UCL Main Library – phase IB

Design and Access Statement

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Issue: **for LISTED BUILDING CONSENT APPLICATION**
Rev: -
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BDP

Contents

View of the Wilkins Library's front portico.

Introduction

BDP were appointed to develop design proposals initially identified in a Feasibility Study undertaken by Nicholas Burwell Architects for the refurbishment of the Reading rooms at the south end of the UCL Main Library. These are identified in the GA plans with room numbers 182, 182A, 101, 101A, 102, 102A and 181A.

The library building was designed for UCL by William Wilkins in 1827-29 in the greek revival style. It underwent a series of developments over the years, notably the Flaxman Gallery and the new library room to the east of the octagon beneath the dome by Thomas Donaldson. In September 1940 and April 1941 UCL was seriously damaged by bombing and Albert Richardson rebuilt extensive parts of the library from 1945, including the area that forms the scope of works of the current project.

The Wilkins library is today listed at Grade I, putting it in the top 2.5% of architecturally and historically significant buildings in England. As para. 3.6 of PPG 15 states, '*These buildings* [Grade I and II*] *are of particularly great importance to the nation's built heritage: their significance will generally be beyond dispute*'.

The Grade I listing applies to the whole Wilkins building, however the UCL Conservation Strategy Report dated may 2004 acknowledges that not all parts necessarily have the same degree of importance. Although, as para C.5 of PPG 15 points out, '*subsequent additions to historic buildings are often of interest in their own right, as part of the building's organic history*', it is often possible to establish a hierarchy of significance.

As indicated in the Report, the double-height rooms 101 and 102 are considered "significant" while rooms 182 and 182A are considered of "some significance". As well as the building, Richardson designed the library furniture: bookcases, reading desks and chairs. Though they start showing some signs of wear, these are still very much part of the stock in use at the library and contribute significantly to its character.

The proposals are being progressed in advance of the Masterplan study for the overall refurbishment of the Main Library, a Grade 1 listed building designed in 1829 by William Wilkins. It is therefore intended that the present design will form part of a wider development and will inform a broader understanding of the Main Library building.

View of room 102 towards original balustrade to mezzanine.

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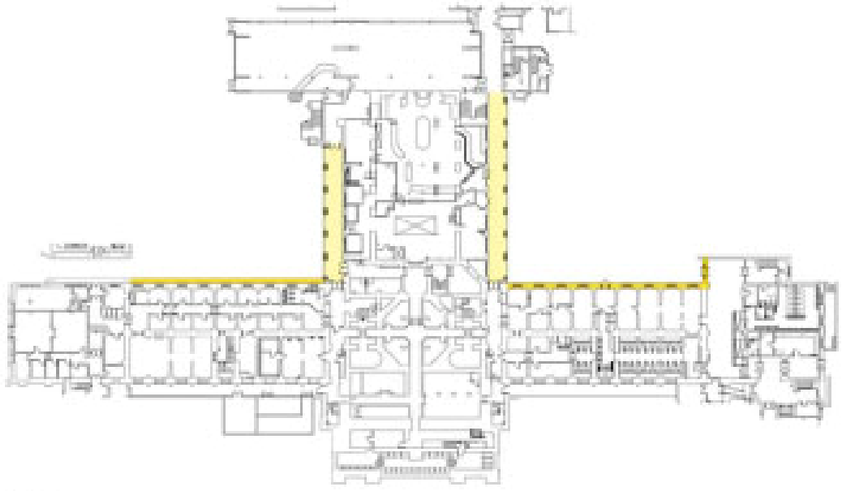
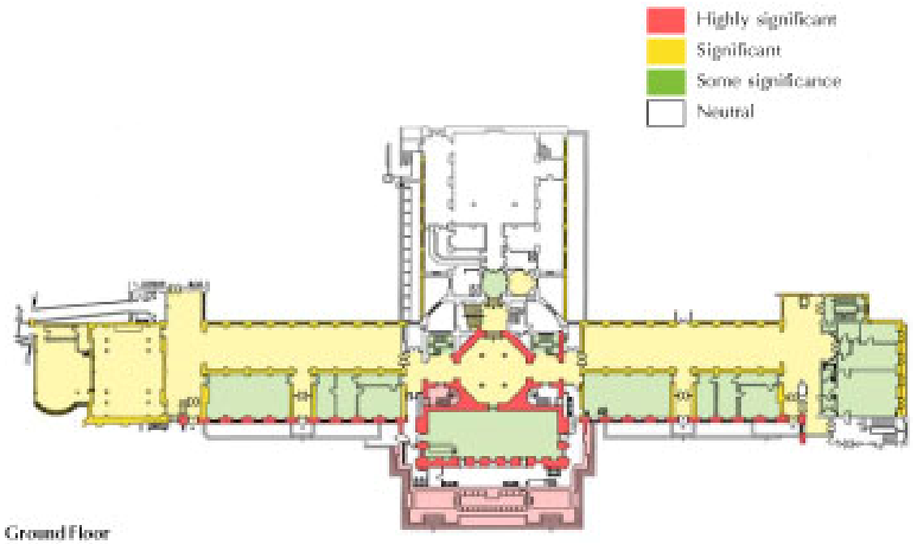
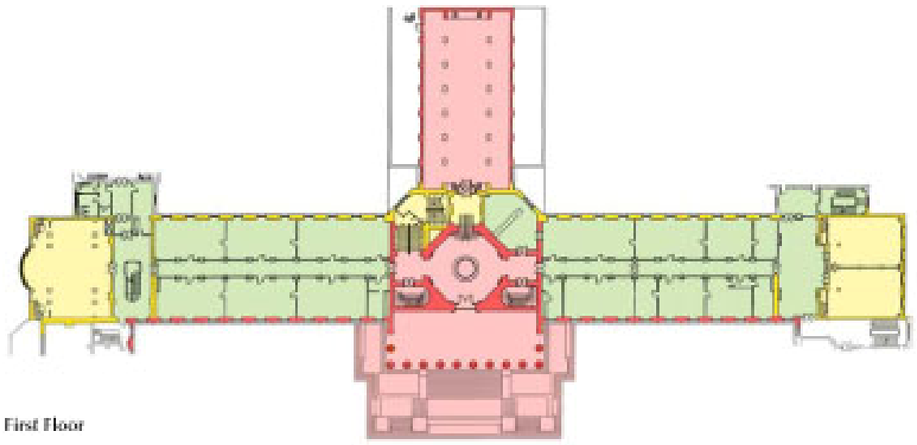
4. SIGNIFICANCE



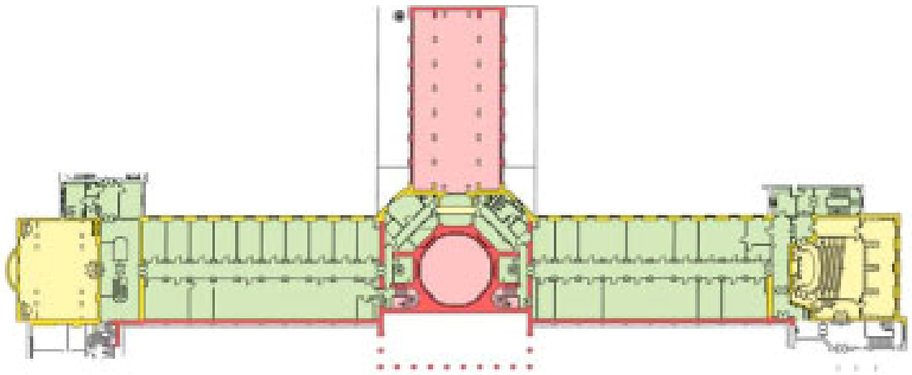
Basement



Ground Floor



First Floor



Second Floor

Fig. 22 - Wilkins building: levels of significance

Extract from UCL Conservation Strategy Report

Brief

Phase IB focuses on the provision of new and improved reading spaces for the Linguistics, Philosophy, Economics and Art collections currently housed in the Donaldson reading room. It is envisaged that this move will release the Donaldson room for the creation of a dedicated Laws reading room. In order to resolve the decanting issues related to the construction programme, the former French collection rooms in the north wing of the Main Library have been vacated, are being made available and will be managed by the Library as temporary accommodation for the collections.

The scope of works encompasses rooms 182, 182A, 101, 102, the mezzanine areas 101A and 102A and the vestibule adjacent to room 182 to the west, currently part of room 181. Adjacent rooms which will be impacted by the works are 103, 104 and the south end of the main corridor (identified as room 185). Please refer to GA plan dwgs (00)A101 and 102. The total area is 318 sqm at the main floor level (first floor) and 72sqm at mezzanine level.

The scope of works includes refurbishment of the internal fabric of the reading rooms, including doors and windows, as well as the original fixtures and fittings including the Richardson furniture. The reading rooms will be reorganised in order to provide an improved service to the library community and, where applicable, some weeding of the bookshelves will be introduced. This will assist in various respects:

- Better understanding the spatial quality of the rooms.
- More rational and functional subdivision of the spaces.
- Clearer reading of the rooms and their configuration, particularly in terms of emergency escape.

It is proposed that the refurbishment will respect the character of the reading rooms and enhance their spatial qualities. All new interventions, like the new bookcases, reading desks and the light fittings are designed in order to fit unobtrusively in the spaces. These will be treated as contemporary elements, finished in materials and textures that have an empathy with the existing fittings without trying to mock them.

The existing central air handling plant suppliying ventilation from a plantroom at roof level will be removed and replaced with a new high efficient air handling unit located in the same plantroom.
The existing toilet extract fans, presently located in the plantroom, are to be relocated externally, below parapet level, and the builderswork extract duct on the roof modified accordingly.
The comfort conditions in the library areas will be provided by fan coil units. The external heat pump condensing units will be located on the main Wilkins Building roof adjacent to the central dome. Please refer to the Servicing Strategy below and to the Building Services drawings appended to this Statement.

The reading rooms will be fully rewired with provision for power and data to the reading desks. Existing light fittings will be removed and a new lighting system will be introduced, with pendant uplighters for the general ambient lighting and emergency systems and linear task lighting to new and existing bookcases and desks.

The design proposals have been developed in consultation with:

- Fowler Martin Limited for aspects related to Building Services and lighting strategy.
- Martin Stockley Associates providing advice on structural requirements.
- Potter Raper Partnership providing advice on cost planning.

View of room 101

Surveys, investigations and opening up exercises

A number of surveys and investigations have been identified, appropriate to this stage of design development, including:

Measured survey:

Plowman Craven Associates have been appointed to undertake a measured survey of the areas encompassed in the scope of works and this survey has been completed in the week beginning 12th February 2007.

Asbestos survey:

Record documentation of the asbestos survey has been obtained from the College, which shows a type 2 survey has been carried out in 2005. Some areas included in the scope of works have not been surveyed and the necessity of a type 3 survey will be confirmed.

Opening up exercises and investigations:

A scope of structural and architectural opening up exercises has been identified and carried out in the week beginning 12th February 2007. These investigations are appropriate to the current design stage and their findings have greatly informed the design development to date.

Noise tests:

Noise tests have been undertaken in the week beginning 12th February 2007 in order to establish the impact on sensitive areas adjacent to the scope of works, particularly the Provost office which is located directly underneath. Significant indications have been gained from these tests and will inform the appropriate mitigating measures to be implemented by the College during construction works.

Building Services survey:

Fowler Martin Limited have carried out a visual survey of the services system providing mechanical ventilation from the plantroom at roof level. This is taken into consideration and integrated in the building services proposals.

Statutory approvals

The proposed refurbishment of the reading rooms requires listed building consent approval. A meeting with Victoria Fowlis, planning and conservation officer at Camden borough and Richard Parish of EH was organised on 20th February in order to discuss the proposals and clarify the level of detailed information that would be required. Subsequently a copy of the UCL Conservation Strategy Report dated may 2004 was forwarded to both parties for information and to give the appropriate background to the current listed buidling consent application.

A meeting with Bob Truman, Building Inspector at Camden borough was held on Tuesday 13th february in order to discuss issues related to Building Regulations compliance and particularly Approved Document part L2 (*Conservation of fuel and power in existing buildings other than dwellings*) provisions for the current phase of work. It was agreed that even though we will be introducing a higher level of energy in the building, no enhancements to the fabric would be necessary given its listed status. Any works to the existing windows (as detailed below) would be deemed satisfactory provided that they comply with the regulations. In the same line any replacement of the plant kit with new equipment would be considered sufficient provided it is compliant.

View of room 182 towards the east.

Main Library – Reading spaces

While rooms 101 and 102 will retain their character and use as browsing/reading rooms, room 182 will be characterised by a denser layout of bookcases to provide the required collections' storage. Room 182A will become a reading room with large desks dedicated to the Arts collection.

An area of soft seating located at the end the visual axis from the corridor will be introduced adjacent to a magazine and periodicals display. A new plasma screen for information and orientation will be fitted at high level in this location.

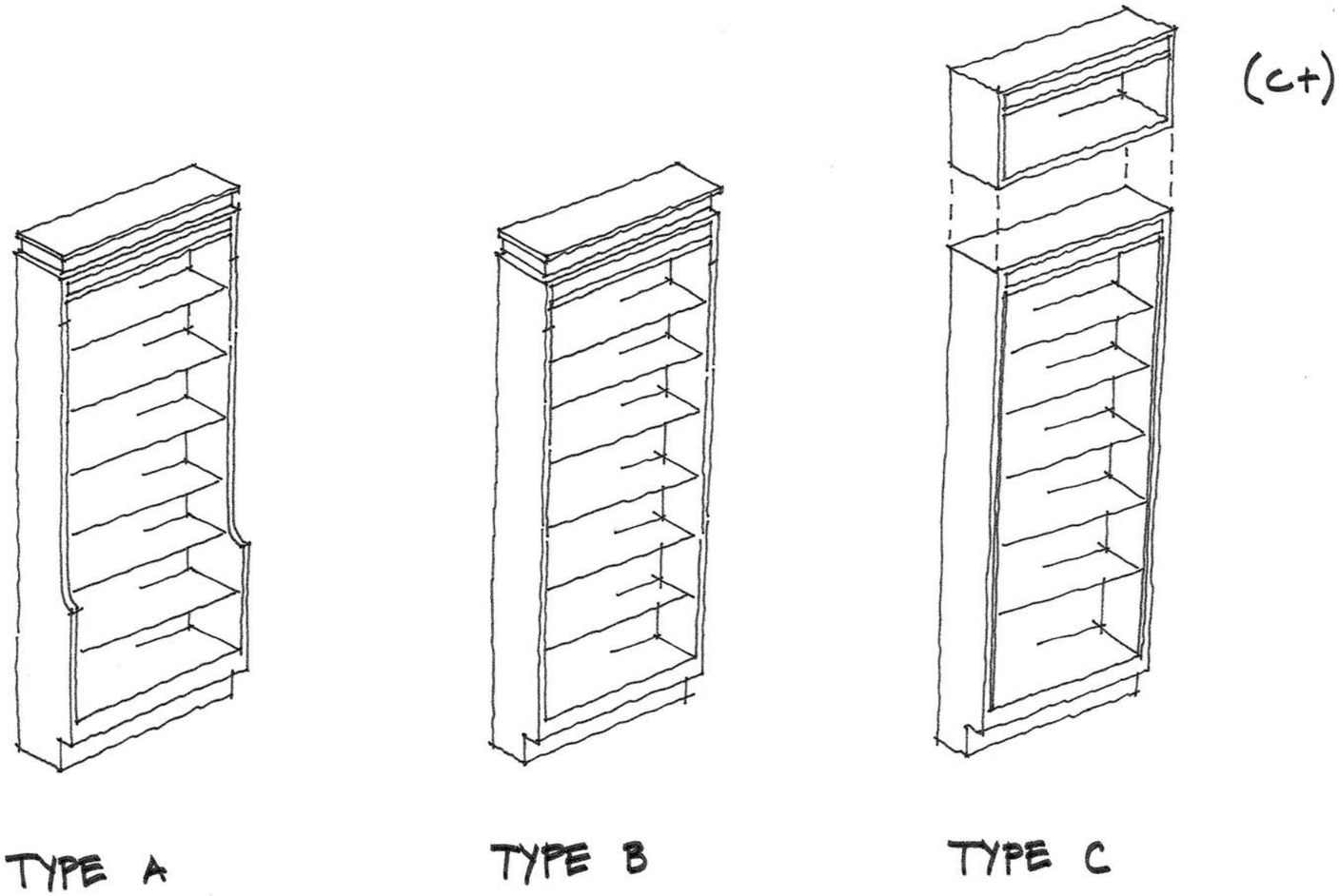
The number of reading desks will be reduced from the existing provision, however the total number (64) will exceed the current provision for the Law library in the Donaldson room (62). The new soft seating area has not been considered in this total.

It is envisaged that some weeding of the printed stock will be needed before the collections are moved to the new accommodation, however preliminary calculations of the proposed total metres of shelving suggest that this will be less than 10%. This takes into consideration the provision of some new higher, deeper shelves in order to accommodate the oversize stock of the Arts collection.

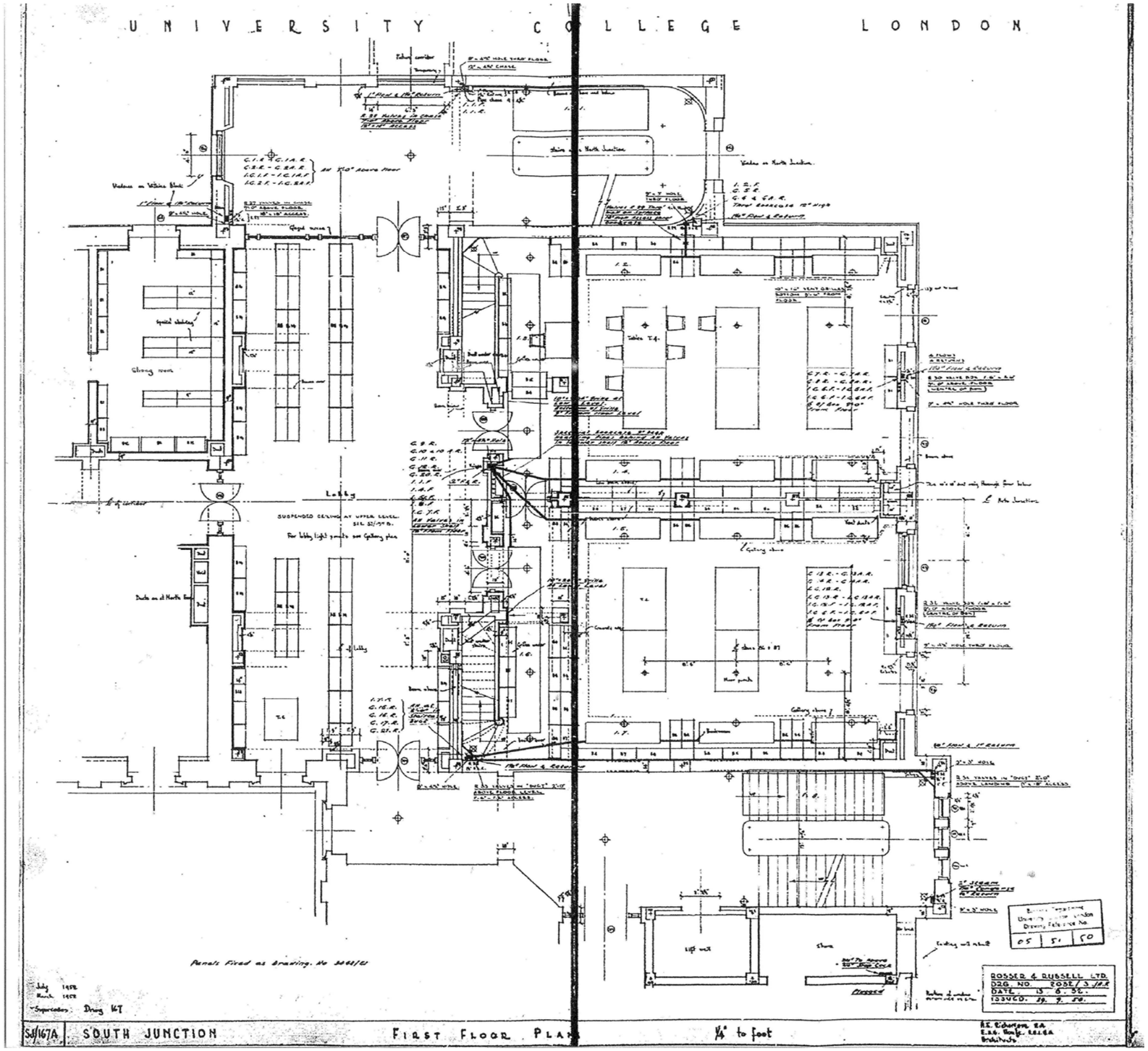
A networked catalogue terminal is required and given the space constraints this will be a stand-up machine located in room 182, near the soft seating area.

It is proposed that in rooms 101 and 102 the bookshelves layout will be rationalised with the removal of four of the protruding "fingers" in each room. This layout is reflected in some historical drawings dated from the time of the original design of the reading rooms after the Second World War bombings (see image aside)
The original Richardson bookcases will be refurbished and generally retained in their current location. Original bookcases of the same size and style from elsewhere in the reading rooms will be used to re-establish the continuity in the shelving in the location of the removed "fingers". New bookcases will be fitted at the ends of the retained "fingers".

At mezzanine level (rooms 101A and 102A) it is proposed to remove the add-on shelf at the top of the existing six-shelves bookcases along the perimeter of the balconies. This appears to be a (possibly later) addition aimed at maximising shelving space between the downstand beams and is detracting from the reading of the datum line running along the top edge of the original bookshelves.



Analysys of the original Richardson bookcase types that can be found in the reading rooms
Refer to dwgs (00)A101 and (00)A102 for locations



Plan of the library's south reading rooms dated September 1950 (from the UCL Arhives)

Main Library – Furniture and light fittings

The existing bookcases designed by Richardson have a standard height of 2440mm and this datum will be reflected in the new bookcases for rooms 182 and 182A. These will be in a contemporary design and will reflect a modern, stripped-out interpretation of existing features to be in keeping with the original stock.

The bookcases will be fitted with new linear task light fittings finished in a modern material, bead blasted steel, with an affinity with the quality of theses spaces. The fixing method and support design is being developed in response to the characteristics of the existing bookcases; specifically the fixing will be hidden behind the pelmet feature crowning the top of the original Richardson stock, avoiding any drilling or fixings to the face of the bookcases. The design will be flexible in order to allow the same family of shapes and materials/treatments to be used in the task light fittings for both new and refurbished bookcases.

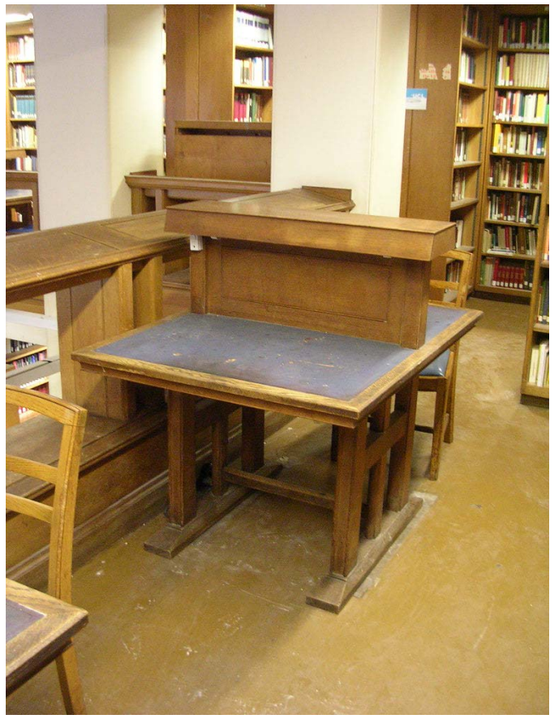
The reading desks, also originally designed by Richardson will be fully refurbished with replacement of the worn-out writing surfaces. It is proposed to remove the central timber screen containing the light fittings. This is in response to a number of considerations:

- The existing task light fittings are of poor quality and prone to failing.
- The timber screens are generally in poor conditions, structurally unsound and their design has been compromised by lack of maintenance.
- The screens constitute a strong visual intrusion in the spatial quality of the rooms, and are detrimental in its reading as a whole space.
- There is a desire by the College to move away from the carrel-like studying enclosure and provide instead more openness and transparency in their library environments.

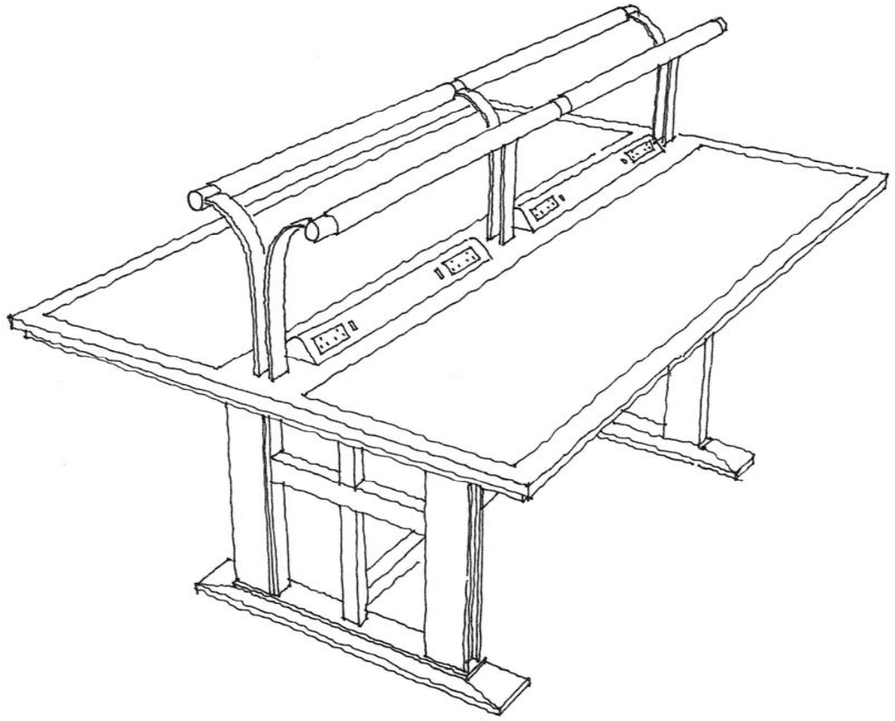
New desks are proposed for room 182 and these will be in oak with a leather or leatherette top. The design of the new desks will also reflect a modern, stripped-out interpretation of existing features to be in keeping with the original stock.
The reading desks will be fitted with new linear task light fittings matching closely the language of the new fittings to the bookcases. The design will be flexible in order to allow the same family of shapes and materials/treatments to be used in the task light fittings for both new and refurbished reading desks. Power and data provision will be integrated with the lighting within the surface of the desks in an easy to use, unobtrusive way.

The ambient light will be provided by high level pendants with an uplight element; these will be modern fittings but will be in tune with the historic spaces. They will be finished in materials to match the other fittings as well as opalescent glass. Wherever applicable they will be modified to provide emergency lighting. In locations with height restrictions, ceiling mounted luminaires belonging to the same range will be fitted.

The existing recessed light fittings to the mezzanine stairs will be retained and provided with new bronze trims.



Original 2-seater reading desk



Integration of power, data and ew task light fittings to original desks – design option

New soft seating – option for armchair

New light fittings – option for ceiling pendant

Main Library – Fabric, fixtures and finishes

The walls and ceilings will be fully redecorated in keeping with the character of the spaces. The existing skirtings will be repaired where necessary with the same materials and repainted to match the existing finish. New marmoleum floors will be fitted replacing the existing lino finish in all rooms except room 182A where the existing parquet flooring will be rebonded as necessary, sanded down and resealed. Stairs will be stripped of the existing lino and new marmoleum will be fitted, with new bronze finish nosing trims.

All original joinery details will be refurbished, including the timber balustrade to the mezzanines, the cladding to the stair columns, the stair handrails and all wood trims. All doors into the reading rooms will be refurbished and, where necessary, upgraded to meet the designated fire resistance. Please refer to the Schedule of doors refurbishment for details on the proposed repairs. The three timber sash windows to rooms 181A, 182 and 182A will be refurbished as indicated in the Schedule of windows refurbishment and fitted with new secondary glazing to comply with the requirements of Approved Document part L2. This will be in single glazed timber sashes in keeping with the existing.

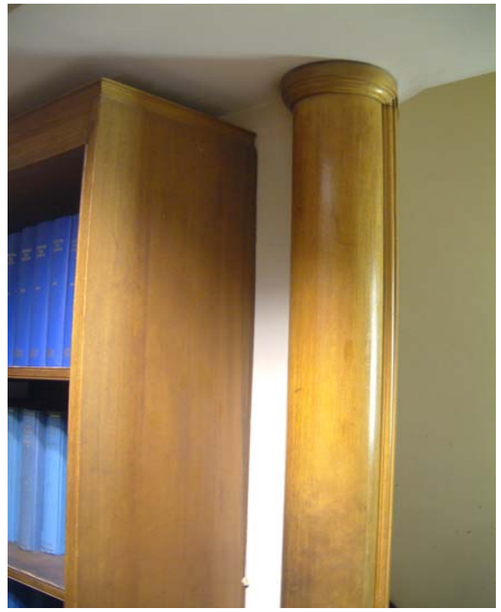
Any requirements for acoustic treatment to the reading rooms fabric will be confirmed in the next design stage following acoustic tests; this could include translucent screens fitted on the reading desks, which would be designed to integrate with the original desks as well as all new fittings.

The existing single glazed steel windows to rooms 101 and 102 will be removed and new steel framed double glazed windows fitted, in compliance with the current Approved Document part L2 requirements. An element of solar control will be introduced in the form of roller blinds to be fitted in the same location as the existing, behind a pelmet feature at ceiling level.

Treated air from new fan coil units will be transferred into, and extracted from rooms 182 via new horizontal grilles placed at high level symmetrically along the north elevation. These will be in a bronze finish to match the new grilles to the existing ventilation outlets in rooms 101 and 102.

Rooms 101 and 102 will be served by new fan coil units fitted one above the other between the south facing steel windows; an earlier option to fit the units below the balconies and conceal them in a plasterboard bulkhead was disregarded because of the height restriction above the existing bookcases, as well as concerns over the consequences for the furniture of eventual leaks. The units will be concealed within oak wood cabinets with a slatted, removable front panel. These cabinets will be part of a larger joinery unit comprising, directly below, a new double bookcase. This will be designed with a modern approach to the original Richardson design and to respond to the conditions of the rooms. Particularly it will reflect the two datums defined by the top edge features of the original bookcases at the main level and on the balcony. Please refer to section B-B, dwgs (00)A111 and (70)A001.

Room 182A will likewise be fitted with a new fan coil unit under the existing window and this will be concealed in an oak timber slatted cabinet designed to respond with a modern approach to the original Richardson design.



Cladding to stair column

Existing windows in room 101

Main Library – Structural strengthening

Following the structural investigations it was concluded that no strengthening of the reading rooms floors will be necessary as a consequence of the proposed changes in the bookcases and desks layout.

Although it was concluded by the Structural Engineering consultant that the timber balustrade to the mezzanines does not appear to be falling due to overstressing, in line with the College's requirements strengthening works to address the movement of the balustrade will be carried out unobtrusively within its lower section, so it remains hidden by the panelling on both sides.

As indicated in the investigations report by Martin Stockley Associates, a number of methods are available of reducing the horizontal movement of the handrail:

- Stiffen the structure between posts. Place timber strutting/blocking between existing main timber posts. Placed between the middle posts of each balustrade section, this would be fixed back to the existing timbers and would help to reduce the horizontal movement of the posts by strengthening the attachment between adjacent posts.
- Strengthen the connection of the main post to the base timber. At present, there is no physical connection between the main post and the base timber (bolted to the slab). Small metal shoes placed at the base of the post would be screwed to the timber posts, allowing a connection between the main post and the base timber. These metal shoes would also be bolted through the base timber to the structural slab, using small resin anchors.
- Strengthen the main post to slab connection. Connect metal ties to the rear face of the existing timber posts, and fix these back to the First Floor Mezzanine slab. This would require chasing sections of the existing floor in order to install these ties, which would be bolted back to the existing slab and screwed to the existing timber posts. The existing slab would then be made good in these locations once these had been installed.

Any of the above methods will require the panelling on or of both sides to be removed to allow access to the posts, however this would be done with the appropriate care in order to protect and refix the panels in place once the strengthening works are carried out.

View of balustrade construction from the rear, with panelling removed from one face

View of mezzanine balustrade from the double height space

Access considerations

UCL is firmly committed to operating a system of equal opportunity amongst staff and students.

UCL is firmly committed to offering a first class education to all students. The College's Disability policy is available for downloading at the UCL website: http://www.ucl.ac.uk/disability/policies and it outlines the ways in which UCL addresses the needs of disabled students. The policy is designed to be read by prospective and current students as well as members of UCL staff.

Central to the Student Disability Policy is the intention to take account of individual need and to work with disabled students to find appropriate and practical solutions to problems that might arise.

Against this background it is worth noting that the design proposals for the reading rooms are not changing the use of the rooms, nor their architectural or structural characteristics. The same policies and management procedures will apply after completion of the works, in particular:

- Access into the reading rooms on the first floor is gained via the lift located at the entrance near the new stairs and through the existing, level corridor. Circulation within the reading rooms is level and seating spaces are concentrated at the main floor level.
- The new layout will make the escape routes clearer in case of emergency by orientating the high bookcases in room 182 in the direction of escape.
- Enough space is left between all fixtures and fittings to allow for unhindered circulation within, and swift escape from, any place in the reading rooms.
- The disabled refuge outside the double door leading to the main staircase to the south-west is retained and is made more secure by the insertion of a new set of glazed doors separating it from the staircase itself.
- The new signage will be designed to be fully DDA compliant.

The proposals are being made available to UCL's Disability Coordinator, Ms. Marion Hingston Lamb, for comments and integrations during the design development.

View of existing disabled refuge in room 181A

Building services

Existing Systems

Filtered and tempered fresh air is currently supplied to, and vitiated air extracted from the Gustave Tuck Lecture Theatre, Library areas 201, 182, 102, 101 and the Provost Suite of Offices on the Ground Floor. The central air handling plant, which is located in a roof plantroom adjacent to the Gustave Tuck Lecture Theatre (located directly above the reading rooms), operates under the dictates of movement sensors in the theatre and is, therefore, only providing mechanical ventilation when this is occupied.

Heating in all the above areas is by low pressure hot water embedded ceiling panels served from a compensated low temperature heating circuit. UCL wish to abandon the heating panels (except in circulation areas) and consider a more efficient and easily manageable system.

Existing lighting, power, data, telephones and fire alarm system will be removed. All distribution boards will be retained to serve the new installation. During the works temporary fire detection will be provided utilising heat detectors.

Proposed Systems

A new high efficiency inverter controlled air handling unit with refrigerant based cooling module will provide conditioned air to Library areas. The supply air distribution ductwork in the plantroom will be divided into two circuits, with the supply to the Lecture Theatre incorporating a motorised air shut off damper. This facility will enable the ventilation to the theatre to operate only when there is occupancy or if a low ambient temperature is sensed. Ventilation to the remaining areas will operate under a time schedule when the air handling unit will operate at a reduced duty with the cooling function inhibited.

The existing toilet extract fans, presently located in the plantroom, are to be relocated externally, below parapet level, and the builderswork extract duct on the roof modified accordingly.

The comfort conditions in the library areas will be provided by fan coil units served from a variable refrigerant flow (VRF) three pipe heat recovery system. The external heat pump condensing units will be located on the main Wilkins Building roof adjacent to the central dome.

All new plant equipment located at roof level will comply with the requirements of Camden Borough's Unitary Development Plan with particular regards to "Noise and vibration thresholds" indicated in Appendix 1 of the UDP. Please refer to dwgs 886MS103A and 106A.

Rooms 182 and 182A will be served by two fan coil units located at high level in the adjacent rooms 103 and 104. These rooms will receive a new plasterboard ceiling with access panels to conceal the equipment. Air will be extracted from and supplied to Room 182 through new bronze grilles at high level as shown in section F-F. An additional fan coil unit located under the window in Room 182A is needed for maximising the readers' comfort.

Rooms 101 and 102 will likewise be served by fan coil units fixed between the windows directly above the bookshelves and concealed by joinery cabinets with slatted timber front panels.

All redundant embedded heating panels will be isolated, drained and disconnected.
Generally all new and refurbished reading desks will be fitted with task lighting and power/data points for computer use. Floor boxes will be fitted by chasing into the existing floor screed.

All desks and bookcases will be fitted with new linear task light fittings. The ambient light will be provided by high level fittings with an uplight element, which will be modified where applicable to provide emergency lighting.

Example of modern light fittings integrated on reading desks
Bedford School – Curzon (Luke Hughes & Company)

Photographs of existing situation

View from main corridor towards reading rooms

View of original Richardson bookcases – north wall room 182

View of reading desks and bookcases in room 182

View of room 182A towards emergency exit – intruding bookcases are detrimental to the clarity of the space

Non-original bookcases obfuscating the architectural features in room 182

Clarity in the use of and circulation within the rooms is affected by the location of these non-original bookcases

View of original chairs and 4-seater Richardson desks in room 101. Note the poor conditions of the timber screens

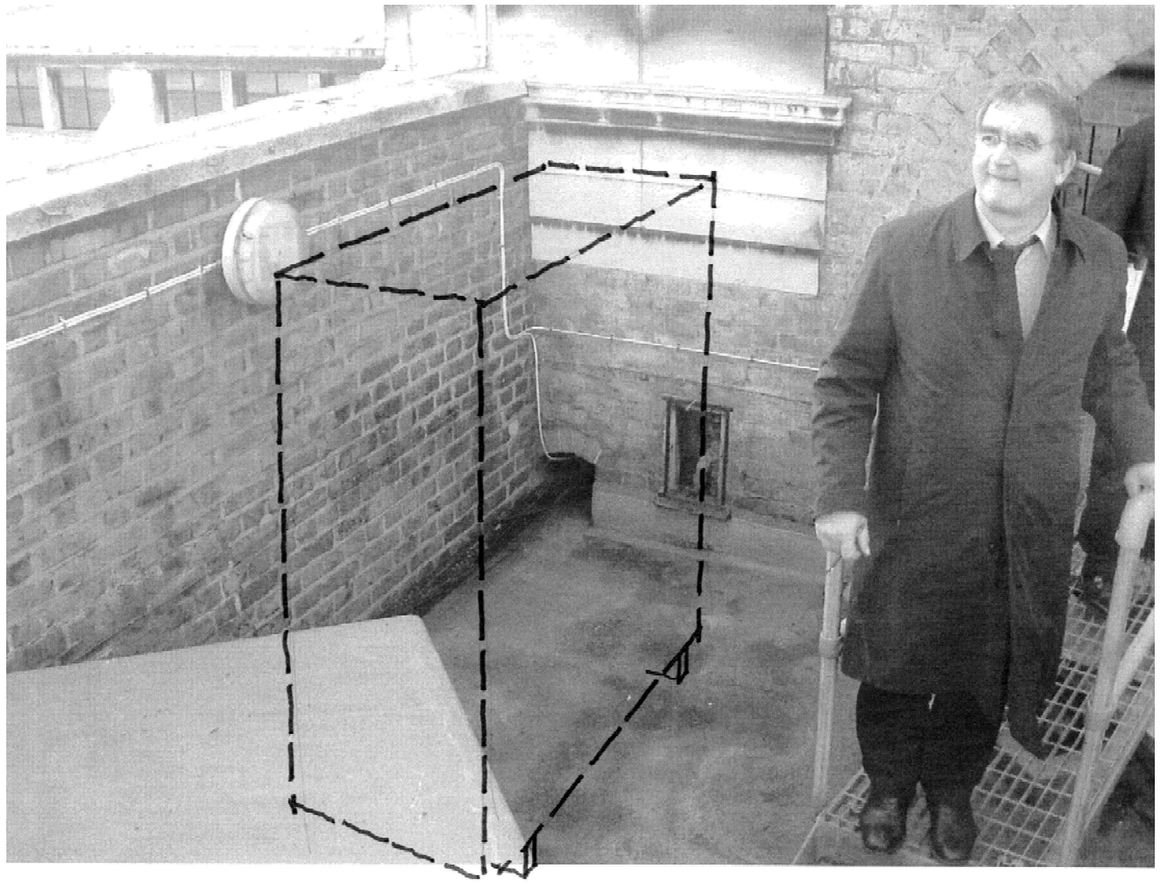
Original 7-shelves bookcases in rooms 101 and 102

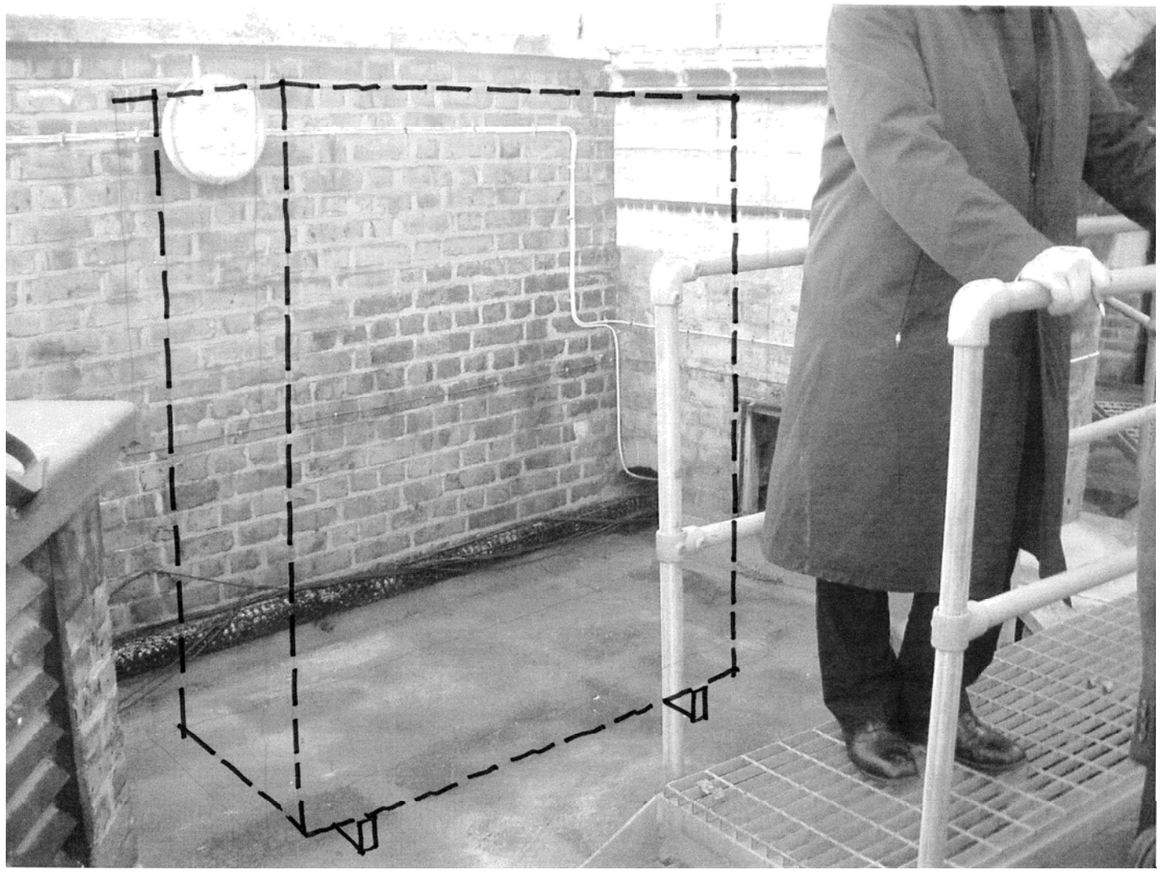
View of double-height space – room 101

View of double-height space – room 102

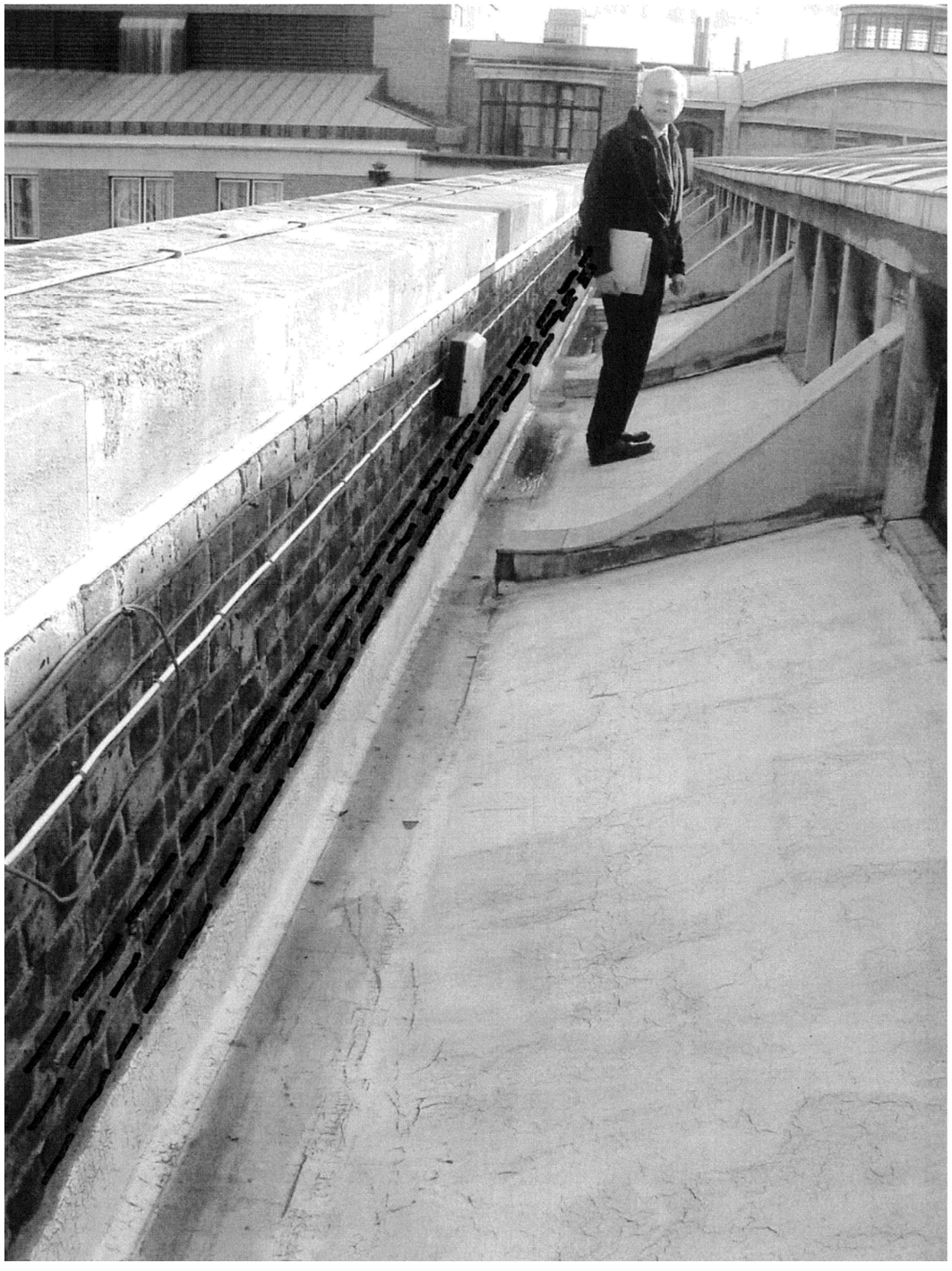
Pelmet feature of original Richardson bookcases

Original connecting dowel between consecutive pelmets



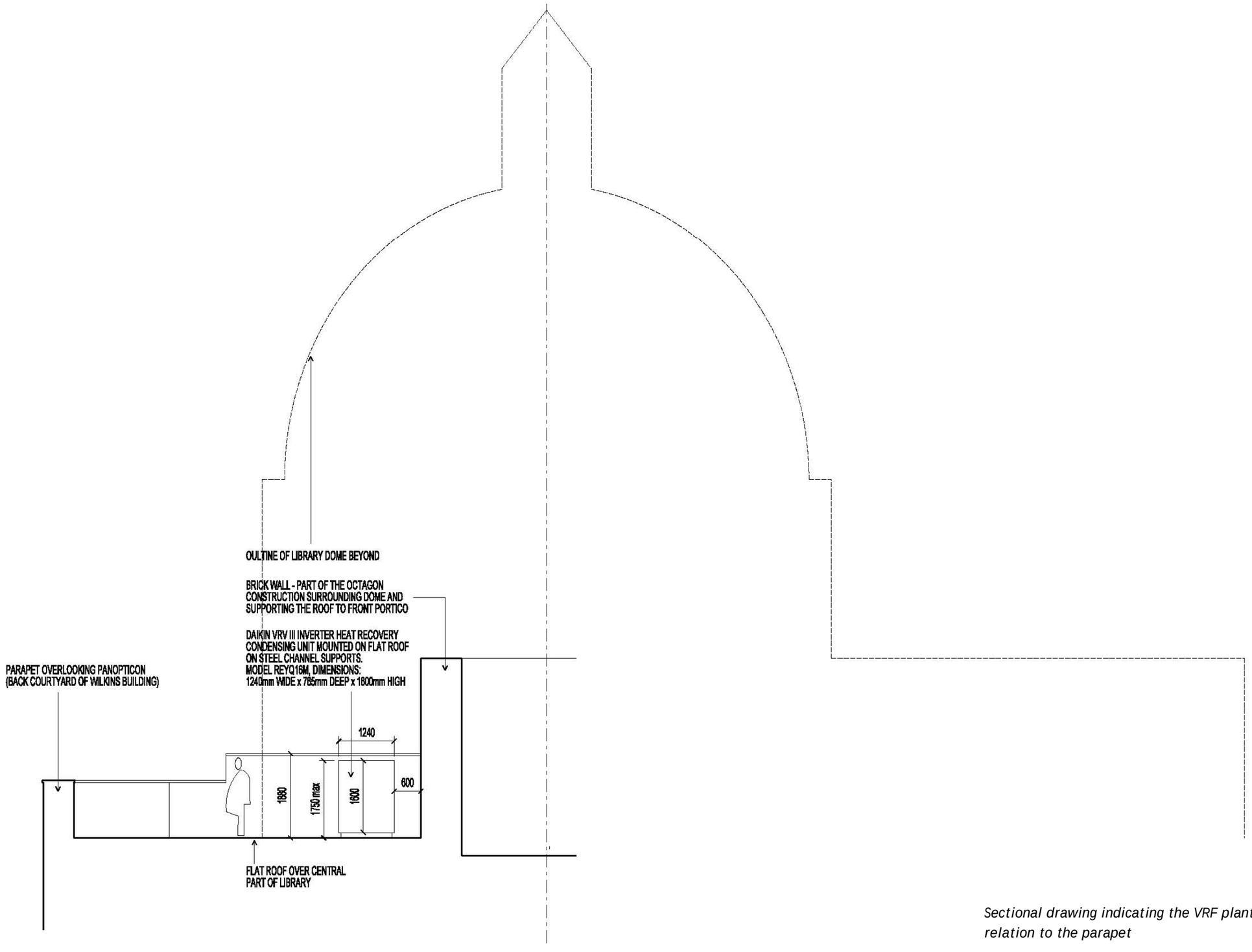


Location for the new VRF heat recovery plant - see M&E drawings



Route for VRF pipework along inner face of parapet – see M&E drawings

Builderswork enclosure to be modified to allow for new connection with new toilet extract fans – refer to M&E drawings



Sectional drawing indicating the VRF plant's position and dimensions in relation to the parapet