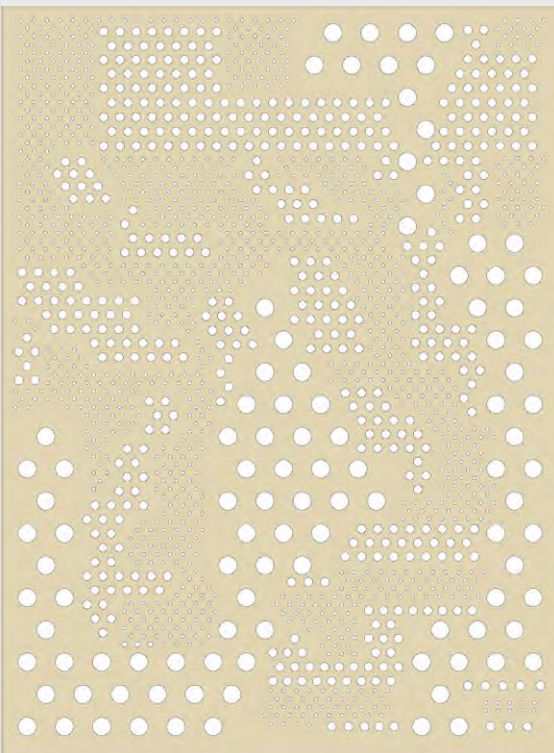


Design & Access Statement June 2013

Anatomy Building Plant Screen

Levitt Bernstein



Status

Final

Revision

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Job number

2994D

File location

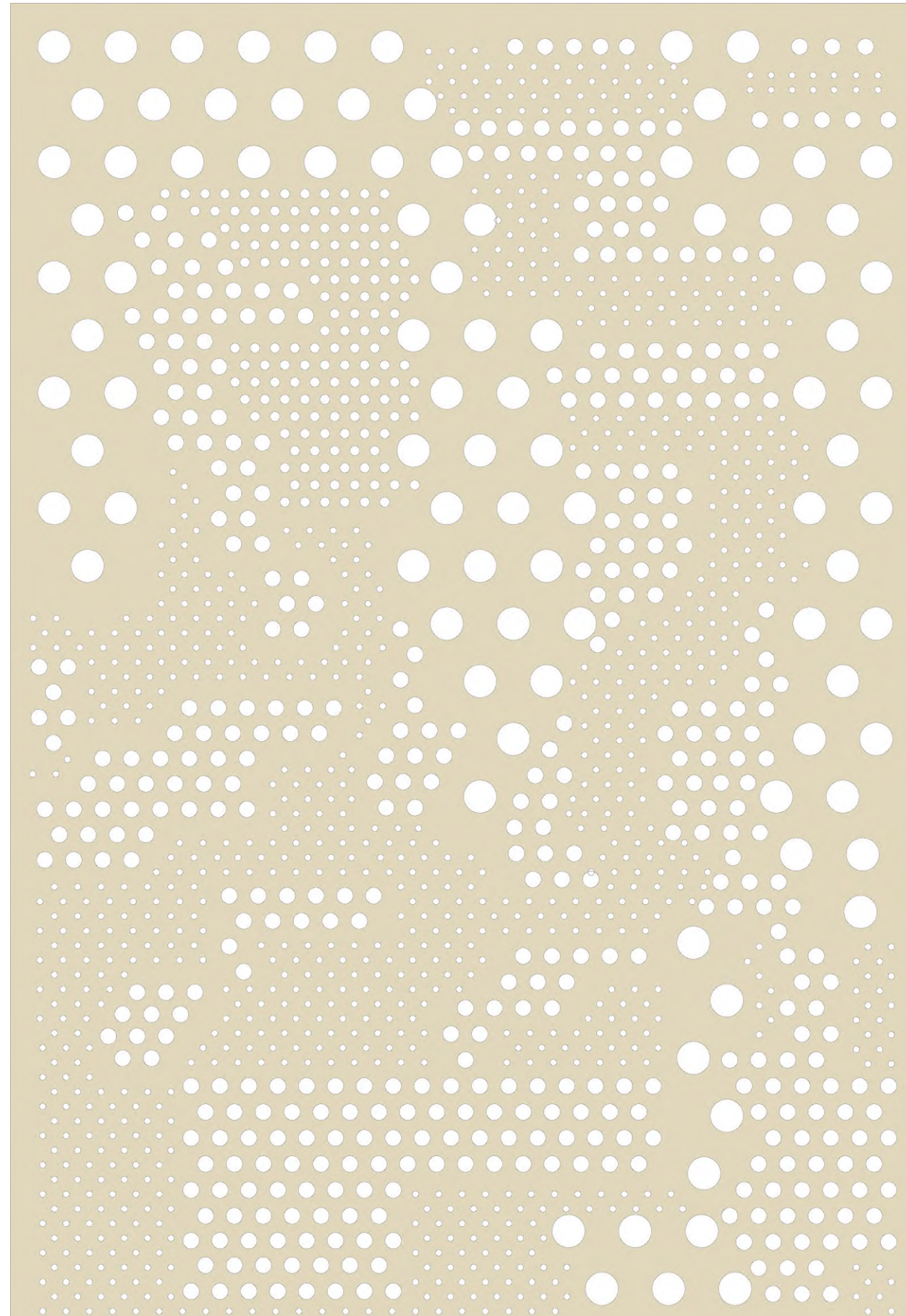
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Decorative Cladding Panel Design

1.1 Introduction

This application relates to the proposed creation of a plant deck and screen to serve the upgrade and refurbishment of UCL laboratory facilities at the Anatomy Building in UCL's Bloomsbury campus. The proposed location of the plant deck and screen is at the rear of the Anatomy building in an area currently used as a service route for delivery access, as well as a secondary entrance and fire escape.

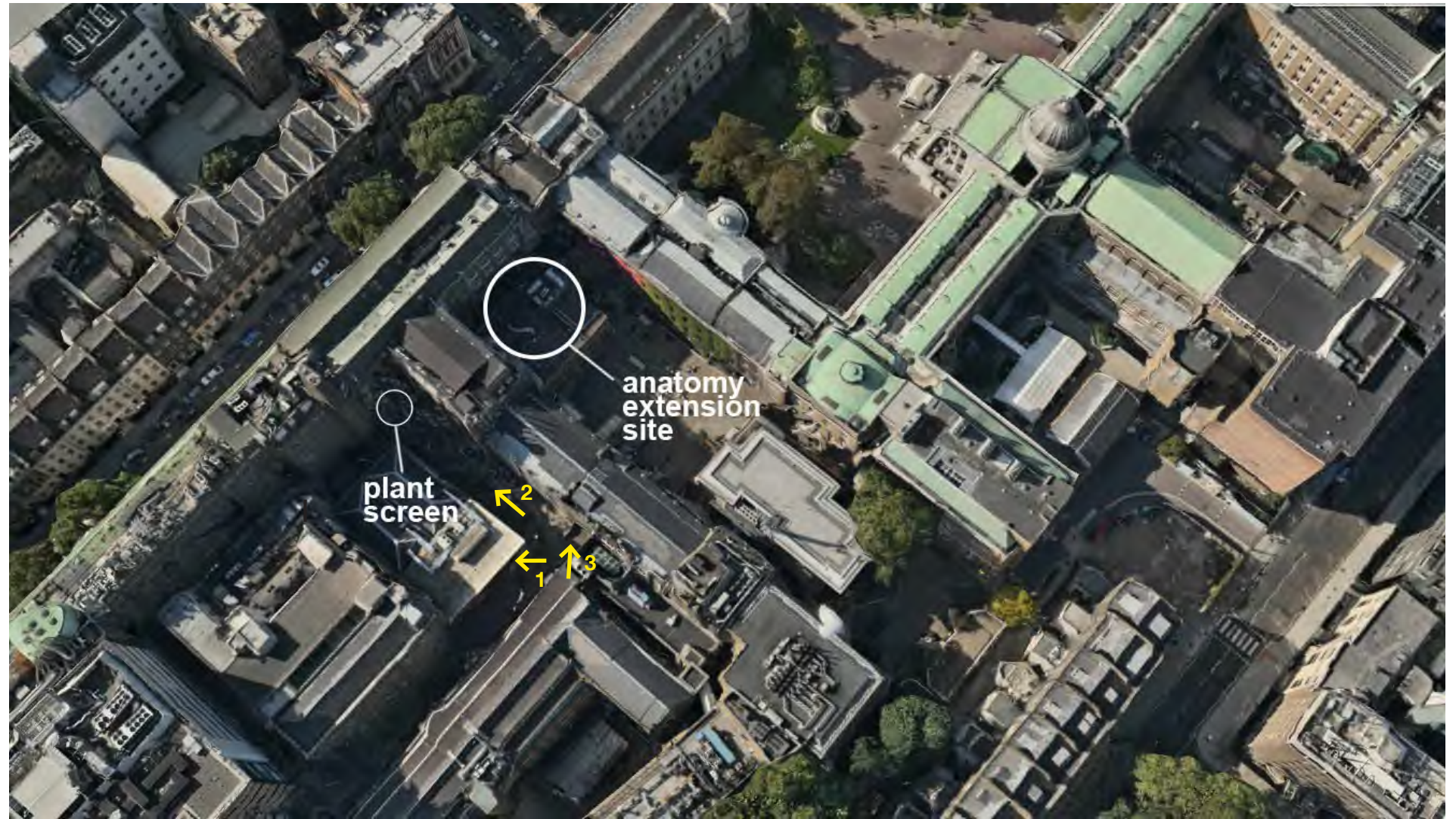
The proposed plant platform provides a location for new AHUs to serve the refurbishment of first and second floor Life Sciences laboratories as part of UCL's rolling programme to improve its facilities.

Overall, UCL's intention is to reduce the amount of services seen on the façades of buildings in the Bloomsbury campus. Areas for removal of services include the rear façades of the northern side of the Anatomy Building, the passageway between Gower Street and the South Courtyard, and the rear of the southern part of the Anatomy Building. Where plant areas remain, the intended approach is to attractively screen them.

The UCL Masterplan proposes the enhancement of a number of 'in-between' spaces within the Bloomsbury campus that will transform them from their current use, as service and storage spaces, into student focused, attractive areas of public realm. Some of these have been created already, such as the landscaping in Malet Place. Others are currently in development and will be subject to future applications (such as the Physics Yard and courtyard opposite the DMS).



Long Sectional Elevation



Aerial View



Junction at Malet Place



Looking towards Plant Screen Location



Archway to south courtyard

2.1 Site Analysis: Existing Context

Existing Context

The ongoing use of the building for scientific laboratories has required the continued upgrade of facilities with the accompanying demand for increased mechanical services. UCL are currently in the next phase of upgrade and refurbishment and as part of that are delivering a number of 'micro-projects' within the overall masterplan. The plant platform is proposed to serve the refurbishment of first floor labs of the Anatomy Building. The plant deck has been designed to suit the plant required for this floor and is not designed for the incorporation of additional plant equipment in the future.

Several options have been explored to establish the best location for plant space, of which include rooftop locations, and internal plant rooms. On balance the external deck was considered to have the least impact on the existing buildings.



Location of Proposed plant Screen

Approach A: Anatomy Roof

Locating plant on the roof would potentially keep the equipment out of sight and provide a logical place to concentrate equipment, however this approach was studied and was discounted due to the adverse impact on the existing building and its users:

- a. A survey of the roof by a structural engineer revealed that it was not suitable to support the weight of all the new plant required.
- b. Any new plant within the roof void would require the existing roof structure itself to be accessible the loft-style access hatches would not be sufficient for installation of new plant of this size.
- c. The proposals would require extending the 2 new 650mm square ducts from the fourth floor roof level down to the first floor. This would pass through three occupied floors resulting in significant disruption to the building.
- d. As an alternative distribution strategy to (c.) the ducts would pass externally down the facade of the building from the roof and would be visible. The most suitable position for this external installation would be adjacent to the existing Darwin building chimney and this was not thought to be appropriate.

Approach B: Existing Plant Location Roof

Currently the first floor is served from an AHU situated on a first floor flat roof of the 1970s extension adjacent to the east façade of the Anatomy Building.

It is felt that the option of reusing the existing AHU location to serve these floors is not feasible as it is proposed that this building is to be demolished to create the proposed new Anatomy Extension (which will be subject to a future planning application - see project 10.3D of the UCL Masterplan document).

Approach C: North Façade Plant Location (Gower Street Walkway)

Another strategic location that was considered located a plant space within rooms at the junction of the Anatomy Building and the Chadwick Building. This would entail re-modelling these areas to create the one and a half storey height required to accommodate the equipment required. This option was ruled out because:

- a. An investigation to extend a new plant deck over this walkway was undertaken. It was shown that this location does not lend itself for the application as the floor to slab height in the area of the first floor is too low to pass the new ducts and services through.
- b. Under proposed future phases it is intended to clear this walkway of plant and make Gower Street link and the Court Yard accessible as a public realm improvement (as part of the Anatomy Extension planning application).

Approach D: First Floor Mezzanine Plant Room

Internalising the plant was also considered and the only viable location that was found is in a mezzanine space directly above the Microscopy Lab. In discussion with the scientists who use these areas, this considered location was considered not to be feasible for the following Microscope reasons:

- a. There is a very sensitive confocal proton in the Microscopy Lab and it was considered that locating a plant room immediately overhead is incompatible due to the level of vibration it would cause. Microscopy rooms require low noise levels and no vibration. The plant above would lead to increases in both, even with attenuation.
- b. The space taken up by plant space in this option leads to a significantly reduced floor to ceiling height within the Microscopy Lab space of approx. 2.1m down from the intended 3.0m (an already reduced dimension from the benchmark design target for labs which is usually in the order of 4m or more). This would make the lab unsuitable for its current use.
- c. It was also noted that placing the plant room internally on the Gower Street side would interfere with the tall windows facing Gower Street which would have an unacceptable impact on the appearance of the building.
- d. Structural implications if this approach were also considered to place the increased loads on the existing structure. This may prove problematic and require additional propping or strengthening to be incorporated into the existing building.

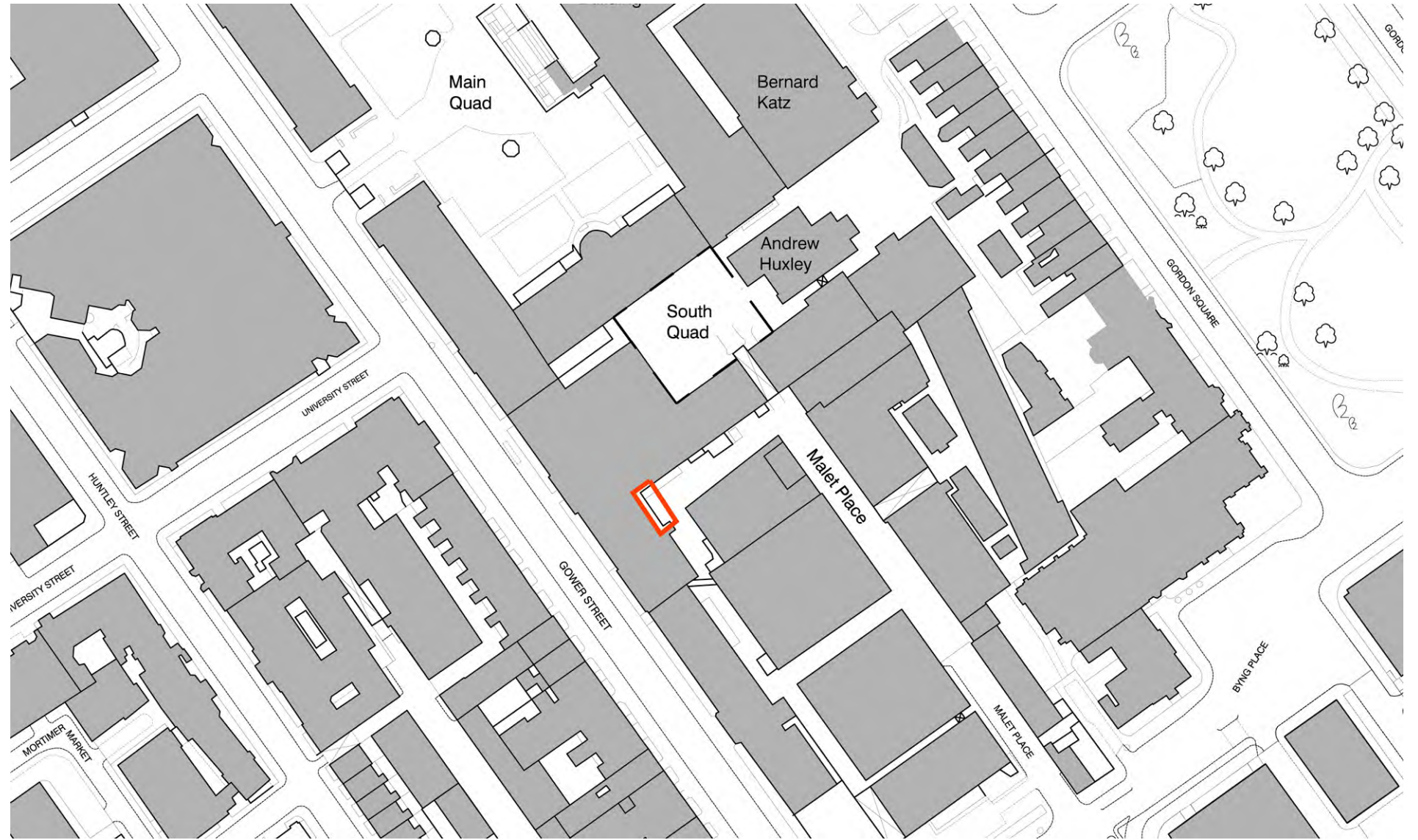
Approach E: External Plant Deck

The option of serving the first and second floor labs from an external plant deck was explored and considered to be the only viable solution. This approach would also enable suitable positioning by minimising distribution across the façades of the building, or long distribution routes internally. In addition, it was felt this would create an opportunity for all new plant to serve the first and second floor labs, and to be safely and easily accessible for routine maintenance.

2.2 Site Analysis: Possible Plant Locations



Section as existing showing locations of approaches considered



Site Location Plan

2.3 Site Analysis: Preferred Approach

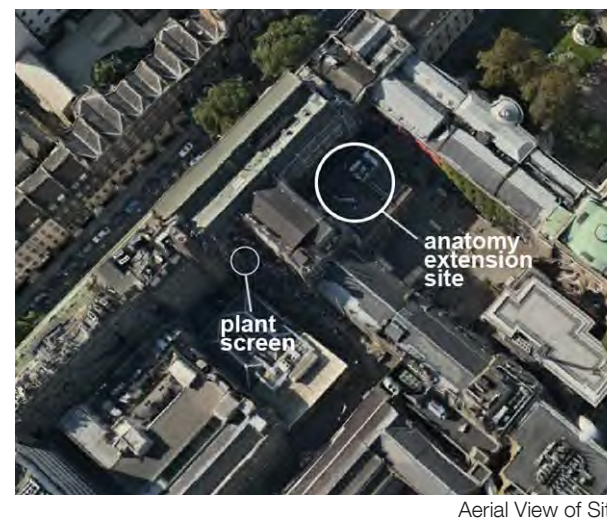
Preferred Approach

Given the technical and space constraints of Approaches A-D, Approach E is considered to be the only feasible option to enable the existing laboratories to be upgraded and used to current academic standards.

It is proposed to screen the proposed plant deck (see Section 3.1) and every opportunity has been taken to remove plant elsewhere. The rationale for the proposed scheme was that it:

- Has the least impact on the internal spaces of the existing building by maintaining floor-to-ceiling heights, removing internal vertical distribution, and maintaining the intended room uses of the building.
- Facilitates the removal of a number of existing external ducts.
- Reduces the need for new external ductwork by locating the AHUs immediately adjacent to the spaces they serve.

The net effect of the proposals will be the rationalisation and consolidation of plant behind an aluminium screen of the type commonly seen on buildings of this nature which have significant plant requirements.



3.1 Detailed Proposals: Cladding Design

Design Concept

The concept for the proposed plant screen was to abstract from scientific photographs generated from imaging of zebrafish, the principle subject of the research undertaken by the lab that the plant screen serves. This was used as the basis for developing a bespoke and visually interesting pattern.

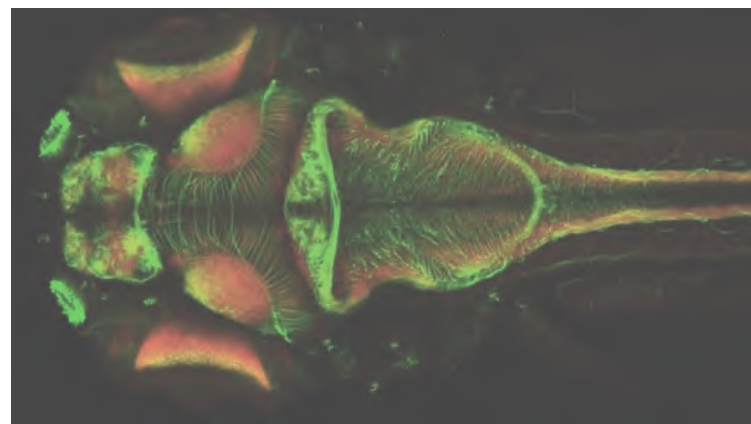
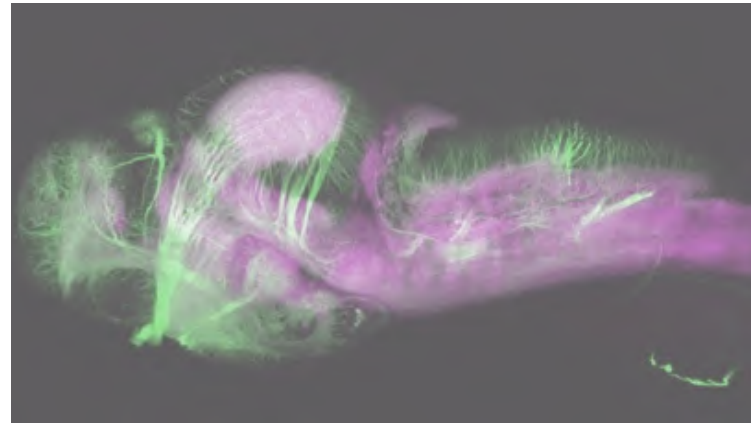
Cladding Panel

Perforated anodised aluminium was selected as the most appropriate material to demonstrate this pattern due to the flexibility of the panel size and pattern creation.

The bespoke pattern generated was abstracted into a panel design which could be repeated and re-used to form a detailed, visually unique and attractive screen.

The individual panel design creates a module from which a visually artistic pattern is created by 'bookmatching' the panels. The transparency enables the screen to subtly fit in within its existing context whilst meeting the technical requirement to provide ventilation.

The proposed panels are to be 3mm anodised aluminium in a satin finished, muted gold colour, which harmonises the colour of contextual brickwork.



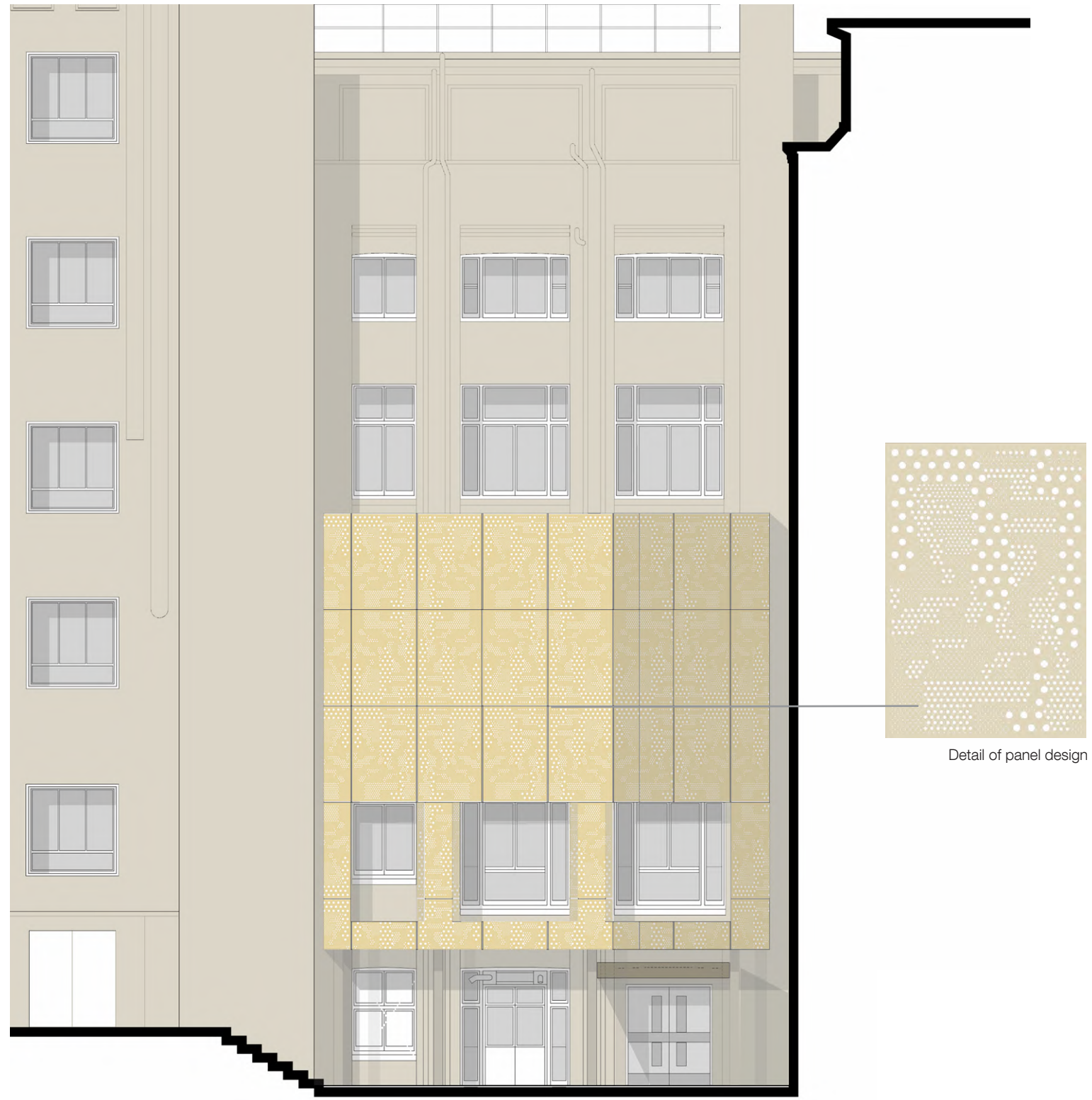
Zebrafish

Principles

Vertical emphasis is created by using rectangular panels that vary in size from bottom to top. In order to create an appearance of the material 'wrapping' the enclosure and introducing further variety to the architectural form, the plant deck is sloped in plan.

Structurally, the visible columns at the base are circular and are aligned with the existing piers of the building behind. A canopy covering the double doors of the delivery entrance is integrated with this structure.

The bespoke decorative anodised aluminium panel is arranged in a grid that responds to the existing fenestration of the existing façade of the Anatomy building behind. The existing entrance door has been integrated into the façade with a new canopy of a similar material to the main screen.



Detail of panel design

Proposed Plant Screen Elevation

3.2 Detailed Proposals: Façade Design

Framed Entrance

While not in a prominent location, the plant screen will form a discrete 'vista stop' when seen from the junction of Malet Place and the passageway to the South Courtyard.

Internally the rooms immediately behind the plant screen are to become 'dark' spaces, such as a microscopy suite on the first floor. The plant deck is tapered in plan in order to maximise natural light to the adjacent rooms to the right of the plant screen.

The existing access requirements into the Anatomy building remain unchanged. Access will be through the main basement entrance and it will now be covered by a canopy.

Access to the plant platform will be from the first floor level through a new door onto the platform. This will only be accessed by the required personnel for maintenance to the plant equipment.



Proposed Plant Screen - Long Sectional Elevation

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