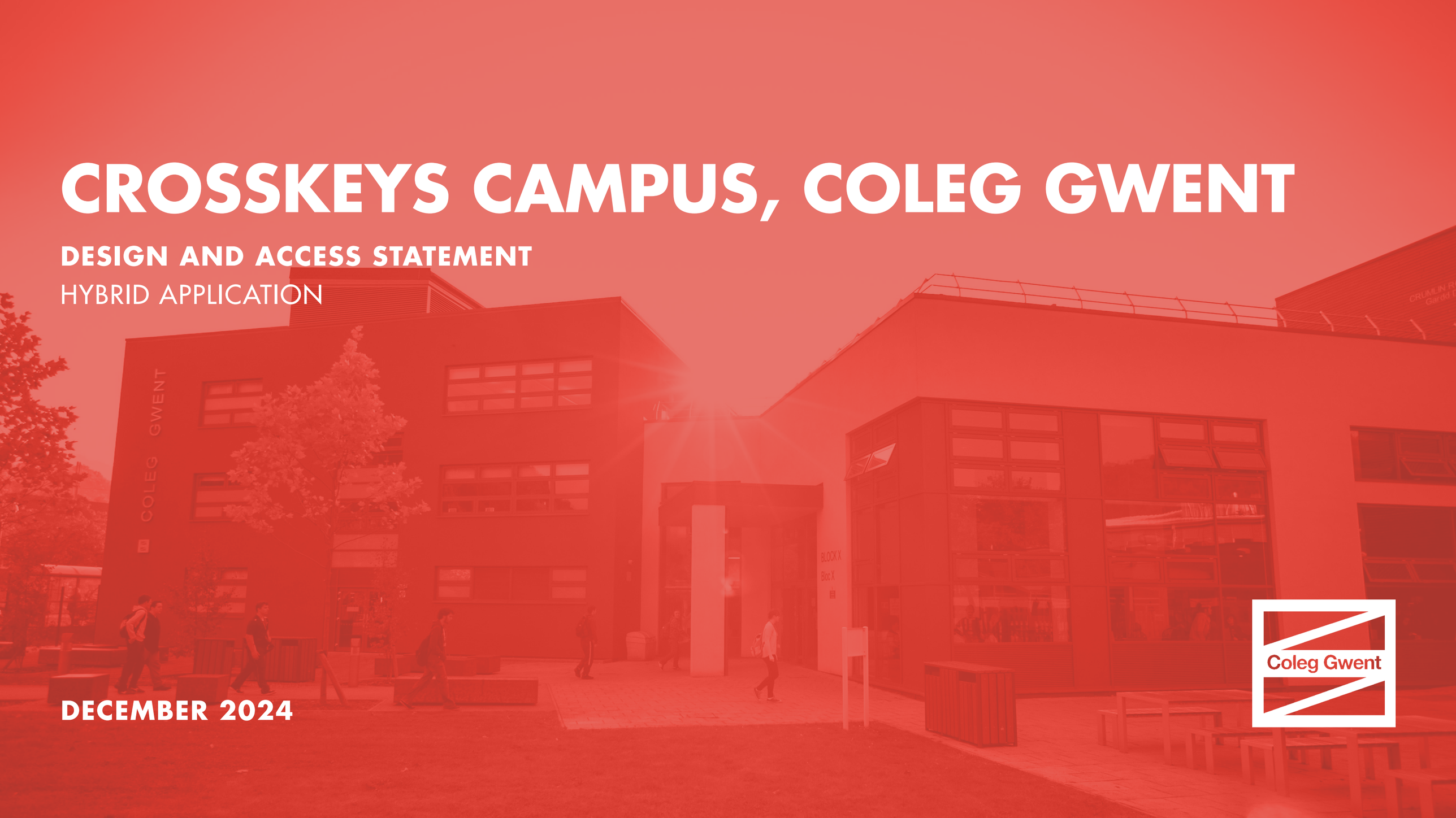
CROSSKEYS CAMPUS, COLEG GWENT

DESIGN AND ACCESS STATEMENT

HYBRID APPLICATION



DECEMBER 2024

Coleg Gwent

CONTENTS

DESIGN TEAM

Client	Coleg Gwent	Coleg Gwent
Architecture **Masterplanning** **Landscape**	STRIDE TREGLOWN	Stride Treglown
Project Management **M&E Enginnering** **Structures and Civils** **BREEAM Assessors**	AtkinsRéalis	AtkinsRéalis
Town Planning	dpp PLANNING	DPP Planning
Space Utilisation and Growth	Keystone Projects Limited	Keystone Projects
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1.0 SUMMARY OF PROPOSALS

SUMMARY

BACKGROUND

Coleg Gwent is amongst the best performing colleges in Wales and is one of the largest with over 23,000 students.

A phased masterplan was prepared for the Campus in 2008 which would have seen substantial demolition and rationalisation. Phase 1 (X Block) was complete but funds for further phases were not forthcoming and we are now entering a new era of considering the embodied energy of existing buildings.

With the exception of X Block completed in 2010 and the Science Block completed in 2001 the remainder of the estate at Crosskeys is characterised by varying levels of a backlog of major maintenance. The Campus does not have the appearance or functionality of a modern FE College and unless significant investment in resources are planned now it seems inevitable that the student experience and recruitment/ retention will be affected.

In July 2021 the Welsh Government published a route map for decarbonisation across the welsh public sector 'Net Zero Carbon Status by 2030'. Emissions from buildings is a priority area for action. In the 2022 to 2026 time period all College buildings should be built to net zero or if existing be highly energy efficient (or scheduled for replacement). This is a challenging target and has been at the core of the Masterplan approach.

SUMMARY

This Design and Access Statement supports a hybrid planning application comprising an outline application (with all matters reserved) for the implementation of Coleg Gwent's 2023 Campus Masterplan, as well as a detailed application for the first phase of the masterplan (Block Y).

These proposals are underpinned by engagement with internal and external stakeholders in order to provide a long term vision for the future of the campus, bringing it up to date with modern teaching and learning methods, improving staff and student environment and a mapping a considered route to achieve net zero carbon in operation.

FULL APPLICATION

This part of this application sets out detailed proposals for the delivery of Phase 1 of the masterplan and associated landscape works. These proposals included:

- A modern, three-storey teaching block, designed to be net-zero carbon in operation, which will enhance the educational experience for pupils at the Crosskeys Campus.
- A new energy centre to support low-carbon technologies and advance the net-zero goal.
- High-quality design enhancing the streetscape of Risca Road.
- Improved active frontage along Risca Road, fostering greater engagement.
- Relocation of the campus restaurant and catering department, increasing interaction with the public while providing students a great place to gain experience.
- A welcoming entrance gateway to improve wayfinding and create an inviting environment for students and staff.
- Significant landscaping improvements, including a landscaped 'campus heart'.

OUTLINE APPLICATION

The outline application covers phases 2-4 of the masterplan. These proposals include:

- A new suite of modern teaching facilities to enhance the educational experience for pupils at the Crosskeys Campus.
- All new buildings designed to be net zero carbon in operation.
- High-quality design that contributes positively to the local streetscape, particularly along Risca Road.
- Relocation of additional public-facing activities to Risca Road, further strengthening community ties.
- Continued landscaping improvements across the site, focused around the 'campus heart'.

The outline application includes the following information:

- Parameter plans which will be used to define the scope of future reserved matters applications, including heights, floorspace and legibility.
- An illustrative masterplan showing a vision of how the proposals contained within the parameter plans could look once the whole masterplan is implemented.
- A description of the strategy to achieve net zero carbon in operation.

MASTERPLAN (OUTLINE APPLICATION)

The masterplan aims to create a welcoming, attractive, and safe environment, both internally and externally, to enhance the campus experience for all.

This Design and Access Statement supports an outline application (with all matters reserved) for the implementation of Coleg Gwent's 2023 Campus Masterplan, as well as a detailed application for the first phase of the masterplan (Block Y).

The masterplan proposals involve the phased demolition of several older buildings that are in poor condition, functionally unsuitable, and inefficient in terms of energy use. These buildings will be replaced with energy-efficient structures designed to meet modern teaching and learning requirements, as well as accommodate the future needs of the college.

Improvements to the external campus environment will include rationalising outdoor spaces and parking areas to create a safer, more pleasant campus. This will involve wayfinding enhancements, efforts to address access issues (e.g., the location of the main reception), and improvements to pedestrian, cycle, and vehicle access routes.

The vision is to establish a sustainable campus that serves as an environment for effective learning—one that is secure and inviting. By planning for future space needs and emphasising flexibility and adaptability, the masterplan will ensure that all facilities remain functional, appropriately located, and aligned with the evolving needs of the campus.

Proposed Outline Masterplan

1.0

PHASE 1 (FULL APPLICATION)

The Phase 1 building, also known as Block Y, is the first building in the new masterplan for the Crosskeys Campus.

Catering will be relocated from Block C to this building, along with Business & IT, and staff spaces currently housed in Blocks B and F. Blocks B and F are scheduled for demolition at a later stage.

An energy centre is also located within the landscape to house the plant for the innovative 5th generation heat network, which is proposed to heat this phase and subsequent phases of the masterplan.

The Phase 1 project consists of circa 2,516m^2 of teaching spaces spread over three floors:

- **Ground Floor** – Entrance student space atrium staircase and teaching catering department;
- **First Floor** – Classrooms (predominantly for Business & IT); and
- **Second Floor** – Staff offices, meeting rooms, multifunction/exam room and a small number of classrooms.

LANDSCAPE:

The landscape design looks to provide a welcome to staff, students and visitors to the campus. Green Infrastructure plays an important part in the design of the landscape, by improving and introducing a network of green spaces which also includes sustainable drainage systems important for furture proofing the campus against climate change.

Proposed Phase 1 'Block Y'

Our **vision** is to create a **NZC college campus** that is a model for sustainable learning. We believe that by creating an environment that is **welcoming, attractive and safe**, we can provide a **platform for the success** of our students and staff, both now and in the future.

2.0 BRIEF AND VISION

MASTERPLANNING BRIEF

This Design and Access Statement summarises the key strategies in the development of the masterplan and explains how they have been reflected in this outline application.

The outline elements of this application are based upon a masterplan that was developed for the college in 2023. The campus masterplan had three major purposes:

1. To plan out and deliver a route to NZC in operation.
2. To replace and refurbish buildings that are life expired or in need of significant maintenance.
3. To improve the functioning of the campus, in respect to both delivery of education and estate operational requirements.

NET ZERO CARBON

The purpose of the masterplan was to develop a phased development guide to establish the route to Net Zero Carbon (NZC) in operation and provide a scope for the first phases of the plan's implementation. These requirements have informed the design of Phase 1 (Block Y), which forms the detailed element of this hybrid application.

The masterplan outlines the strategy for the phased demolition and replacement of buildings that have exceeded their useful life, as well as the reestablishment of the remaining buildings to meet current operational requirements, energy demands, and to carry out planned maintenance.

CAMPUS OPERATIONS

The campus contains a wide variety of specialist vocational spaces, as well as generic classrooms and IT rooms. Few specialist facilities have been relocated since their original construction. Over time, curriculum demands have changed, leading to many small, sporadic developments where space has been allocated where it can be found, rather than in an optimal long-term position.

An additional problem is the large number of individual buildings, which has led to the curriculum being physically constrained within a single building or having satellite provisions located elsewhere on the campus. This has meant that staff and students often have to move long distances between teaching spaces, sometimes in inclement weather.

Uncomfortable adjacencies include music rooms next to the motor vehicle workshop in C Block, hair and beauty rooms (mainly in Z Block) spilling into K Block, and Independent Living Skills (ILS) spaces spread across Blocks T, X, and S. Some lessons are held in inappropriate spaces (e.g., =art classes in laboratories).

The Creative Industries school is particularly dispersed across the campus, and there is a need to consolidate A-Level and sports provisions. The ICT team is also not ideally located and is storing large quantities of equipment that would be better placed near a delivery point. Some support spaces also require review.

Design team activities undertaken in the masterplan:

- The current campus and space usage were reviewed and an assessment of existing buildings in respect to energy use and suitability for refurbishment was undertaken.
- From this, alternatives for co-location of space, building replacement, landscape enhancement and overall campus utilisation were developed.
- It was assumed that all existing services, facilities, and functions are to be retained on site including catering facilities.
- There was projected to be limited growth of student numbers (10%) over the duration of the proposed masterplan.

KEY PRINCIPLES

The following key principles set out the design drivers and aspirations for the masterplanning of the campus:

- Provide a welcoming, attractive, and safe environment (both internally and externally).
- Rationalise external spaces and parking areas to create safer, more pleasant spaces for students, staff, and visitors
- Reduce the maintenance backlog, including issues such as leaks, aesthetic quality, and health and safety concerns.
- Address reception-related confusion by considering vehicular, cycling, and pedestrian routes through the campus, and reduce the number of standalone blocks to improve security and minimise exposure to cold and wet external routes.
- Review and improve vehicular, cycling, and pedestrian routes through the campus where possible.
- Facilitate development to meet new college standards, including student support spaces, staff rooms, WCs, and provisions for cyclists.
- Address future space needs by providing flexibility and adaptability to ensure that facilities remain relevant and functional.
- Resolve adjacency issues and enhance the visibility of the curriculum and facilities.
- Implement improvements in a phased, realistic, and affordable manner, taking into account the need for decanting, while ensuring that campus upgrades align with curriculum and facility requirements.
- Meet Welsh Government's net-zero targets.
- Address future space needs and provide long-term flexibility.
- Reduce the number of standalone blocks to enhance security and minimise exposure to cold and wet external routes.

Our determination to **achieve NZC** as soon as possible will drive our decision making process, as we work towards creating a **sustainable** campus that is fit for the future.

We aim to reduce our maintenance backlog by addressing issues such as leaks, visual concerns, and potential health and safety hazards. By doing so, we can **improve the overall quality** of our facilities and create a **safer, more enjoyable space** for everyone

Through these efforts, we will create a **NZC college campus** that showcases our **commitment to sustainability** and provides a platform for the success of our students and staff.

PHASE 1 BRIEF

The Phase 1 building (to be known as Y block) will provide replacement academic space on the site of the semi-detached houses. This will enable the decant and demolition of Blocks B and F.

The brief for the project also includes the following amenities:

- The **ground floor** is to accommodate the teaching catering department along with the student social space Hellerup staircase.
- The **first floor** is to accommodate classrooms predominantly for Business & IT.
- The **second floor** is to accommodate staff offices, meeting rooms, multifunction/exam room and a small number of classrooms.
- The new energy centre for the campus is to be included within Phase 1 and to be located in the landscape for easy access and maintenance. The sprinkler tank enclosure will also be located adjacent to the energy centre.
- A temporary car park is provided on the petrol station/garage site to replace spaces lost during the phases.

PROJECT FUNDING REQUIREMENTS

In line with both Welsh Government funding and UK GBC guidance the following items are project requirements for funding -:

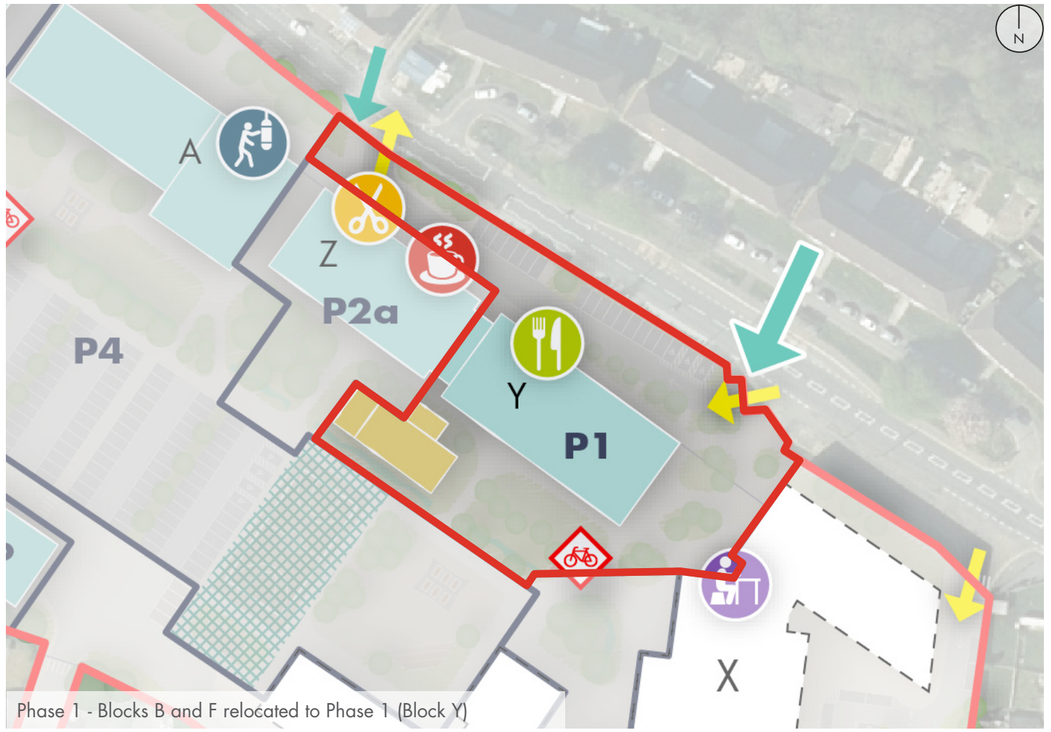
1. Maximum of 600 kgCO2/m2 embodied carbon through the construction
2. 15% recycled content
3. Net Zero Carbon in Operation

3. BREEAM 'Excellent'

The project is following the LETI standards to achieve these funding requirements.

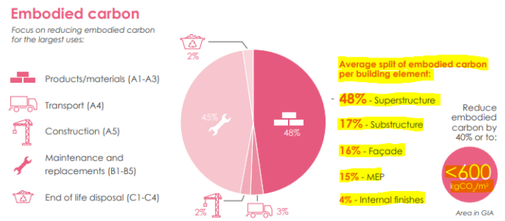
PROJECT INNOVATION

This project is looking to incorporate a campus-wide ambient loop generation 5 system. This will have the capacity for all proposed phases on the site.



Phase 1 - Blocks B and F relocated to Phase 1 (Block Y)

Commercial office guidance split to achieve funding requirement 1 - embodied carbon



Operational energy

Implement the following indicative design measures:

Fabric U-values (W/m².K)

Walls	0.13 - 0.15
Floor	0.09 - 0.12
Roof	0.10 - 0.12
Windows	1.0 (triple glazing)
Doors	1.2

Fabric efficiency measures

Air tightness	<1 (m³/h. m²@50Pa)
Thermal bridging	0.04 (y-value)
G-value of glass	0.5 - 0.4

U Values targeted to achieve funding requirement 2 operational energy (Schools)

2.0

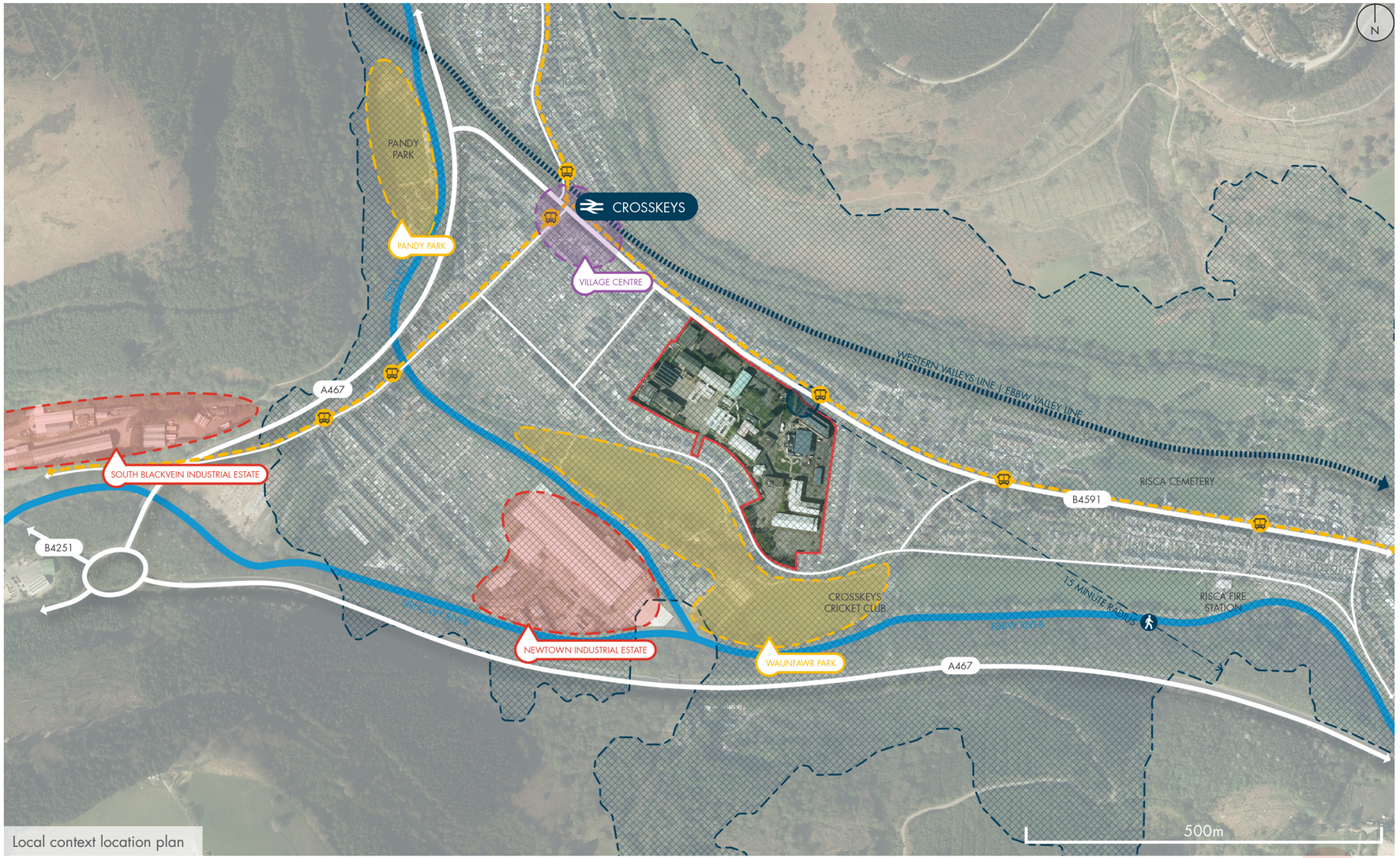
3.0 SITE CONTEXT AND ANALYSIS

SITE LOCATION

The Coleg Gwent Crosskeys campus is located in the heart of Crosskeys, on Risca Road, the main route through the village.

It is in close proximity to Crosskeys railway station, the village centre, green spaces, and recreational amenities. The main bus route along Risca Road stops immediately outside the campus' main entrance.

Crosskeys is located at the confluence of the Ebbw and Sirhowy Rivers and benefits from views of the surrounding mountainside in all directions.

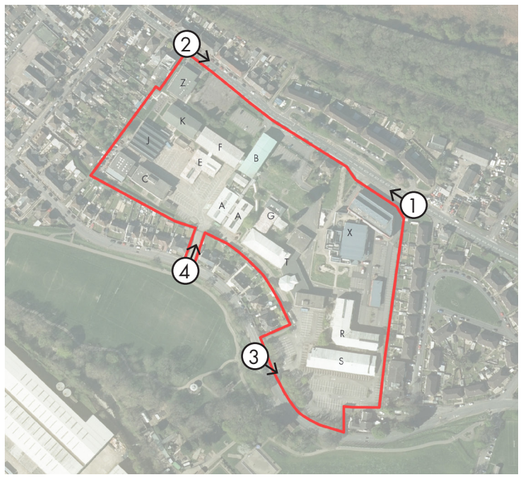


Local context location plan

- Site boundary
- Major roads
- Bus route (and stops)
- Railway (and station)
- River
- 15 minute walking distance (from campus entrance)

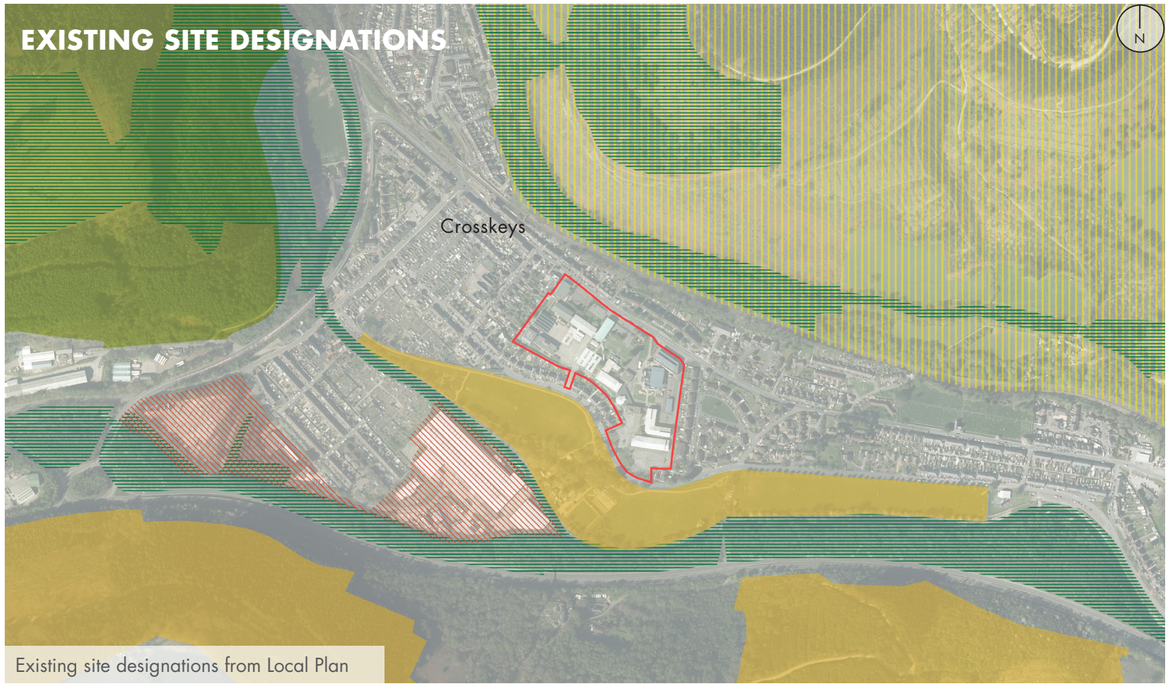
EXISTING SITE PHOTOS

1. Risca Road (north-west view)
2. Risca Road (south-east view)
3. Exit only via Waunfawr Park Road
4. Rear access via Waunfawr Park Road



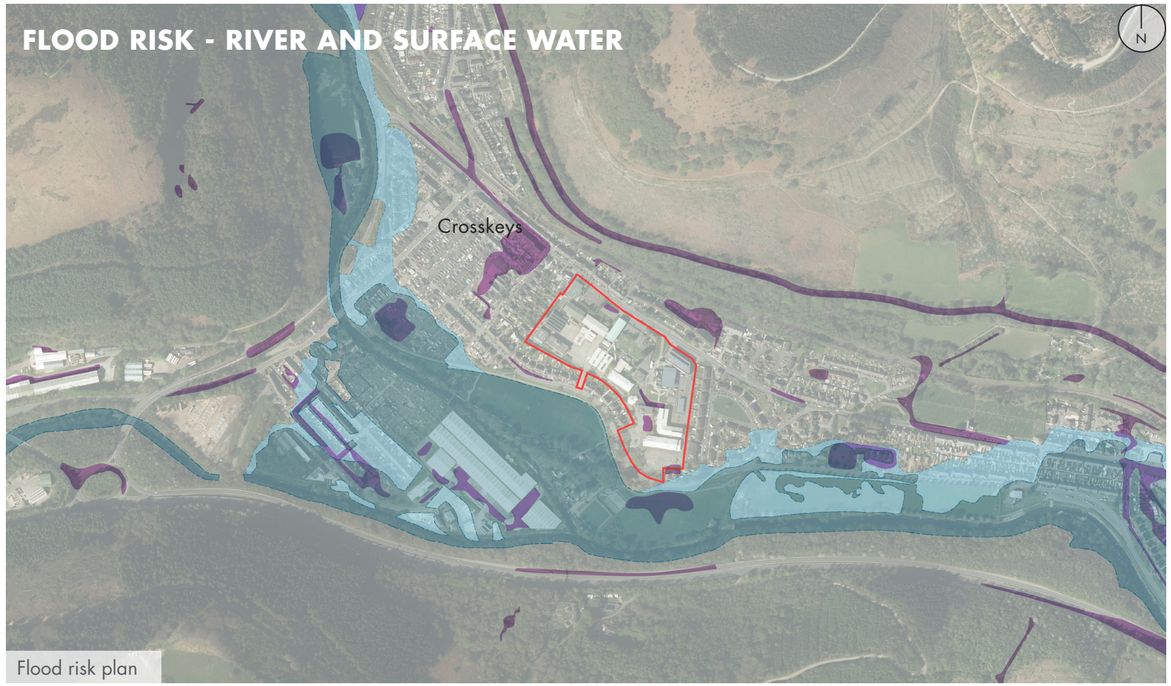
SITE ANALYSIS

PLANNING CONSTRAINTS



Existing site designations from Local Plan

- Site boundary
- Identified for leisure
- Identified for industry
- Site of Nature Conservation Interest
- Visually Important Local Landscape
- Special Landscape Area



Flood risk plan

- Site boundary
- Flood Zone 3 (1 in 100 chance of river flooding in given year)
- Flood Zone 2 (1 in 1000 chance of river flooding in given year)
- Surface water flooding

Source: Cyfoeth Naturiol Cymru TAN15 Flood Map for Planning.

EXISTING BUILDING CONDITION

Following a building condition survey, each building was graded from A (good) to C (in need of replacement).

Grade A: Aside from any potential internal layout reconfiguration, no major construction work is required. Further assessments will be carried out regarding future energy use and the NZC campus aspirations.

Grade B: Requires both internal and external improvements. Several of the buildings do not currently provide sufficient space or have conflicting internal uses.

Grade C: Considered at the end of its life and in need of replacement.

1. S Block (**Grade A**) - Internally and externally fit for purpose.
2. T Block (**Grade B**) - Requires internal refurbishment and improvements to the external envelope.
3. K Block (**Grade C**) - In need of replacement.

Existing building condition [1:2500 @ A3]

- Grade A building condition
- Grade B building condition
- Grade C building condition
- Condition unknown

ENERGY PERFORMANCE

The energy performance of the buildings on the campus generally correlated with the building condition and functional suitability

Block A1, A2	163,983 kWh/a @ 195 kWh/m²	
Block B, F, K, E	910,625 kWh/a @ 207 kWh/m²	
Block C	325,686 kWh/a @ 195 kWh/m²	
Block J	299,900 kWh/a @ 389 kWh/m²	(122,638 kWh/a @ 159 kWh/m²)
Block G	100,647 kWh/a @ 191 kWh/m²	
Block R	268,572 kWh/a @ 126 kWh/m²	
Block S	189,418 kWh/a @ 98 kWh/m²	
Block T	305,500 kWh/a @ 103 kWh/m²	
Block X	622,352 kWh/a @ 132 kWh/m²	
Block Z	68,578 kWh/a @ 143 kWh/m²	

- Efficient energy performance
- Average energy performance
- Inefficient energy performance
- Performance not recorded

Current energy performance [1:2500 @ A3]

3.0

PEDESTRIAN ACCESS/CONNECTIVITY

The main pedestrian entrance is currently located on Risca Road. The existing campus layout causes some confusion, as the frontage and landscaping of Block X appear to indicate the main reception area, which is actually located in Block B.

Secondary entrances are situated at the rear of the site, one of which is in close proximity to the pedestrian crossing on Waunfawr Park Road.

Several of the external pedestrian routes within the campus are cluttered with canopies and access ramps that have been retrofitted to provide access to the older buildings.

The routes from the rear of the campus are dominated by vehicle parking and lack clear pathways into the campus. Within the campus, there are several pedestrian-vehicle conflicts.

1. Access ramps to accommodate level changes.
2. Retro-fitted canopies that provide covered outdoor walkways between blocks.
3. A key pedestrian access pathway runs directly from Risca Road towards Block X.

- Site boundary
- Direction of access
- Pedestrian routes
- Key campus entry point
- Pedestrian/vehicle conflict area

The location of the main reception was not clear with many people coming to Block X instead.

Conflict areas between vehicles and pedestrians with no priority access.

Pedestrian circulation within the centre of the campus is separated by parking areas and service bay.

Pedestrian only areas in-between certain blocks around campus.

Existing vehicle movement on campus [1:2500 @ A3]

VEHICULAR ACCESS AND PARKING

The vehicular entrances are unclear and poorly marked, with future proposals having the potential to be rationalised to create a clear approach and entrance.

Much of the campus is dominated by parking areas and service vehicle access. An access road cuts through the middle of the site, and routes from car parking areas to campus facilities remain unclear.

1. The current visitor parking serves the on-campus hair and beauty salon.
2. The rear car park is currently overlooked by Blocks A, C, and E.
3. There is one-way access to the rear car park along the eastern site boundary.

Existing pedestrian movement on campus [1:2500 @ A3]

LANDSCAPE APPRAISAL

Much of the green infrastructure situated within the campus consists of informal lawn areas, alongside landscaped vegetation and several trees. An area of semi-public space is located at the entrance to Block X and provides a successful entrance to the campus. There are also a number of trees located on campus, although none are protected by a TPO. An arboricultural survey has been completed to assess the quality of these trees.

Much of the campus is bounded by residential properties. The edges facing the road are less secure and are bounded by a metal fence.

1. On-campus garden is maintained well and kept in good condition.
2. The landscaped area to the front of Block X provides a positive entrance to the campus.
3. There are a number of mature trees of varying quality scattered around the campus.

Existing landscape on campus [1:2500 @ A3]

- Site boundary
- Existing vegetation
- Landscaped areas
- Parking areas
- Potential contamination
- ILS campus garden
- Key views out of the site
- Fencing
- Low-lying wall
- Low-lying wall (with hedgerow)
- Brick wall
- Canopy
- Bin store location

CONSTRAINTS AND OPPORTUNITIES

WEAKNESSES AND CONSTRAINTS

- On approaching the campus, it remains unclear where the main entrance is located (from a visitor's perspective), partly due to the surrounding public realm drawing attention to the wrong buildings and limited signage and wayfinding.
- Much of the existing building stock performs poorly with respect to energy use and thermal performance.
- The current campus layout creates a broken and weak frontage onto Risca Road.
- The former garage site will require further investigation due to the unknown condition of the land, potentially due to previous contamination.

- Site boundary
- Building for retention
- Building for demolition
- Energy centre
- Potential for contaminated land
- Parking areas
- Inadequate canopies
- Unclear access
- Existing vegetation
- No/limited way-finding
- Level change
- Conflict area
- Adjacency to neighbouring dwellings
- Break in frontage

STRENGTHS AND OPPORTUNITIES

- There is an opportunity to replace life-expired buildings with new facilities, strategically located to improve adjacencies between similar uses and enhance the internal setting of the campus, as well as the frontage onto Risca Road.
- An area of open space (or a series of connected spaces) could provide a route linking the various uses and offer usable outdoor space at the heart of the campus.
- Rationalised entrances and improved signage would allow for better wayfinding and circulation around the campus.
- There is also an opportunity to create a district heat network, into which all buildings would be connected. Additional heat capacity could be added to the network alongside new buildings, providing flexibility for the future.

Site Opportunities Plan [1:2500 @ A3]

- Site boundary
- Zoning/consolidation of facilities
- Stronger frontage and improved boundary security
- Emphasise campus entrance
- Better access
- Better connections across the campus
- Retained buildings
- Additional development areas/plots (including public facing facilities)
- Better way-finding
- Consolidated parking

4.1 MASTERPLAN DEVELOPMENT

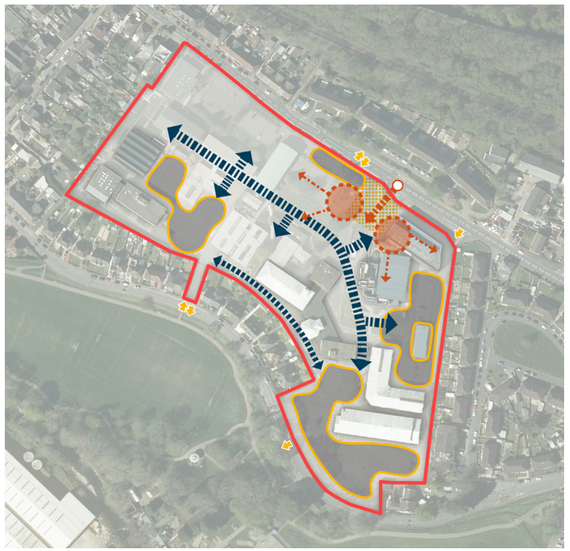
OPTIONS APPRAISAL

The early stages of the masterplan process were developed by reviewing concept options for several key themes.

ENTRANCE AND ACCESS

The preferred option for the entrance and pedestrian access (including the location of the new reception) was to relocate the reception to Block X opposite the new Phase 1 ('Block Y') entrance, providing a consolidated pedestrian entrance.

CIRCULATION AND MOVEMENT



The preferred option for circulation and movement was to prioritise pedestrian access through the campus by consolidating car parking at the periphery of the site, and create a pedestrian spine for the campus.

OPEN SPACE AND LANDSCAPE

The preferred concept option for landscape and open space was to create a spine of open space alongside new pedestrian routes. This is subdivided into smaller spaces with a specific use or character.

ACTIVE USE | PUBLIC FACING FACILITIES

The preferred approach was to move public facing uses to the Risca road frontage to create an active street frontage which puts some of the public uses and facilities on view.

CONCEPT PLAN

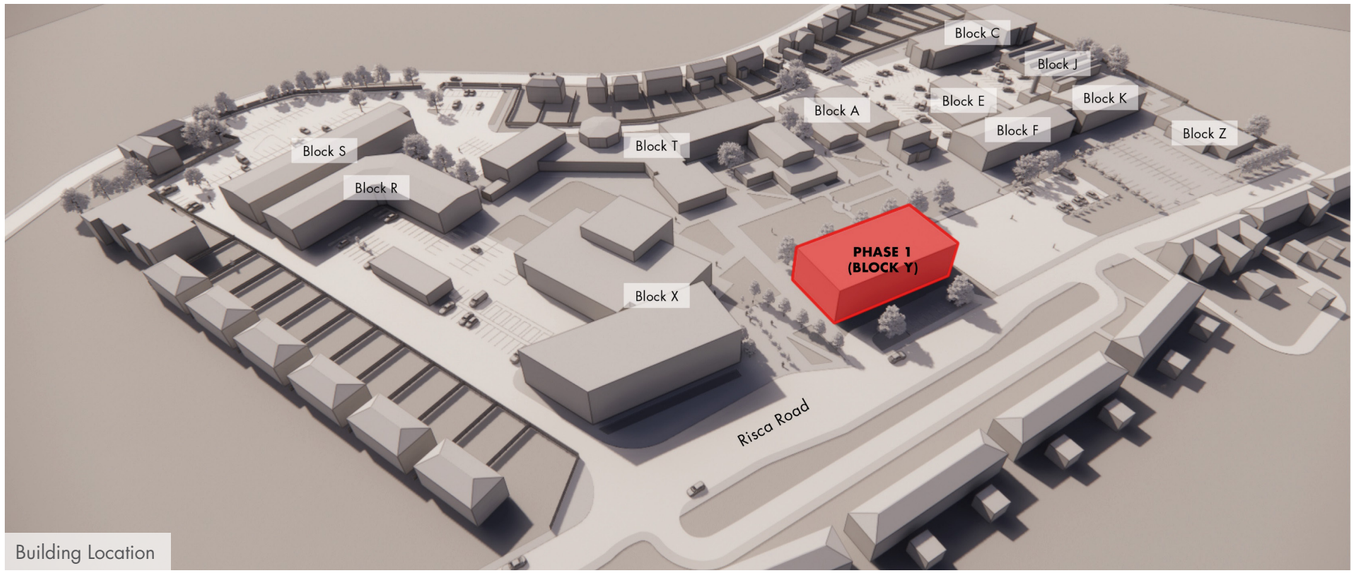
The concept masterplan brings together key decisions made after the concept options appraisal, feeding in work undertaken to establish academic needs, space planning, building condition surveys and initial funding assumptions.

Design Development Plan [1:2500 @ A3]

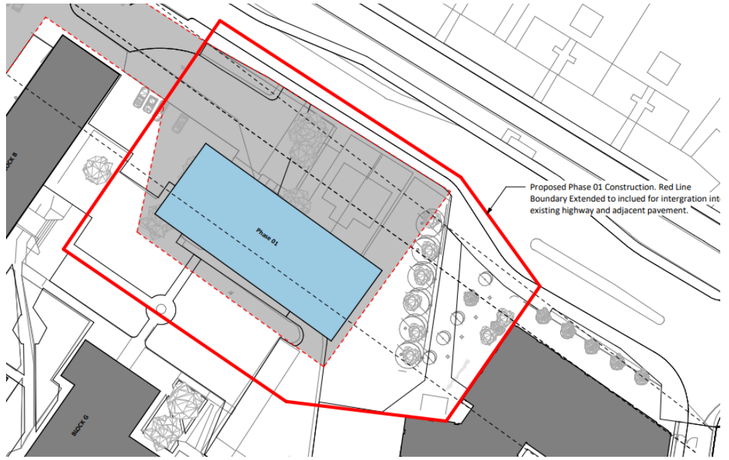
- Site boundary
- Retained buildings
- Proposed building plots
- Future phase plots
- Parking areas
- Vehicle access
- Connecting on-site road
- Key surrounding views
- Informal green space
- Outdoor sports area
- Reception
- Gym
- Salon
- Cafe
- ILS Kitchen

4.2 PHASE 1 DEVELOPMENT

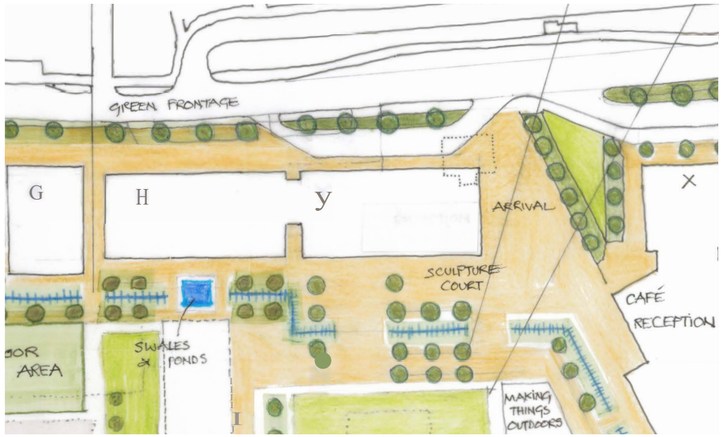
SITE AND MASSING DEVELOPMENT



Building Location



Red Line Development



Original Landscape Scheme

Red Line Development

Energy Centre incorporated

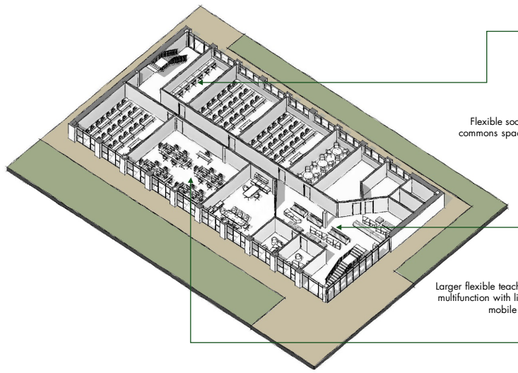
4.2

FLOOR PLAN DEVELOPMENT

These images show a snapshot of design development for the building massing and internal layout.

POTENTIAL FLOOR LAYOUTS

Potential Ground Floor Layout

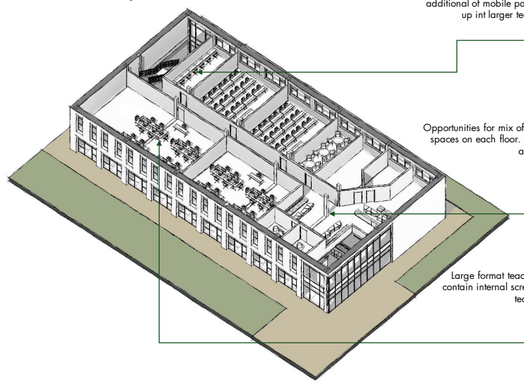


Smaller study spaces could be temporary or permanent.

Flexible social hubs, learning commons spaces to be included within buildings.

Larger flexible teaching areas can be multifunction with linked storage and mobile equipment areas.

Potential First Floor Layout

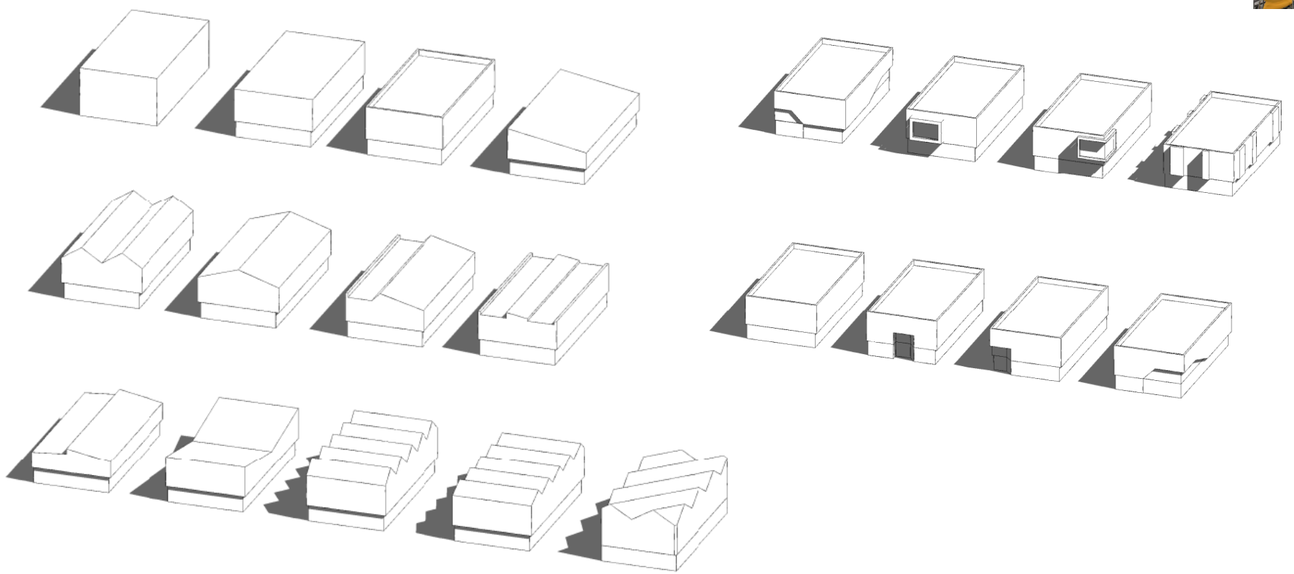


Study spaces can be used for small group teaching, seminars or with additional of mobile partitions opened up int larger teaching spaces.

Opportunities for mix of social and study spaces on each floor. Linked to support and welfare areas

Large format teaching spaces can contain internal screens and flexible teaching positions.

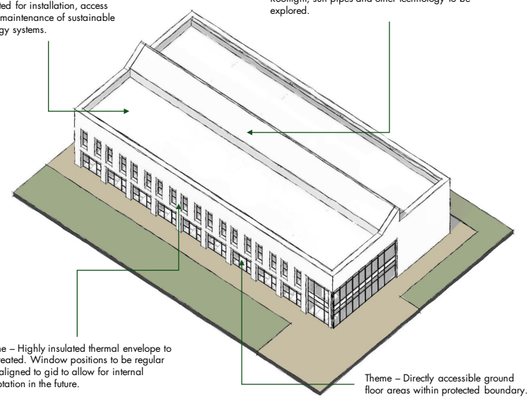
MASSING STUDIES



Potential Block Overview

Theme – Flat-roof areas to be created for installation, access and maintenance of sustainable energy systems.

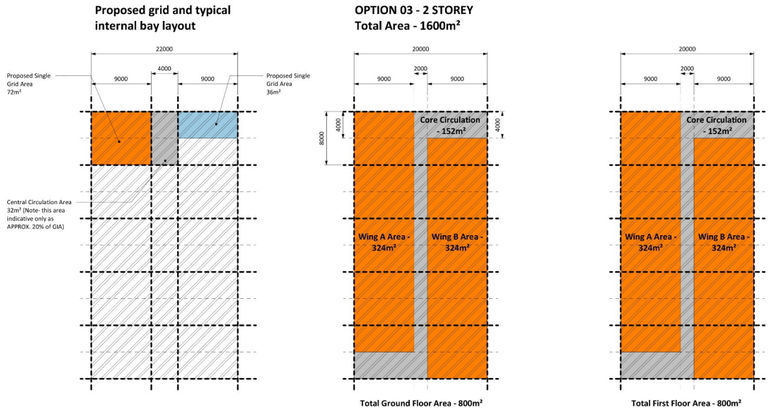
Theme – Increase daylight within building. Reducing the need for electrical lighting during daylight hours. Rooflight, sun pipes and other technology to be explored.

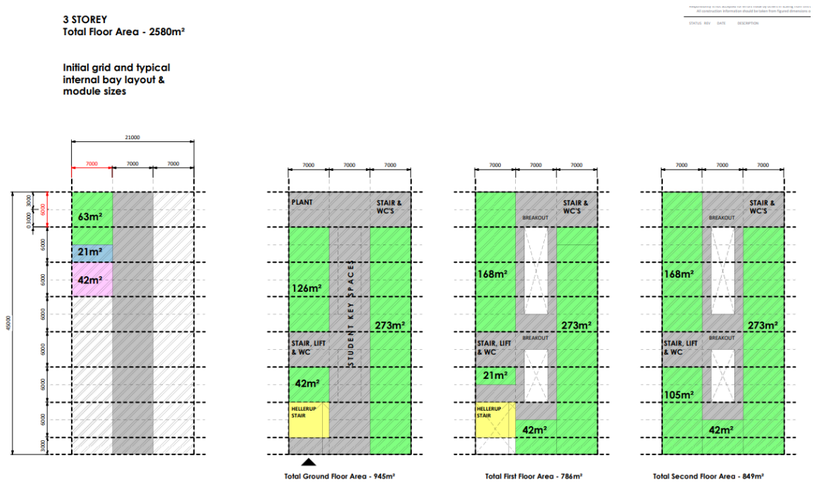


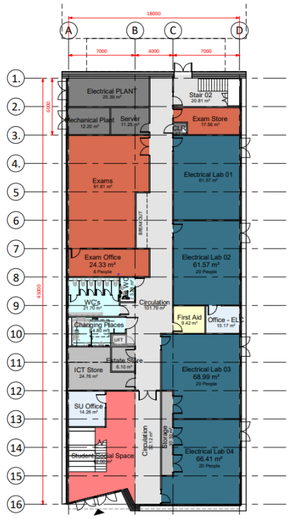
Theme – Highly insulated thermal envelope to be created. Window positions to be regular and aligned to gid to allow for internal adaptation in the future.

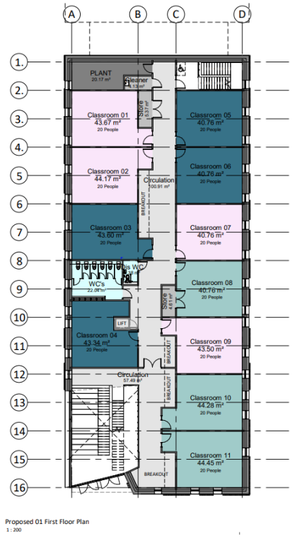
Theme – Directly accessible ground floor areas within protected boundary.

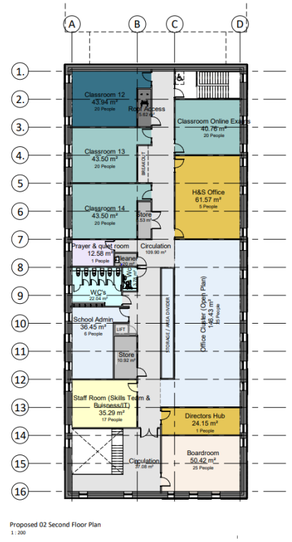
The images below show a snapshot of design development for the building layout.

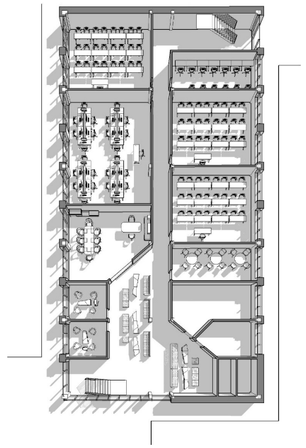


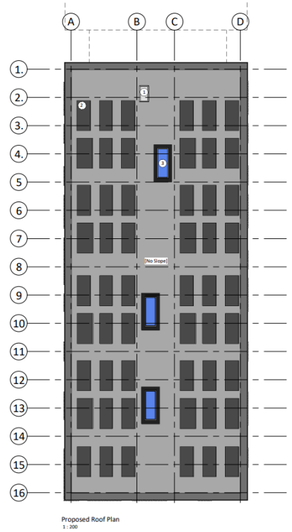








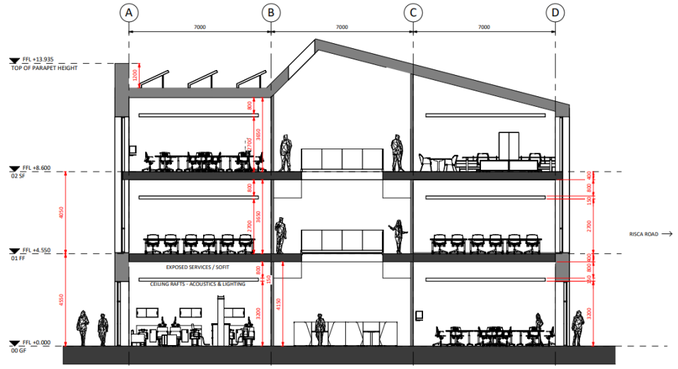


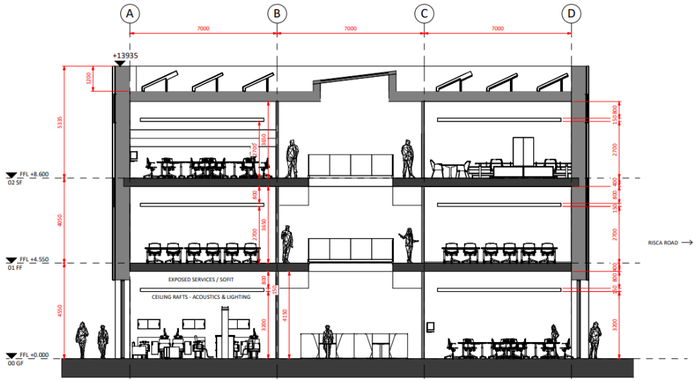


4.2

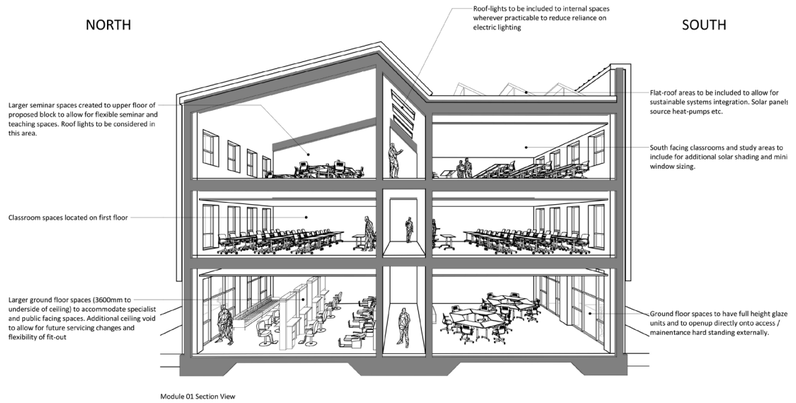
SECTION DEVELOPMENT

The images below show a snapshot of how the building section has evolved.

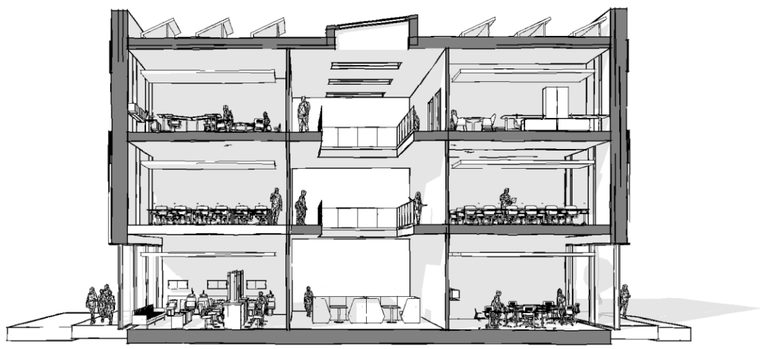


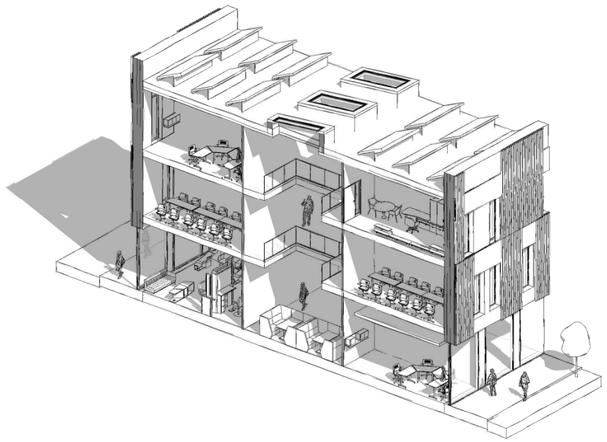


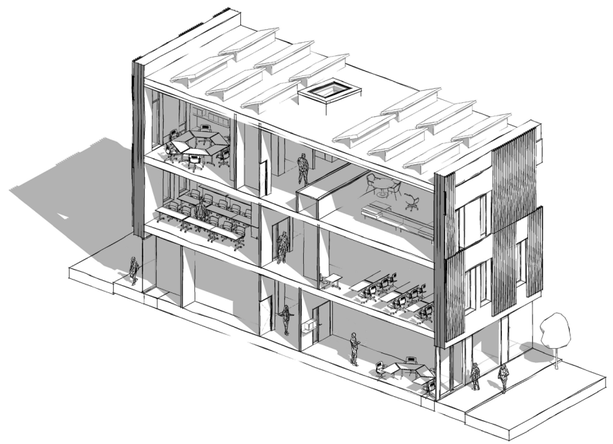
PHASE 1: KEY SECTION 01



Module 01 Section View

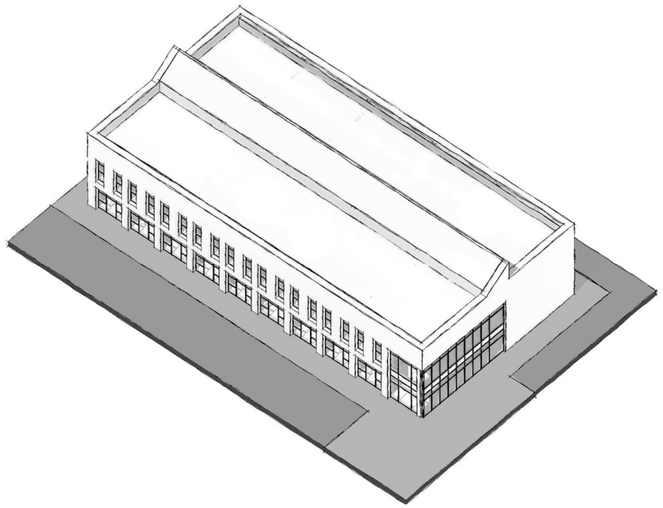






MASSING DEVELOPMENT

MASSING BUILDING STUDIES

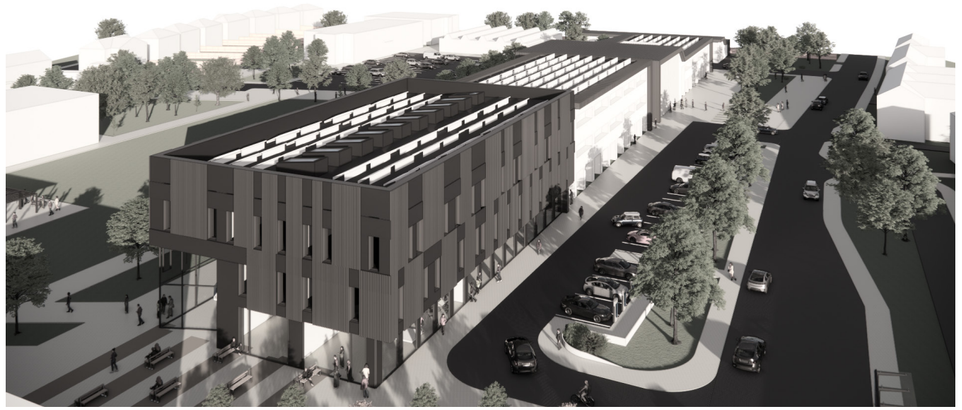


EARLY MASSING

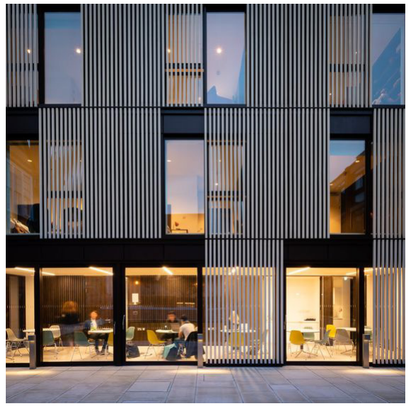
The images show a snapshot of early massing studies and the accompanying precedents.

MAIN ENTRANCE

FAÇADE & MASSING



Facade Inspiration

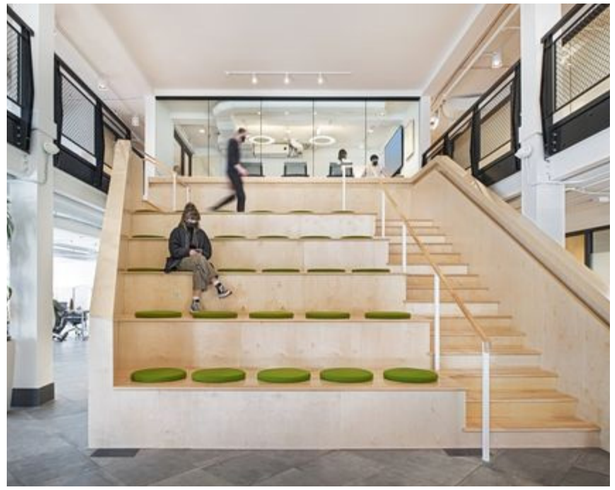


FAÇADE & MASSING INSPIRATION

PRECEDENTS

HELLERUP STAIRCASE

The precedent images below show inspiration for the design of the Hellerup Staircase.

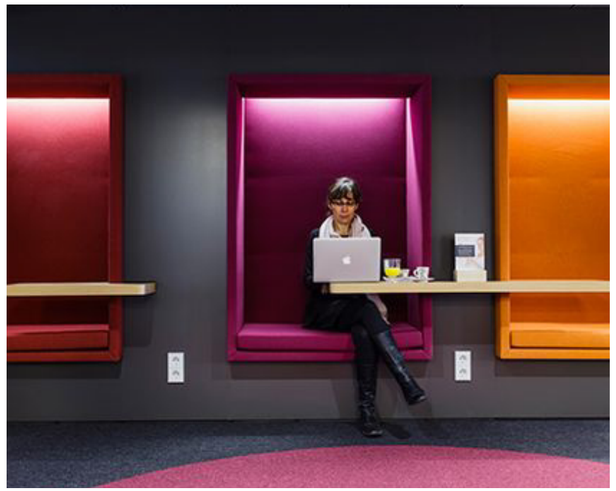





BREAKOUT SPACES

The precedent images below show inspiration for the design of the breakout spaces.



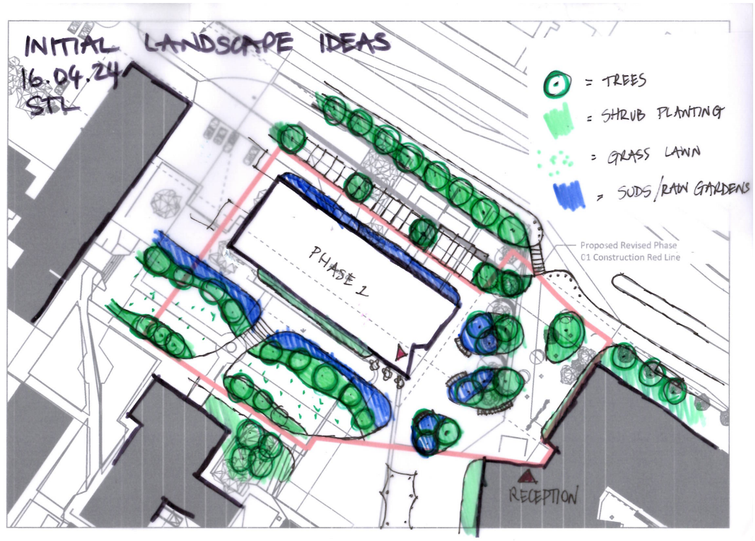



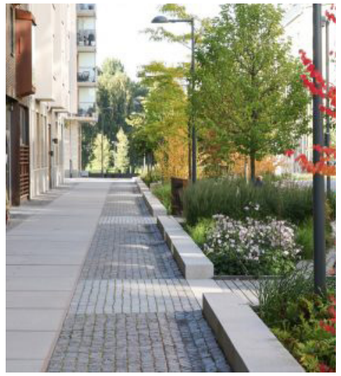
LANDSCAPE DEVELOPMENT

The design development of Phase 1 has been based on the green infrastructure strategy of the wider campus, together with coordination with SuDS requirements, site security, ecology and accessibility.

Phase 1 will be the benchmark for the Net Zero Carbon aspirations for the whole campus, and together with making the campus resilient to climate change, the landscape design has included the following key design principles:

1. The 'Step-wise' Approach to Green Infrastructure; following planning policy guidelines.
2. Biodiversity gain; improving and enhancing the landscape within the Phase 1 boundaries, and looking to the wider future campus development. Bringing nature into the campus.
3. Sustainability; from reuse of materials and a considered approach to material selection, e.g. recycled content.
4. Sustainable Drainage; preventing flooding on site through design interventions.





The study of precedent college campus' and sketch development has informed the landscape design

5.0 ENGAGEMENT OVERVIEW

ENGAGEMENT SUMMARY

Internal engagement

Internal engagement was undertaken in the form of stakeholder workshops with teaching, estates and student representation, including:

- Department heads and representatives from teaching groups.
- Estates team, including security and IT.
- Student representatives.
- Sustainability lead.

These sessions covered the college vision; growth relocation and consolidation strategies; pedagogical change and teaching strategy; and operational matters.

This feedback fed into the creation of the masterplan, and an iterative process of feedback has continued through further development of the masterplan and phase 1.

Pre-application engagement with CCBC

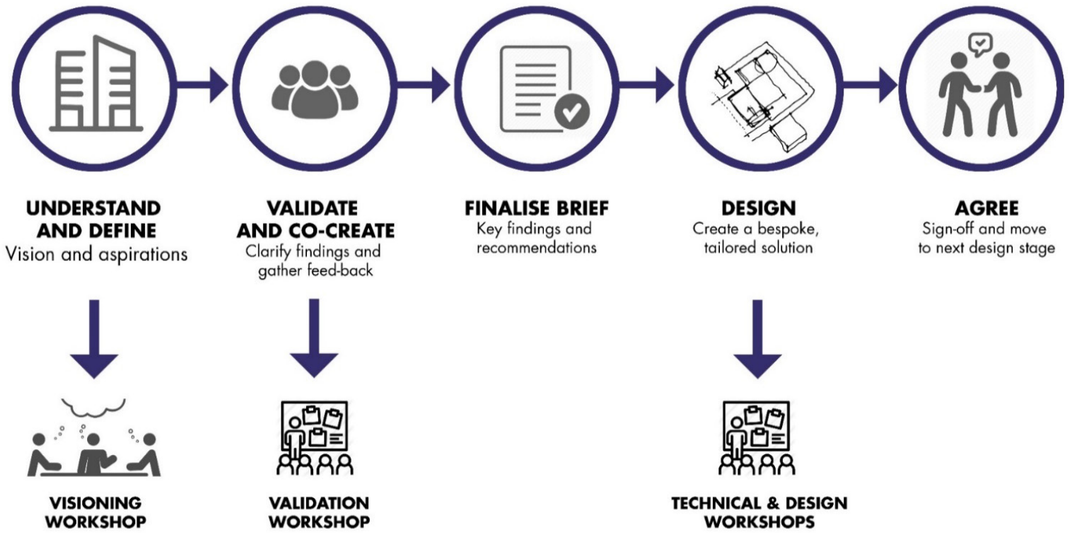
The College has undertaken pre-application engagement with Caerphilly County Borough Council. An intial meeting with plannign and highway officers was held in April 2024, 2024 to present and discuss the College's 2023 masterplan vision. The principle of redeveloping the campus was broadly supported, subject to detailed proposals.

Further pre-application engagement was held with the council in November 2024.

Pre-application engagement with local stakeholders

Two public consultation events were held in January 2024 in the form of a drop in exhibition, advertised to 1500 households and businesses in the area. Information was displayed and representatives of the college and the design team were in attendance to answer queries. Around 50-60 people attended each event.

Overall feedback to the proposals was positive, and seen as an improvement in the educational experience for local learners. The plan to achieve net zero carbon and the improvements to the landscape were also viewed favourably.



Engagement strategy

Coleg Gwent	Enterprise & Academic	Care & Community	Creative & Technical Studies	Crosskeys Community
Senior Leadership Team	A-Levels	Health & Social Care	Engineering	Local Neighbours
Estates Team	Business & IT	ILS	Art & Media	Key Community Users
Student Representatives (SU)	Sport & Public Services	Hair & Beauty	Performing Arts	Wider Region / local Government
Sustainability Team				
Timetabling and asset management				

Stakeholder mapping

6.1 MASTERPLAN PROPOSALS

MASTERPLAN OVERVIEW

Phases 1-3 are planned for delivery (subject to funding approvals*) over 9 years up to 2032, based upon space requirements, cost estimates and the phasing/decant strategy. Phase 4 goes beyond the 9 year programme and space model projections, however, when undertaken this would take the indicative implementation of the masterplan up to 2035.

Note: *Flexible delivery options are also available with smaller M&E projects, cladding and other refurbishments could be brought forward if funding was available during earlier phases.

Concept Masterplan

- Site boundary
- Existing buildings
- Energy centre (existing)
- Energy centre (proposed)
- Proposed buildings
- Future development plot
- Parking areas
- Bike store
- Existing/proposed tree planting
- Informal green space
- Outdoor sports area
- Paved pedestrian areas

Campus Clusters

1. Campus Heart
2. Health & Beauty, Sports, 'Front of house' spaces
3. Social, Welfare, ILS
4. Arts and Media
5. Science, Skills
6. Engineering, Motor Vehicle

Identified campus clusters

Concept Masterplan [1:2500 @ A3]

Summary of New Build Block Uses:

Block Y (Phase 1): Catering, Travel and Tourism, Business and IT, Business Support, Exams Hall

Block Z (Phase 2a): Hair & Beauty, Health & Social Care, ILS Cafe/Coffee Shop,

Block C Extension (Phase 2b): Engineering

Block B (Phase 3): Motor Vehicle

Block A (Phase 4): Sports, Public Services, Gym

Summary of Existing Block Uses:

Block C: Motor vehicle and Engineering (classrooms)

Block J: Engineering

Block R: Art

Block S: Science and general-purpose classrooms

Block T: Performing Arts, Music, Welsh for Adults, general-purpose classrooms

Block X: Student Services (including main reception), ILS, A Levels and Performing Arts

TOWNSCAPE, LEGIBILITY AND PEDESTRIAN CONNECTIVITY

The approach to townscape has focused on improving the relationship between the campus and the wider neighbourhood by creating a improved street frontage to Risca Road with public facing uses bringing activity to the street and showcasing the college.

Within the site the arrangement of the campus has been rationalised around a landscaped pedestrian spine connecting the various uses and facilities, and improving accessibility for all.

Townscape, Legibility and Pedestrian Connectivity Strategy Plan [1:2500 @ A3]

Public facing uses such as the salon, gym and reception are located on the Risca Road street frontages to increase visibility and accessibility, and to help provide activity on the street.

There is also opportunity to showcase the some of the activities and teaching that the college does by putting them in view of the wider public.

A central landscaped pedestrian spine links the various academic, student and open spaces.

Alongside improving the legibility of the campus by design, wayfinding signage to be improved throughout the campus.

- Site boundary
- Main pedestrian access
- Additional access
- Key pedestrian routes
- Bike store
- Key public frontage
- Active ground floor frontage
- Congregation space
- Campus heart
- Improved signage/ wayfinding
- Reception
- Gym
- Hair & Beauty Salon
- ILS Cafe/Coffee Shop
- Refectory

ACCESS, ACTIVE TRAVEL AND PARKING

The key principle of the vehicular access strategy is to remove through vehicle movements in the centre of the campus by consolidating parking at the periphery. This will improve the setting of the campus and improve internal accessibility.

Access for maintenance and emergency vehicles will be maintained.

The existing access and exit points on Waunfawr Park Road and the existing entrance east of Block X remain unchanged. The existing entrance and exit points in front of old Block B are replaced by new entrance and exit points adjacent to new Block Y. Details of these entrances and exits are provided with the Phase 1 planning drawings.

A new entrance is planned next to new Block B (Phase 3). This is currently anticipated to be entrance only but is subject to further design application.

Access, Active Travel and Parking Strategy Plan [1:2500 @ A3]

- Site boundary
- Vehicle access (direction indicated)
- Connecting on-site road
- Bus route (and stops)
- Parking area
- Accessible parking location
- Temporary parking during phased development
- Servicing (+additional parking)
- Bike store location
- Active travel route for cyclists

Accessible and visitor parking with delivery drop off bays on Risca Road frontage. Access and exit points are similar to existing arrangement so unlikely to present access problems.

Bus stops retained in current location.

Vehicle entrance on Risca Road adjacent to Block X is to be retained as access only.

Removal of vehicle access and parking in heart of site allows open space and landscaping to be reconfigured to improve setting of campus and accessibility.

Central bin storage located to minimise large vehicle movements.

Bike storage to be improved by creating a secure store in accessible location (indicative locations shown) at the heart of the campus. Short stay cycle shelters can be provided or retained at locations at other entrances.

Retained as exit only.

Retained as two-way access

LANDSCAPE, OUTDOOR SPACE AND AMENITIES

The landscape strategy will be phased in alongside the building phases. Where possible, existing landscaped areas will be retained in early phases and focus on creating new landscaped areas where required by the demolition of existing buildings and creation of new ones.

Landscape, Outdoor Space and Amenities Strategy Plan [1:2500 @ A3]

- Site boundary
- Outdoor gathering/social space
- ILS garden
- Informal green space
- Central paved hard landscape
- Existing/proposed tree planting
- Attenuation
- Key surrounding views
- Outdoor sports area
- Bike store location
- Energy centre
- Indicative skip store location

PHASING

The overall phasing strategy identifies how the campus will change over the next 10-15 years.

SITE WIDE PHASING STRATEGY

Each phase highlights the key construction projects, as well as landscape and open space improvements.

Phase 1: Reception to be moved from Block B to Block X. Close off Block B car park entrances (use for contractors compound). Temporary visitor parking to the rear of Block X. Temporary car park on former garage site. Refurbish Exams Hall. Construct Block Y. Relocate and decant teaching spaces.

Phase 2a/b: Refurbish Block T. Remake the connections between the Block B boiler house and Block F. Construction of Block Z and Block C extension. Refurbish Block E workshops and Black A2 labs. Relocate and decant teaching spaces. Decommission Block T refectory and relocate to Block Y.

Phase 3: Construct new Block B. Decouple Blocks A/E from the Block B boiler house and install small boilers to Blocks E/A2. Decant and relocate teaching spaces. Block E elevation work following Block F demolition. ILS garden relocated to area south of X Block.

Phase 4: Construct new Block A. Relocate teaching spaces. Allocate remaining space following space model revision.

Site Phasing Strategy Plan [1:2500 @ A3]

SITE WIDE DEMOLITION STRATEGY

Each phase (alongside the overall phasing strategy) highlights the buildings identified for demolition across the campus over the course of the phases 1-4.

Phase 1: Demolition of the existing semi-detached houses along Risca Road.

Phase 2a/b: Demolition of Block B. Service crossovers between Blocks B and F to be identified and separated. Demolish small outbuildings near Block C.

Phase 3: Decouple Blocks A and E from the Block B boiler house, then demolish. Demolish Blocks F, K, Z for enabling works. Demolish Blocks A1 and E upon completion.

Phase 4: Demolition of Block A2 and G. Consider extending the heat network to Block J and demolishing or repurposing the boiler house.

Site Demolition Strategy Plan [1:2500 @ A3]

PARAMETERS

MAXIMUM BUILDING HEIGHTS

Building frontages along Risca Road should be between two and three storeys, in order to provide defined frontage to Risca Road and to protect the amenity of neighbouring properties.

The future development plot, adjacent to Block T will allow for up to two storeys to be consistent with the surrounding buildings at the heart of the campus.

The extension to Block C allows for a maximum height up to 6m above ground level, in order to protect the amenity of neighbouring properties, while allowing sufficient ceiling height for the planned automotive uses.

Maximum Building Heights Parameter Plan [1:2500 @ A3]

Site boundary

Two to three storeys: maximum height between 9m-15m above ground level

Up to two storeys: maximum height between 0m-11m above ground level

Up to one-and-a-half storeys: maximum height between 0m-6m above ground level (less that two storeys)

MAXIMUM FLOORSPACE

The parameter presents the gross external area for each phase of development (including the future development plot).

Maximum Building Heights Parameter Plan [1:2500 @ A3]

- Site boundary
- 100m - 999m² total maximum floor space
- 1000m - 1999m² total maximum floor space
- 2000m - 2999m² total maximum floor space
- 3000m - 3999m² total maximum floor space
- 4000m - 4999m² total maximum floor space

6.1

LEGIBILITY AND MOVEMENT

The parameter presents the access and navigation of vehicles and people around the campus. The plan highlights the following:

- Vehicle circulation
- Building frontages
- Main entrances into buildings (both existing and indicative)
- Bicycle storage
- Bus stops

Legibility and Movement Parameter Plan [1:2500 @ A3]

- Site boundary
- Vehicle circulation through the campus
- Access in/exit out of the campus
- Bus stop (existing)
- Bicycle storage
- Skip compound
- Main entrance into the building (Block X and Phase 1)
- Main entrance into the building (indicative)
- Primary building frontage: Frontages should be no more than 18m from Risca Road (measured from back of the kerb)

6.1

DESIGN GUIDANCE

PRIORITISATION OF PEDESTRIANS

Some key decisions have been made to prioritise pedestrians in the heart of the campus:

- Through traffic has been removed from the centre of the campus.
- Car parking has been consolidated at the main parking areas at the periphery of the campus.

The landscape design should aim to design out conflict between pedestrians and vehicle movements.

BIKE STORAGE

The existing on-site bike storage is inadequate in external shelters. These have limited natural surveillance, insecure and are partially exposed to the elements.

A dedicated internal secure bike store should be provided. This could be integral to an academic building or a stand-alone building. This should be easily accessible from all entrance points, and located with, or close to, changing facilities.

External bike shelters can be retained or provided at other points in the campus to provide short stay or overspill bike parking. These should be located in areas which are well overlooked.

Dedicated cycle hub


Secure cycle storage


External cycle shelter

Bikes stores can be double stacked but some spaces should allow for non-standard bikes and accessible for people unable to lift their bike.

INCLUSIVE AND ACCESSIBLE DESIGN

Opportunities should be taken to improve accessibility and design out impediments for people with limited mobility or visual impairments; as well as designing out conflicts between cyclists and pedestrians.

There are currently an number of level changes throughout the campus, lack of dropped kerbs, various canopies and furniture clutter the open spaces.

New buildings on the site can be positioned to reduce the need to use external ramps. The landscape design should reduce minor level changes, widened external routes and remove visual clutter.

Consideration should be given to visual contrast of materials for external as well as internal spaces.

MATERIAL PALETTE

The images on this page provide examples of how the new buildings and spaces might look within the overall masterplan.

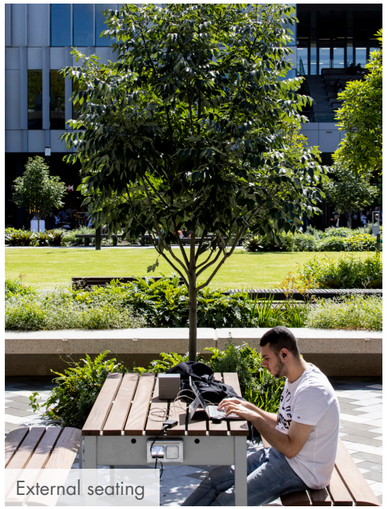
The existing Block X and the Torfaen Learning Zone provide examples of modern educational buildings in the Coleg Gwent Estate. Both use colour in line with the college's branding to enliven the façades.

The landscape scheme could combine simple but high quality hard landscaping with a biodiverse backdrop of soft landscaping.

NOTE: For detailed design refer to Phase 1 Proposals on page 60.

Student social space

Existing Block X



External seating

Pedestrian route with planting and benches

Coleg Gwent Torfaen Learning Zone

LANDSCAPE MASTERPLAN

The landscape strategy will be phased in alongside the building phases. Where possible, existing landscaped areas will be retained in early phases and focus on creating new landscaped areas where required by the demolition of existing buildings and creation of new ones.

The phasing takes into consideration the requirements for biodiveristy gain, SuDS and the wider green infrastructure per phase and how it links to the wider campus final masterplan.

The landscape masterplan follows the early design development zones as shown below, as well as the key areas of the landscape

Landscape Masterplan [1:2500 @ A3]

3. The Community Frontage: opening up the campus and welcoming the wider Crosskeys community.

2. The Social Heart: a place for staff and students to learn, relax and socialise.

1. The Green Link: this runs through the heart of the campus, and provides the main green infrastructure route though the campus.

Campus Quarters

1. Campus Heart
2. Health & Beauty, Sports, Public Services
3. Social, Welfare, ILS
4. Arts and Media
5. Skills
6. Engineering

Identified campus quarters

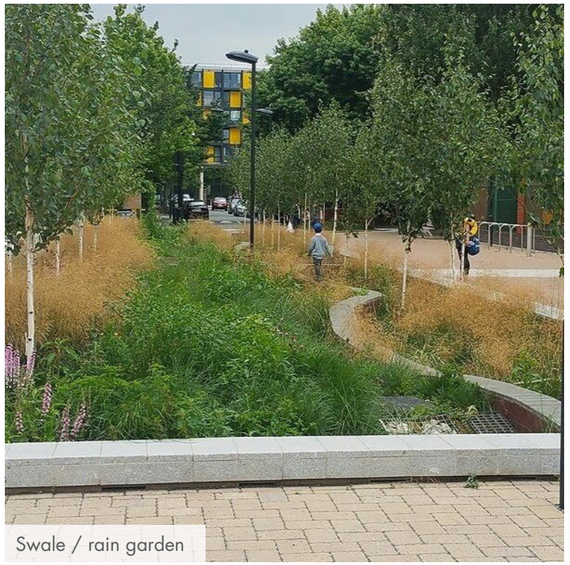
6.1

LANDSCAPE: DESIGN PRECEDENTS

The images used here show opportunities for the campus landscape, including:

- Small scale productive food growing raised beds; how a small fruit orchard and wildflower planting can create interesting places to sit and add to biodiversity.
- Swales, rain gardens and a fully connected blue infrastructure strategy to future proof the campus for climate change. Together with adding interest to outdoor spaces and increase the variety of habitats across the site. The SuDS proposals for each phase will meet the requirements set out in the SAB note.
- Creating a series of legible and identifiable footpaths and links thtough the campus, fully accessible and lit at night to improve pedestrian safety.
- Using level differences on site to create interesting features.
- Providing a variety of seating and socialising spaces for different uses, including outdoor learning, quiet revision and eating.

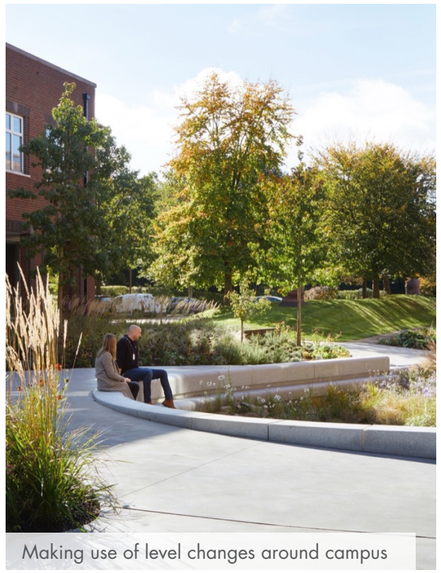
Raised beds for vegetables



Swale / rain garden

Orchard to encourage local food growth

Legible and idendifiable footpaths and links through the campus



Making use of level changes around campus

A variety of spaces for formal and informal seatng / socialising

SUSTAINABILITY

MASTERPLAN KEY OBJECTIVES

The College recognises that climate change is one of the most significant global challenges of the century.

- The United Kingdom, along with more than 170 other countries, officially signed the Paris Agreement in 2016 setting out a global target to reduce greenhouse gas emissions.
- In 2019, the UK government passed legislation to reduce the UK's net emissions of greenhouse gases by 100% by 2050.
- This was followed by the Welsh Government updating its Environment (Wales) Act 2016 to include a legislative commitment to be net zero carbon by 2050.
- In July 2021 the Welsh Government published a route map for de-carbonisation across the Welsh public sector 'Net Zero Carbon Status by 2030'.

The masterplan provides a road map to Net Zero Carbon for Operational energy (Scope 1 and 2 carbon emissions) through the replacement of poorly performing older buildings, renovation of the remaining building stock where required and renewal of heating and cooling plant with the installation of a 5th generation (ambient loop) heat network.

NET ZERO CARBON - OPERATIONAL

A 'Net Zero Carbon - Operational Energy' asset, for Scope 1 & 2 emissions, is one where:

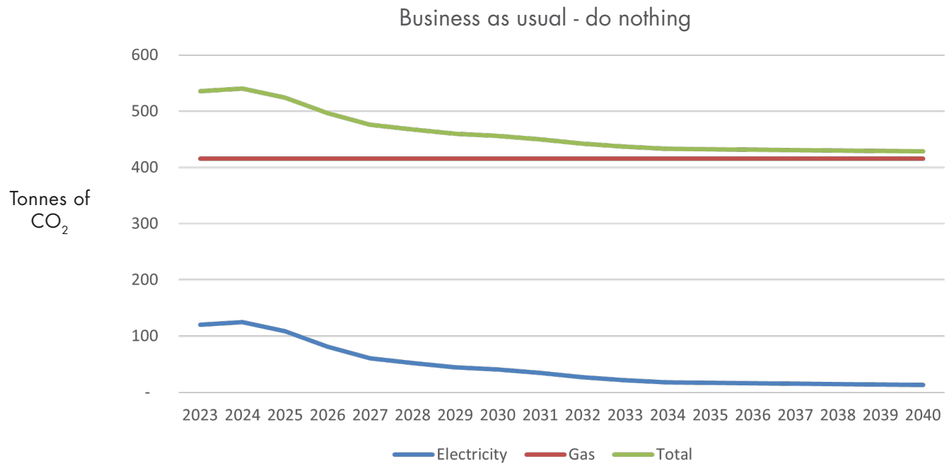
- Both regulated and unregulated energy is considered.
- All energy use has been minimised.
- No fossil fuels are used.
- Meets the local energy use targets.
- All energy use is generated on or off-site from renewables sources.
- Any residual direct or indirect emissions from energy generation and distribution are 'offset'.

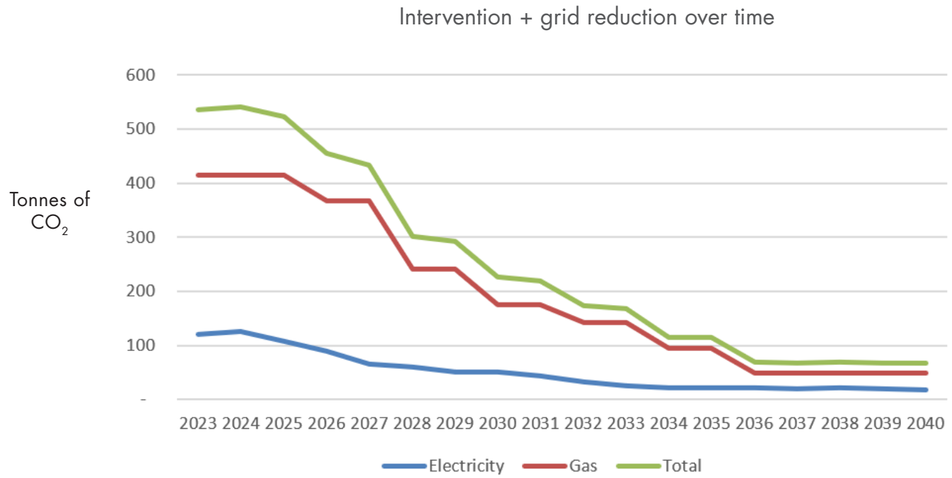
Scope 1*: Direct emissions produced from sources that are owned or controlled by the College, which includes the combustion of fuels and fuel used by the Colleges facilities.

*Vehicle emissions are excluded in this study.

Scope 2: Indirect emissions caused through the purchase of electricity and heat.

Scope 3: These are indirect emissions created by an organisations supply chain. Outside the college's direct contol at this stage.





6.1

PERFORMANCE TARGETS

REFURBISHMENT OF BUILDINGS

(Based upon LETI standards)

U-Values (W/m2.K)

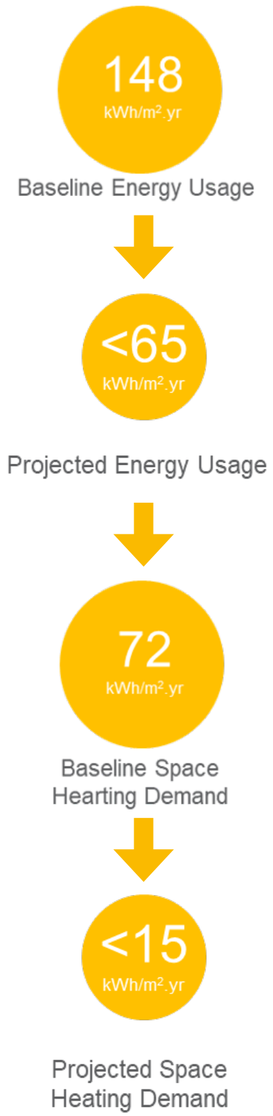
Wall	0.18 - 0.24/0.32
Roof	0.15 - 0.22
Windows	1.0 - 1.3 (G-Value: 0.4 - 0.3)
Doors	1.0

Fabric Efficiencies

Airtightness	2 - 3m³/h.m² @ 50Pa
Thermal bridging	0.1 (Y-Value)

System Efficiencies

Install MVHR, replace Extract
Remove fossil fuels
Central AHU SFP; variable speed drives
Lighting 50lm/W
Increase/replace pipework insulation
Replace high demand water flow rates
Maximise PV
Metering and controls



NEW BUILD

U-Values (W/m2.K)

Wall	0.12 - 0.15
Floor	0.10 - 0.12
Roof	0.10 - 0.12
Windows	1.0 - 1.2 (G-Value: 0.4 - 0.3)
Doors	1.0

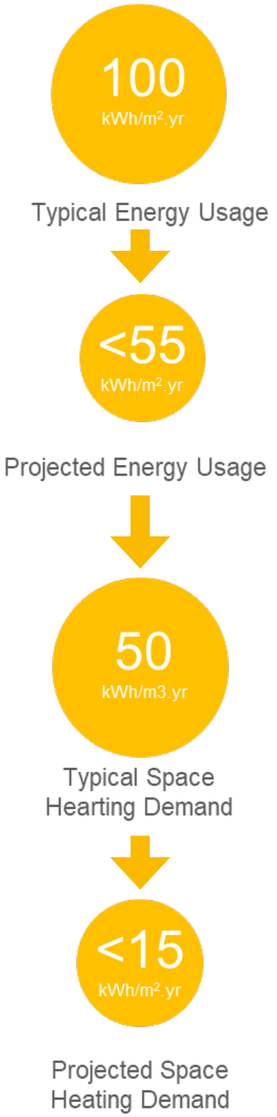
Fabric Efficiencies

Airtightness	<1 m³/h.m² @ 50Pa
Thermal bridging	0.04 (Y-Value)
Form Factor	1 - 3
Window Area	15 - 25%

Balance daylight / overheating, external shading, openable windows and cross vent at appropriate times

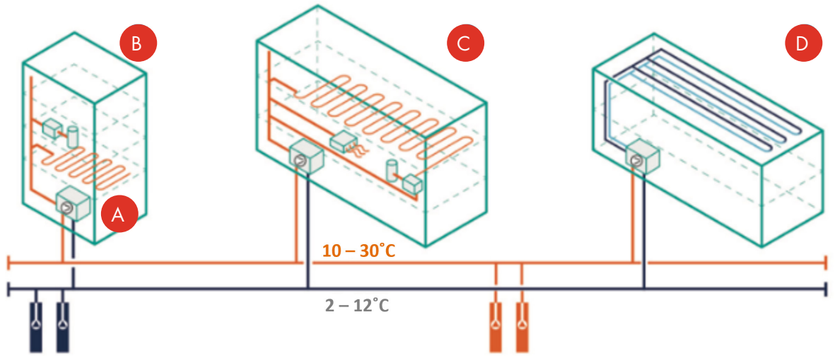
System Efficiencies

MVHR	90% Eff
Heat Pump	>2.8 SCOP
Central AHU SFP	1.5 - 1.2 W/l/s
Lighting Power Density	4.5 W/m² peak
Lighting out-of-hours	0.5 W/m² peak
ICT loads	0.5 W/m² peak
Small power out-of-hours	2 W/m² peak



BUILDING SERVICES STRATEGIES

HEAT NETWORK: 5TH GENERATION (AMBIENT LOOP)



Heat stores/sinks providing seasonal storage

5th Generation district heating and cooling:

A Distribution heat pump plant rooms.

B Classrooms blocks - space heating only and DHW.

C Workshop areas - Space heating only and DHW.

D High cooling demand areas such as the Gym.

Installation of thermal bank under slab

As later phases of the masterplan is delivered the intention is to connect the new and refurbished buildings on campus to form a 5th generation (ambient loop) heat network. A 5th generation heat network is a low energy, low heat loss heat network that allows the addition or removal of buildings over time without large scale changes to a central energy centre.

The 5th generation heat network can be designed to be agile, and incorporate technologies such as seasonal thermal storage, thermal bank or deep boreholes providing an opportunity to store excess electricity produced during the summer-time for use in winter-time when more electrical energy is needed for heating.

Although general cooling is limited on the Crosskeys Campus, 5th generation heat networks offer opportunity to dump excess heating generated from cooling into the network to benefit other buildings, i.e. excess heat from server rooms, etc. can be used to heat other buildings on the network. This heating sharing can be expanded as or if additional comfort cooling is installed on campus.

KEY CONSIDERATIONS:

- Operate at low temperatures to be more efficient, circa 10 to 30˚C.
- Can provide both heating and cooling.
- Multiple heat pumps can be used on the network.
- Can be used as a heat source or a heat sink, dependent upon requirements.
- The distribution pipework does not suffer from heat losses, improving system efficiency.
- Installation costs are much lower when using uninsulated plastic pipes compared to conventional district heating networks.

REFURBISHMENT OVERVIEW

BLOCKS B, F, K AND G

Demolished and replaced.

BLOCKS A, E AND Z

Demolished and absorbed into new blocks. Rationale: while condition is salvageable, the cost to achieve net zero is disproportionately expensive, with low embodied carbon, structural issues and poor space utilisation.

BLOCKS C, J AND T

Options for upgrading solid wall buildings will be considered.

BLOCKS R & S

Options for upgrading framed buildings will be considered.

BLOCK X

Air test or thermal imaging to identify any high energy use areas of the building which might be improved will be considered.

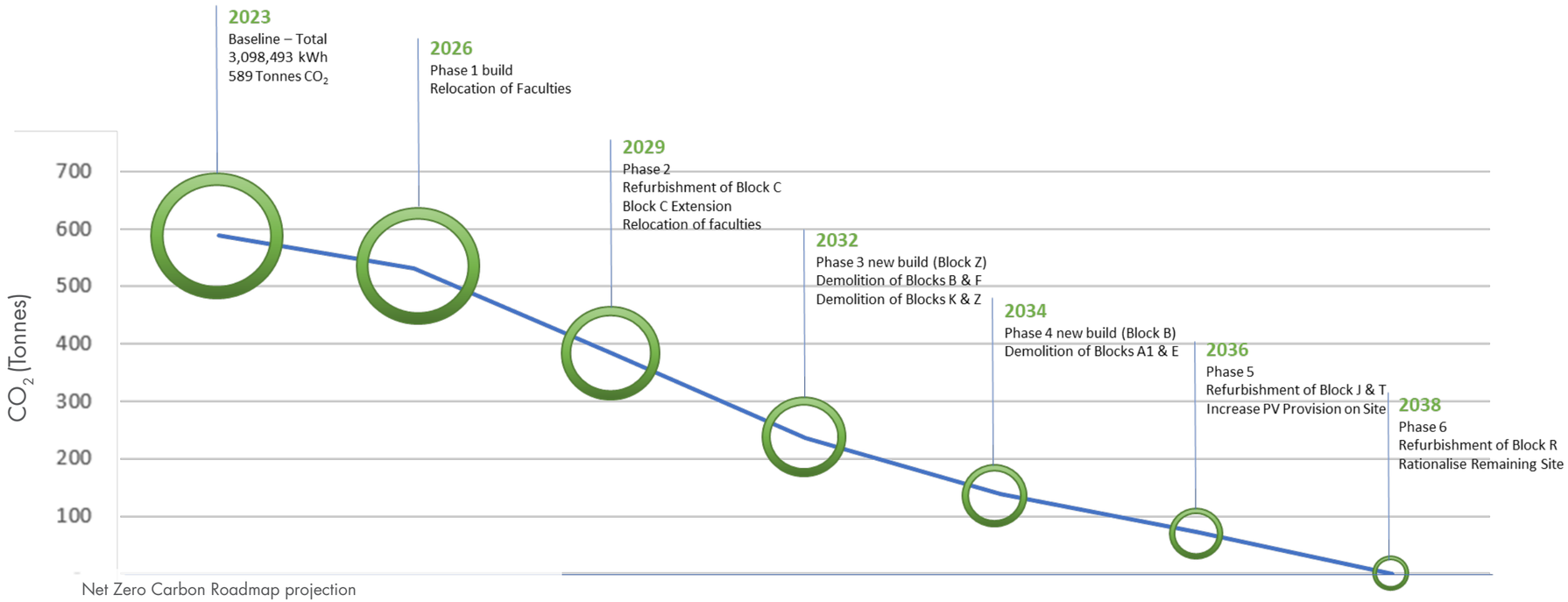
Construction Solutions Plan [1:2500 @ A3]

NET ZERO CARBON ROADMAP

The timeline below illustrates the potential phasing of works and key milestones to NZC in operation.

ATKINS to update to current phasing

Phase	Suggested Completion	Key Works
1	2027	Phase 1 build (Block Y) Decommission Block B
2	2029	Phase 2 build (new Block Z) Block C refurbishment and extension Decommission Blocks F, K, Z
3	2032	Phase 3b build (new Block B) Decommission Blocks A1 and E
4	2035	Phase 4 build Decommission Blocks A2 and G
5	2036	Block J and T (phase 1) refurbishment. Increase PV provision on site.
6	2038	Block R and T (phase 2) refubishment.



Net Zero Carbon Roadmap projection

6.1

The timeline below illustrates the potential phasing of works and key milestones to NZC in operation.

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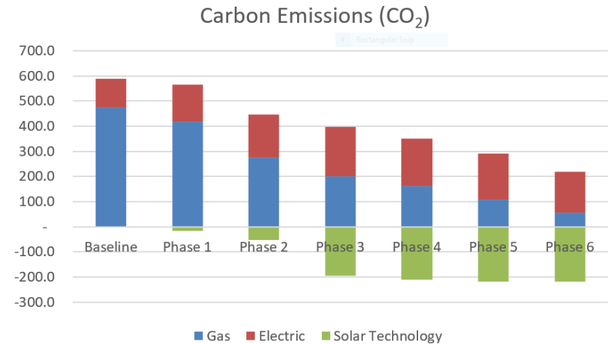
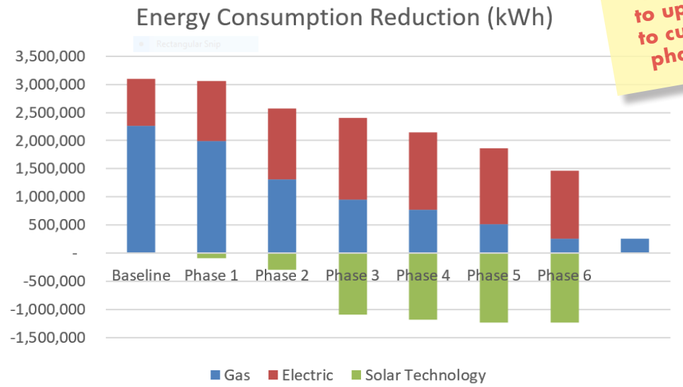
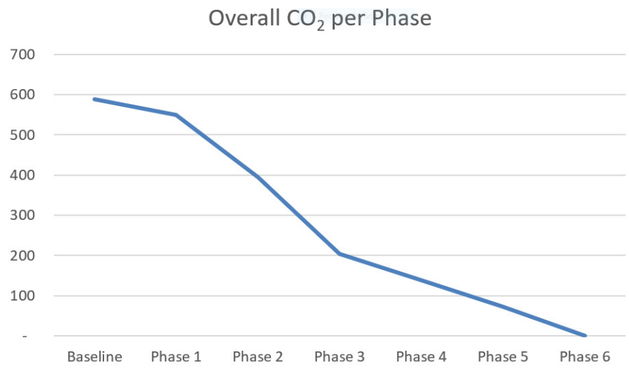
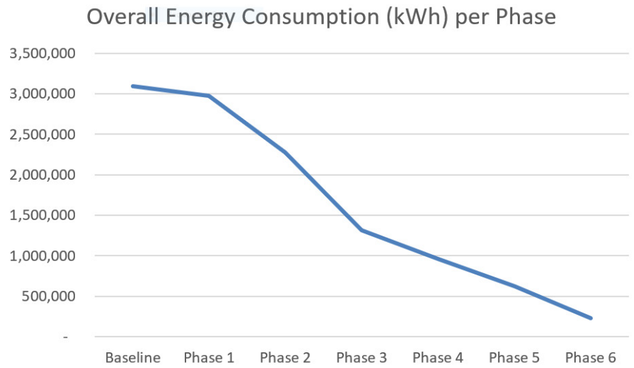




ATKINS to update to current phasing





Energy Consumption and Emissions Breakdown (Atkins)

CAMPUS NZ / MEP STRATEGY

NEW ENERGY CENTRE

- A new energy centre will be created housing equipment for new Heat Pump technology (Ground or Air Source).
- The new plant area is designed into the Phase 1 new build with spatial allowances made to accommodate future plant. This can then be extended to serve future new build phases.
- The new plant will serve an ambient loop district heating system installed over 4 phases.
- Additional heat pumps will be required within each phase to raise the temperature of the ambient loop to usable temperatures for heating, circa 45°C.
- High Temperature Heat Pumps will be required to raise to DHW temperatures levels.
- It is proposed to install seasonal thermal storage by means of a thermal bank underneath each of the new builds to allow any excess heat in summer to be used in winter.

RE-PURPOSE EXISTING ENERGY CENTRE

- 'Re-purpose' the existing Energy Centre, housing Heat Pump technology to serve the surrounding buildings.
- ASHP could be installed to raise temperatures up to 45°C
- High Temperature Heat Pumps (WSHP) raising the temperatures further for any building that does not complete fabric thermal intervention upgrades.

COMPLETING THE NETWORK

Once phase 4 is completed, the balance of the heat pump will be optimised to operate at ambient temperatures with BMS control to minimise CO_2 use.

- Trench phase 1
- Trench phase 2a
- Trench phase 2b
- Trench phase 3
- Trench phase 4
- Future trench phase
- Existing energy centre
- New energy centre
- New sprinkler tank (indicative location)

Campus MEP Strategy (Atkins)

CIVILS OVERVIEW

Atkins has provided a Technical Note (as shown in Appendix B) summarising the sustainable urban drainage system (SuDS) requirements and how the changes to the site that alter drainage regimes will generally require SuDS Approval Body (SAB) approval.

PHASED DEVELOPMENT CONSIDERATIONS

As the site is to be redeveloped in phases, it is important that the final masterplan SuDS strategy is considered at all stages of the design, and within all phases of development.

New and modified SuDS features will be required in all phases. One of the advantages of SuDS features is the ability to adapt sizes and formats over time, using relatively inexpensive methods when compared with deeper, buried traditional drainage systems. It is recommended that all features be designed with adaptability in mind, but at the same time be of a suitable quality and standard to be able to remain as permanent features if later phases do not go ahead.

Phase	Suggested Completion	Key Works
1	2027	Phase 1 build (Block Y) Decommission Block B
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5	2036	Block J and T (phase 1) refurbishment. Increase PV provision on site.
6	2038	Block R and T (phase 2) refubishment.

CONCLUSIONS

- The earlier phases are likely to require pragmatic approach and agreement with the SAB.
- Future adaptability should be factored into design.
- Source control will always be required to meet all requirements, and will be best designed on a building-by-building basis.
- The full masterplan site layout appears to be suitable to cater for a range of SuDS approaches and meet requirements.

RECOMMENDATIONS

- Detailed understanding of existing drainage networks on the entire site, including all chamber locations, pipe diameters, pipe levels, outfall locations. This should include both surface water and foul networks. It will be necessary to establish existing runoff discharge rates in a range of storm return periods.
- Topographical survey to identify positions of all existing roof water downpipes, channel drains etc.
- Discussions with Caerphilly SAB should be held at the earliest opportunity to understand their preferred approach to phased site developments in this manner. The site background information listed above will be important reference material to ensure productive discussions are had. Discussions should also seek to agree ways to streamline the application process so that multiple applications are not needed at each phase.

6.2 PHASE 1 PROPOSALS

PROPOSED FLOOR PLANS

GROUND FLOOR - TEACHING CATERING KITCHEN & STUDENT SOCIAL SPACE

The building layout is a rectangular shape which has an excellent form factor which helps with achieving the Net Zero Carbon project targets.

The entrance is located at the southeast corner, facing the new reception entrance in Block X. This entrance is deliberately student-facing, rather than orientated towards Risca Road, in order to create a synergy with the campus, landscaping, and surrounding buildings, while maintaining visibility from the road.

You first enter the building via a revolving door into a glazed draft lobby, within this are speed-gates for access control into and out of the building.

Upon entering the building via the lobby you are welcomed into a dynamic three storey atrium space with feature accommodation stairs taking you to all floors of the building. This design includes a Hellerup stair, offering students a place to meet, sit, and socialise. This area helps address the current lack of spaces for student interaction. These 'sticky' spaces are designed to encourage students to remain on campus between lessons, aligning with Coleg Gwent's goal of fostering an engaging campus environment, rather than having students leave the premises and venture into the surrounding neighborhood, as is often the case currently.

Adjacent on the ground floor are the catering kitchen, prep room, classroom and changing areas. The kitchen spaces feature windows facing Risca Road to enhance natural light and interaction with the streetscape. The restaurant's location features premium street frontage, making it highly favourable for advertising and ensuring easy accessibility. This addresses many of the challenges associated with the current teaching restaurant in C Block.

The floor plans during this stage have gone through many iterations from design team workshops, client comments along with input from Keystone looking at the space utilisation and growth.

DESIGN STANDARDS

The following is a list of architectural design standards and statutory guidance that will inform the design:

- The design will be in line with Further Education Colleges: Schedule of Accommodation Template.
- Building Regulations

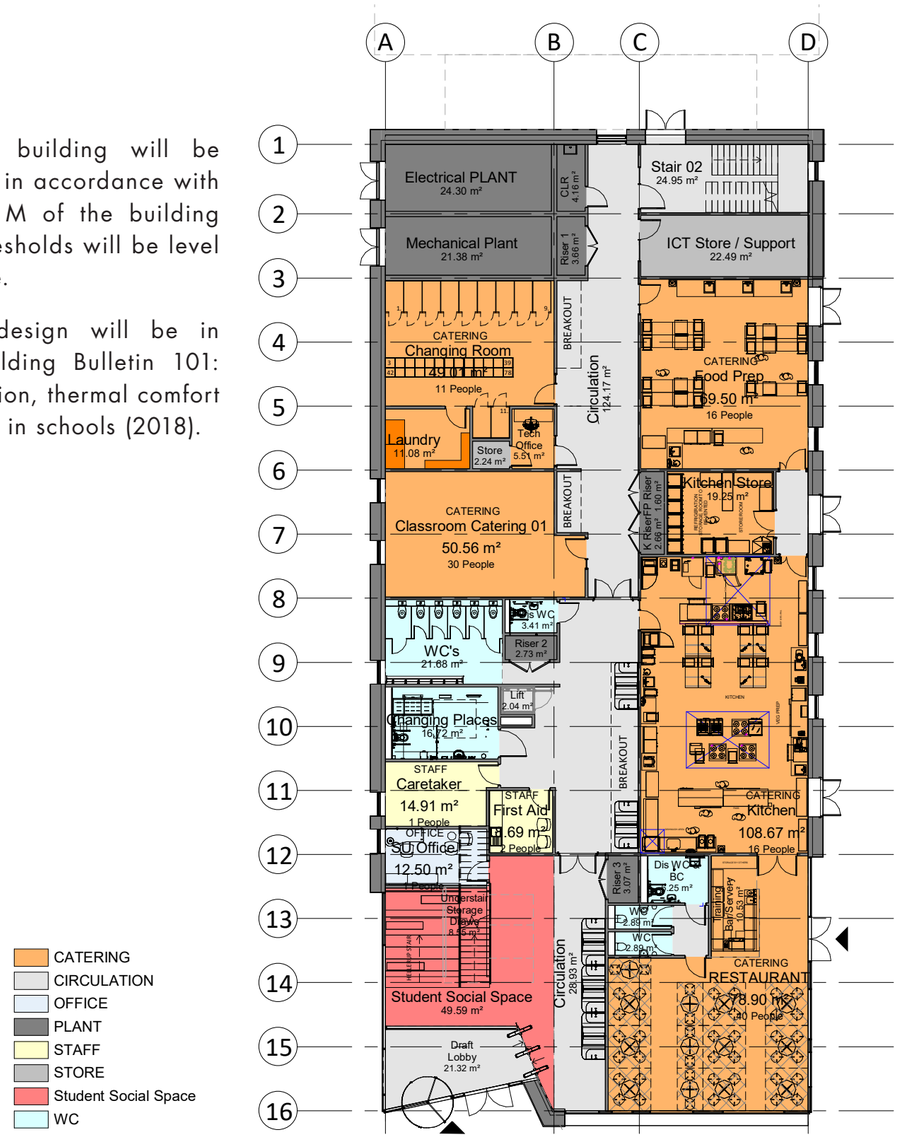
Fire: Building Regulations Part B or BS9999 - to be determined by the fire engineer; The building requires sprinklers

Acoustics: An acoustic consultant is due to join and input on the design at the next stage.

BREEAM: The design will incorporate all necessary measures to achieve a BREEAM 'excellent' as required by Coleg Gwent & a funding requirement.

Accessibility: The building will be fully accessible to all in accordance with Approved Document M of the building regulations. Door thresholds will be level throughout the scheme.

Ventilation: The design will be in accordance with Building Bulletin 101: Guidelines on ventilation, thermal comfort and indoor air quality in schools (2018).

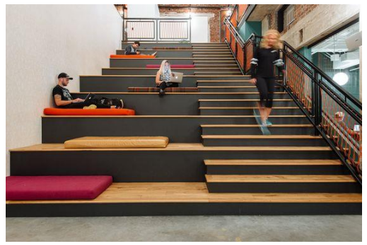


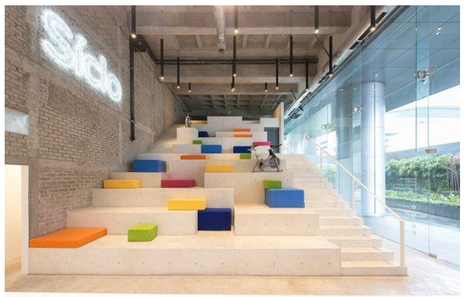
HELLERUP STAIRCASE AND BREAKOUT SPACE

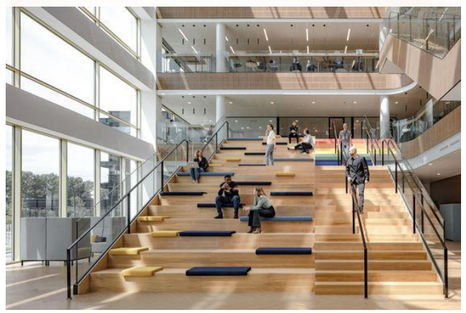
The current circulation spaces on campus do not adequately support students in engaging in informal activities such as socialising, studying, or simply spending time adjacent to their classrooms. This observation has served as the inspiration for the design of the entrance Hellerup stair.

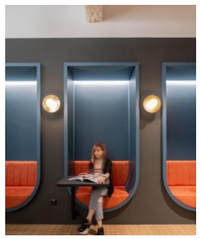
The term 'Hellerup Stair' comes from the Hellerup School in Denmark where its believed this staircase design originated. The staircase is designed to be used for informal seating providing a place for seating and social interaction. The versatility of this seating/staircase makes this an ideal place for students to gather and can even be used for presentations, briefings and events. This area provides students with a conducive environment to sit, study, and interact in an informal setting, while the adjacent accommodation stair facilitates movement between the building's floors. Moreover, the Hellerup stair is versatile, offering opportunities for ad-hoc meetings/briefings/lectures. It serves as a focal point of the building, encouraging students to remain on campus during breaks between lessons.

Furthermore, deliberate "breakout" spaces have been incorporated into the building's design on each floor to foster interaction. These spaces can be customised to accommodate various needs, from solitary pods to informal bench seating for small group gatherings. By integrating these breakout spaces, the aim is to transform corridors into vibrant, interactive areas rather than merely transient spaces.





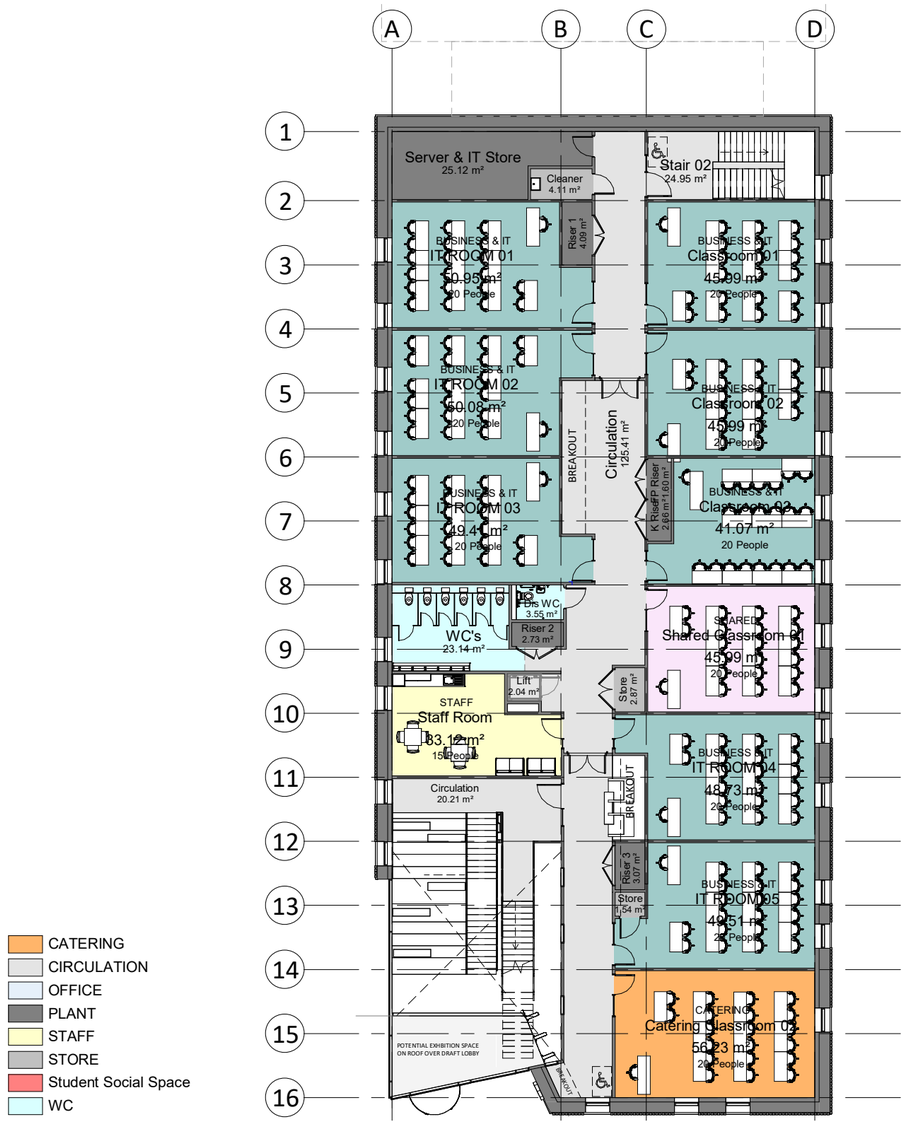




FIRST FLOOR

The first floor of the building is predominantly Business & IT classrooms along with a shared classroom, catering classroom and staff room.

Additional breakout spaces can also be found along the central corridor, providing areas for students to work and socialise informally.



6.2

SECOND FLOOR

The second floor consists of an additional classroom and prominently staff spaces including staff rooms, offices and the boardroom.

The exam/multi-functional space and ancillary rooms are designed to serve multiple purposes, including hosting events when not in use for student exams.

6.2

ROOF

Photovoltaic panels on the roof will provide a renewable energy source for the building. The quantity shown is indicative only.

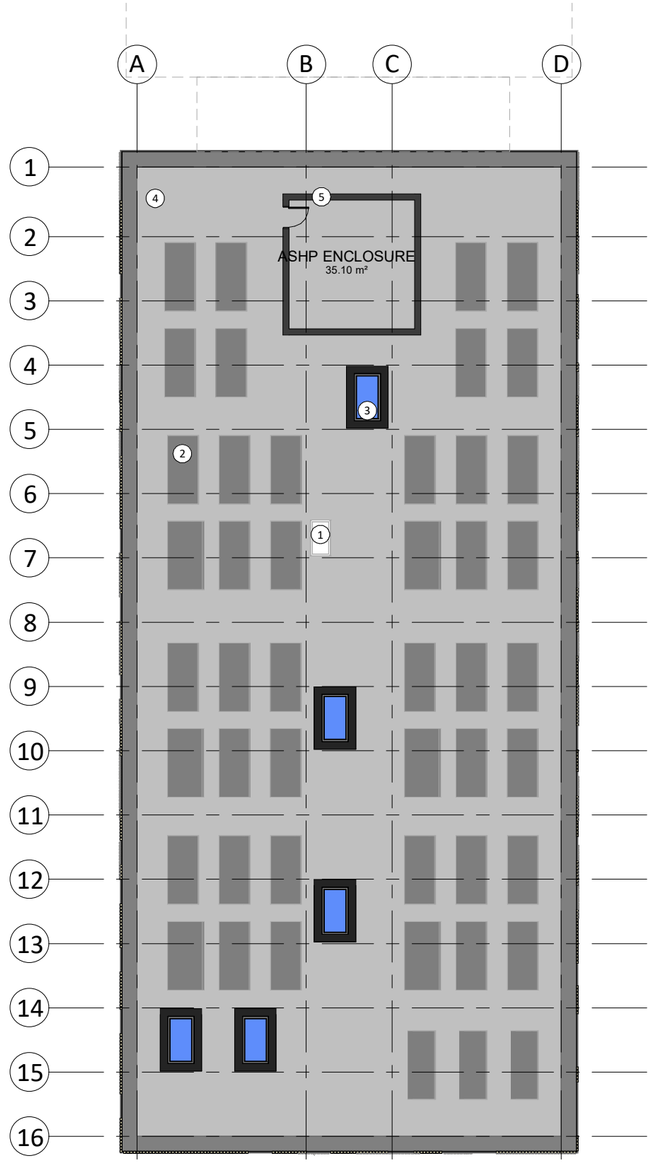
Roof lights have also been introduced to allow light into the second floor corridor and over the Hellerup staircase.

Roof access will be via a fixed companionway ladder on the second floor and via a roof access hatch. This will allow safe access to the roof for maintenance and access required.

The air source heat pumps are located on the roof in a perimeter enclosure and expected to fixed via a Big Foot system. Any acoustic requirements for this enclosure need to come from the acoustician at the next stage and the design developed accordingly.

The roof type is currently a zero degree pitched roof as per manufacture guidance for installation. Rainwater pipes will then be internal and outlet points will be coordinated using the steel deflection plot from the structural engineer at the next stage.

Benefits of the flat roof include a parapet that creates a safe working environment for access and maintenance for the plant equipment, roof inspection and infrequent roof light cleaning.



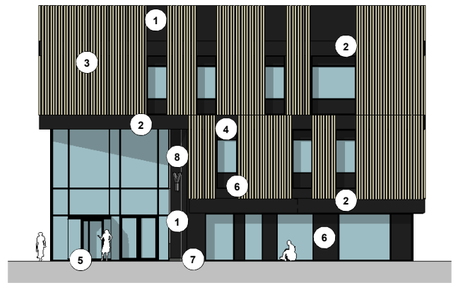
KEY

1. ROOF ACCESS HATCH
2. INDICATIVE PV PANEL - SIZE, QUANTITY AND LOCATION TBC
3. GLAZED ROOFLIGHT - SIZE, QUANTITY AND LOCATION TBC
4. INVERTED ZERO DEGREE PITCH ROOF
5. ASHP FENCED ENCLOSURE. SPECIFICATION & HEIGHT TBC. ACOUSTICIAN INPUT REQUIRED.

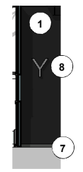
ELEVATION TREATMENT

The elevations aim to establish a high-quality, modern design aesthetic that sets the tone for the campus regeneration throughout the masterplan. The modern vertical lines and layering contribute to this contemporary look. The palette has been carefully selected to reflect a high-quality design ethos, while prioritising buildability. The juxtaposition of dark cladding with champagne battens adds a clean and crisp aesthetic to this educational building. The high-quality design aims to mirror the high standard of teaching found at the campus.

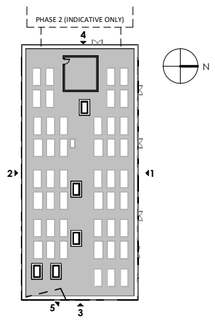
1. NORTH ELEVATION
1 : 200



3. EAST ELEVATION
1 : 200



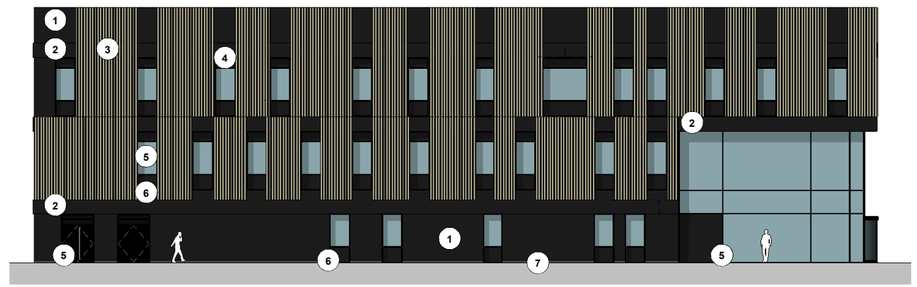
5. East Entrace
1 : 200



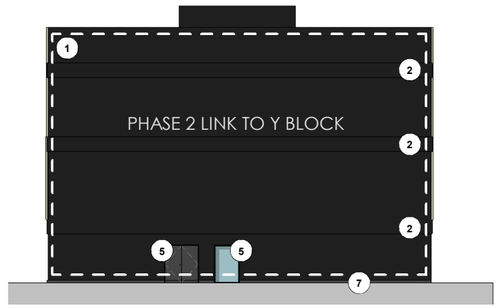
1. BLACK CLADDING PANEL.
2. BLACK METAL C SECTION FOR FIXING BATONS
3. VERTICAL BATONS - CHAMPAGNE COLOUR TBC
4. LOUVRES TBC - INTENTION TO INTEGRATE AT THE TOP OF WINDOWS
5. PPC ALUMINIUM FRAMED WINDOW/CURTAIN WALL/DOOR/LOUVRES/REVOLVING DOOR - BLACK TBC
6. SPANDREL PANELS - BLACK TBC
7. BRICK PLINTH - BLACK TBC
8. SIGNAGE - INDICATIVE ONLY TBC

NOTE: FINAL MATERIALS & COLOURS ARE TO BE CONFIRMED. WINDOW TRANSOM, MULLION AND LOUVRE CONFIGURATIONS ARE TO BE DEVELOPED ALONGSIDE M&E REQUIREMENT AND SUBJECT TO CHANGE.

RWP - ARE INTERNAL - LOCATIONS TBC.



2. SOUTH ELEVATION
1 : 200



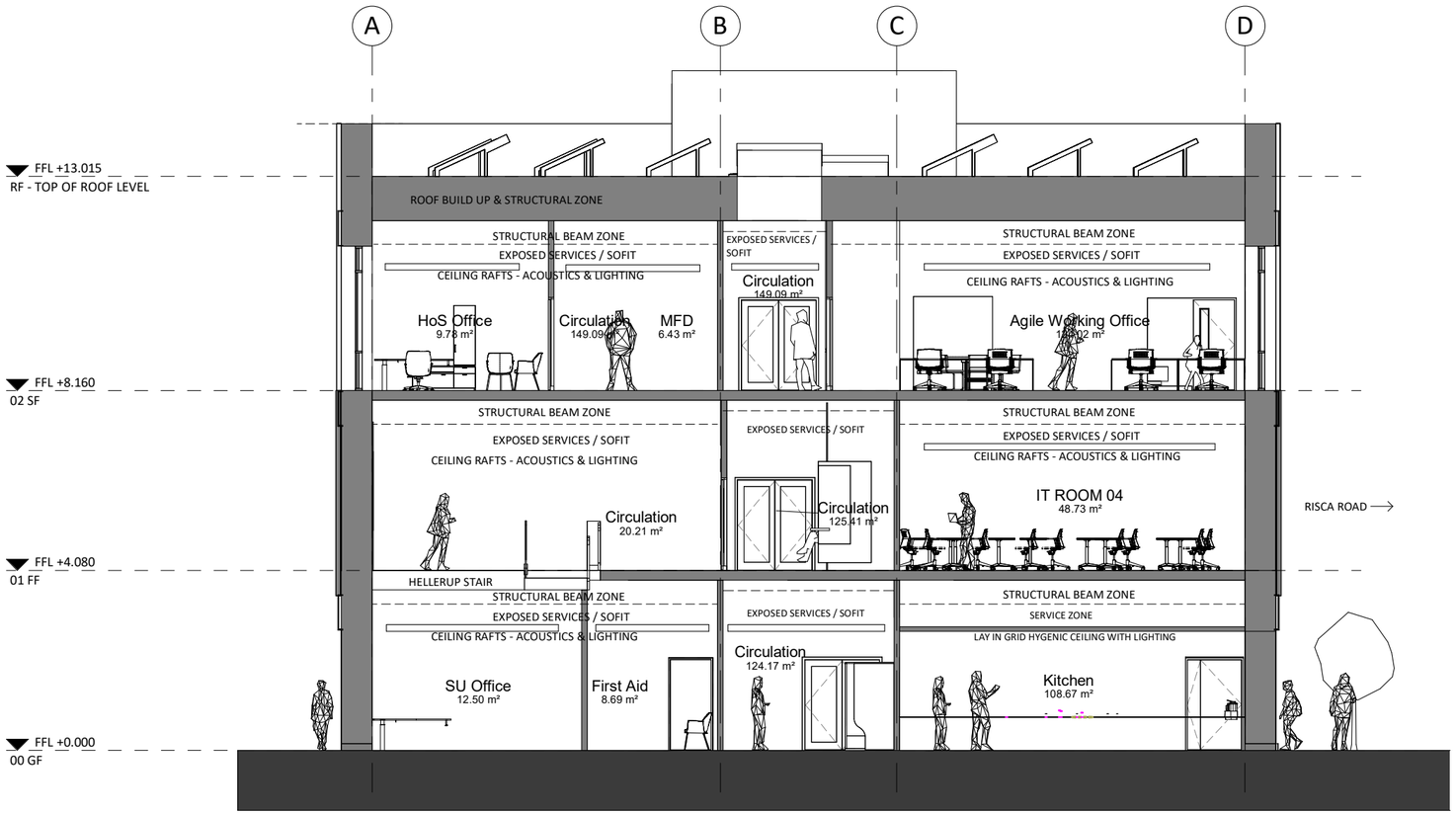
4. WEST ELEVATION
1 : 200

6.2

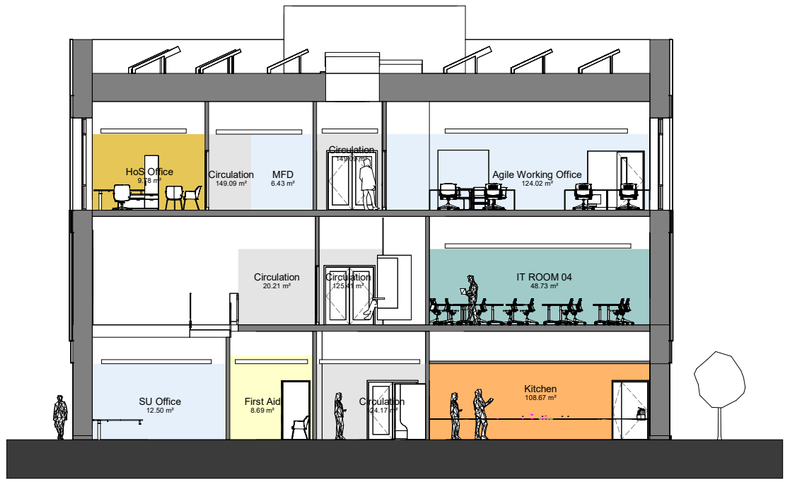
PROPOSED SECTIONS

BUILDING SHORT SECTION

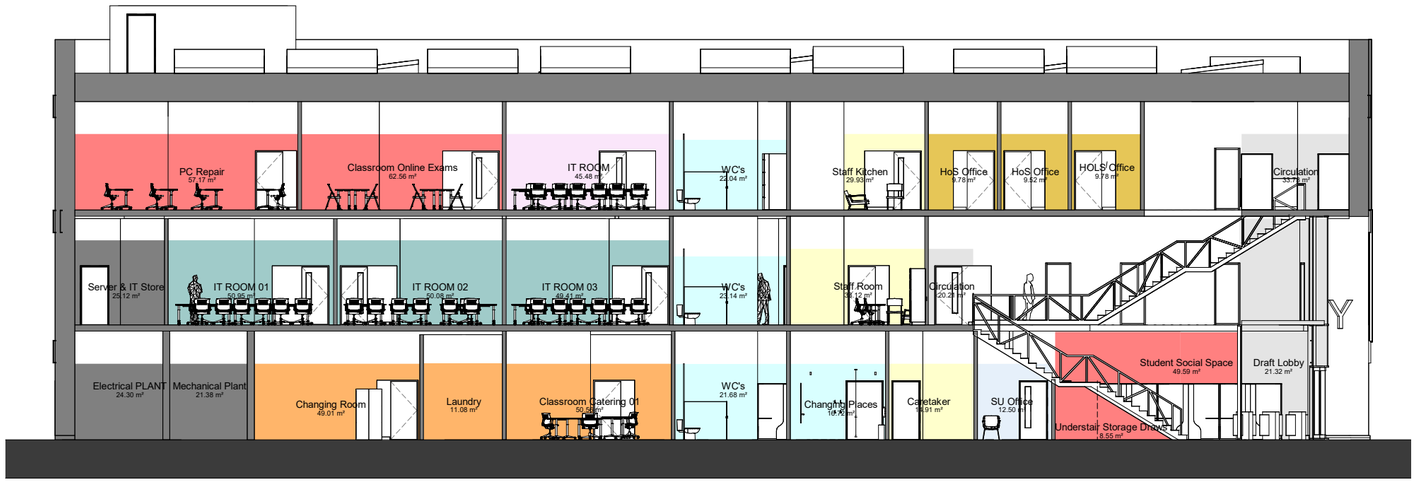
The section illustrates the intention for all soffits to remain exposed, which will also leave the structure and M&E elements visible. Lighting will be provided through ceiling rafts.



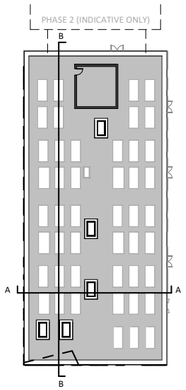
BUILDING GA SECTIONS



SHORT SECTION A-A
1 : 100

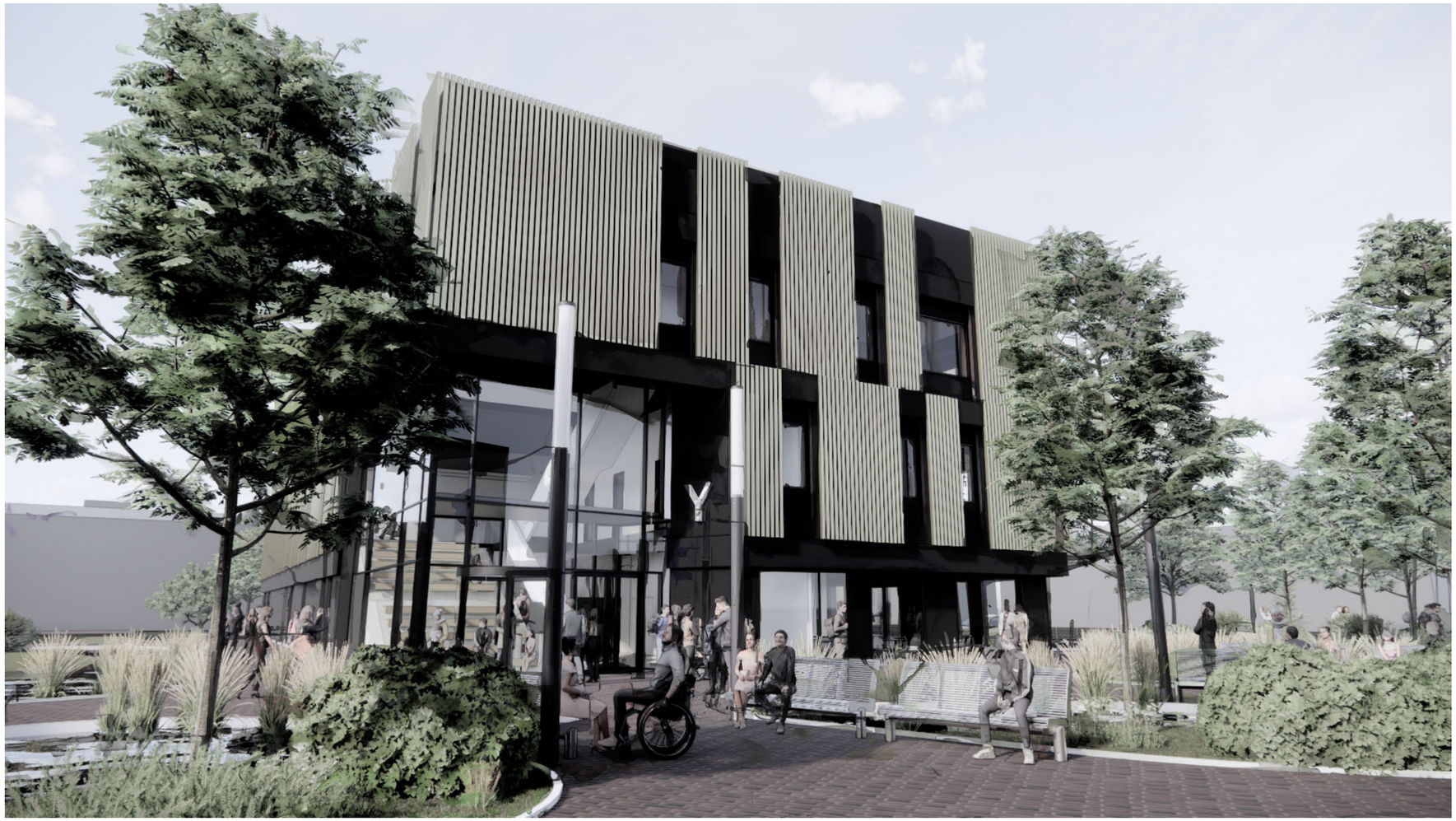


LONG SECTION B-B
1 : 100



EXTERIOR VISUALISATIONS

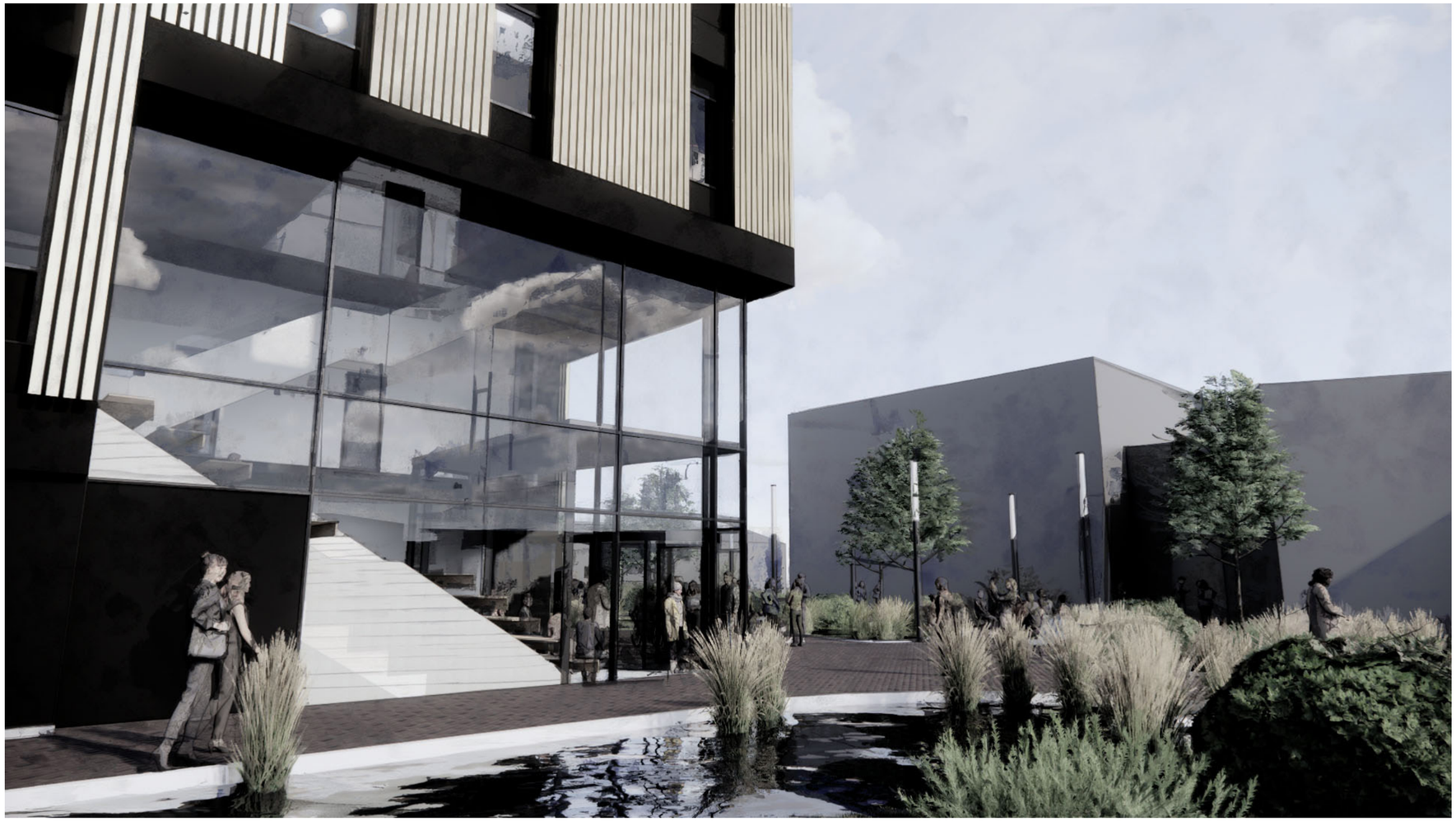
Y BLOCK ENTRANCE



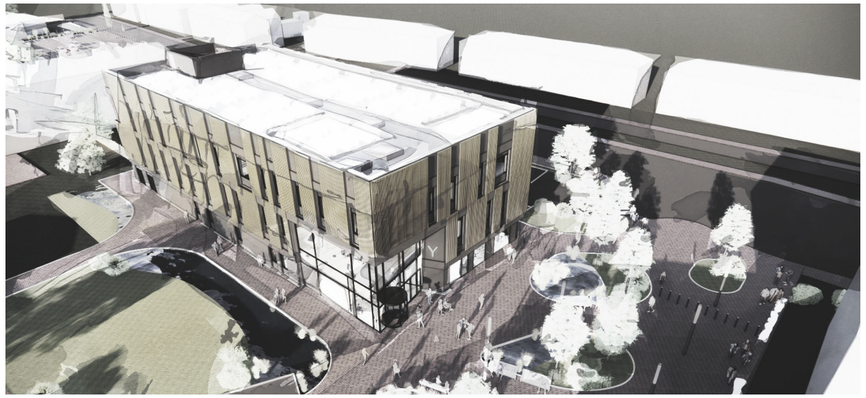
6.2

Y BLOCK ENTRANCE

LANDSCAPING NEXT TO HELLERUP STAIR



BUILDING OVERVIEWS



SITE ENTRANCE VIEW

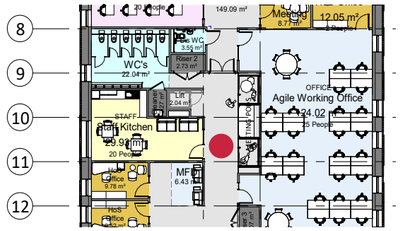
INTERIOR VISUALISATIONS

ENTRANCE HELLERUP STAIRCASE

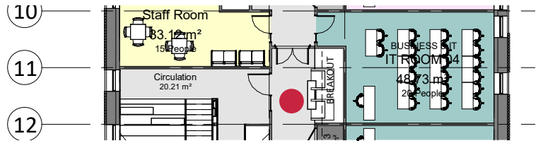
6.2

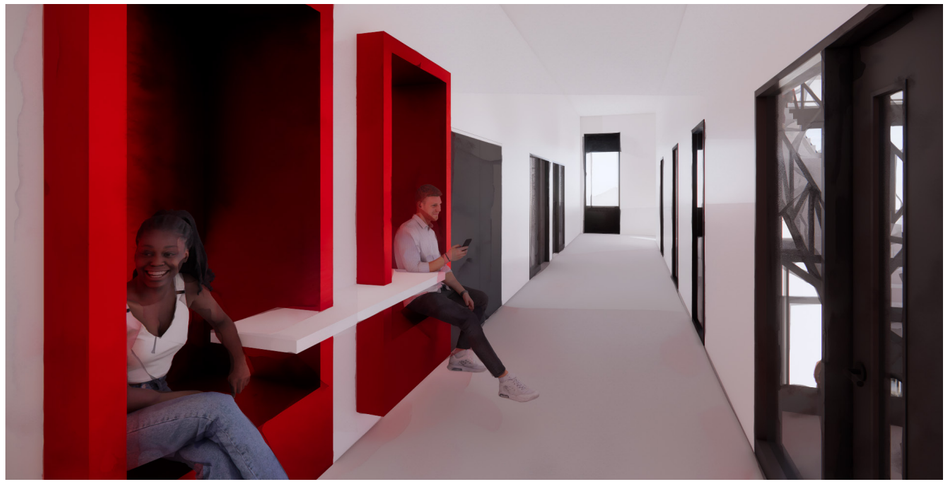
ENTRANCE HELLERUP STAIRCASE

2ND FLOOR OFFICE CORRIDOR BREAKOUT PODS



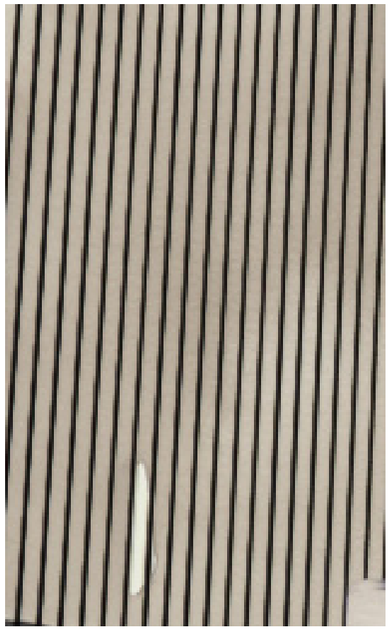
2ND FLOOR OFFICE CORRIDOR BREAKOUT PODS





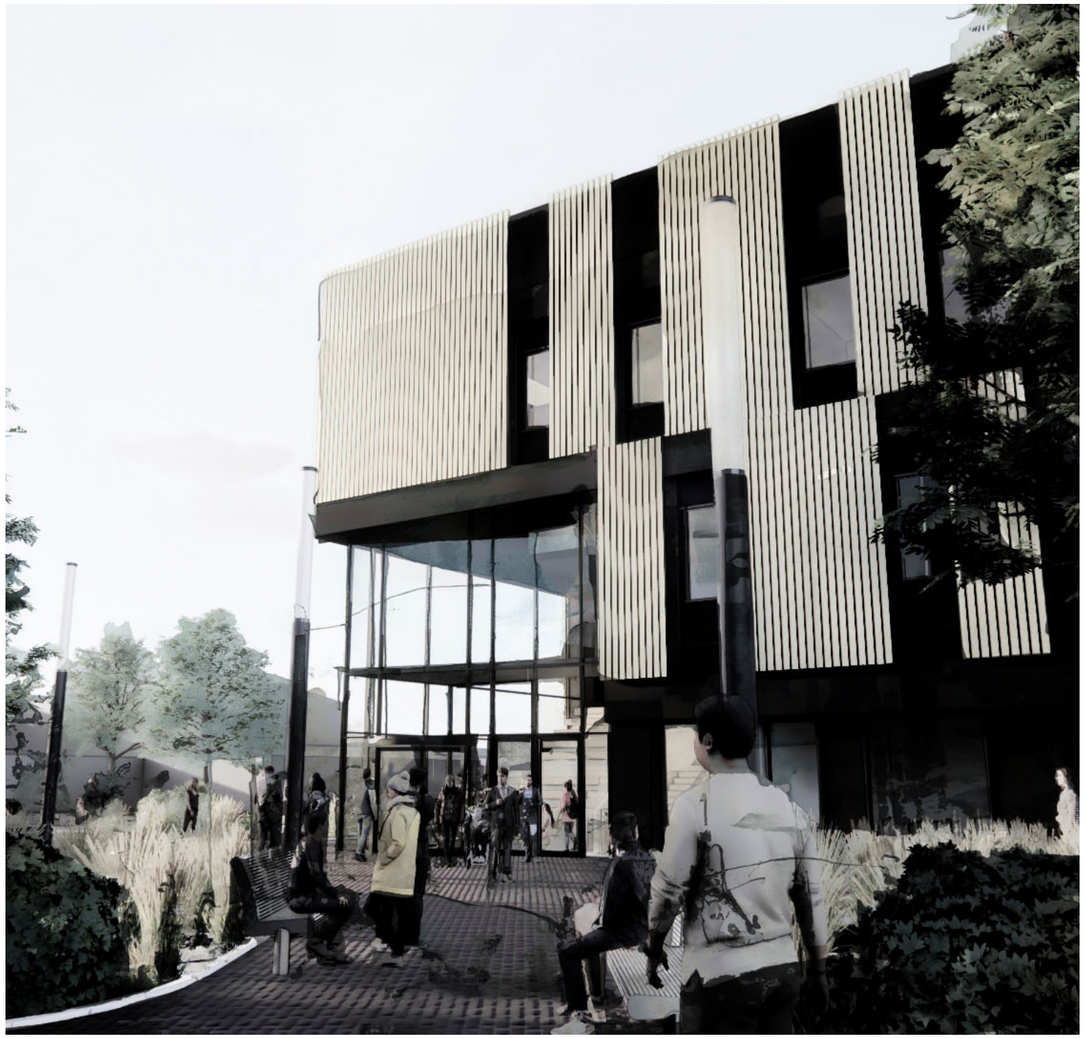
MATERIALITY

Black Cladding



Champagne Vertical Batons

Dark Brick Plinth



Block Y Entrance Elevation

LANDSCAPE PLAN

A BENCHMARK FOR CAMPUS DEVELOPMENT

The landscape design for Phase 1 has been developed based on a number of strategies, including the wider green infrastructure, blue infrastructure (SuDS), tree mitigation, ecology, site security, access and usability.

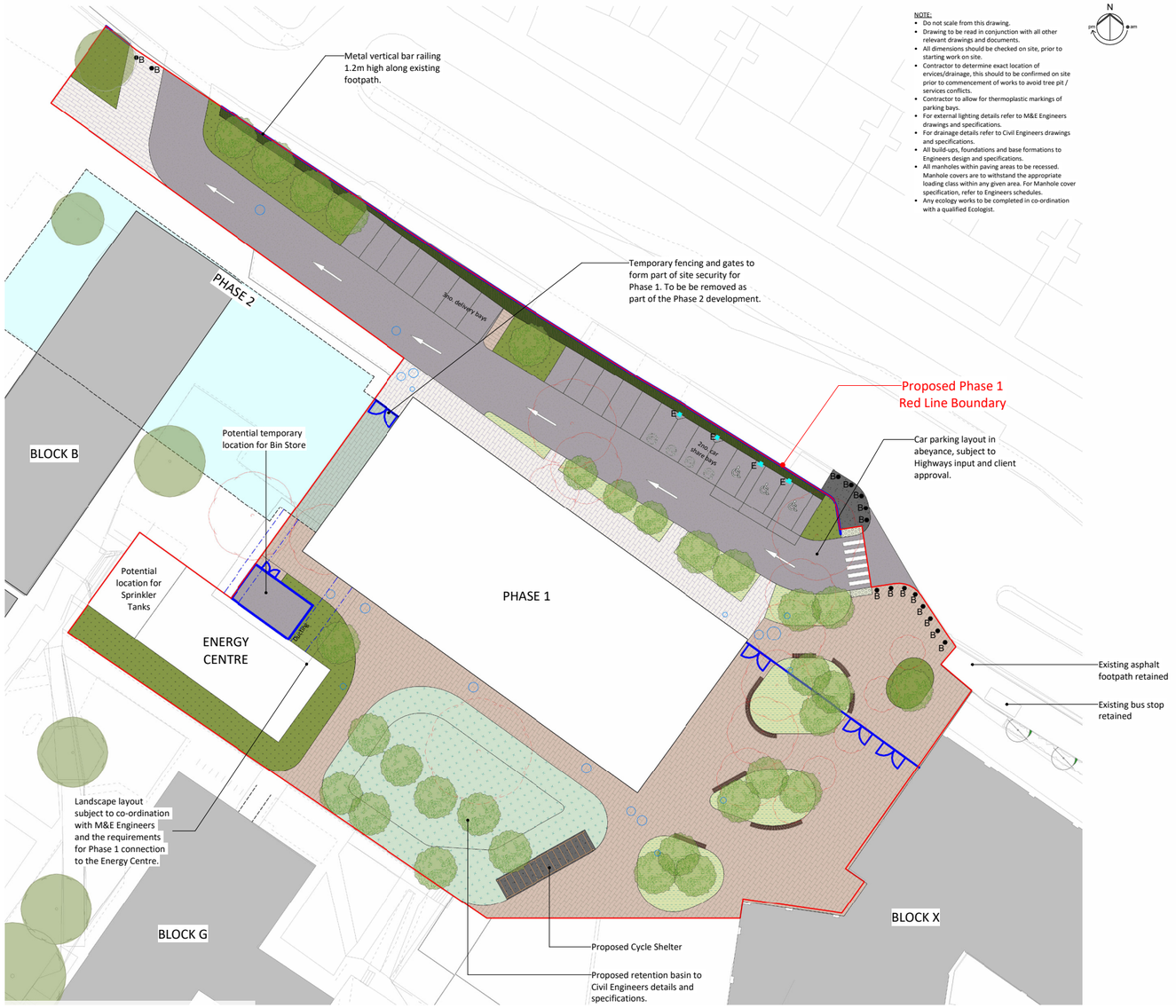
The main pedestrian plaza is off Risca Road and is open-planned to allow free flowing pedestrian access. The front of Phase 1 has been designed to be open so that it feels part of the wider community.

Car parking is provided to the north of the Phase 1 building, which will include accessible parking, EV charging, delivery bays, and car-share spaces.

The Secured by Design (SbD) site security line will run between the Phase 1 building and Block X. A fence line with wide gated access will be used for daily use; however, the gates can be locked at night or during emergency security events. Additionally, bollards along the pavement edge and walls beside the planting beds will prevent hazardous vehicle movements.

The layout of the planting beds (rain gardens) has been designed to guide people to the main building entrances of Phase 1 and Block X. The majority of the planting beds will be rain gardens, linking with the SuDS strategy.

Covered cycle parking and robust benches are located throughout the external areas of Phase 1.



Phase 1 landscape plan

FILE	
155663_DAS_Crosskeys Campus P02	
PROJECT	
Crosskeys NZC Masterplan	
CLIENT	
Coleg Gwent	
STRIDE TREGLOWN JOB No.	
155663	
PREPARED BY	**CHECKED BY**
LR	RW
DATE	**REVISION No.**
13/12/2024	P02

	REVISION
P01	Draft PAC submission for review
P02	Final PAC submission

SERVICES

Architecture
BIM & Digital Design
Building Surveying
Design for Manufacture
Embodied Carbon
Graphic Design
Historic Buildings & Conservation
Interior Design
Landscape Architecture
Masterplanning & Urban Design
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Town Planning

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STRIDE TREGLOWN


COLEG GWENT
BLOCK X
Coleg Gwent