

# University of Kent Extension to Templeman Library



**Shepherd Epstein Hunter**  
with Ramboll      March 2012

# QUALITY SUBMISSION

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## 1 Introduction

We are very pleased to have this opportunity to submit proposals for the extension of the Templeman Library, and to work with the University again to develop one of the most important sites on the campus and the building which is at the heart of the academic life of Kent.

We were commissioned by the University to prepare the Options Appraisal for the Templeman Library in 2008, a piece of work based on a very enjoyable dialogue with the University's Information Services senior team. At that time the brief was to consider the Library and options for its expansion and development to cater for a thriving university and a changing student and research environment.

Since then, the brief has changed significantly, in that teaching and meeting accommodation has become a core part of the vision for the new extension. At first we had thought that this would be a matter for accommodating two very different uses in one building in as harmonious a way as could be managed, but as we worked on our design we came to see that an exciting synergy between the two could be realised if they were together but separated in a certain way.

This idea has led to our conception of the entrance and its location at the west end of the existing building, as a concourse between the new and old parts, connecting existing teaching facilities to the main University civic space. The new atrium allows the existing building to be altered to provide cafe, social and browsing areas close to the teaching spaces (so providing a useful and sociable place for people to go between lectures and meetings) and for the Library entrance to be repositioned off the atrium, as the welcoming entrance and reception space at the head of a sequence of library spaces organised along the long axis of the building.

The existing entrance would no longer be used as such, but we are suggesting would be appropriate for compatible ground floor uses, such as a re-located university bookshop. The facade of the upper floors above the existing entrance would in time be remodelled so that this part of the building appears as a block of accommodation in its own right, perhaps with new carrels expressed on the elevations facing the view towards Canterbury (rather than looking like the former entrance and circulation zone).

This is a summary of our vision. In the following pages we explain our proposals in more detail.

We very much hope you will find them of interest as the basis for a project delivering an extension of excellent civic quality at the heart of the campus which enables the transformation of the whole Templeman building into an uplifting facility which enhances the University's reputation and enables excellence in research, teaching, and learning over coming decades.

Fee and insurance information required by the Invitation to Tender is provided as separate enclosures.

## 2 Design Proposals

### 2.1 Location of extension and links to other buildings

It is proposed to provide an **extension at the western end of the existing building**.

#### This is because:

- A new common entrance foyer can be provided with close links between the new teaching space and the adjoining Grimond teaching space.
- There is potential to relocate the entrance to the library and provide a new, prestigious, purpose-designed and accessible entrance, sharing the same entrance foyer as the new teaching space.
- A new entrance at this point provides significant opportunities to open up the interior of the library and to create visual links between floors, without extensive (and expensive) structural interventions. A new accommodation stair can be provided to link between the existing double height spaces and to provide vertical circulation conveniently in the centre of the extended library.
- An efficient, practical and uplifting design for the new accommodation can be provided in this location which is both economic and flexible, allowing for future change and expansion.
- The existing western wall of the library was originally designed as a temporary wall to facilitate extension and can be relatively easily adapted.

#### Other options considered include:

- **Extension on the eastern end of the existing building:**

This would put the extension away from the existing teaching space in the Grimond building. We also feel this could be more expensive to develop due to the configuration of the existing 1990's Austin-Smith:Lord extension and the presence of the existing railway tunnel, and would compromise the western open space (in future years this may be required as a development site, depending on the growth of the University).

- **Extension at roof level:**

Considerable disruption to existing services with associated costs would be necessitated by this, and teaching accommodation at high level would mean longer changeover times between lectures and more onerous requirements for circulation spaces.

- **Maintaining the existing entrance where it is and remodelling:**

The current entrance feels cramped and has restricted headroom relative to comparable modern facilities elsewhere. There is also a level difference of around 1.6m between the



outside ground level and the interior which feels like a barrier, although a platform lift is provided. To open this up and ease access would require significant structural alterations due to the configuration of the existing beams. Cutting through the beams to form openings would be expensive, noisy and disruptive and we do not believe that this would represent good value for money. The addition of teaching space to the brief requires the new entrance to be close to existing teaching spaces if possible.

Whilst the current entrance is at the exact centre of the long side of the existing building, which is a good place to enter a building in normal circumstances, if the building is extended to the west or east, it will no longer be in the centre point.

- **Extending to the south of the existing entrance:**

This approach could avoid the problems of extensive remodelling of the existing entrance by re-providing a new entrance adjacent to it, with new lifts and a staircase. However, it would not be possible to provide circa 5,000 m<sup>2</sup> of new accommodation at this point without extending well beyond the existing building line which would in turn compromise the existing green space to the south of the library.

An extension here could perhaps be provided in combination with an extension on the western end of the building. However, the disadvantage of providing two extensions is that the shared entrance with the teaching facilities would be lost. There would be greater cost overall due to the duplication, or lack of sharing, of facilities and the increased interventions with the existing building.

Any works to the existing entrance would require a temporary entrance to be provided whilst these works are carried out which would cause disruption to the library and would compromise the experience of those using the building.

- **Extensions elsewhere on the building:**

The bold and rhythmic design of the existing elevations make extension anywhere on the long sides very awkward visually and would compromise the outside space. They would also create a very deep plan building with limited daylight.

## 2.2 Vertical zoning within extension

The ground floor of the extension provides flexible teaching accommodation which includes a raked lecture theatre at its centre, surrounded by four teaching rooms and ancillary spaces. The raked lecture theatre extends down into a basement level which also contains plant space serving the lecture theatre and floors above.

First, second and third floors of the extension provide flexible library space which can be open plan or divided into various uses.

It is anticipated that a new entrance will be provided from the new entrance foyer at the western end of the library. However, if required, it would be possible to construct an initial phase in which connections with the library only occur at upper levels.

## 2.3 Ground floor access

The current external ground level is between 1.6 and 1.9 metres below the level of the existing ground floor (level 1). However the entrance is designed, it will be necessary to negotiate this change in level in some way. In this proposal, the external ground level is raised by 800mm through the use of very gently sloping paths around the building. The entrance to the central atrium is therefore level with outside ground level on both the south and north sides so that level access is possible right through the new building from the south front to the Grimond building.

From the floor of the entrance foyer or atrium, there is level access to the lecture theatre and teaching rooms on one side. On the other side, step-free access to the library is provided via a gentle ramp which negotiates the remaining 800mm rise.

## 2.4 Exterior of extension

The exterior of the new extension is designed to harmonize but not mimic the existing building. It is intended to provide a “full stop” at the western end. A full height recess forms a visual break between the existing building and the main part of the new extension and contains the new entrance foyer and atrium.

The external elevations reflect the vertical zoning within the building. A ground floor of teaching accommodation is expressed with a stone or concrete wall with a continuous band of glazing separating it visually from the floors above. The upper levels to the library are characterised by three-storey high projecting carrels, which reflect something of the rhythm of the carrels on the existing building.







**Preferred option**

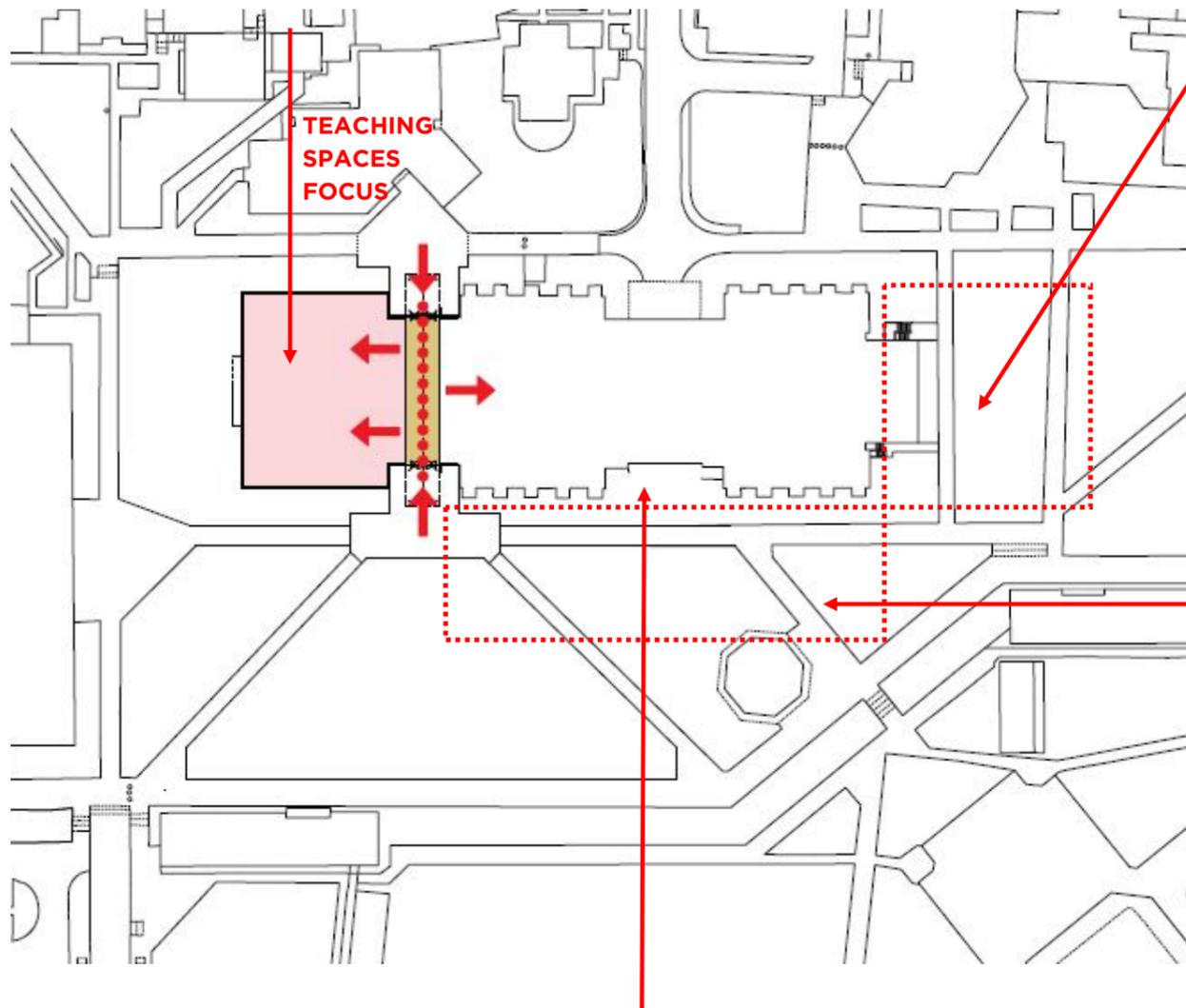
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Above: the new extension as a beacon for the main entrance to both facilities

**Extension location: options considered**

**2.5 Library entrance and orientation**

Within the library security gates, the proposed new entrance would contain a welcome desk, orientation screens and signage, a café and social learning space, relocated from the eastern end of the building. The café and social learning space would occupy the existing ground floor double height spaces in the western building, currently occupied with shelving.

Inserted into the double height spaces and located close to the welcome desk would be a bank of lifts on the north side and a new main stair to the south. The stair would connect up to the double height space over the existing entrance which itself would contain a new stair, thus providing a new longitudinal axis of circulation, opening up views through Ground, First and Second floor levels and providing views to the south towards Canterbury.

**2.6 Remodelling of existing**

The proposals do not require major structural alterations to achieve, and avoid removing loadbearing walls or beams. It should be possible to achieve them without major disruption to the library, particularly once the new extension has been built. A range of options of remodelling the existing walls is possible, subject to detailed discussions, however, it is suggested that a strategy could be developed which places storage in the centre of the building and study space or offices towards the perimeter

**2.7 Space planning**

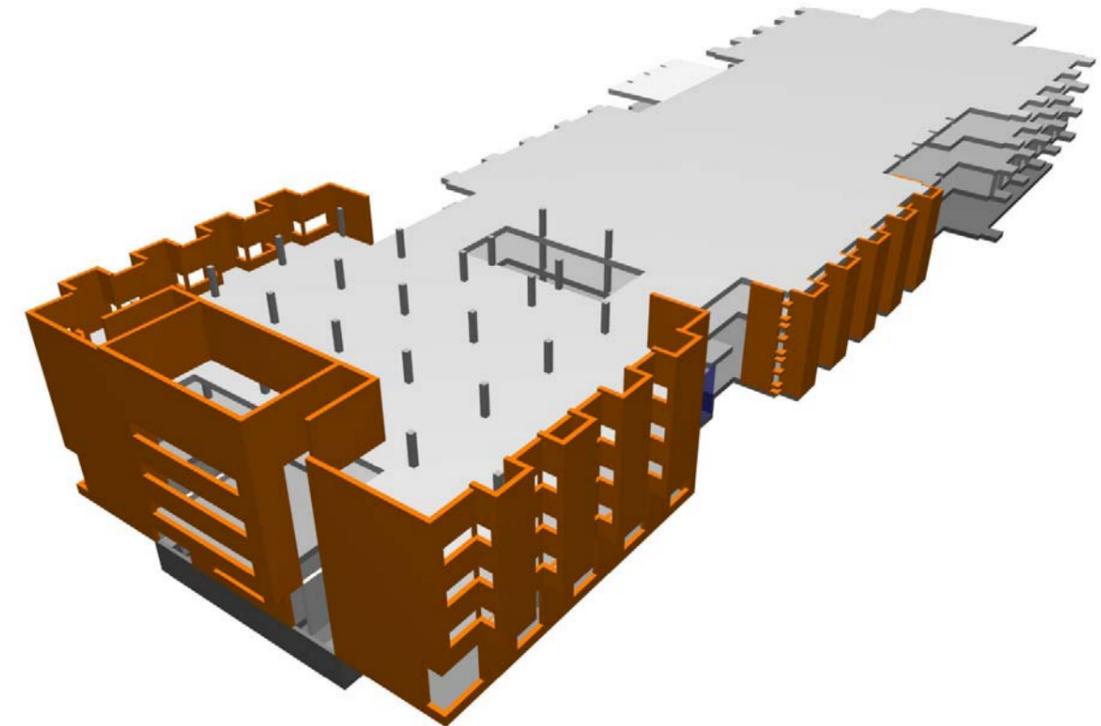
The initial space plans that have been provided show possible zones for planning but the building is flexible and so many different configurations are possible.

The library floors at first floor level and above are based on a 7m x 7m structural grid which provides flexibility to plan either bookstacks or reader spaces efficiently. This grid spacing allows for 5 standard aisles of 900mm width to suit wheelchair access.

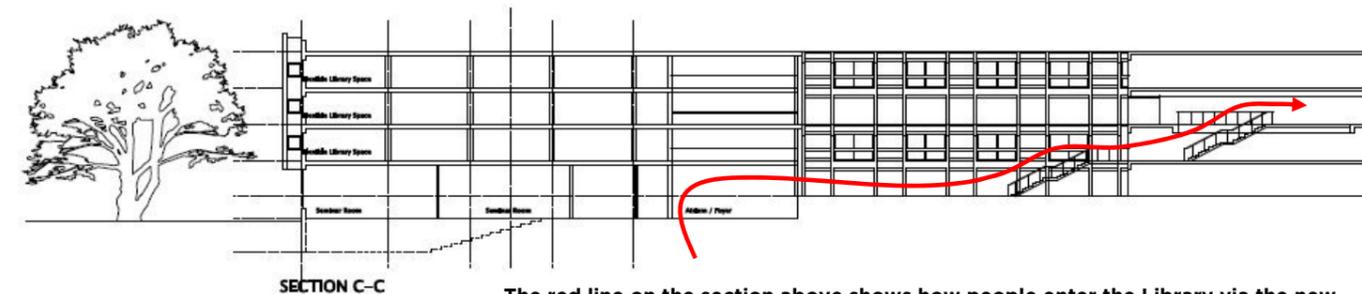
The teaching rooms and lecture theatre at ground floor level modify this structural grid and require a transfer structure over them. All the intermediate walls between the teaching rooms are non-loadbearing and so can be easily removed if the rooms were to be reconfigured in the future. The lecture theatre is raked and a separate projection room is provided as required by the brief.

Should the library floors require perimeter group study areas or offices, it is recommended that these are formed using glazed partitions so that daylight and views are maximised. It is suggested that preference is given to a range of reader spaces around the perimeter, but bookstack could also be maximised if required.

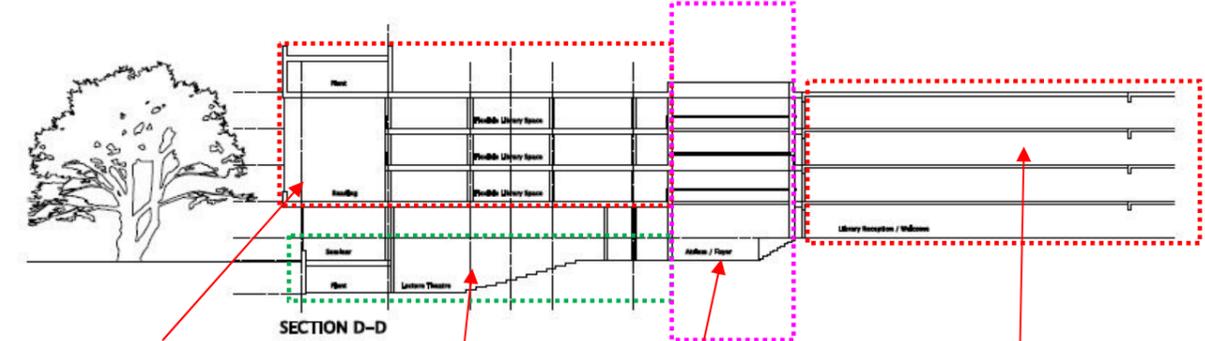
All the library floors have been designed to take the loadings of mobile bookstack, as required by the brief. It would be possible to build more economically if the requirement could be reduced. Options include having mobile bookstack at first floor level only (which is inherently strong due to the presence of transfer structure) or to provide additional basement space, subject to budget and costs.



This drawing, above, shows the new extension (nearest) at the upper library levels and its relationship to the existing library floor plates (furthest) on the other side of the new atrium. The atrium acts as an intermediate social / group work / informal learning space overlooking the entrance concourse. The new carrels are projected on either side. A triple -height space at the west end provides views over the retained landscaped western square, around which all the main teaching spaces will be grouped.



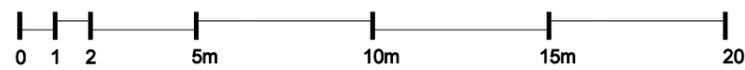
The red line on the section above shows how people enter the Library via the new concourse / atrium and can see most of the way through the existing library along a new circulation route of new stair flights allowing easy, logical circulation along the length of the existing Library building (part of the separate refurbishment works)



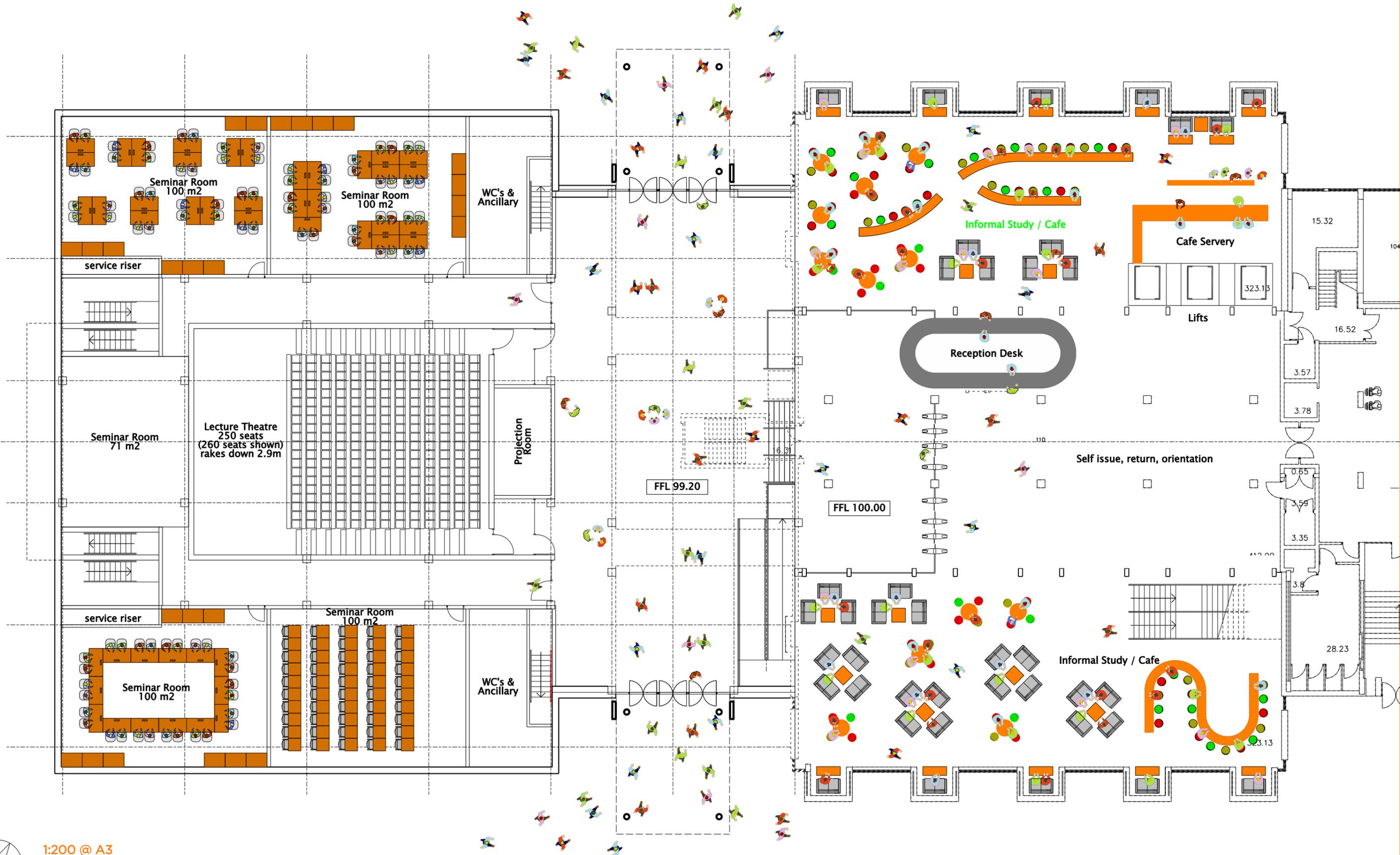
Library (new space) Teaching Concourse / atrium Existing Library



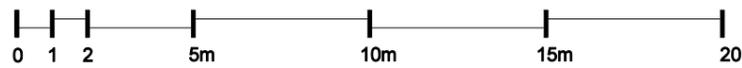
1:200 @ A3



Templeman Library: First Floor Plan - Level 2



1:200 @ A3



Templeman Library: Ground Floor Plan - Level 1

## 2.8 M&E services & environmental design

### Passive Design Features

The engineering services design has been proposed as a low carbon solution that is part of a holistic building design to meet the functions and aspirations for the library extension and the learning centre. Key features of the passive design approach will be:

- Improved levels of insulation to the building fabric
- Good day lighting
- Good control of solar gain to avoid overheating
- A mixed mode ventilation system making use of a heavy weight structure
- A ground source heating and cooling system to the learning centre.

### Energy Centre

We have assumed that heating for the library extension will be provided from the existing central boiler plant. Future efficiencies and carbon savings would be possible on a larger scale by making improvements to the existing central system than could be achieved by local heating plant for the extension. Typical future opportunities for the central boiler house include CHP and Biomass boilers.

We have assumed that the electricity supply for the extension can be derived from the existing substation in the basement library which will serve a new electrical switch room.

### Internal Environment

The engineering services approach to the library extension is to provide and maintain comfort conditions, generally in the range 21-25°C, or at or below the external ambient where this is over 27°C by utilizing passive building design measures as the primary solution with background heating, cooling and ventilation systems to provide necessary supplementary servicing.

The external environment is generally quiet, but the central location of the library on the campus means that there are lively external events from time to time that may interrupt the internal serenity of the silent study spaces and the proposed teaching spaces if a fully naturally ventilated solution was to be adopted.

However, it is proposed that natural ventilation is employed as part of a mixed mode ventilation strategy for the library extension with a night time cooling strategy, to be employed in the summer. Occupants will have the facility to open windows at their own discretion. A mechanical ventilation system will be provided for the fresh air requirements of the maximum occupancy with zoned controls for both the time controlled and air quality operation. A mechanical ventilation system with full heat recovery will provide lower energy consumption than a naturally ventilated building.

The teaching spaces including the lecture theatre and the seminar rooms, which have high occupancy levels, will be provided with full mechanical ventilation systems with comfort cooling. This will take the form of a displacement ventilation system with cool fresh air being

provided at low level and exhaust air extracted at high level. Cooling will be provided from a ground source heat pump using closed loop boreholes with the adjacent external landscaped areas. The heat pumps will also operate in heating mode to provide a small portion of the library extension heating requirements.

The building will include exposed concrete soffits and be of heavyweight construction and false ceilings will not generally be provided in open plan areas. The exposed structure acts as a temperature modifier both in terms of heating and cooling as it absorbs heat from occupancy, equipment and solar gains which can be released at night time through the use of a night time ventilation strategy.

The library has high occupancy densities and high usage of IT and therefore some cooling is required in addition to the passive use of the heavy exposed structure. Cooling and heating will be provided by an under floor system that circulates chilled water or hot water immediately beneath the raised floor panels. The raised floor void is also used as a supply plenum for the fresh air which is introduced into the occupied space via circular swirl grilles mounted in the raised floor. The fresh air is pre heated and cooled in the roof mounted air handling plant but also picks up further heating and cooling from the under floor pipework. The nominal cooling capacity of this floor system is 30W/m<sup>2</sup>. Additional cooling can be provided by the fresh air system if the temperature is reduced to 19°C which is the lowest temperature without causing uncomfortable draughts to the occupants. Additional cooling to the fresh air systems can either be provided at the main plant or via local cooling coils to specific areas.

Cooler fresh air supplied from the floor void and warmer air will be drawn to the atrium spaces where it is extracted at roof level and returned to the main plant for heat recovery or it is exhausted via open roof lights.

The under floor heating/cooling system is designed as a simple changeover system. Simultaneous heating and cooling will not be provided. There will be a significant period where neither heating nor cooling is provided via the under floor system when the air system can provide sufficient temperature control.

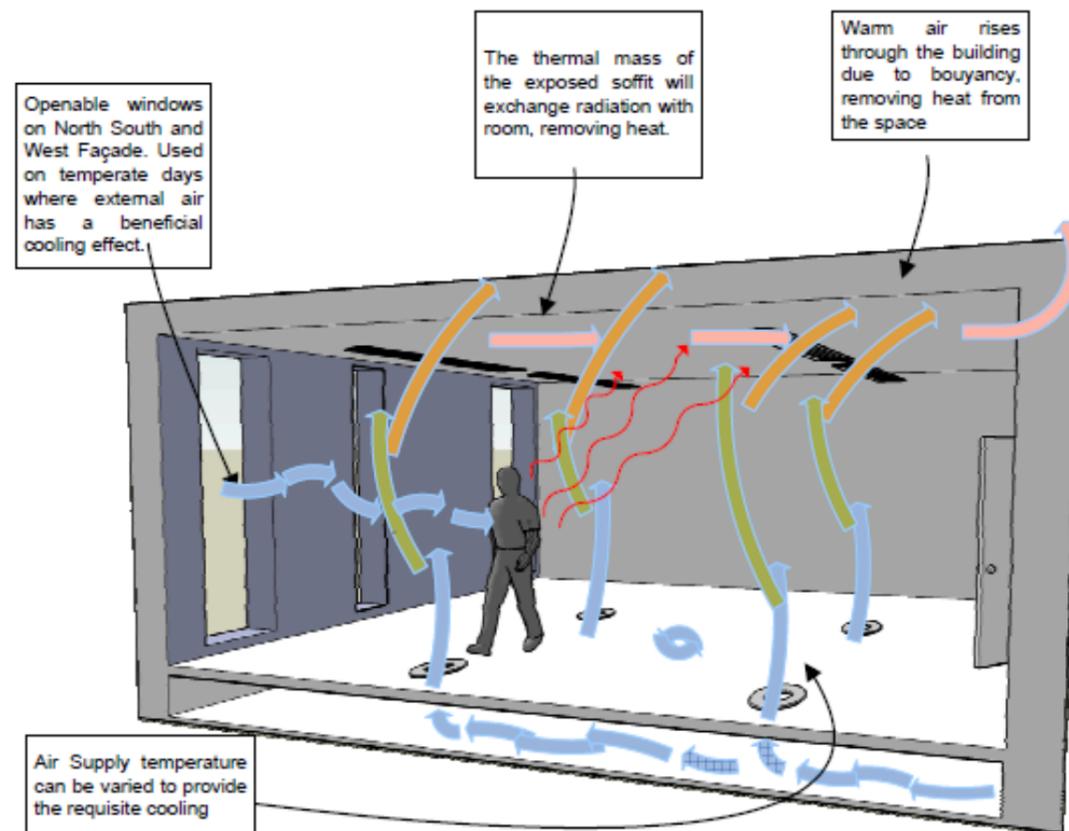
The under floor system is simple, and allows clear soffits avoiding more conventional chilled beams.



Where cellular spaces are created within internal areas or where internal gains are high, for example, as in a meeting room it is necessary to provide some form of additional environmental

control. This will be provided by a number of different means appropriate to the cellular spaces served. These include:

- the provision of enhanced mechanical supply and extract to give a higher ventilation rate
- the provision of a local cooling coil within the fresh air supply to the area
- the provision of passive or active chilled beams



### Day lighting and lighting

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Daylight penetration into the deep floor plates will be enhanced through the provision of the internal atria and voids introduced into the floor plates with sun light cascading down through the building from the roof lights over the new entrance area.

Lighting throughout the library will be provided from suspended fittings giving up lighting to the soffit as well as direct lighting to the book shelves and study areas. The lighting, which will be the largest single user of energy within the building, will be automatically controlled to include presence detection and daylight dimming.

### Fire Engineering

An Extension of the Kent University library will create approximately extra 6000m<sup>2</sup> over 4 levels. Most of the extra spaces of the extension are for flexible library space except the lowest level which will be mainly used for an auditorium and seminar rooms. Compartmentation is one

of the key fire issues for the extension of the library as the Building Regulation limits fire compartments to 2000m<sup>2</sup> per floor where sprinkler protection is not installed. From the layout plans of the extension and the existing library, the library will only require compartment walls to divide any floor area exceeding 2000m<sup>2</sup>. The university considers the double height spaces in the existing building may need to be enclosed; however Ramboll Safe will challenge the requirement from a life safety point of view in order to meet the functional requirements of the Building Regulation.

### Vertical Transport Strategy

The requirement for lifts associated with the new extension needs to be reviewed in conjunction with the existing lift provision, the proposed change to the location of the entrance and the proposed alterations to the existing stair and lift cores. It is noted that the existing lifts are considered to provide a poor service. For public buildings with disabled access a lift car of 1275kg (16 person) is generally considered to be desirable.

The key elements that should be considered when calculating the number of lifts required and their capacity for passenger service are set out below. Some of these elements will depend on the operational characteristics of the building.

- The number of floors to be served by the lift.
- The pitch of the floors, (the distance from landing to landing).
- The population of each floor to be served.
- The maximum peak demand, (generally the anticipated population arrival rate in a five minute period, expressed as a percentage of the total building population).

Rules of thumb suggest that 2 No 1275kg (16 person) lifts will be required. This presents challenges for the location of lift cores that are positioned ideally close to the new entrance-behind the security barrier. There may well be structural constraints for the new shafts, pits and lift overruns that play a large part in determining the final location.

## 2.9 Structural design

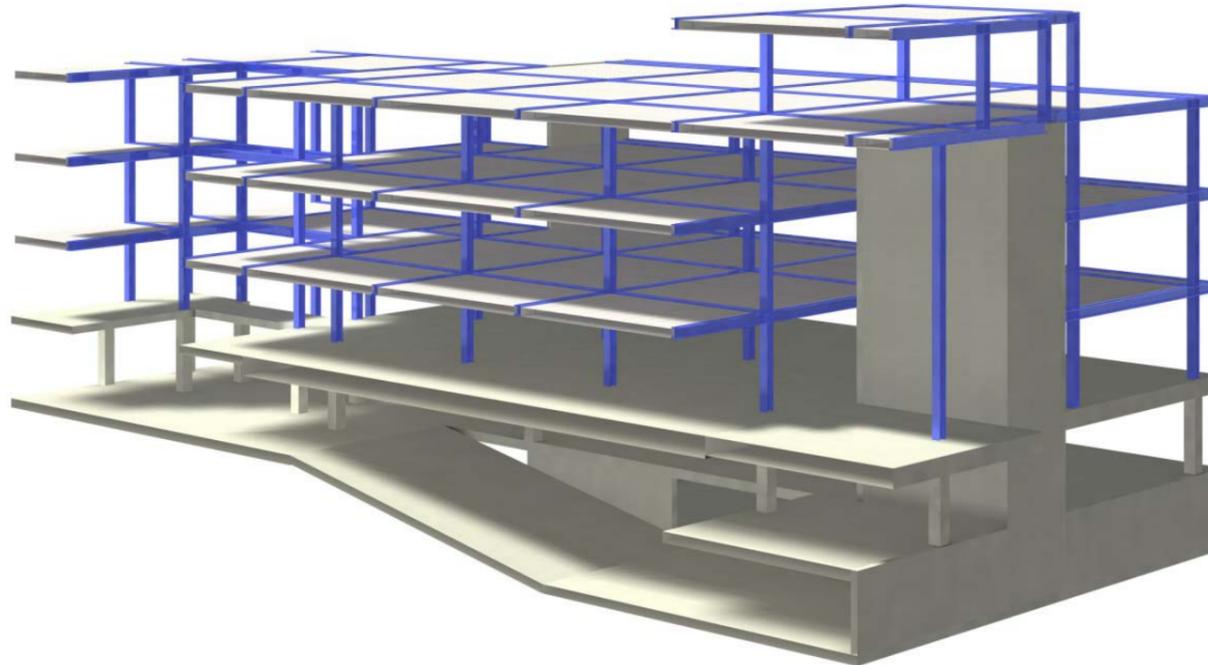


Figure 1 - 3D section through building - showing raked lecture theatre at ground floor

### Response to Brief

The chosen site for the extension is to the west of the existing library. This benefits from being away from the disused and backfilled railway tunnel which runs to the east of the library and also provides better construction access with the possibility of access directly from Giles Lane from the Northwest in addition to Library Road from the Northeast.

It is noted that the extension is required to house a new book and collections storage facility, and that the flexibility to locate mobile book stacks anywhere in the extension is required. Assuming a 2m storage height, this would equate to an imposed load of 9.6 kN/m<sup>2</sup> in accordance with BS 6399-2 and our proposals have been based on this loading. By contrast, for areas of static shelving, this could be significantly reduced to 6.5 kN/m<sup>2</sup> which may be an acceptable alternative in agreed zones of the extension, whilst still providing the University with the flexibility that they require. We have detailed knowledge of library loadings building on the research that we carried out into book stack loadings during the extension project of the University of East Anglia Central Library.

The requirement in the brief for a 250 seat lecture theatre and 4 no. 50 person seminar rooms within the extension has led to the proposal to locate this accommodation at ground floor with 3 storeys of library accommodation above this. This has resulted in the requirement for a

transfer structure at first floor to allow a more regular and economic structural grid (7m x 7m) to be constructed above the ground floor accommodation. A partial basement has been included in the proposals to allow level access from ground floor to the top of the lecture theatre, with tiered seating extending down to the basement level with further space at this lower level to accommodate plant.

Due to the importance of avoiding disruption to the library during construction of the extension, consideration has been given to how this can be best achieved. Examples of design features that will assist with this include:

- Ensuring the structural frame to the extension is structurally independent of the original allowing the final breakthrough between the two buildings to be carried out in a reduced period of time and to minimise the need for noisy/disruptive operations to be carried out on the existing frame.
- Giving consideration to a prefabricated form of structural frame (e.g. steel frame and precast concrete floors) that could be erected quickly whilst also minimising construction deliveries to the site.
- Reducing the need for site drilling for the support of cladding/masonry by designing cast-in or predrilled connections to the structural frame.

### Substructure

The underlying ground conditions are very dense sand and gravel to approx. 3m depth overlying stiff clay, and it is noted from the record drawings of the existing library buildings, that the phase 1 frame with basement made use of piled foundations whereas the phase 2 frame without basement accommodation was designed on shallow foundations presumably founding on the sands and gravels.

Due to the basement required, it is proposed that piled foundations would be the most appropriate form of foundation to accommodate the large imposed loads required and to additionally minimise differential settlements across the footprint. Consideration will also need to be given to the effect on the underlying soils which will be caused by the removal of trees on the site to accommodate the new extension. We would design suitable heave protection features into the substructure to accommodate this.

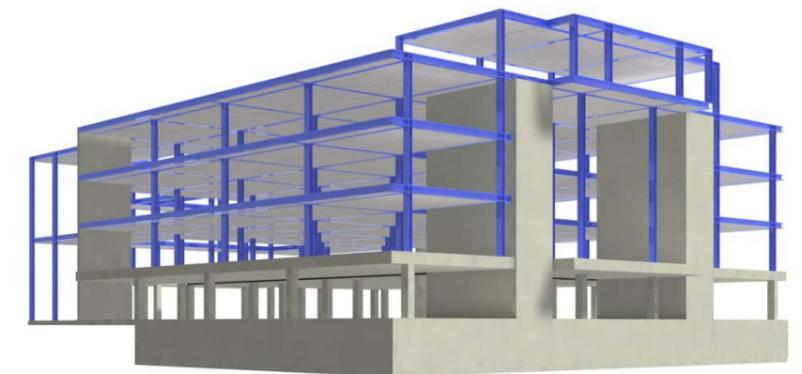


Figure 2 - 3D view of structural frame from the Northwest

## Structural Frame

The structural frame is divided into two parts dictated by the need for a transfer structure at 1<sup>st</sup> floor and associated ground and basement construction below this supporting a frame with a regular grid above.

The frame up to 1<sup>st</sup> floor lends itself to insitu concrete construction possibly incorporating some precast components to simplify formwork and temporary works. The 1.5 storey height to the space below will allow the increased structural depth to be accommodated. Options for the transfer structure at 1<sup>st</sup> floor are:

- Insitu flat slab – heaviest option but the shallowest
  - Insitu coffered/ribbed slab – locally deeper but more structurally efficient and lighter
- Above 1<sup>st</sup> floor, the following 2 frame options have been considered to be the most suitable:
- Steel frame with precast hollowcore floor planks with structural topping – benefits from quick erection due to the extent of prefabrication, and a BRE Green Guide “A” rating. It is also more lightweight which will provide a more economic transfer slab design. Steel beams within the depth of the hollowcore planks avoids the need for downstands to provide a flush exposed soffit.
  - Post-tensioned insitu concrete flat slab – benefits from BRE Green Guide “B” rating if combined with raised floors in lieu of screeds for horizontal services distribution. The floor plate of the building, lends itself to post-tensioning with the 4 x 5 bay arrangement and would be worth considering. Again it is proposed that the soffit would be left exposed.

## Refurbishment/Remodelling

Our proposals have considered options for remodelling the existing library. From the record drawings of the first phase of the existing library, it is understood that the substructure was constructed to allow a full basement to be provided to the footprint of this phase. We would like to investigate this further, and in particular to assess the feasibility of extending the proposed ground floor level of the extension (which is approximately at grade with the external ground level) into the existing building to relocate the library entrance into the extension and to provide easier disabled access to lifts beyond the secure line of the library.

In addition, to provide improved vertical circulation into the library from the re-sited entrance, a new accommodation stair/additional lifts are proposed and opportunities for incorporating this into the existing building to minimise structural intervention have been considered.

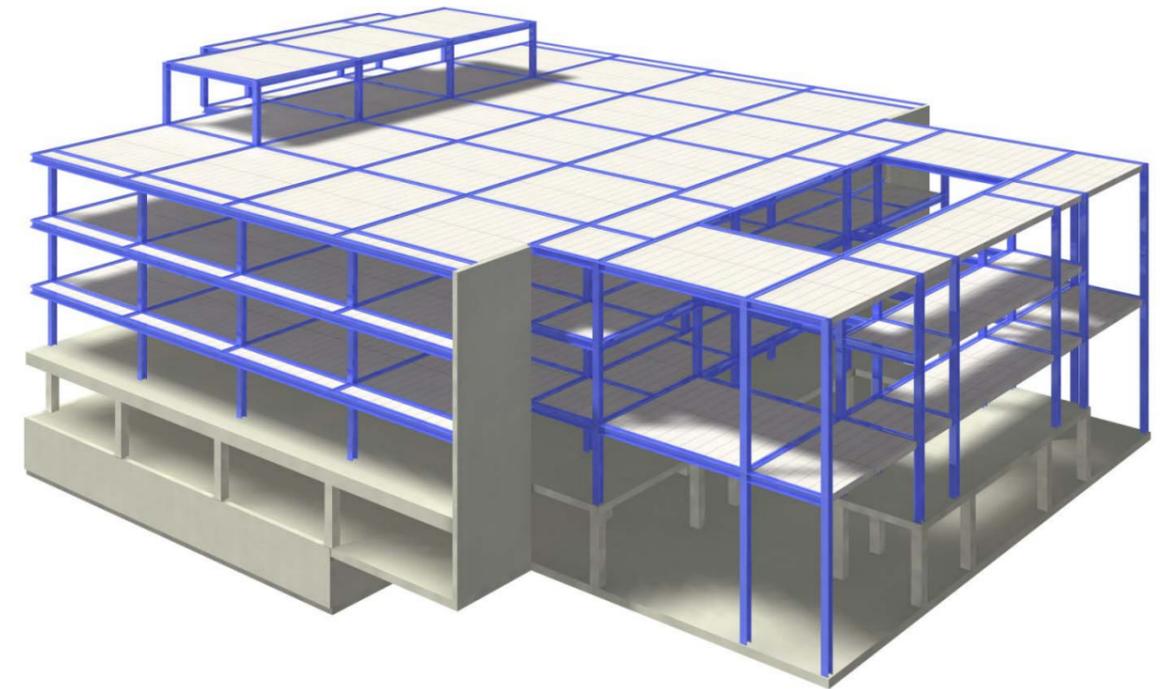


Figure 3 - 3D view of the structural frame from the Southeast

## 2.10 Sustainability

### Breeam and Sustainability

It is noted that the new extension will be subject to a full Breeam Assessment with an overall target of a Very Good rating. It is worth considering whether the Breeam study should be extended to a larger study including the refurbishment of the existing building. The design team will work closely with the University and Cost Consultant to review the potential Breeam credits and also to capture any wider sustainability objectives. It should be appreciated that many Breeam credits are a function of the site infrastructure and site features that are not necessarily affected by the building design and that this can have a major influence on the final Breeam score.

A notable constraint will be performance of the existing centralized heating plant, which although the subject of possible major energy and carbon reduction strategies such as CHP and biomass will be outside the scope of a project based assessment. Nonetheless, the new building will be targeting significant low energy design through passive design measures as previously outlined. In terms of sources of renewable energy, we have proposed ground source heat pumps for the cooling of the building using closed loop boreholes. In addition we will review the opportunities for photo-voltaic cells, solar thermal, bio-mass boilers, optimal use of natural light, heat and energy metering, energy efficiency and low-carbon generally, environmentally sound specification (such as FSC), thermal mass, waste recycling and composting, low energy lighting, solar protection, minimal emissions of volatile organic compounds; intelligent controls; water conservation (rainwater harvesting and automatic controls, metering and maximising use.

## 2.11 Schedule of Areas

Gross internal areas

Third Floor Level 4	1105
Second Floor Level 3	1260
First Floor Level 2	1186
Ground Level 1	1450
Basement Level 0	99
<b>Total</b>	<b>5100</b>
Possible extra basement	720

## 2.12 Cost appraisal

We have obtained an independent opinion on the likely cost of the proposals we have shown here, which are estimated to require a budget for the construction contract of £11,0m to £12.5m based on a £/m<sup>2</sup> rate of £2,200 /m<sup>2</sup> to £2,500/m<sup>2</sup> and a gross internal area of 5,000 m<sup>2</sup>, including contractor's preliminaries, overheads and profit but excluding fees and VAT. Therefore for the areas measured from the current scheme as shown above, the lower range would give a cost of £11.3m.

This preliminary check suggests that the brief for additional space could be delivered within the budget, and it may be possible to carry out some refurbishment if required. If the budget were to be increased beyond £12.0M as indicated might be possible, a more extensive refurbishment of the library could be carried out and the size of the basement could be increased as shown above. We would suggest both would be good investments and enable the University to make maximum use of the site.

## 2.13 Construction logistics and phasing

The advantage of the location and arrangement we have proposed is that construction access can be separated from the existing Library facility until the extension is complete.

The lower (teaching) floor could be brought into use early before the upper (library) floors of the extension are complete.

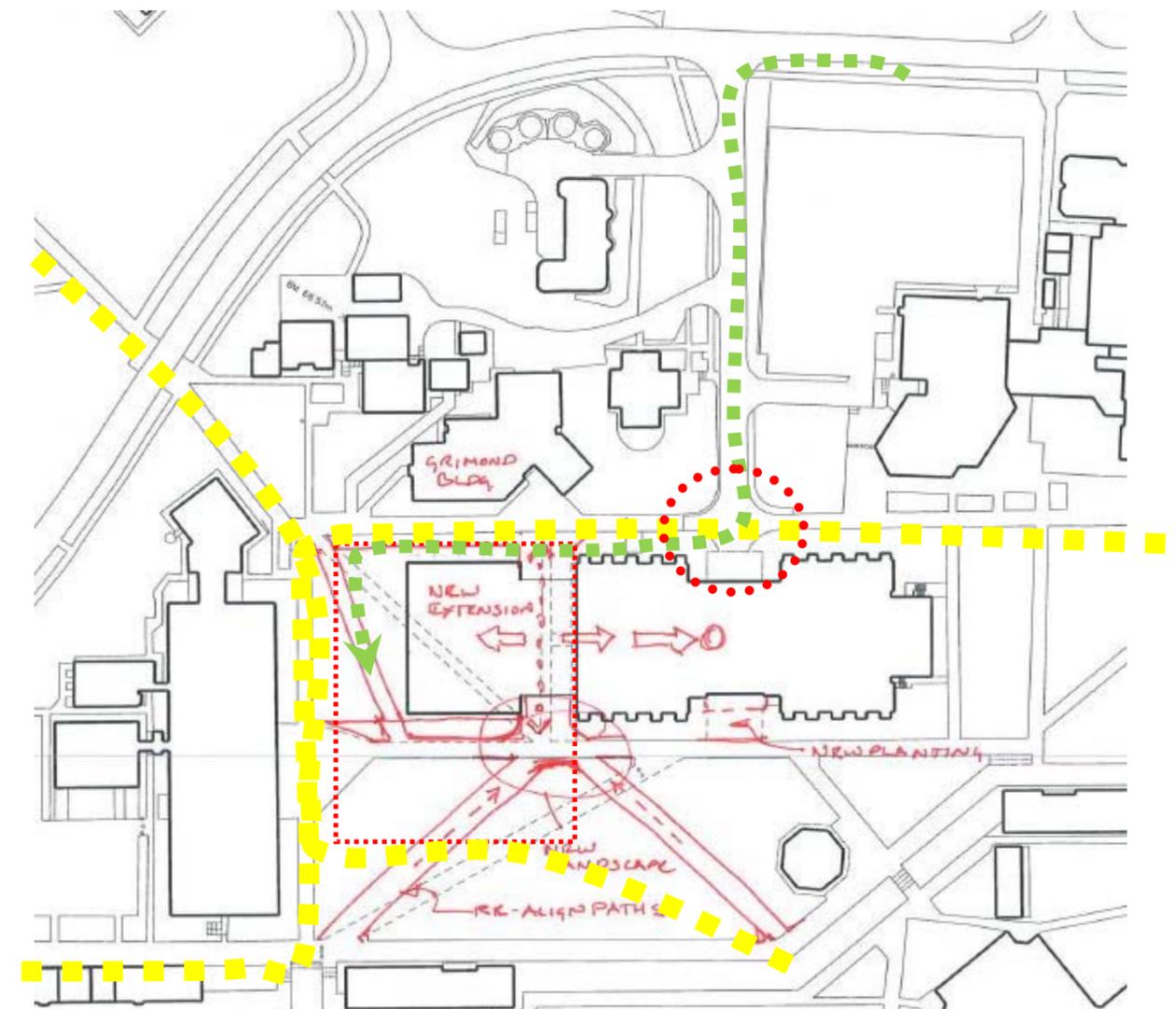
The new library floors in the extension could be used as decant space, to allow the phased alteration of the existing Templeman Library.

The new atrium can be used as a concourse and entrance to the teaching facility in advance of the proposed alteration works to the west end of the existing Templeman library (the west end can be hoarded off until the alterations are complete, and / or works to form the new Library

reception and entrance area can be carried out internally before the west end wall of the existing building is removed, to maintain separation and sound insulation).

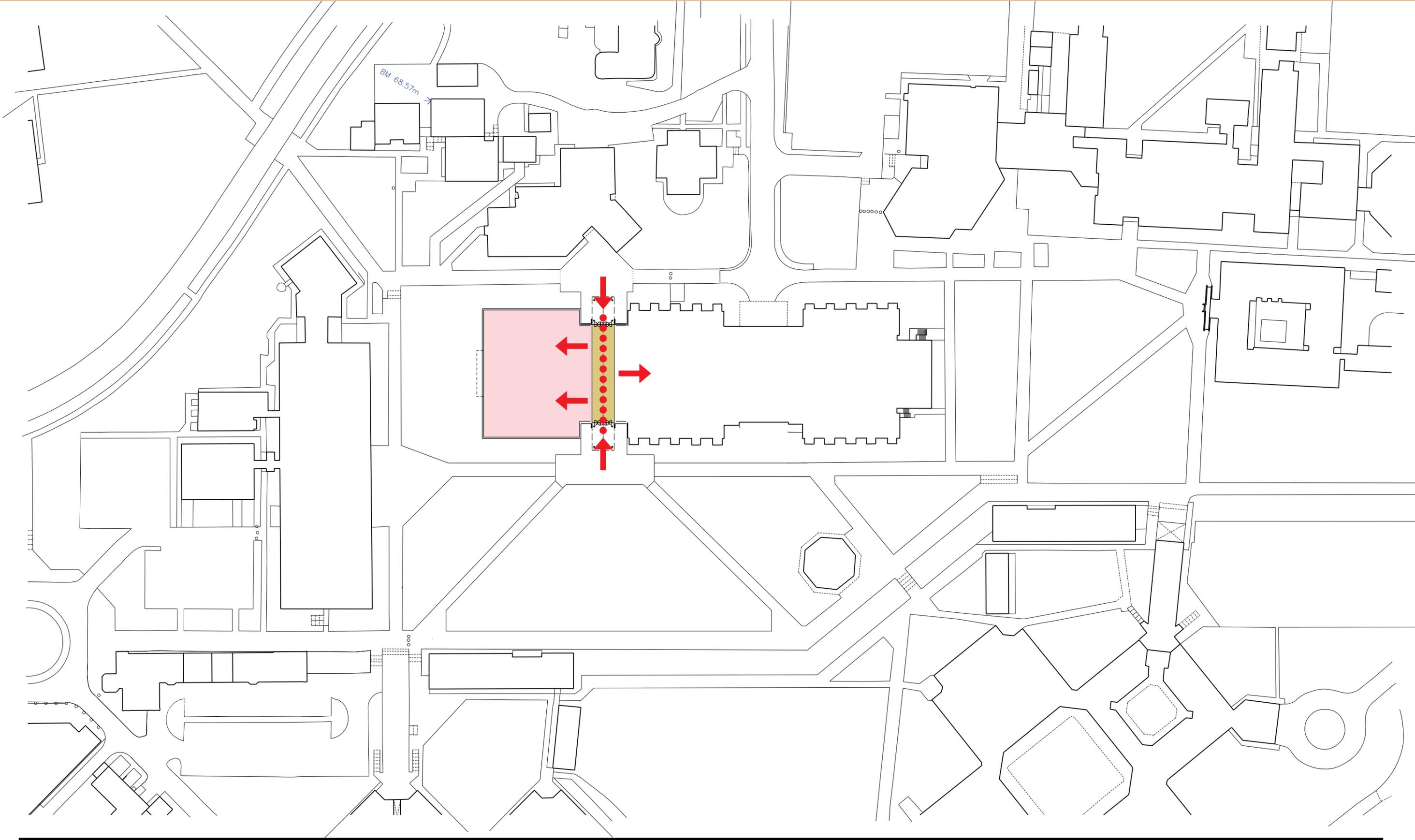
Construction site access is proposed from the ring road as shown by the dotted green line on the site plan on the right. The site compound would be constructed to encompass sufficient area for the footprint of the extension plus welfare and storage, to minimise the number of deliveries made during core University hours. The compound may need to enclose part of the main green space to allow for sufficient storage and crane location.

The busy pedestrian routes to and around the Grimond Building would be protected by a robust hoarding. Redirected pedestrian flows are shown in yellow below. The management of the crossover of pedestrian and construction traffic flows (red dotted circle) will be critical.



## 2.14 Architectural plans, sections and elevations

We show the new extension in relation to the existing building on the following pages.



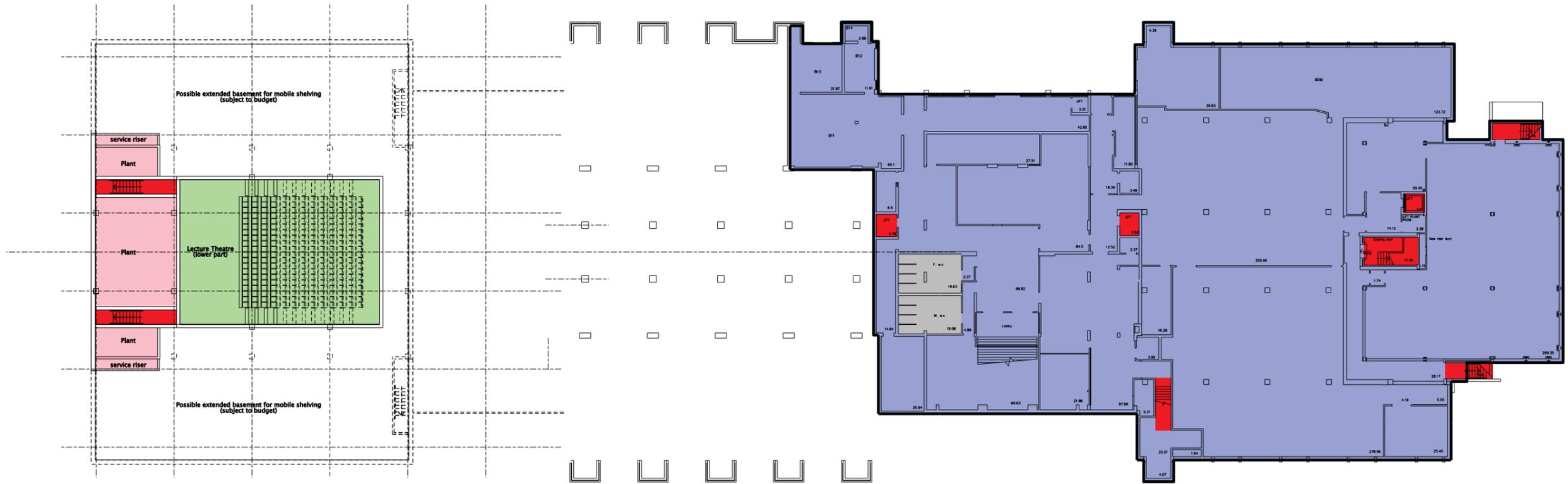
rev	date	description	by
-	20/03/12	Drawing originated	-
drawing amendments			

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 Architecture Planning Landscape

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 tel: 020 7841 7500 fax: 020 7841 7575  
 email: architecture@seh.co.uk web: www.seh.co.uk

<i>project</i> <b>Templeman Library Extension</b>
<i>client</i> <b>University of Kent</b>

<i>drawing status</i> <b>Competition Entry</b>	<i>scale</i> <b>1:500</b>	<i>size</i> <b>A1</b>
<i>drawing</i> <b>Site Plan</b>	<i>job no.</i> <b>11157</b>	<i>rev.</i> <b>--</b>
<i>drawing no.</i> <b>001</b>		



**KEY**

	Foyer / circulation		WC's / cleaners stores		Entrance
	Lecture theatre / teaching		Administration / offices		Emergency escape
	Welcome / orientation		Shelving		Key views
	Cafe / Social learning		Individual / group study		Main circulation route
	Vertical circulation		Plant space / risers		

**NOTE:** Planning zones are indicative only for discussion.

rev	date	description	by
B	20/03/12	Extended basement to be subject to budget.	-
A	18/03/12	Basement extended to include mobile storage, fill added.	-
drawing amendments			

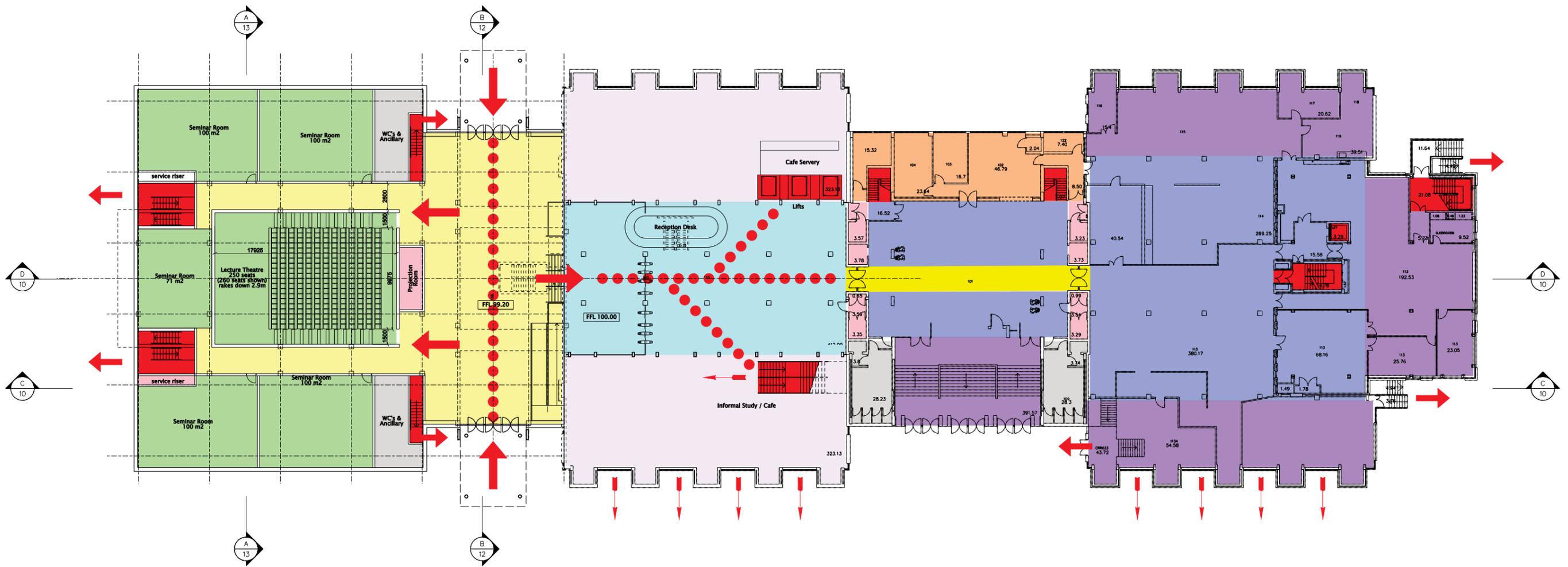
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project	Templeman Library Extension
client	University of Kent

drawing status	Competition Entry	scale	1:200	size	A1
drawing	Proposed Plan: Basement - Level 0	job no.	11157	drawing no.	002
		rev.			B



**KEY**

	Foyer / circulation		WC's / cleaners stores		Entrance
	Lecture theatre / teaching		Administration / offices		Emergency escape
	Welcome / orientation		Shelving		Key views
	Cafe / Social learning		Individual / group study		Main circulation route
	Vertical circulation		Plant space / risers		

**NOTE:** Planning zones are indicative only for discussion.

rev	date	description	by
D	18/03/12	Zones, key, riser locations	NH
C	13/03/12	Ramp, levels, reception desk, cafe, atrium columns	NH
B	12/03/12	Atrium layout revised.	NH
A	06/03/12	Column grid revised, lecture room details added	NH
drawing amendments			

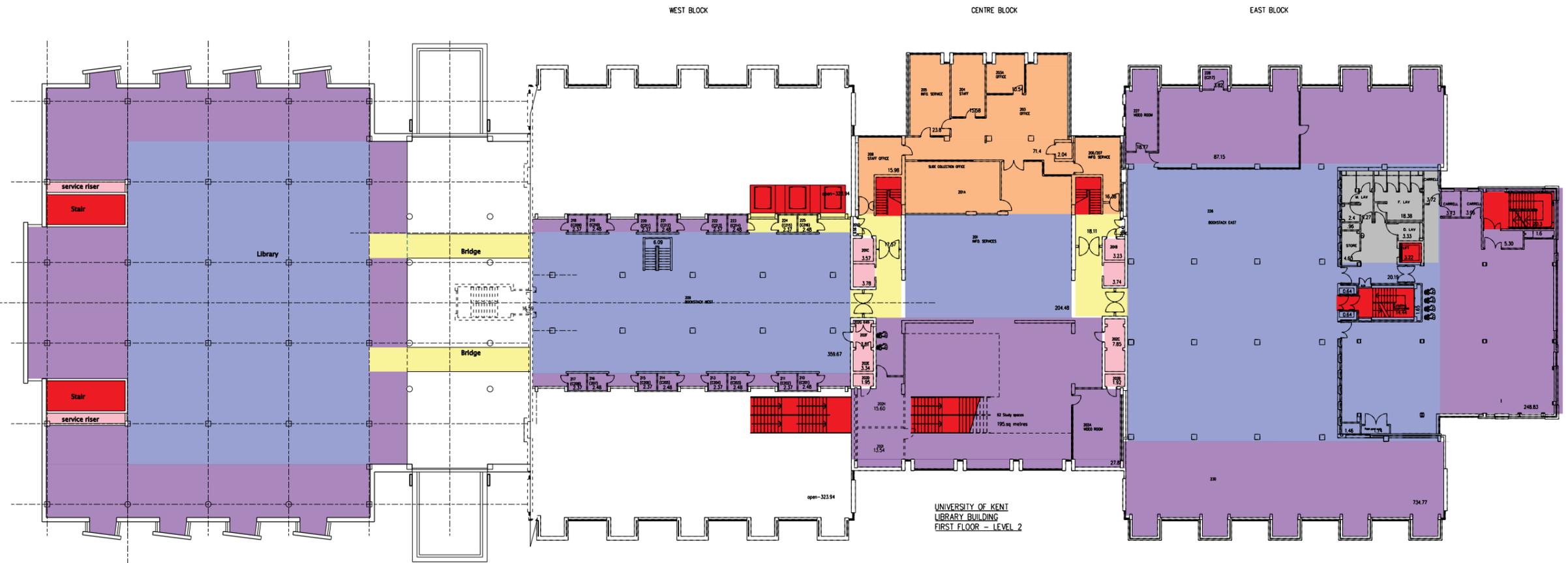
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project	Templeman Library Extension
client	University of Kent

drawing status	Competition Entry	scale	1:200	size	A1
drawing	Proposed Plan: Ground Floor - Level 1	job no.	11157	drawing no.	003
		rev.			D



**KEY**

 Foyer / circulation	 WC's / cleaners stores	 Entrance
 Lecture theatre / teaching	 Administration / offices	 Emergency escape
 Welcome / orientation	 Shelving	 Key views
 Cafe / Social learning	 Individual / group study	 Main circulation route
 Vertical circulation	 Plant space / risers	

**NOTE:** Planning zones are indicative only for discussion.

rev	date	description	by
C	18/03/12	Coloured zones, stairs	
B	13/03/12	Main stair, atrium setting out.	
A	12/03/12	Atrium layout, carrels	
drawing amendments			

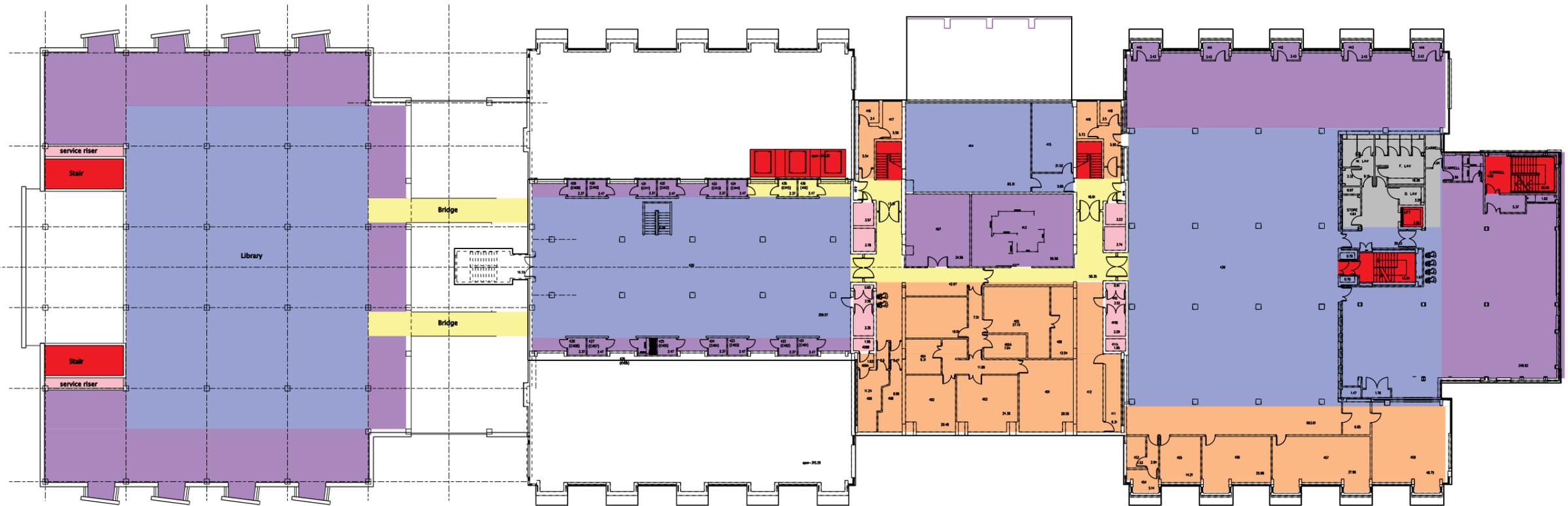
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project	Templeman Library Extension
client	University of Kent

drawing status	Competition Entry	scale	1:200	size	A1
drawing	Proposed Plan: First Floor - Level 2	job no.	11157	drawing no.	004
		rev.			C





**KEY**

- |   |                            |   |                          |   |                        |
|---|----------------------------|---|--------------------------|---|------------------------|
|  | Foyer / circulation        |  | WC's / cleaners stores   |  | Entrance               |
|  | Lecture theatre / teaching |  | Administration / offices |  | Emergency escape       |
|  | Welcome / orientation      |  | Shelving                 |  | Key views              |
|  | Cafe / Social learning     |  | Individual / group study |  | Main circulation route |
|  | Vertical circulation       |  | Plant space / risers     |   |                        |

NOTE: Planning zones are indicative only for discussion.

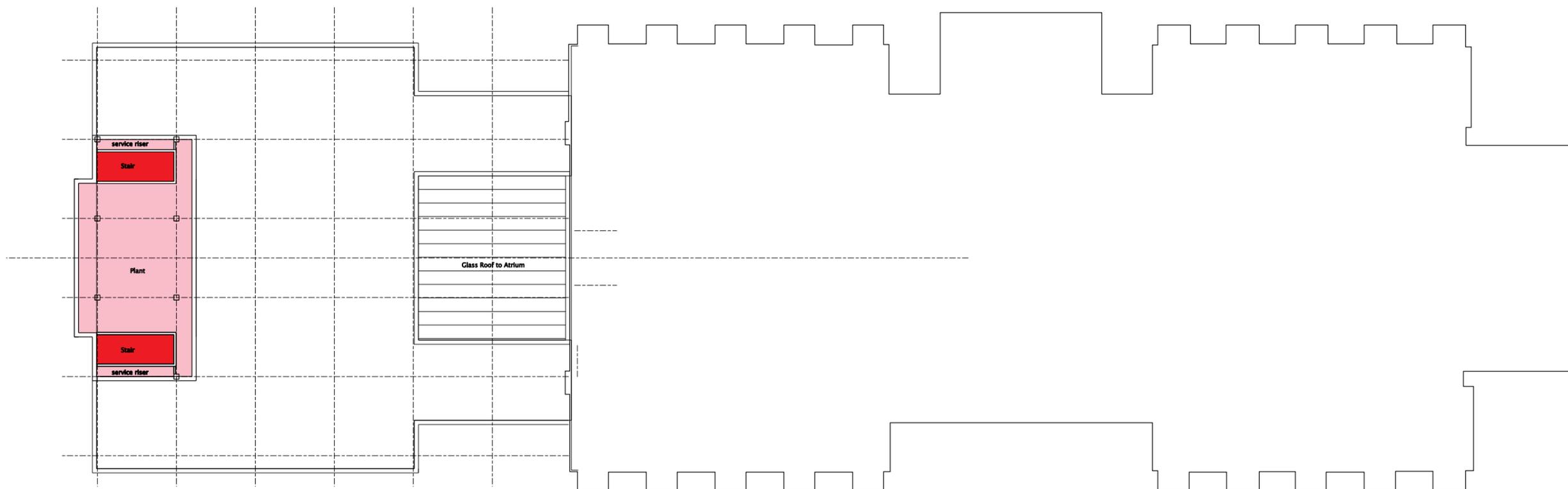
rev	date	description	by
B	18/03/12	Coloured zones added	
A	12/03/12	Atrium layout, carrels	
drawing amendments			

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project	Templeman Library Extension
client	University of Kent

drawing status	Competition Entry	scale	1:200	size	A1
drawing	Proposed Plan: Third Floor - Level 4	job no.	11157	drawing no.	006
		rev.	B		



**KEY**

- |  |  |  |
|--|--|--|
|  Foyer / circulation        |  WC's / cleaners stores   |  Entrance               |
|  Lecture theatre / teaching |  Administration / offices |  Emergency escape       |
|  Welcome / orientation      |  Shelving                 |  Key views              |
|  Cafe / Social learning     |  Individual / group study |  Main circulation route |
|  Vertical circulation       |  Plant space / risers     |  |

NOTE: Planning zones are indicative only for discussion.

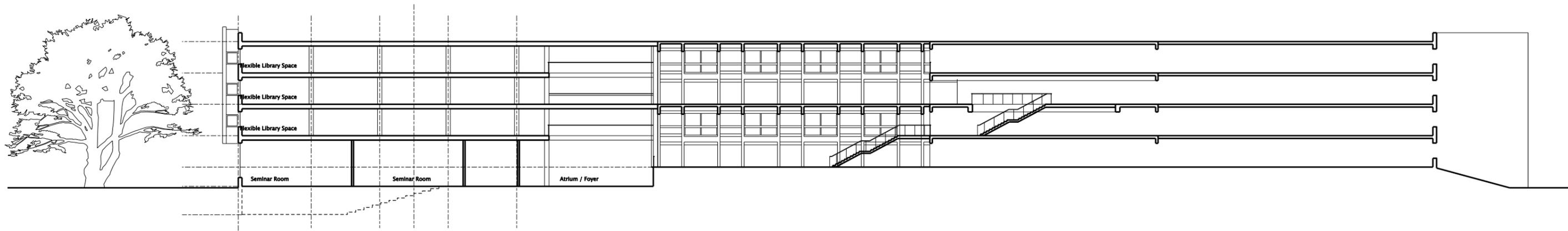
rev	date	description	by
B	20/03/12	Extent of glass roof increased.	-
A	18/03/12	Plant room arrangement shown	-
drawing amendments			

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Architecture Planning Landscape

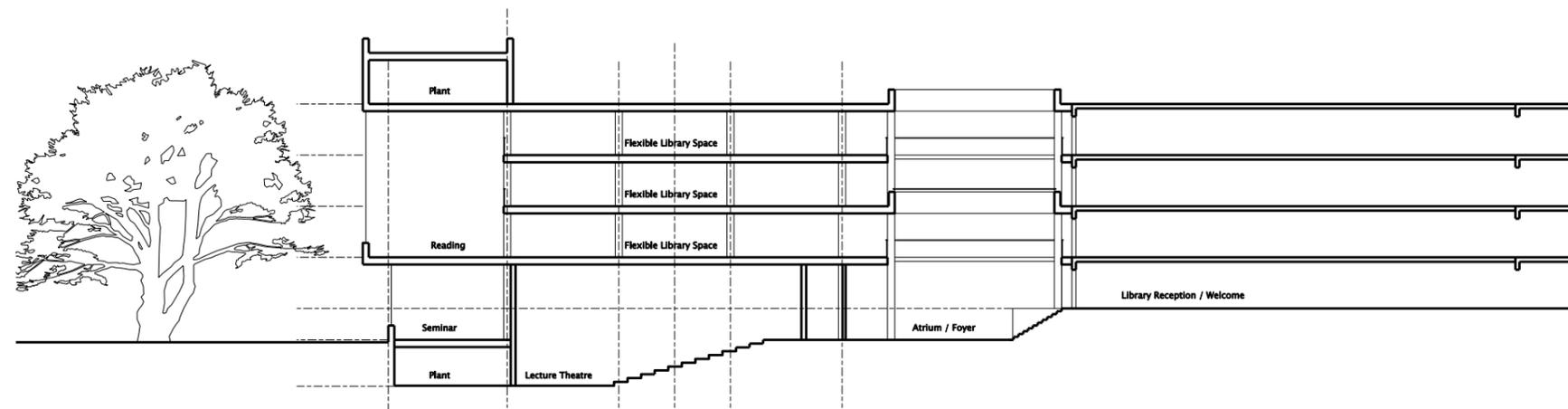
Phoenix Yard, 65 Kings Cross Road, London WC1X 9LW  
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project	Templeman Library Extension
client	University of Kent

drawing status	scale	size
Competition Entry	1:200	A1
drawing	job no.	
Proposed Plan: Roof - Level 5	11157	
drawing no.	rev.	
007	B	



SECTION C-C



SECTION D-D

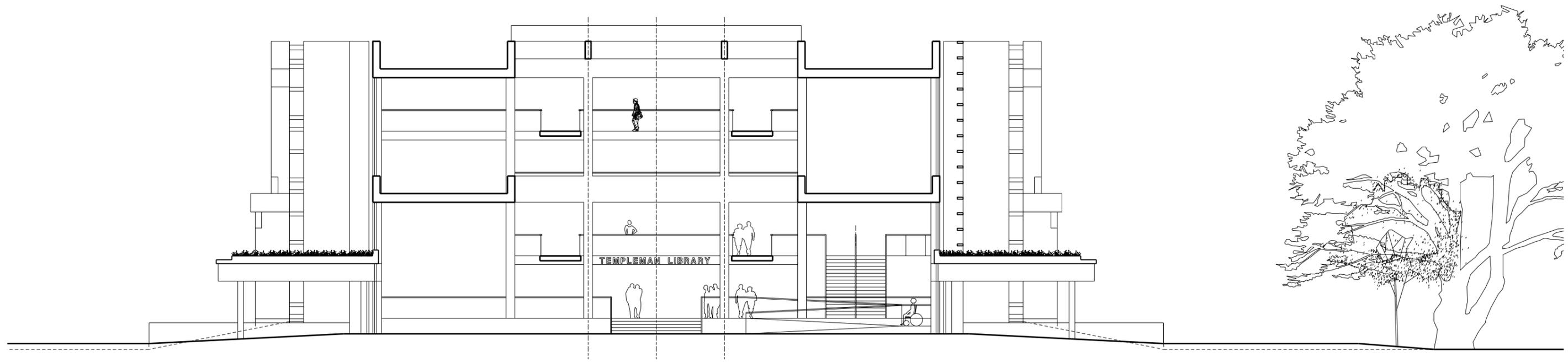
rev	date	description	by
A	19/03/12	General update	NH
drawing amendments			

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project	<b>Templeman Library Extension</b>
client	<b>University of Kent</b>

drawing status	<b>Competition Entry</b>	scale	<b>1:200</b>	size	<b>A1</b>
drawing	<b>Proposed Sections C-C and D-D</b>	job no.	<b>11157</b>	drawing no.	<b>010</b>
		rev.	<b>A</b>		



SECTION B-B

rev	date	description	by
A	20/03/12	people added, green roof to canopy	--
--	19/03/12	Drawing originated	--
drawing amendments			

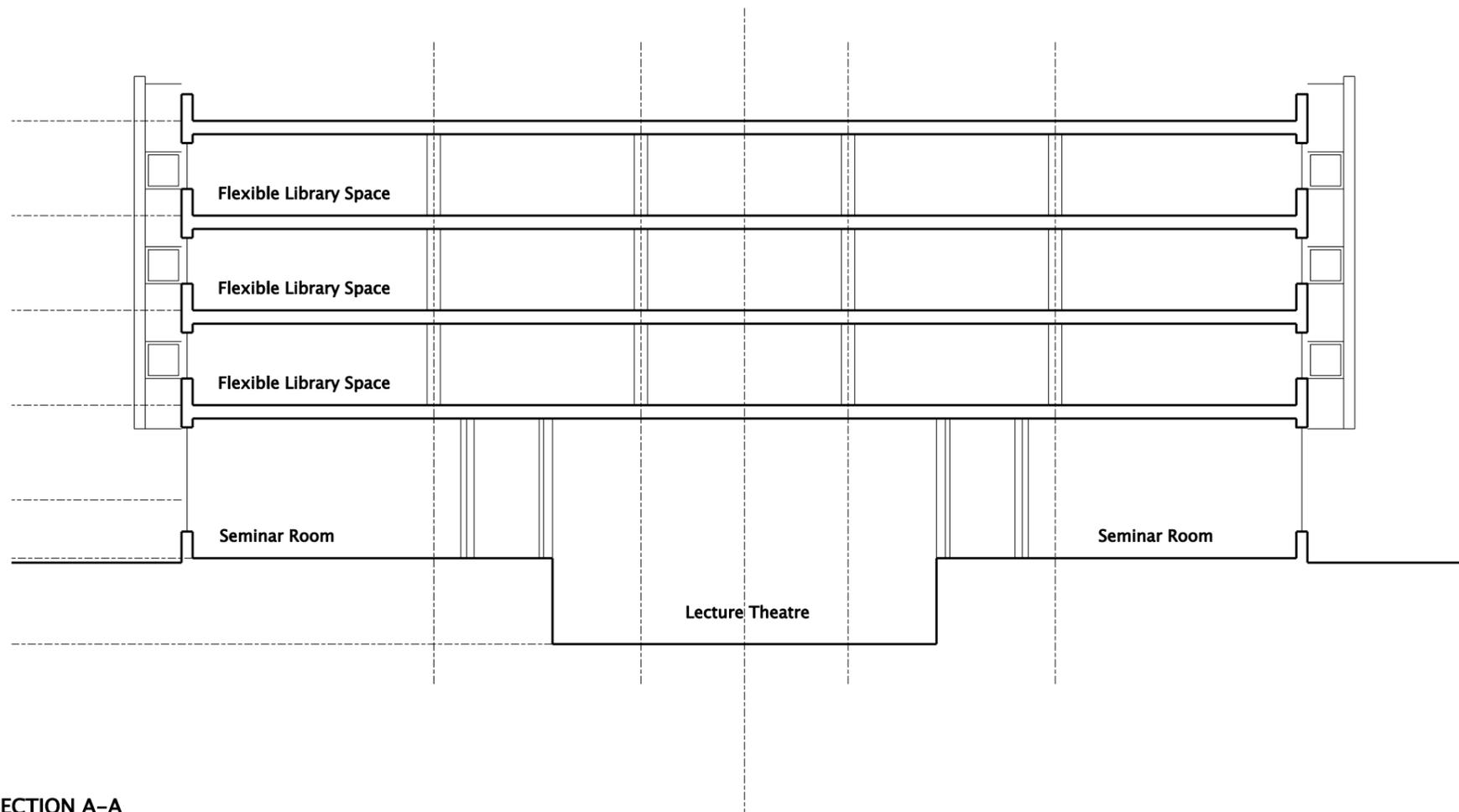
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project	Templeman Library Extension
client	University of Kent

drawing status	Competition Entry	scale	1:100	size	A1
drawing	Proposed Section B-B	job no.	11157	drawing no.	012
		rev.	--		



SECTION A-A

rev	date	description	by
-	19/03/12	Drawing originated	NH
drawing amendments			

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email: architecture@seh.co.uk web: www.seh.co.uk

project	<b>Templeman Library Extension</b>
client	<b>University of Kent</b>

drawing status	<b>Competition Entry</b>	scale	<b>1:100</b>	size	<b>A1</b>
drawing	<b>Proposed Section A-A</b>	job no.	<b>11157</b>	drawing no.	<b>013</b>
		rev.	<b>--</b>		

### 3 Project Organisation

#### 3.1 Organisation of project team

Our team will be led by Shephard Epstein Hunter who will provide architectural design and project management of the design team. Ramboll will provide structural and environmental services engineering.

Shephard Epstein Hunter is an established practice of architects, recognised for our imagination, experience, and ability to deliver, with extensive experience in higher education, education generally, public and community buildings, masterplanning, refurbishment and transformation.

Ramboll is a leading European multi-disciplinary firm of consulting engineers, and is at the forefront of sustainable design and Building Information Modelling (BIM).

Shephard Epstein Hunter and Ramboll both have excellent experience of working with libraries and have worked together on various similar projects previously.

#### 3.2 Authority levels of team members

Shephard Epstein Hunter will be the main point of contact and will have the authority to direct our team.

**Steven Pidwill** as Chairman of Shephard Epstein Hunter will act with overall responsibility for the project team including Ramboll and will be responsible for delivering the project to the satisfaction of the University of Kent and ensuring design quality and that the library extension realises the potential of this opportunity, and will take responsibility for liaison with the University's senior management team and key stakeholders including the planning authority.

**Nick Hufton** will act as Project Director and will lead our design team and be responsible for coordinating the work of consultants and providing high quality timely information. Nick and Steven will work closely together to provide consistent management and representation of the project throughout its duration.

**Charles Dokk-Olsen** will take responsibility for developing elements of the design in conjunction with Nick and Steven, at the levels of research, concept and detailed design.

In this way we have provide senior, experienced resources responsible for:

- the overall management by the design team of the project and critical relationships with stakeholders (Steven)
- the technical, detailed control and coordination of design team information to ensure high quality at all stages (Nick)
- the development of the design at concept and detailed level (Charles)

in order to ensure we deliver an excellent building. **Key meetings will be attended by Steven, Nick, Charles or a combination of the three.**

Together Steven, Nick and Charles have some sixty four years post-qualification experience, and at least fourteen years' experience working together. All three are members of the board

of Shephard Epstein Hunter (Charles is an Associate Director). Decision making is based on continual discussion, review and analysis within our practice which leads to us selecting the best idea after consideration of a number of options - and liaison with our client throughout the project to ensure they understand the key decisions, and become informed and capable participants in the design process through all work stages. We try hard to make this continual process as enjoyable as possible for all concerned - ! - while ensuring we are rigorous and responsible throughout.

Shephard Epstein Hunter expects to take full responsibility for Ramboll (if acting as our sub-consultants as we have assumed). SEH and Ramboll have worked together successfully on the UEA Central Library extension and refurbishment, the transformation of the Sydney Jones Library Building at the University of Liverpool, and on the Institute of Education masterplan and phase 1 for the University of London. In 2011 we worked closely together to bid for an imaginative new £17m education building in Cambridge and were highly placed.

**James Greatorex** will have overall responsibility for the Ramboll team, and will report to Steven Pidwill at Shephard Epstein Hunter. Steven and James will meet regularly to review progress and ensure that the project is being delivered to the satisfaction of the University of Kent.

James will ensure that Ramboll's commitment to the project is maintained and that it is properly resourced. James will carry out regular internal reviews to ensure that the team are delivering to programme and to ensure that a high level of quality is maintained, bringing the project the benefit of his extensive experience from the Higher Education Sector.

**Andy Fuller-Lewis** will be responsible for the day to day running of the project, and will be the main point of contact for the client for design issues. Andy will also co-ordinate the input from the various Ramboll disciplines required for the project, drawing from his experience in carrying out this role for the multi-disciplinary team on the South-East Essex College project. Andy will report to James Greatorex and will plan the team's own internal design activity programme to ensure that key milestones are met.

**Philip Kite** will be the Ramboll Project Director leading Ramboll's Building Services team on this project, and he will work with Tim Bowden of Ramboll as project review director to bring the benefit of Tim's knowledge of the Sydney Jones library refurbishment at the University of Liverpool.

#### 3.3 Logistics related to site and other consultants

Shephard Epstein Hunter and Ramboll are both located in London, with offices within 20 minutes' walk of each other. Both offices are also within 20 minutes' walk of St Pancras Station where trains to Canterbury run every half hour, taking from just under to just over an hour to get there. Both offices are therefore less than two hours journey time from the Templeman Library. We expect meetings to take place wherever the client is satisfied is most efficient for the project - as the 'Guidance for key criteria' states: we expect this will be at Shephard Epstein Hunter's Kings Cross office for design team meetings, and at the University for project team and stakeholder and progress meetings.

### 3.4 Planning and programming

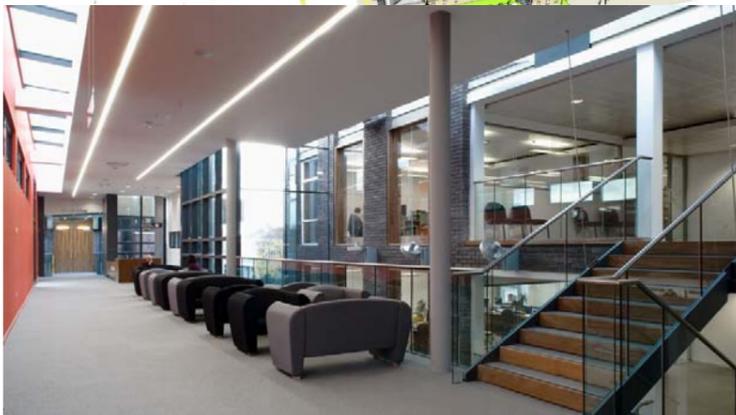
Shepherd Epstein Hunter will provide a coordinated programme for the design team. A draft version of this is provided on a following page under item 5.1. The programme is based on the dates proposed in the Invitation to Tender. Our resources will be managed to suit the different requirements of each work stage over the course of the programme. Our resources plan is shown on a following page under 5.3

### 3.5 Relevant experience

Steven, Nick and Charles have been responsible for delivering these Shepherd Epstein Hunter projects, encompassing, library, teaching/meeting/conference spaces, enhanced student experience, improved entrances, new build projects and refurbishment in occupied buildings.



The David Wilson Library Options Appraisal and feasibility study for the University of Leicester



Sydney Jones Library for the University of Liverpool



University of East Anglia Central Library extension and refurbishment



Bennett Foyer University of Leicester



Percy Gee Building, University of Leicester



Gilbert Murray conference centre, Oadby, University of Leicester



Enfield Town Library



## 4 Key Project Personnel

### 4.1 Availability of key staff

Shepherd Epstein and Hunter and Ramboll staff as described on this page are available to make an immediate start and meet the required programme. Our resources plan is shown on a following page under 5.3, together with further information on other members of Shepherd Epstein Hunter who we propose will contribute to the project during the later design stages.

### 4.2 Qualifications and relevant experience of key staff

Our key staff are well qualified and have excellent experience of working in higher education and in the design of libraries.

**Steven Pidwill** BA (Hons) Dip Arch RIBA MAPM FRSA is an architect with some thirty years experience and has been a Director of Shepherd Epstein Hunter since 1988. His experience includes libraries, university buildings and masterplans, projects with listed buildings on constrained urban sites, schools, and urban housing schemes in both private and public sectors. Particularly relevant projects include the Sydney Jones Library at the University of Liverpool, the Central Library extension and refurbishment at the University of East Anglia, Clapton public library for the London Borough of Hackney, and feasibility studies for university libraries at Durham and Leicester (which led to the David Wilson Library, completed by others). Also at Leicester, the transformation of the Percy Gee Building to create a mixed-use facility housing the Students Union and providing drop-in and social working space at the heart of the University – the ‘living room of the campus’ - was completed in 2010 and was recognised in 19 awards schemes in 2011 including Leicester Civic Society Best New Building, Procon Leicestershire Building of the Year, 3R Best Public Sector Higher Education Building Award, East Midlands Constructing Excellence Project of the Year, East Midlands Property Design Excellence Award, LABC East Midlands Best Large Commercial Development, and NUS Green Impact Students’ Unions Gold Award; and was finalist for Procon Leicestershire Best Sustainable Building and LABC East Midlands Best Education Development, Zerofootprint Re-Skinning Awards (Toronto), Constructing Excellence National Awards and the Chartered Institute of Building Services Engineers ‘Best Refurbishment Project’.

**Nick Hufton** BA (Hons) Dip Arch RIBA MAPM is an architect with over twenty years experience and has been a Director of Shepherd Epstein Hunter since 2008. Nick has been responsible for many of our education projects with budgets ranging from 250K to £20M and typically involving complex phasing of works extending and transforming existing buildings and liaison with multiple stakeholders. Nick is also qualified as a project manager and has undertaken training as a BREEAM assessor. Nick led our team for the BREEAM ‘Excellent’ Enfield Town Library which won ‘Best Built Project’ in the London Planning Awards 2010/11, and was runner up national SCALA Best Civic Building. Nick also led our teams for the £17m University of Liverpool Sydney Jones Library and the University of East Anglia Central Library which extended and reconfigured the listed Grade II Library originally by Denys Lasdun. He designed a new library building at the Open University (to Stage E), and at the Institute of Education for the University of London Nick prepared a masterplan and designs for an £8m new building and associated refurbishment to Grade II\* listed buildings off Russell Square in London, and won planning consent after acting as expert witness at the planning inquiry.

**Charles Dokk-Olsen** BA (Hons) BArch RIBA is an architect with some fourteen year’s experience, and became an Associate Director of Shepherd Epstein Hunter in 2011. He has been responsible for new buildings and imaginative transformation projects including university buildings and libraries, schools, and Grade I listed buildings at the Houses of Parliament. Charles worked with Steven and Nick on the University of East Anglia Central Library, and has led our teams on new buildings and remodelling projects at the University of Leicester, School of Pharmacy (London), Clapton Library, and the University of Leicester Gilbert Murray Conference Building extension and remodelling.

**James Greateorex** MEng CEng MICE, director of Ramboll’s Cambridge office and Sector Leader for Higher Education will lead the Ramboll team on this project (See Ramboll organogram on final page). James joined the Cambridge office of Ramboll in 2001 as an Associate and was made a Director in 2006. His experience includes major new-build and refurbishment schemes in the education, commercial and public building sectors. Higher education projects include award-winning buildings providing specialist and general teaching space, science and research facilities, student residences and libraries, for clients including the University of Cambridge, the University of East Anglia, the University of East London and the University of Sheffield. For example: recently completed in 2011, the new Faculty of Humanities building for the University of Cambridge provides a mixture of offices, meeting space, library shelving and an archive-grade basement accommodating mobile racking in a carefully controlled environment.

**Andy Fuller-Lewis** MEng CEng MICE MStructE will be responsible for the Ramboll team for the day to day running of the project, and will be the main point of contact for design issues. Andy is a Chartered Engineer with over 17 years experience, who joined Ramboll in 1997 and was a founding member of the Cambridge office when it opened in 2000. He was made an Associate in 2004 and is the author of the Company’s UK Civil and Structural chartered engineer training scheme. He has extensive experience in the Higher Education sector and worked closely with Shepherd Epstein Hunter on the University of East Anglia Central Library Extension, addressing the constrained site issues and connecting sensitively to the existing building to reduce disruption to library users. He has recently led the structural design of the University of Sheffield Information Commons Library building making use of Cobiax, an innovative lightweight flat slab flooring system. Built in two phases, the building provides traditional book stack space, access to IT based learning resources and group study areas with a striking saw-tooth copper clad façade.

**Philip Kite** BSc (Hons) CEng FCIBSE will be the Project Director leading Ramboll’s Building Services team on this project, and he will work with Tim Bowden of Ramboll as project review director to bring the benefit of Tim’s knowledge of the Sydney Jones library refurbishment at the University of Liverpool. Philip has 30years experience in the field of Building Services and sustainability and has worked with Ramboll for the last five years. He is Director of Building Services engineering and leads the Ramboll Buildings Services team within the London office, some 50 staff covering all Mechanical, Electrical and Public Health disciplines and sustainability. Philip’s experience includes a broad range of projects including higher and further education, primary and secondary education, museums, commercial offices, hotels, refurbishments and historic projects. Recent experience includes the provision of a new 400 seat lecture theatre and refurbishment of a library at the University of Westminster. Philip is also project director for the first zero carbon school in the UK (Crouch Hill Park, Islington) which has secured a Breeam Outstanding award.

### 4.3 Understanding of project brief

Our previous experience of working with library extension and refurbishment projects of a similar scope and value has given us a good grasp of the key issues implicit within the brief of the Templeman Library Project. Our initial understanding and interpretation of the project brief is reflected in the design proposals we have prepared. However, we should emphasise that this is a first step in development of the design and we would expect to have significant further discussions with the Library, the University and other stakeholders in order to develop and finalise the project brief.

Under Section 5 of the Invitation to Tender for the Templeman Library the following six points describe the vision for the University of Kent Templeman Library of the future, which will:

- **be an intellectual centre for our research-led university;**
- **provide a physical focus where individuals can collaborate and receive support;**
- **support a broad range of learning and research activities;**
- **provide flexible, dynamic and comfortable spaces capable of adjustment in the future;**
- **be accessible and easily navigable;**
- **provide a focus for IS services and possibly for those provided by others;**
- **Inspire its users and others.**

The proposal we describe here is compatible with all of these objectives and is particularly relevant to the last four: the extension and re-modelling we propose will provide

**flexible spaces** (the whole extension can be arranged for different uses relatively easily;

**dynamic spaces:** the atrium / concourse we propose will be a busy additional interior public space, part of the network of spaces on the campus which give a sense of vitality and identity to the University of Kent, and allows a range of uses to occupy one common space

**comfortable space:** the new atrium will enable waiting, chatting and meeting space, designed with good acoustics, appropriate seating spaces and inclusive access; the library and teaching spaces will be designed to the highest modern university standards and will take into consideration all of the positive aspects of other buildings that the project team has experienced elsewhere.

**accessible easily navigable space:** the layout of the new building and atrium/concourse as we have designed it will be easily understandable, and connects logically to the main pedestrian flows of the university. The adjustment of levels and ramp outside and within the concourse deal effectively (and without reliance on platform lifts) with the original level change which is such an unfortunate exclusive element of the existing entrance.

The extension and remodelling strategy we propose will clearly be identified as a **focus for Information Services** but will enable other uses and services to be provided by others in the new spaces without detracting from the importance and unique identity of the Library.

It will provide a **facility which inspires its users and others**, including visitors and prospective students, acting as a central visiting point on university open days, a good place to meet

friends before lectures or on the way to study in the library, and a memorable landmark which is appropriate to the status of the University as a leading European and international centre of research and learning.

### 4.4 Communication skills

Our team has excellent written and verbal communication skills. We believe that these arise from our values, and our passionate interest in how people use buildings and space and how architecture can enable people to make the most of their lives – this is one of the great pleasures of working with buildings for education.

We trust our skills are to some extent reflected in this document – they will be brought to bear during the project and will be important in the development of the design with the client team and in liaison with stakeholders.

We aim to adopt an open friendly approach which (we hope) makes us easy to talk to. We consider the ability to listen and empathise is essential to good design enabling us to understand other people's situations and how they relate to this project. We are responsive – we have 24/7 email contact through BlackBerry, we ensure continuous telephone availability – we seek to return 'phone calls and messages as soon as possible – and we ensure team cover in the event of absence through holiday or illness. We always seek to adopt a constructive attitude towards relationships, and regard this as central to giving the project the best chance of achieving success. We consider regular, well organised design team and project meetings are part of a robust communications strategy – meetings need to be at reasonable intervals, efficient, structured, business like, and not too long. We prepare high quality minutes and written correspondence – in e-mails, minutes, reports and letters, and use appropriate styles of communication – different situations merit different forms, and we take care to use e-mail / telephone / meetings effectively to ensure people communicate without misunderstanding, offence, or vagueness, and with formality/informality appropriate to the occasion.

We ensure a clear understanding of the structure of the project and the sequence of stages: if everybody shares a common understanding of where we are heading and where we are along the journey, the project will be more successful. Arranging reports and sign off by the client at each work stage is an important part of this process. We use up-to-date technology and information systems: we have excellent computers, and reprographic devices, all networked, safe and backed up, so that large volumes of electronic information can be processed easily. We use FTP and other file-transfer web sites where appropriate.

We use a range of communication techniques for stakeholders: not everyone understands drawings and technical information easily – we tend to use models to explain schemes quickly, especially for consultation events. We have our own 3D / CadCam printer, which we combine with handmade modelling to make effective and relatively fast communication tools. In addition we are adept in all the usual Microsoft Office and similar software and can produce 3d images either in house or using colleagues we work with frequently.



## 5 Project Execution

### 5.1 Programme, method and approach

A draft programme is provided overleaf.

We have prepared a draft strategic programme for the project, based on the dates provided within the ITT. This is shown on the following page. We would like to draw attention to the following points in relation to the programme:

- Overall, we feel that the programme should be achievable, but is not generous. In particular, the time allowed for site works (just over 12 months) is limited and careful consideration will need to be given to efficient construction methods at design stage to ensure that this can be achieved. The periods allowed for design seem to be at a sensible minimum and we would not recommend that these are reduced.
- The dates indicate that Stage 2 services will be completed once the contractor has been appointed and is on site, which is consistent with a design and build contract with novation agreement. This is what we have illustrated in our programme, but alternative procurement routes could be considered to achieve the same end date. We have experience of working with a wide range of procurement routes.
- To achieve the programme dates given, we would suggest tenders are invited on the basis of RIBA Stage D information – roughly equivalent to the planning application scheme.
- In parallel with the tender process, we suggest that RIBA Stage E (Technical Design) is completed by the design team so that this information is available when tenders are returned. A post-tender negotiation could then be carried out with the preferred contractor / contractors. This would allow the University to control the technical design to a large degree whilst at the same time allowing the contractor scope for putting forward alternative proposals in a competitive situation.
- Once the contractor is appointed, we understand that it is envisaged that the design team will be novated to work with the contractor to produce working drawings (RIBA Stage F). We are used to working with contractors in this way and indeed are often approached direct by contractors to prepare working drawings for them on schemes by others.
- The programme shows a number of hold points and approvals by the University.
- After completion of construction, we would suggest that a series of quarterly review meetings are held with the University and the contractor to deal with any issues that may arise over the defects period and to ensure that any defects are dealt with promptly.

We will explore the use of Building Information Modelling for this project – Ramboll have particular expertise in this field and Shephard Epstein Hunter have adopted BIM systems on projects in the past. (BIM allows all members of the design team (and client) to share a common digital intelligent three-dimensional model).

### 5.2 Management and control procedures

We operate an integrated Quality and Environmental Management System (QEMS) and are one of the relatively few architectural practices that are certified both against 9001 and ISO 14001. The scope of both certifications is for the provision of services related to architecture, planning, landscape architecture, Project Management and the CDM regulations. For the Templeman Library project we will set up and regularly review:

- a **Quality Plan** which identifies how the QEMS is to be applied so that it meets the specific requirements of this project. It also contains key project data which are periodically reviewed and updated.
- an SEH/RIBA **Work Stage Checklist** – the checklist has been developed by our practice in order to reduce the risk of key activities being omitted during a project. Each activity on the Checklists is hyperlinked to QEMS procedures, forms, other checklists and project tools.
- an **Environmental Sustainability Table** for the Library which identifies the environmental impacts associated with each element and our proposals for mitigating / eliminating its impact. The proposals are discussed and agreed by the client and then implemented, and their progress is reviewed at each work stage. (An example of the topics we review was provided with our Pre-Qualification Questionnaire).

In order to ensure quality we will establish various checks which would include:

- **Project reviews**, carried out during five key milestones by directors/ project teams to check that required actions have been carried out during each work stage, establish if the client's requirements are being met and identify and resolve any problems
- **Audits**: carried out continually by the Quality Manager to check compliance with the Quality and Environmental Management System.
- **Design team meetings** (up to tender stage): carried out monthly (usually) by SEH team to check progress, co-ordinate team activities and identify and resolve any problems
- **Site team meetings** (up to completion): carried out regularly (at intervals depending on the terms of our appointment) to check the progress of the project, co-ordinate team activities and identify and resolve any problems
- **Checking** of initial/revised SEH drawings/documents - carried out continually by directors/staff to check for adequacy, identify current revisions and prevent use of obsolete material.
- **Checking** of consultants/contractors/suppliers drawings: carried out continually by architectural staff during design and construction stages to check that drawings are compatible with the design.
- **Site inspections** (construction stage): when required by our appointment or we deem it necessary during certain stages of constructions
- **Resource checks** carried out weekly by directors / project architects to ensure adequate resources are being allocated to the project in order to meet the client's requirements.
- **Post - completion reviews** including where possible post-occupancy review and feedback with the University to investigate and record lessons learned, including an assessment of our performance, the success of the building in relation to the brief, and identifying any future issues that may arise.

All of the above can sound very dry and rigid when set down in a document like this, but the systems are there to make sure we can control and direct the project, even under times of great pressure, and be flexible and adaptable so that we can cope with change and innovation, where it is in the best interests of the client.

### 5.3 Resources to be applied

Our core team of Steven, Nick, and Charles at Shephard Epstein Hunter, and Simon, Philip and Andy at Ramboll will be expanded to suit the needs of the project as it progresses through each work stage. We intend that the principal members of the design team (Steven, Nick, Charles from Shephard Epstein Hunter, James, Andy and Philip from Ramboll) will maintain their roles on the project from inception to completion. Additional members of both firms will support the project as required as appropriate to the requirements of each work stage.

At Shephard Epstein Hunter we envisage these additional senior architects will play a key role in supporting the core team, particularly during Stage 2 when our teams will expand to deliver high quality detailed design and construction information:



**Samir Khatri:** Samir is an Associate and his comprehensive experience as an architect includes all work stages for university buildings (including the feasibility study and options appraisal for the University of Leicester), schools, large (£20m+) and small complex urban housing projects and community buildings with Shephard Epstein Hunter over the last fourteen years.



**Ruth Nelson:** Ruth acted as project architect through all work stages on the £17m transformation of the award-winning Percy Gee Building at the University of Leicester. Ruth is an experienced senior architect working mainly in higher education and schools. She has been an important and versatile member of Shephard Epstein Hunter for the last five years.



**Emily Hatton:** Emily is an Associate and her experience as an architect with Shephard Epstein Hunter over the last six years includes working with contractors and sub-contractors to ensure timely and high quality delivery during the implementation of major construction projects, schools and community projects, and the masterplan and Phase One of the Institute of Education's Bloomsbury campus, which extends a Grade II\* Listed building by Denys Lasdun.

Our **information technology** systems at Shephard Epstein Hunter include the following:

- our network is based on powerful windows servers with over 500 GB of RAID 5 drives providing central storage for CAD, graphics and word-processing files, regularly backed-up and archived.
- all members of the practice use personal computers or laptops with permanent connection to the internet through an 8 Mbps DSL link
- we draw and generate 3D CAD models using Microstation V8 (fully compatible with Autocad) and can make fly-throughs, virtual environments, and videos in-house
- we print using networked local laser and A3 colour printers, a Canon iRC4580i colour photocopier/scanner/printer, and an HP 1050 A0/A1 colour inkjet plotter.
- we use video projectors and graphics software as a design tool and for presentations
- we have digital links to our reprographics supplier for rapid turn-around of bulk copying, binding and printing.
- mobile members of the office are connected to the network by broadband, mobile wireless and /or Blackberry, and we have Virtual Private Networks (VPNs) set up for remote networked access.
- our e-mail system uses Oasys for automatic filing and rapid retrieval.
- we connect to project team networks and extranets to allow fast transfer of digital information when appropriate
- our model making facilities include manual and digital resources including a 3D model printer (physical models created directly from CAD virtual models)
- we use Rapport, a web based data base system, for time management, job costing and resources forecasting

Ramboll's systems are similarly at the forefront of best practice. We will explore the use of Building Information Modelling for this project – Ramboll have particular expertise in this field and Shephard Epstein Hunter have adopted BIM systems on projects in the past. (BIM allows all members of the design team (and client) to share a common digital intelligent three-dimensional model).



## 5.4 Environmental, health and safety matters

### Environmental matters

(BREEAM and sustainability are also covered under 1.10). Shephard Epstein Hunter's **Project Environmental Sustainability** Table (part of our Quality and Environmental Management System, see above) identifies environmental impacts for each element and our proposal for reducing/eliminating its impact. The proposals will be discussed and agreed with the University of Kent and then implemented, and their progress regularly reviewed. (An example of the topics we review was provided with our Pre-Qualification Questionnaire).

Our Environmental Policy guides all of our activities. We use our integrated Quality and Environmental Management System (QEMS - independently certified to ISO 14001) to assess the potential for each project to mitigate environmental impact and reduce energy consumption and carbon emissions.

At the outset of each project we seek to agree a set of environmental objectives with our client.

We consider the technologies and opportunities available and propose the most appropriate methods for mitigating environmental impact - each project is different, and the proposals we put forward are tailored to the particular circumstances. We then discuss with our client how to approach and prioritise the integration of the proposals and balance them with time and budget constraints.

We then review and monitor the progress of integration at each RIBA work stage through our QEMS system internal reviews. Where there is a formal environmental assessment process in place (such as BREEAM) we integrate our own procedures with the assessment process. Examples: the BREEAM status of our recent projects include: Enfield Town Library (Excellent); Percy Gee Building (Excellent, pending BRE certification); New Norwood School for Lambeth (Very Good, as required by client but Excellent was possible), Sunnyhill and Hitherfield Primary Schools (Very Good).

We ensure awareness of best practice through regular (weekly, lunchtime) Continuing Professional Development sessions involving all architectural staff. Examples of sessions which enhance our awareness of environmental impact are 'Economic Value of Recycled Products', 'Educational Shading', Canada's Low Energy Housing Techniques', 'Membrane technology and air-tightness', 'Environmental Management System refresher sessions, 'Sustainability and Timber Windows', 'Ventilation Strategies and Part L'

An example of a recent project which was recognised for its environmental improvement, performance and integration is the Percy Gee Building which was recognised in the following awards schemes in 2011: NUS Green Impact Students' Unions - Gold Award; Zerofootprint Re-Skinning Awards (Toronto) - Finalist; Procon Leicestershire - Best Sustainable Building, Finalist; Constructing Excellence National Awards - Finalist; CIBSE Chartered Institute of Building Services Engineers 'Best Refurbishment Project' Finalist. Low carbon and sustainable design aspects of the project include bio-mass boilers / dual fuel source, much-improved use of natural light and passive ventilation systems, heat and energy metering, BREEAM Excellent rating, energy efficiency and carbon emission reductions of 20% to 40% across the building, timber used in the project was specified as FSC (Forest Stewardship Council); thermal mass,

waste recycling and composting, low energy lighting, green travel plan, improved views out, natural ventilation to lower (nightclub) levels via chimneys controlled by CO2 sensors; natural ventilation to upper levels using automatic louvres and windows controlled by a Building Management System; solar protection, acoustic treatment, minimal emissions of volatile organic compounds; economic sustainability (value for money compared with new build); much increased use through popularity and ease of access - 'sweating the asset'; intelligent controls; mixed use; water conservation - rainwater harvesting, automatic controls and metering; community benefits.

### Health and safety matters:

The most important health and safety elements of the project are likely to be:

- construction access and activities in the heart of a busy campus, always occupied
- working with and adjacent to a busy occupied building which may contain hazardous materials, the construction of which may not have been reliably recorded.

The most effective means of mitigating the risks associated with the above are likely to be:

- separation, either physical (e.g. hoardings) or in time (e.g. outside working hours) or both
- investigation, surveys, opening up in advance of the main contract, enabling works.

In terms of our general approach during the course of this project:

We will seek to eliminate hazards and reduce risks during the design through:

- o consideration, as the design is evolved, of the requirements for construction and maintenance access. This will be carried out continuously by architectural staff under the supervision of the directors, and through our Quality Assurance system which requires projects to be independently and objectively reviewed by a director not involved with the project. (For example: at the Council Chamber project at the University of Leicester we are installing new steel beams spanning 11 metres in the first floor of an occupied building. To minimise risk and ease construction access the beams will be delivered as three sections, put in place and connected to form one structural member.)
- o Awareness of best practice through regular (weekly) Continuing Professional Development sessions dealing with (amongst other topics) health and safety issues at which all architectural staff are present. (For example: two lunchtime sessions in the last five weeks have used the multiple-choice Construction Skills Certification Scheme examination as the basis for a discussion led once by the Managing Director Henry Bird and once by George Georgiou, Quality Manager).
- o Regular testing of architectural staff, including directors, on their knowledge of current health and safety best practice. (We require all architectural staff to be registered under the Construction Skills Certification Scheme and carry their registration cards with them).
- o Ensuring good relationships and communication between members of the design and construction teams, through our role as architect and (usually) lead consultant, so that information can be shared and understood and appropriate actions can be taken.

We will provide information about remaining risks as follows:

- o We will provide a health and safety risk assessment for the Templeman Library project.
- o We will contribute to the CDM Coordinator's assembly of pre-construction information.
- o We will ensure that the University is aware of its duties and that a CDM (Construction Design and Management) Co-ordinator has been appointed
- o We will provide information needed for the health and safety file including information required for the safe maintenance and cleaning of the building.

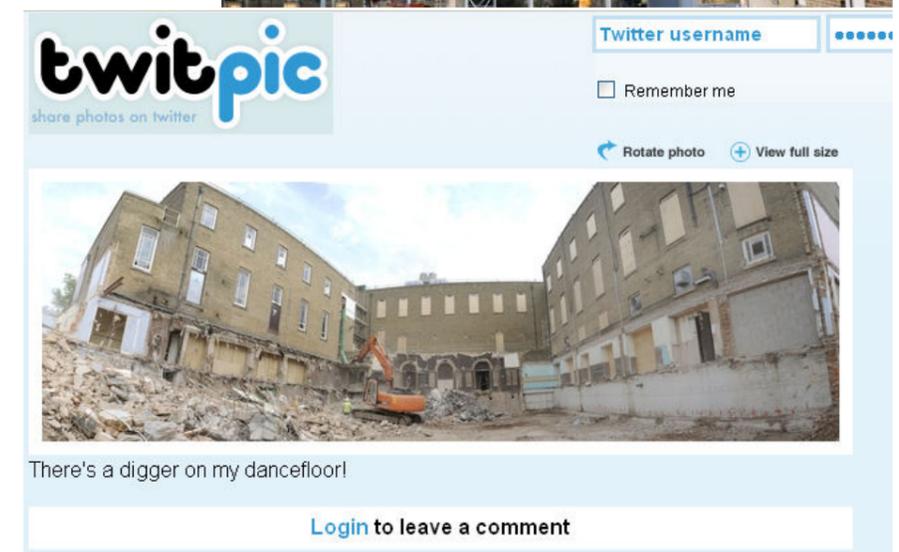
We are registered under the Construction Health and Safety (CHAS) scheme in order to ensure that our project procedures are fit for purpose and in accordance with current best practice. (This has been a two-yearly cycle but is now changing to annual.)

We have sound experience in working on similar projects in the centres of busy campus environments and extending and remodelling occupied buildings. Our clients in Higher Education over the last ten or so years include City University London, Institute of Education University of London, London South Bank University, Queen Mary University of London, King's College London, School of Pharmacy University of London, Northumbria University, Durham University, University of East Anglia, University of Hull, University of Kent, University of Leicester, University of Liverpool and the University of Sussex.

Those with whom we have had particular relevant experience working with occupied buildings in similar central locations include:

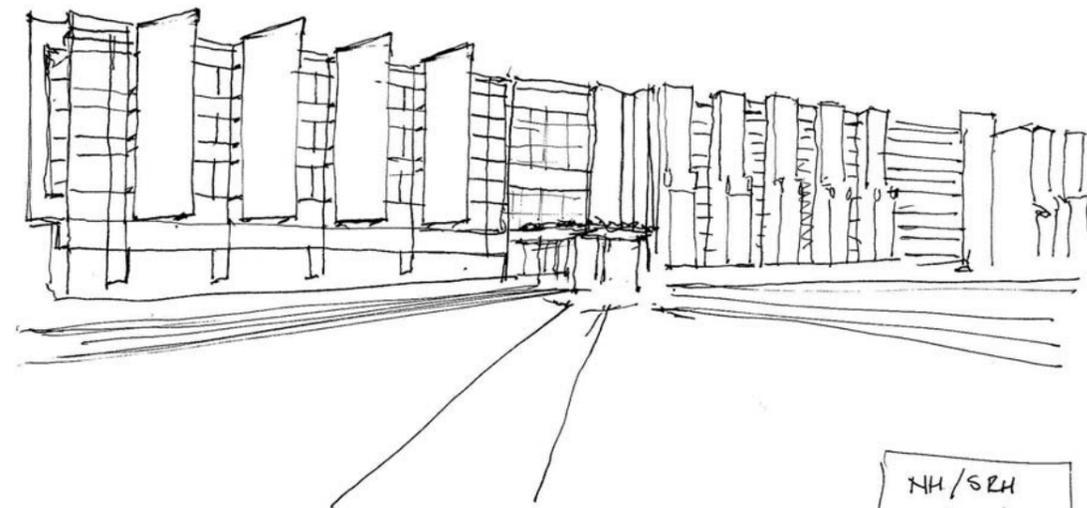
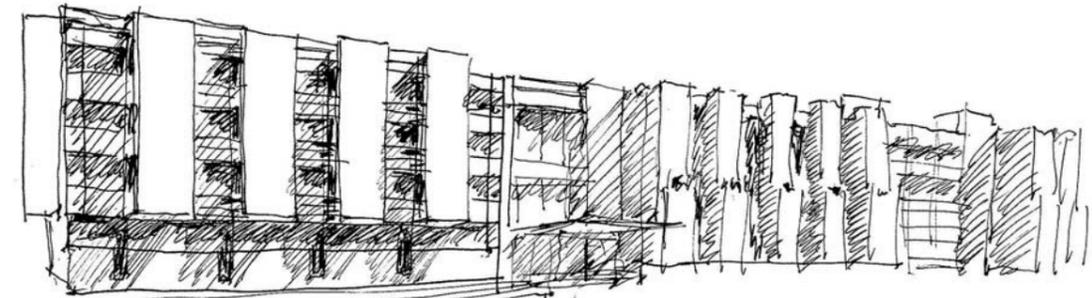
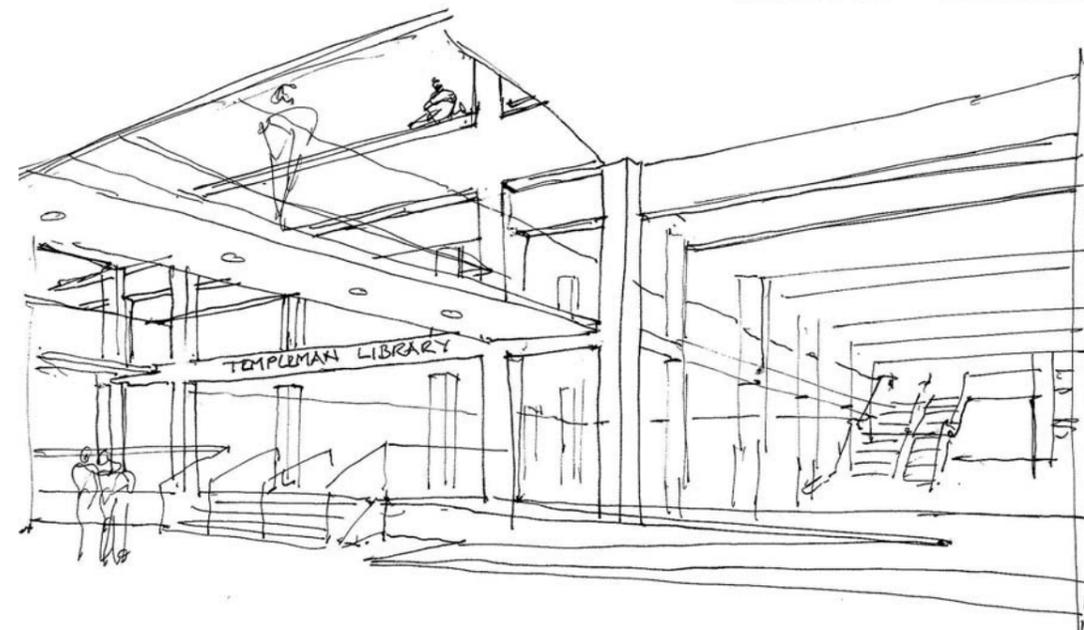
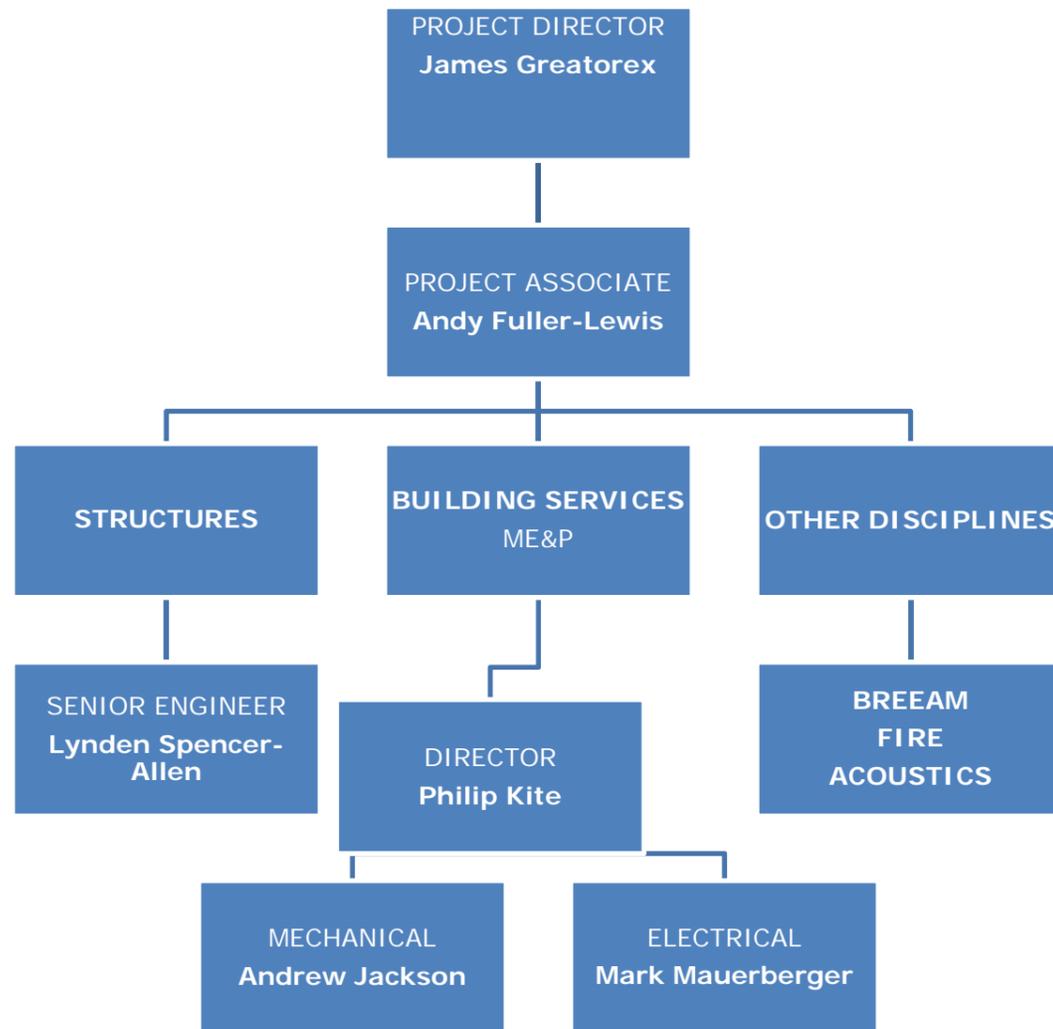
- o Percy Gee Building University of Leicester: the building houses the Students Union of the University of Leicester and is cut into its steeply sloping site, and so it had 26 different floor levels over five storeys and no lifts. The £17m 2008/11 transformation project by Shephard Epstein Hunter changed the Percy Gee into a thriving multi-purpose Union building at the entrance to the campus. A social hub in an atrium at the core of the building, now called The Square, has been created by the addition of a new glazed roof in the middle of the original U shape of the building. The roof is supported on curved glulam timber beams in a wishbone arrangement, supported on steel trees, which allowed freedom of where new columns could be placed. The Square opens onto a west facing terrace two floors above University Road overlooking the mature trees opposite, reached by a grand external staircase. The experience of entering the building – and the campus – has been greatly improved. A second new 'slot atrium', over four-storeys and adjacent to The Square, running north-south across the width of the building, gives hugely improved access for people with disabilities, and allows anyone using the building to easily understand its layout. The transformed 9,000m<sup>2</sup> building (aiming to achieve 'BREEAM Excellent') was occupied by the Students Union throughout the 64 weeks of the main contract works, and now enjoys much increased student and visitor use – the SU has recorded 12,000 visits in one week. It accommodates multiple uses: shops, offices, restaurant, coffee bar, Scholar bar, resource centre, welfare and clinic, gym and meeting rooms. The project was recognised in 19 awards schemes in 2011.
- o Also for the University of Leicester the remodelling of the Bennett Building entrance spaces (featured in the HEDQF publication 'Small Budget Big Impact' was carried out while the building was occupied, as was the Crush Hall (Grade II Listed) conversion to open plan offices, the Adrian building research laboratory refurbishment, 2006, and Hodgkin laboratory building enhanced entrance works.

- o For City University London the refurbishment of the School of Health and Community Sciences; Drysdale Building (two floors), featured in the HEDQF publication 'Small Budget Big Impact'; City Law School, improvements to Princeton Street; Princeton Street Flats: conversion of the top floor of an occupied building to homes for rent .
- o For the University of Liverpool we linked and transformed the Senate House and Basil Spence buildings to form the Sydney Jones Library - the Basil Spence building was occupied throughout construction
- o For the School of Pharmacy, University of London the transformations of the Junior Common Room, 'Square Lounge'(student drop-in and social work space) remodelling of the entrance were all carried out while the building was occupied.
- o For the University of East Anglia we carried out the refurbishment of the Central Library while occupied.
- o For King's College London Smirke (listed) Building multimedia lecture theatre 2c, Liddell Hart Centre (alterations to old library) plus floors above and below, and Executive Suite Refurbishment (Council and Committee Rooms in listed building) were carried out while the building was occupied

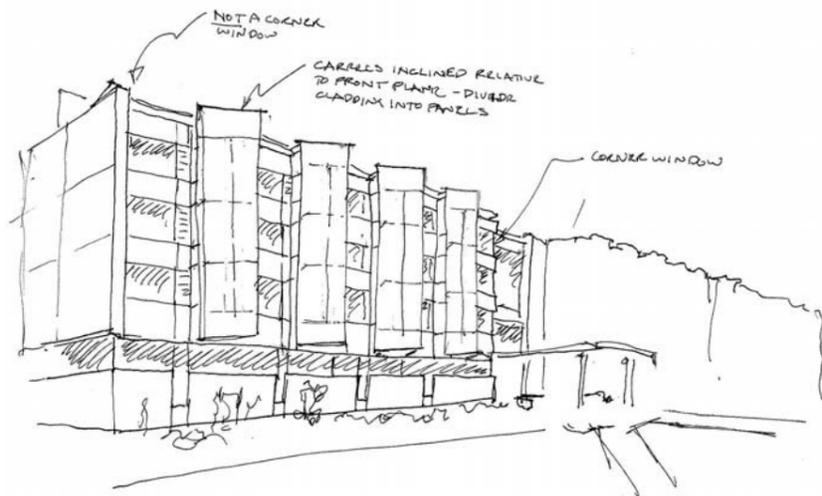


Percy Gee Building above £12.6m transformation carried out while the Students Union remained in occupation

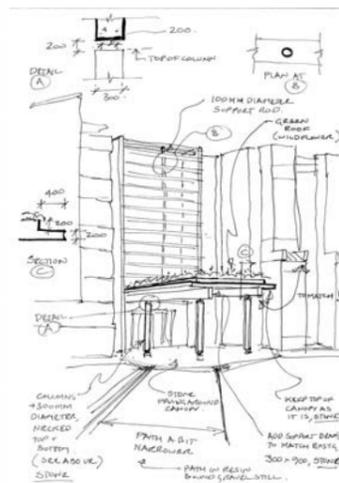
Below: Ramboll's team organogram, and Shepherd Epstein Hunter sketches



NH/SRH  
15/02/12



NH/SRH  
14/03/12



# University of Kent Extension to Templeman Library



**Shepherd Epstein Hunter**  
with Ramboll     March 2012