

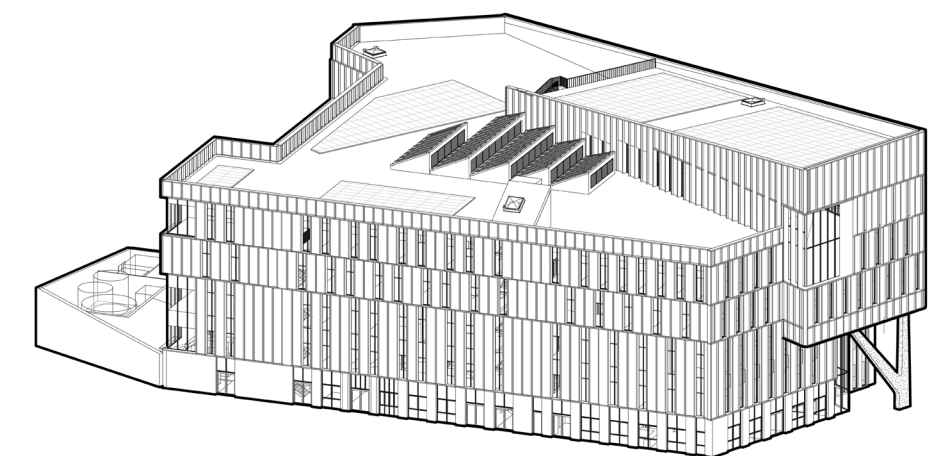
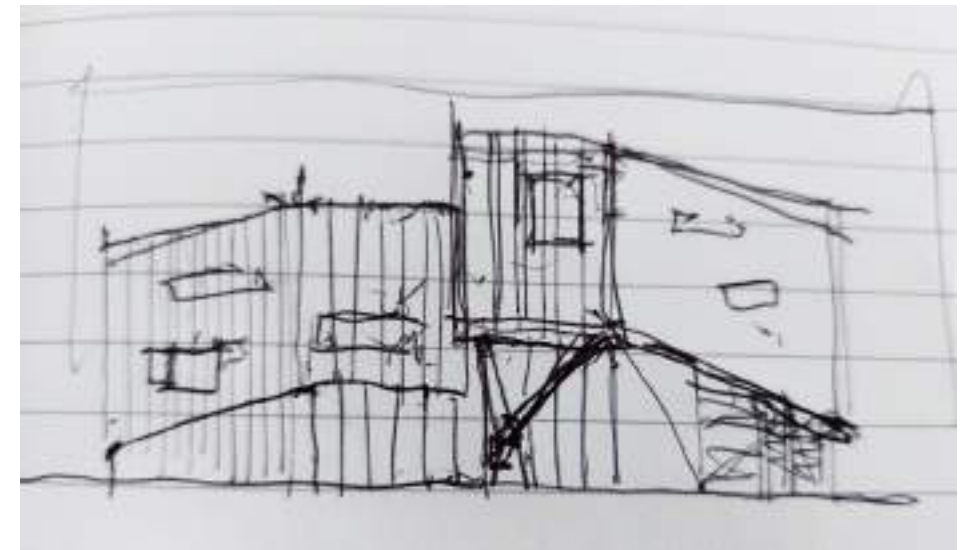
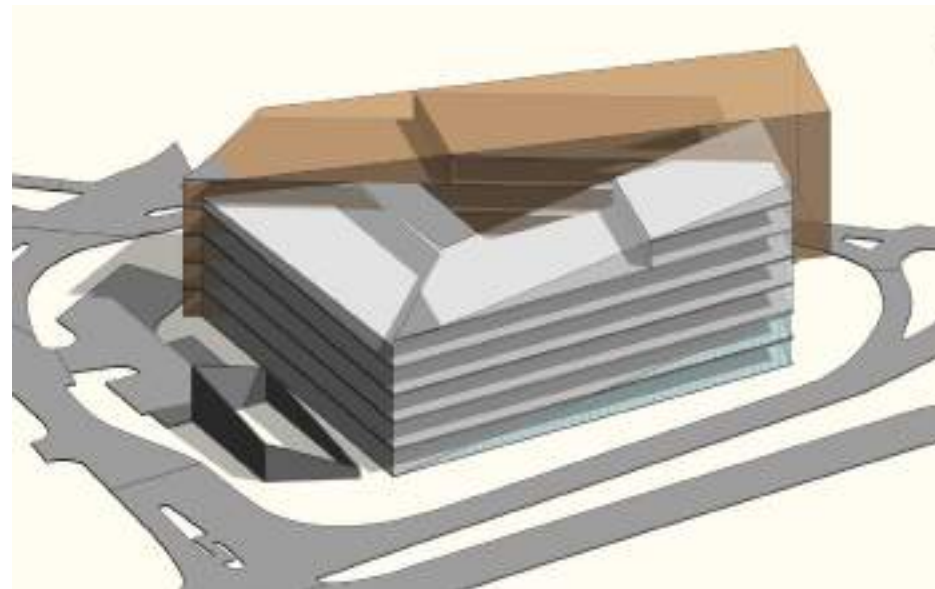
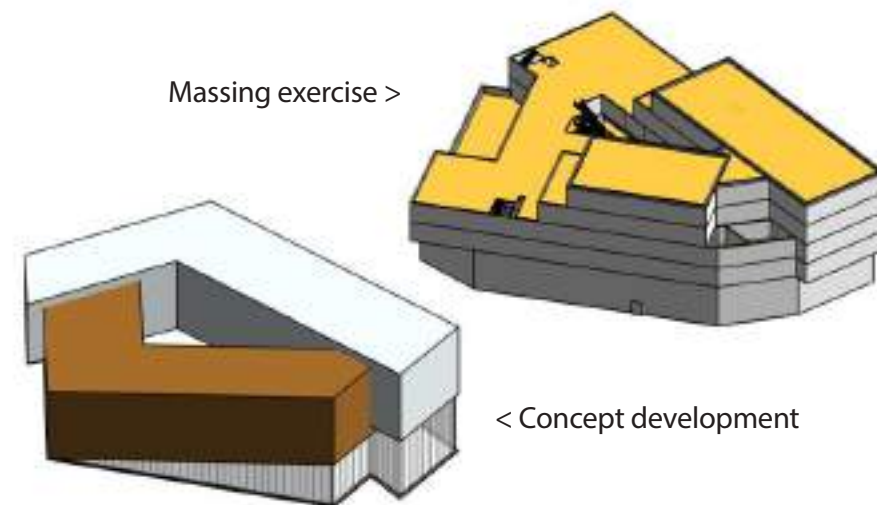
4.4 Design Development

Following a massing exercise, the concept of an atrium enclosed by two intersecting forms was established. A South-sloping roof was incorporated to maximise the efficiency of PVs and reduce the impact on the small scale residential dwellings adjacent to the southern boundary. The mass rises up to the North to add prominence to the entrance and address the long views towards the building from the train station across the river Usk.

The design was further developed to reintroduce an overhang, further enhancing the entrance. The form was simplified in order to bring the plan configuration closer to the original concept layout, more space afforded to the service yard, and a roof terrace cut out of the southern end of the form, further reducing the impact on the Emlyn Street houses.

Vertical fins were incorporated to add depth and rhythm to the upper portion of the form, and distinguish it from the flatter plinth below.

The concept of incorporating large picture windows to key spaces - including the LRC above the entrance - was suggested, with the aim of breaking up some of the regularity of the fins and creating focal points on the facade.



Development from sketch to preferred option at RIBA Stage 2

4.5 Site Constraints Plan

The plan shown illustrates the proposed building and site layout overlaid on some of the key below ground service constraints including ground sub-structures and service easements.

This gives a good indication of how the building footprint has been developed to suit these constraints, and how this has informed the overall concept design proposals for the site.

For full details and analysis of the engineering constraints impacting the site, refer to the relevant reports provided by Stantec.



4.6 Pre-Application Engagement

The proposals that have been developed since the original Outline Planning Application have been regularly presented to the Planning Authority, to allow opportunities to feed into the design process, and ensure the subsequent planning procedures could run more smoothly, with the authority already having had a chance to comment.

Prior to the submission of the Reserved Matters Application, we engaged with the planning authority, to gather feedback and gauge the response to current proposals. On this page is a record of the main comments, and the design team’s response to each of these. The subsequent sections of this report will also highlight where design development has been undertaken in order to address some of these comments as well.

Pre-Application Engagement Meeting 1	
Issue	Comments
Layout and Landscaping	The proposal's overall layout is considered acceptable in broad terms, but specific concerns were raised regarding external spaces and landscaping. It was confirmed that the minimum three-meter buffer along Usk Way is met in the draft proposals, but further structural tree planting would be welcomed in order to balance the visual impact of the building. It was noted that where planting beds are proposed, anything under 1m in width is rarely successful due to the restrictive size.
	Similarly, the proposed western public realm near Kingsway risks creating a sterile space prone to anti-social behavior so further landscaping and enhancements are considered necessary. There is evidently a need to balance designing out crime principles with positive placemaking. For example, raised concrete walls to planters at the face of the building could be improved upon. A review of the timber seating, paving, planter design and tree planting at the nearby University of South Wales site was suggested.
	Overall, the layout is agreeable in broad terms and the constraints of the site are noted, but a review of the landscaping is required to provide high-quality public realm, natural surveillance, effective integration of cycle storage, and better structural tree planting to visually soften the multi storey building from views outside of the site.
Design Response:	The Stage 2 design was significantly constrained by the presence of utilities and associated easements with DCWW recommending that in-ground planting is not feasible in large portions of the site. Alongside this, the design sought to meet designing out principles. However, taking the LPA comments on board, the design team have progressed the landscaping proposals and sought a second pre-application meeting to specifically discuss and agree further enhancements in order to balance the constraints of the site with positive placemaking.
Design and Appearance	The modern, contemporary architectural approach is supported in principle, with the LPA welcoming robust materials, deep reveals, substantial glazing, and articulated elevations to act as a landmark feature.
	Further design enhancements were suggested such as the use of curved corners as seen in surrounding developments, the use of vertically oriented bricks, recessed elements, and varied depths which would

	contribute to a richer appearance and higher quality finish. Where the roof steps down to provide visual relief, it was noted that there is opportunity to incorporate soft landscaping, which should be considered as part of the scheme moving forward.
Design Response:	The design team welcomed the positive response to the contemporary approach and sought to explore the specifically suggested design features ahead of future engagement.
Impact on Conservation Area and Heritage	The building's location near the Lower Dock Street Conservation Area and listed structures requires careful design attention to preserve local historic character. The Principal Heritage Officer supports the principle put forward that the southern end of the building is reduced in footprint, massing and scale. Key considerations for the final design include high-quality boundary treatments for the service yard, the material choices for the main building and substation, and the submission of a formal Heritage Impact Assessment (in line with Condition 11).
Design Response:	It is acknowledged that the site is relatively sensitive and a draft Heritage Impact Assessment was prepared for the next stage of pre-application engagement.
Residential Amenity	To protect neighboring properties along Emlyn Street from potential adverse effects, specific environmental assessments must be provided. It was stated that the applicants should submit Shadow Analysis and Daylight Tests to evaluate any light loss from the building mass. Additionally, a Noise Impact Assessment is requested to evaluate potential disturbance caused by the adjacent service yard, as required by Conditions 8 and 22.
Design Response:	Whilst these reports were not strict requirements of the outline planning conditions, the applicants welcome the opportunity to address residential amenity and have prepared the reports for the submission.
Green Infrastructure and Biodiversity	The LPA noted that the proposal must comply with national and local policies requiring net benefits for biodiversity through a step-wise approach. A Green Infrastructure Statement will be necessary to demonstrate that existing ecological features are retained where possible and properly enhanced. Achieving a net positive impact is deemed feasible provided an acceptable soft landscaping plan and site-specific biodiversity enhancement features are integrated.
Design Response:	Green Infrastructure Statements are required for all planning applications in Wales under Planning Policy Wales. Whilst a reserved

	matters submission is not strictly a planning application in its own right, these comments are acknowledged and a Green Infrastructure Statement has been prepared for the submission which will represent a net benefit in biodiversity.
Highways and Accessibility	The site is located within Parking Zone 1 as per the adopted Parking Standards and is considered to be highly sustainable. It was noted that the only vehicular parking provided at the site is for 3no. mini buses within the service yard, with all users either anticipated to utilise active travel, public transport or rely upon existing parking provision within the local area, such as the adjacent multistorey Kingsway Car Park. The Outline planning permission advocated this approach. The submitted Transport Scoping Note has been confirmed by Highways as a proportionate level of information for the RM submission. However, in their response they have identified shortcomings in relation to trip generation and bus service frequencies, that should be updated and developed further and there is some concern in relation to the limited direct connectivity from the site to active travel links. The current proposal staff cycle numbers are below the SPG level for the proposed use, however the view is that the location and quality of cycle storage is most important. There are no issues in principle with the provision and location, however this is dependent on achieving a high quality of public realm, which will then provide good natural surveillance of cycles.
Design Response:	The comments around quality of cycle storage are noted and proposals for cycle storage have been included with the reserved matters submission. The updated Transport Statement and Travel Plan reflect the advice around trip generation, being calculated by number of students as opposed to floor area. This has resulted in an increase in movements, however, it is still concluded that there are no safety issues and the development will not have a material impact on the highway network.
Flood Risk	The site falls within Flood Zone 3 as defined by current planning flood maps. While the overarching outline planning permission establishes the acceptability of the development in principle, Condition 04 mandates that an updated Flood Consequences Assessment must inform the reserved matters stage. This updated assessment must detail conveyance routes, flood water displacement impacts on third parties, and any necessary

4.6 Pre-Application Engagement

	mitigation measures.
Design Response:	It is agreed that the principle of development was established by the outline permission and a Flood Response Plan (PZN-JBA-XX-XX-RP-PL-0001-S3-P02) and an Addendum to the Flood Consequence Assessment (PZN-JBA-XX-XX-RP-Z-0001-S3 -P01) are being submitted in line with Condition 04.
Drainage	Due to regulations under Schedule 3 of the Flood & Water Management Act, surface water drainage must comply with mandatory National Standards for SuDS and secure approval from the Sustainable Drainage Approving Body before construction commences. Preliminary discussions indicate that the proposed site layout is capable of accommodating the required sustainable drainage features, which is considered acceptable from a planning perspective. Early engagement with Dŵr Cymru Welsh Water via their pre-planning advisory service is strongly encouraged to address any potential constraints on public drainage infrastructure early in the design process
Design Response:	The design team has engaged with DCWW and SAB consent will be sought as required.
Pre-Application Engagement Meeting 2	
Issue	Comments
Layout and Landscaping	The LPA are conscious of the layout being too restricted by secured by design principles and would welcome increased planting heights, for example. The LPA note the constraints from DCWW easements but maintain the need for additional planting and would like more of a tree presence in key locations. Replacement of existing trees which are not particularly good specimens could be one way to address this. Should additional not be possible due to easements, it would need to be demonstrated that this has been fully explored. Other specific comments note room for a more inviting roof terrace, integration of further seating and updating CGIs to match the layout plans.
Design Response:	The design team have fully explored all options to increase planting with some in-ground planting now proposed in easement areas to address placemaking concerns. The applicants have engaged with DCWW, the LPA and design team in order to balance the easement and landscaping issues, with updated sketches provided in the meantime. The roof terraces have been re-designed and CGIs have been updated

	for the submission.
Ecology	Ecology is not a particular area of concern for this site given the low baseline but welcome the enhancements being set out in the landscaping proposals.
Design Response:	The comments are noted and, as above, a Green Infrastructure Statement has been provided to confirm a net benefit for biodiversity.
Architecture and Heritage	The LPA are fundamentally content with the design approach and state that the success of the scheme, both in terms of architecture and responding positively to heritage assets, will come down to the detail. Specific comments referred to the positive continuity of materials and whether variations to some of the larger elevations could be inserted to ‘break up’ the visual appearance. The LPA requested the design precedents be submitted and indicated that the design team may wish to engage the counter terror officer.
Design Response:	Precedents have been sent to the LPA as part of the pre-application process and feedback has been sought from the counter terror officer in advance of the written pre-application response, The design team have progressed the detailed elevations and visualisations ahead of the planning submission and have sought to add interest to the larger elevations and better portrayed the finishes in the visualisations.

Developed Design Proposals

5.1 Proposed Site Layout Plan

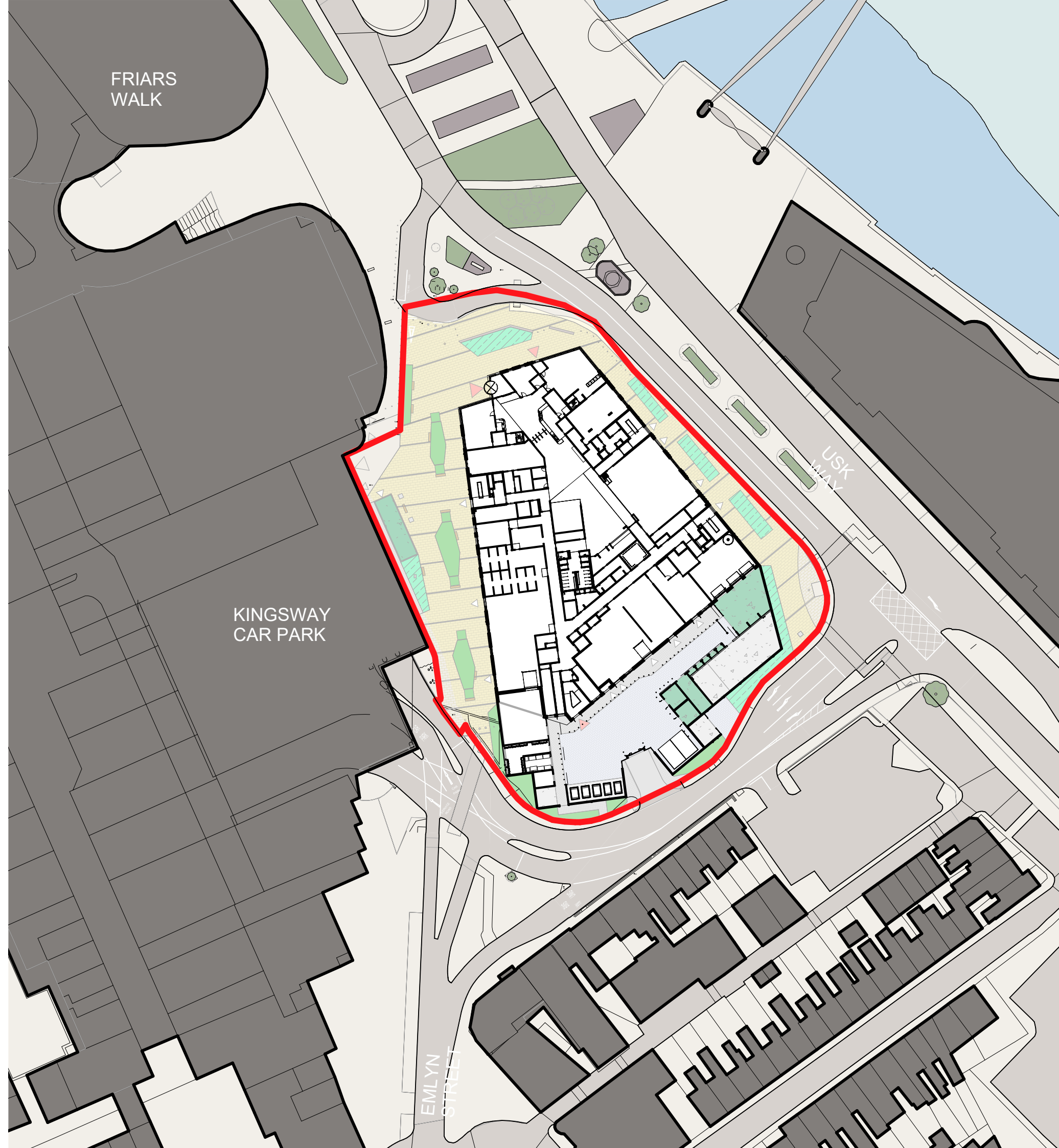
The project brief, and the site constraints and opportunities, have influenced the site strategy and concept design, as well as the outline consent for development of the site and the conditions attached to this consent. Initial options were developed in response to the site constraints, with a 'safe building development area' boundary set based on the extent of easements and restrictions associated with the existing below ground utilities that circle the site.

The 16,000m² GIA for the Newport Knowledge Quarter (NKQ) building is contained within one block centred on the safe development area of the site (which broadly takes the area of the footprint of the former Leisure Centre). The building main entrance is located to the north end of the site, with the building rising to provide a strong and welcoming identity on this prominent frontage. This places the entrance in close proximity to the public realm connecting to Friars Walk (and the city centre) and the USW building, as well as to the footbridge over the River Usk.

The western side of the site is given over to new high quality public realm, connecting from Friars Walk and the NKQ building to Kingsway to the south, and across to the multi-storey car park.

External space for servicing the building, including material storage, deliveries and collection, sprinkler tanks, sub-stations etc is located within a secure yard to the southern part of the site, utilising the existing vehicular access from Emlyn Street. This ensures the mass of the main building is set back at this boundary, responding to the change in scale to the two storey houses opposite, which form part of the protected heritage conservation area.

The proposed building finished floor level will be elevated slightly above the existing ground levels to suit the recommendations of the flood risk assessment, currently proposed to be at 9.40m AOD. The topography of the existing site is broadly flat, with a small fall in levels from north to south.



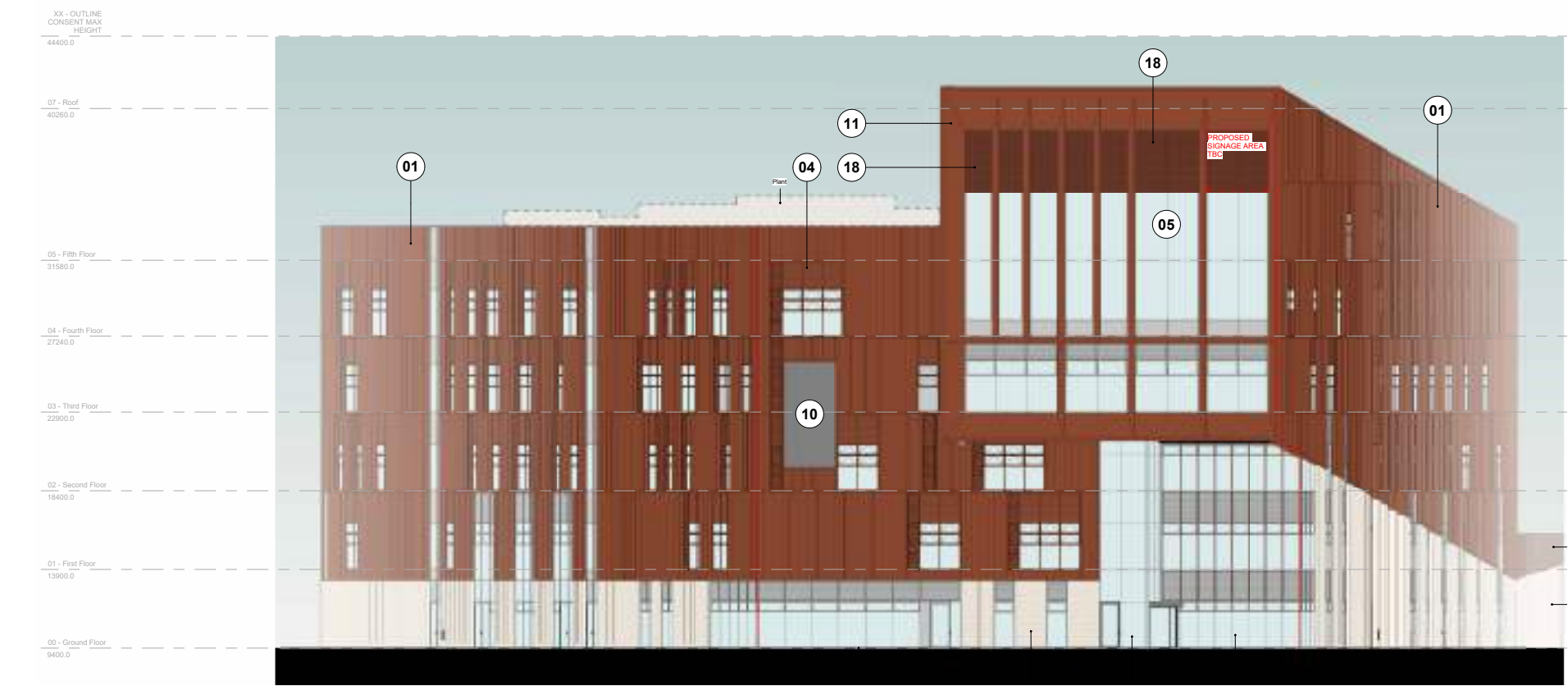
5.2 Amount & Scale

The combination of a high-area Schedule of Accommodation and a tight city-centre site have lead to the necessity of a compressed footprint and a taller building, which is of appropriate scale to the surrounding area.

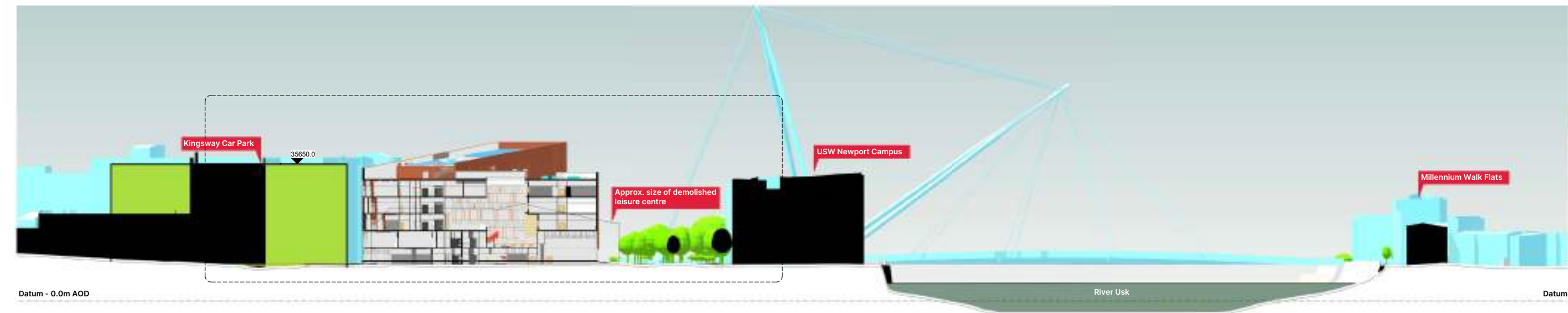
The building is a total of 6 storeys, with the top storey being a much-reduced floor plate. Generally a flat roof above the 4th floor, with the 5th floor then featuring a pitched roof that rises from the South-West edge of the building, up to the North. This can be seen through the articulation of the facade, especially on the West, where the cladding rakes upwards and the projected picture-window gestures out to the North.

To the South, the roof terrace at 3rd floor level cuts the form back to create a recessed section, reducing the overall mass at the South where the building faces the terraced houses across Emlyn Street.

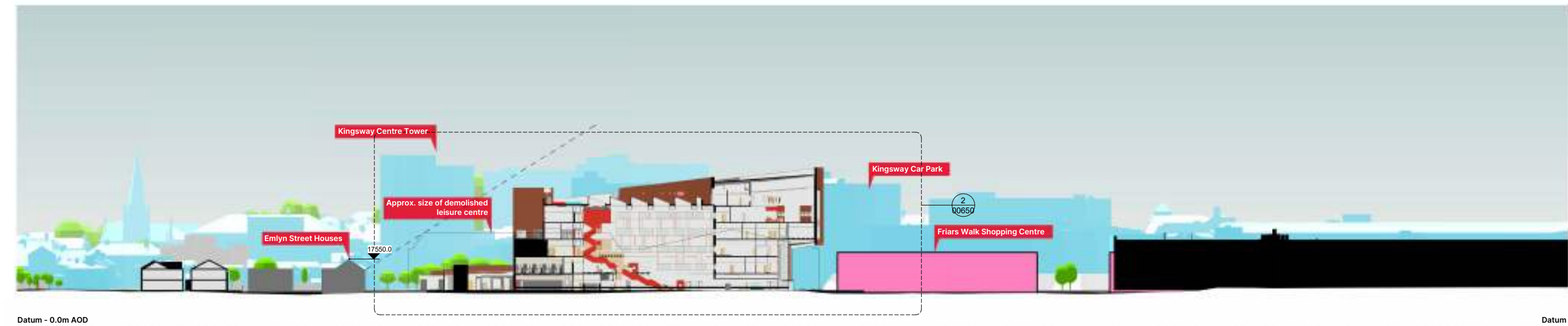
A maximum overall building height of 44.4m was set out in the outline planning consent, in relation to the heights of surrounding buildings. The highest part of the propose building reaches 41.6m, so is comfortably below this maximum height.



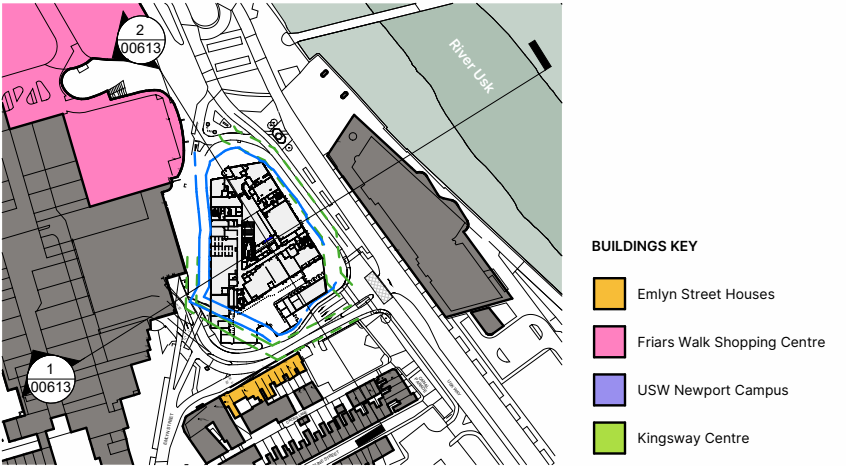
5.3 Site Sections



1 | Planning - Site Section Looking North
1 : 500



2 | Planning - Site Section Looking West
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5.4 General Arrangement Plans - Ground & First



Ground Floor Plan



First Floor Plan

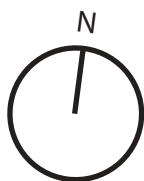
5.4 General Arrangement Plans - Second & Third



2nd Floor Plan



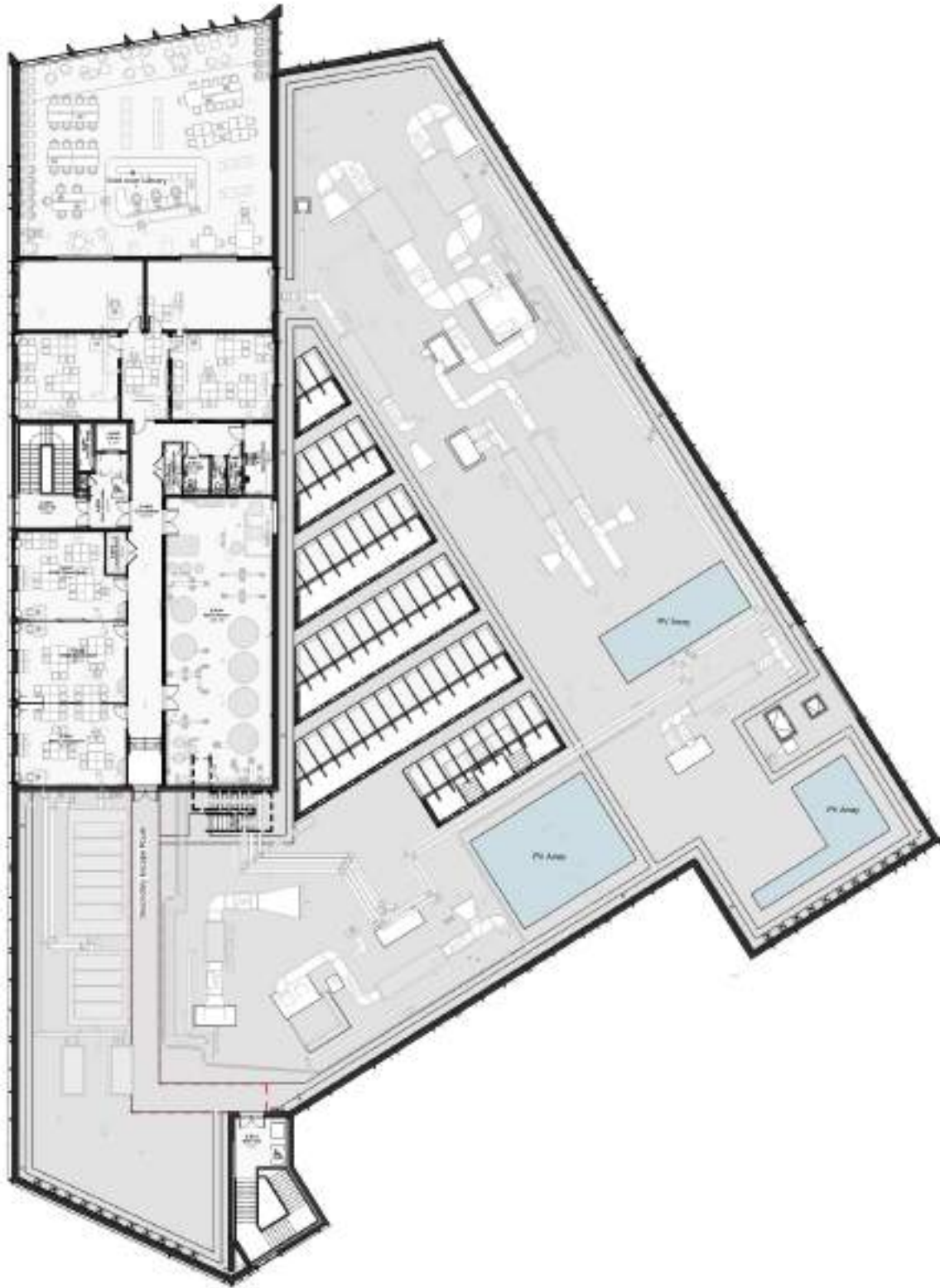
3rd Floor Plan



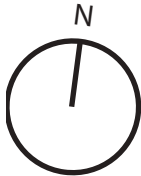
5.4 General Arrangement Plans - Fourth & Fifth



4th Floor Plan



5th Floor Plan



5.4 General Arrangement Plans - Roof



Roof Plan

5.5 Placemaking

Planning Policy Wales 10 places a focus on the idea of ‘Placemaking’ as a marker of good design, and defines it as the following:

“Placemaking” is a holistic approach to the planning and design of development and spaces, focused on positive outcomes. It draws upon an area’s potential to create high quality development and public spaces that promote people’s prosperity, health, happiness, and well being in the widest sense.

Placemaking considers the context, function and relationships between a development site and its wider surroundings. ...

... Placemaking adds social, economic, environmental and cultural value to development proposals resulting in benefits which go beyond a physical development boundary and embed wider resilience into planning decisions.”

There are clear aims to ensure that the facility actively complements the surrounding area, and promotes a healthier and happier lifestyle through its use. Building an educational facility within a city centre location shows the city actively promotes education, and the design of the building promotes some of the functionality within the draw interest.

There are also placemaking advantages with some of the sustainable drainage elements that are proposed, which seek to manage the speed at which rainwater enters the drains, and to naturally filter the water itself through the use of bioretention planting beds and water gardens. As this is achieved with visible rain gardens, the measures in which we are sustainably managing rainwater can serve as an educational tool for the local community, as well as promoting prospective developments in the area to follow the same measures.

The site itself is located in an area with excellent public transport links, which ensures that it is sufficiently accessible by a wide variety of means and will continue to be so, long into the future. Equally its proximity to Friar’s Walk places it in a vibrant, public area, directly tying it into a well-used and modern public realm.

Finally the appearance, and materiality, will serve as a quality marker for the area. High quality materials and finishes will be specified to enhance sense of place and hopefully promote the same in nearby developments in the future.



5.6 Organisational Strategy & Building Circulation

Levels and Grids

The proposed building design and floorplates have been optimised to suit efficient and flexible space planning and design parameters including structural spans, ventilation and daylight requirements. The accommodation is broadly arranged in floorplates using a 7.5m deep zone each side of a primary circulation route set at 2.4m wide. This suits the majority of the upper floor levels where most of the spaces comprise of cellular teaching or support areas.

For larger spaces such as workshops and the main hall, the circulation is set to the atrium side of the floorplate in order to provide deeper plan spaces and aid access and movement of materials/deliveries. For spaces such as the hall, transfer structure will ensure these spaces are kept clear. The detailed layouts for the workshops will be developed at the next stage, and coordinated to fit around any columns/structure that is within these spaces.

The ground floor FFL has been set at 9.40m AOD, roughly at the existing site levels, which has been deemed acceptable from the flood risk assessment. The Floor-to-floor heights are 4.5m from Ground to 3rd Floor, to allow for structural and MEP zones in larger workshop spaces and a notional ceiling level at 2.7m minimum height in teaching spaces. From 3rd floor upwards, this drops to 4.34m as the need for additional height is reduced.

Access and Egress

The primary access point to the building is the main entrance located at the prominent northern end of the site, with convenient access from the adjacent public realm. This allows the building to operate securely and to control access. A secondary 'service' entrance is located at the south, accessed from the secure service yard. This will be controlled access for staff and deliveries only.

In addition the ground floor workshops include direct external access, via roller shutters or doors, as required to bring materials in and out, or cars in the case of motorsports. The ground floor includes a number of fire exit doors from

spaces including the main hall, as well as exits from the four fire escape stairs serving the upper floors. Two of these are designed as fire-fighting shafts, as required under fire safety regulations, including stair, lift, smoke vent shaft, dry riser main and fire fighting lobbies.

Building Circulation – Horizontal

The central atrium acts as a guide point for orientating around the three wings of the building, with primary circulation routes running the length of these wings. On lower floors where the larger spaces such as workshops are located, the corridor runs along the side of the atrium. For fire safety, any circulation less than 4.5m deep running alongside the atrium will need to be separated, and it is proposed to do this using a glazed screen system where required. This will maintain visual connectivity between spaces and aid legibility.

The upper floors are planned with more standardised teaching spaces, double banked either side of a central corridor, offering a highly efficient and flexible layout arrangement. Glazed screens between the corridor and adjacent spaces will bring borrowed daylight, and give visibility of the activities being undertaken within the College. Where possible, breaks have been incorporated in the corridors to offer relief, particularly to connect back to the atrium space.

The primary corridor circulation is generally 2.4m wide.

Building Circulation – Vertical

To suit the building height, floor area, and occupancy numbers, four fire protected stair cores are provided. As described above, two of these cores are designed as fire-fighting shafts, complete with lifts which will include back-up power supply. These two lifts will act as the day-to-day passenger lifts for the building. These lifts are 13 person capacity, with internal car dimensions of 1.6m D x 1.4m W.

The atrium includes a fifth 'accommodation' stair – this is designed to provide a feature within the atrium, rising initially as part of the hellerup seat stair from ground to first floor, before continuing up to fourth floor level. The intention is to clad this stair to form a bold brightly coloured element within the space, aligned with the Coleg Gwent brand colour of red. This stair is intended to be the primary vertical circulation.

To aid movement of materials to and from the upper floors, particularly to the workshops, a single large goods lifts has been located close to the service entrance. This lift has been sized for carrying up to 2500Kg, with internal car dimensions of 2.7m D x 1.8m W. This size was worked out alongside the College so that it will comfortably accommodate the materials necessary for the workshops on upper floors.

There is a dedicated, smaller lift for use by the catering team, connecting the ground floor training kitchen to the 1st floor training kitchen and catering department. This only travels between ground and 1st floors, and is an 8 person capacity lift, with internal car dimensions of 1.4m D x 1.1m W.