area
- Gym
- Maintenance Support Office
- Administrative and Contact Centre:
- Central Comm's and DVR Hub

Design Concept: Main Student Hub Building

The main hub building functions as a facility for students which enables community life on the campus. It will provide a convenience shop for students, with a range of diverse food offerings located just off a large double height atrium type space.

Seating and study commons area will be located in the main atrium space on the ground floor in a series of seating arrangements, pods, tiered seating etc. As with the local hubs, these will have different scales, furniture settings and material finishes selected from a simple palette, in order to create a series of linked informal seating spaces. Sometimes students will want a more casual social environment for very informal group learning. This can take place in the main lobby area.

The large dining/multi-purpose hall and the performance/lecture theatre will be dynamic forms in the space puncturing the glazing which forms the external skin to the space. It is intended that the internal space will act as an internal street, with the food shops/cafes and convenience shop double fronted, opening into the space and accessed externally.

There are opportunities for locating public art both internally and externally. The public and the students can see the various uses and activities off the main atrium space, with a bar and pop up kiosks providing alternative food offerings into the space.

UCD contact centre, the card bureau, and reception desk will provide information and student services.



Student Services
Reception/
UCD Estate Services



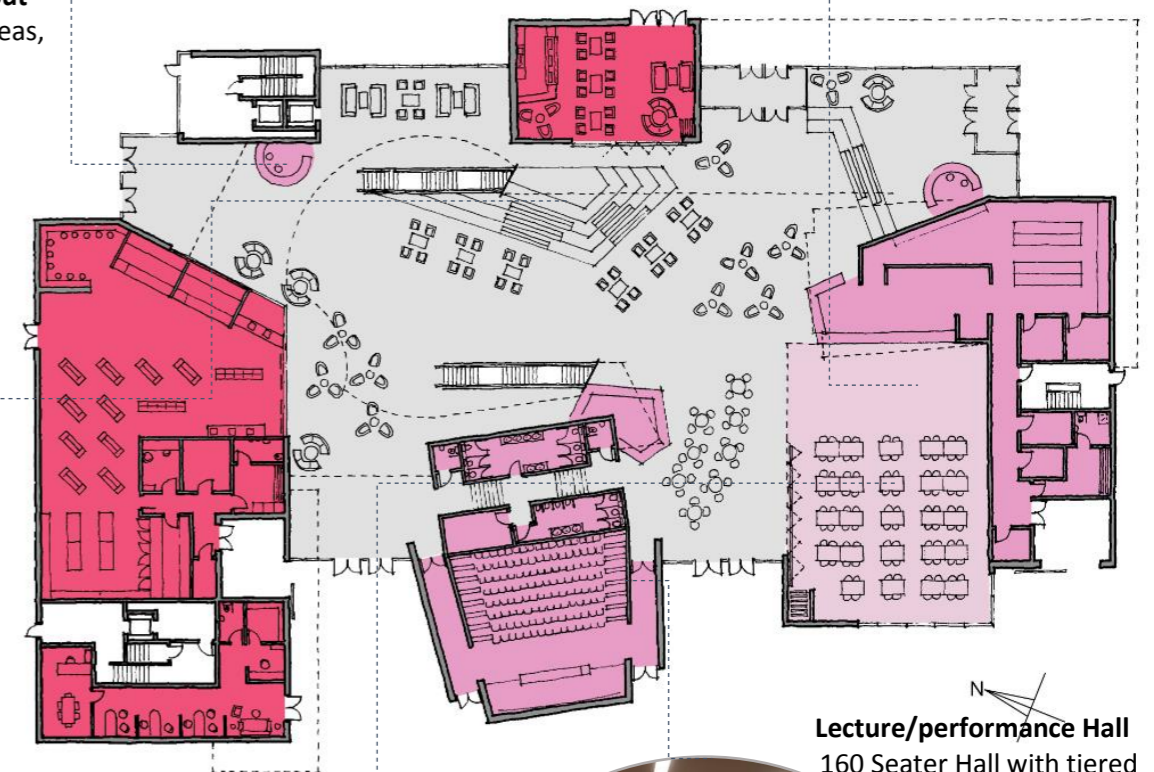
Multi Purposes Hall
Flexible space/Dining hall



Commons/Break-out
Informal seating areas,
shared seating



Shop
Convenience food/
supermarket



Lecture/performance Hall
160 Seater Hall with tiered
seating

Main Hub Building
A building which collects the various
services available to students on campus
under one roof to foster a community
environment on campus

6.0 CREATING A COMMUNITY

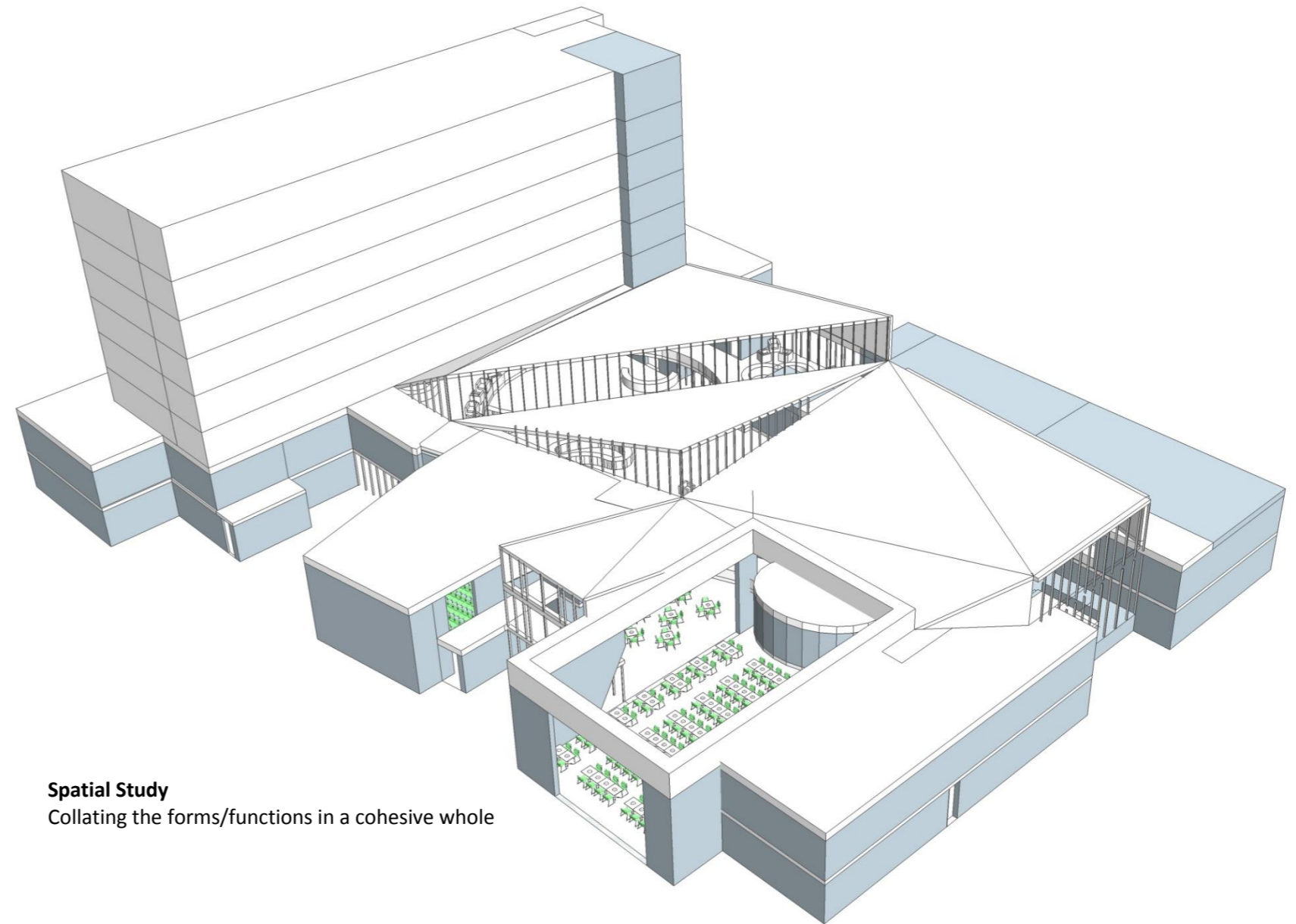
6.1 STUDENT FACILITIES – MAIN HUB STUDENT SPACE

Expressed forms:

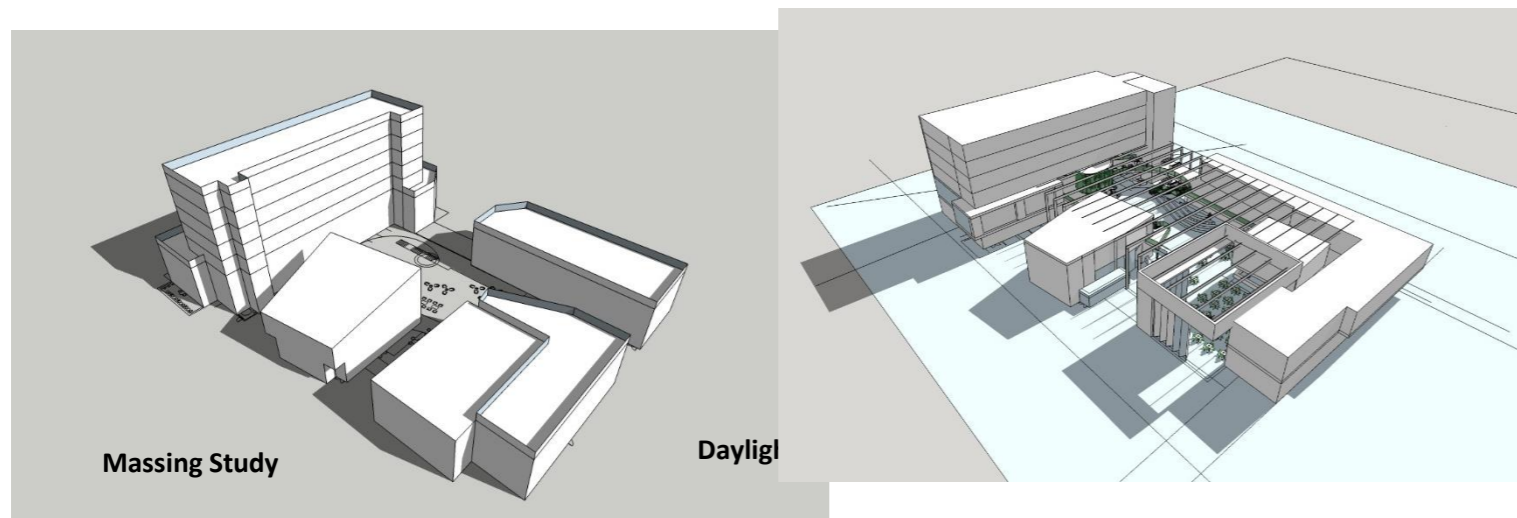
- Dining Hall/Multifunction space
- Lecture Theatre/Performance Space
- Convenience Store/Shops/Dining Opportunities
- Residential Studio Units (Second to Seventh Floor) with extruded stair-cores

Design Concept:

- New Internal Street Connection animated with dining/kiosks
- Servicing to outlets/food/shop units and admin activities
- Creation of light filled internal seating, break out areas and usable external space
- External seating/landscape opportunity's for student amenity
- Animated structure and arrangement of activities defined in Architectural Language
- Structured sequence of attractive forms/massing to reflect the pivotal aspect of the intended function of the building
- Translating the amenity and activity within to the external appearance

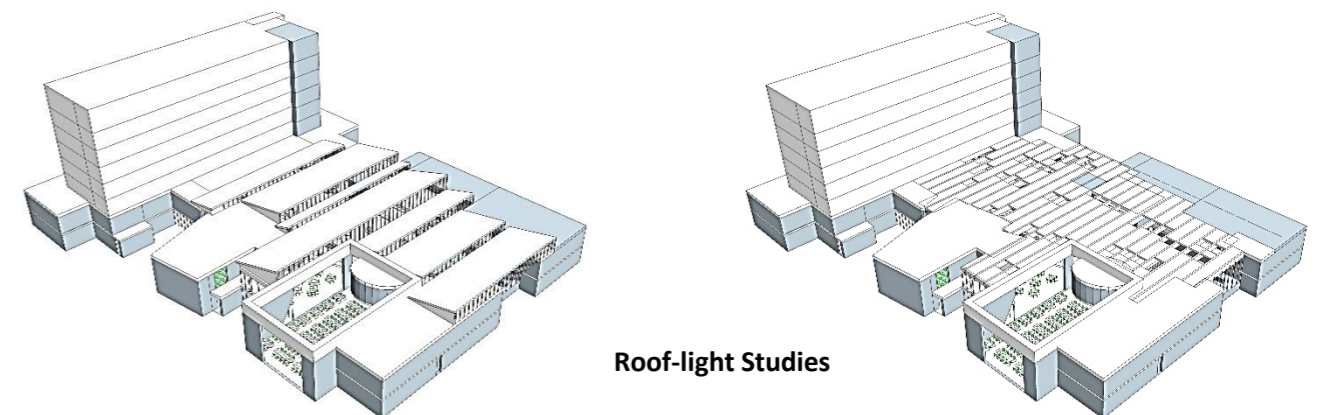


Spatial Study
Collating the forms/functions in a cohesive whole



Massing Study

Daylight



Roof-light Studies

RESIDENCES DESIGN CONCEPT

FAÇADE TREATMENT

CHARACTER AND MATERIALITY

Composition of Building Form

A measured yet contemporary approach has been taken to the elevation design to ensure there is clear cohesion between our proposal, the existing residential villages of Glenomena, Belgrove, Merville and Roebuck and the academic buildings and the wider masterplan for UCD.

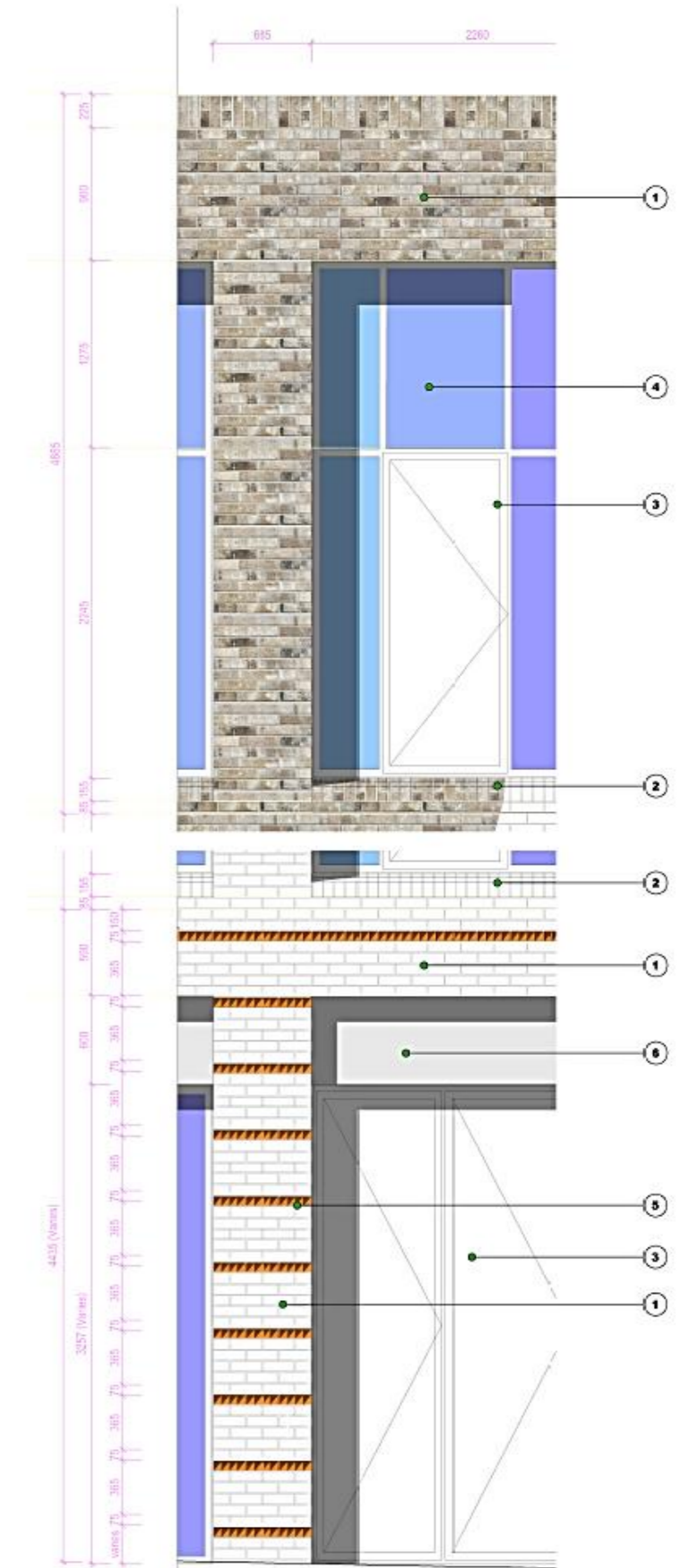
The colour and materials used are further described to explain a rationale in the coherence of the design. It is also important that these are robust enough to fit in with the wider campus to ensure all the building age and weather in a consistent fashion. Coherence of the elevations with the design concept has been maintained through the use of the residences grid which translates from plan to elevation. A study of other 3rd level education buildings has informed our elevational approach. Each of these has had the scale, proportion and overall composition considered.

Development of Facades and Window Layouts as part of the Environmental Strategy

We have developed the elevational strategy based on calculating the proportion of clear glazing to provide the optimum amount of daylight to each bedroom and living room. We have undertaken a series of detailed daylight studies for rooms of different sizes and orientations. This led us to provide different proportions of glazing to each elevation depending on its orientation. For instance, the north facing elevations may have as much as 45% glazing whilst the south facing elevations has 35%. As well as helping us to determine the correct amount of glazing, the studies also guided us to the best shape of window opening. We also considered the window layouts in relation to the functionality of the rooms. The final solution was to adopt floor to ceiling windows where possible in order to create a strong visual connectivity and good views out to the surrounding landscape areas.



BLOCK A - ELEVATION FAÇADE STUDY
SCALE 1:50



BLOCK A - ELEVATION PART FAÇADE STUDY
SCALE 1:20

RESIDENCES DESIGN CONCEPT

FAÇADE TREATMENT

GLAZING/BRICK CLADDING

Student residences elevation patterning can have repetitious nature. We have taken great care to ensure the elevations of the UCD residences utilise a language that defines the blocks as residential but allows individual colour and subtle differences to differentiate between the blocks in the masterplan for wayfinding and to aid a sense of identity for each developing quarter.

Several factors have informed the decision to choose brick as a façade cladding for the residences. It has been considered primarily on account of its excellent building physics properties, durability and its visual qualities. In addition to allowing a wide range of colour and texture, the material offers a freedom of design in the composition of the residential elevations with both punch-hole and floor to ceiling glazing with deep reveals allowing a play of light and visual sophistication to the elevations.



Proposed elevational treatment Block A

In order to break down the scale of the elevations, particularly the 8- 10 storey elements, the emphasis has been on the verticality of the blocks, with a defined module for each bedroom and living space in a matrix on the building facades.

The patterning is further broken down with colour panels in the glazing to identify the buildings clearly and introduce legibility into the building form.



Deep reveal to windows in brick

Use of Brick in Student Residences Peel Quarter Salford University Manchester



RESIDENCES DESIGN CONCEPT

ROEBUCK CASTLE QUARTER

DESIGN CONCEPT

The lands at Roebuck known as Roebuck Castle consists of a main castle building with a two storey wing to the west, a chapel building and former convalescent home to the east, and several two storey ancillary buildings in a courtyard configuration to the south. The buildings are currently in use by UCD for various administration departments.

The complex lies in an area of the Belfield Campus which has been identified as one of the suitable areas for student housing as part of this masterplan and where two significant residences have been completed in recent years. It is the intention of the University to extend this development to create a larger student residence precinct connected to the main campus. The Master Plan creates a cohesive student precinct, incorporating and including the castle. The new development will seek to remove the elements which detract from the historic castle setting.

Central to this Master Plan is the castle and the west wing, which is of particular architectural merit and is to serve as a central part of the enlarged student precinct. The buildings within the complex which have been constructed or heavily remodelled since 1943 and detract from the more significant buildings and are not of architectural merit in themselves.

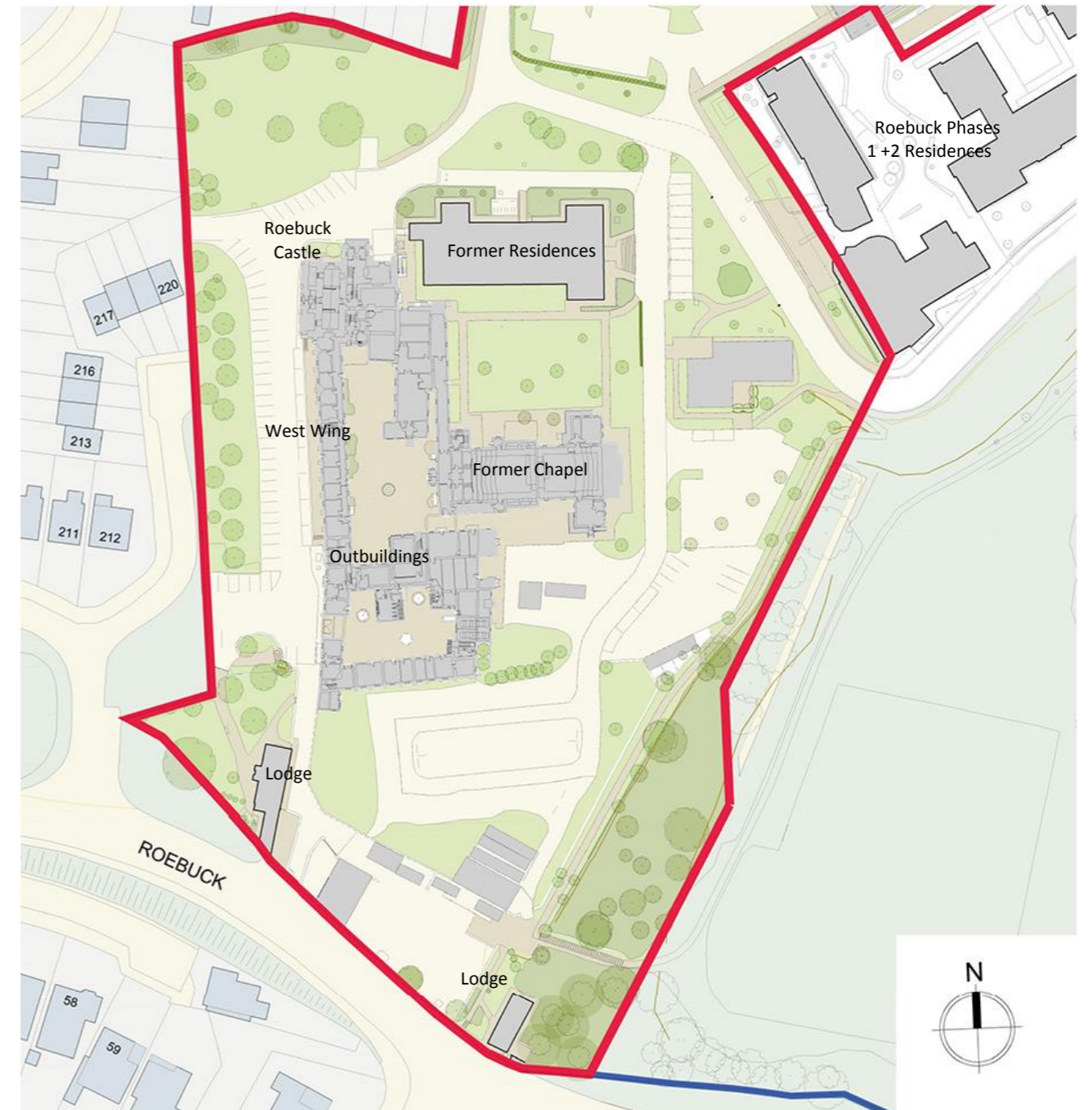
The Master Plan planning application submission proposes to demolish the mid-20th century superfluous and obstructive elements of the complex which have been identified as being of little historic merit, and diminish the setting of the castle buildings. In doing so, the long term objective of sensitively conserving the more significant historic elements becomes achievable in a new student residences quarter.



Roebuck Castle North Elevation



Roebuck Castle – View from North



Roebuck Castle Existing Building Arrangement

ROEBUCK CASTLE CONTEXT

Roebuck Castle

Works to the Castle will be in accordance with the granted Section 57 (2) Declaration DECC02/12 and will be restricted to repair and general upkeep. Any works will be carried out in accordance with Section 57(1) of the Act.

West Wing – Former Stables

Repair and general upkeep of this building element will be carried out in accordance with Section 57(1) of the Act and the Section 57 (2) Declaration DECC02/12 which permitted additional works to certain, non-original elements of the building.

- Non-structural works, including the removal and re-arrangement of internal partitions and general repairs and refurbishment.
- The windows in the former stable section of the wing (inserted in the 1940's) are in poor condition and it is proposed to renew these in a sympathetic manner.
- Replacement of engineering services to provide a safe and efficient working environment.

South Courtyard Range

The University wishes to apply for Planning Permission to demolish these buildings as part of the Master Plan strategy.

Modern Building Range

The University wishes to apply for Planning Permission to demolish these buildings as part of the Master Plan strategy.

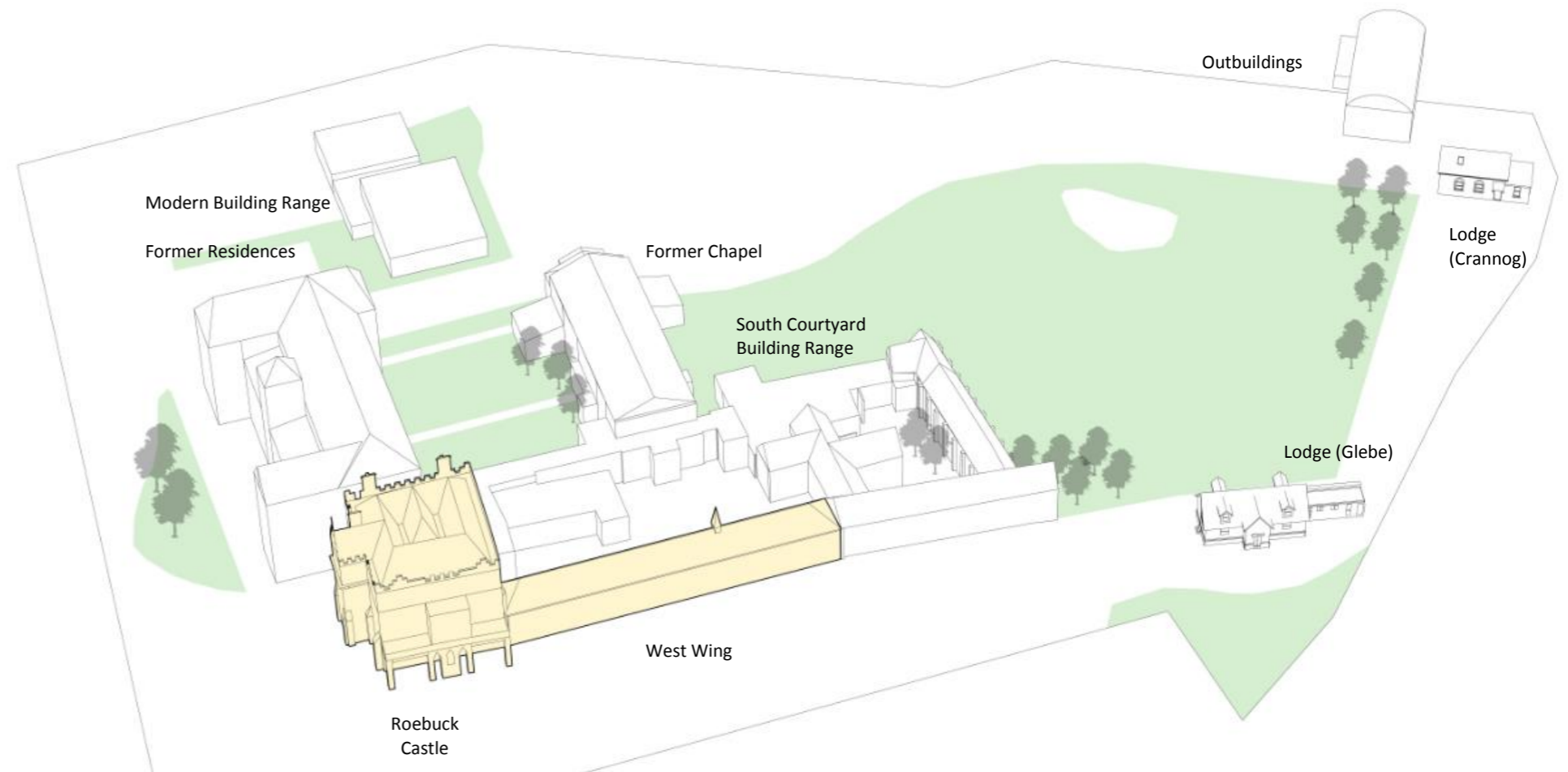
Outbuildings

The University wishes to apply for Planning Permission to demolish these buildings as part of the Master Plan strategy.

Lodges: The Crannog and Glebe Cottage

No new works are proposed to this area. At present, the two lodge buildings are believed to be in generally good repair, and are maintained by the University as part of its policy of maintaining

Protected Structures on campus. Repair and general upkeep of these building elements will be carried out in accordance with Section 57(1) of the Act.



Roebuck Castle: Existing Buildings Context

RESIDENCES DESIGN CONCEPT

ROEBUCK CASTLE QUARTER

DESIGN PROPOSAL

The Roebuck Castle complex is one which has the potential to add greatly to the architectural and social context of the University. However, the historically significant buildings are rendered almost invisible by the unordered addition of ancillary buildings. In order to achieve the potential of this complex to have a strong sense of place and a fitting level of prominence, there are a number of buildings which require removal where necessary in the context of an overall ambition to preserve in viable use, the historically significant buildings of the Castle and the West Wing

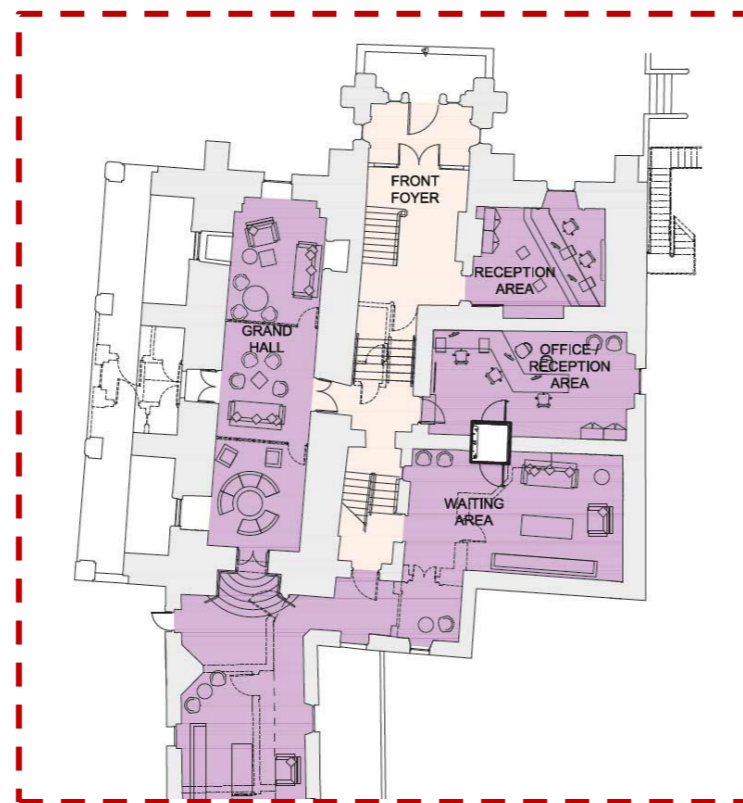
Proposed Accommodation

There are a series of new student residence buildings which will frame the setting of the Castle, re-create a courtyard environment with the west wing and provide new public realm to the campus. The sequence of structures are arranged to create a second pedestrian entrance from Roebuck Road. The route into the campus will be through a new series of streets and spaces defined by the residence buildings. The castle and west wing structures are suitable for re use as student facilities to compliment the student residences buildings. This will ensure that there are sufficient facilities to enhance the setting of the castle and the protected structures.

- Ad Astra Scholars
- Student Study Spaces
- Breakout Rooms
- Flexible seating area
- Contemplation Space
- Laundrette
- Parcel Drop Area
- Gym
- Maintenance Support Office
- Contact Centre:

Roebuck Castle

Communal social spaces with individual identity
Meeting spaces, integrated art exhibition



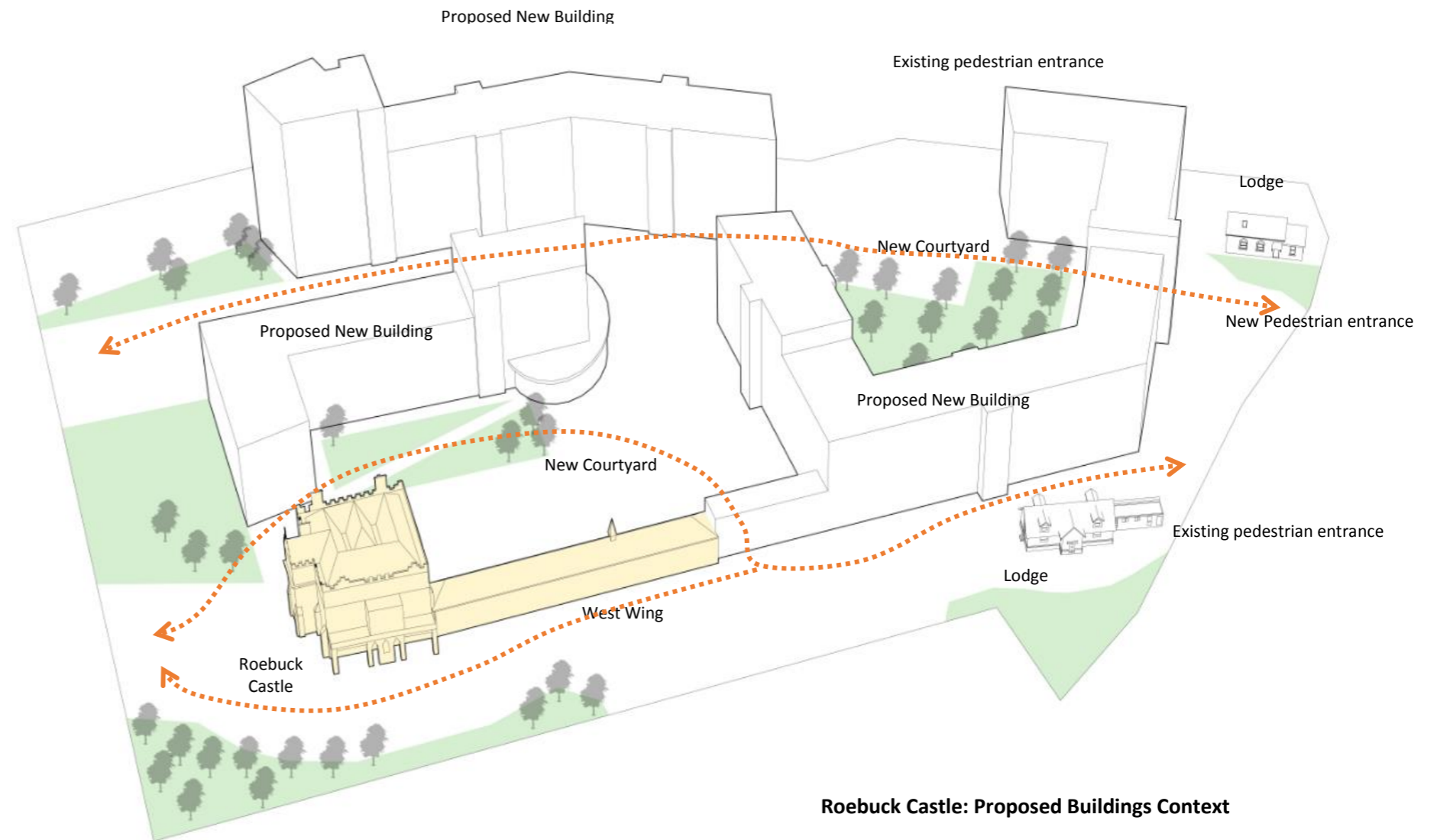
ROEBUCK CASTLE CONTEXT

New Spaces Proposed

Two new courtyard spaces will be created with the introduction of new buildings arranged to the edge of the road reservation to the East and to the Roebuck Road edge to the South which range in height from 5, 6 and in one location up to 10 storey's.

These spaces will be permeable to allow new pedestrian access through the spaces and into the campus. They will allow the Roebuck Castle and West Wing to “breathe” and provide a meaningful space for amenity for the residents.

- The courtyards are open to the south to ensure southern aspect and good quality daylight penetration.
- A dimension of 35m setback from the Castle is provided to new structures to ensure the setting of the building is enhanced and respected.
- Removal of the existing South Courtyard Range as part of the Master Plan strategy provides a context for the new residential quarter in Roebuck to compliment the Castle buildings and activate the area with new permeable routes and access.



23.0 SUSTAINABILITY AND ENERGY

PROJECT OBJECTIVES

- Material selections for a wide range of construction elements, fixtures and finishes will be made with reference to responsible and sustainable sourcing. Materials will be selected using based on certification under schemes such as the BRE Green Guide, timber certification (FSC, PEFC) and Environmental Management Schemes (EMS). Internal furnishings and finishes will be selected in line with best practice standards on the minimisation of VOCs.
- Site layouts are sensitive to existing ecology and seek to enhance the overall ecological value of the site.
- Measures will also be put in place to minimise potential sources of pollution. The use of refrigerants will be minimised, heating plant will be selected with low NOx Emissions, and mitigation measures against watercourse pollution will be provided.
- Additionally, contractual obligations will be placed on the construction team to adhere to sustainable best practice. They will be required to put in place site management measures to minimise energy use, water consumption and air & watercourse pollution

CONCEPTUAL APPROACH

For UCD we understand that energy performance of the individual units will be the DEAP calculation procedure developed by SEI. The building shall achieve an A rating based on the BER classifications i.e. a primary energy requirement of 50-75 kWh/m². We will give extensive consideration to the life cycle costing of the Residences and the use of alternate technologies such as district heating, heat pumps, photovoltaic etc. It is the team's objective in consultation with the University where possible improve and develop UCD's stated objectives and also pick up on any lessons learnt from phases 1 and 2. In order to achieve a BREEAM bespoke excellent rating in a cost effective and integrated way the following approach will be taken

Our proposals aligns with the UCD commuting Strategy 2009/2012/2015 and acknowledge the DLRC policy on car sharing. We will reference a base for a car sharing club as one of the commuting management initiatives and we note that the Quantum Number of Car parking spaces permitted to UCD has been capped by NTA at 3,600 in 2015. Enabling works will include for the establishment of the construction site along with creating new access points to both the site and campus to help negate the effect of the works on both the campus and surrounding community. Construction traffic will use the existing haul road running along the southern boundary of the campus which currently enters the campus via the Nova gate off Fosters avenue and over the duration of the construction of the scheme, an alternative construction entrance opposite North Avenue will be required.

- Photovoltaic panels on all block roofs
- Uses water-efficient fixtures and appliances;
- Provides green spaces to receive and utilise storm-water run-off;
- Uses permeable paving incorporating Rain Water Harvesting Systems for grey water storage and re-use in accordance with BS 8515:2009
- Utilizes recovery and recycling of storm-water on site for irrigation of landscaping and use within units.
- Natural ventilation will be provided to all units with demand controlled extract ventilation only (with EC/DC motors) to comply with Building Regulations Part F.
- Localised hot water storage supplied by centralised heating system in winter and with BMS controlled electric immersion heating during summer operation allowing central boilers to be turned off outside the heating season.
- Low energy lighting will be provided throughout with a preference for incorporating the latest LED lighting technology thus minimising energy consumption and also minimising maintenance requirements with long life light fittings. Occupancy control will be included where appropriate with occupancy & daylight control in common areas.
- Water consumption will be minimised through careful selection of sanitary ware and the use of rain water harvesting systems. Minimising water consumption at taps has the added benefit of reducing the total thermal energy demands of the hot water system

