

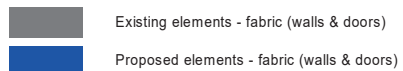
# 5 DESIGN

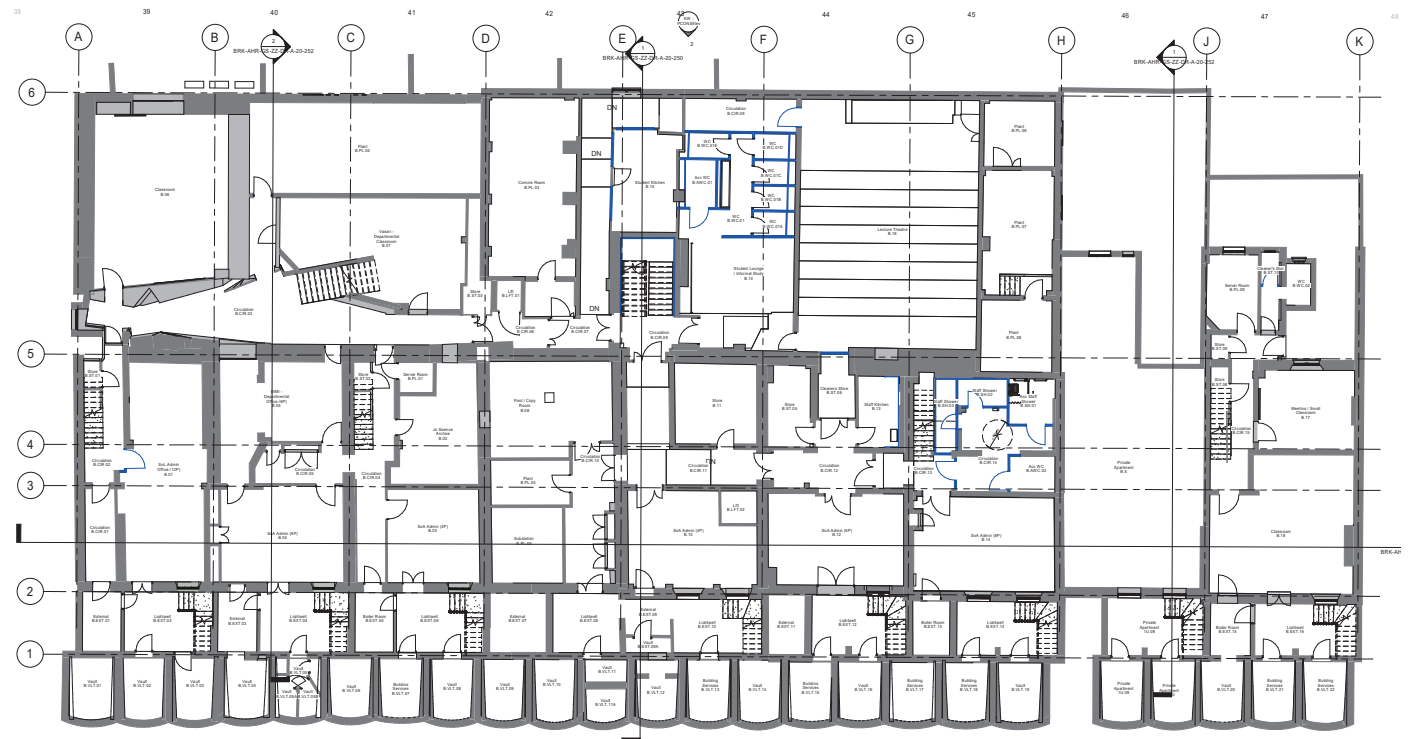
## 5.1 PROPOSALS

The following pages set out the proposed internal floor plans for each of the building levels.



**1. Planning - LEVEL 00 - Proposed**  
 1 : 100



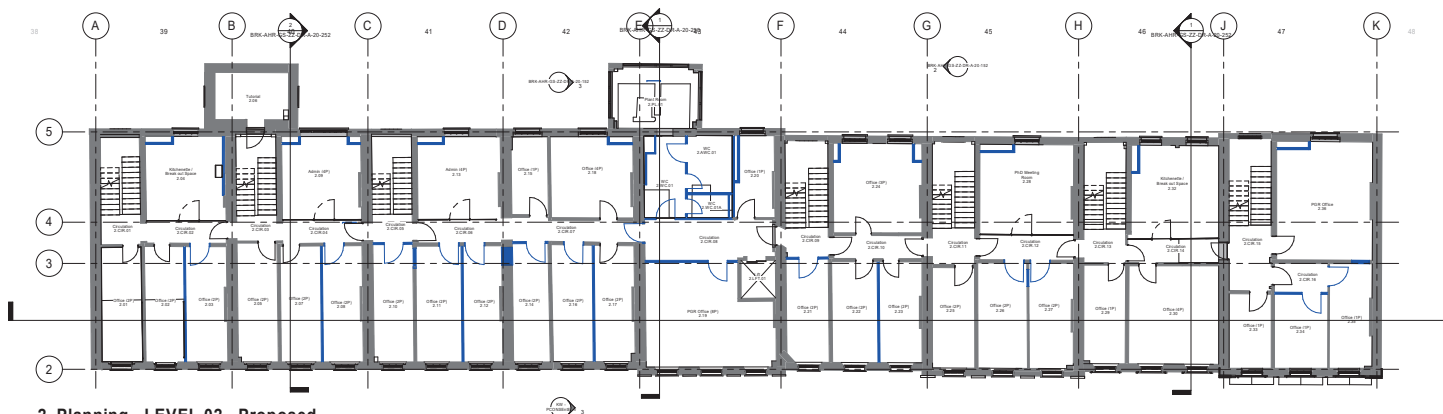


**1. Planning - Level B1 - Proposed**  
1 : 100

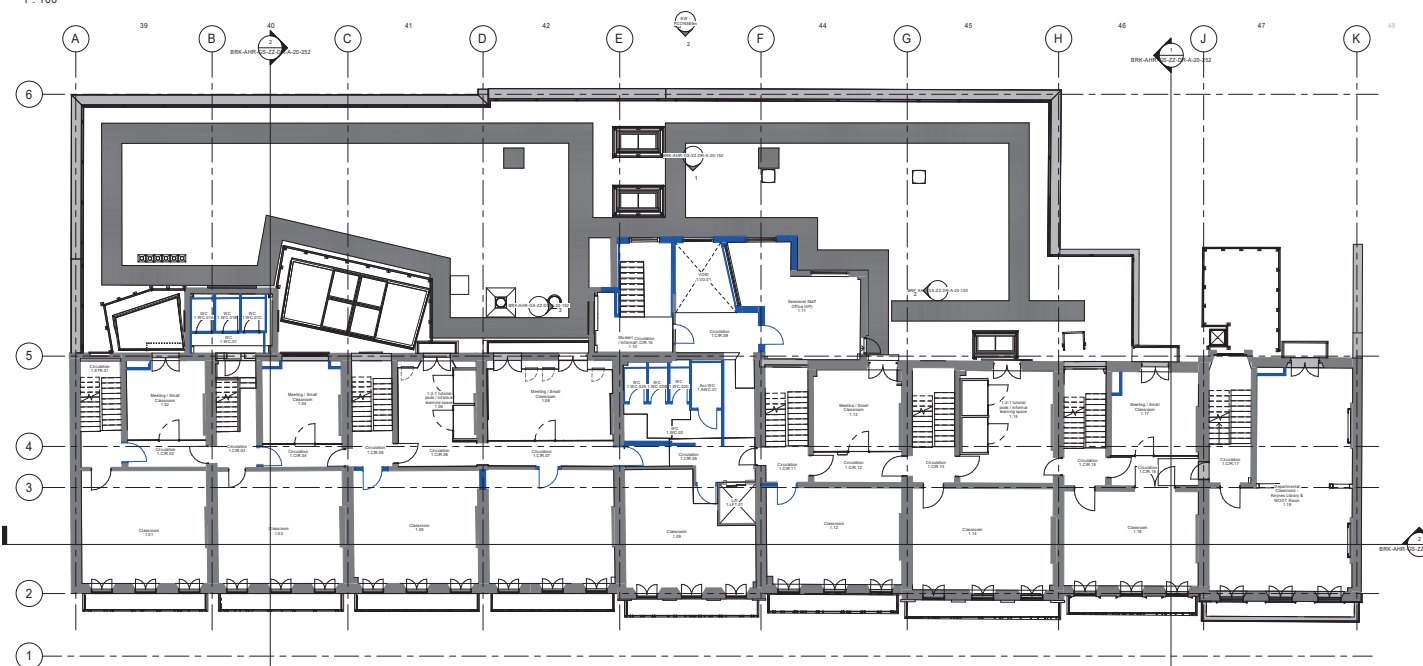
1 : 100

Existing elements - fabric (walls & doors)

Proposed elements - fabric (walls & doors)



**2. Planning - LEVEL 02 - Proposed**  
 1 : 100



**1. Planning - Level 01 - Proposed**  
 1 : 100

Existing elements - fabric (walls & doors)  
 Proposed elements - fabric (walls & doors)



## 5.2 VISUALS

The approach taken to interior design is at an early stage. The visuals, this and following pages, illustrate the physical size and spatial arrangement of rooms with indicative wall and floor treatments. Lighting design is also at an early concept stage. Consultation with the Estates team and the Schools of Arts and Law will further develop proposals at the next stage.

Images this page illustrate our approach to improving access to the building and the de-cluttering of the reception area to improve flow. This creates a visual connection with the central stair and the cafe directly ahead improving visitor orientation.



ARTISTS IMPRESSION OF THE CAFE



ARTISTS IMPRESSION OF THE RECEPTION



ARTISTS IMPRESSION OF THE ENTRANCE TO THE CAFE

At level 01 the approach taken radically improves the experience of moving through the buildings, with spaces to stop and linger rather than the current dark central corridor.



**ARTISTS IMPRESSION OF THE LEVEL 01 MEETING ROOMS**



**ARTISTS IMPRESSION OF THE LEVEL 01 TUTORING ROOMS & PODS**



**ARTISTS IMPRESSION OF THE LEVEL 01 MEETING ROOMS**

Teaching, administration spaces and academic offices all receive a new lease of life with improved Audio visual, ICT equipment and ventilation and heating. Consideration of occupant well-being is driving a selection of natural materials with low VoC content in a simple palette of colours focussed on maximising natural light. Detailed acoustics and lighting design will feature at next stages but concepts include desk top task lighting to admin spaces and feature lighting to classrooms that reinforce the original room shape.



**ARTISTS IMPRESSION OF AN ACADEMIC OFFICE**



**ARTISTS IMPRESSION OF BASEMENT LEVEL ADMIN OFFICES**



**ARTISTS IMPRESSION OF A GROUND FLOOR CLASSROOM**

### 5.3 PHASING

Phasing of the construction stage is a crucial aspect of the project, only limited external decant space is available for use by the School of Arts during the refurbishment works, therefore most teaching and administration staff will remain on site. To achieve this the project will be split and undertaken as two distinct construction phases.

#### 5.3.1 Phase 1

Phase one includes works to buildings 42 to 47 inclusive (See diagrams this page). The school of Art will decant into buildings 39, 40 and 41 which will operate as a self contained building for the duration of phase 1.

Connections between No. 41 & 42 will be temporarily sealed off. A temporary entrance will be created via No. 39 with access control. Limited use of the cinema is anticipated. During phase 1 there will be no access to the lift in No. 43. The University will need to make an operational assessment

It is believed that heating to No.s 39, 40 & 41 is currently provided solely from the gas boiler located in the basement plant room of building 41. This has its own dedicated gas supply and on this basis it will be possible to maintain the heating during phase 1. There is a dedicated LV supply feeding buildings 39, 40 and 41, which could be retained to provide power whilst the phase 1 works are carried out.

The basement residence in No. 46. will remain in use throughout phase 1. Safe access via the external stair and light well and continued full use of the apartments garden to the rear of No. 46 will be provided for.

#### 5.3.2 Phase 2

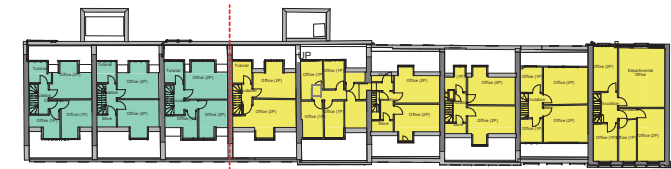
Phase 2 includes all works to No.s 39, 40 & 41. Prior to commencing phase 2 the School of Arts will decant back into No.s 42-47. The building will revert back to use of the main entrance within No. 43.

#### PHASING KEY

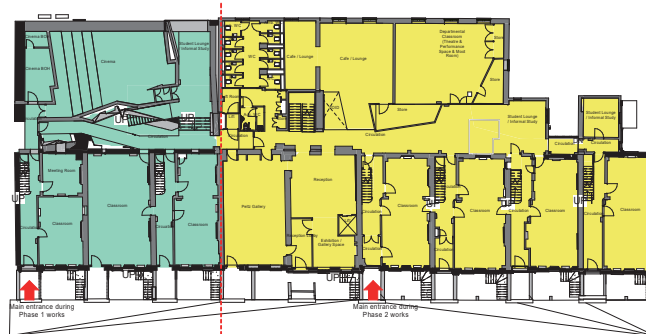
- 1
- 2
- Remain in use throughout construction
- Undefined
- Out of Scope



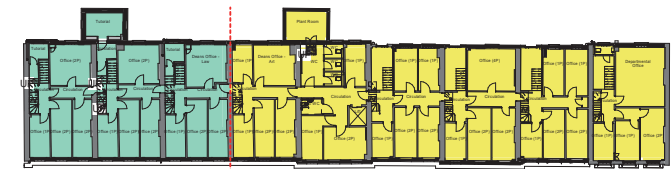
**3. LEVEL 01 - Phasing**  
1 : 200



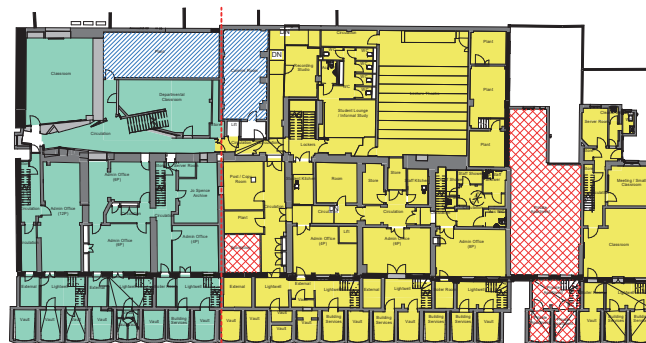
**6. LEVEL 04 - Phasing**  
1 : 200



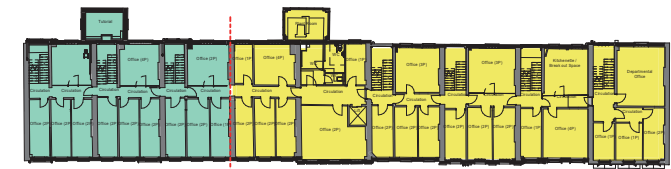
**2. LEVEL 00 - Phasing**  
1 : 200



**5. LEVEL 03 - Phasing**  
1 : 200



**1. Level B1 - Phasing**  
1 : 200



**4. LEVEL 02 - Phasing**  
1 : 200

## 5.4 ENVIRONMENTAL

The proposed scheme has been reviewed and assessed by Eight Associates. A RICS SKA assessment is being targeted as an alternative to BREEAM as it is a very effective assessment tool for refurbishment projects.

Date: 24.04.2020				Gordon Square (4620) SKA assessment (Design Stage)				eight associates			
Targeted Measures: 78 Gateway Measures: 23 (gold) or 18 (silver) Current Target Rating: Gold											
(Gold rating boundary: 78 measures: 20 gateway measures. Silver rating boundary: 52 measures: 13 gateway measures) Red text = early stage considerations. Please address these items as soon as possible.											
ID	Measure	Issue	Rank	Gateway Measures G S B			Design Stage Criteria – Gordon Square	Targeted (Y / N / M)	Responsibility	Achieved	Notes
<u>D71</u>	Soft landings – aftercare (fine tuning, seasonal commissioning and POE)	Project Delivery	4				<ul style="list-style-type: none"><li>Confirmation that there will be a contract/appointment to guarantee the designer and contractor return to fine-tune systems throughout the first year of occupation.</li><li>Confirmation that there is a project team member point of contact once the project is complete to liaise with building operators and occupants to ease the handover process and allow building users and maintenance staff to ask questions about user controls.</li></ul> <p>Eight Associates to provide compliance letter template</p>	Y	Birkbeck College / Contractor		Van wants to build in a soft landings process, and have a 12 month PC maintenance regime in place. Client has a framework for some of the incumbents already (fire etc.)
<u>D01</u>	Energy efficient lighting	Energy & CO2	5				<p>Specifications and/or drawings showing the following lighting levels have been met:</p> <ul style="list-style-type: none"><li>Areas with a general illuminance of 300 to 500 lux, shall achieve a general lighting load of less than 7 W/m2.</li><li>Front and back-of-house circulation areas with a general illuminance of 100 lux shall achieve a general lighting load of less than 4 W/m2.</li></ul>	Y	Hydrock M&E		Yes, confirmed to be achievable.
<u>E04</u>	Energy efficient light fittings	Energy & CO2	6				<ul style="list-style-type: none"><li>Written specifications/contracts stating that energy efficient light fittings will comply with the ETL criteria.</li></ul>	Y	Hydrock M&E		
<u>D28</u>	Thermal comfort assessment	Wellbeing	7				<ul style="list-style-type: none"><li>Thermal comfort modelling report in accordance with CIBSE AM11.</li><li>Confirmation that the results of this modelling are used to select a service strategy that aligns CIBSE Guide A.</li></ul> <p>Eight Associates to provide compliance letter template</p>	M	Hydrock M&E		Hydrock has already undertaken an indicative model. Hydrock needs to look into the detail on this but second bullet is a maybe.
<u>D02</u>	Lighting controllability	Energy & CO2	8				<p>Drawings and specifications to include:</p> <ul style="list-style-type: none"><li>60lm/circuit-watt criteria stipulated by Part L, even with lighting controls in place.</li><li>For teaching spaces, laboratories and workshops, a minimum of 2 lighting scenes, controllable by the main entrance door, and teacher's position (or remote control switching) where appropriate, together with manual override of automatic controls.</li><li>Provide local task lighting to laboratories, workshops and work-desks in libraries and ICT spaces where appropriate.</li><li>Reduce lighting levels to a maximum of 50% of its normal output in corridors and reception areas when these are not occupied.</li><li>Automatically alter lighting levels in accordance with natural daylight levels for all window areas including window/exhibition displays, auditoria and laboratories.</li><li>Time controls to turn off lighting out-of-hours, where appropriate.</li></ul>	Y	AHR / Hydrock M&E		Mary confirmed controllability possibly on a timer would be very useful. This measure is achievable.
<u>F14</u>	Efficient taps	Water	9				<ul style="list-style-type: none"><li>Confirmation that all sanitaryware items will be sourced from the government's Water Technology List (WTL) or EU Water Efficiency Label list.</li><li>Confirmation that hand washing taps will be limited to 4 litres/minute up to a pressure of 5 bar +/- 0.2 bar and the tap fitting or flow controller is on the WTL or has an EU Water Efficiency Label.</li><li>Confirmation that hand washing taps will be one of the following:<ul style="list-style-type: none"><li>automatic shut-off taps (restricted to ≤20 seconds flow and be on the WTL)</li><li>electronic taps (restricted to ≤20 seconds flow and be on the WTL)</li><li>low flow screw-down/lever taps; or</li><li>spray taps</li></ul></li></ul> <p>Eight Associates to provide compliance letter template</p>	Y	Hydrock M&E		Discussion over the functionality of taps under these conditions but Hydrock is happy to make this work.  May be using a Dyson Air Blade Wash and Dry.

## 5.5 MECHANICAL & ELECTRICAL

### Relevant Standards

As the project covers existing buildings which are not in use as dwellings, it will be governed by approved document L2B. This sets out minimum fabric performance values for any newly constructed or renovated thermal elements, or controlled fittings which work is done upon.

All renovated elements shall be specified in line with these requirements. Services installed as part of the works shall meet the minimum efficiency and controllability requirements as set out in the Non-Domestic Building Services Compliance Guide.

### Consequential Improvements

As the floor area of the project is greater than 1,000m<sup>2</sup> and new cooling is required to a number of classrooms, this represents the initial provision of a fixed building service. The building regulations therefore require consequential improvements to be made. As a result of this, 10% of the project cost will be spent on energy efficiency improvements, provided these measures achieve a simple payback of 15 years or less. A list of improvement measures that will be considered is included below.

1. Upgrading heating systems more than 15 years old by the provision of new plant or improved controls
2. Upgrading cooling systems more than 15 years old by the provision of new plant or improved controls
3. Upgrading air-handling systems more than 15 years old by the provision of new plant or improved controls
4. Upgrading general lighting systems that have an average lamp efficacy of less than 40 lamp-lumens per circuit- watt and that serve areas greater than 100 m<sup>2</sup> by the provision of new luminaires or improved controls
5. Installing energy metering following the guidance given in CIBSE TM 39

8. Increasing the on-site low and zero carbon(LZC) energy-generating systems if the existing on-site systems provide less than 10% of on-site energy demand, provided the increase would achieve a simple payback of 7 years or less

The existing heating, cooling and ventilation and lighting systems onsite were largely installed as part of the major renovation works in 2006. At the beginning of proposed works these will be 15 years old, and the replacement of these will be classed as consequential improvements. It is therefore anticipated that the project will achieve compliance with this aspect of the building regulations.

### Low and Zero Carbon Technologies (LZCTs)

It is proposed that the classrooms are conditioned using floor standing VRF units. These are a form of air source heat pumps (ASHP). Due to their high efficiency, when used in heating mode these are classed as a renewable technology. This represents a reduction of approximately 2/3 of the carbon emissions compared to the existing gas fired boiler used to heat the spaces.

Additionally, packaged AHUs are proposed to serve the lecture theatre, cinema, and basement areas. These include air source heat pumps, contained within the unit. Heat is rejected into the exhaust air and discharged to atmosphere. As well as the improvement in heating efficiency, this removes the requirement for external condensers associated with the units.

Finally, an ASHP, sized at approximately 25% of peak load is proposed in conjunction with the boilers to meet a proportion of the annual heating and domestic hot water loads for the remainder of the building.

The measures outlined above represent a significant improvement in the efficiency of the project compared to the baseline gas fired heating system currently installed.

## 5.6 STRUCTURAL & CIVIL

The full Structural and Civil proposals are described within an additional report provided in support of the application.