cpmg

DR WILLIAMS'S LIBRARY- 14 Gordon Square, London WC1H 0AR

HERITAGE STATEMENT | NOVEMBER 2019

8555-CPM- ZZ-ZZ-RP-A-10001

Contents

1.0 Introduction

Supporting Reports Included Within Application

The below documents are mentioned throughout this report and should be read in conjunction with this application, these are reports in their own right and do not form part of the Appendix.

Report Description	Report File Name
Statement of Significance	8555-CPM- ZZ-ZZ-RP-A-10002
Structural Engineers Summary Report	17218-R08-Structural Engineering Report
BREEAM Assessment	20190926 SRE BREEAM NC 2018 Pre Assessment_Dr Williams Library_V1RevD
Land Use and Ecology Report (BREEAM)	Dr Williams Library BREEAM Land Use and Ecology (2).pdf
Energy & Sustainability Statement	20190926_SRE_Energy & Sustainability Statement_Dr Williams Library_V1RevB
Design & Access Statement	8555-CPM- ZZ-ZZ-RP-A-10003
Sun / Daylight Study	D190808 Dr Williams's Library Daylight and Sunlight Assessment
Noise Survey	19322-R01-A Noise survey and plant noise egress limits report.pdf
Condition Survey Report	W82-CPM-ZZ-ZZ-RP-A-10004

Supporting Reports Available on Request

A number of supporting documents and surveys have been carried out in support of this application. As agreed with Camden Council Planning Department, not all of these have been included within the Appendix to ensure a streamlined application is produced. Additional surveys have been instructed but work has not yet been commenced, these are highlighted below.

Report Description	Report File Name
Crack Monitoring Procedure	Crack Monitoring Investigation Procedure
Drainage Strategy Report	Dr Williams Library - Planning Drainage Strategy Report
Drainage GA Plan	W82-CTL-Z1-01-DR-S-D100
Ground Contamination Survey	TBC
Geotechnical Survey	TBC
Permeability/Soakage Testing	TBC
Utilities Survey	3986_Dr Williams_Electric 3986_Dr Williams_BT 3986_Dr Williams_Gas 3986_Dr Williams_Sewers & Water 3986_Dr Williams_Virgin Media 3986_Dr Williams_Zayo

1.0 Introduction

The Dr Williams's Trust has embarked upon a project to undertake essential repair work, to update the existing library services, and consolidate its important collections in appropriate modern environmental conditions within its existing Library building and in two purpose built archive stores on land at the rear of the building. Whilst also increasing the library's presence and accessibility to the public.

This statement has been produced to support the Planning and Listed Building Application for the alterations and extensions to the Library, in conjunction with the Statement of Significance document. It is intended to provide context for the design proposals including specific considerations relating to the heritage asset and to the extensions proposed to the rear.

The Library opened in 1730 and remains one of the oldest specialist Libraries in the United Kingdom. It is maintained by a charitable Trust which is fully independent and receives no extra funding to support its services.

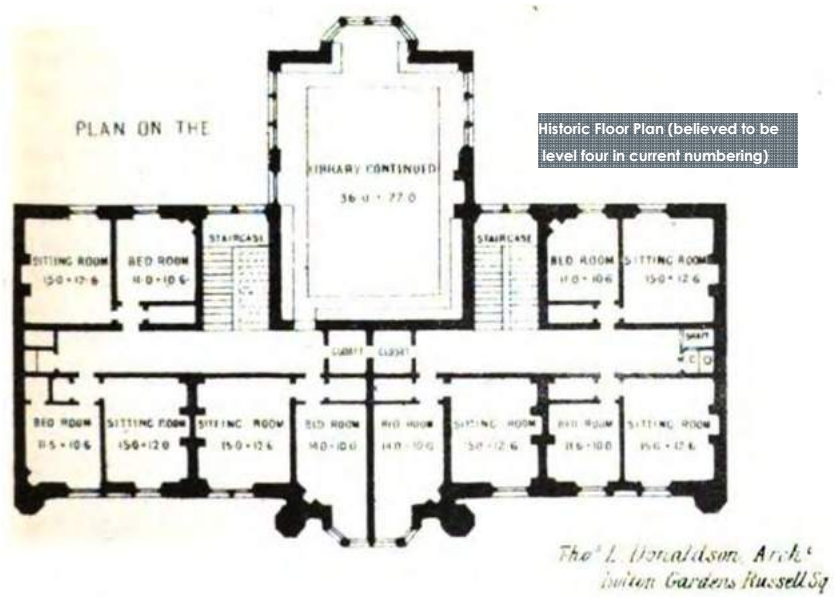
The existing Library building consists of the original 1849 construction. In the intervening period a variety of changes have been made to the building, most notably to its central core. The repetitive floor plan to the North and South wings can still be read on plan, but there have been several alterations over the buildings life that have seen this repetitive mirrored plan altered. Reference should be made to the associated Statement of Significance for a more detailed description of the heritage asset. The images to the right highlight the extent of alterations over the years.

These changes, apart from the introduction of electric lighting and a central heating system can largely be dated to 1889-90 when Dr Williams's Trust acquired the building. At this time galleries were introduced within the central parts of the building at levels 4 and 5 and an independent access was made to the North wing of the building at level two. More recently (within the last ten years) a new lift has been installed in the South wing, environmental improvements have been made to the archive areas at level 1 of the building and additional Appendix facilities have been installed.

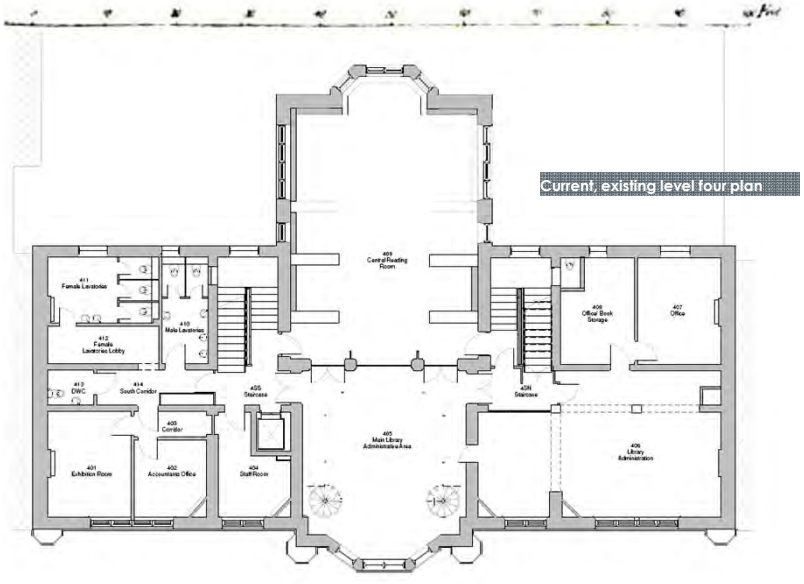
As a heritage asset the Library must be viewed on three major categories. There is the continuing role of the Library as the repository of the history, literature, and ideas of Religious Dissent which remain a fundamental influence upon the modern development of Britain and the English-speaking world; there is the importance of the collections that it houses to the heritage of this country; and there is the building itself from which the Library operates.

While this document is concerned with the building it is important to consider these three heritage assets in combination. In so doing it is possible to appreciate the complexity involved in reconciling often competing demands and considerations.

The primary objectives of the project are for a comprehensive overhaul of the historic Library, to maintain it in its existing location and to allow the collection to grow. This will also allow the library to provide room for it to expand the services it offers to the public, and to provide it with facilities that are in keeping with modern curatorial practices appropriate to the care of the important collections it houses.



Historic Floor Plan (believed to be level four in current numbering)



Current, existing level four plan

1.0 Introduction

The project embraces the repair of the heritage asset and certain modifications to its interior spaces in keeping with the historic character of the building.

Essential maintenance work is proposed to the existing fabric and new archives linked to the main building are proposed to the rear. This document outlines how it is proposed to deliver these works in a manner appropriate to the historic character and construction of the original library building and the conservation area. The proposals aim to create a rejuvenated facility that meets the needs of a modern research library environment whilst respecting the historic character of the original building. The primary objective of the work proposed is to maintain the Library as a nationally important research facility for the next 50 years and beyond.

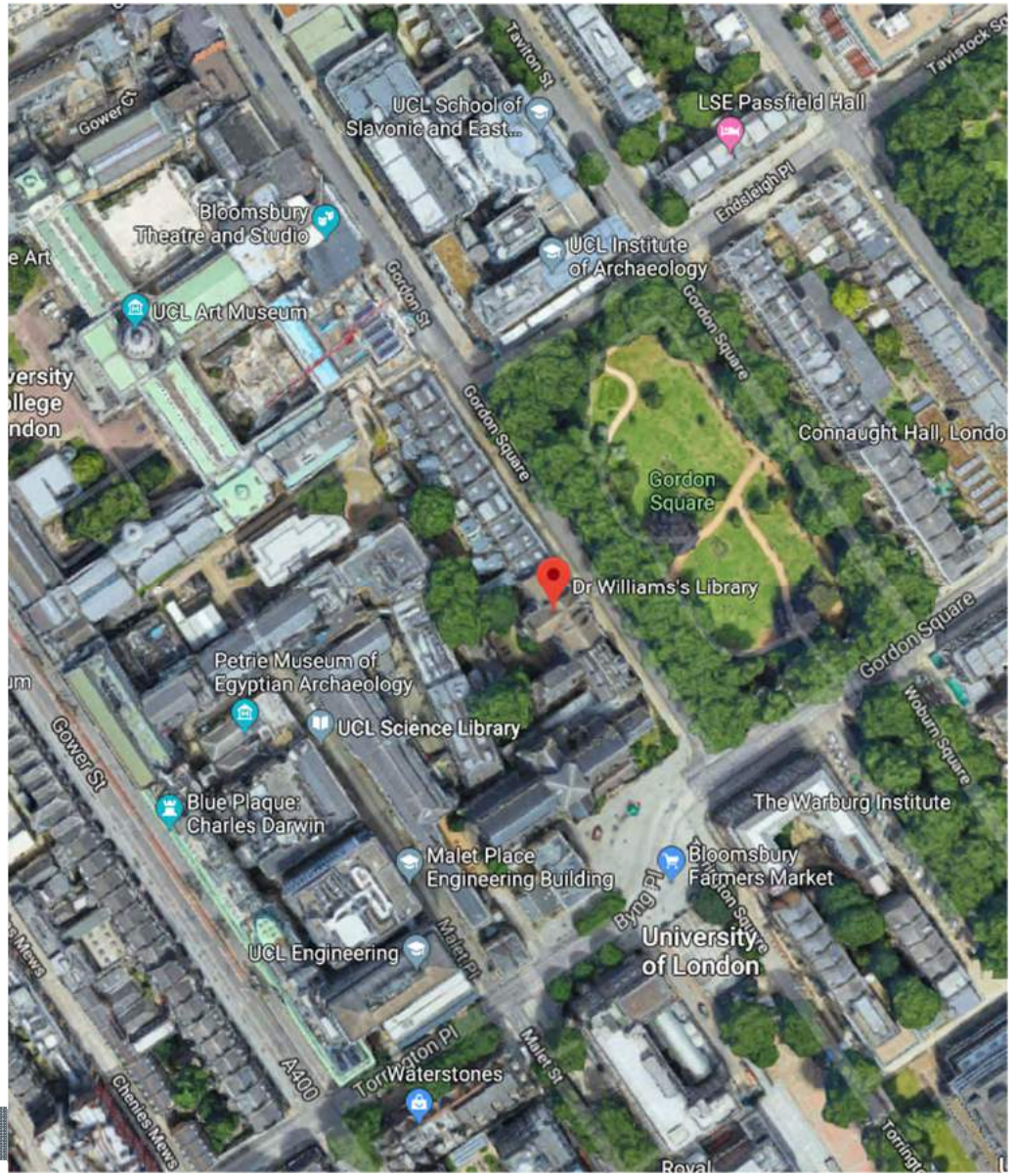
This Statement is to be read in conjunction with the submission drawings, Design and Access Statement, the Statement of Significance and the various appendices referred to throughout this document.

2.0 Listing and Heritage Asset History

Grade: II
List Entry Number: 1113027
Date first listed: 28-Mar-1969

The heritage asset falls within the Bloomsbury Conservation area, this area was designated in 1968. A full account of the history of the building, and its importance both architecturally and culturally is contained within the accompanying Statement of Significance document that accompanies this report.

For the Historic England listing information and the conservation area map, reference should be made to Appendix A.



SITE AND CONTEXT:
Aerial Photo

3.0 Consultations

Mr Bob Hayes, a specialist in the internal environments relevant to historic buildings, and Mr Jeff Orton a specialist in historic lime plaster, have given pre-application advice in their respective fields.

Pre-Application advice has also been sought from Kate Henry a Senior Planner and Colette Hatton a Conservation Planner from Camden Council Planning Office. This has been received via emails and also specific consultations carried out on; 09.05.19, 27.06.19 and 22.08.19.

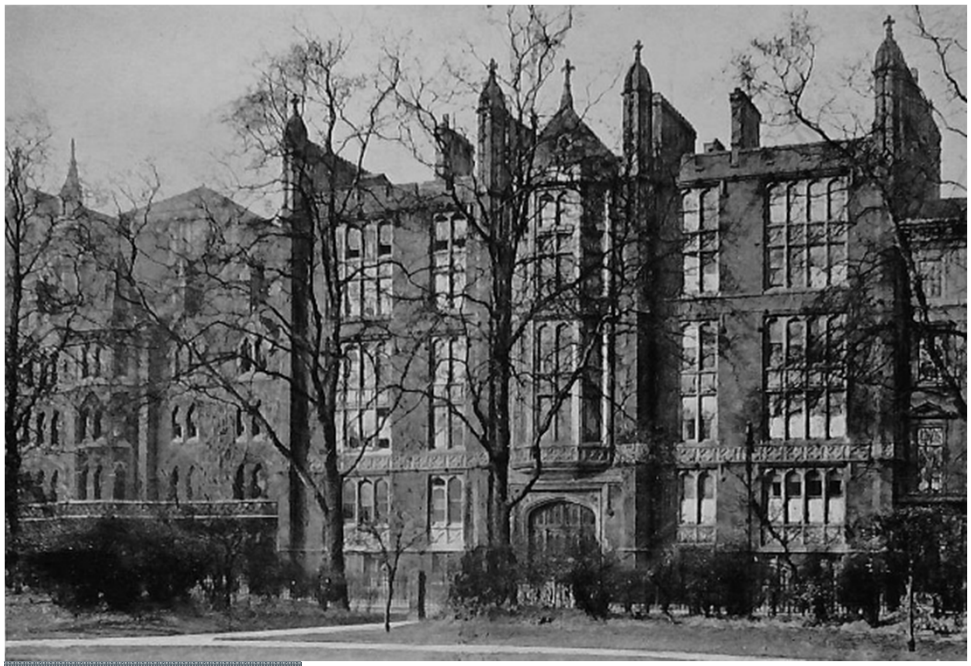
From these workshops and emails the Planning Authority appreciates that "there is heritage value in the books held at the library and allowing the public to appreciate the books at this location represents a public benefit and that the proposals would allow the optimum viable use of the building." This report will support this conclusion by providing information on how this package of works will protect the long term future of the heritage asset by bringing it into modern day use by facilitating increased specialist reader use and public access as benefits of the works.

4.0 Research

General descriptions in gazetteers such as Pevsner provide few insights of any practical or architectural significance. It is fortunate that it has been possible to track down (in the New York Public Library) a full specification for the construction of the original building (see Donaldson T.L. and Cunningham G.W. (1860) Handbook of Specifications. London. Atchley & Co). Thomas Donaldson (1795-1885) won the architectural competition for the building. The Donaldson and Cunningham Handbook is of considerable interest for it reveals much about the constructional technique and materials used in the building and, in particular, the somewhat hybrid nature of its structure. A copy of this can be produced on request.

The list below outlines the some of the online sites used as part of a desk based study, and the key reference materials used in the preparation of this report:

- Donaldson T.L. and Cunningham G.W. (1860) Handbook of Specifications. London. Atchley & Co).
- Bloomsbury Conservation Area Appraisal and Management Strategy; https://www.camden.gov.uk/documents/20142/7212389/Bloomsbury+Conservation+Area+Appraisal+and+Management+Strategy+Adopted+2011.pdf/6e29ae05-3837-6f7f-ce1b-3bbb0bd20493
- Historic England List Entry: Numbers 14 and 15 and Attached Railings and Pillars; https://historicengland.org.uk/listing/the-list/list-entry/1113027
- Dr Williams's Library website; https://dwl.ac.uk/
- The National Archives; https://discovery.nationalarchives.gov.uk/details/a/A13532883 https://media.nationalarchives.gov.uk/index.php/dr-williams-library-an-early-birth-registry/
- UCL Bloomsbury Project; https://www.ucl.ac.uk/bloomsbury-project/institutions/dr_williams_library.htm
- Historic England, advice documents on altering, constructive conservation, protection and planning; https://historicengland.org.uk/advice/



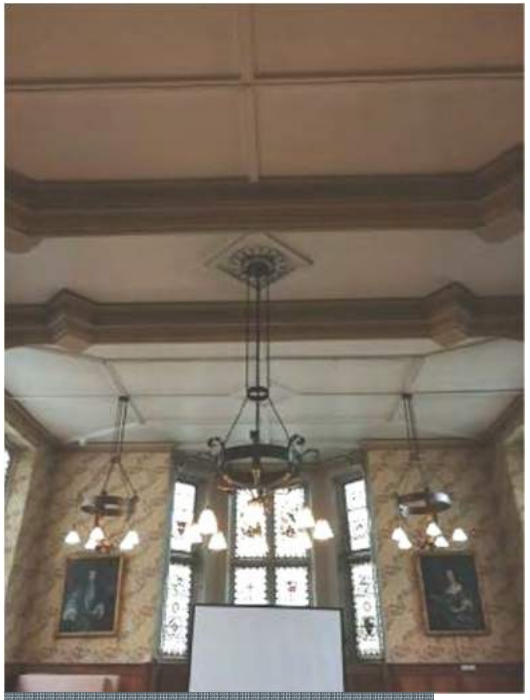
BUILDING DESIGN:
Historic Image of 14-15 Gordon Square

5.0 Building Condition

The general condition of the building apart from the important structural work identified by Corbett & Tasker varies greatly. The general fabric is robust however parts of the fabric of the building are in a poor structural condition and general maintenance, and replacement is needed urgently to the majority of the Library. For a general overview of the building refer to the Structural Engineers Summary Report, Appendix B, and the Condition Survey Report, Appendix D. The images to the right highlight the level of variation in condition, highlighting the best to worst.

Whilst regular maintenance is undertaken to address issues that are most noticeable to the public, there is a substantial backlog of maintenance work applicable to the building as a whole. Contributory to the problems of the building is the issue of water ingress as result of roof defects and inadequately maintained rainwater goods. This has affected a number of windows surroundings externally. Internally, plaster has failed and not been repaired in several areas of the building. Other examples of maintenance issues in the building include the rear steel windows many of which do not operate properly. These do not close or open as the respective mechanisms are painted over or damaged.

CONDITION SURVEY:
Plaster damage and structural failings on level 7



CONDITION SURVEY:
Lecture Hall- level 2, considered in very good condition

6.0 Public Benefit

The retention of the Library together with its collections is a matter of both national and international importance. The Library is a private institution that holds a number of unique and rare collections that are of cultural significance and national, even international interest. These serve a wide range of disciplines such as theology , English literature, and the history of science.

In consequence, the ability to use the collections is, and has to be, restricted to those with a bona fide interest in using the collections for genuine research.

The proposed improvements will enhance and expand the facilities for the specialist scholarship that is the primary function of the Library. Central to the improvements are the enhanced curatorial facilities in which to house the collections. The significant public benefit here is to ensure that the collections are held in appropriate secure environments that will preserve and safeguard the collections for far longer than if they continue to be held in the conditions that prevail within the existing building.

Coupled with the improvements in the conservation and storage of the collections, will be an increased level of access for the general public in those areas that are not of a sensitive and restricted nature. Here, the ground floor Lecture Hall will be provided with upgraded facilities for contemporary presentations thus enabling the current public lecture programme to be increased. In concert with this aspiration, particular regard is being given to improved access for those with restricted mobility due to age or disability.

A significant part of the collection includes a specialist and unique portraits collection of works of some important British artists. There are a large number of oil paintings and sculptures in the collection and these are currently held in store and are rarely seen. It is proposed to display the collections to a far greater extent and to make access to the pictures far easier for both the scholars and the general public. To this end, the Lecture Hall will have a double purpose. It will serve as a place of assembly for talks and lectures and as a picture gallery. The display facilities introduced will enable limited travelling exhibitions to be mounted at the Library.

The incorporation of lettable office space in the areas that are, for structural reasons no longer available for Library use are considered as a further and contributory public benefit when considering NPPF, section 192(a). The income derived from this use will make a positive and continuing contribution to the conservation of the heritage asset by providing income and thus enhanced economic viability.

When considering the impact the proposed package of works has on the heritage asset, it is important to appreciate that the proposed works are fundamental to the conservation the building. Apart from basic maintenance and repair significant improvements will be achieved through better means of fire protection and separation, and by reorganising the building to optimise its use, whilst retaining the core functions and activities of the Library. The holdings of the Trust in themselves have their own highly significant heritage value and this, together with the reason the building was constructed (to commemorate the passing of the Dissenter's Chapels Act (1884) as a permanent memorial " to perpetuate the great principle of unlimited religious liberty") are considered to be a significant factors that contribute to the historic value of the building. For further information on the origins of the building and its current library collection reference should be made to the associated Statement of Significance.

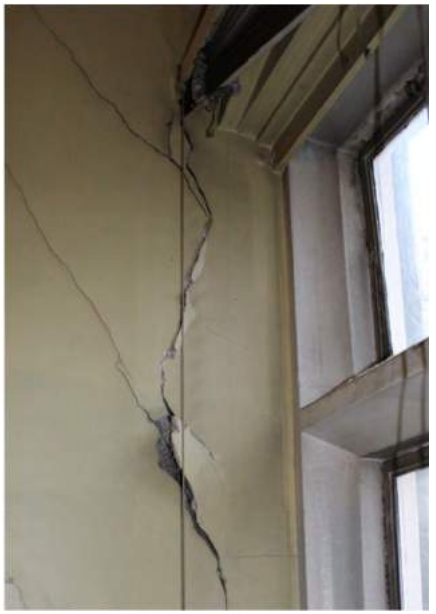
7.0 Structural Defects

The Corbett & Tasker findings show that significant and urgent repair work is necessary to the structure of the building. A major implication of their findings is that the existing structure which while ostensibly robust, was not designed in the first instant for the storage of books – it was designed for domestic use. In consequence, space has to be found to house the books currently stored above level three.

The structural reports have identified a number of floors that are overloaded and that have suffered serious structural weakness in associated elements of structure. New floor structures and the stiffening of existing floors are necessary. This will entail the introduction of a series of steel beams to the North and South wings to strengthen existing floors where possible. A series of floor plans have been developed to indicate areas of floors to be strengthened, and areas where floors require complete replacement, reference should be made to Appendix B.

Apart from the immediate need to repair and to stiffen the existing floors the most significant aspect of the advice given by Corbett + Tasker is that the floors above level three should not be used for the storage of books. This is a matter of significant concern for the trust and its holdings. The Structural Engineers have made it clear that there is no scope without major alterations and interventions to the existing fabric to retain the library collection within the upper levels of the existing building.

The levels above level three, on this basis can only be used for light loadings if the integrity of the historic fabric is to be respected. This, in consequence creates a significant shortfall in the available storage area, in a building that has already exceeded its maximum holdings. The library holdings and its capacity are discussed more fully in section 8.0 below.



CONDITION SURVEY:
Structural cracking noted in various locations throughout the building.

8.0 Library Storage Requirements

At present, based on the current proposals to remove all storage above level four in line with the Structural Engineers guidance, the building has a shortfall of approximately 3,800 linear metres of book shelving. It is proposed to make up this shortfall by constructing two new purpose-built archives stores situated within the rear area of the site.

The new archives together will provide 3,425 linear metres of shelving arranged on four identical levels of rolling stacks. While this provision is below that which is required currently, it will, following the rationalisation of the existing stock allow for a sufficient margin for acquisitions and the introduction of new collections into the Library for the foreseeable future. It is prudent for the Trustees to make such an allowance and it is in accordance with the recommendations of BS EN 16893:2017 (at §5.2.1).

The Library holdings will be stored on rolling stack shelving; this is the most economical way of space saving, versus fixed racking. As it can provide 100% more space saving than conventional fixed shelving, in consequence, if rolling stack shelving were not to be employed then the archives would need to be 100% larger.

CONDITION SURVEY:
Example of current storage facilities.

9.0 Mechanical and Electrical Services

A comprehensive review of the services within the building has been undertaken. When the building was originally constructed (as student accommodation) rooms were heated by open fires, and it is fair to assume that when brought into use as a library, the heating was also by open fires. Central heating was installed circa 1910 – 1920, and severally modified over the years. Throughout the building there are extensive service penetrations and visible pipework that are considered unsympathetic both in its location and placement within an historic building. It is intended to strip out these installations and to arrange all the new pipework in more sympathetic and considered locations.

The current heating system has now passed its useful life and this will be replaced with a more energy efficient system. Reference should be made to Appendix G and both the project Energy Statement (which is based on the Camden Local Plan policy C1) and the M&E service design summary for the existing building and proposed extensions. Appendix G also highlights the need to review of the current system as this currently operates at a high temperature considered unsafe for users. The system, as currently configured may also cause damage to timber elements and finishes.

There is limited control of the heating system and the only zonal control is to the East and West distributions allowing for no individual room or zone control.

The conservator uses a remote temperature and humidity sensing system and the records indicate that the temperature and humidity to the majority of library rooms are unstable and are not consistent with the best practice set out in the British Standard.

Much of the plant located within the roof void is inefficient and past its economic working life, it also requires a large gas supply which currently runs within the South stair from ground to roof level.

An entirely new heating system is proposed. This will provide conservation heating to control both the temperature and humidity in the existing and the proposed new spaces. Following best practice it is being designed to optimise environmental control and economy in use.

CONDITION SURVEY:
Pipes running in front of window recess.

CONDITION SURVEY:
Pipes running in front of window recess.

CONDITION SURVEY:
Pipes running within stained glass window recess within Lecture Hall.

9.0 Mechanical and Electrical Services

It is proposed to achieve these ends by using new dedicated risers that will be incorporated in fire rated service routes. The routes will be designed to pass through the building in a sympathetic way requiring minimum intervention. The removal of the existing pipework distribution will return the existing staircases in particular to their original condition.

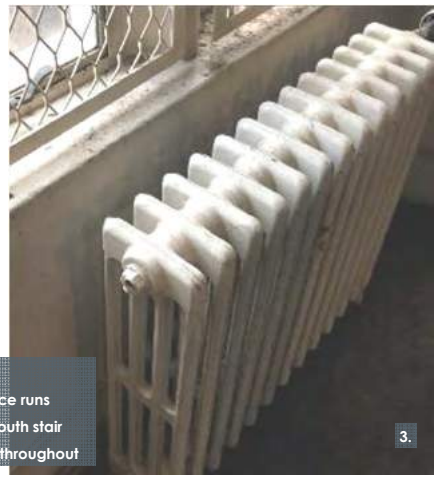
New radiators will be provided throughout. The existing radiators vary in type and age and will be replaced with modern efficient column radiators. Technical specifications for the new radiators can be provided on request.

A new demountable plasterboard ceiling will be introduced to the core corridor areas of each wing of the building. This will serve two purposes. It will mask the new steels required to retain the existing York Stone slabs, as well as providing a service void allowing for the distribution of services to be discreetly hidden from view. Recessed lighting will be allowed for within the ceiling helping with the current below standard LUX levels within the deep sections of the corridor.

The proposed new ceiling to the central corridors will also mean that long piped service runs within rooms to feed the new radiators will be avoided. Piped services will run within the corridor ceiling void, entering into associated rooms through the use of small apertures in the building fabric. This will be achieved in one of two ways - they will be fed to the floor above depending on the floor construction. If the existing floor is being retained, services will travel across the soffit of the existing ceiling within the new steel beam plasterboard encasement and rise through the floor to the room above to suit radiator locations. Where new floors have to be introduced, the services will be run through the new floor construction.

Power and data will be provided in a similar way to the piped services. These will be routed through the main corridor ceiling void by way of small builders work holes. They will then then be run through the masonry walls and hidden within the new floor construction or within steel beam encasings where existing floors are being retained. Power and data will then be fed between the floor joists allowing for floor box final distribution. The use of floor boxes is the preferred solution for small power distribution, as it cuts out the need for significant chasing out of walls or, surface mounted plastic dado trunking.

Reference should be made to section 11.9 for further information on floor finishes.



CONDITION SURVEY:
1- Existing exposed service runs
2- Heating pipes within South stair
3- Existing radiators vary throughout

10.0 Proposed External Works to The Heritage Asset

10.1 Front Elevation – External Modifications

To the Gordon Square elevation three notable changes are proposed and these are discussed below. The changes are considered to cause no serious harm and, in one instance the implementation of the proposed works will protect the historic fabric of the building for the future.

10.1.1 South Wing Main Entrance

To the front of the building facing Gordon Square it is proposed to introduce a new pedestrian entrance at level 2 serving the South wing. This will reflect the existing pedestrian entrance at this level to the North wing (introduced in 1890). The detailing of the new entrance will be undertaken on a like-for-like basis. The Library elevations are configured as a tightly symmetrical design and the new work will reflect this basic design characteristic. It will also meet the requirements to provide inclusive access to the South wing to meet disabled access requirements within the BS8300 and Part M regulations.

Work will be carried out to ensure that stone mouldings and detailing is carefully constructed to the head of the door to mirror the past alterations on like-for-like basis. In addition, the ironmongery to the door will be simplified where possible to be less intrusive. Reference should be made to drawing W82-CPM-Z1-ZZ-DR-A-20401 which accompanies this application.

10.1.2 Ramp & Existing Extension

Below the bridge link serving the North wing at level 2 is a modern brick extension, this is not in character with the existing brick construction of the Gordon Square façade. The proposed works includes the removal of this extension, and restoring the original building line of the front elevation. An external door will provide access to the proposed cycle-user showers.

It is proposed that the current ramp to the North wing will be removed and two new matching, free floating ramps will be introduced to serve the existing and new entrance doors to the North and South wings. York Stone will finish the ramps and new railings will be installed to match the existing listed railings on a like-for-like basis. Discreet call boxes will be placed on

CONDITION SURVEY:
Entrance door to North Wing

CONDITION SURVEY:
North Wing Extension and Ramp

10.0 Proposed External Works to The Heritage Asset

slim stands at the back of the pavement for wheelchair users to gain ramped access to the building. This has been agreed with the Approved Building Control Inspector and it will remove the need to face fix to the fabric of the historic asset.

Reference should be made to drawing W82-CPM-Z1-ZZ-DR-A-11009 (included as part of the application) for visual clarification of all external changes visible from Gordon Square.

10.1.3 External Staircases

The two external stone staircases to the front of the building have now been deemed unsafe and unusable. Reference should be made to Appendix B, for the associated Structural Engineer's summary report. This highlights the core structural concerns with these stairs.

It will readily be seen from the associated photograph that the South Wing stair is currently propped due to concerns that it may collapse. The level of dampness is also clear through the level of moss growing against the building. This dampness is penetrating into the interior of the building and over time has caused harm to the original fabric. This is the case with both the North and South stair.

While both stairs are believed to be original to the building, they are in need of complete replacement. The trust wish to replace both sets of stairs with modern metal staircases. These will be designed to reflect the historic railing pattern

By introducing two new metal stairs two key issues are resolved;

1. Removal of structurally defective installations which currently admit significant damp penetration into the heritage asset at the stair wall interface.
2. The interdiction of compliant stairs which are safe to use by the public and allow cycle storage and user showers for staff. This is consistent with Increased public accessibility and promoting green transportation.

Within the Bloomsbury Conservation Area, this approach has been adopted for a number of buildings. While a key change to the front elevation, the visual impact of this change will be negligible, and is considered out of sight from Gordon Square.

CONDITION SURVEY:
1- South Wing- Stair propped to avoid collapse.
2- North Wing- Stair supported by brickwork, cracking evident
3- Close up of damp penetration into Historic Asset

10.2 Proposed External Works to The Heritage Asset

10.2 Rear Elevation-External Modifications

10.2.1 Exterior Cleaning / Maintenance

The front elevation of the building was extensively refurbished in 2010. At this time the brickwork was cleaned and the painted stone embellishments and windows were redecorated. It is proposed to undertake a similar exercise to the rear elevations. Here, the Doff steam cleaning system will be employed for both the removal of biological matter and the blistering paint finishes to the stone embellishments. The same system, differently applied will be used to clean the brickwork. Stonework repairs are anticipated in localised areas. These will be placed in the hands of specialist stonemasons .It is anticipated that the diaper work of the brick walling will be more evident as a result of the brick cleaning. It will be necessary to undertake minor stabilisation works to the leaded lights (as identified in the Condition Survey) and this will be placed in the hands of specialists. No cleaning works are proposed to the front elevation to Gordon Square.

10.2.2 Rain Water Goods and Service Pipes

Historically there have been issues with draining rainwater from the existing roofs. Due to their location and the minimal number of outlets, these often become blocked and back up. As access is difficult this has meant over time water has penetrated into the building. While it is not proposed to alter the existing drainage to the front of the building it is proposed to introduce two further down pipes to the rear elevation to help to alleviate this problem on the less visible façade.

It is further proposed to remove the redundant external soil and vent pipes together with sundry small bore pipes and redundant gas flue outlets.

Reference should be made to the below drawings forming part of this application and which show see the existing RWP locations and the proposed alterations to the elevations -

- W82-CPM-Z1-ZZ-DR-A-20302
- W82-CPM-Z1-ZZ-DR-A-20402

CONDITION SURVEY:
1- Rear external elevation
2- North wing brick staining
3- Peeling paint to window cills

10.0 Proposed External Works to The Heritage Asset

10.2.3 External Steel Windows

The external windows are steel framed casements set in stone surrounds. These are in need of a complete overhaul. Specialists will be appointed to remove the casements, de-glaze, refurbish the frames and opening mechanisms, prime and re-finish in a modern paint system. The refurbished frames will then be re-glazed and introduced back into the stone surrounds.

10.2.4 Archive Extensions

To the rear of the building it is necessary to form new access positions between the existing buildings at levels 2 to 4 to connect with the two new archives proposed for the rear courtyard area. As discussed in sections 8.0 and 12.0, these new stores are critical for the library to remain in Gordon Square due to the need for storage space. The reduction of storage space within the heritage asset enables the original fabric is preserved into the future.

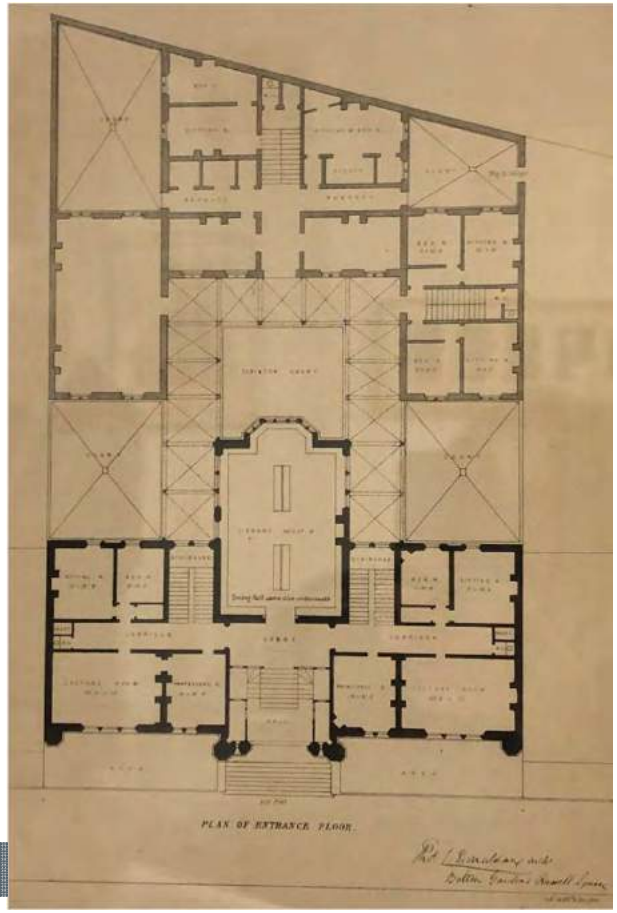
Historically there was always the prospect of extending to the rear courtyard. During the early history of the building, plans where produced to extend the building, allowing for further bedrooms and glazed walkways. The image below is a photograph taken of one of the early plans of the building.

As part of the current proposal, the existing external doors on level 1 will be retained and used, with some modification to the existing window fenestration and opening up to allow for access at levels two to four via a glass bridge link. Providing access at each level ensures the library activities are not compromised on a security level and also ensures that the extensions remain as small as possible without having to add further to the floor area by introducing staircases and separate circulation routes.

The connection between heritage asset and new extensions will be designed to provide clear separation between the existing fabric and new extensions. This will ensure the minimum necessary intervention and effect on the heritage asset, whilst keeping connection points as simple as possible.

Reference should be made to drawing W82-CPM-Z1-ZZ-DR-A-1101 included within the application for clarification as to window alterations on level 1 and 2 and new door openings proposed at levels three and four.

The extensions in themselves are simple in form, reflecting functional need. When considering the nature of the rear courtyard it is felt this is the best solution as this allows maximisation of floor area without detracting from or attempting to compete with the existing building. A reflective cladding will be used to clad the extensions. This will provide a neutral mirror of the existing façade.



BUILDING DESIGN:
Photograph of historical extension proposal.

10.0 Proposed External Works to The Heritage Asset

10.4 Roof Modifications

At roof level, there are two key changes are proposed, these are discussed below.

10.4.1 Finish

The original Donaldson specification for the building was for a slated roof covering. Approximately 60 years ago, the roof was replaced with concrete interlocking tiles. This covering is now beyond its working life and in need of replacement. The package of works will see the front elevation facing Gordon Square and central core will be re-slated, with lead flashings, consistent with the original Donaldson specification.

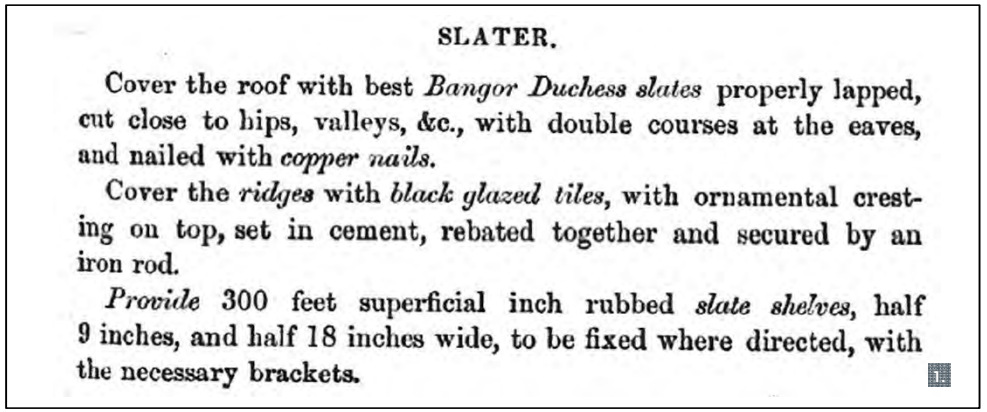
10.4.2 Dormer Windows

This section should be read in conjunction with the Structural Engineers Summary report, (see Appendix B), as the introduction of the dormers will have a significant stabilising effect to the existing chimney stacks.

Where chimney stacks need to be de-constructed they will be re-built on a like-for-like basis. The introduction of the dormers will form an important part of the future stabilising strategy. Due to their sheer height and nominal depth, the stacks without this intervention continue to deform. Rebuilding alone not resolve the fundamental design flaw from which they suffer. Thus is clearly an issue and one stack has already been lost.

As part of the proposed works the Trust wish to maximise the available space within the listed building. This will ensure that the smallest possible extensions need to be constructed within the rear courtyard. This will be achieved by providing dormers to the rear of the North and South wings of the building. The graphic representation to the right highlights the area of roof be altered in green.

Ariel drone images of the existing roof have shown that a number of dormer assemblies have been already been permitted to the rear and front aspects of the adjoining Grade Two Listed building.



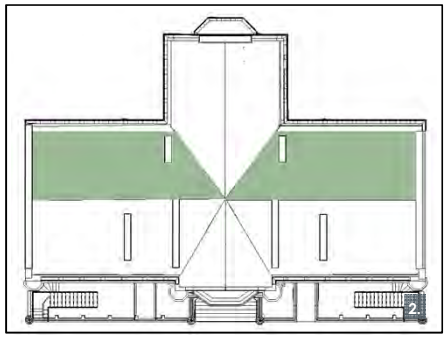
SLATER.

Cover the roof with best *Bangor Duchess slates* properly lapped, cut close to hips, valleys, &c., with double courses at the eaves, and nailed with *copper nails*.

Cover the *ridges* with *black glazed tiles*, with ornamental cresting on top, set in cement, rebated together and secured by an iron rod.

Provide 300 feet superficial inch rubbed *slate shelves*, half 9 inches, and half 18 inches wide, to be fixed where directed, with the necessary brackets.

1.



2.

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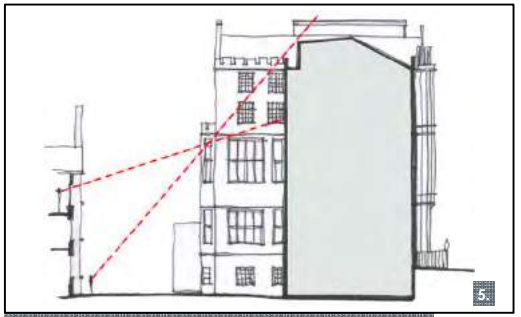


5.

1- Original Donaldson specification extract.
2- Graphic indicating section of roof to be altered
4- Adjoining neighbours dormer's to front & rear

3- Drone Survey indicating chimney lost
5- Indicative Site Lines from courtyard & Morley building

10.0 Proposed External Works to The Heritage Asset

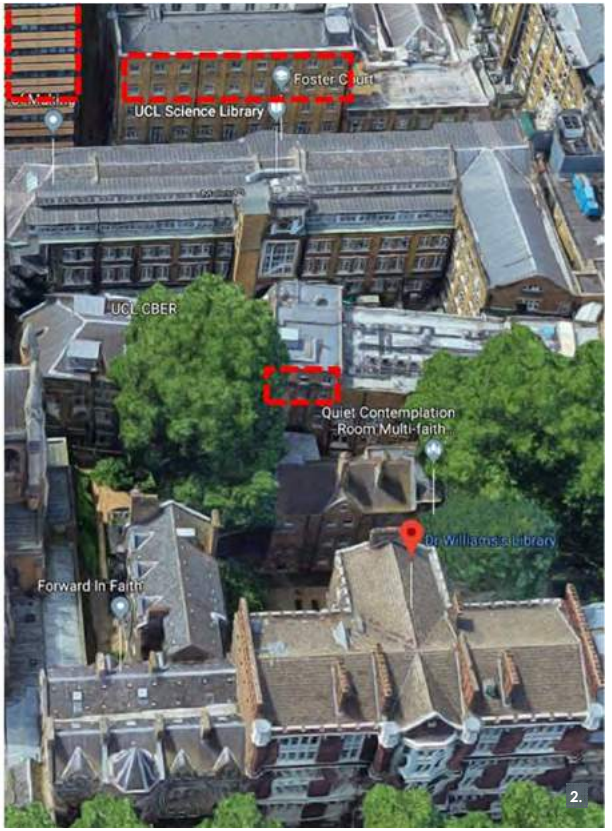
These changes are required to accommodate a caretaker's flat which is an essential requirement for the security of the collection and is, in consequence an insurance requirement. Without this alteration to the heritage asset a further floor would need to be added to one of the extensions.

The change in roof profile will have no impact on the primary façade facing Gordon Square, or to the rear courtyard sightlines. The sketch to the right highlights the sight line taken from ground level of the courtyard, and the upper floor of the Morley building. As indicated, the dormers will not be visible. When building heights and topography are considered it is believed the visual impact of this alteration will be of negligible effect in the immediate vicinity.

It is believed the change in roof will only be visible from the upper levels of the UCL academic buildings on Malet place. This change is considered insignificant when appreciating the distance and the visual obstruction the existing retained tree will provide within the courtyard. The image to the right highlights windows where the design team believes the roof alterations could possibly be seen.

The dormers will be zinc clad to be consistent in colour and quality with the proposed new slated roof covering. The new windows and glass maintenance doors will be modern and plain in design to avoid a pastiche. By allowing for large uninterrupted panes of glass the amount of daylight reaching into the floor plan will be maximised, reducing the need for artificial lighting within daylight hours.

The size and location of these will be sympathetic and reflect proportions of the existing window fenestration on the lower floors. The addition of a window to the North and South stairwell at level 8, will also allow the Trust to introduce a much needed smoke extract. This is a critical intervention for fire safety. Reference should be made refer associated elevation drawing W82-CPM-Z1-ZZ-DR-A-20402.



1- Plaster damage to window reveal (water ingress)
3- Plaster damage due to water ingress

2- Neighbouring building sight lines
4- 3D Render of proposed roof alterations

10.0 Proposed External Works to The Heritage Asset

The inclusion of the dormers assists in rectifying three historic issues-

Damp Penetration -
There are historic issues with damp penetration due to blocked rainwater gutters. Over time overflows have been added, but this has not wholly remedied the issue as access is considered dangerous without harness and training regular maintenance activities are not possible. Predominantly these issues have been confined to the rear of the building. The roof alterations are designed to give safe access to the rear of roof, allowing for a regular maintenance program to be put into effect.

Fire Safety-
A fire safety review has been undertaken and this has identified the need for smoke vents to the top floor of the internal stairs to ensure that these escape stairs do not become engulfed by smoke in the event of a fire. Without the proposed alterations the library would need to alter the existing windows on level seven to both the North and South stair to allow for a suitable smoke vent to be included.

Structural Stabilisation –
As discussed above, most importantly the dormers provide a significant stabilising and strengthening solution, for both the existing and proposed re-built chimney stacks and this is key if they are to be retained. Reference should be made to section 10.4.3 below, and to Appendix B for further information on chimneystack stabilisation, repair and restoration.

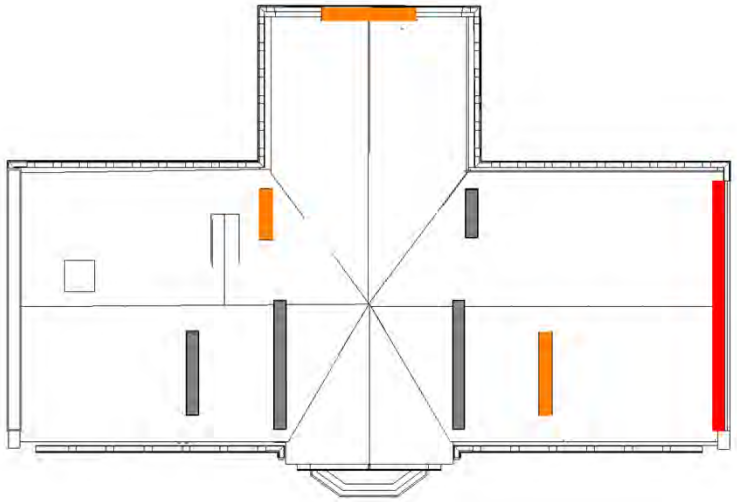
10.4.3 Chimney Stack Repair
Reference should be made to the associated Structural Engineers Summary Report - see Appendix B.

The diagram to the right highlights four chimney stacks that are currently at risk. Most importantly it highlights the stack to the North wing gable end (red). This stack is believed to be a significant collapse risk requiring urgent intervention. While the other stacks are also in need of remediation. On this basis, permission is asked for all stacks, as required, to be carefully de-constructed and rebuilt on a like for like basis as described in Appendix B.

10.4.4 Roof Insulation

The building is very poorly insulated by modern standards. Consequently, wide fluctuations in temperature result. There is, in virtue of its construction, no insulation in the external walls and the existing roof is entirely un-insulated.

It is proposed to insulate the roof construction, allowing for a resultant warm roof construction and an increase in usable floor area within the building. This small intervention will have a significant positive impact on the energy performance of the building as a whole and is particularly relevant to the provision of a reliable internal environment for the collections. Due to the height of the building non-combustible mineral wool insulation will be used.



CONDITION SURVEY:
Indicative roof plan highlighting stacks known to be at risk

10.0 Proposed External Works to The Heritage Asset

10.5 Tree Removal

The proposed works will require the removal of three existing trees, and some small shrubs to the rear courtyard area. No significant ecological loss is considered within the associated Arboriculture schedule. Refer should be made to Appendix C.

As confirmed by Camden Council, none of the trees within the site boundary have designated tree protection order's (TPO's), however it is recognised that as the site falls within the Bloomsbury conservation area, permission must be granted to remove trees. As part of this application permission is sought to remove-

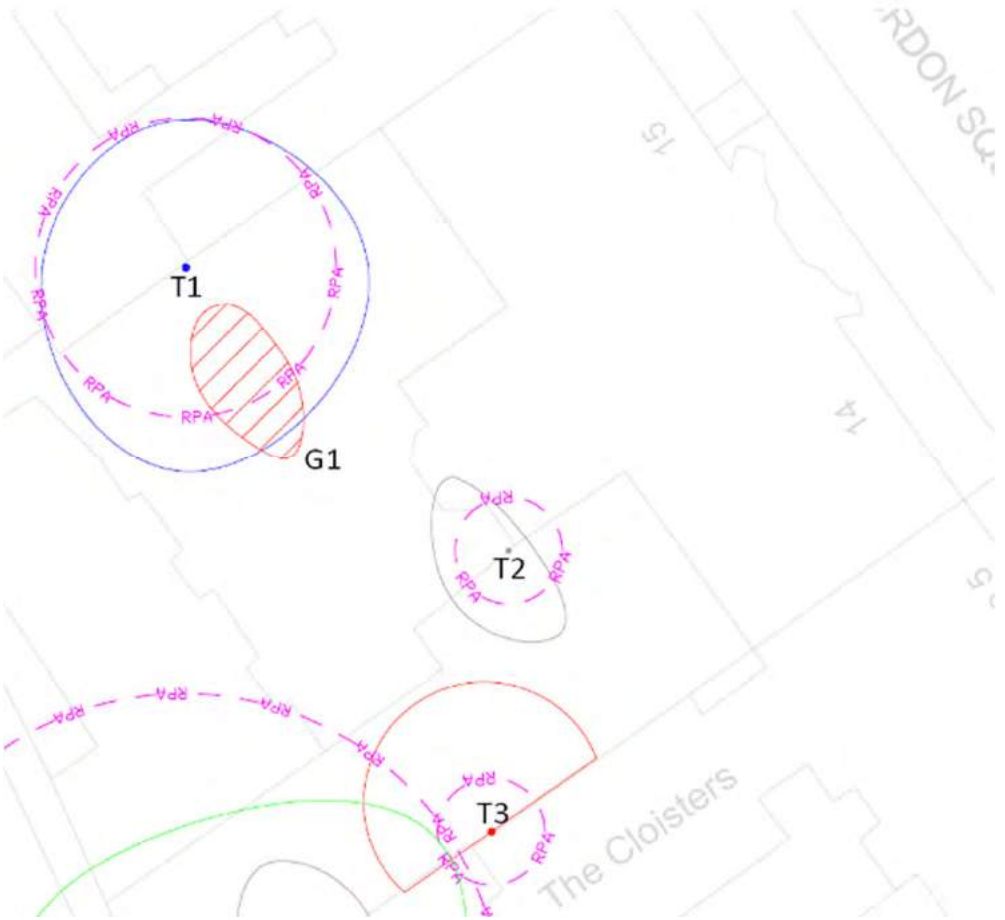
- TP1- Sycamore- Category B
- TP2- Common Holly- Category C
- TP3- Cotoneaster Tree- Category U

In addition to the above trees, a small area of shrubs, identified, as G1 on the associated plan will also be removed.

As will be seen by the attached Arboriculture schedule (see Appendix C) the trees identified have limited value. During the building works the root area for trees T4, T5 and T6, will be protected.

No additional planting within the courtyard has been allowed for. This is based on the courtyard scale, it is also inadvisable to plant near an archive facility as planting can be a source of pests.

It should be recognised that all three trees identified have the ability to undermine the foundations of adjacent buildings. When considering the built heritage to this area, the loss of the identified trees is key when considering the impact these trees could have on 14-15 Gordon Square, 16-25 Gordon Square and The Cloisters, all of which are listed as grade 2 heritage assets. On this basis it is argued that the removal of these trees represents no significant loss.



ARBORICULTURE SURVEY:
Extract taken from survey plan

11.0 Proposed Internal Works to The Heritage Asset

11.1 Asbestos Removal

Several areas of asbestos have been identified within the existing building. The Trust seeks the full removal all hazardous material therefore removing the duty to manage all asbestos containing materials. When reviewing the specialist survey results it can be seen none of the original walls, doors or features, are identified as containing known asbestos. The areas highlighted are all later additions. Consequently, their removal results in no significant historical loss to the building as a whole. Reference should be made to Appendix E for further information; suitably trained contractors will carry out works.

11.2 Drainage

The drainage system is largely that installed in 1848 and is well beyond its useful life. A comprehensive drainage survey has been commissioned (reference should be made o Appendix F). It is proposed to renew the in-ground drainage in its entirely. This report highlights the two keys runs and the major issues associated with them, to the South, Run 7; there are high levels of oxidisation, settled deposits and scale. While an attempt could be made to clear and repair the decayed pipes, there is a high chance of damaging the cast iron pipes and a chance of contamination if the pipes were to break.

The main run to the North wing, Run 13, is in a worse state of repair. Again, large levels of oxidisation, scale and deposits are evident. There is also evidence of possible cracking. The design team considers the best solution for the future use of the building is to replace these runs. A drainage strategy report and drawing has been produced by Corbett + Tasker in support of this, this can be supplied on request.

As the two main drainage runs pass under the building at level 1 it is proposed, as far as is possible, to use a single pipe or the longest pipe lengths without joints in order to facilitate best future maintenance and reliability.

The York stone slab flooring to level 1 are to be carefully cut and lifted. The slabs are to be numbered and re-laid in the same positions to limit cutting and relaying issues.

11.3 Sanitary Provision

The proposed scheme introduces a series of lavatories at each level at the ends of the retained corridors. These will provide sanitary provision in accordance with present occupancy requirements. Reference should be made to the associated Design and Access Statement for figures.

The use of the dead-end corridors have been utilised on a floor-by-floor basis as these corridors were always used for vertical service provision. It is understood that the original building was supplied with a dumbwaiter or small stair within each wing. This assumption is backed up by the later infilled timber floors at the end of the corridors, the remainder of the corridor being paved in structural York stone slabs.

By utilising these locations (a solution already in use in the South wing on level four) provision can be made using a simple vertical services zone which avoids the need to undertake major and intrusive works.

To support the lecture hall and its functions, additional male and female lavatories have been incorporated on the second floor. Lavatory layouts have been laid out to avoid conflicts with existing windows, and lavatories positioned to avoid the removal of the original fireplaces. If in future renovations these rooms are no longer required as lavatories these facilities can easily be removed and rooms reinstated.

Due to the higher occupancy numbers to the sixth and seventh floor, in line with the Conservation Officers request, the small rooms to the rear of the existing and proposed lift shafts will see the inclusion of lavatory provision and tea stations. Tea stations are also indicated in these zones on levels 3-5.

In line with London's plan for greener transport, the Trust wishes to support staff by providing bicycle facilities. This is achieved by providing bicycle stores to the historic coal stores accessed via the two new external staircases and by the addition of two unisex shower rooms.

11.0 Proposed Internal Works to The Heritage Asset

11.4 Passenger Lift

By modern standards the internal circulation is considered poor. In 2010 a new passenger lift was introduced into the South wing to help alleviate this issue. It is proposed to introduce a further lift to serve the North wing, as level access cannot currently be achieved for levels three to seven for people within wheelchairs.

The new lift is also necessary to provide better and more secure transfer of materials from the archives (generally this is by way of wheeled trollies) and improved pedestrian access for the users. An occupation analysis has been undertaken taking into account the height of the building and the existing arrangements have been deemed inadequate for the future use of the building.

The existing lift was installed over nine years ago, since its installation standards have changed. The new lift will be fully compliant with current standards.

11.5 Central Core Alterations- Galleries (Levels 4, 5)

In the 1890s a series of cast-iron galleries served by spiral staircases were introduced to the front portion of the building fronting Gordon Square to maximise the shelving on levels 4 and five. When introduced, no thought was given to providing a consistent level to the timber gallery behind. Further, the upper level is restricted in height such that access for people of even modest height is difficult. The introduction of these features was undertaken with little regard to the historic fabric and these installations obscure much of the original detailing at the dividing wall between the front and rear parts of the central core on the fourth floor.

It is proposed to remove the cast iron galleries to the front of the building and to install a new modest seminar room at level five. Unlike the current provision this gallery will be inserted at level five allowing for level access. The new seminar room will be predominantly glazed to maintain the open aspect of the front double-height space and to reveal the original detailing.

This new addition, being one of the few visible architectural interventions in the building, is central to the fire strategy. It provides a much-needed protected fire rated walkway between the two protected staircases, something which currently does not exist within the building. This will be achieved by providing a fire rated enclosure with an associated agreed management procedure. This bespoke fire solution has been agreed with the Approved Building Control Inspector.

As a separate package of works in the 1890's, to the rear of the building a series of timber bookcases, (book 'presses') and an associated timber gallery were constructed. Unlike its cast iron counterpart, access to the gallery is via level access from level five. Whilst it is proposed is to retain the existing joinery, some alterations are required to make them viable for the current use of the library. These vary in two ways; usability and safety.

The current gallery shape does not allow any function other than limited book storage based around the original window placement. To support the need of expanding the library readership, further working areas need to be established. By extending the gallery line to the end of the book presses ten new reading-computer desk spaces are created to accommodate more readers to the building.

With respect to safety, while the gallery has a timber balustrade in place, this falls well below approved standards and is considered a significant health and safety hazard - falls from height being the primary concern. During the alterations to the gallery the existing timber balustrade will be removed, refurbished and reinstated behind a simple glass frameless balustrade that meets current guidance documents. Without this intervention the Trust would be advised against allowing the public to use this gallery

Careful attention will be given to the detailing of both the balustrading and the detailing of the soffits of the balconies between the large book presses where additional floor area is being inserted. All works will be carried out by suitably skilled joiners.

11.0 Proposed Internal Works to The Heritage Asset

11.6 Central Core Alterations- Cast Iron Floor

As part of the 1890s alterations a cast iron floor was introduced into the rear of the building. This was erected above the seventh floor level. The height to which it was installed restricts the available headroom and level access into the room is not possible. The proposal is to replace this floor with a new purpose built floor set level to the rest of floor 7. This will have no negative impact on the existing windows and will allow for a more usable space and remove accessibility issues.

11.7 Lettable Office Space

While the proposed package of works benefits the specialist reader and public use of the building, the proposed scheme also provides for cellular offices in a range of sizes. This provision is supported in both the 'Camden Planning Guidance: Employment Sites and Business Premises' and the 'Camden Local Plan- Economy & Jobs' documents.

In providing small to medium sized lettable offices in the heart of Camden the Trust are supporting Camden's growth and creating conditions ideal for start-ups and small and medium sized enterprises. This is an aspiration championed in Camden's Local Plan- Section 5, Policy E1 Economic Development.

Dr Williams's Library is ideal for a small proportion of office letting. The building as it stands is not capable of housing books above level three. The room sizes that will be made available will be of prime size as 83% of business within the Borough employ nine people or less. The local policy highlights how the Borough is currently struggling to meet its forecasted demand for office space, and affirms that Camden will support proposals where new office premises are provided.

The Trust has attempted to strike a fine balance incorporating careful consideration of how best to house its historic holdings, increasing specialist reader and public accessibility, and supporting local need by way of the inclusion of lettable office areas. All contribute to the best utilisation of the building to ensure its future viability.

11.8 Fire Protection

Where new ceilings and floors are required these are to achieve current Part B standards, agreed with Salus the Approved Building Control Officer for the scheme. Due to the level of fire rating required, new ceilings will be constructed of fireboard and these will have the appearance of a flush finished plaster ceiling.

In all instances where the introduction of new visible steelwork is proposed, these will need to achieve the necessary fire rating. New steels beams will be encased in a suitable fire board; this again will provide a similar finish to smooth plaster.

Previous structural interventions have been made over the years and in most instances these have inadequate fire protection. It is proposed, wherever possible to fire protect these in a similar way to new steelwork.

The decorative timber encasements used to clad cast iron beams within the central core will remain unaltered and beams will remain unprotected. This is an acceptable solution in this instance when set against the loss of historic detailing and the fact that the current provision is not made any worse.

11.9 Finishes

The character of the individual rooms is comparatively plain and no significant changes are proposed. The existing detailing and features are to be retained on a room-by-room basis, and where appropriate, replicated.

The plastered walls and boarded flooring are to be retained, as will the original chimney breasts and fireplaces. Repairs are to be made in all cases on like-for-like basis using appropriate materials.

Repairs to original lime plastered walls and lath and plaster ceilings are to be repaired in Fibrelime, a lime-based product that is consistent with traditional lime plastering and has been used successfully in many listed buildings for this purpose. The use of this product ensures

consistency of materials and enables the minimum of the existing work to be replaced.

As highlighted within section 9.0, power and data will be incorporated within rooms by way of floor boxes as opposed to surface mounted plastic dado trunking. Original floorboards will have to be lifted to every floor within the building to allow for suitable bracing and strengthening of the building at the floor joists, in line with the Structural Engineers recommendations as set out in Appendix B.

Floorboards where possible (a number have already been lost over the life of the building and some are no longer viable) will be carefully lifted and retained for restoration. These will be replaced around the new floor boxes and tops of boxes finished with floorboards. As there will be an insufficient quantity of floor boarding left to refinish all rooms, areas not accessible to the public such as Strong Rooms, bathrooms and library offices, will be finished in suitable alternatives such as carpet, ceramic tiling and vinyl.

The Conservation Officer has recommended that doors being closed off be retained and left locked. Where possible, this approach will be followed. However, a number of these doors fall on fire lines meaning the doors will need to be removed to insure the integrity of the fire line. In a number of instances where doors are being lost, it is understood from the available information that many of these doors are not original to the layout. Therefore closing them up would, arguably be more in keeping with the original fabric.

Where possible doors will be left in original locations, a plasterboard infill will be used where indicated on plans to one side to the door to suit layouts and to ensure the safe evacuation of rooms in the event of an emergency. All works will be reversible in these instances so in future, the door may be reinstated.

The library has no noticeable original ironmongery. In consequence, new ironmongery will be provided, and will be reflect the building style in respect of finish. All new doors will be panelled with glazing where required, to meet current Approved Document Part M vision panel requirements.

12.0 Non Heritage Asset Proposed Works- The Extensions

A major component of the proposals is to construct two purpose made four-storey archives to the rear of the building. These will be constructed in the area of the site between the Library and the Morley building (also in the ownership of the Trust and currently leased to University College London). These are required to house the collections in appropriate environmental conditions and arise from the inability to house the collections above level three in the historic asset. It should be noted that in any event the existing building would be incapable to providing the environmental conditions appropriate to and compliant with modern curatorial practice.

In arriving at the proposed design two broad options were examined. The first and preferred option being to construct two purpose built BS compliant archives to the rear courtyard, while allowing for a simple connection to the historic asset through modifications to the rear external façade.

The second more radical proposal involved the complete stripping out of all structure of the North and South wings, introducing an internal steel frame and inserting new fire resistant blocks into the new structure to sustain book loading at all levels. The second proposal would retain the external facades as the shell of the building but nothing of the existing interior would remain. In terms of its impact upon the listed building it was decided that the pursuit of option one was the preferable option. Even assuming option two to be possible it would have been be impossible to achieve the right environmental conditions.

The proposed extensions are also key to the library and its holdings as they also enable the collections (both books and paintings) to be housed in appropriate environmental conditions. At present the majority of the collections are housed in conditions little changed since the building was originally constructed in 1849. These conditions are far from the recommended standards set out in BS4971: 2017 (Conservation and Care of Archive and Library Collections). At present only (25%) of the collections are housed in conditions that approximate to the BS4971 recommendations. The proposals will provide for the majority of the collections including the large collections of paintings to be housed in modern conditions. Storing parts of the collection off-site has been considered and is not feasible on grounds both of cost and environmental damage to the important Library holdings and to the environment generally by virtue of transportation.

A basement option has been considered to the rear of both the North and South wings, but advice given by the curatorial specialist (Mr Hayes) was that while possible it would be prohibitively expensive and would not, in any event, guarantee the environments required. Basement storage is generally considered an unviable option, or at the least very last resort for the important manuscript and printed holdings the library contains.

In line with Camden Local Plan - Protecting Amenity Policy A5 Basements, there were also concerns that a basement level to both wings would cause harm to the foundations of the neighbouring listed properties as well as the impact it might have on the already compromised structure of the Library itself albeit being in excess of the policy guidance of 50% depth and extension to the host building.

Part L of the policy requiring basement constructions requires any basement to be set back from neighbouring property boundaries and this taken with the physical thickness of wall construction required for a basement, very little floor area would remain. Therefore there would still be a need for a multiple storey extensions above ground. Based on all of this information, a basement in this instance is not a viable nor suitable solution.

The primary design approach to the new extensions has been to site them sufficiently far from the external walls of the heritage asset so as not to significantly reduce the light levels enjoyed to the rear of the building. The design has also been carefully considered so as not to determinately affect the neighbouring properties. The offset also provides for a degree of separation between the old and the new that avoids, as far as possible, awkward junctions and collisions between the heritage asset and its proposed extensions.

The preferred design option is based on preserving the symmetry that characterises the heritage asset, with finishes to the new parts being of high quality. Reflective cladding is proposed as a sympathetic solution allowing for interesting reflections to provide a simple contrast to the ornate external character of the heritage asset while ultimately minimising visual impact.

12.0 Non Heritage Asset Proposed Works- The Extensions

The proposed extensions will entail some alteration to the heritage asset, and obscure the lower parts of the north and south wings the rear areas. The rear courtyard is not publically accessible and is not used by the library staff who make use of Gordon Square. While it is understood the new archives may affect the setting of the heritage asset, the rear aspect is not its primary aspect. The Morley building directly behind is owned by the Trust and the neighbouring buildings are predominantly office and academic buildings with some accommodation to the upper levels. None of which will be affected by the extensions.

In the best of all possible worlds these archives would be differently located but the Library is characterised by lack of space, as demonstrated in section 8.0. Further, it is restricted in how it can properly house its collections. It is important to consider the National Planning Policy Framework (NPPF), paragraph 192, which makes it clear that the determination of a relevant planning application should be informed by the "desirability of sustaining and enhancing the significance of the heritage assets and putting them to viable use consistent with their conservation". By allowing for the new extensions the occupation of the existing building by the Trust remains viable, it prolongs its near 130 year historic presence within Gordon Square, and the significance the library holdings can continue to be enjoyed more openly by both specialist readers and the public.

The simple nature of the proposed archive buildings and their lack of windows means, under the Camden Planning Guidance Document-Amenity that there are no overlooking or privacy issues generated by the proposed extensions. In respect of outlook from neighbouring properties, nearly all of which serve academic or business needs, there is no proposed services yard to the rear courtyards and the extensions will be built and designed to the highest level of detailing.

13.0 Protection During the Works

13.1 Internal Works

Prior to any works taking place a detailed photographic record will be produced by the successful contractor providing a record of the current condition of the building. With all works will be carried out by suitably experienced craftsmen.

Stairs will be protected, and propped to ensure no damage to the existing stone stairs.

Workmen to the level four reading room containing the timber bookcases will be restricted and the timber protected where required on through routes to avoid damage.

Prior to the roof being removed temporary waterproof sheet protection will be installed to all sensitive areas of plasterwork. Temporary protection will also be installed to the seventh floor to provide protection to all the levels below.

13.2 External Elevations & Roof

Access to the roof works and rear elevation refurbishments and modifications will be achieved by erecting a fixed independent and fully sheeted scaffold around the perimeter of the building. Plywood will be used as edge protection to protect the detailing at each level during any removal, replacement and modification works. No putlogs will be allowed to penetrate the fabric of the building. A water management plans will be implemented.

A temporary scaffold and sheeted roof will be installed above the areas of roofing that will be modified.

14.0 Conclusion

The design team has been consistent in its approach to the existing 1848 building. From the outset all design decisions have been weighed against their suitability for and compatibility with the heritage asset.

While certain modifications are proposed to the building these have been limited and are wholly necessary to support the existing and expanded activities within the building. Wherever possible, proposals have been used to enhance the heritage asset.

If Dr Williams's Trust were not able to carry out the works needed to continue the viable use of their building, it would have no option but to sell the building. In these circumstances the building might fall into further disrepair.

This statement serves to demonstrate that a consistent attitude has characterised all aspects of the design. Detailed analysis and investigations have been undertaken from the outset. This approach will continue into the further development of the design work and into the construction phase of the project.

The front elevation of the heritage asset will be altered. Such alterations will see the fundamental principle of minor modification that respects the symmetry of the facade. The later brick intervention to level 1 of the North wing will be removed and two new matching ramps will be introduced along with new access stairs allowing for cycle storage on site in conformity with the London green transport initiatives. The setting of the building within the urban context of Gordon Square will remain effectively unaltered.

The rear elevation will be affected by the introduction of the proposed new archives. These are wholly necessary and provide the means by which the collections can be efficiently stored in environmental conditions appropriate to their importance. The adjoining properties vary in use. To the South the windows are those of store rooms, corridors and lavatories. On the basis that none of these rooms are habitable spaces, rights to lights are not considered as part of the sun and daylight study (see Appendix G). The Trust has been in close negotiations with the neighbouring property to ensure the proposed extensions are acceptable.

To the North are offices with residential use to the upper storeys. A sun study has been carried out and highlights that the recommended maximum reduction of 15% vertical sky component (VSC) and the minimum 1486 hours BRE Baseline for annual probably sunlight hours (APSH) have not been impinged. Reference should be made to attach Appendix G.

The proposed archives have been designed to stand clear from and to maintain the symmetry of the heritage asset. They are in complete contrast to its construction and detailing. Thus, the new is not a pastiche of the original but a product of its own time separated from the existing by the lightest possible touch. The use of a reflective cladding to the new structures will provide myriad reflections of the old and provide additions that are not simply dull and uninteresting boxes.

New internal finishes where applicable in the existing Library building have been carefully considered and generally follow the character of the existing work. Where new introductions are to be made to the central core areas these will be contrasting and not a pastiche of the old. New fixed and loose furniture will be designed and specified to be complementary yet distinct, designed to produce clarity to the interior spaces while maintaining the integrity of the heritage asset.

New partitions and rooms have only been formed where these are needed to provide the suitable and accessible facilities expected within a major research institution. These interventions are minimal and sensitive in their location, design and construction.

Predominantly the works have been conceived to maintain the building and to restore both its interior and exterior aspects to a condition that will ensure the survival of the Library in its present location for the foreseeable future.

As discussed at length, extensions are required for 14 Gordon Square for the Trust to continue to operate the library. As argued in the other documentation that accompanies this application, the library collection itself adds to the historical significance of the building.

14.0 Conclusion

Government planning policy advice, NPPF, paragraph 192, makes clear that the determination of any relevant application should be informed by the –

> *… desirability of sustaining and enhancing the significance of the heritage assets and putting them to viable use consistent with their conservation*

On this basis it is felt that the submitted information identifies and addresses the particular significance of the heritage asset and how the proposed works affects it. The guiding principle has been to avoid conflict between its conservation in any aspect of the proposed changes. The design team believe that the proposed solution delicately balances the needs of the historic building and the collection it houses. This is an approach supported by Heritage England and is consistent with its published advice and guidance.

Appendix A –
Historic England Listing Information & Bloomsbury's Conservation Map

TQ 29720 82212

Details

CAMDEN

TQ2982SE GORDON SQUARE 798-1/94/591 (West side) 28/03/69 Nos.14 AND 15 and attached railings and pillars (Formerly Listed as: GORDON SQUARE Nos.14 AND 15 Dr William's Library)

GV II

University hall, later library. 1848. By TL Donaldson. Red brick with stone dressings. Tudor style. EXTERIOR: 5 storeys and semi-basement. Double fronted with 5 bays of windows. Facade articulated by octagonal turrets with stone octagonal finials, rising the height of the building, at the angles and flanking the entrance. Stone band at 1st floor sill, wide 2nd floor sill band with quatrefoil enrichment and crockets. 3rd floor strings one with crockets. 4-centred arch doorway with moulded architrave, decorated spandrels, hood-mould with decorated label-stops and panelled door. Above the entrance, an oriel window of 4 pointed headed lights rising through the 1st and 2nd floors, with a quatrefoil enriched apron at 2nd floor level, cornice and terminating in a brick gable. Windows, except the semi-basement, with pointed headed lights and hood-moulds with decorated lable-stops. Ground floor windows, with enriched aprons, of 2 lights flanking the entrance and 4 lights to the outer bays. Similar windows to the 1st and 2nd floors but with enriched spandrel panels. String with crockets beneath stone-capped, crenellated parapet. INTERIOR: entrance hall with heavy Gothic style stone imperial type stairs. Behind, a panelled room with stained glass windows. 1st floor library with cast-iron gallery. SUBSIDIARY FEATURES: attached cast-iron railings with octagonal stone pillars having shaped finials. (Survey of London: Vol. XXI, Tottenham Court Road and Neighbourhood, St Pancras III: London: -1949).

Listing NGR: TQ2972082212

Legacy

The contents of this record have been generated from a legacy data system.

Legacy System number:
477354

Legacy System:
LBS

Sources

Books and journals

'Survey of London' in Survey of London - Tottenham Court Road and Neighbourhood St Pancras Part 3: Volume 21, (1949)

Legal

This building is listed under the Planning (Listed Buildings and Conservation Areas) Act 1990 as amended for its special architectural or historic interest.

End of official listing

Images of England

Images of England was a photographic record of every listed building in England, created as a snapshot of listed buildings at the turn of the millennium. These photographs of the exterior of listed buildings were taken by volunteers between 1999 and 2008. The project was supported by the Heritage Lottery Fund.

Date: 15 Sep 2004

Reference: IOE01/13258/31

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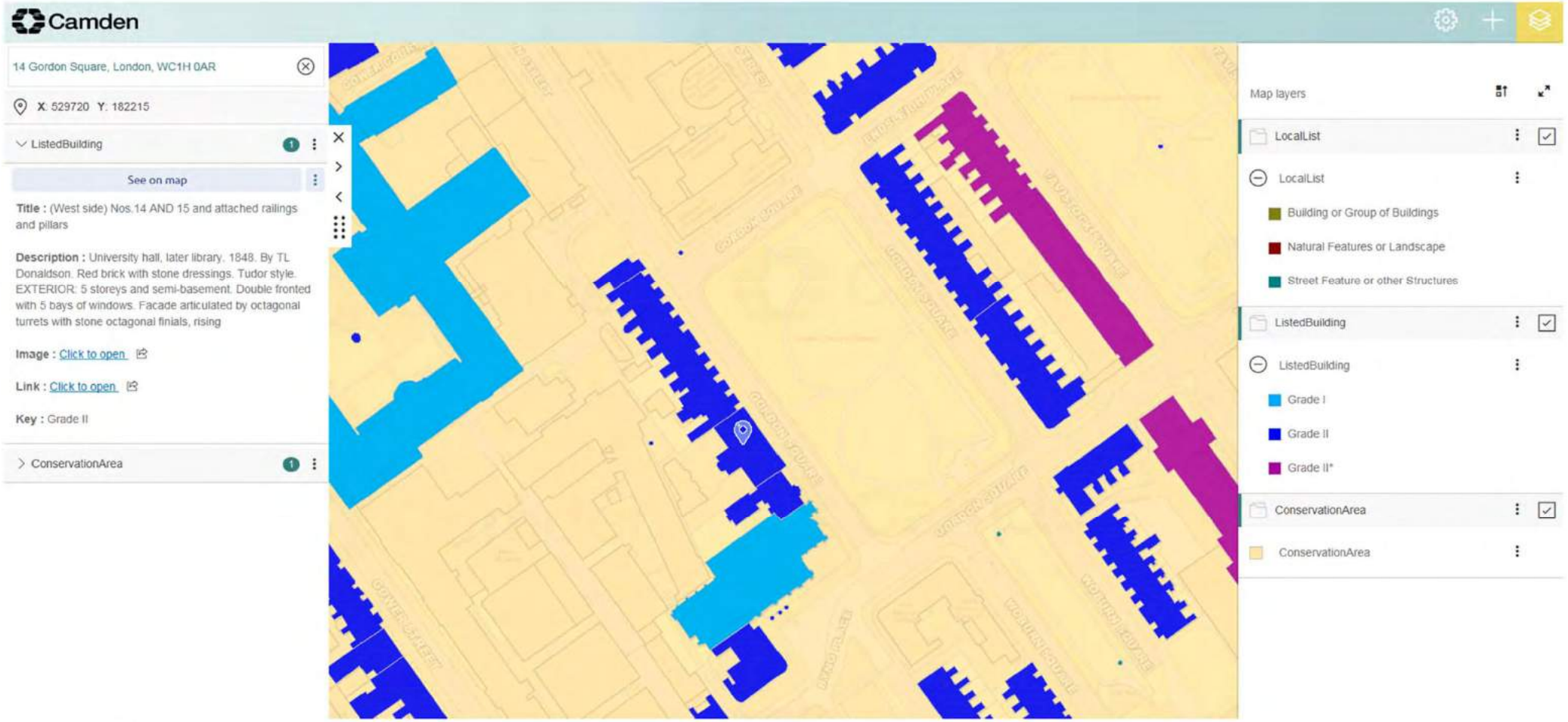

Extract taken from Camden Council's Conservation Area Map; https://www.camden.gov.uk/conservation-areas
Information accessed and page printed on 21.10.2019.

Appendix B –
Structural Summary Report

CORBETT & TASKER
structural engineering

Dr William's Library

14 Gordon Square
London WC1H 0AR

STRUCTURAL ENGINEERING REPORT

Prepared for:
The Trustees of Dr Williams's Library

Project No.
17218

Date
12TH SEPTEMBER 2019

CORBETT & TASKER
structural engineering

Revision History

Revision	Date	Purpose / Status	Document Ref.	Comments
-	12/09/2019	L.A. Planning Submission	17218-R08	First Issue
P01	08/10/2019	L.A. Planning Submission	17218-R08	Revised to architect's comments
P02	08/10/2019	L.A. Planning Submission	17218-R08	Revised matrix
P03	21/10/2019	L.A. Planning Submission	17218-R08	Revised chimney works and external ramps
P04	25/10/2019	L.A. Planning Submission	17218-R08	Revised surface water attenuation

Prepared By

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1. Executive Summary

The building of Dr Williams's Library was constructed in the late 1840s as a hall of residence and would have been mainly designed for 'domestic' loading – approximately 1.5 kN/m². The construction was essentially loadbearing brick external walls and spine corridor walls with loadbearing timber stud internal partitions. The floors were generally of timber joist construction and where required for larger spans cast iron beams have been used.

During the life of the building there have been many significant structural interventions. These have largely comprised of the removal of loadbearing timber stud partitions with a wide variety of structural beams and columns inserted to compensate; however, in many cases, no attempt was made by way of compensation which has led to severe and extensive floor deflections and localised masonry cracking. Perhaps the most onerous intervention was the insertion of a new steel floor in the central area of level 7. Like many other rooms, from level 1 to 7 this has been used for high density book storage. It is important to recognise that the accepted loading for book storage is 6.5 kN/m² for fixed and 9.6 kN/m² for rolling stacks. By contrast, administrative and office use loadings are in the region of 2.5 kN/m² far closer to the originally intended design load.

It is clear that this aging building has been grossly overloaded and its structure, floors, beams and loadbearing walls are severely overstressed and compromised. This situation was sufficiently serious for us to recommend in 2018 that the library be immediately closed for use by the general public on safety grounds. Unless remedial works to the structure are undertaken in the near future, it would be reasonable to conclude that the long term future of the building will be at risk.

We are in the process of specifying a comprehensive strategy for structural repair and refurbishment and there are two courses of response – either to undertake invasive and extensive intervention with a high impact on the original fabric to support the very large loads associated with book storage over all levels or to adopt a more sympathetic low visual impact repair programme which would be conditional on a reduced 'non storage' loading particularly for the floors above level 3. We are of the opinion, as structural engineers involved in many listed buildings, that the most appropriate response should be a significant reduction in the use of book storage in the building; uses should be found for the upper levels that are more akin to domestic / office loading, for which the building was originally designed. A consequence of this structural imperative is the need to decant much of the book storage to efficient, purpose-built archives to the rear of the building where the structure can be specifically and safely designed for the large loads.

On a more specific level, there are deflection issues with some of the chimney stacks at and above roof level, in particular the stack to the north gable requires urgent remedial action. This will be discussed in more detail in Section 4.4.2.

Our monitoring work of the floors and walls is now well underway and will continue until we are satisfied with the safety of the overall structure. Fortunately, the external brickwork and internal spine walls of the building remain in reasonable condition and we can envisage a renewed life for the building with appropriate repairs and stiffening programme based on a reduced use of book storage as previously described.

2. Introduction

2.1 Background

The building of Dr Williams's Library was completed in 1848 and originally designed as a university hall to provide accommodation for non-conformist students and tutors together with a lecture hall and library. Following the faculty relocating to Oxford, Dr Williams's Library acquired the building in 1890. The building has been used continuously as a library since then.

The building is currently listed by Historic England as Grade 2.

2.2 Corbett & Tasker Role

Corbett and Tasker have been appointed by the Trustees of Dr Williams's Library, as structural engineers for this project. The initial brief was to undertake a preliminary structural condition survey, the results of which led to a more detailed series of surveys and studies. The survey work to date has identified serious structural problems which have been communicated to the client through a set of reports. The results and conclusions of these reports are summarised in this document. Further detailed structural survey work is required and will include specific areas of floor together with laboratory testing of masonry, iron and steel to ascertain appropriate structural characteristics. Crack monitoring at the walls and stairs is currently underway.

Due to the severe structural safety issues identified by Corbett and Tasker, it is imperative that structural repairs are expedited as a matter of urgency. Tender documentation is currently being put together with a view of contractors starting on site as early as possible. A room by room structural appraisal has been conducted in order to ensure all floors are able to support their design loading; this will be primarily achieved by the careful strengthening of the existing floor structure where possible. A significant number of the floors have been so severely deflected that the floor and joists will have to be replaced. The overall structural robustness of the building has been assessed in terms of current codes of practice and specific structural repairs are being specified.

3. Summary of Investigative Works

3.1 Review of previous works and drawings

There have been many structural interventions during the building's history, most recently those undertaken by Robinson Thorne Architects in conjunction with consulting engineers - providing new public WC's, a new lift, renovations at the lower ground floor and a level access from the street. While there are no structural drawings or specifications for this work available, architectural drawings have been made available.

A structural survey was undertaken in February 2003 by Chamberlain Consulting LLP which primarily focused on the allowable floor loads in the north wing. The essence of the report is that there are some rooms in the north wing which require additional strengthening in order to carry book stack loading and that the south wing is generally assumed to be used for office purposes. It is apparent that in many cases this is not the current situation, and further investigation has been required. The loading criteria used in the Chamberlain report assumes a significantly lower figure than recommended in current codes.

While some historical drawings and previous engineers' notes are available, it is worth noting that existing drawings are not always representative of actual building conditions. This can be due to the proposed structure not being built as drawn or due to later building modifications which are not captured in the available drawings. The review of previous works and drawings has proved useful in forming an initial understanding of the building but confirmed the need for further surveys and investigations.

3.2 Visual surveys and investigations

Corbett and Tasker have conducted an 'on foot', non-intrusive survey of the existing structural fabric. It should be noted that observations derived from this cursory survey cannot be considered as being definitive and comprehensive, particularly as much of the structure is concealed behind finishes. This preliminary investigation made it possible to make recommendations for more detailed survey work and structural assessment. Corbett and Tasker have not specifically looked at other 'non-structural' aspects such as fire, damp, services and architectural finishes.

Due to the presence of finishes throughout the building most of the existing structure is not exposed at present. To better understand the existing structure a preliminary 'light touch' opening up works investigation has taken place, where portions of the structure have been uncovered in select locations within the building. These opening up works do not represent a full and exhaustive study of all structural elements, which would require extensive and disruptive openings, but respond to the key issues identified and do not impact on the character of the building.

Through the visual surveys and investigations, a working understanding of the existing structure has been established. It has become clear that many structural modifications have been made throughout the life of the building. The results of the study have formed the basis for the analysis of the existing structure and the proposed strengthening design. Where information is unknown, Corbett and Tasker have made reasonable assumptions based on what has been observed at other parts of the building. The investigations to date have demonstrated the need for further and more robust opening up works to understand the building structure in its entirety. Corbett and Tasker's understanding is that extensive investigations will take place at the time of the proposed Enabling Works contract.

From the preliminary structural survey, it has become clear that many structural modifications have been made throughout the life of the building, so conditions vary throughout. The large variety of observed structural conditions reinforced the need for a thorough opening up works investigation to take place, and the results of the study have formed the basis for the analysis of the existing structure and the proposed strengthening design.

4. Observations from Surveys

From the limited surveys, investigative works, and previous engineers' drawings, a preliminary understanding of the existing structural system at Dr Williams's Library has been established. It should be noted that the following is not an exhaustive description of the present structure and conditions may be present which are not described in this report.

The existing structure as observed by Corbett and Tasker has been summarized in sketch form, see Appendix A. Please refer to these sketches for all room numbering as stated in this report.

4.1 Layout & Use of Building

The building is laid out with a central core and symmetric north and south wings. There are eight floors total, including a lower ground floor (referred to here as level 1) and an attic (referred to here as level 8). Various spaces have been used by the library as reading rooms, book storage, offices, and flats. Many structural modifications have been made throughout the life of the building, including removal of walls, addition of a lift, and addition of a steel floor for book storage.

4.2 Structural System

The building is comprised of both interior and exterior loadbearing masonry walls which stack from the lower ground floor to the attic. The roof and floors are timber framed, apart from the corridors and stairwells which are made of structural stone. The central core of the building includes several open, double-storey spaces for the entrance hall, lecture hall, and main reading room with long-spanning floors.

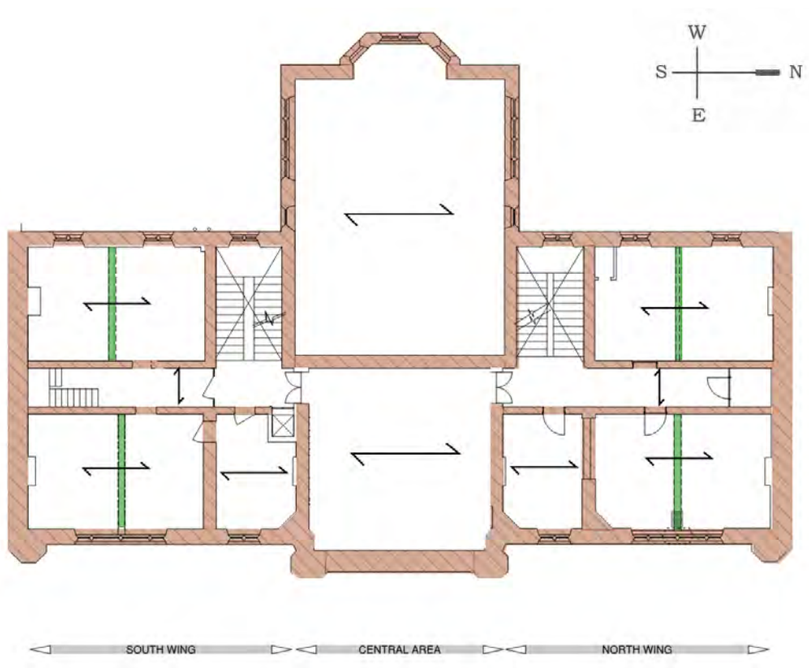

Figure 1: Typical floor plan, with loadbearing masonry walls shown in brown, and original locations of loadbearing timber stud walls shown in green. Arrows show direction of general floor span.

4.3 Floors

Typical timber floor joists have been recorded, as well as timber, cast iron, mild steel, and modern steel beams in the existing building. Loads are generally carried vertically by loadbearing masonry walls and loadbearing timber stud walls, but timber and steel columns were observed in several locations.

Excessive deflections in the floors have been measured across the building, likely due to the excessive loads that have been applied to the floors and previous recommendations not being followed. In some locations the floors can be strengthened, however in other locations a completely new floor is required. This has the benefit of allow for the structure to be located in the floor zone, meaning a reduction in the visible intrusions allowing for smooth soffits as the building was originally intended.

A typical floor build-up is shown in Figure 2, typically 50mm of pugging has been identified below the floorboards. Typically used for acoustic insulation, 50mm of mortar will make up a considerable portion of the permanent load of the floor. The existing floors would benefit greatly from the removal of the pugging and replacing it with lightweight modern acoustic insulation.

It should be noted that no fire protection was noted to any of the steelwork or flooring; it is not thought likely that the current paint system is intumescent.

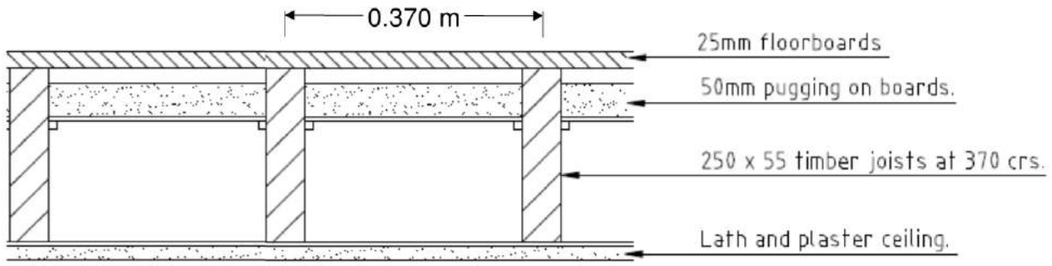

Figure 2: Typical single boarded floor build-up from Chamberlain Consulting Engineers' report

4.3.1 North Wing

The north and south wings generally consist of smaller rooms with timber floor joists spanning north-south continuously over loadbearing timber stud walls. In some areas the timber walls have been removed to create larger spaces, with timber, iron, or steel beams added in place, sometimes with the load being transferred on a system of beams and columns.

The north part of the building was previously structurally surveyed and assessed with recommendations for additional supporting beams and restrictions in loading. It appears from an initial study that some of these recommendations have not been executed and excessive deflections were recorded in some rooms. This is probably due to the loads from the book stacks exceeding the 'design' loads and in part due to the previous recommendations not being carried out. This is particularly critical in the rooms on the west side where loads from the upper levels are supported on a relatively small cased ceiling beams, which may be causing the excessive deflections in the upper rooms.

Figure 3: Sections showing existing observed structure at north wing. Left: section in east bay, looking east. Right: section in west bay, looking east.

4.3.2 South Wing

Excessive floor deflections were noted in levels 5 to 8 of the south wing, which are probably caused in part by excessive floor loading and insufficient support along the stud partition walls running east to west. The deflections on the west side may have been partly caused during building works for the WC's at level 4, although it is also possible that there was excessive deflection of the small landing WC rooms before the new beam was inserted. The floor deflections in the south wing have caused cracking in the associated timber stud walls.

Figure 4: Cracking at internal partition walls (assumed loadbearing) where large floor deflections were observed

A section drawing of the south wing west side (see Figure 5, right) clearly shows the critical nature of the ceiling beam which effectively supports levels 5 to 7 together with added roof load including plant room and water tanks. A similar situation exists on the east side (see Figure 5, left), exacerbated by the significant book storage on level 7 and the book stacks on level 5.

Figure 5: Sections showing existing observed structure at south wing. Left: section in east bay, looking west. Right: section in west bay, looking west.

It is reasonable to conclude that not only have there been significant alterations to the original loadbearing timber stud partitions, but many of the rooms used for book storage are supporting loads that significantly exceed the likely allowable load.

4.3.3 Central Area

Despite considerable structural intervention in the central rooms at levels 6 and 7, there are few signs of structural distress in these areas.

Though opening up works are limited in the central areas above the double-height library and reading room, some cast-iron or steel beams have been observed and it is assumed that these floors generally consist of cast-iron or steel primary beams spanning between masonry walls, with intermediate beams and timber floor joists.

The floor to the level 6 central areas has been investigated by observing ceiling features within the space below in addition to limited and localised lifting of floorboards from within the room itself. The existing floor appears to be formed of a combination of relatively modern and original construction in timber and steel. No obvious signs of excessive deflection or other forms of distress or degradation were noted from the limited inspection.

The west side of the level 7 central floor is fully visible from both above and below as it is not finished or clad. The general form is that of a mezzanine type deck formed of a grillage of steel beams with a perforated gangway steel plate flooring system over. It is understood that the floor in question was installed in circa 1909. No obvious signs of excessive deflection or other distress of the inspected elements have been noted. However due to accessibility and reduced head heights the intention is to remove this grilled floor, introducing a new timber and steel beam floor, level to the rest of level 7.

For all other rooms in the central area, including the double height lecture hall at level 2 and the library and reading room at level 4, the structure appears to be performing well. There is a slight fall in the level 2 lecture room floor, west end, which may be due to the lack of a central spine wall below. However, this is a modest defect at present with no registration at lower ground floor level. Further investigation into the build-up of the floor will confirm if this required strengthening work to prevent further deflections.

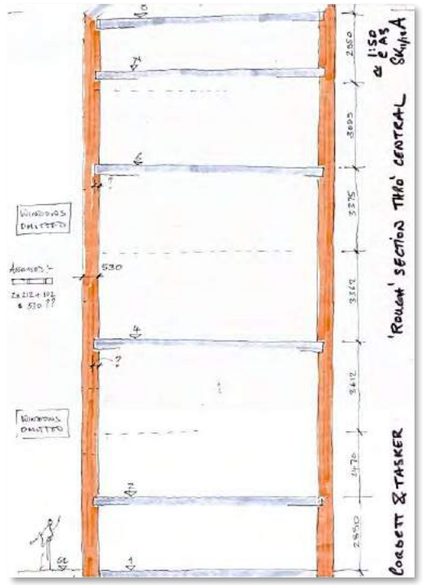

Figure 6: Rough section through central core of building

4.4 Roof and Chimneys

4.4.1 Roof

The roof is atypical construction of the period and primarily constructed with timber rafters supported by two parallel sets of timber purlins which in turn are supported by timber stub columns. The purlins appear to be deliberately not supported by the loadbearing brick walls. The timbers appear in good condition considering their age with no obvious signs of rot, movement or structural distress; however a full timber survey is required. The floor is constructed with timber joists which may also act as ceiling joists for level 7 and have been clad with timber boards which are reasonably level.

The construction of the north and south wing is generally similar, except for a trimmed opening for a disused service lift on the north end. The south end has been partitioned off to form a boiler room with most plant supported by the gable brick wall. The east and west borders of the south wing are not accessible due to warning notices, possibly connected with asbestos removal. Asbestos has been noted in the wings and this is to be removed.

At the central area, the four pitched roofs intersect and are formed by four hipped rafters which support the two sets of purlins. The hips are supported along their span by a single timber stub column. The southeast column has deflected laterally and is currently stabilised by a timber lashed with rope.

The existing ceiling joists would not be suitable for residential loading and are therefore to be removed and replaced with suitable sized joists.

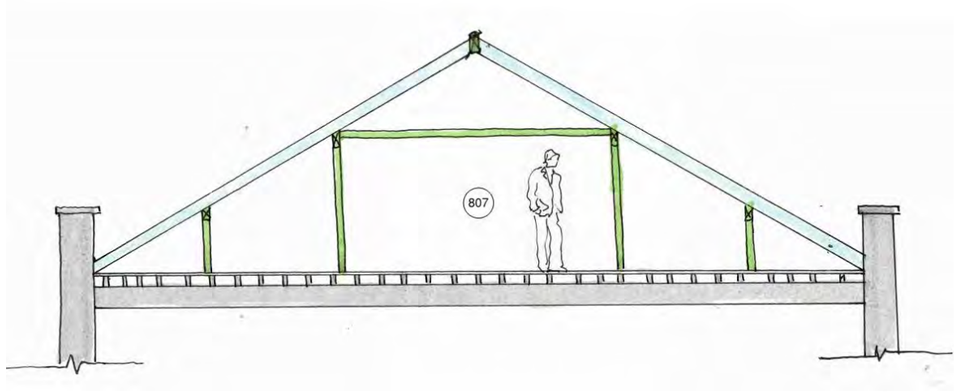

Figure 7: Approximate section diagram of level 8, north wing

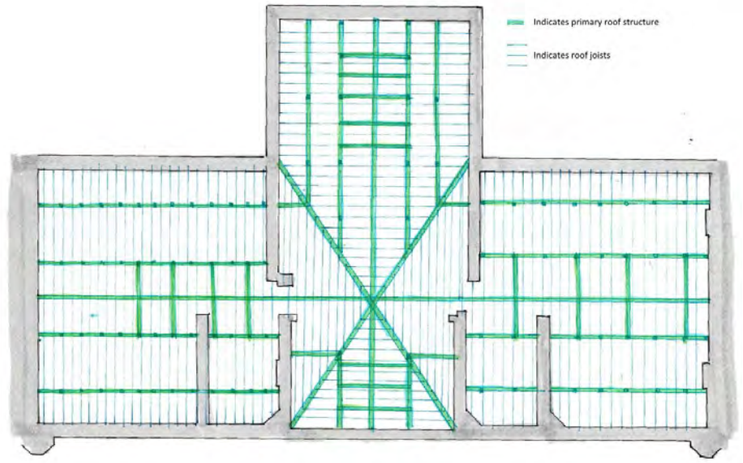

Figure 8: Approximate diagram of roof structure (not to scale)

4.4.2 Chimneys

Some of the chimney stacks have laterally deflected; the main stack to the north gable wall is severely out of plumb, plus others have been noted. The chimneys of the north and south gable walls cantilever up from the existing roof level, at the front and back this is a large cantilever as the roof is at its lowest point at these locations.

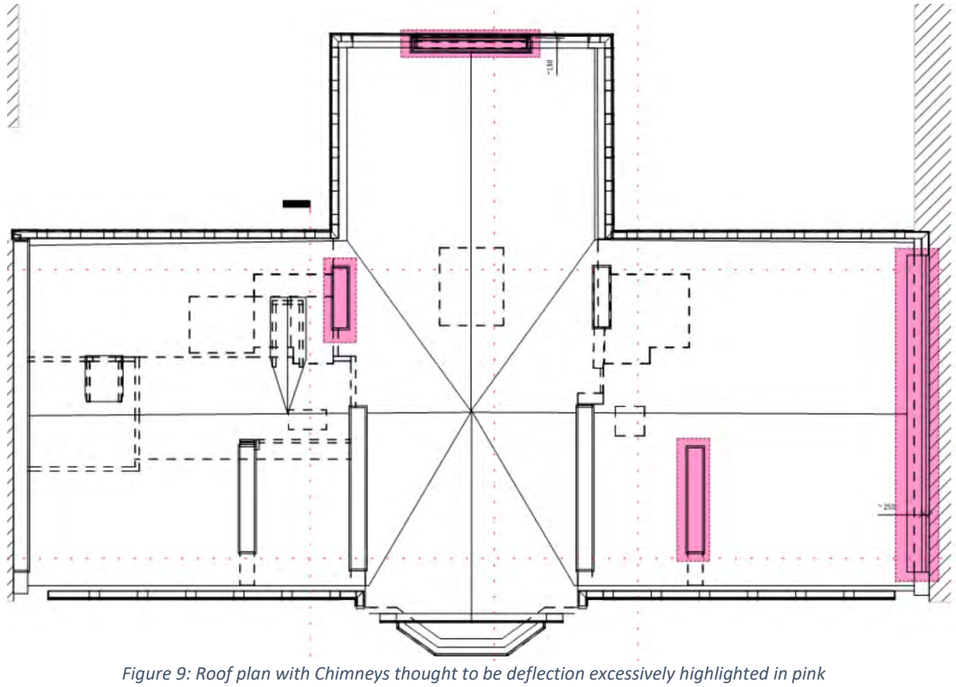

Figure 9: Roof plan with Chimneys thought to be deflection excessively highlighted in pink

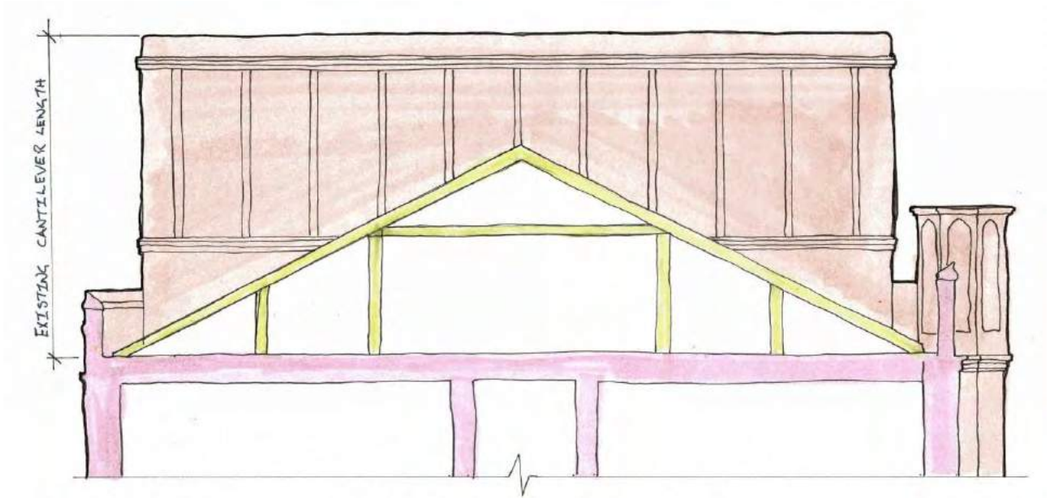

Figure 10: Elevation of north chimney stack showing existing cantilever length

Structural intervention will be required to stabilise the lateral movement of the stacks, and one strategy for this, combined with rebuilding the chimney stacks, is to reduce the length that the chimneys cantilever. This can be achieved by creating a dormer structure at roof level. The diaphragm to the dormer roof would be tied to the existing chimney, providing lateral restraint to the chimney and reducing the length of the cantilever.

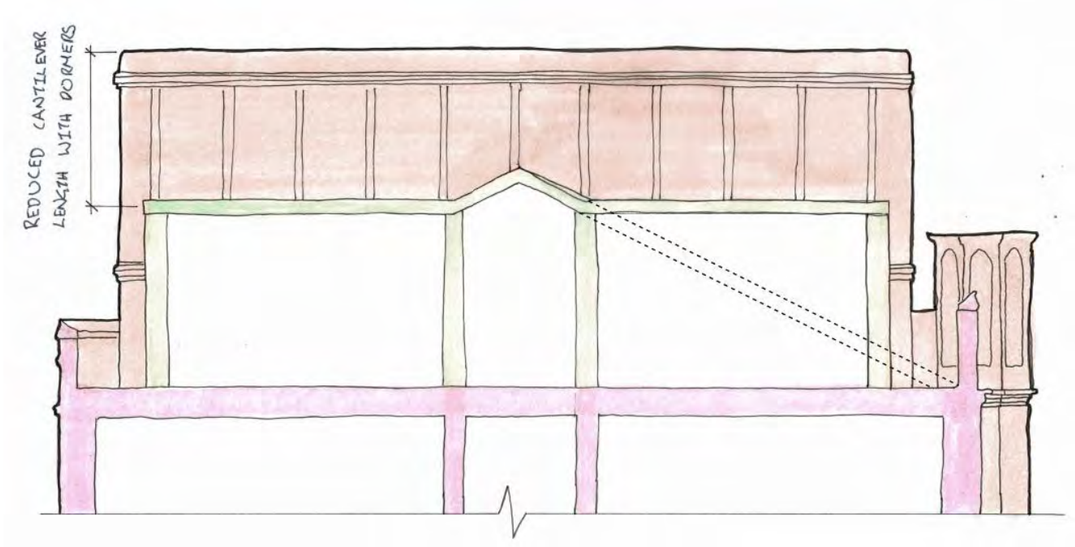

Figure 11: Elevation of north chimney stack showing reduced cantilever length with dormers. Dashed line shows actual front roof line proposed to remain

Whilst ideally the best solution to restrain the original chimneys would be to allow for a dormer to both the front and the rear of the property, it is appreciated that this will have a significant impact on the front elevation and how it will look from Gordon Square. On this basis we are proposing to allow for dormers to the back to restrain the chimney and propping or rebuilding to the front.

The proposed work is that level 8 will be used as a residential space. The proposed new dormers would both increase the usable space at level 8 and enable the stabilisation strategy above to be utilised. It is also understood that the existing concrete roof tiles are due to be replaced. The proposed replacement of these tiles with slates, to match the original specification, will reduce the load on the roof structure and allow for the introduction of insulation.

4.4.3 Gable Walls

Strengthening and stiffening of the level 8 floor will also help to stabilise the two gable ends; the south gable has had steel discs applied at this level in order to counter lateral movement and will need to be re-connected to a stiffened floor structure. The north gable has not had these discs applied and further exploratory opening up work will be required to confirm that lateral support from a stiffened level 8 floor is also required at this location.

Figure 12: Roof of building from Google Maps. Steel discs visible at south wall

4.5 Internal Stairs and Corridors

The internal stairs are primarily constructed of stone slabs using various structural principles, including those of reciprocity. The design of both the north and south staircases changes from levels 3 to 5. Each tread and riser is self-supporting and the structure is supported by a cast iron beam at floor level and by a 100mm thick stone slab which forms the half-landing.

The floor to the central corridor is a stone slab spanning onto the spine walls and appears to be in good condition. The stone floors of the corridors are 100mm thick spanning between the spine walls.

Further survey work is required for these stone structures and a proposed strengthening works of steel beams supporting the stone slabs is the likely solution.

4.6 Walls

The building is primarily constructed with loadbearing brickwork - external walls, two central spine walls

forming a corridor running on a north to south axis and walls adjacent to the staircase running east to west.

Except for certain walls adjacent to the staircases, the exterior loadbearing brickwork appears to be in good condition for its age with no concerning cracks visible from the exterior ground level. There appears to be some water leakage on the south west external wall. There are some cracks visible from the inside, particularly at the west elevation. Some of the cracks may have been caused by differential settlement from removal of a certain number of the half landing WC's. A preliminary theoretical analysis has been undertaken to compute the compression stresses in the masonry walls at ground level, particularly for the central area; the findings show that the stresses exceed those that are commonly used for brickwork design and in order to further our understanding a suite of masonry tests, both brick and mortar, will be undertaken when enabling works are granted. See section 6.3 for further details.

The spine walls which form the central corridor appear to be solid masonry and in good condition for their age, except for a couple of visible hairline cracks.

Within the north and south wings rooms have been formed using loadbearing timber stud partitions, many of which have been removed and replaced with supporting beams. The internal stud partitions and beam replacements have caused major deflection issues. It is assumed that the loadbearing timber stud partitions originally ran continuously from level 7 down to level 1. Where they have been removed, many of the supporting beams appear to possess inadequate strength and stiffness, resulting in many of the floors suffering from excessive deflections and being classed as unusable and will require replacement.

4.7 External Stairs

There are two external staircases at the east side of the library connecting pavement level with the lower ground level (level 1). Corbett and Tasker's opinion is that both stairs will require a complete rebuild in order to satisfy contemporary structural loading requirements.

The current geometry and construction of the stairs also raises the issue of damp penetration from the stairs into the wall of level 1 which is used for archival book storage. It is noted from the architect's condition survey report that dampness has been recorded at high levels at the interior face of the walls supporting these staircases which is in direct conflict with the archival use of these interior rooms and a detriment to the original fabric of the building. The replacement structure of the external staircases will not rely on the external walls of the building and will allow for these paths of damp penetration to be sealed. Finally, the new staircases will be designed in such a way to get cycles safely down to the lower ground level.

4.7.1 North Staircase

This is constructed with stone treads and risers built into the side walls and east wall of the library and supported on a masonry wall to the inside edge. The current opinion is that this 'inside' wall is not from the original build and was built as a repair and strengthening to the original 'cantilevered' stone stairs. The treads and risers are in poor condition (probably accounting for the need to repair) and need to be replaced. There are numerous cracks between the stone treads and the brickwork below which may indicate some subsidence of the wall. The balustrade uprights and handrail have been removed due to inadequate connection to the treads.

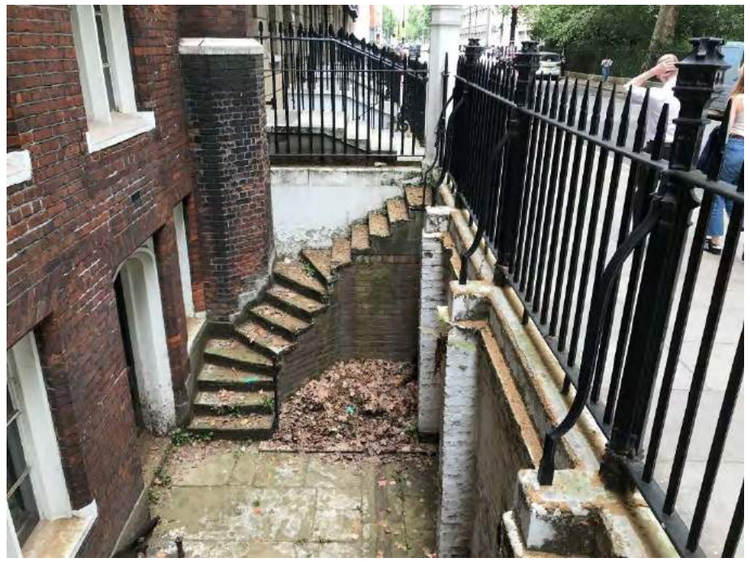

Figure 13: North external staircase

4.7.2 South Staircase

Corbett and Tasker's opinion is that this is the original 1840's staircase design using cantilever-shell structural principles. The risers and treads are supported on one side by the adjacent party wall and the external east wall of the library. Unlike the north staircase, the 'free edge' is unsupported and relies on a continuous shell action to transmit loads to the base. Unfortunately many of the treads and risers are in very poor condition with the result that the structural integrity is severely compromised. This has resulted in a temporary prop being used to prevent a collapse. The original balustrade and handrail are in place although an upright has been removed due to excessive degradation of the stone. The stairs are structurally unsafe and require replacement.

Figure 14: South external staircase

4.8 External Ramps

The structure below the existing access ramp is being demolished, which has presented the opportunity for the renovation of the ramp to a simpler more sympathetic access ramp into the building. The new ramp will span from the pavement on to the existing building, to allow for a clear span below. A simple lightweight steel structure is proposed to minimise loading on to the building. The proposals also allow for a similar ramp on the other side of the entrance, which will help to restore symmetry to the façade of the building.

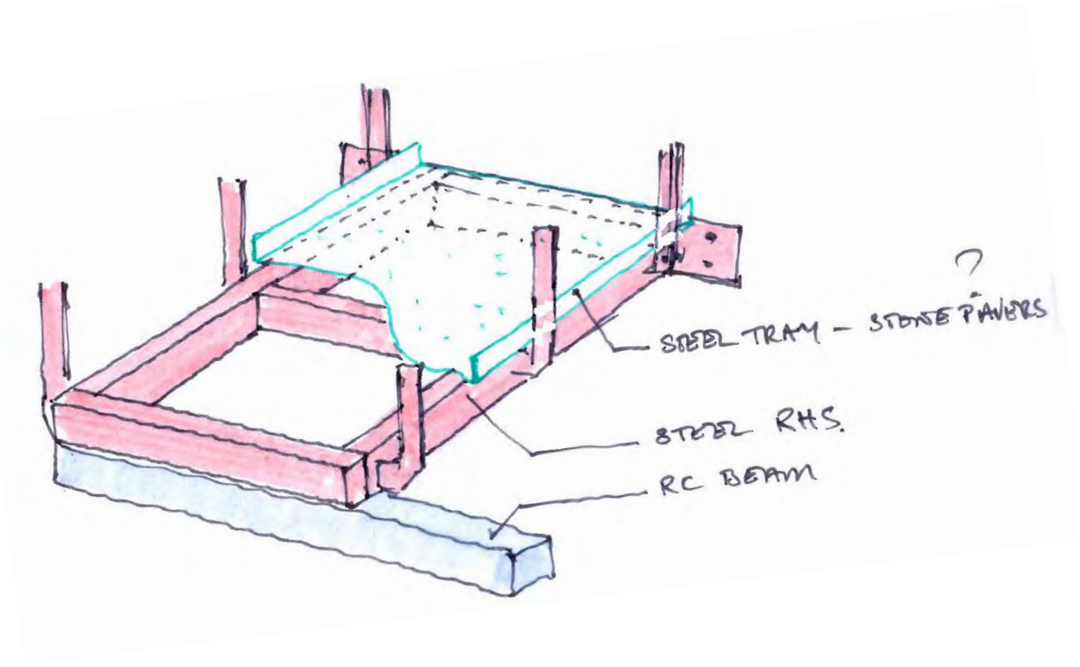

Figure 15: Ramp Structure

5. Immediate Works that have taken place

Following the investigations and recommendations by Corbett and Tasker, the following works have taken place or are in the process of taking place:

- As a result of the critical structural issues the library has now formally closed to the public with book stacks decanted in order to maintain safety. Corbett and Tasker has recommended that live loading in the north and south wings be removed as a matter of urgency.
- Book stacks specifically have been removed or are in the process of being removed in a large number of room.
- Certain rooms have been deemed as acceptable for light domestic loads only and the library has been instructed not to use these rooms for storage.
- An in-depth survey and structural assessment has been conducted in the north and south wings to ascertain safe, allowable floor loadings.
- A laser scan survey has been carried out and used to produce a 3D Revit model of the existing building. This measured survey is currently being used by the design team to produce proposed drawings.
- A crack monitoring investigation has begun to monitor any movement of the masonry walls.

6. Results of Analysis

6.1 Floors

The material and size of existing floor members have been determined through minor / limited opening up works and analysed to determine an estimated capacity. The weights of the existing floors have been calculated approximately based on the floor build-ups observed on site. Values for imposed floor loading, or live loading, come from the National Annex to BS EN 1991-1-1. For example, recommended imposed area loads for offices with partitions are 3.5 kN/m², for static book storage are 6.5 kN/m², and for mobile book storage are 9.6 kN/m². The code also specifies imposed point loads, which have been taken into account in the calculations.

Assumptions are always required when analysing existing structural elements since the exact properties of the members are not known. Historic steel tables, when available, were used for mild steel members, by matching the measurements of a member's depth, width, and flange thickness to an approximate section size. If a steel member appeared to be modern, then it was analysed as a modern section. Following a cursory visual inspection on site, the depth and width of timber members was measured and C16 softwood timber was conservatively assumed. Members were designed or checked for both strength and deflection.

Due to the number of structural interventions that have taken place throughout the life of the building, conditions were found to vary throughout. The Corbett and Tasker findings and conclusions are broadly in line with the Chamberlain report of 2003. The floors were originally envisaged for a domestic/ dormitory load of 1.5 – 2.0 kN/m^2 and now, in many cases, are used for book stacks. The current code recommends a minimum loading of 6.5 kN/m^2 for book storage.

As a general observation it is to be noted that after a preliminary analysis, several members appear to be stressed beyond their estimated capacity under the existing loads. This can be caused by many factors such as the over estimation of the loads, the under estimation of the historic material properties, and the presence of secondary load paths that are excluded from the theoretical structural model. For timber and cast-iron beams, the uncertainty of the material properties is probably more relevant than for mild steel members.

Sketches have been produced which show the results of the analysis under static book storage loading in simplified form (see Appendix C). These sketches also indicate which floors had observed deflected floors which may require complete replacement.

6.1.1 North and South Wings

Due to the variation in structural modifications throughout the building, analysis of the north and south wings has been considered separately. The symmetry of the building exists primarily in the interior and exterior loadbearing masonry walls, so where complete floor replacement is required the proposed new floor structure can be mirrored to either wing.

In both the north and south wings, many of the existing beams structurally analysed using modern standards and reasonably conservative strength and loading assumptions cannot be justified to support a domestic load, let alone the recommended book stack load. While the floors have not failed, they have shown considerable and, in some cases, severe deflections. The floor joists, which appear to be continuous over the stud walls, are likely acting in a combination of catenary and increased bending action. This is to say that they are believed to have originally spanned approximately 3.5m from the masonry walls to loadbearing timber stud wall, whereas now they are in many cases spanning the full 7m between masonry walls, working partly in bending and partly in tension. The timber stud walls may also be acting as deep trusses distributing the floor load towards the external and corridor masonry walls. Both of these structural actions are complex to model, unreliable in practise and it is not recommended that they are used as the primary load transfer system.

The results of the analysis are summarised in the "North and South Wing Proposed Usage Implication Matrix" (see Appendix B and Figure 16). The analysis of the existing structure involved back calculating an allowable imposed load to determine what loading, if any, an existing member could take. The idea was that this matrix could be used while determining appropriate future uses of the building. Floors are separated by room and proposed usage and are categorized as either able to remain (shown in green), in need of partial replacement or reinforcement (shown in yellow), or in need of complete replacement (shown in red). While some rooms were found to be capable of supporting an office loading without strengthening, most rooms would require replacement or reinforcement in order to justify the imposed loads.

17218 - Dr Williams's Library, London North and South Wing Proposed Usage Implications Matrix

CORBETT & TASKER
structural engineering

ROOM REF.		EXISTING DESCRIPTION		PROPOSED USAGE IMPLICATIONS		
Level	Room No.	Existing Description	Observations	Mobile shelving	Static Shelving	Office/ Residential
4	401	*Library*		N/A		
	402	*Reading Room*		N/A		
	422	*Office*		not applicable	Replacement of timber joists	No action required
	423/424	*Round Table Rm.*		Replace all floor structures; Refer to sketch XXX	Remove iron structure and replace with new steel structure; Timber joists can remain; Refer to sketch XXX	Remove iron structure and replace with new steel structure; Timber joists can remain; Refer to sketch XXX
	426/427	*Toilets*	*427 slope from spine and ext.*	Replace all floor structures; Refer to sketch XXX	Replace all floor structures; Refer to sketch XXX	Remove stud wall/beam below and replace with new steel structure; Timber joists can remain (or replace to level floor); Refer to sketch XXX
	452			not applicable		
	453		*complex slopes 1 to 3 deg*	Remove timber post; Replace all floor structures Refer to sketch XXX	Remove timber post; Replace all floor structures Refer to sketch XXX	Remove timber post; Replace all floor structures Refer to sketch XXX
	454/457		*2 to 4 deg*	Replace all floor structures; Refer to sketch XXX	Replace all floor structures; Refer to sketch XXX	High deflection. Replace all floor structures; Refer to sketch XXX
5	522	*Stacks*		not applicable	Replacement of timber joists	No action required
	523/524	*Stacks*		Replace all floor structures; Refer to sketch XXX	Remove stud wall below and replace with new steel structure; Timber joists can remain; Refer to sketch XXX	Remove stud wall below and replace with new steel structure; Timber joists can remain; Refer to sketch XXX
	525/526	*Stacks*	*3deg*	Replace all floor structures; Refer to sketch XXX	Replacement of timber joists	Replacement of timber joists (to level floor)
	552			not applicable	tbc	tbc
	553		*1 deg*	tbc	tbc	tbc
	554/555	*Stacks*	*3 deg from spine wall*	Replace all floor structures; Refer to sketch XXX	Replace all floor structures; Refer to sketch XXX	Remove stud wall below and replace with new steel structure; Timber joists can remain (no office partitions)
6	601	*Stacks*		tbc	tbc	tbc
	602	*Stacks Under Iron Rm.*				
	620/625	*Stacks*	*slope from external and spine*	Replace all floor structures; Refer to sketch XXX	Replace all floor structures; Refer to sketch XXX	Remove stud wall below and replace with new steel structure; Timber joists can remain (or replace to level floor); Refer to sketch XXX
	622	*Office*			Replacement of timber joists	No action required
	623/624	*Office*		Replace all floor structures; Refer to sketch XXX	Replace steel structure; Timber joists can remain; Refer to sketch XXX	Replace steel structure; Timber joists can remain; Refer to sketch XXX
	652			not applicable	Replace all floor structures; Refer to sketch XXX	Remove stud wall below and replace with new steel structure; Timber joists can remain; Refer to sketch XXX
	653/654	*Stacks*	*2 deg from corridor*	Replace all floor structures; Refer to sketch XXX	Replace all floor structures; Refer to sketch XXX	Replacement of timber beams; Timber joists can remain (no office partitions)
	656/657		*3-3 deg + from corr and spine*	Replace all floor structures; Refer to sketch XXX	Replace all floor structures; Refer to sketch XXX	Replacement of timber beam; Timber joists can remain (no office partitions)

Page 2 of 3

Figure 16: (Top): Detailed, room specific written description of proposed structural solutions – see Appendix B

In general, for the purposes of this exercise, the floor structure was assumed to be retained wherever possible. For example, where multiple steel beams are required to avoid framing over a window opening, the span of the timber joists would be reduced, and they could then be justified for heavier loading. Where steel beams are required to replace an existing loadbearing stud wall, a pair of steel beams could be inserted below the floor level, one on either side of the existing stud wall. Once these beams are installed the stud wall could be removed without the need for extensive propping or replacing of the existing joists.

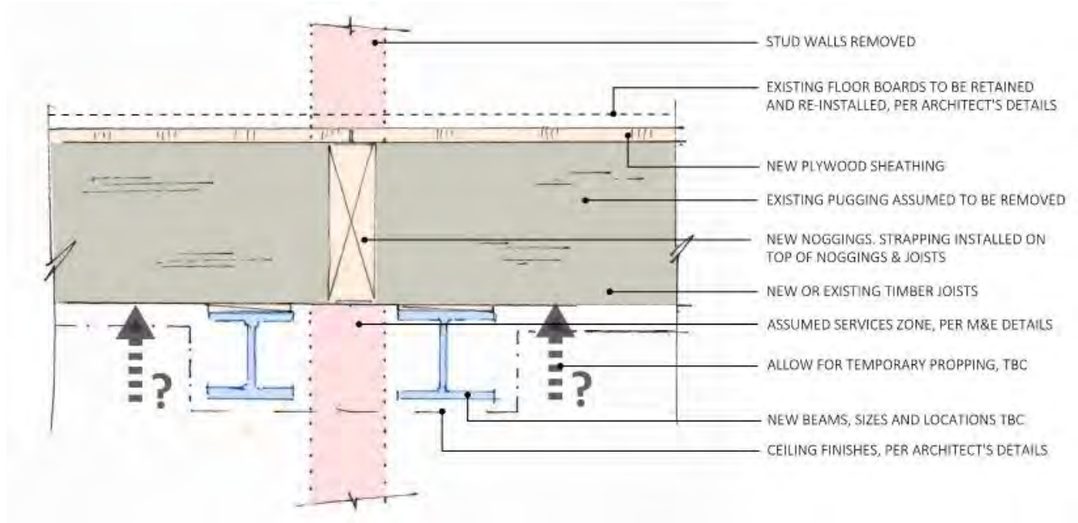

Figure 17: New steelworks installed below existing joists. Using two beams potentially negates the need for propping during the existing wall removal.

Throughout the entire building, for both existing and new floor joists, it is recommended to provide perimeter face fixed wall plates, steel restraint straps, noggins or herringbone straps, and new ply or OSB sheathing fastened across the top of all joists.

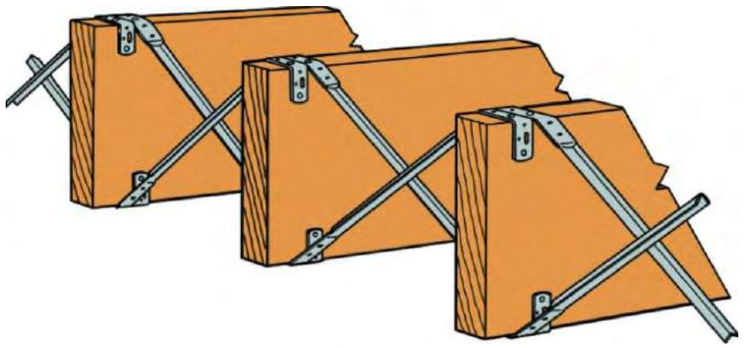

Figure 18: Example of herringbone steel strapping

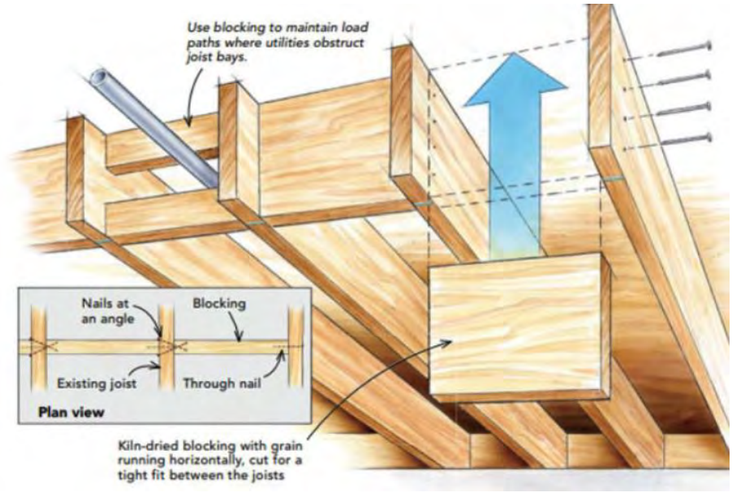

Figure 19: Example indication of noggins introduction works

Figure 20: Example of sheathing boards placed over joists

In regards to the placement of the ply / OSB sheathing, where existing floors can be retained there are two approaches that can be taken. Both instances will have an effect on the original fabric;

Option 1- The board can be fixed to the top of the existing floor joists

Positives –

1. Existing ceiling can be retained.

Negatives –

1. Original skirting boards will need to be lifted and altered to allow for deeper floor build up.
2. Doors will need to be undercut to suit raised floor level.
3. Door architraves altered to suit raised floor level.
4. Possible trip hazard at thresholds with stone corridors will be introduced due to raised thresholds (approx 18mm+) into rooms.

5. The opportunity to increase fire protection is lost.

Option 2- The board can be fixed to the underside of the floor joists

Positives –

1. Allows for skirting boards, thresholds, architraves and doors (assuming they meet required fire ratings) are retained and unaltered.
2. Fire protection to soffit to modern ratings can be allowed for providing greater protection to the fabric of the building and occupants if a fire was to break out.

Negatives –

1. Original lath and plaster ceiling will be lost.

It is felt the most suitable solution going forward would be to allow for boarding to be fixed to the underside of the floor joists.

6.1.2 Single Bay Rooms

The single-bay rooms, in the front of the wings, either side of the central core, contain the existing lift in the south wing and the proposed new lift in the north wing. It is assumed that the layout of these rooms on the north side will be similar to the layout on the south side. This will mean an opening for the new lift shaft and the potential for using these rooms for a services riser with additional new openings. These rooms have only been considered for office and static book storage loading.

A preliminary analysis of the existing floor joists, assuming they have a robust bearing at their supports, indicates that they are sufficient for office loads. The ability of the existing floors to take static book storage loading is to be determined. The presence of existing timber edge beams in some of these single-bay rooms needs to be further investigated during the next phase of investigatory works.

With the addition of the lift structure in the North single bay room the removal of the whole floor may be required.

6.1.3 Central Core West

The proposed usage of the central core west rooms at level 6 and level 7 will be for office use only. These rooms are currently used for static book shelving and converting these into office spaces would generate a significant reduction in overall loading at these areas.

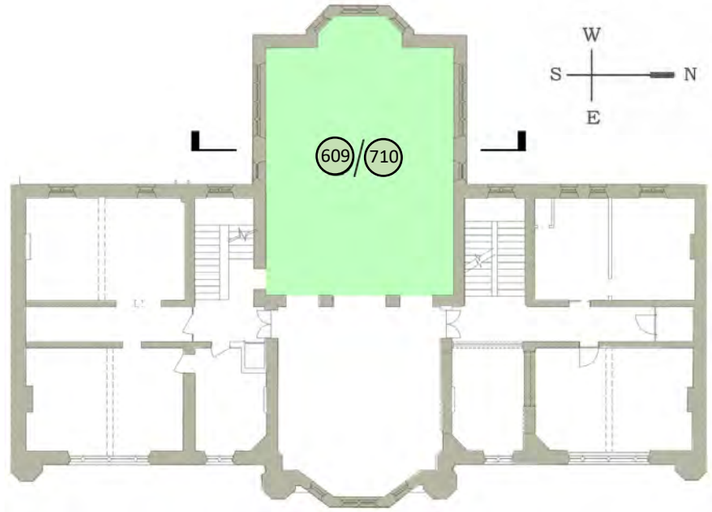

Figure 21: Key Plan with 'Central Core West' area highlighted (applicable to both levels 6 and 7)

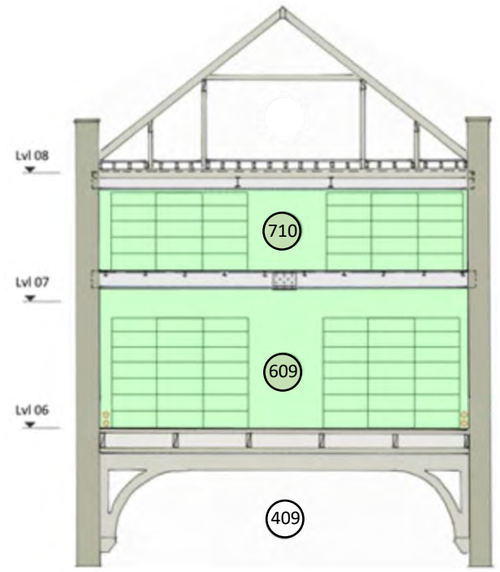

Figure 22: Existing Section through Central Core, existing Static Shelving shown indicatively

The floor structure at room 602 is largely unknown at present due to the decorative ceiling below and the heavy book stacks above, which have limited the ability to view the structure. Further investigation will be required during the proposed Enabling Works contract, however the proposed reduction in loading, coupled with the lack of obvious signs of structural distress, indicates that the proposed use of this floor for offices appears feasible and is structurally beneficial. It should be noted that if strengthening works are required at

this floor, they would be limited by the decorative nature of the ceiling below and the desire to not disturb the ceiling. Strengthening works, if required, will therefore be done from above if possible.

At room 702 the proposed works involve removing the existing steel floor, which is not original to the building, and replacing it with a new lowered floor at the same level as the rest of level 7. Again, using this space for offices rather than book storage will represent a reduction in overall loading in this area. The new floor would likely be framed with steel beams running north-south and spanning onto the existing masonry walls, thus mimicking the existing load path in this area. Joists would then span between the main beams to create the floor build-up. Further investigation into the condition of the masonry walls, the potential locations of beam bearings, and the effect of removing the existing steel floor will be required. It should be noted that temporary propping of the masonry walls will be required during the removal of the existing floor and should remain in place until the new floor is fully installed. Further work is required to establish the most appropriate construction sequence.

6.1.4 Central Core East

Rooms 603 and 704, the central core east rooms at levels 6 and 7, were analysed for their potential conversion to office use. Both floors were found to be inadequate to support modern office loading. It is thought that the original usage of these two rooms was residential, which has a lower recommended value for floor loading.

The existing structure at room 603 was found inadequate mainly due to the presence of cast iron beams, which require more conservative assumptions to account for the uncertainty of historic materials. Tests will be conducted on samples of the cast iron to establish credible design parameters. The structure at the room 704 floor was found to require strengthening or replacement of the timber and steel beams in order to justify modern office loading. The timber joists would also likely require replacement, although these would need to be further investigated.

Any strengthening work to the room 603 floor would be done from above without disruption to the ceiling of room 405.

6.2 Roof

A study of the roof and attic space has been carried on the feasibility of turning this into a usable space. At present, the attic is mostly unused except for some light storage and plant, including water storage units, to the south end.

To convert the attic into residential space, it is assumed that the following would be required:

- The existing roof build-up would need to be increased to allow for insulation, internal finishes and services. This may increase the dead load on the roof, although it may be partially or fully offset by the replacement of the roof tiles with slate in place of the existing concrete, and will have a nominal impact on the roof pitch line to allow for the new insulation.
- The imposed floor loading would increase from what is currently there, as well as the dead load on the floor once finishes are added.
- A means of accessing the attic space would be required, as the attic is currently accessed by a hatch with a ladder. This is to be achieved by installing a new non-combustible steel staircases from level 7 to level 8 above the existing stair cores.
- To allow for sufficient headroom to the 8th floor attic space, it is proposed that the existing structural layout be adapted and dormer windows added to the rear elevation. This will require the replacement of the existing timber rafters to the rear elevation of the North and South wings. The rafters to the central core and front elevation will remain untouched.

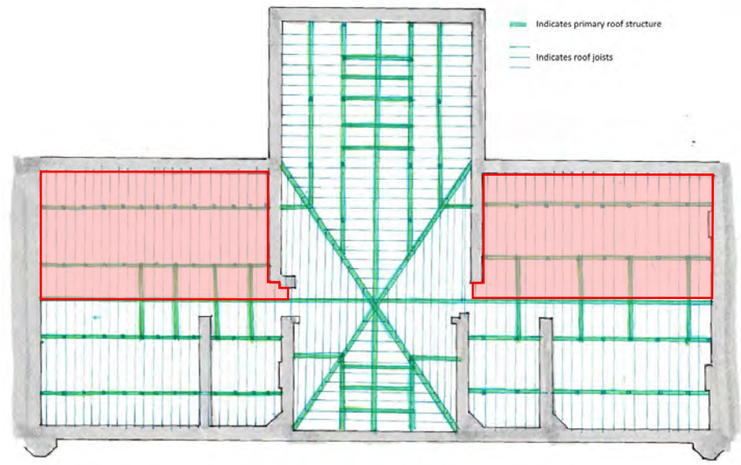

Figure 23: Plan of the existing roof structure showing the structure to be removed in red

The study has raised the following points about the strengthening works to allow for the use of the attic space:

1. All floor joists will likely require replacement, as the level 8 floor would not likely have been designed for any specific imposed loads beyond those from the internal partition and roof. Replacement of the floor joists would also give the added benefit of allowing a diaphragm and ties to be included in the floor build-up to help restrain the tops of the masonry walls and tie the structure together.
2. The central core floor could be strengthened either by inserting new primary steel beams and/or by restraining the lateral buckling of existing steel members to enhance their capacity. Timber beams may need to be replaced or strengthened with new steel members. Material testing will be used to possibly justify the capacity of some of the existing beams to see if they can be retained.
3. For the north wing, a new structural scheme will be required to eliminate load transfers to lower floor structures. This may involve the replacement of the existing timber beams with new steel members. The south wing has not been opened up, due to possible asbestos, but it is assumed to be similar to the north wing.

6.3 Masonry Walls

A primary structural element at Dr Williams's Library is the thick loadbearing masonry walls which support the entire building. The allowable bearing strength of the masonry which makes up these walls is currently unknown, but future testing will determine a value for allowable bearing strength of the masonry. Without the actual values at present, assumptions have been made in the meantime to assess the capacity of the masonry. A generally accepted baseline value for masonry bearing stress is 0.42 N/mm², although it should be noted that this value is often considered quite conservative.

Once the actual bearing strength of the masonry is established, the existing masonry walls will need to be checked for compression forces, to ensure that they do not exceed the allowable values, and for tension forces, to ensure that they do not go into tension. Masonry is a brittle material that will crack under tension.

As a preliminary exercise before the masonry testing is completed, a study has been done of a heavily loaded masonry pier. The study calculated the stresses in the pier under the assumed existing loads. The results of this exercise found that the pier remained fully in compression, although the maximum theoretical stress in

the pier was found to exceed the baseline value of 0.42 N/mm². It should be noted that these values were calculated with conservative assumptions. Once materials testing of the existing masonry has been completed this analysis will be refined further.

While these checks were preliminary, they provide a good starting point in the masonry analysis. The fact that the masonry seems able to take the current loading from the book stacks demonstrates that the masonry walls were most likely overdesigned when they were built, and likely have additional capacity. This is promising in terms of the feasibility of the proposed works. When the results of the masonry testing become available, more rigorous analysis will take place to determine the actual strength of these walls and provide further direction for the design and strengthening of the building.

To minimise loadings on the masonry walls it has been advised that no book storage is to be allowed for above level 3.

7. Other Considerations

7.1 Robustness

The Building Regulations 2010 for England and Wales require that in case of an accidental event, buildings are designed against structural collapse that is disproportionate to the original cause. Depending on the size and use of the building, new structures generally require specific detailing to ensure a measure of robustness and stability. For an existing building not designed to meet modern-day code, the requirements are less prescribed and more open to engineering interpretation and judgement.

Prudence and precedence suggests that there is a degree of compromise with existing buildings such as this. Converted buildings should be altered or strengthened to the standard required by current structural regulations only in so far as is reasonably practicable, as long as they are no worse than “only marginally more unsatisfactory than before.” It’s not feasible to bring this entire structure up to current code, due to cost, time, accessibility, and material constraints. Similarly, because the building is historically listed, it is of added importance to retain as much of the original structure as possible. Keeping these factors in mind, specific localized reinforcements and improvements can be made at areas with known structural deficiencies and where loads are changing significantly. Reducing the excessive loading of the book storage will also be an essential part of this strategy. By taking this approach the building will in fact be made safer and more satisfactory, without full compliance to the current code. It should be noted that this approach, as well as all the proposed works, has been confirmed with the Building Control Inspector.

The proposed structural work will increase the robustness of the building by addressing the weakest points of the current structure. New members will be installed and detailed to meet the robustness requirements of a new Class 2B building. This includes horizontal straps to be installed on the new timber floor joists with noggins and tied into the masonry walls. In addition, it is recommended that all existing timber floors which are to remain be similarly tied to the masonry walls throughout the building. Attaching the steel straps to the walls can be achieved through installation of a steel wall plate to the face of the wall. By tying the floor structures to the walls throughout the building, overall robustness of the structure will increase significantly.

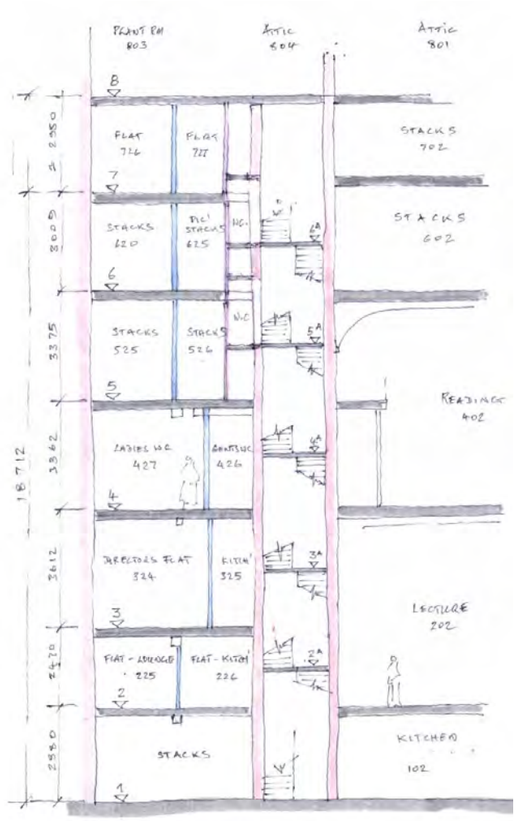

Figure 24: Sections looking east at south wing of building. Image on left shows existing building layout with remaining loadbearing timber stud walls.

Due to the sagging floors and inconsistent reinforcement done at the original lines of loadbearing timber stud walls, it is structurally advisable to remove the remainder of these timber walls and add new steel beams in their places which span between masonry walls. This will increase the robustness of the structure by making each floor self-supporting and minimizing the presence of transfer structures in these areas.

One aim of robustness is to minimize the risk of a potential event that could cause progressive collapse. It is recommended that the gas supply in the building, if it is to remain in place, be continuously monitored and maintained by appropriate measures to minimise the risk of a gas explosion.

A final important aspect of robustness is that the building must be stable during all phases of construction work. To ensure that the building is not weakened during construction, while walls or floors are being removed, temporary works shall be provided.

7.2 Fire Resistance

Many of the retro-fitted steel beams are unprotected and may well be deficient in terms of fire resistance; this may also apply to the many timber beams. The precise required fire resistance is best determined by a fire engineer conducting a holistic study of the building including assessments of fire loads, means of escape and detection systems.

The general assumed strategy for the protection of new and existing floors is to provide fire resistant encapsulation (i.e. plasterboard linings). It is understood that there are cast-iron and historic steel members in the building, and a direction is to be confirmed and coordinated with the architect and fire engineer. Intumescent paint application to new and existing steelwork can be considered and may be provided in addition to the aforementioned strategy, however this will not protect the timber floors themselves; hence the move towards an all fire lined strategy, including the provision of new fire protected ceilings in line with current standards.

7.3 Construction Considerations

It is understood that receiving deliveries, manoeuvring items into their intended positions and the temporary works associated with these processes are likely to be some of the most challenging aspects of the eventual site phase. All new structural elements will be designed with access and handling in mind, to ensure they can be installed safely with minimal impact on the historical asset.

7.4 Surface Water Attenuation

As a result of the new purpose-built archive storage to the rear, and the requirement to restrict surface water run-off, it will be necessary to attenuate surface water on the site for the new extensions. The surface water attenuation will be designed to store the critical 1 in 100 year storm plus 40% for climate change. Preliminary storage calculations indicate that an attenuation storage volume of approximately 12 m³ will be required. It is proposed that the storage tank be located in the rear between the two new extensions.

8. Recommended Future Works

The results of the structural investigations, analysis, and studies to date have led to the conclusion that a structural repair and refurbishment strategy is urgently required for most of the building. Corbett and Tasker are currently working with the design team as the proposed future usage of each room is determined in a feasible and practical way, hence the removal of book storage from above level 3.

Due to the historical significance of the building, a goal of the strengthening works will be to preserve the existing structure as much as possible. Strengthening within an existing structure is often more economical than replacement, as replacement requires both new material and often costly temporary support. The future works recommended by Corbett and Tasker are summarised below and include further investigations, proposed structural interventions.

1. It is recommended that the loadbearing timber stud walls in the north and south wings be removed and replaced with steel beams. While these walls appear to have been a key feature of the original structure, many of them have been removed over the years without adequate support being added back, and the original continuous load paths are no longer in place, causing severe floor overloading and deflections. Removing these walls and adding steels will make each floor self-supporting and increase the robustness of the building. If necessary for the architectural programme, non-loadbearing partitions can be added.
2. It is assumed that the half-landing toilets and associated walls, which are located adjacent to the stairwells and no longer in use, will be removed throughout the building. They have already been removed at the lower levels of the building. This will require infilling of the floor openings at these locations and will increase the usable room area and contribute to making each floor self-supporting.
3. Where the existing timber floors show signs of excessive deflection, complete floor replacement is required.
4. It is recommended that heavier loading, such as mobile book storage, be kept to the lower floor levels.
5. Throughout the entire building, for both existing and new floor joists, provide perimeter face fixed wall plates, steel restraint straps, noggins and herringbone straps, and new ply or OSB sheathing fastened across the top of all joists.
6. The unstable timber prop in the roof space requires replacement.
7. The existing cracks at the masonry walls and stairs should be recorded and periodically monitored to determine whether the movement is current or historic. Future remedial repairs, such as crack stitching, should be allowed for.
8. Additional opening up works will be required in areas that have yet been accessed. It is understood that these works will take place as part of an Enabling Works contract.
9. Strength and composition testing of existing structural elements is recommended to justify their capacity:
    a. Timber survey and testing;
    b. Masonry brick and mortar testing;
    c. Steel and iron testing.
10. A site investigation, including trial pits at the existing building and boreholes at the rear, are required for the proposed works and is currently being organised.
11. Vibration considerations should be discussed with the client and commercial letting agent to determine appropriate design requirements.
12. Further liaison is required regarding the proposed rolling stacks.
13. All issues regarding water penetration and dampness, particularly noted in the southwest external wall at levels 6 to 8, should be rectified. It is important to emphasise that any situation of water penetration can have a serious impact on the structure. This, in part, will be made better by the dormer windows to the rear as they will allow for more regular cleaning and maintenance of the RWP outlets, currently this is a difficult and dangerous job making regular maintenance difficult.
14. The latest Fire Risk Assessment (FRA) should be assessed to clarify the fire resistance required for key structural elements. A fire resistance strategy should be determined with a fire engineer.
15. Two of the chimney stacks have been noted as being out of plum, and two more have been noted visually. More detailed survey work, during an Enabling Works contract, will allow for the construction and the out of plumbness of the chimney stacks to be recorded. The typical strategy to correct out of plum chimneys is to rebuild the chimney.

Appendix A – North and South Wing Proposed Usage Implications Matrix

ROOM REF. CPMG Room Numbers			EXISTING DESCRIPTION		PROPOSED USAGE IMPLICATIONS		
Level	**Existing Room No.**	**Proposed Room No.**	**Existing Description**	**Observations**	**Mobile shelving**	**Static Shelving**	**Office/ Residential**
2	201/202	201/202	*Flat*	*Springy floor*	Replace all floor structures (or build over existing)	Minor reinforcement of steel may be required - further analysis required; Replacement of timber joists	No action required
	203	203	*Office*		Not applicable	Replacement of timber joists	No action required (Tbc pending further opening up on wall plates/edge beams)
	204	204			N/A		
	205	206	*Storage*		Not applicable	Tbc pending new lift	Tbc pending new lift
	206	207	*Stacks*		Replace all floor structures (or build over existing)	Reinforcement/ replacement of primary steel beams; Replacement of timber joists	No action required
	209/210	209	*Stacks*		Replace all floor structures (or build over existing)	Replace all floor structures	Replace all floor structures
	211	212		*1 deg in west end*	N/A		
	215/216/217	214/216/218	*Flat*	*Springy floor*	Replace all floor structures (or build over existing)	Reinforcement/ replacement of secondary steel beam; Replacement of timber joists	Reinforcement/ replacement of secondary steel beam; Timber joists can remain
3	301	301	*Boardroom*		Replace all floor structures	Replace all floor structures	Remove stud wall below and replace with new steel structure; timber joists can remain
	302	302	*Office*		Not applicable	Replacement of timber joists	No action required (Tbc pending further opening up on wall plates/edge beams)
	303	303	*Office*		Not applicable	Tbc pending new lift	Tbc pending new lift
	304	304	*Stacks*		Replace all floor structures	Replace all floor structures	Replace steel beam; Timber joists can remain
	306	306	*Stacks*	*1 deg from corridor and extern*	Replace all floor structures	Replace all floor structures	Replace all floor structures
	308/309/310	308	*Flat*		Replace all floor structures	Replace all floor structures	Replace all floor structures
4	401/402/403	401	*Round Table Rm.*		Replace all floor structures	Replace all floor structures	Remove iron structure and replace with new steel structure, timber joists can remain
	404	402	*Office*		Not applicable	Replacement of timber joists	No action required (Tbc pending further opening up on wall plates/edge beams)
	405	403	*Library*		N/A		
	406	404			Not applicable	Tbc pending new lift	Tbc pending new lift
	406	405		*Complex slopes 1 to 3 deg*	Remove timber post; Replace all floor structures	Remove timber post; Replace all floor structures	Remove timber post; Replace all floor structures
	407/408	407/408		*2 to 4 deg*	Replace all floor structures	Replace all floor structures	Replace all floor structures
	409	410/411	*Reading Room*		N/A		
	410/411/412	413	*Toilets*	*411/412 slope from spine and ext.*	Replace all floor structures	Replace all floor structures	Replace all floor structures

ROOM REF. CPMG Room Numbers			EXISTING DESCRIPTION		PROPOSED USAGE IMPLICATIONS		
Level	Existing Room No.	Proposed Room No.	Existing Description	Observations	Mobile shelving	Static Shelving	Office/ Residential
5	501	501	Stacks		Replace all floor structures	Replace all floor structures	Remove stud wall below and replace with new steel structure, timber joists can remain
	502	502	Stacks		Not applicable	Replacement of timber joists	No action required (Tbc pending further opening up on wall plates/edge beams)
	504	504			Not applicable	Tbc pending new lift	Tbc pending new lift
	505	505		*1 deg*	TBC	TBC	TBC
	507	507	*Stacks*	*3 deg from spine wall*	Replace all floor structures	Replace all floor structures	Replace all floor structures
	510/511	513	Stacks	3deg	Replace all floor structures	Replacement of timber joists	Replacement of timber joists
6	601	601	*Office*		Replace all floor structures	Replace all floor structures	Replace steel structure; Timber joists can remain
	602	602	*Office*		Not applicable	Replacement of timber joists	No action required (Tbc pending further opening up on wall plates/edge beams)
	603	603	*Stacks*		TBC		
	604	604			Not applicable	Tbc pending new lift	Tbc pending new lift
	605	605	*Stacks*	*2 deg from corridor*	Replace all floor structures	Replace all floor structures	Replace all floor structures
	607/608	607		*2-3 deg + from corr and spine*	Replace all floor structures	Replace all floor structures	Replace all floor structures
	609	617	*Stacks Under Iron Rm.*		TBC		
	611/612	610	*Stacks*	*Slope from external and spine*	Replace all floor structures	Replace all floor structures	Replace all floor structures
7	701/702	701	*Flat*	*2 deg*	Replace all floor structures	Replace all floor structures	Replace all floor structures
	703	702	*Stacks*	*1 deg*	Not applicable	Replacement of timber joists	Replacement of timber joists
	704	703	*Stacks*		TBC		
	705	704		*2-3 deg*	Not applicable	Tbc pending new lift	Tbc pending new lift
	706	705	*Stacks*		Replace all floor structures	Partial replacement of main structure (trimmer steel beam parallel to external wall) Replacement of timber joists	No action required
	708/709	707	*Stacks*	*709 1+ deg, 708 slight slope*	Replace all floor structures	Replace all floor structures	Replacement of timber joists
	710	718	*Iron Floor Rm. Stacks*		TBC		
	712/713/714	710	*Flat*	*714 severe 5 deg, 713 2 deg*	Replace all floor structures	Replace all floor structures	Replace all floor structures
8	801	807	*Central Wing Front*		Strengthening to steel beams Replacement of timber beams Replacement of floor joists	Strengthening to steel beams Replacement of timber beams Replacement of floor joists	Strengthening to steel beams Replacement of timber beams Replacement of floor joists
	802	808	*Central Wing Rear*		Strengthening to steel beams Replacement of timber beams Replacement of floor joists	Strengthening to steel beams Replacement of timber beams Replacement of floor joists	Strengthening to steel beams Replacement of timber beams Replacement of floor joists
	803	801/802/803/804	*South Wing Plant Rm*		Assume same as North wing	Assume same as North Wing	Assume same as North wing
	804		*South Wing*		Assume same as North wing	Assume same as North Wing	Assume same as North wing
	805	-	*South Wing Small Rm*		Assume same as North wing	Assume same as North Wing	Assume same as North wing
	806	-	*North Wing Small Rm*		Replacement of all floor structures	Replacement of all floor structures	Replacement of all floor structures
	807	805	*North Wing*		Replacement of all floor structures	Replacement of all floor structures	Replacement of all floor structures

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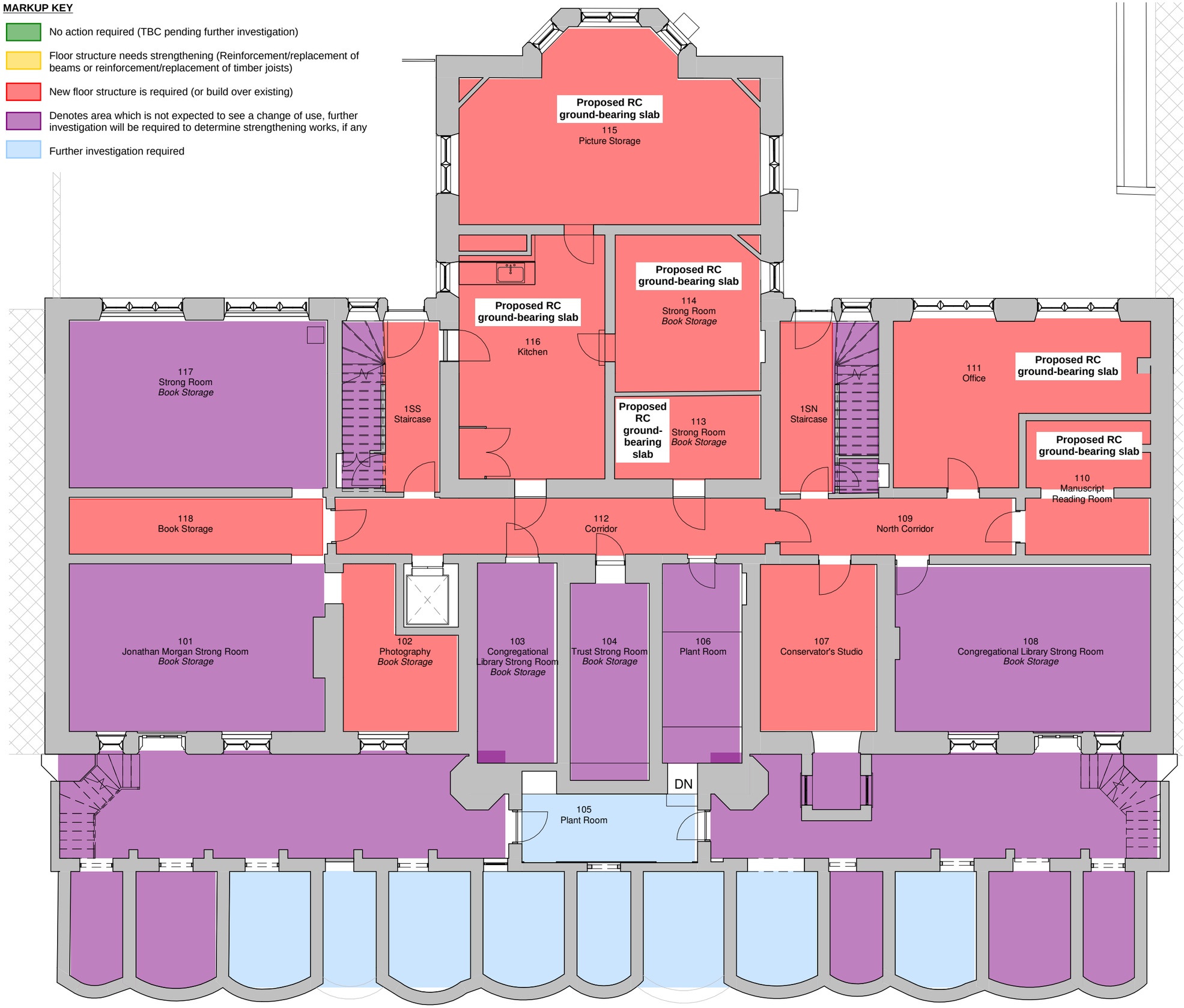
Appendix B – Existing Structural Conditions Sketches

1

MARKUP KEY

- No action required (TBC pending further investigation)
- Floor structure needs strengthening (Reinforcement/replacement of beams or reinforcement/replacement of timber joists)
- New floor structure is required (or build over existing)
- Denotes area which is not expected to see a change of use, further investigation will be required to determine strengthening works, if any
- Further investigation required



Notes:

1. Generally the existing timber floor joists will require replacement or reinforcement for static book storage loads. Conditions vary throughout and are to be confirmed.

2. In any room where mobile storage is to be used, new floor structure will be required.

3. Sketches based on proposed room loadings from meeting minutes on 22/09/19 between David Wykes and John Eaton and subsequent comments at 2/10/19 DTM.

4. Background plans, room usage, and room numbers are based on existing drawings. Proposed strengthening works shown relate to proposed architectural scheme.

5. Sketches show strengthening works to floors only.

6. All proposed structural works are TBC pending further investigation.

Rev.	Drawn	Chkd.	Apprd.	Date	Description
A	TB	DT	DT	18/10/19	PRELIMINARY
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Drawing Title

LEVEL 1 PLAN, PROPOSED FLOOR STRUCTURE WORKS

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1:100 approx	SEPT '19	TB

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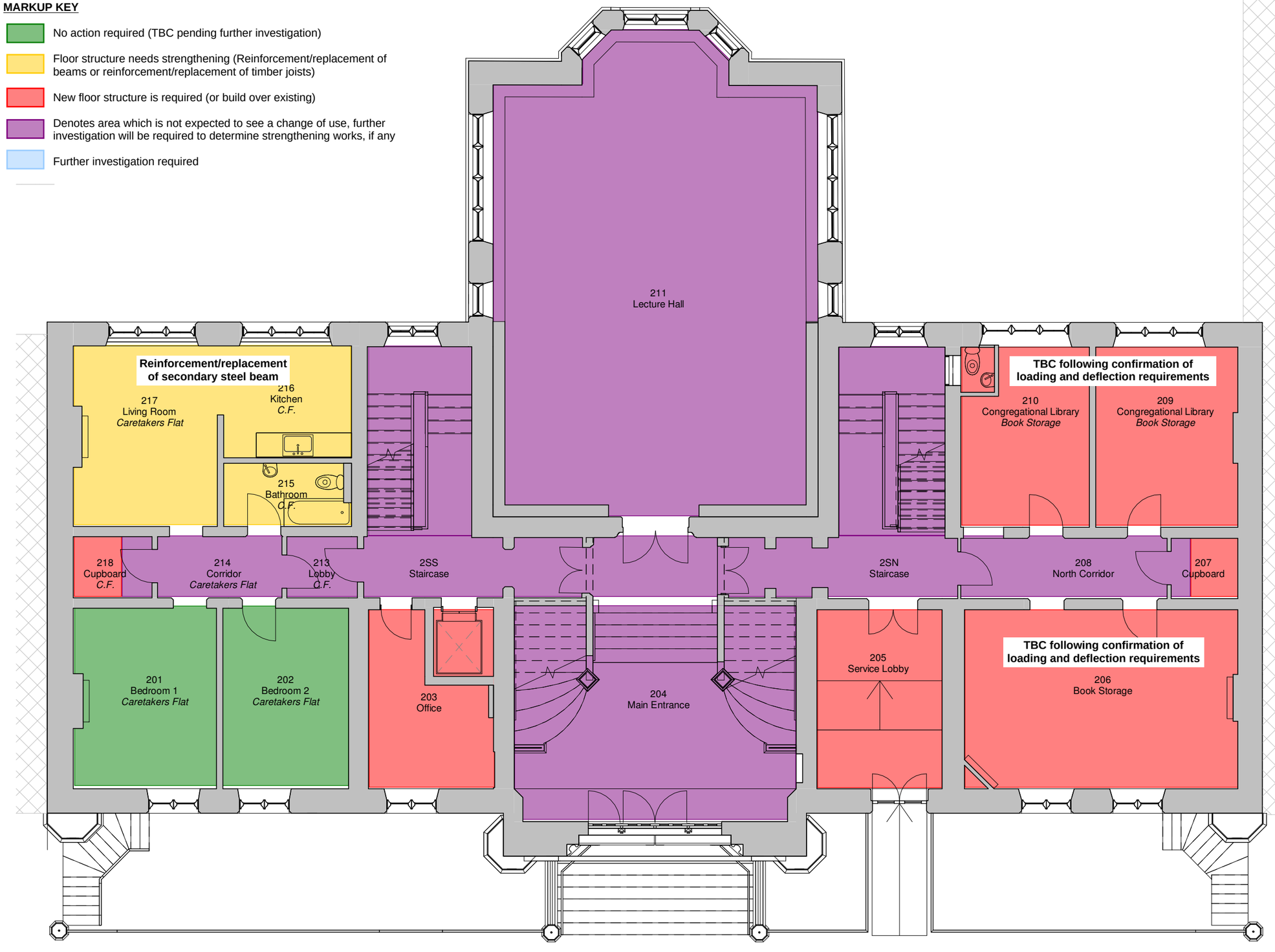
17218-CT-SK-087	-

MARKUP KEY

- No action required (TBC pending further investigation)
- Floor structure needs strengthening (Reinforcement/replacement of beams or reinforcement/replacement of timber joists)
- New floor structure is required (or build over existing)
- Denotes area which is not expected to see a change of use, further investigation will be required to determine strengthening works, if any
- Further investigation required



Notes:

1. Generally the existing timber floor joists will require replacement or reinforcement for static book storage loads. Conditions vary throughout and are to be confirmed.

2. In any room where mobile storage is to be used, new floor structure will be required.

3. Sketches based on proposed room loadings from meeting minutes on 22/09/19 between David Wykes and John Eaton and subsequent comments at 2/10/19 DTM.

4. Background plans, room usage, and room numbers are based on existing drawings. Proposed strengthening works shown relate to proposed architectural scheme.

5. Sketches show strengthening works to floors only.

6. All proposed structural works are TBC pending further investigation.

Rev.	Drawn	Chkd.	Apprvd.	Date	Description
A	TB	DT	DT	18/10/19	PRELIMINARY
-	TB	DT	DT	30/09/19	PRELIMINARY

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LEVEL 2 PLAN, PROPOSED FLOOR STRUCTURE WORKS

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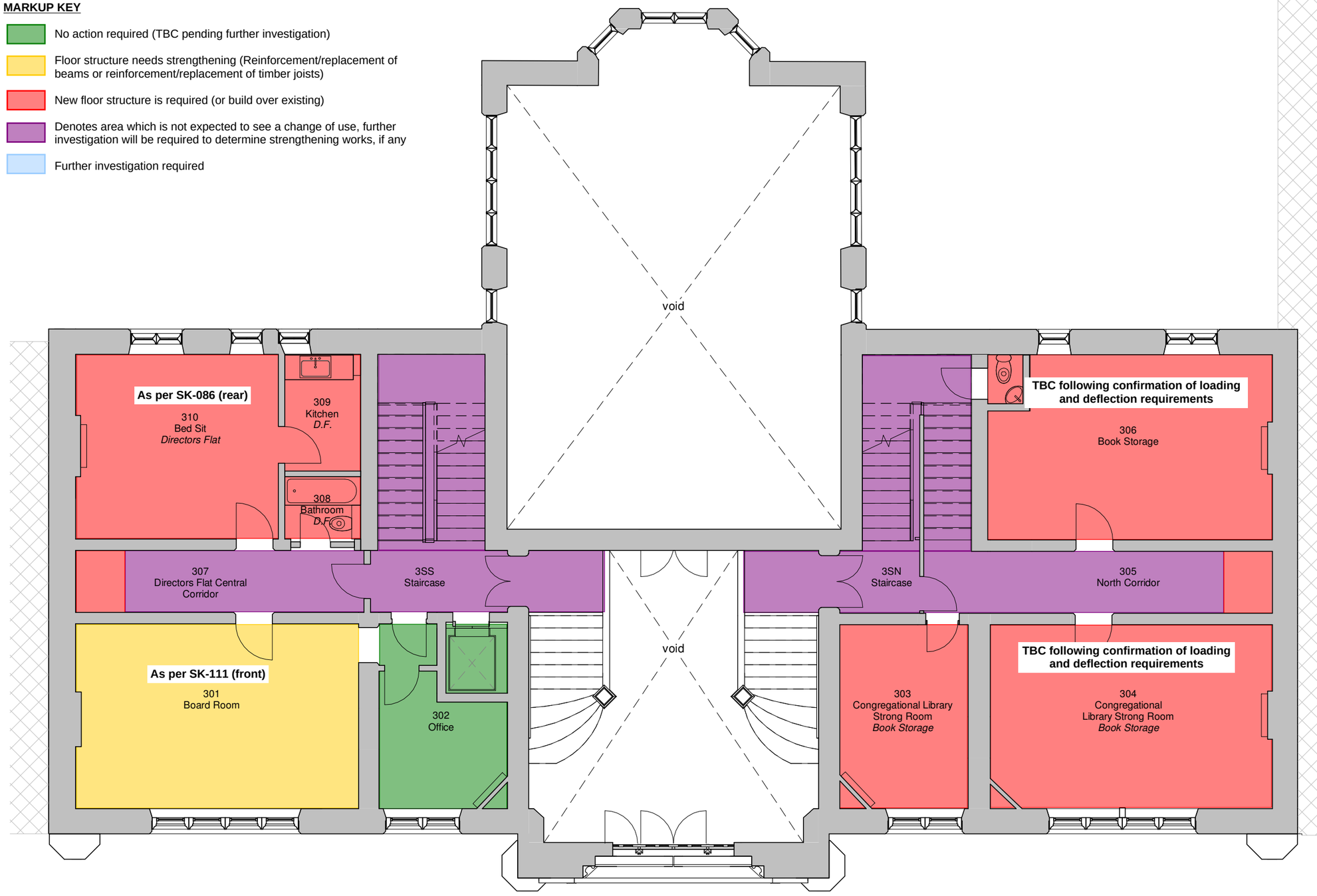
1:100 approx	SEPT '19	TB

drg. no.	rev.
17218-CT-SK-088	-

MARKUP KEY

- No action required (TBC pending further investigation)
- Floor structure needs strengthening (Reinforcement/replacement of beams or reinforcement/replacement of timber joists)
- New floor structure is required (or build over existing)
- Denotes area which is not expected to see a change of use, further investigation will be required to determine strengthening works, if any
- Further investigation required



Notes:

1. Generally the existing timber floor joists will require replacement or reinforcement for static book storage loads. Conditions vary throughout and are to be confirmed.

2. In any room where mobile storage is to be used, new floor structure will be required.

3. Sketches based on proposed room loadings from meeting minutes on 22/09/19 between David Wykes and John Eaton and subsequent comments at 2/10/19 DTM.

4. Background plans, room usage, and room numbers are based on existing drawings. Proposed strengthening works shown relate to proposed architectural scheme.

5. Sketches show strengthening works to floors only.

6. All proposed structural works are TBC pending further investigation.

Rev.	Drawn	Chkd.	Apprvd.	Date	Description
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LEVEL 3 PLAN, PROPOSED FLOOR STRUCTURE WORKS

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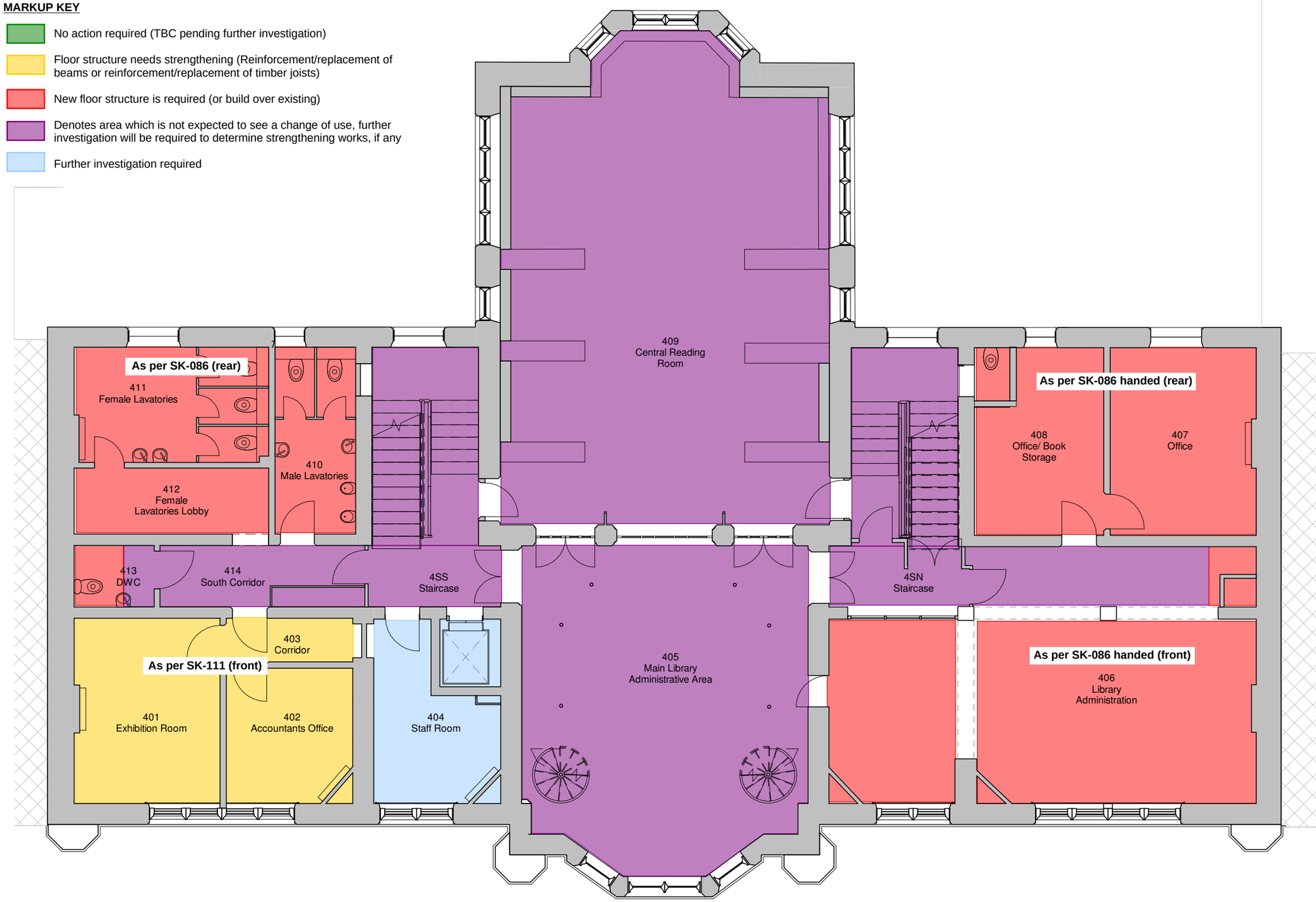
drg. no.	rev.
17218-CT-SK-089	-

MARKUP KEY

- No action required (TBC pending further investigation)
- Floor structure needs strengthening (Reinforcement/replacement of beams or reinforcement/replacement of timber joists)
- New floor structure is required (or build over existing)
- Denotes area which is not expected to see a change of use, further investigation will be required to determine strengthening works, if any
- Further investigation required



Notes:

1. Generally the existing timber floor joists will require replacement or reinforcement for static book storage loads. Conditions vary throughout and are to be confirmed.

2. In any room where mobile storage is to be used, new floor structure will be required.

3. Sketches based on proposed room loadings from meeting minutes on 22/09/19 between David Wykes and John Eaton and subsequent comments at 2/10/19 DTM.

4. Background plans, room usage, and room numbers are based on existing drawings. Proposed strengthening works shown relate to proposed architectural scheme.

5. Sketches show strengthening works to floors only.

6. All proposed structural works are TBC pending further investigation.

Rev.	Drawn	Chkd.	Apprd.	Date	Description
A	TB	DT	DT	18/10/19	PRELIMINARY
-	TB	DT	DT	30/09/19	PRELIMINARY

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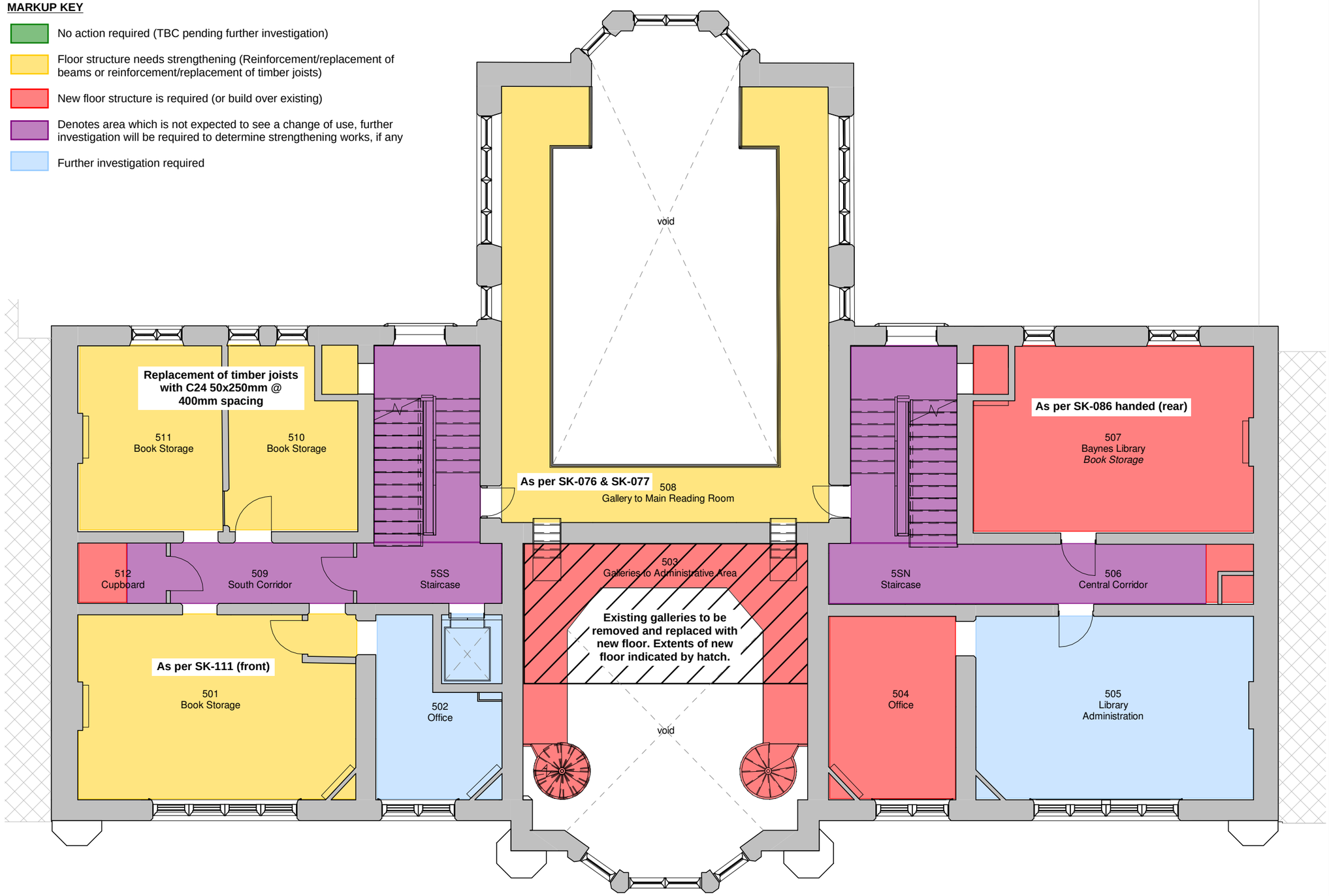
1:100 approx	SEPT '19	TB

drg. no.	rev.
17218-CT-SK-090	-

MARKUP KEY

- No action required (TBC pending further investigation)
- Floor structure needs strengthening (Reinforcement/replacement of beams or reinforcement/replacement of timber joists)
- New floor structure is required (or build over existing)
- Denotes area which is not expected to see a change of use, further investigation will be required to determine strengthening works, if any
- Further investigation required



Notes:

1. Generally the existing timber floor joists will require replacement or reinforcement for static book storage loads. Conditions vary throughout and are to be confirmed.

2. In any room where mobile storage is to be used, new floor structure will be required.

3. Sketches based on proposed room loadings from meeting minutes on 22/09/19 between David Wykes and John Eaton and subsequent comments at 2/10/19 DTM.

4. Background plans, room usage, and room numbers are based on existing drawings. Proposed strengthening works shown relate to proposed architectural scheme.

5. Sketches show strengthening works to floors only.

6. All proposed structural works are TBC pending further investigation.

Rev.	Drawn	Chkd.	Apprd.	Date	Description
A	TB	DT	DT	18/10/19	PRELIMINARY
-	TB	DT	DT	30/09/19	PRELIMINARY

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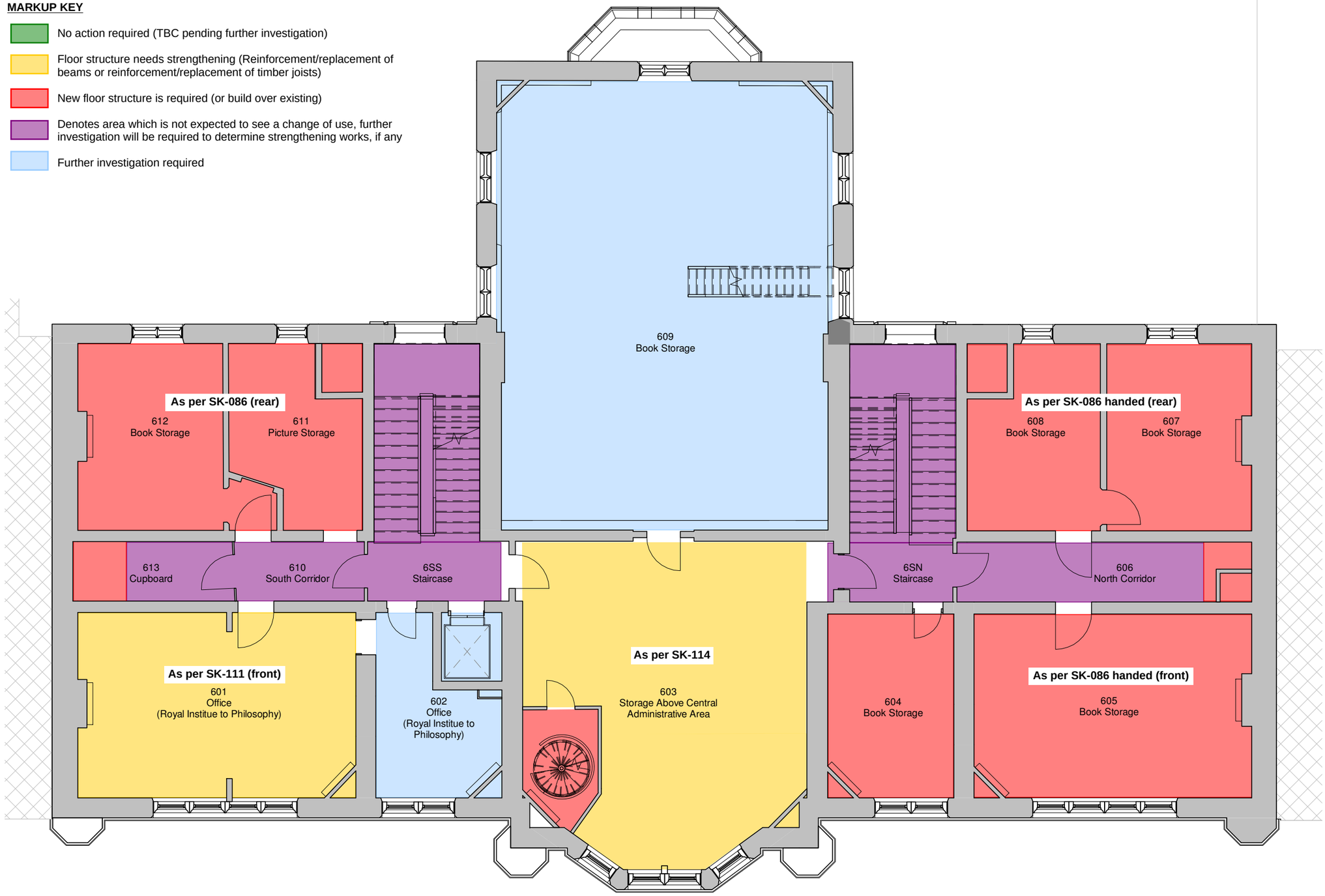
1:100 approx	SEPT '19	TB

drg. no.	rev.
17218-CT-SK-091	-

MARKUP KEY

- No action required (TBC pending further investigation)
- Floor structure needs strengthening (Reinforcement/replacement of beams or reinforcement/replacement of timber joists)
- New floor structure is required (or build over existing)
- Denotes area which is not expected to see a change of use, further investigation will be required to determine strengthening works, if any
- Further investigation required



Notes:

1. Generally the existing timber floor joists will require replacement or reinforcement for static book storage loads. Conditions vary throughout and are to be confirmed.

2. In any room where mobile storage is to be used, new floor structure will be required.

3. Sketches based on proposed room loadings from meeting minutes on 22/09/19 between David Wykes and John Eaton and subsequent comments at 2/10/19 DTM.

4. Background plans, room usage, and room numbers are based on existing drawings. Proposed strengthening works shown relate to proposed architectural scheme.

5. Sketches show strengthening works to floors only.

6. All proposed structural works are TBC pending further investigation.

Rev.	Drawn	Chkd.	Apprd.	Date	Description
A	TB	DT	DT	18/10/19	PRELIMINARY
-	TB	DT	DT	30/09/19	PRELIMINARY

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LEVEL 6 PLAN, PROPOSED FLOOR STRUCTURE WORKS

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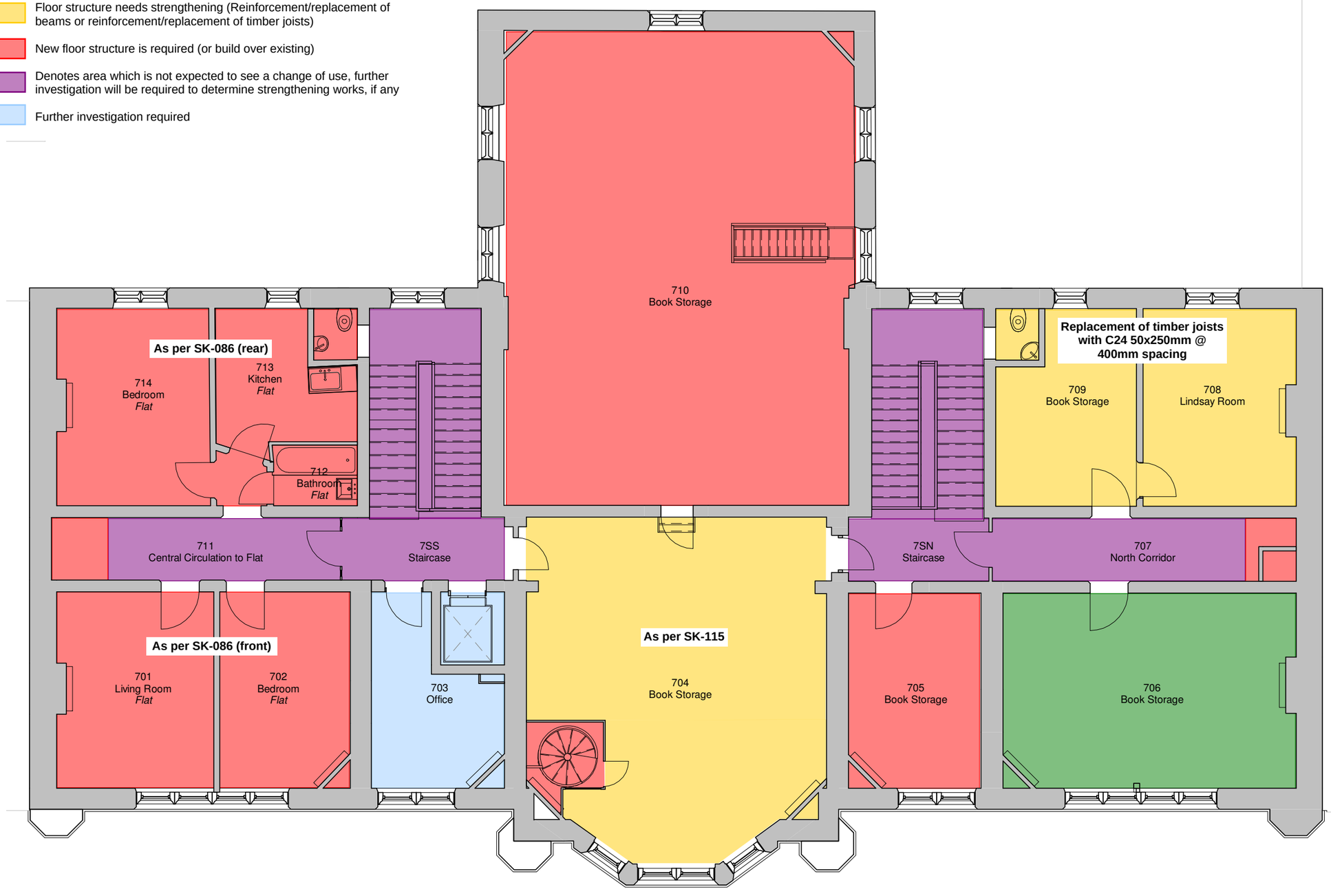
1:100 approx	SEPT '19	TB

drg. no.	rev.
17218-CT-SK-092	-

1

MARKUP KEY

- No action required (TBC pending further investigation)
- Floor structure needs strengthening (Reinforcement/replacement of beams or reinforcement/replacement of timber joists)
- New floor structure is required (or build over existing)
- Denotes area which is not expected to see a change of use, further investigation will be required to determine strengthening works, if any
- Further investigation required



Notes:

1. Generally the existing timber floor joists will require replacement or reinforcement for static book storage loads. Conditions vary throughout and are to be confirmed.

2. In any room where mobile storage is to be used, new floor structure will be required.

3. Sketches based on proposed room loadings from meeting minutes on 22/09/19 between David Wykes and John Eaton and subsequent comments at 2/10/19 DTM.

4. Background plans, room usage, and room numbers are based on existing drawings. Proposed strengthening works shown relate to proposed architectural scheme.

5. Sketches show strengthening works to floors only.

6. All proposed structural works are TBC pending further investigation.

Rev.	Drawn	Chkd.	Apprvd.	Date	Description
A	TB	DT	DT	18/10/19	PRELIMINARY
-	TB	DT	DT	30/09/19	PRELIMINARY

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LEVEL 7 PLAN, PROPOSED FLOOR STRUCTURE WORKS

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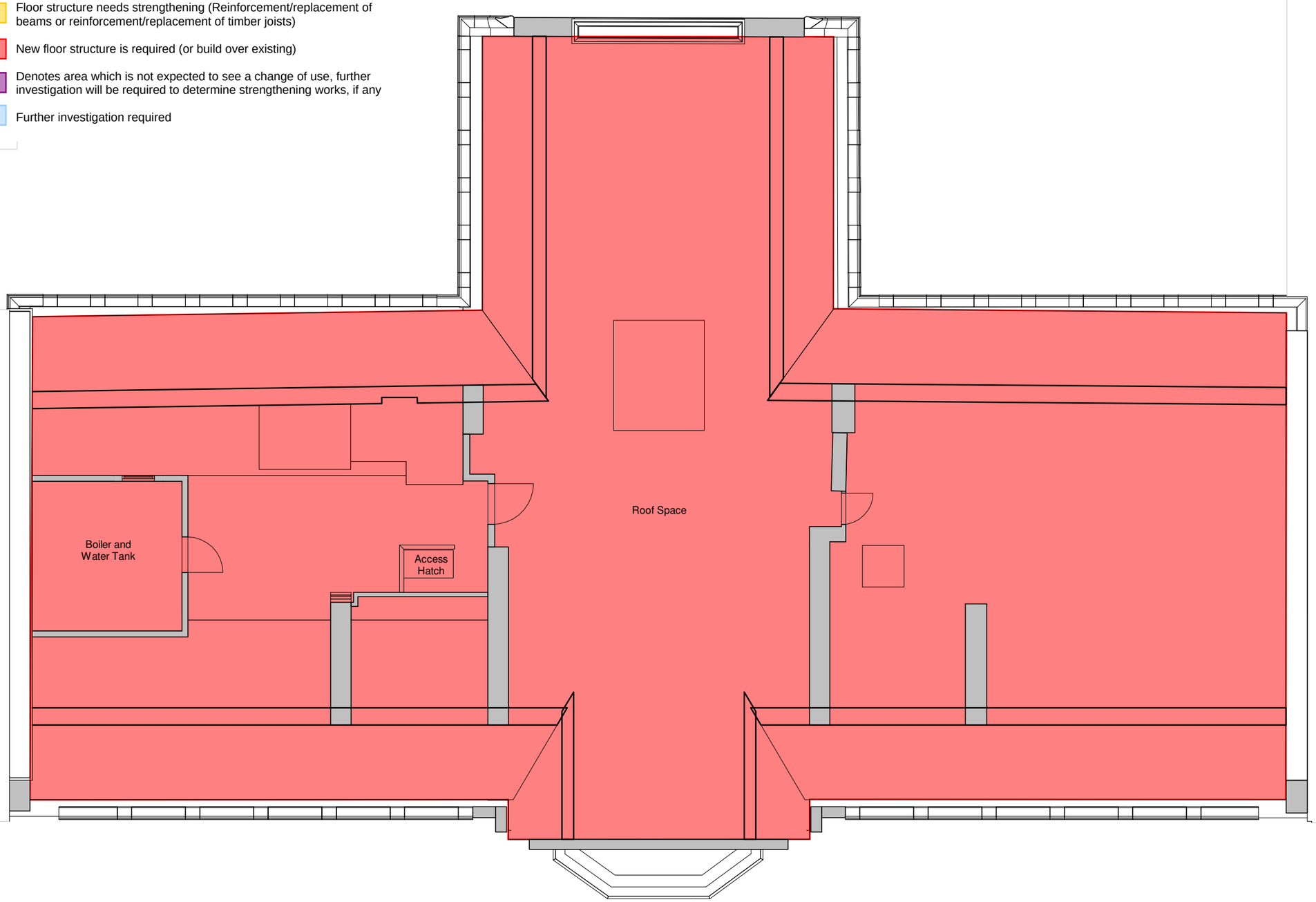
1:100 approx	SEPT '19	TB

drg. no.	rev.
17218-CT-SK-093	-

1

MARKUP KEY

- No action required (TBC pending further investigation)
- Floor structure needs strengthening (Reinforcement/replacement of beams or reinforcement/replacement of timber joists)
- New floor structure is required (or build over existing)
- Denotes area which is not expected to see a change of use, further investigation will be required to determine strengthening works, if any
- Further investigation required



Notes:

1. Generally the existing timber floor joists will require replacement or reinforcement for static book storage loads. Conditions vary throughout and are to be confirmed.

2. In any room where mobile storage is to be used, new floor structure will be required.

3. Sketches based on proposed room loadings from meeting minutes on 22/09/19 between David Wykes and John Eaton and subsequent comments at 2/10/19 DTM.

4. Background plans, room usage, and room numbers are based on existing drawings. Proposed strengthening works shown relate to proposed architectural scheme.

5. Sketches show strengthening works to floors only.

6. All proposed structural works are TBC pending further investigation.

Rev.	Drawn	Chkd.	Apprd.	Date	Description
A	TB	DT	DT	18/10/19	PRELIMINARY
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Drawing Title

LEVEL 8 PLAN, PROPOSED FLOOR STRUCTURE WORKS

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1:100 approx	SEPT '19	TB

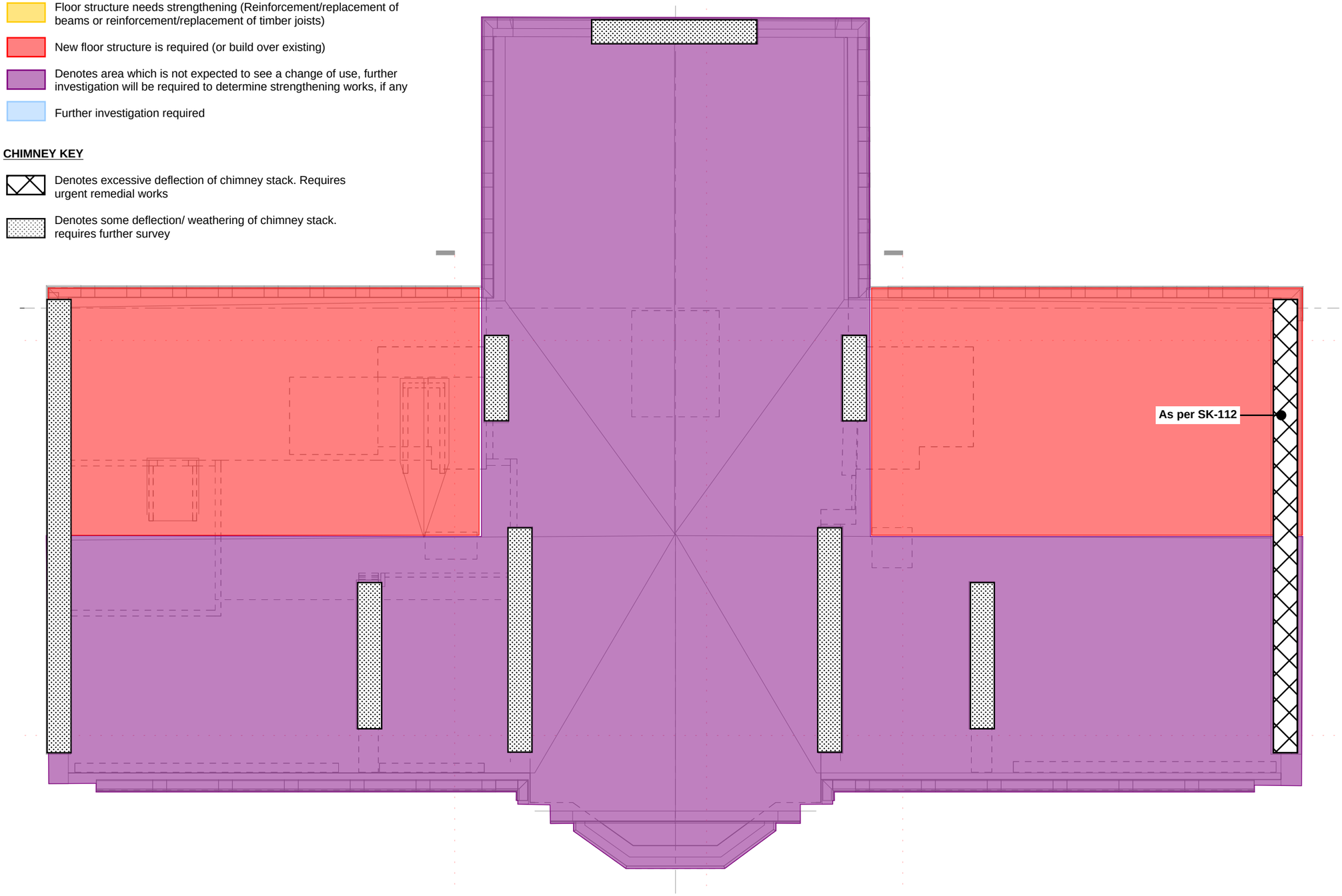
drg. no.	rev.
17218-CT-SK-094	-

MARKUP KEY

- No action required (TBC pending further investigation)
- Floor structure needs strengthening (Reinforcement/replacement of beams or reinforcement/replacement of timber joists)
- New floor structure is required (or build over existing)
- Denotes area which is not expected to see a change of use, further investigation will be required to determine strengthening works, if any
- Further investigation required

CHIMNEY KEY

- Denotes excessive deflection of chimney stack. Requires urgent remedial works
- Denotes some deflection/ weathering of chimney stack. requires further survey



Notes:

1. Generally the existing timber floor joists will require replacement or reinforcement for static book storage loads. Conditions vary throughout and are to be confirmed.

2. In any room where mobile storage is to be used, new floor structure will be required.

3. Sketches based on proposed room loadings from meeting minutes on 22/09/19 between David Wykes and John Eaton and subsequent comments at 2/10/19 DTM.

4. Background plans, room usage, and room numbers are based on existing drawings. Proposed strengthening works shown relate to proposed architectural scheme.

5. Sketches show strengthening works to floors only.

6. All proposed structural works are TBC pending further investigation.

Rev.	Drawn	Chkd.	Apprd.	Date	Description
A	TB	DT	DT	18/10/19	PRELIMINARY
-	TB	DT	DT	30/09/19	PRELIMINARY

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Drawing Title

ROOF PLAN, PROPOSED
ROOF STRUCTURE WORKS

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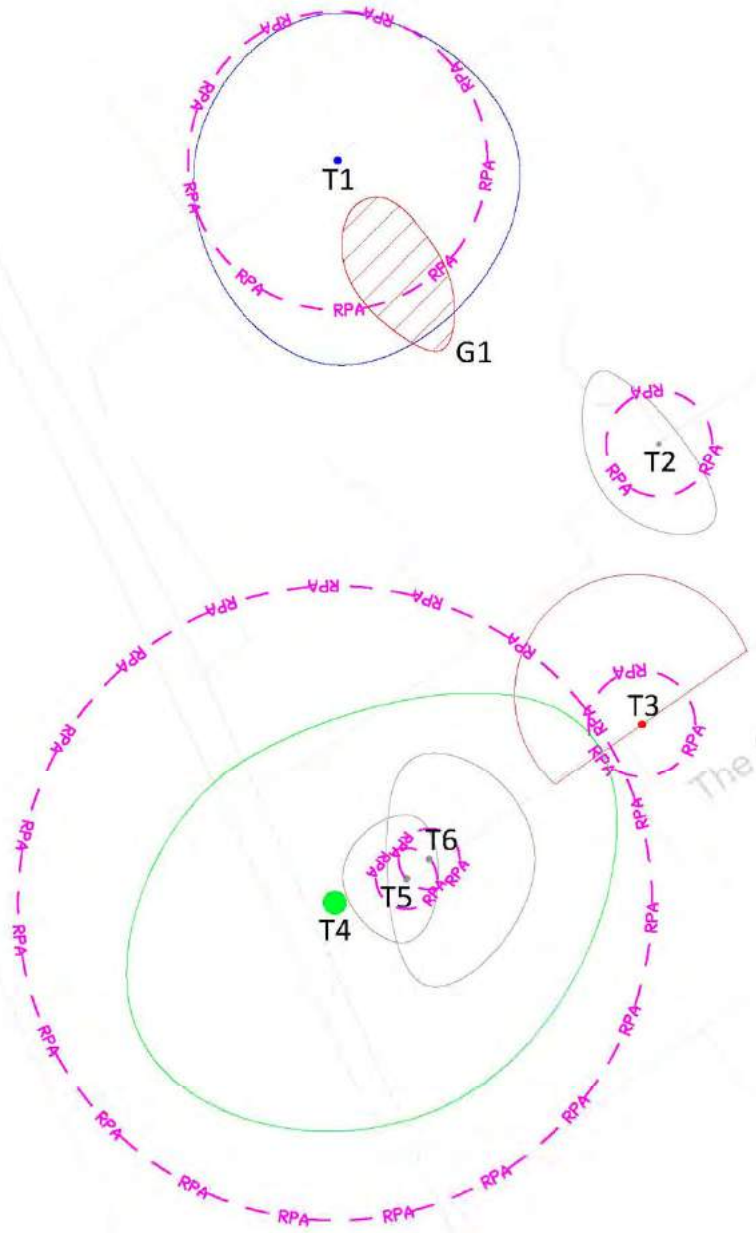
drg. no.	rev.
17218-CT-SK-095	-

Appendix C –
Arboriculture Schedule and Plan

SITE: Dr Williams Library, Gordon Square, London -- BS 5837:2012 TREE SCHEDULE -- DATE: 05/04/2019

TREE NUMBER	SPECIES	SCIENTIFIC NAME	AGE CLASS	STRUCTURAL CONDITION	PHYSIOLOGICAL CONDITION	COMMENTS (INCLUDING RECOMMENDATIONS AS APPROPRIATE)	CONTRIBUTING YEARS	VALUE CATEGORY	OVERALL HEIGHT (m)	CANOPY SPREAD (m)	GROUND - CANOPY (m)	D @ 1.5m	RPA (m^2)	RPR (m)
1	Sycamore	*Acer pseudoplatanus*	Late Semi-Mature	Good	Good	Stem bifurcates at 2.5m from GL. Very minor deadwood in crown. Tree Tag: 01955.	40+	B1	19.7m	N7 E8.6 S9.5 W6.5	9m	0.59m	157.48m^2	7.08m
2	Common holly	*Ilex aquifolium*	Semi-Mature	Good	Good	Growing within 0.5m of existing building, limited scope for long-term retention without frequent reduction works to crown to prevent nusience and damage to building fabric.	20+	C1	5.8m	N4 E1 S4.5 W3	GL	0.21m	19.95m^2	2.52m
3	Cotoneaster tree	*Cotoneaster frigidus*	Late Semi-Mature	Moderate	Good	Multi-stemmed specimen from GL with numerous crossing and rubbing branches. Root plate is growing directly under building foundation, no obvious evidence of subsidence to main building fabric, although adjoing wall has slightly subsided approximately 2m to the west of stem, potential for a number of other non-tree related factors which may have accounted for drop in wall line. Given its location, tree has very limited scope for long-term retention.	10+	U	6.8m	N7 E6 S0 W5	1-2m	0.21m	19.95m^2	2.52m
4	London plane	*Platanus x hispanica*	Late Mature	Good	Good	Prominent tall and fully mature tree with a full and dense crown network, appearing from GL to be in overall good condition. Tree Tag: 0920.	40+	A1	35m (est)	N8 E14.5 S11 W11	7-8m	1.33m	800.23m^2	15.96m
5	Laburnum	*Laburnum sp.*	Young	Good	Good	Stem bifurcates at 1m from GL. Tree in good overall condition however sub-dominant position under canopy of T4 provides reduced scope for useful long term retention.	10+	C1	7.5m	N3 E1.5 S3 W3	2m	0.12m	6.51m^2	1.44m



KEY

- Category A Tree (High Value)
- Category B Tree (Moderate Value)
- Category C Tree (Low Value)
- Category U Tree (Negligible Value)
- Category U Group (Negligible Value)
- Root Protection Area (RPA)

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PROJECT:
DR WILLLIAMS LIBRARY,
GORDON SQUARE, LONDON

TITLE:
TREE CONSTRAINTS PLAN

SCALE: 1:250 @ A3 DATE: 17/08/2019

JOB No	Figure No	Revision	Drawing Size
D41.19	01	-	A3

Appendix D –
Condition Survey Plans

Floors

F01	No significant deflection noted, floorboards covered by carpet/vinyl. Covering in reasonable condition.
F02	No significant deflection noted, floorboards exposed.
F03	Significant deflection noted, floorboards covered by carpet/vinyl.
F04	Significant deflection noted, floorboards exposed.
F05	York stone slabs in reasonable order.
F06	Infilled timber floor adjoining York stone slab floor, good condition.
F07	Long strip hardwood and softwood boarding on cast iron and timber structure beneath. In good condition. Stone slabs at intended fireplace locations to side walls.
F08	York stone slabs, masked by carpet. Covering in good condition.
F09	Tanked floor with recessed rolling rack tracks and seamless linoleum flooring. Good condition.
F10	Solid concrete with painted finish. Good condition.
F11	Brick Paver, considered good condition.
F12	Long strip oak finish flooring. Considered good condition
F13	Significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
F14	Gallery- Two unoriginal cast-iron floors with associated railings, supported on cast-iron columns. Considered good condition.
F15	Gallery- Un-original timber gallery with associated timber balustrade, supported below by timber book presses. Good condition.
F16	Un-original perforated cast-iron grilled floor on supporting steelwork. Good condition.
F17	Solid floor with York stone covering, pieces loose/crumbling. Poor Condition.
F18	Solid floor with York Stone covering, good condition.
F19	Solid floor with York Stone covering, half of floor finished with seamless linoleum, considered good condition.
F20	Solid floor with seamless linoleum, good condition.
F21	Solid floor, painted finish with rolling stack platform. Considered good condition.
F22	York stone slabs with linoleum covering in tired condition
F23	No significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
F24	Double suspended timber floor in reasonable condition. York stone slabs in reasonable condition in former corridor position.

Windows

WD01	Metal casement with secondary internal glazing, no damp/mould issues. Good condition.
WD02	Metal casement with secondary internal glazing, damp/mould issues between glazing.
WD03	Metal casement with secondary internal glazing, damp/mould issues between glazing. Dampness measured in excess of 20%.
WD04	Metal casement with security grille. Good condition.
WD05	No window within highlighted space.
WD06	Stained glass in metal casements, reasonable condition.
WD07	Stained glass in painted stonework to bay in need of minor repairs, some signs of glass distortion. Refurbishment required.
WD08	Metal casement in reasonable condition, extraction fan included in glazing. External cill in need of refurb.
WD09	Metal casement window in good condition.
WD12	Metal casement window in poor condition.
WD13	Stained glass in metal casements replaced during past works with metal infill panels, hidden behind built in book shelving, condition unknown.
WD14	Teleflex operation believed to be in need of replacement. Metal casement window in good condition.
WD15	Metal casement in good condition- glazing replaced with obscure panels at some point during past works.
WD16	Timber sash window recently refurbished, good condition.
WD17	Environmental shutters to window. Openings behind shutters have not been inspected.
WD18	Metal casement with security grille, in need of refurb.
WD19	Leaded lights in stone surround

Walls

W01	Painted plaster, considered good condition.
W02	Significant dampness evident to painted plaster walls. Dampness in excess of 20%, as indicated on plan.
W03	Moderate cracking to painted plaster walls, as indicated on plan.
W04	Moderate dampness evident to painted plaster walls, as indicated on plan.
W05	Plastered masonry wall with wallpaper, general condition considered good.
W06	Significant cracking to plastered painted walls, as indicated on plan.
W07	Painted fair faced brickwork, considered good condition.
W08	Painted plastered walls, walls in tired condition.
W09	Painted plaster walls, Keene's cement skirting's, edges and window reveals considered good condition.
W10	Painted plaster walls, believed to be in good condition. Exposed steel lintels above windows.
W11	Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant plaster cracking around the window/door noted, as indicated on plan.
W12	Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant damage to plaster from leaks.

Ceilings

C01	Plain painted plastered ceiling considered good condition.
C02	Ornate/vaulted painted plastered ceiling, good condition.
C03	Painted plastered ceiling in poor condition, cracking evident.
C04	No ceiling- Exposed timber floor construction.
C05	Fair faced painted brick segmental vault, good condition.
C06	Painted plaster ceiling with decorative cornice at the wall-ceiling junction, not original to building. Considered good condition.
C07	Painted plaster in poor condition. The timber gas ventilation hood is not believed fire protected.
C08	Painted timber board with timber battens, good condition.
C09	Painted plaster ceiling with down stand beams, good condition.
C10	Painted plaster ceiling with timber cased cast-iron beams, in need of refurb. Decorative braces and corbels in good order.
C11	No ceiling- York stone stairs/landing exposed.
C12	Painted underside of metal grillage in poor condition. Number of supporting downstand beams
C13	Painted plaster ceiling, evidence of dampness from above, poor condition.
C14	No ceiling- Steel shuttered floor above.
C16	Plain painted plastered ceiling considered tired condition
C17	Woodchip wallpaper to plaster, in good condition

Joinery

J01	Door, door frame, architraves and skirting in good condition.
J02	Door, door frames, architraves and skirting in poor condition.
J03	Timber exterior door with glazed panels and ogee heads, in good condition.
J04	Timber exterior door, good condition.
J05	Timber panelling to perimeter walls, with built-in integral cupboards and book shelving as indicated on plan.
J06	Timber doors with ogee heads considered good condition.
J08	Modern strong room door (high security and fire properties). Good condition.
J09	New timber door (un-original), door frame, architrave and skirting in good condition.
J10	Soft wood six panel door with original Keen's cement reveal, considered good.
J11	Timber glazed screen and matching associated feature double doors are considered good in condition.
J12	Built in book shelving, good condition, as indicated on plan.

Fireplace

FP1	Fireplace intact, Roman cement decorative legs, cast iron firebox and timber mantle in good condition.
FP2	Fireplace intact, Roman cement decorative legs, cast iron firebox, glazed tile back and timber mantle in good condition.
FP3	Fireplace intact, timber surround and tiles in poor condition.
FP4	Fireplace boarded over.
FP5	No fireplace evident or believed to have been within space highlighted
FP6	Roman cement decorative legs still evident, fireplace boarded over.
FP7	Embellished timber surround with cast iron firebox, in reasonable condition.
FP8	Marble surround left in place, fireplace boarded over.
FP9	Fireplace clearly removed.

Stairs

S01	York stone treads in reasonable condition
S02	York stone treads in reasonable condition, signs of past repair work to treads.
S03	Roman cement, decorative balustrade present and in good condition.
S04	Timber handrail on steel railing balustrade in reasonable condition.
S05	Secondary guarding wall used as security measure within stairwell. Guarding known as unoriginal, not suitable for existing stair.
S06	Un-original cast-iron spiral staircase, believed in good condition.
S07	Un-original timber stairs believed in reasonable condition.
S08	External York stone stairs, cause for significant damp issues internally. Currently propped as deemed unsafe/unusable, intervention required urgently.
S09	External York stone stairs, cause for significant damp issues internally. Non original brick structure erected during past works to support, this has moved and no longer supports the stair. Stairs deemed unsafe/unusable, intervention required urgently.
S10	York stone treads with linoleum nosing's. Tired condition.

Sanitary / Kitchen Fittings

SF1	Sanitary fittings in good condition. Electric extract fan present, cannot comment on working order.
SF2	Sanitary fittings including- lavatories, urinals and washbasins considered in poor condition.
SF3	Fitted kitchen with sink, believed to be in good condition. Cannot comment on working order.
SF4	Sanitary fittings removed, redundant pipes left in place.
SF5	Self contained gas fired boiler, with balanced flue, extracted through the rear wall provides heating and hot water independently to main systems serving the building.
SF5	Un-original proprietary laminated toilet cubicles, in good condition
SF8	Sanitary fitting including- lavatories, urinals and washbasins considered in good condition.
SF7	Cleaners sink, believed in poor condition.
SF8	Fitted kitchen with sink, in poor condition. Not operational.
SF9	Gas meter on wall, redundant cabling evident.

Decorative Order

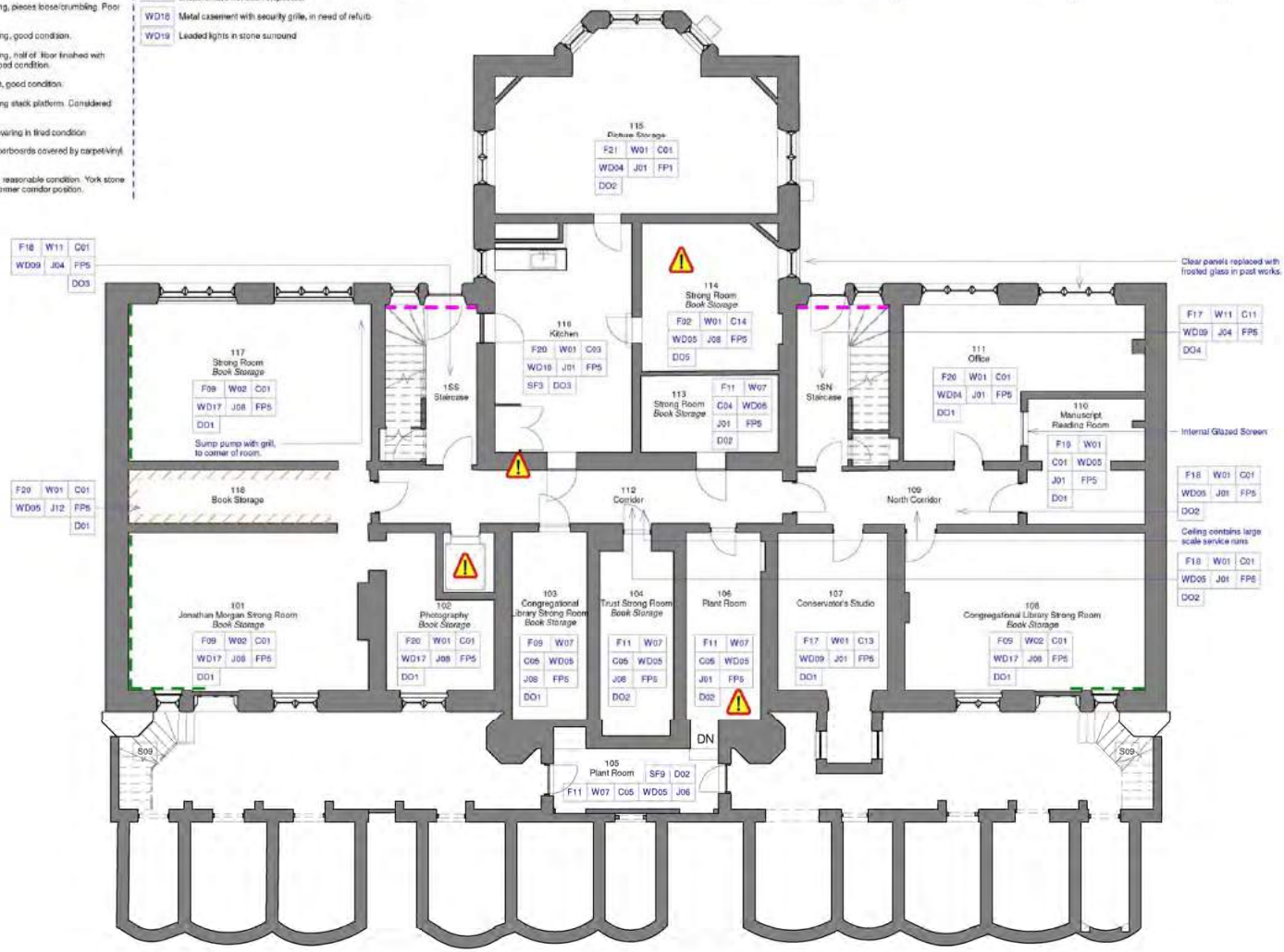
DO1	General interior condition of room- Good.
DO2	General interior condition of room- Fair.
DO3	General interior condition of room- Tired.
DO4	General interior condition of room- Poor.

Condition Survey Key

Rooms highlighted with possible asbestos concerns. These notes are for guidance only and should not be considered a true and complete overview. Refer to the latest asbestos report by; RPS- Asbestos_Rev F HLA/53017 003R_June 2017

Identifier (Shown Indicatively)

- Plaster walls with areas of dampness in excess of 20%.
- Plaster wall with areas of dampness.
- Areas of notable cracking within plaster walls.
- Indicative locations of tile splashback, conditioned considered good.
- Timber panelling / built in book shelving to perimeter walls. Including Library 'book presses'



REV	DATE	DESCRIPTION

ORIGINATOR REF: 8555

CPMG ARCHITECT INTERIOR DESIGN VISUALISATION

CPMG Architects Ltd

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London

23 Warser Gate, Nottingham, NG1 1NU tel: 0115 958 9500
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www.cpmg-architects.com

PROJECT

Dr Williams's Library
Library Building

DRAWING TITLE

FLOOR PLANS
Conditions Survey - Level 01

DRAWING PURPOSE

PRELIMINARY

DRAWN BY	DATE	CHK'D BY	SCALE	MEDIA
HW	2019-07-18	RF	1 : 100	A2

PROJECT - ORIGINATOR - ZONE - LEVEL - TYPE - ROLE - NUMBER REVISION

W82-CPM-Z1-01-DR-A-70001

ISO 9001: 2015 Quality Management
ISO 14001: 2015 Environmental Management
PAS 1192-2: 2013 Building Information Modelling

Floors

- F01 No significant deflection noted, floorboards covered by carpet/vinyl. Covering in reasonable condition.
- F02 No significant deflection noted, floorboards exposed.
- F03 Significant deflection noted, floorboards covered by carpet/vinyl.
- F04 Significant deflection noted, floorboards exposed.
- F05 York stone slabs in reasonable order.
- F06 Infilled timber floor adjoining York stone slab floor, good condition.
- F07 Long strip hardwood and softwood boarding on cast iron and timber structure beneath. In good condition. Stone slabs at intended fireplace locations to side walls.
- F08 York stone slabs, masked by carpet. Covering in good condition.
- F09 Tanked floor with recessed rolling rack tracks and seamless linoleum flooring. Good condition.
- F10 Solid concrete with painted finish. Good condition.
- F11 Brick Paver, considered good condition.
- F12 Long strip oak finish flooring. Considered good condition
- F13 Significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
- F14 Gallery- Two unoriginal cast-iron floors with associated railings, supported on cast-iron columns. Considered good condition.
- F15 Gallery- Un-original timber gallery with associated timber balustrade, supported below by timber book presses. Good condition.
- F16 Un-original perforated cast-iron grilled floor on supporting steelwork. Good condition.
- F17 Solid floor with York stone covering, pieces loose/crumbling. Poor Condition.
- F18 Solid floor with York Stone covering, good condition.
- F19 Solid floor with York Stone covering, half of floor finished with seamless linoleum, considered good condition.
- F20 Solid floor with seamless linoleum, good condition.
- F21 Solid floor, painted finish with rolling stack platform. Considered good condition.
- F22 York stone slabs with linoleum covering in tired condition
- F23 No significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
- F24 Double suspended timber floor in reasonable condition. York stone slabs in reasonable condition in former corridor position.

Windows

- WD01 Metal casement with secondary internal glazing, no damp/mould issues. Good condition.
- WD02 Metal casement with secondary internal glazing, damp/mould issues between glazing.
- WD03 Metal casement with secondary internal glazing, damp/mould issues between glazing. Dampness measured in excess of 20%.
- WD04 Metal casement with security grille. Good condition.
- WD05 No window within highlighted space.
- WD06 Stained glass in metal casements, reasonable condition.
- WD07 Stained glass in painted stonework to bay in need of minor repairs, some signs of glass distortion. Refurbishment required.
- WD08 Metal casement in reasonable condition, extraction fan included in glazing. External cill in need of refurb.
- WD09 Metal casement window in good condition.
- WD12 Metal casement window in poor condition.
- WD13 Stained glass in metal casements replaced during past works with metal infill panels, hidden behind built in book shelving, condition unknown.
- WD14 Teleflex operation believed to be in need of replacement. Metal casement window in good condition.
- WD15 Metal casement in good condition- glazing replaced with obscure panes at some point during past works.
- WD16 Timber sash window recently refurbished, good condition.
- WD17 Environmental shutters to window. Openings behind shutters have not been inspected.
- WD18 Metal casement with security grille, in need of refurb.
- WD19 Leaded lights in stone surround

Walls

- W01 Painted plaster, considered good condition.
- W02 Significant dampness evident to painted plaster walls. Dampness in excess of 20%, as indicated on plan.
- W03 Moderate cracking to painted plaster walls, as indicated on plan.
- W04 Moderate dampness evident to painted plaster walls, as indicated on plan.
- W05 Plastered masonry wall with wallpaper, general condition considered good.
- W06 Significant cracking to plastered painted walls, as indicated on plan.
- W07 Painted fair faced brickwork, considered good condition.
- W08 Painted plastered walls, walls in tired condition.
- W09 Painted plaster walls, Keene's cement skirting's, edges and window reveals considered good condition.
- W10 Painted plaster walls, believed to be in good condition. Exposed steel lintels above windows.
- W11 Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant plaster cracking around the window/door noted, as indicated on plan.
- W12 Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant damage to plaster from leaks.

Ceilings

- C01 Plain painted plastered ceiling considered good condition.
- C02 Ornate/vaulted painted plastered ceiling, good condition.
- C03 Painted plastered ceiling in poor condition, cracking evident.
- C04 No ceiling- Exposed timber floor construction.
- C05 Fair faced painted brick segmental vault, good condition.
- C06 Painted plaster ceiling with decorative cornice at the wall-ceiling junction, not original to building. Considered good condition.
- C07 Painted plaster in poor condition. The timber gas ventilation hood is not believed fire protected.
- C08 Painted timber board with timber battens, good condition.
- C09 Painted plaster ceiling with down stand beams, good condition.
- C10 Painted plaster ceiling with timber cased cast-iron beams, in need of refurb. Decorative braces and corbels in good order.
- C11 No ceiling- York stone stairs/landing exposed.
- C12 Painted underside of metal grillage in poor condition. Number of supporting downstand beams
- C13 Painted plaster ceiling, evidence of dampness from above, poor condition.
- C14 No ceiling- Steel shuttered floor above.
- C15 Plain painted plastered ceiling considered tired condition
- C17 Woodchip wallpaper to plaster, in good condition

Joinery

- J01 Door, door frame, architraves and skirting in good condition.
- J02 Door, door frames, architraves and skirting in poor condition.
- J03 Timber exterior door with glazed panels and ogee heads, in good condition.
- J04 Timber exterior door, good condition.
- J05 Timber panelling to perimeter walls, with built-in integral cupboards and book shelving as indicated on plan.
- J06 Timber doors with ogee heads considered good condition.
- J08 Modern strong room door (high security and fire properties). Good condition.
- J09 New timber door (un-original), door frame, architrave and skirting in good condition.
- J10 Soft wood six panel door with original Keen's cement reveal, considered good.
- J11 Timber glazed screen and matching associated feature double doors are considered good in condition.
- J12 Built in book shelving, good condition, as indicated on plan.

Fireplace

- FP1 Fireplace intact, Roman cement decorative legs, cast iron firebox and timber mantle in good condition.
- FP2 Fireplace intact, Roman cement decorative legs, cast iron firebox, glazed tile back and timber mantle in good condition.
- FP3 Fireplace intact, timber surround and tiles in poor condition.
- FP4 Fireplace boarded over.
- FP5 No fireplace evident or believed to have been within space highlighted
- FP6 Roman cement decorative legs still evident, fireplace boarded over.
- FP7 Embellished timber surround with cast iron firebox, in reasonable condition.
- FP8 Marble surround left in place, fireplace boarded over.
- FP9 Fireplace clearly removed.

Stairs

- S01 York stone treads in reasonable condition
- S02 York stone treads in reasonable condition, signs of past repair work to treads.
- S03 Roman cement, decorative balustrade present and in good condition.
- S04 Timber handrail on steel railing balustrade in reasonable condition.
- S05 Secondary guarding wall used as security measure within stairwell. Guarding known as unoriginal, not suitable for existing stair.
- S06 Un-original cast-iron spiral staircase, believed in good condition.
- S07 Un-original timber stairs believed in reasonable condition.
- S08 External York stone stairs, cause for significant damp issues internally. Currently propped as deemed unsafe/unusable. Intervention required urgently.
- S09 External York stone stairs, cause for significant damp issues internally. Non original brick structure erected during past works to support, this has moved and no longer supports the stair. Stairs deemed unsafe/unusable, intervention required urgently.
- S10 York stone treads with linoleum nosing's. Tired condition.

Sanitary / Kitchen Fittings

- SF1 Sanitary fittings in good condition. Electric extract fan present, cannot comment on working order.
- SF2 Sanitary fittings including- lavatories, urinals and washbasins considered in poor condition.
- SF3 Fitted kitchen with sink, believed to be in good condition. Cannot comment on working order.
- SF4 Sanitary fittings removed, redundant pipes left in place.
- SF5 Self contained gas fired boiler, with balanced flue, extracted through the rear wall provides heating and hot water independently to main systems serving the building.
- SF5 Un-original proprietary laminated toilet cubicles, in good condition
- SF8 Sanitary fitting including- lavatories, urinals and washbasins considered in good condition.
- SF7 Cleaners sink, believed in poor condition.
- SF8 Fitted kitchen with sink, in poor condition. Not operational.
- SF9 Gas meter on wall, redundant cabling evident.

Decorative Order

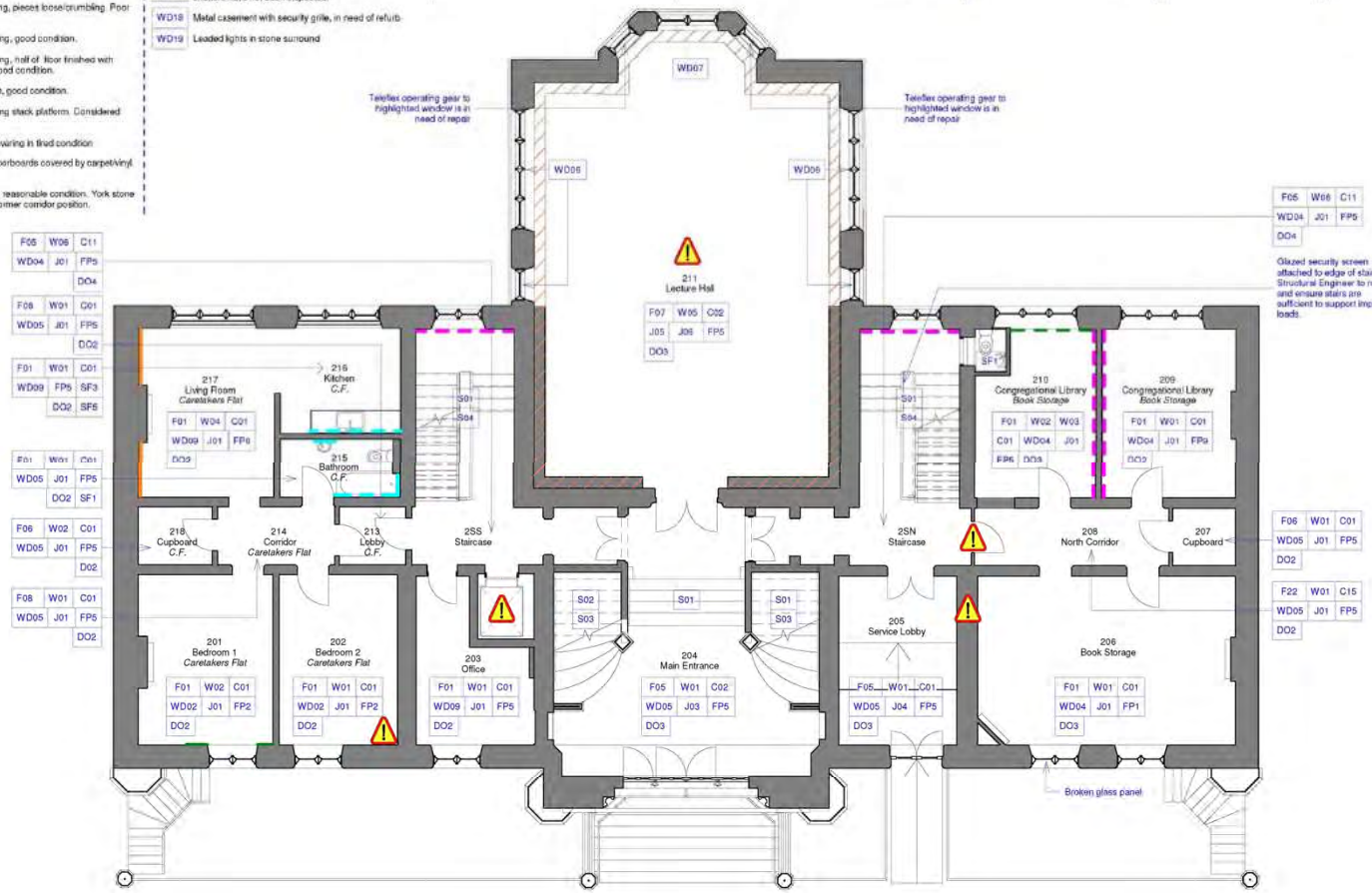
- DO1 General interior condition of room- Good.
- DO2 General interior condition of room- Fair.
- DO3 General interior condition of room- Tired.
- DO4 General interior condition of room- Poor.

Condition Survey Key

- Rooms highlighted with possible asbestos concerns. These notes are for guidance only and should not be considered a true and complete overview. Refer to the latest asbestos report by; RPS- Asbestos_Rev F HLA/53617 003R_June 2017

Identifier (Shown indicatively)

- Plaster walls with areas of dampness in excess of 20%.
- Plaster wall with areas of dampness.
- Areas of notable cracking within plaster walls.
- Indicative locations of tile splashback, conditioned considered good.
- Timber panelling / built in book shelving to perimeter walls, including Library 'book presses'



REV	DATE	DESCRIPTION

ORIGINATOR REF: 8555

CPMG ARCHITECT INTERIOR DESIGN VISUALISATION

CPMG Architects Ltd

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PROJECT

Dr Williams's Library
Library Building

DRAWING TITLE

FLOOR PLANS
Condition Survey - L02

DRAWING PURPOSE

PRELIMINARY

DRAWN BY	DATE	CHK'D BY	SCALE	MEDIA
HW	2019-07-18	RF	1 : 100	A2

PROJECT - ORIGINATOR - ZONE - LEVEL - TYPE - ROLE - NUMBER REVISION

W82-CPM-Z1-02-DR-A-70002

ISO 9001: 2015 Quality Management
ISO 14001: 2015 Environmental Management
PAS 1192-2: 2013 Building Information Modelling

Floors

- F01 No significant deflection noted, floorboards covered by carpet/vinyl. Covering in reasonable condition.
- F02 No significant deflection noted, floorboards exposed.
- F03 Significant deflection noted, floorboards covered by carpet/vinyl.
- F04 Significant deflection noted, floorboards exposed.
- F05 York stone slabs in reasonable order.
- F06 Infilled timber floor adjoining York stone slab floor, good condition.
- F07 Long strip hardwood and softwood boarding on cast iron and timber structure beneath. In good condition. Stone slabs at intended fireplace locations to side walls.
- F08 York stone slabs, masked by carpet. Covering in good condition.
- F09 Tanked floor with recessed rolling rack tracks and seamless linoleum flooring. Good condition.
- F10 Solid concrete with painted finish. Good condition.
- F11 Brick Paver, considered good condition.
- F12 Long strip oak finish flooring. Considered good condition
- F13 Significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
- F14 Gallery- Two unoriginal cast-iron floors with associated railings, supported on cast-iron columns. Considered good condition.
- F15 Gallery- Un-original timber gallery with associated timber balustrade, supported below by timber book presses. Good condition.
- F16 Un-original perforated cast-iron grilled floor on supporting steelwork. Good condition.
- F17 Solid floor with York stone covering, pieces loose/crumbling. Poor Condition.
- F18 Solid floor with York Stone covering, good condition.
- F19 Solid floor with York Stone covering, half of floor finished with seamless linoleum, considered good condition.
- F20 Solid floor with seamless linoleum, good condition.
- F21 Solid floor, painted finish with rolling stack platform. Considered good condition.
- F22 York stone slabs with linoleum covering in tired condition
- F23 No significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
- F24 Double suspended timber floor in reasonable condition. York stone slabs in reasonable condition in former corridor position.

Windows

- WD01 Metal casement with secondary internal glazing, no damp/mould issues. Good condition.
- WD02 Metal casement with secondary internal glazing, damp/mould issues between glazing.
- WD03 Metal casement with secondary internal glazing, damp/mould issues between glazing. Dampness measured in excess of 20%.
- WD04 Metal casement with security grille. Good condition.
- WD05 No window within highlighted space.
- WD06 Stained glass in metal casements, reasonable condition.
- WD07 Stained glass in painted stonework to bay in need of minor repairs, some signs of glass distortion. Refurbishment required.
- WD08 Metal casement in reasonable condition, extraction fan included in glazing. External cill in need of refurb.
- WD09 Metal casement window in good condition.
- WD12 Metal casement window in poor condition.
- WD13 Stained glass in metal casements replaced during past works with metal infill panels, hidden behind built in book shelving, condition unknown.
- WD14 Teleflex operation believed to be in need of replacement. Metal casement window in good condition.
- WD15 Metal casement in good condition- glazing replaced with obscure panels at some point during past works.
- WD16 Timber sash window recently refurbished, good condition.
- WD17 Environmental shutters to window. Openings behind shutters have not been inspected.
- WD18 Metal casement with security grille, in need of refurb.
- WD19 Leaded lights in stone surround

Walls

- W01 Painted plaster, considered good condition.
- W02 Significant dampness evident to painted plaster walls. Dampness in excess of 20%, as indicated on plan.
- W03 Moderate cracking to painted plaster walls, as indicated on plan.
- W04 Moderate dampness evident to painted plaster walls, as indicated on plan.
- W05 Plastered masonry wall with wallpaper, general condition considered good.
- W06 Significant cracking to plastered painted walls, as indicated on plan.
- W07 Painted fair faced brickwork, considered good condition.
- W08 Painted plastered walls, walls in tired condition.
- W09 Painted plaster walls, Keene's cement skirting's, edges and window reveals considered good condition.
- W10 Painted plaster walls, believed to be in good condition. Exposed steel lintels above windows.
- W11 Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant plaster cracking around the window/door noted, as indicated on plan.
- W12 Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant damage to plaster from leaks.

Ceilings

- C01 Plain painted plastered ceiling considered good condition.
- C02 Ornate/vaulted painted plastered ceiling, good condition.
- C03 Painted plastered ceiling in poor condition, cracking evident.
- C04 No ceiling- Exposed timber floor construction.
- C05 Fair faced painted brick segmental vault, good condition.
- C06 Painted plaster ceiling with decorative cornice at the wall-ceiling junction, not original to building. Considered good condition.
- C07 Painted plaster in poor condition. The timber gas ventilation hood is not believed fire protected.
- C08 Painted timber board with timber battens, good condition.
- C09 Painted plaster ceiling with down stand beams, good condition.
- C10 Painted plaster ceiling with timber cased cast-iron beams, in need of refurb. Decorative braces and corbels in good order.
- C11 No ceiling- York stone stairs/landing exposed.
- C12 Painted underside of metal grillage in poor condition. Number of supporting downstand beams
- C13 Painted plaster ceiling, evidence of dampness from above, poor condition.
- C14 No ceiling- Steel shuttered floor above.
- C16 Plain painted plastered ceiling considered tired condition
- C17 Woodchip wallpaper to plaster, in good condition

Joinery

- J01 Door, door frame, architraves and skirting in good condition.
- J02 Door, door frames, architraves and skirting in poor condition.
- J03 Timber exterior door with glazed panels and ogee heads, in good condition.
- J04 Timber exterior door, good condition.
- J05 Timber panelling to perimeter walls, with built-in integral cupboards and book shelving as indicated on plan.
- J06 Timber doors with ogee heads considered good condition.
- J08 Modern strong room door (high security and fire properties). Good condition.
- J09 New timber door (un-original), door frame, architrave and skirting in good condition.
- J10 Soft wood six panel door with original Keen's cement reveal, considered good.
- J11 Timber glazed screen and matching associated feature double doors are considered good in condition.
- J12 Built in book shelving, good condition, as indicated on plan.

Fireplace

- FP1 Fireplace intact, Roman cement decorative legs, cast iron firebox and timber mantle in good condition.
- FP2 Fireplace intact, Roman cement decorative legs, cast iron firebox, glazed tile back and timber mantle in good condition.
- FP3 Fireplace intact, timber surround and tiles in poor condition.
- FP4 Fireplace boarded over.
- FP5 No fireplace evident or believed to have been within space highlighted
- FP6 Roman cement decorative legs still evident, fireplace boarded over.
- FP7 Embellished timber surround with cast iron firebox, in reasonable condition.
- FP8 Marble surround left in place, fireplace boarded over.
- FP9 Fireplace clearly removed.

Stairs

- S01 York stone treads in reasonable condition
- S02 York stone treads in reasonable condition, signs of past repair work to treads.
- S03 Roman cement, decorative balustrade present and in good condition.
- S04 Timber handrail on steel milling balustrade in reasonable condition.
- S05 Secondary guarding wall used as security measure within stairwell. Guarding known as unoriginal, not suitable for existing stair.
- S06 Un-original cast-iron spiral staircase, believed in good condition.
- S07 Un-original timber stairs believed in reasonable condition.
- S08 External York stone stairs, cause for significant damp issues internally. Currently propped as deemed unsafe/unusable. Intervention required urgently.
- S09 External York stone stairs, cause for significant damp issues internally. Non original brick structure erected during past works to support, this has moved and no longer supports the stair. Stairs deemed unsafe/unusable, intervention required urgently.
- S10 York stone treads with linoleum nosing's. Tired condition.

Sanitary / Kitchen Fittings

- SF1 Sanitary fittings in good condition. Electric extract fan present, cannot comment on working order.
- SF2 Sanitary fittings including- lavatories, urinals and washbasins considered in poor condition.
- SF3 Fitted kitchen with sink, believed to be in good condition. Cannot comment on working order.
- SF4 Sanitary fittings removed, redundant pipes left in place.
- SF5 Self contained gas fired boiler, with balanced flue, extracted through the rear wall provides heating and hot water independently to main systems serving the building.
- SF5 Un-original proprietary laminated toilet cubicles, in good condition
- SF8 Sanitary fitting including- lavatories, urinals and washbasins considered in good condition
- SF7 Cleaners sink, believed in poor condition.
- SF8 Fitted kitchen with sink, in poor condition. Not operational.
- SF9 Gas meter on wall, redundant cabling evident.

Decorative Order

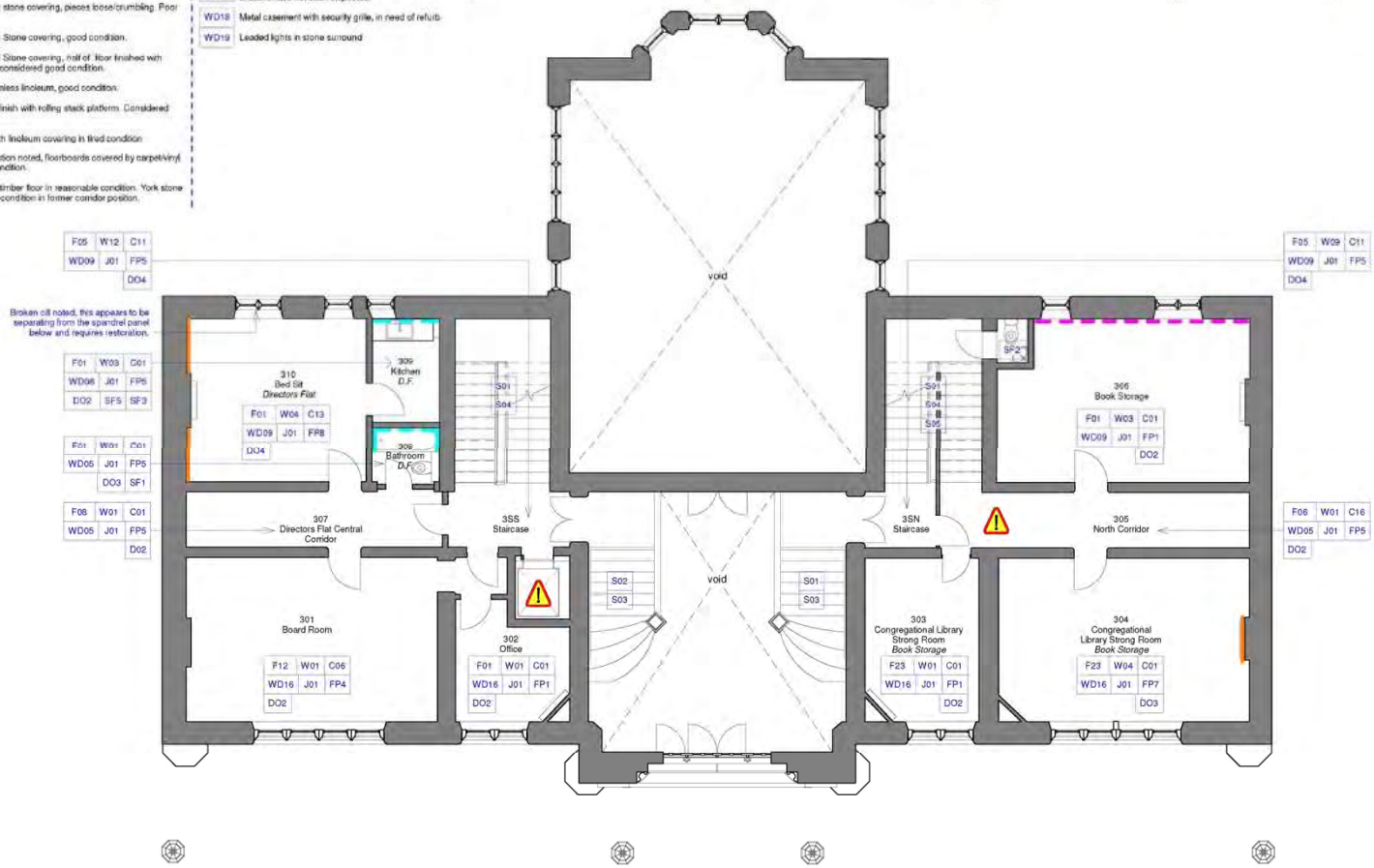
- DO1 General interior condition of room- Good.
- DO2 General interior condition of room- Fair.
- DO3 General interior condition of room- Tired.
- DO4 General interior condition of room- Poor.

Condition Survey Key

- Rooms highlighted with possible asbestos concerns. These notes are for guidance only and should not be considered a true and complete overview. Refer to the latest asbestos report by; RPS- Asbestos_Rev F HLA/53617 003R_June 2017

Identifier (Shown Indicatively)

- Plaster walls with areas of dampness in excess of 20%.
- Plaster wall with areas of dampness.
- Areas of notable cracking within plaster walls.
- Indicative locations of tile splashback, conditioned considered good.
- Timber panelling / built in book shelving to perimeter walls. Including Library 'book presses'



REV	DATE	DESCRIPTION

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PROJECT

Dr Williams's Library
Library Building

DRAWING TITLE

FLOOR PLANS
Condition Survey - L03

DRAWING PURPOSE

PRELIMINARY

DRAWN BY	DATE	CHK'D BY	SCALE	MEDIA
HW	2019-07-25	RF	1 : 100	A2

PROJECT - ORIGINATOR - ZONE - LEVEL - TYPE - ROLE - NUMBER REVISION

W82-CPM-Z1-03-DR-A-70003

ISO 9001: 2015 Quality Management
ISO 14001: 2015 Environmental Management
PAS 1192-2: 2013 Building Information Modelling

Floors

- F01 No significant deflection noted, floorboards covered by carpet/vinyl. Covering in reasonable condition.
- F02 No significant deflection noted, floorboards exposed.
- F03 Significant deflection noted, floorboards covered by carpet/vinyl.
- F04 Significant deflection noted, floorboards exposed.
- F05 York stone slabs in reasonable order.
- F06 Infilled timber floor adjoining York stone slab floor, good condition.
- F07 Long strip hardwood and softwood boarding on cast iron and timber structure beneath. In good condition. Stone slabs at intended fireplace locations to side walls.
- F08 York stone slabs, masked by carpet. Covering in good condition.
- F09 Tanked floor with recessed rolling rack tracks and seamless linoleum flooring. Good condition.
- F10 Solid concrete with painted finish. Good condition.
- F11 Brick Paver, considered good condition.
- F12 Long strip oak finish flooring. Considered good condition
- F13 Significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
- F14 Gallery- Two unoriginal cast-iron floors with associated railings, supported on cast-iron columns. Considered good condition.
- F15 Gallery- Un-original timber gallery with associated timber balustrade, supported below by timber book presses. Good condition.
- F16 Un-original perforated cast-iron grilled floor on supporting steelwork. Good condition.
- F17 Solid floor with York stone covering, pieces loose/crumbling. Poor Condition.
- F18 Solid floor with York Stone covering, good condition.
- F19 Solid floor with York Stone covering, half of floor finished with seamless linoleum, considered good condition.
- F20 Solid floor with seamless linoleum, good condition.
- F21 Solid floor, painted finish with rolling stack platform. Considered good condition.
- F22 York stone slabs with linoleum covering in tired condition
- F23 No significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
- F24 Double suspended timber floor in reasonable condition. York stone slabs in reasonable condition in former corridor position.

Windows

- WD01 Metal casement with secondary internal glazing, no damp/mould issues. Good condition.
- WD02 Metal casement with secondary internal glazing, damp/mould issues between glazing.
- WD03 Metal casement with secondary internal glazing, damp/mould issues between glazing. Dampness measured in excess of 20%.
- WD04 Metal casement with security grille. Good condition.
- WD05 No window within highlighted space.
- WD06 Stained glass in metal casements, reasonable condition.
- WD07 Stained glass in painted stonework to bay in need of minor repairs, some signs of glass distortion. Refurbishment required.
- WD08 Metal casement in reasonable condition, extraction fan included in glazing. External cill in need of refurb.
- WD09 Metal casement window in good condition.
- WD12 Metal casement window in poor condition.
- WD13 Stained glass in metal casements replaced during past works with metal infill panels, hidden behind built in book shelving, condition unknown.
- WD14 Teleflex operation believed to be in need of replacement. Metal casement window in good condition.
- WD15 Metal casement in good condition- glazing replaced with obscure panes at some point during past works.
- WD16 Timber sash window recently refurbished, good condition.
- WD17 Environmental shutters to window. Openings behind shutters have not been inspected.
- WD18 Metal casement with security grille, in need of refurb.
- WD19 Leaded lights in stone surround

Walls

- W01 Painted plaster, considered good condition.
- W02 Significant dampness evident to painted plaster walls. Dampness in excess of 20%, as indicated on plan.
- W03 Moderate cracking to painted plaster walls, as indicated on plan.
- W04 Moderate dampness evident to painted plaster walls, as indicated on plan.
- W05 Plastered masonry wall with wallpaper, general condition considered good.
- W06 Significant cracking to plastered painted walls, as indicated on plan.
- W07 Painted fair faced brickwork, considered good condition.
- W08 Painted plastered walls, walls in tired condition.
- W09 Painted plaster walls, Keene's cement skirting's, edges and window reveals considered good condition.
- W10 Painted plaster walls, believed to be in good condition. Exposed steel lintels above windows.
- W11 Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant plaster cracking around the window/door noted, as indicated on plan.
- W12 Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant damage to plaster from leaks.

Ceilings

- C01 Plain painted plastered ceiling considered good condition.
- C02 Ornate/vaulted painted plastered ceiling, good condition.
- C03 Painted plastered ceiling in poor condition, cracking evident.
- C04 No ceiling- Exposed timber floor construction.
- C05 Fair faced painted brick segmental vault, good condition.
- C06 Painted plaster ceiling with decorative cornice at the wall-ceiling junction, not original to building. Considered good condition.
- C07 Painted plaster in poor condition. The timber gas ventilation hood is not believed fire protected.
- C08 Painted timber board with timber battens, good condition.
- C09 Painted plaster ceiling with down stand beams, good condition.
- C10 Painted plaster ceiling with timber cased cast-iron beams, in need of refurb. Decorative braces and corbels in good order.
- C11 No ceiling- York stone stairs/landing exposed.
- C12 Painted underside of metal grillage in poor condition. Number of supporting downstand beams
- C13 Painted plaster ceiling, evidence of dampness from above, poor condition.
- C14 No ceiling- Steel shuttered floor above.
- C16 Plain painted plastered ceiling considered tired condition
- C17 Woodchip wallpaper to plaster, in good condition

Joinery

- J01 Door, door frame, architraves and skirting in good condition.
- J02 Door, door frames, architraves and skirting in poor condition.
- J03 Timber exterior door with glazed panels and ogee heads, in good condition.
- J04 Timber exterior door, good condition.
- J05 Timber panelling to perimeter walls, with built-in integral cupboards and book shelving as indicated on plan.
- J06 Timber doors with ogee heads considered good condition.
- J08 Modern strong room door (high security and fire properties). Good condition.
- J09 New timber door (un-original), door frame, architrave and skirting in good condition.
- J10 Soft wood six panel door with original Keen's cement reveal, considered good.
- J11 Timber glazed screen and matching associated feature double doors are considered good in condition.
- J12 Built in book shelving, good condition, as indicated on plan.

Fireplace

- FP1 Fireplace intact, Roman cement decorative legs, cast iron firebox and timber mantle in good condition.
- FP2 Fireplace intact, Roman cement decorative legs, cast iron firebox, glazed tile back and timber mantle in good condition.
- FP3 Fireplace intact, timber surround and tiles in poor condition.
- FP4 Fireplace boarded over.
- FP5 No fireplace evident or believed to have been within space highlighted.
- FP6 Roman cement decorative legs still evident, fireplace boarded over.
- FP7 Embellished timber surround with cast iron firebox, in reasonable condition.
- FP8 Marble surround left in place, fireplace boarded over.
- FP9 Fireplace clearly removed.

Stairs

- S01 York stone treads in reasonable condition
- S02 York stone treads in reasonable condition, signs of past repair work to treads.
- S03 Roman cement, decorative balustrade present and in good condition.
- S04 Timber handrail on steel railing balustrade in reasonable condition.
- S05 Secondary guarding wall used as security measure within stairwell. Guarding known as unoriginal, not suitable for existing stair.
- S06 Un-original cast-iron spiral staircase, believed in good condition.
- S07 Un-original timber stairs believed in reasonable condition.
- S08 External York stone stairs, cause for significant damp issues internally. Currently propped as deemed unsafe/unusable, intervention required urgently.
- S09 External York stone stairs, cause for significant damp issues internally. Non original brick structure erected during past works to support, this has moved and no longer supports the stair. Stairs deemed unsafe/unusable, intervention required urgently.
- S10 York stone treads with linoleum nosing's. Tired condition.

Sanitary / Kitchen Fittings

- SF1 Sanitary fittings in good condition. Electric extract fan present, cannot comment on working order.
- SF2 Sanitary fittings including- lavatories, urinals and washbasins considered in poor condition.
- SF3 Fitted kitchen with sink, believed to be in good condition. Cannot comment on working order.
- SF4 Sanitary fittings removed, redundant pipes left in place.
- SF5 Self contained gas fired boiler, with balanced flue, extracted through the rear wall provides heating and hot water independently to main systems serving the building.
- SF5 Un-original proprietary laminated toilet cubicles, in good condition
- SF8 Sanitary fitting including- lavatories, urinals and washbasins considered in good condition.
- SF7 Cleaners sink, believed in poor condition.
- SF8 Fitted kitchen with sink, in poor condition. Not operational.
- SF9 Gas meter on wall, redundant cabling evident.

Decorative Order

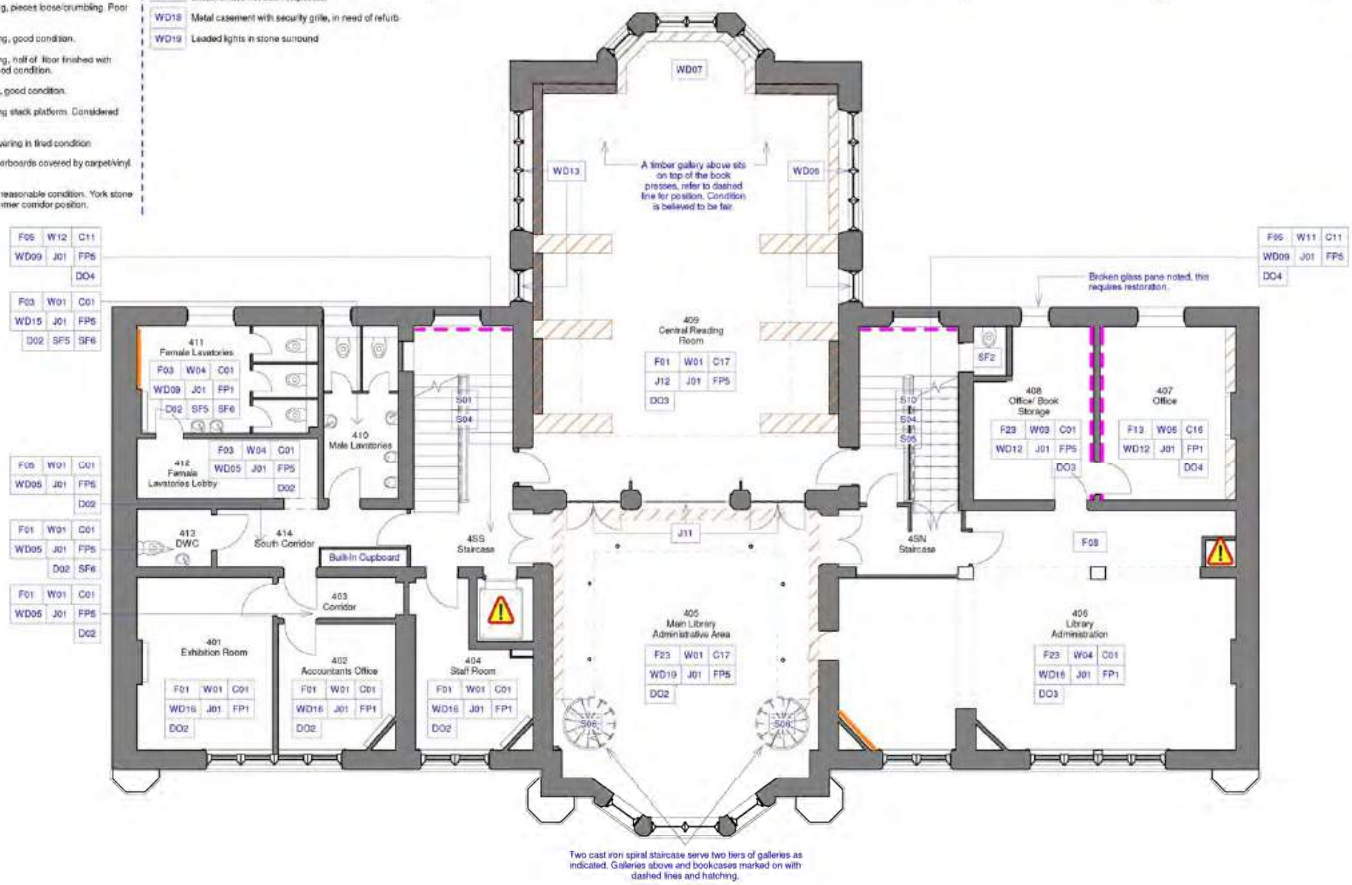
- DO1 General interior condition of room- Good.
- DO2 General interior condition of room- Fair.
- DO3 General interior condition of room- Tired.
- DO4 General interior condition of room- Poor.

Condition Survey Key

Rooms highlighted with possible asbestos concerns. These notes are for guidance only and should not be considered a true and complete overview. Refer to the latest asbestos report by; RPS- Asbestos_Rev F HLA/53617 003R_June 2017

Identifier (Shown Indicatively)

- Plaster walls with areas of dampness in excess of 20%.
- Plaster wall with areas of dampness.
- Areas of notable cracking within plaster walls.
- Indicative locations of tile splashback, conditioned considered good.
- Timber panelling / built in book shelving to perimeter walls, including Library 'book presses'



REV DATE DESCRIPTION

ORIGINATOR REF: 8555

CPMG ARCHITECT INTERIOR DESIGN VISUALISATION

CPMG Architects Ltd

Nottingham
London

23 Warser Gate, Nottingham, NG1 1NU tel: 0115 958 9500
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PROJECT

Dr Williams's Library
Library Building

DRAWING TITLE

FLOOR PLANS
Condition Survey - L04

DRAWING PURPOSE

PRELIMINARY

DRAWN BY	DATE	CHK'D BY	SCALE	MEDIA
HW	2019-07-25	RF	1 : 100	A2

PROJECT - ORIGINATOR - ZONE - LEVEL - TYPE - ROLE - NUMBER REVISION

W82-CPM-Z1-04-DR-A-70004

ISO 9001: 2015 Quality Management
ISO 14001: 2015 Environmental Management
PAS 1192-2: 2013 Building Information Modelling

Floors

F01	No significant deflection noted, floorboards covered by carpet/vinyl. Covering in reasonable condition.
F02	No significant deflection noted, floorboards exposed.
F03	Significant deflection noted, floorboards covered by carpet/vinyl.
F04	Significant deflection noted, floorboards exposed.
F05	York stone slabs in reasonable order.
F06	Infilled timber floor adjoining York stone slab floor, good condition.
F07	Long strip hardwood and softwood boarding on cast iron and timber structure beneath. In good condition. Stone slabs at intended fireplace locations to side walls.
F08	York stone slabs, masked by carpet. Covering in good condition.
F09	Tanked floor with recessed rolling rack tracks and seamless linoleum flooring. Good condition.
F10	Solid concrete with painted finish. Good condition.
F11	Brick Paver, considered good condition.
F12	Long strip oak finish flooring. Considered good condition
F13	Significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
F14	Gallery- Two uncriginal cast-iron floors with associated railings, supported on cast-iron columns. Considered good condition.
F15	Gallery- Un-original timber gallery with associated timber balustrade, supported below by timber book presses. Good condition.
F16	Un-original perforated cast-iron grilled floor on supporting steelwork. Good condition.
F17	Solid floor with York stone covering, pieces loose/crumbling. Poor Condition.
F18	Solid floor with York Stone covering, good condition.
F19	Solid floor with York Stone covering, half of floor finished with seamless linoleum, considered good condition.
F20	Solid floor with seamless linoleum, good condition.
F21	Solid floor, painted finish with rolling stack platform. Considered good condition.
F22	York stone slabs with linoleum covering in tired condition
F23	No significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
F24	Double suspended timber floor in reasonable condition. York stone slabs in reasonable condition in former corridor position.

Windows

WD01	Metal casement with secondary internal glazing, no damp/mould issues. Good condition.
WD02	Metal casement with secondary internal glazing, damp/mould issues between glazing.
WD03	Metal casement with secondary internal glazing, damp/mould issues between glazing. Dampness measured in excess of 20%.
WD04	Metal casement with security grille. Good condition.
WD05	No window within highlighted space.
WD06	Stained glass in metal casements, reasonable condition.
WD07	Stained glass in painted stonework to bay in need of minor repairs, some signs of glass distortion. Refurbishment required.
WD08	Metal casement in reasonable condition, extraction fan included in glazing. External cill in need of refurb.
WD09	Metal casement window in good condition.
WD12	Metal casement window in poor condition.
WD13	Stained glass in metal casements replaced during past works with metal infill panels, hidden behind built in book shelving, condition unknown.
WD14	Teleflex operation believed to be in need of replacement. Metal casement window in good condition.
WD15	Metal casement in good condition- glazing replaced with obscure panels at some point during past works.
WD16	Timber sash window recently refurbished, good condition.
WD17	Environmental shutters to window. Openings behind shutters have not been inspected.
WD18	Metal casement with security grille, in need of refurb.
WD19	Leaded lights in stone surround

Walls

W01	Painted plaster, considered good condition.
W02	Significant dampness evident to painted plaster walls. Dampness in excess of 20%, as indicated on plan.
W03	Moderate cracking to painted plaster walls, as indicated on plan.
W04	Moderate dampness evident to painted plaster walls, as indicated on plan.
W05	Plastered masonry wall with wallpaper, general condition considered good.
W06	Significant cracking to plastered painted walls, as indicated on plan.
W07	Painted fair faced brickwork, considered good condition.
W08	Painted plastered walls, walls in tired condition.
W09	Painted plaster walls, Keene's cement skirting's, edges and window reveals considered good condition.
W10	Painted plaster walls, believed to be in good condition. Exposed steel lintels above windows.
W11	Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant plaster cracking around the window/door noted, as indicated on plan.
W12	Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant damage to plaster from leaks.

Ceilings

C01	Plain painted plastered ceiling considered good condition.
C02	Ornate/vaulted painted plastered ceiling, good condition.
C03	Painted plastered ceiling in poor condition, cracking evident.
C04	No ceiling- Exposed timber floor construction.
C05	Fair faced painted brick segmental vault, good condition.
C06	Painted plaster ceiling with decorative cornice at the wall-ceiling junction, not original to building. Considered good condition.
C07	Painted plaster in poor condition. The timber gas ventilation hood is not believed fire protected.
C08	Painted timber board with timber battens, good condition.
C09	Painted plaster ceiling with down stand beams, good condition.
C10	Painted plaster ceiling with timber cased cast-iron beams, in need of refurb. Decorative braces and corbels in good order.
C11	No ceiling- York stone stairs/landing exposed.
C12	Painted underside of metal grillage in poor condition. Number of supporting downstand beams
C13	Painted plaster ceiling, evidence of dampness from above, poor condition.
C14	No ceiling- Steel shuttered floor above.
C15	Plain painted plastered ceiling considered tired condition
C17	Woodchip wallpaper to plaster, in good condition

Joinery

J01	Door, door frame, architraves and skirting in good condition.
J02	Door, door frames, architraves and skirting in poor condition.
J03	Timber exterior door with glazed panels and ogee heads, in good condition.
J04	Timber exterior door, good condition.
J05	Timber panelling to perimeter walls, with built-in integral cupboards and book shelving as indicated on plan.
J06	Timber doors with ogee heads considered good condition.
J08	Modern strong room door (high security and fire properties). Good condition.
J09	New timber door (un-original), door frame, architrave and skirting in good condition.
J10	Soft wood six panel door with original Keen's cement reveal, considered good.
J11	Timber glazed screen and matching associated feature double doors are considered good in condition.
J12	Built in book shelving, good condition, as indicated on plan.

Fireplace

FP1	Fireplace intact, Roman cement decorative legs, cast iron firebox and timber mantle in good condition.
FP2	Fireplace intact, Roman cement decorative legs, cast iron firebox, glazed tile back and timber mantle in good condition.
FP3	Fireplace intact, timber surround and tiles in poor condition.
FP4	Fireplace boarded over.
FP5	No fireplace evident or believed to have been within space highlighted
FP6	Roman cement decorative legs still evident, fireplace boarded over.
FP7	Embellished timber surround with cast iron firebox, in reasonable condition.
FP8	Marble surround left in place, fireplace boarded over.
FP9	Fireplace clearly removed.

Stairs

S01	York stone treads in reasonable condition
S02	York stone treads in reasonable condition, signs of past repair work to treads.
S03	Roman cement, decorative balustrade present and in good condition.
S04	Timber handrail on steel railing balustrade in reasonable condition.
S05	Secondary guarding wall used as security measure within stairwell. Guarding known as unoriginal, not suitable for existing stair.
S06	Un-original cast-iron spiral staircase, believed in good condition.
S07	Un-original timber stairs believed in reasonable condition.
S08	External York stone stairs, cause for significant damp issues internally. Currently propped as deemed unsafe/unusable. Intervention required urgently.
S09	External York stone stairs, cause for significant damp issues internally. Non original brick structure erected during past works to support, this has moved and no longer supports the stair. Stairs deemed unsafe/unusable, intervention required urgently.
S10	York stone treads with linoleum nosing's. Tired condition.

Sanitary / Kitchen Fittings

SF1	Sanitary fittings in good condition. Electric extract fan present, cannot comment on working order.
SF2	Sanitary fittings including- lavatories, urinals and washbasins considered in poor condition.
SF3	Fitted kitchen with sink, believed to be in good condition. Cannot comment on working order.
SF4	Sanitary fittings removed, redundant pipes left in place.
SF5	Self contained gas fired boiler, with balanced flue, extracted through the rear wall provides heating and hot water independently to main systems serving the building.
SF6	Un-original proprietary laminated toilet cubicles, in good condition.
SF8	Sanitary fitting including- lavatories, urinals and washbasins considered in good condition.
SF7	Cleaners sink, believed in poor condition.
SF8	Fitted kitchen with sink, in poor condition. Not operational.
SF9	Gas meter on wall, redundant cabling evident.

Decorative Order

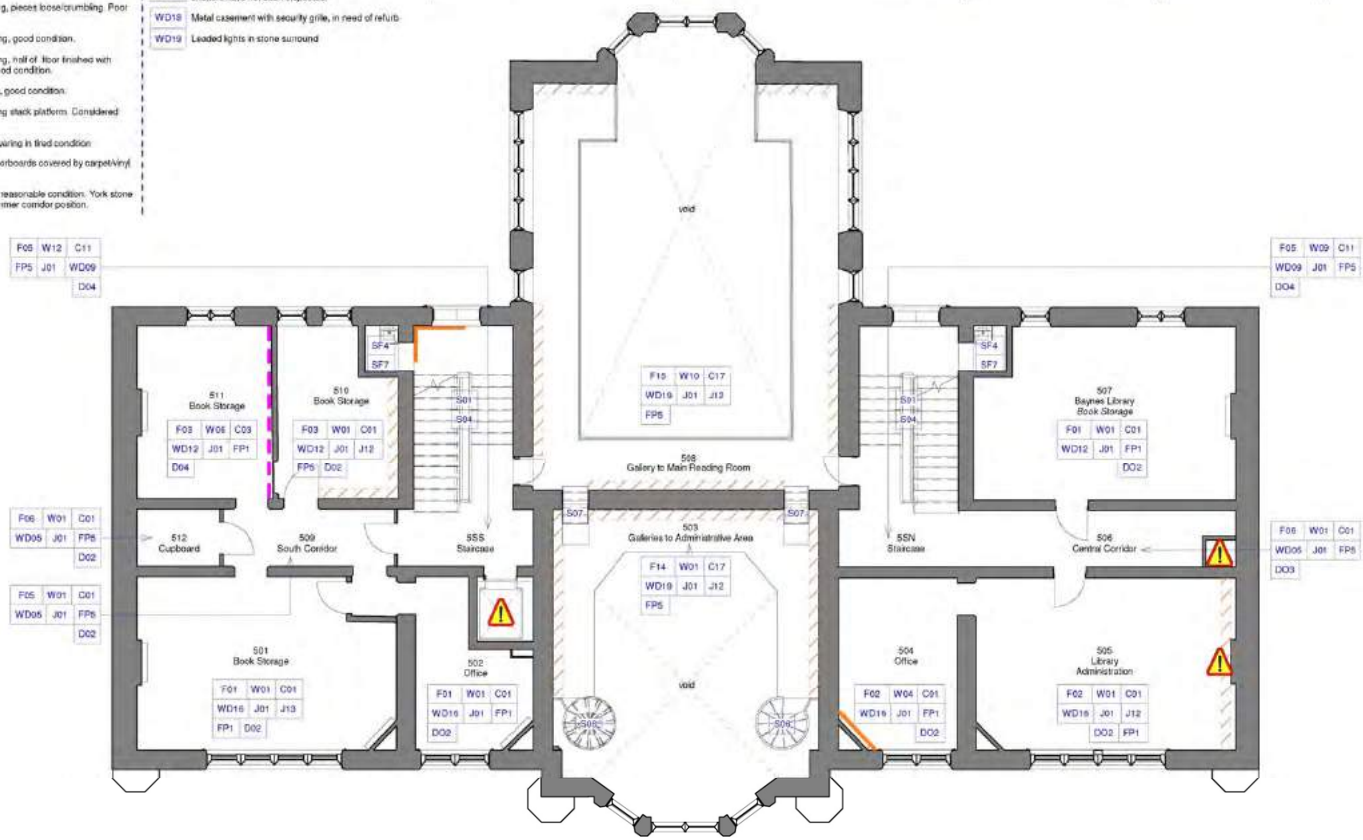
DO1	General interior condition of room- Good.
DO2	General interior condition of room- Fair.
DO3	General interior condition of room- Tired.
DO4	General interior condition of room- Poor.

Condition Survey Key

Rooms highlighted with possible asbestos concerns. These notes are for guidance only and should not be considered a true and complete overview. Refer to the latest asbestos report by; RPS- Asbestos_Rev F HLA/53617 003R_June 2017

Identifier (Shown Indicatively)

- Plaster walls with areas of dampness in excess of 20%.
- Plaster wall with areas of dampness.
- Areas of notable cracking within plaster walls.
- Indicative locations of tile splashback, conditioned considered good.
- Timber panelling / built in book shelving to perimeter walls. Including Library 'book presses'



REV	DATE	DESCRIPTION

ORIGINATOR REF: 8555

CPMG ARCHITECT INTERIOR DESIGN VISUALISATION

CPMG Architects Ltd

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23 Warser Gate, Nottingham, NG1 1NU tel: 0115 958 9500
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PROJECT

Dr Williams's Library
Library Building

DRAWING TITLE

FLOOR PLANS
Condition Survey - L05

DRAWING PURPOSE

PRELIMINARY

DRAWN BY	DATE	CHK'D BY	SCALE	MEDIA
HW	2019-07-25	RF	1 : 100	A2

PROJECT - ORIGINATOR - ZONE - LEVEL - TYPE - ROLE - NUMBER REVISION

W82-CPM-Z1-05-DR-A-70005

ISO 9001: 2015 Quality Management
ISO 14001: 2015 Environmental Management
PAS 1192-2: 2013 Building Information Modelling

Floors

F01	No significant deflection noted, floorboards covered by carpet/vinyl. Covering in reasonable condition.
F02	No significant deflection noted, floorboards exposed.
F03	Significant deflection noted, floorboards covered by carpet/vinyl.
F04	Significant deflection noted, floorboards exposed.
F05	York stone slabs in reasonable order.
F06	Infilled timber floor adjoining York stone slab floor, good condition.
F07	Long strip hardwood and softwood boarding on cast iron and timber structure beneath. In good condition. Stone slabs at intended fireplace locations to side walls.
F08	York stone slabs, masked by carpet. Covering in good condition.
F09	Tanked floor with recessed rolling rack tracks and seamless linoleum flooring. Good condition.
F10	Solid concrete with painted finish. Good condition.
F11	Brick Paver, considered good condition.
F12	Long strip oak finish flooring. Considered good condition
F13	Significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
F14	Gallery- Two unoriginal cast-iron floors with associated railings, supported on cast-iron columns. Considered good condition.
F15	Gallery- Un-original timber gallery with associated timber balustrade, supported below by timber book presses. Good condition.
F16	Un-original perforated cast-iron grilled floor on supporting steelwork. Good condition.
F17	Solid floor with York stone covering, pieces loose/crumbling. Poor Condition.
F18	Solid floor with York Stone covering, good condition.
F19	Solid floor with York Stone covering, half of floor finished with seamless linoleum, considered good condition.
F20	Solid floor with seamless linoleum, good condition.
F21	Solid floor, painted finish with rolling stack platform. Considered good condition.
F22	York stone slabs with linoleum covering in tired condition
F23	No significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
F24	Double suspended timber floor in reasonable condition. York stone slabs in reasonable condition in former corridor position.

Windows

WD01	Metal casement with secondary internal glazing, no damp/mould issues. Good condition.
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WD03	Metal casement with secondary internal glazing, damp/mould issues between glazing. Dampness measured in excess of 20%.
WD04	Metal casement with security grille. Good condition.
WD05	No window within highlighted space.
WD06	Stained glass in metal casements, reasonable condition.
WD07	Stained glass in painted stonework to bay in need of minor repairs, some signs of glass distortion. Refurbishment required.
WD08	Metal casement in reasonable condition, extraction fan included in glazing. External cill in need of refurb.
WD09	Metal casement window in good condition.
WD12	Metal casement window in poor condition.
WD13	Stained glass in metal casements replaced during past works with metal infill panels, hidden behind built in book shelving, condition unknown.
WD14	Teleflex operation believed to be in need of replacement. Metal casement window in good condition.
WD15	Metal casement in good condition- glazing replaced with obscure panels at some point during past works.
WD16	Timber sash window recently refurbished, good condition.
WD17	Environmental shutters to window. Openings behind shutters have not been inspected.
WD18	Metal casement with security grille, in need of refurb.
WD19	Leaded lights in stone surround

Walls

W01	Painted plaster, considered good condition.
W02	Significant dampness evident to painted plaster walls. Dampness in excess of 20%, as indicated on plan.
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W06	Significant cracking to plastered painted walls, as indicated on plan.
W07	Painted fair faced brickwork, considered good condition.
W08	Painted plastered walls, walls in tired condition.
W09	Painted plaster walls, Keene's cement skirting's, edges and window reveals considered good condition.
W10	Painted plaster walls, believed to be in good condition. Exposed steel lintels above windows.
W11	Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant plaster cracking around the window/door noted, as indicated on plan.
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Ceilings

C01	Plain painted plastered ceiling considered good condition.
C02	Ornate/vaulted painted plastered ceiling, good condition.
C03	Painted plastered ceiling in poor condition, cracking evident.
C04	No ceiling- Exposed timber floor construction.
C05	Fair faced painted brick segmental vault, good condition.
C06	Painted plaster ceiling with decorative cornice at the wall-ceiling junction, not original to building. Considered good condition.
C07	Painted plaster in poor condition. The timber gas ventilation hood is not believed fire protected.
C08	Painted timber board with timber battens, good condition.
C09	Painted plaster ceiling with down stand beams, good condition.
C10	Painted plaster ceiling with timber cased cast-iron beams, in need of refurb. Decorative braces and corbels in good order.
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C13	Painted plaster ceiling, evidence of dampness from above, poor condition.
C14	No ceiling- Steel shuttered floor above.
C16	Plain painted plastered ceiling considered tired condition
C17	Woodchip wallpaper to plaster, in good condition

Joinery

J01	Door, door frame, architraves and skirting in good condition.
J02	Door, door frames, architraves and skirting in poor condition.
J03	Timber exterior door with glazed panels and ogee heads, in good condition.
J04	Timber exterior door, good condition.
J05	Timber panelling to perimeter walls, with built-in integral cupboards and book shelving as indicated on plan.
J06	Timber doors with ogee heads considered good condition.
J08	Modern strong room door (high security and fire properties). Good condition.
J09	New timber door (in original), door frame, architrave and skirting in good condition.
J10	Soft wood six panel door with original Keen's cement reveal, considered good.
J11	Timber glazed screen and matching associated feature double doors are considered good in condition.
J12	Built in book shelving, good condition, as indicated on plan.

Fireplace

FP1	Fireplace intact, Roman cement decorative legs, cast iron firebox and timber mantle in good condition.
FP2	Fireplace intact, Roman cement decorative legs, cast iron firebox, glazed tile back and timber mantle in good condition.
FP3	Fireplace intact, timber surround and tiles in poor condition.
FP4	Fireplace boarded over.
FP5	No fireplace evident or believed to have been within space highlighted
FP6	Roman cement decorative legs still evident, fireplace boarded over.
FP7	Embellished timber surround with cast iron firebox, in reasonable condition.
FP8	Marble surround left in place, fireplace boarded over.
FP9	Fireplace clearly removed.

Stairs

S01	York stone treads in reasonable condition
S02	York stone treads in reasonable condition, signs of past repair work to treads.
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Sanitary / Kitchen Fittings

SF1	Sanitary fittings in good condition. Electric extract fan present, cannot comment on working order.
SF2	Sanitary fittings including- lavatories, urinals and washbasins considered in poor condition.
SF3	Fitted kitchen with sink, believed to be in good condition. Cannot comment on working order.
SF4	Sanitary fittings removed, redundant pipes left in place.
SF5	Self contained gas fired boiler, with balanced flue, extracted through the rear wall provides heating and hot water independently to main systems serving the building.
SF5	Un-original proprietary laminated toilet cubicles, in good condition.
SF8	Sanitary fitting including- lavatories, urinals and washbasins considered in good condition.
SF7	Cleaners sink, believed in poor condition.
SF8	Fitted kitchen with sink, in poor condition. Not operational.
SF9	Gas meter on wall, redundant cabling evident.

Decorative Order

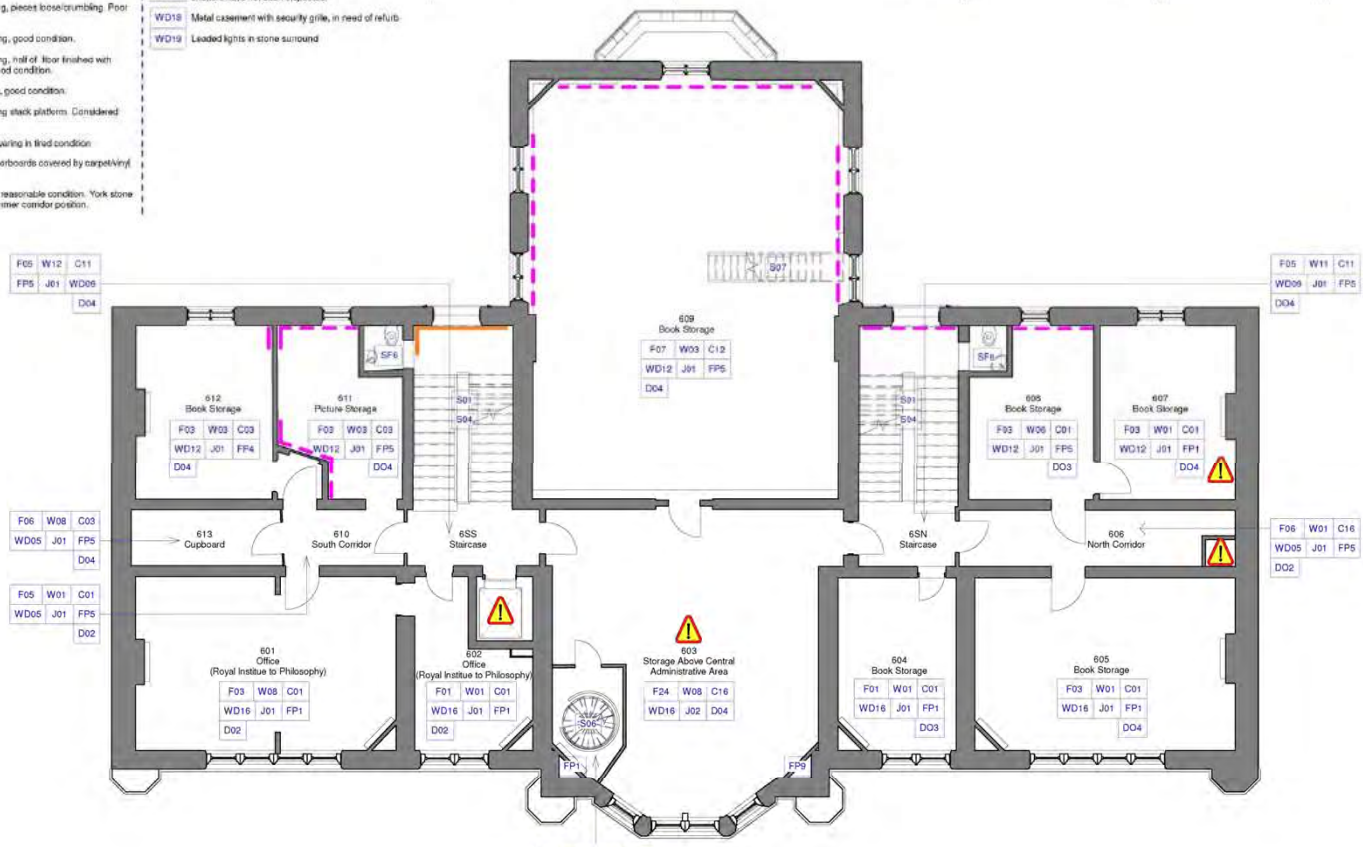
DO1	General interior condition of room- Good.
DO2	General interior condition of room- Fair.
DO3	General interior condition of room- Tired.
DO4	General interior condition of room- Poor.

Condition Survey Key

Rooms highlighted with possible asbestos concerns. These notes are for guidance only and should not be considered a true and complete overview. Refer to the latest asbestos report by; RPS- Asbestos_Rev F HLA/53617 003R_June 2017

Identifier (Shown Indicatively)

- Plaster walls with areas of dampness in excess of 20%.
- Plaster wall with areas of dampness.
- Areas of notable cracking within plaster walls.
- Indicative locations of tile splashback, conditioned considered good.
- Timber panelling / built in book shelving to perimeter walls. Including Library 'book presses'



Timber enclosed spiral staircase with glazed panels. Appears to be in reasonable condition.

REV	DATE	DESCRIPTION

ORIGINATOR REF: 8555

CPMG ARCHITECT INTERIOR DESIGN VISUALISATION

CPMG Architects Ltd

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www.cpmg-architects.com

PROJECT

Dr Williams's Library
Library Building

DRAWING TITLE

FLOOR PLANS
Condition Survey - L06

DRAWING PURPOSE

PRELIMINARY

DRAWN BY	DATE	CHK'D BY	SCALE	MEDIA
HW	2019-07-25	RF	1 : 100	A2

PROJECT - ORIGINATOR - ZONE - LEVEL - TYPE - ROLE - NUMBER REVISION

W82-CPM-Z1-06-DR-A-70006

ISO 9001: 2015 Quality Management
ISO 14001: 2015 Environmental Management
PAS 1192-2: 2013 Building Information Modelling

Floors

F01	No significant deflection noted, floorboards covered by carpet/vinyl. Covering in reasonable condition.
F02	No significant deflection noted, floorboards exposed.
F03	Significant deflection noted, floorboards covered by carpet/vinyl.
F04	Significant deflection noted, floorboards exposed.
F05	York stone slabs in reasonable order.
F06	Infilled timber floor adjoining York stone slab floor, good condition.
F07	Long strip hardwood and softwood boarding on cast iron and timber structure beneath. In good condition. Stone slabs at intended fireplace locations to side walls.
F08	York stone slabs, masked by carpet. Covering in good condition.
F09	Tanked floor with recessed rolling rack tracks and seamless linoleum flooring. Good condition.
F10	Solid concrete with painted finish. Good condition.
F11	Brick Paver, considered good condition.
F12	Long strip oak finish flooring. Considered good condition
F13	Significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
F14	Gallery- Two unoriginal cast-iron floors with associated railings, supported on cast-iron columns. Considered good condition.
F15	Gallery- Un-original timber gallery with associated timber balustrade, supported below by timber book presses. Good condition.
F16	Un-original perforated cast-iron grilled floor on supporting steelwork. Good condition.
F17	Solid floor with York stone covering, pieces loose/crumbling. Poor Condition.
F18	Solid floor with York Stone covering, good condition.
F19	Solid floor with York Stone covering, half of floor finished with seamless linoleum, considered good condition.
F20	Solid floor with seamless linoleum, good condition.
F21	Solid floor, painted finish with rolling stack platform. Considered good condition.
F22	York stone slabs with linoleum covering in tired condition
F23	No significant deflection noted, floorboards covered by carpet/vinyl. Covering in poor condition.
F24	Double suspended timber floor in reasonable condition. York stone slabs in reasonable condition in former corridor position.

Windows

WD01	Metal casement with secondary internal glazing, no damp/mould issues. Good condition.
WD02	Metal casement with secondary internal glazing, damp/mould issues between glazing.
WD03	Metal casement with secondary internal glazing, damp/mould issues between glazing. Dampness measured in excess of 20%.
WD04	Metal casement with security grille. Good condition.
WD05	No window within highlighted space.
WD06	Stained glass in metal casements, reasonable condition.
WD07	Stained glass in painted stonework to bay in need of minor repairs, some signs of glass distortion. Refurbishment required.
WD08	Metal casement in reasonable condition, extraction fan included in glazing. External cill in need of refurb.
WD09	Metal casement window in good condition.
WD12	Metal casement window in poor condition.
WD13	Stained glass in metal casements replaced during past works with metal infill panels, hidden behind built in book shelving, condition unknown.
WD14	Teleflex operation believed to be in need of replacement. Metal casement window in good condition.
WD15	Metal casement in good condition- glazing replaced with obscure panels at some point during past works.
WD16	Timber sash window recently refurbished, good condition.
WD17	Environmental shutters to window. Openings behind shutters have not been inspected.
WD18	Metal casement with security grille, in need of refurb.
WD19	Leaded lights in stone surround

Walls

W01	Painted plaster, considered good condition.
W02	Significant dampness evident to painted plaster walls. Dampness in excess of 20% as indicated on plan.
W03	Moderate cracking to painted plaster walls, as indicated on plan.
W04	Moderate dampness evident to painted plaster walls, as indicated on plan.
W05	Plastered masonry wall with wallpaper, general condition considered good.
W06	Significant cracking to plastered painted walls, as indicated on plan.
W07	Painted fair faced brickwork, considered good condition.
W08	Painted plastered walls, walls in tired condition.
W09	Painted plaster walls, Keene's cement skirting's, edges and window reveals considered good condition.
W10	Painted plaster walls, believed to be in good condition. Exposed steel lintels above windows.
W11	Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant plaster cracking around the window/door noted, as indicated on plan.
W12	Painted plaster walls, Keene's cement skirting's, edges and window reveals. Significant damage to plaster from leaks.

Ceilings

C01	Plain painted plastered ceiling considered good condition.
C02	Ornate/vaulted painted plastered ceiling, good condition.
C03	Painted plastered ceiling in poor condition, cracking evident.
C04	No ceiling- Exposed timber floor construction.
C05	Fair faced painted brick segmental vault, good condition.
C06	Painted plaster ceiling with decorative cornice at the wall-ceiling junction, not original to building. Considered good condition.
C07	Painted plaster in poor condition. The timber gas ventilation hood is not believed fire protected.
C08	Painted timber board with timber battens, good condition.
C09	Painted plaster ceiling with down stand beams, good condition.
C10	Painted plaster ceiling with timber cased cast-iron beams, in need of refurb. Decorative braces and corbels in good order.
C11	No ceiling- York stone stairs/landing exposed.
C12	Painted underside of metal grillage in poor condition. Number of supporting downstand beams
C13	Painted plaster ceiling, evidence of dampness from above, poor condition.
C14	No ceiling- Steel shuttered floor above.
C16	Plain painted plastered ceiling considered tired condition
C17	Woodchip wallpaper to plaster, in good condition

Joinery

J01	Door, door frame, architraves and skirting in good condition.
J02	Door, door frames, architraves and skirting in poor condition.
J03	Timber exterior door with glazed panels and ogee heads, in good condition.
J04	Timber exterior door, good condition.
J05	Timber panelling to perimeter walls, with built-in integral cupboards and book shelving as indicated on plan.
J06	Timber doors with ogee heads considered good condition.
J08	Modern strong room door (high security and fire properties). Good condition.
J09	New timber door (un-original), door frame, architrave and skirting in good condition.
J10	Soft wood six panel door with original Keen's cement reveal, considered good.
J11	Timber glazed screen and matching associated feature double doors are considered good in condition.
J12	Built in book shelving, good condition, as indicated on plan.

Fireplace

FP1	Fireplace intact, Roman cement decorative legs, cast iron firebox and timber mantle in good condition.
FP2	Fireplace intact, Roman cement decorative legs, cast iron firebox, glazed tile back and timber mantle in good condition.
FP3	Fireplace intact, timber surround and tiles in poor condition.
FP4	Fireplace boarded over.
FP5	No fireplace evident or believed to have been within space highlighted
FP6	Roman cement decorative legs still evident, fireplace boarded over.
FP7	Embellished timber surround with cast iron firebox, in reasonable condition.
FP8	Marble surround left in place, fireplace boarded over.
FP9	Fireplace clearly removed.

Stairs

S01	York stone treads in reasonable condition
S02	York stone treads in reasonable condition, signs of past repair work to treads.
S03	Roman cement, decorative balustrade present and in good condition.
S04	Timber handrail on steel milling balustrade in reasonable condition.
S05	Secondary guarding wall used as security measure within stairwell. Guarding known as unoriginal, not suitable for existing stair.
S06	Un-original cast-iron spiral staircase, believed in good condition.
S07	Un-original timber stairs believed in reasonable condition.
S08	External York stone stairs, cause for significant damp issues internally. Currently propped as deemed unsafe/unusable. Intervention required urgently.
S09	External York stone stairs, cause for significant damp issues internally. Non original brick structure erected during past works to support, this has moved and no longer supports the stair. Stairs deemed unsafe/unusable, intervention required urgently.
S10	York stone treads with linoleum nosing's. Tired condition.

Sanitary / Kitchen Fittings

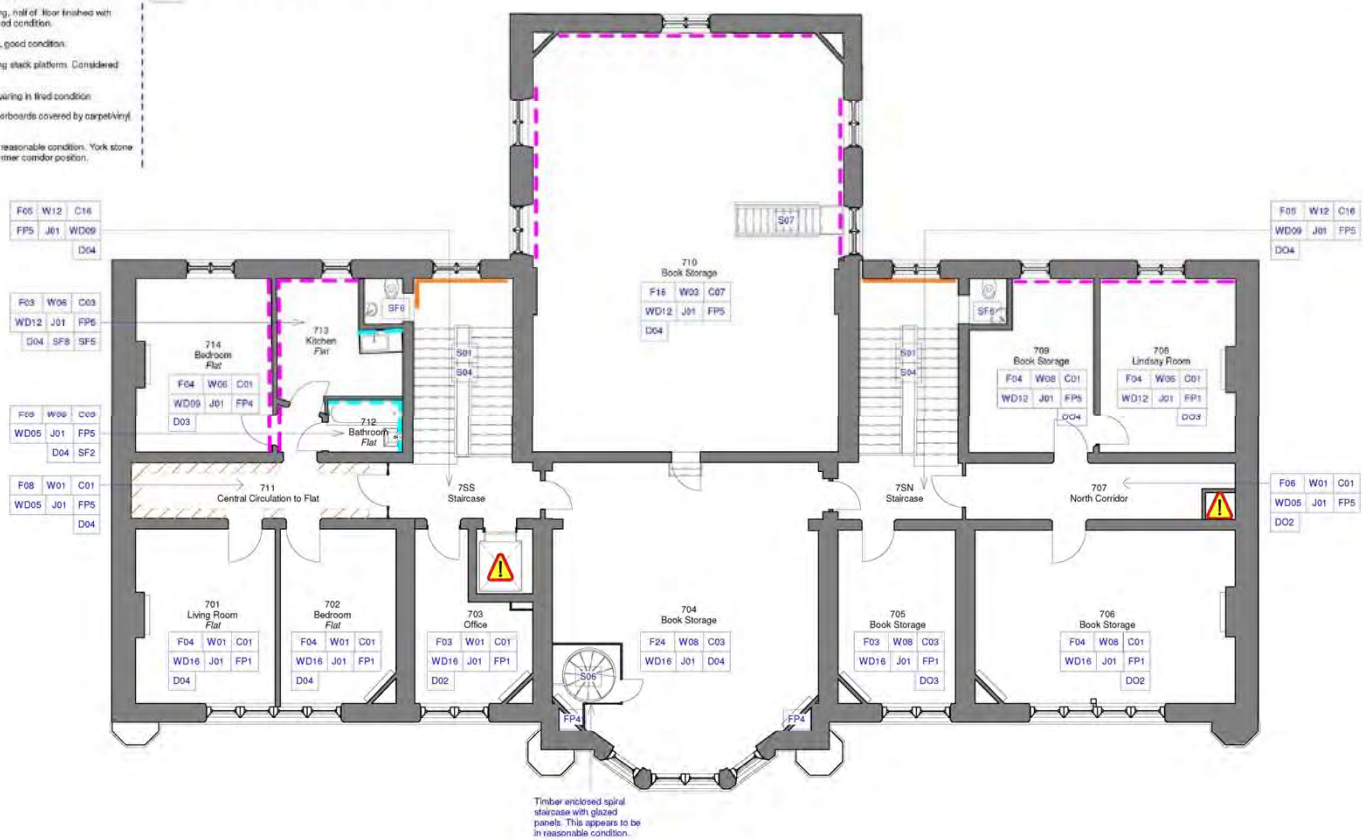
SF1	Sanitary fittings in good condition. Electric extract fan present, cannot comment on working order.
SF2	Sanitary fittings including- lavatories, urinals and washbasins considered in poor condition.
SF3	Fitted kitchen with sink, believed to be in good condition. Cannot comment on working order.
SF4	Sanitary fittings removed, redundant pipes left in place.
SF5	Self contained gas fired boiler, with balanced flue, extracted through the rear wall provides heating and hot water independently to main systems serving the building.
SF5	Un-original proprietary laminated toilet cubicles, in good condition.
SF8	Sanitary fitting including- lavatories, urinals and washbasins considered in good condition.
SF7	Cleaners sink, believed in poor condition.
SF8	Fitted kitchen with sink, in poor condition. Not operational.
SF9	Gas meter on wall, redundant cabling evident.

Decorative Order

DO1	General interior condition of room- Good.
DO2	General interior condition of room- Fair.
DO3	General interior condition of room- Tired.
DO4	General interior condition of room- Poor.

Condition Survey Key

- Rooms highlighted with possible asbestos concerns. These notes are for guidance only and should not be considered a true and complete overview. Refer to the latest asbestos report by; RPS- Asbestos_Rev F HLA/53617 003R_June 2017
- **Identifier (Shown Indicatively)**
- Plaster walls with areas of dampness in excess of 20%.
- Plaster wall with areas of dampness.
- Areas of notable cracking within plaster walls.
- Indicative locations of tile splashback, conditioned considered good.
- Timber panelling / built in book shelving to perimeter walls. Including Library 'book presses'



REV	DATE	DESCRIPTION

ORIGINATOR REF: 8555

CPMG ARCHITECT INTERIOR DESIGN VISUALISATION

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PROJECT

Dr Williams's Library
Library Building

DRAWING TITLE

FLOOR PLANS
Condition Survey - L07

DRAWING PURPOSE

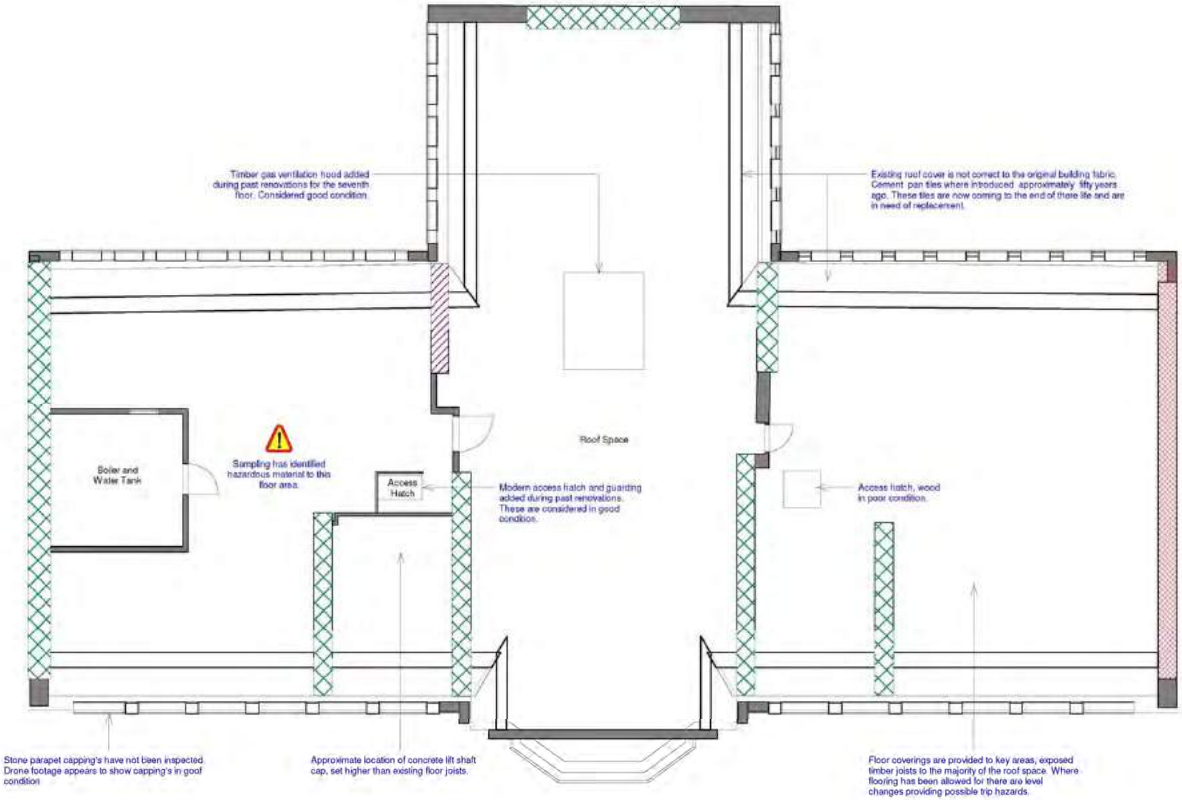
PRELIMINARY

DRAWN BY	DATE	CHK'D BY	SCALE	MEDIA
HW	2019-07-25	RF	1 : 100	A2

PROJECT - ORIGINATOR - ZONE - LEVEL - TYPE - ROLE - NUMBER REVISION

W82-CPM-Z1-07-DR-A-70007

ISO 9001: 2015 Quality Management
ISO 14001: 2015 Environmental Management
PAS 1192-2: 2013 Building Information Modelling



Condition Survey Key

Rooms highlighted with possible asbestos concerns. These notes are for guidance only and should not be considered a true and complete overview. For Asbestos related queries refer to the latest asbestos report by;
RPS- Asbestos_02
HLAM50679/001R, May 2017

Identifier (Shown Indicatively)

Chimney Stack- In need of urgent works to stabalise the structure. Concerns over collapse.

Chimney Stack- In need to stabalisation, stack to be tied into a new diafram floor covering at level eight.

Chimney Stack- Reduced in height and closed off during previous works.

Refer to Structural Engineers drawings for further information.

REV	DATE	DESCRIPTION

ORIGINATOR REF: 8555

CPMG ARCHITECT INTERIOR DESIGN VISUALISATION

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PROJECT

Dr Williams's Library
Library Building

DRAWING TITLE

FLOOR PLANS
Condition Survey - L08

DRAWING PURPOSE

PRELIMINARY

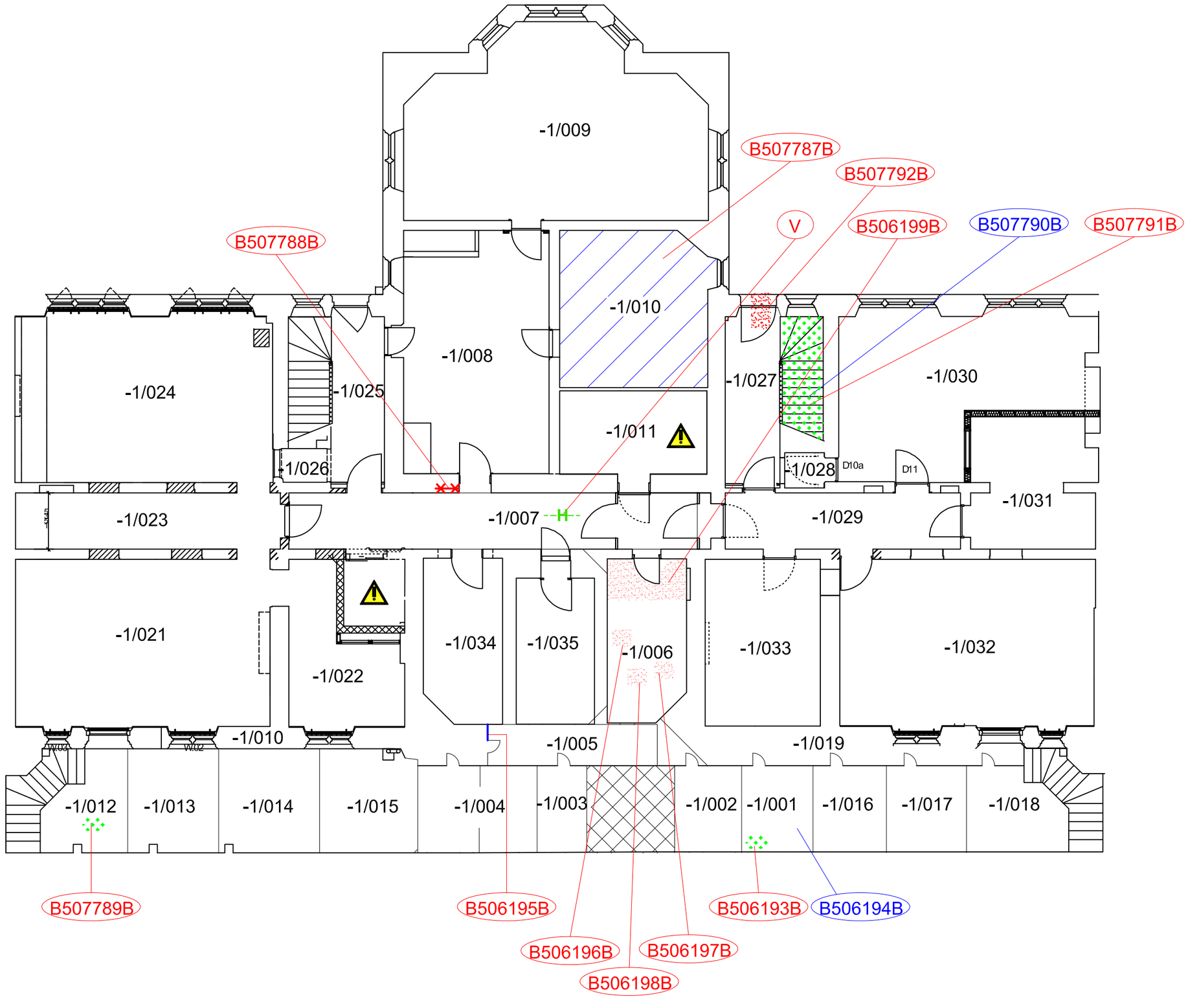
DRAWN BY	DATE	CHK'D BY	SCALE	MEDIA
HW	2019-07-25	RF	1 : 100	A2

PROJECT - ORIGINATOR - ZONE - LEVEL - TYPE - ROLE - NUMBER REVISION

W82-CPM-Z1-08-DR-A-70008

ISO 9001: 2015 Quality Management
ISO 14001: 2015 Environmental Management
PAS 1192-2: 2013 Building Information Modelling

Appendix E –
Asbestos Survey Plans



INFORMATION RELATING TO DETECTED ASBESTOS CONTAINING MATERIALS IN THE BUILDING

(NB: This drawing provides a simple indication of ACM's locations; for more detailed and comprehensive information, reference must also be made to the Asbestos Register)

14 Cornhill
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W. www.rpsgroup.com

Drawing Key

	Asbestos Cement Sheet (Horizontal)		Asbestos Cement Sheet (Vertical)
	Asbestos Cement Flue / Downpipe		Asbestos Cement Debris
	Asbestos Cement Guttering		AIB / Insulation Debris
	Asbestos Insulating Board (AIB) Horizontal		Asbestos Insulating Board (AIB) Vertical
	Insulation Products		Asbestos Spray Coating
	Textured Coating	H	Woven Products
H	CAF Gaskets		Bonded Materials
	No Access / Further Information [See Register]	P	Paper Products
01	Asbestos Sample / 'As' Sample Position	01	Non Asbestos Sample
01/001 Office	Room Number Room Description		Not in remit of survey

Not To Scale - For Guidance Only

For Sample Information See Section 4 In The Report And The Certificate of Analysis

LIMITATION OF INFORMATION

The information indicated on this drawing relating to Asbestos Containing Materials (ACMs) detected within the building should not be considered as exhaustive and it must always be assumed there may be other ACMs present, hidden and/or undetected within the structure. In view of this it may be necessary to undertake further investigations prior to carrying out any works likely to disturb the building fabric.

THE REPORT SHOULD BE READ IN ITS ENTIRETY

THIS IS A COLOUR DRAWING AND SHOULD NOT BE RELIED ON IF VIEWED IN BLACK AND WHITE ONLY

TYPE OF SURVEY: Management

CLIENT: Dr William's Library

SITE: Dr William's Library

LOCATION: Basement

SURVEY DATE: 17th-19th August 2015

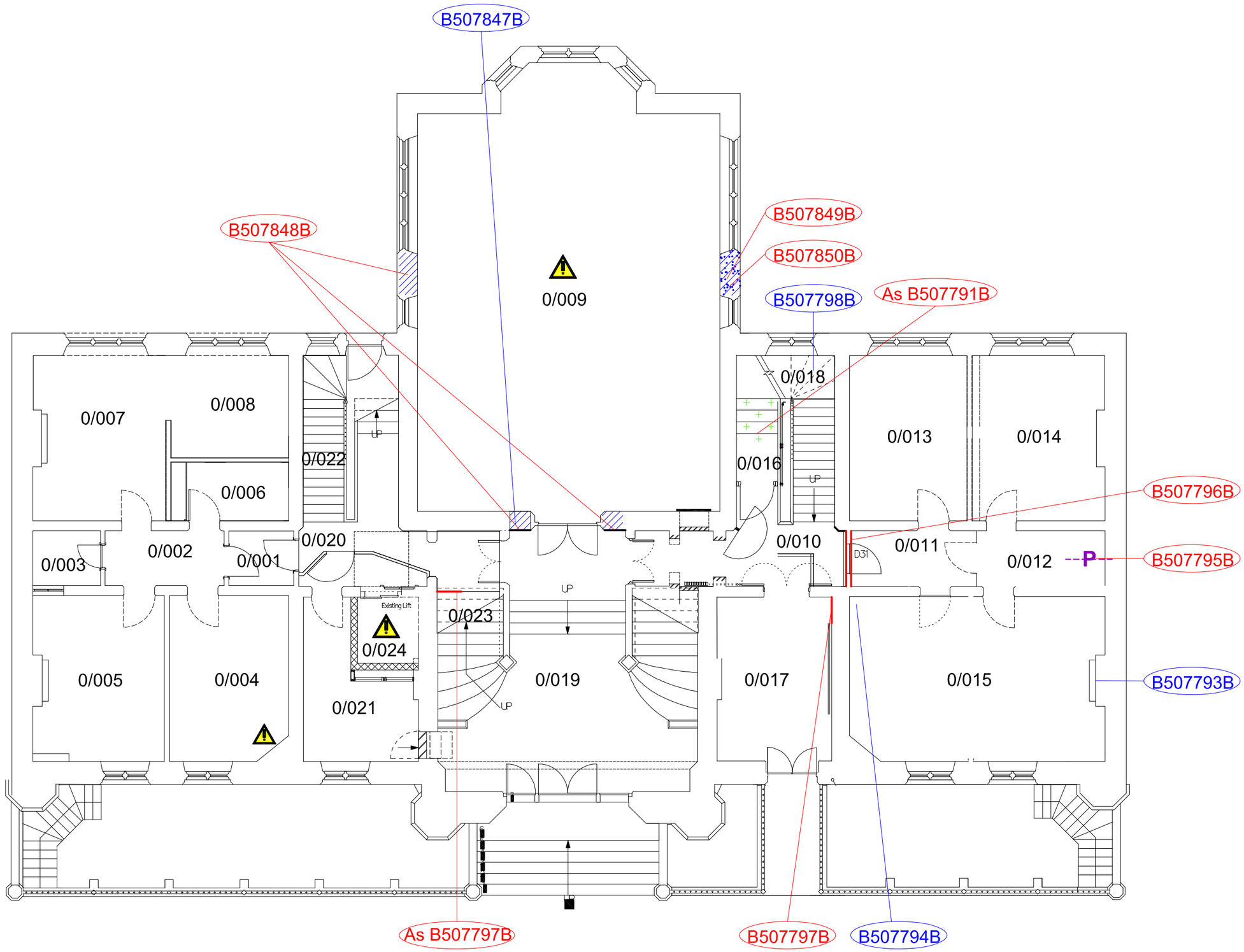
RPS DOC NUMBER: HLAR37140 / 006D

DRAWING REV:

RPS SURVEYORS: AE / MH

DRAWN BY / DATE: RSt / 24th August 2015

CHECKED BY: JS



INFORMATION RELATING TO DETECTED ASBESTOS CONTAINING MATERIALS IN THE BUILDING

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Drawing Key

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	Asbestos Cement Flue / Downpipe		Asbestos Cement Debris
	Asbestos Cement Guttering		AIB / Insulation Debris
	Asbestos Insulating Board (AIB) Horizontal		Asbestos Insulating Board (AIB) Vertical
	Insulation Products		Asbestos Spray Coating
	Textured Coating		Woven Products
H	CAF Gaskets		Bonded Materials
⚠	No Access / Further Information [See Register]	P	Paper Products

01	Asbestos Sample / 'As' Sample Position	01	Non Asbestos Sample
01/001 Office	Room Number Room Description		Not in remit of survey

Not To Scale - For Guidance Only

For Sample Information See Section 4 In The Report And The Certificate of Analysis

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TYPE OF SURVEY: Management

CLIENT: Dr William's Library

SITE: Dr William's Library

LOCATION: Ground Floor

SURVEY DATE: 17th-19th August 2015

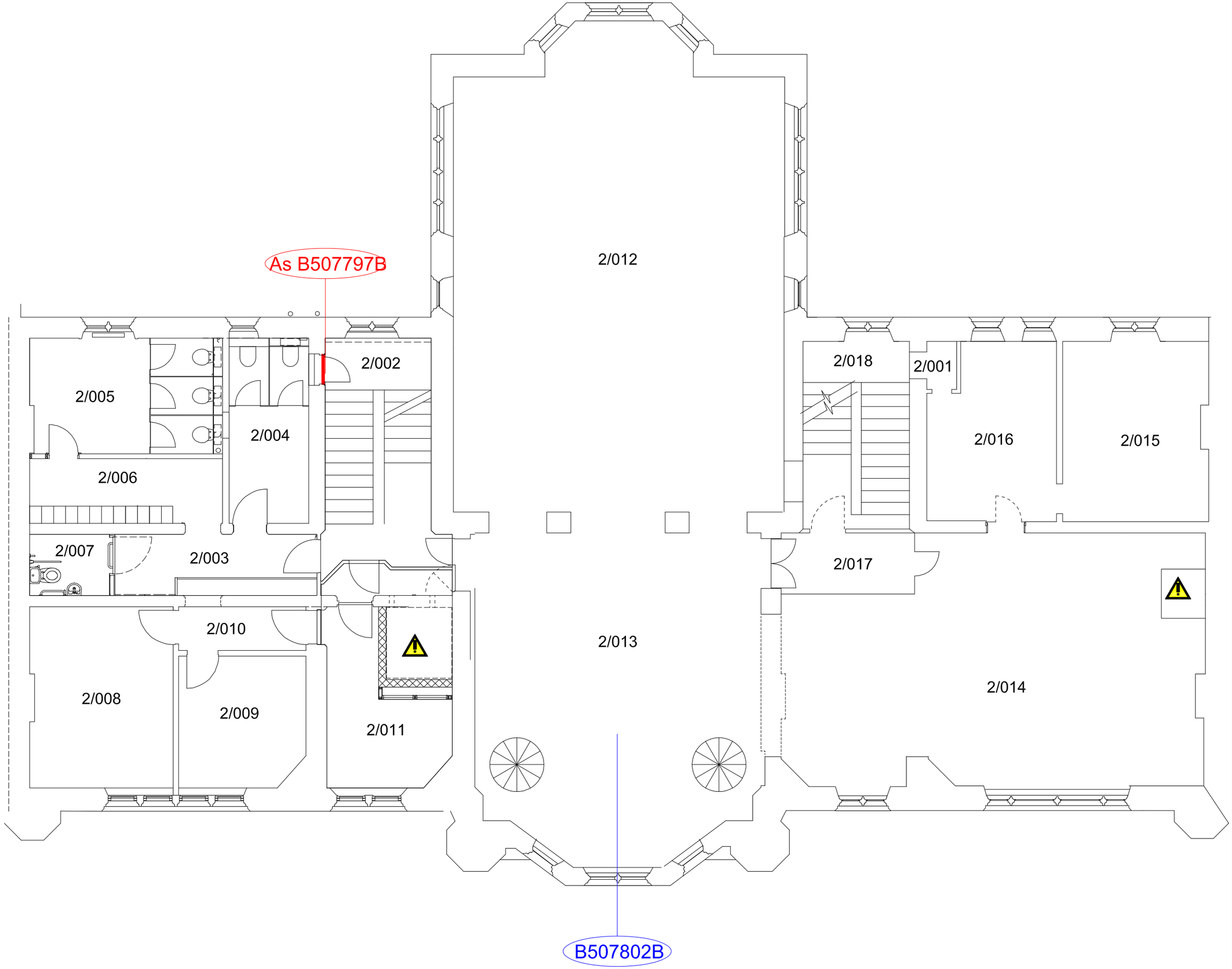
RPS DOC NUMBER: HLAR37140 / 007D

DRAWING REV:

RPS SURVEYORS: AE / MH

DRAWN BY / DATE: RSt / 24th August 2015

CHECKED BY: JS



INFORMATION RELATING TO DETECTED ASBESTOS CONTAINING MATERIALS IN THE BUILDING

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Drawing Key

Asbestos Cement Sheet (Horizontal)		Asbestos Cement Sheet (Vertical)	
Asbestos Cement Flue / Downpipe		Asbestos Cement Debris	
Asbestos Cement Guttering		AIB / Insulation Debris	
Asbestos Insulating Board (AIB) Horizontal		Asbestos Insulating Board (AIB) Vertical	
Insulation Products		Asbestos Spray Coating	
Textured Coating		Woven Products	
CAF Gaskets		Bonded Materials	
No Access / Further Information [See Register]		Paper Products	

01	Asbestos Sample / 'As' Sample Position	01	Non Asbestos Sample
01/001 Office	Room Number Room Description		Not in remit of survey

Not To Scale - For Guidance Only

For Sample Information See Section 4 In The Report And The Certificate of Analysis

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TYPE OF SURVEY: Management

CLIENT: Dr William's Library

SITE: Dr William's Library

LOCATION: Second Floor

SURVEY DATE: 17th-19th August 2015

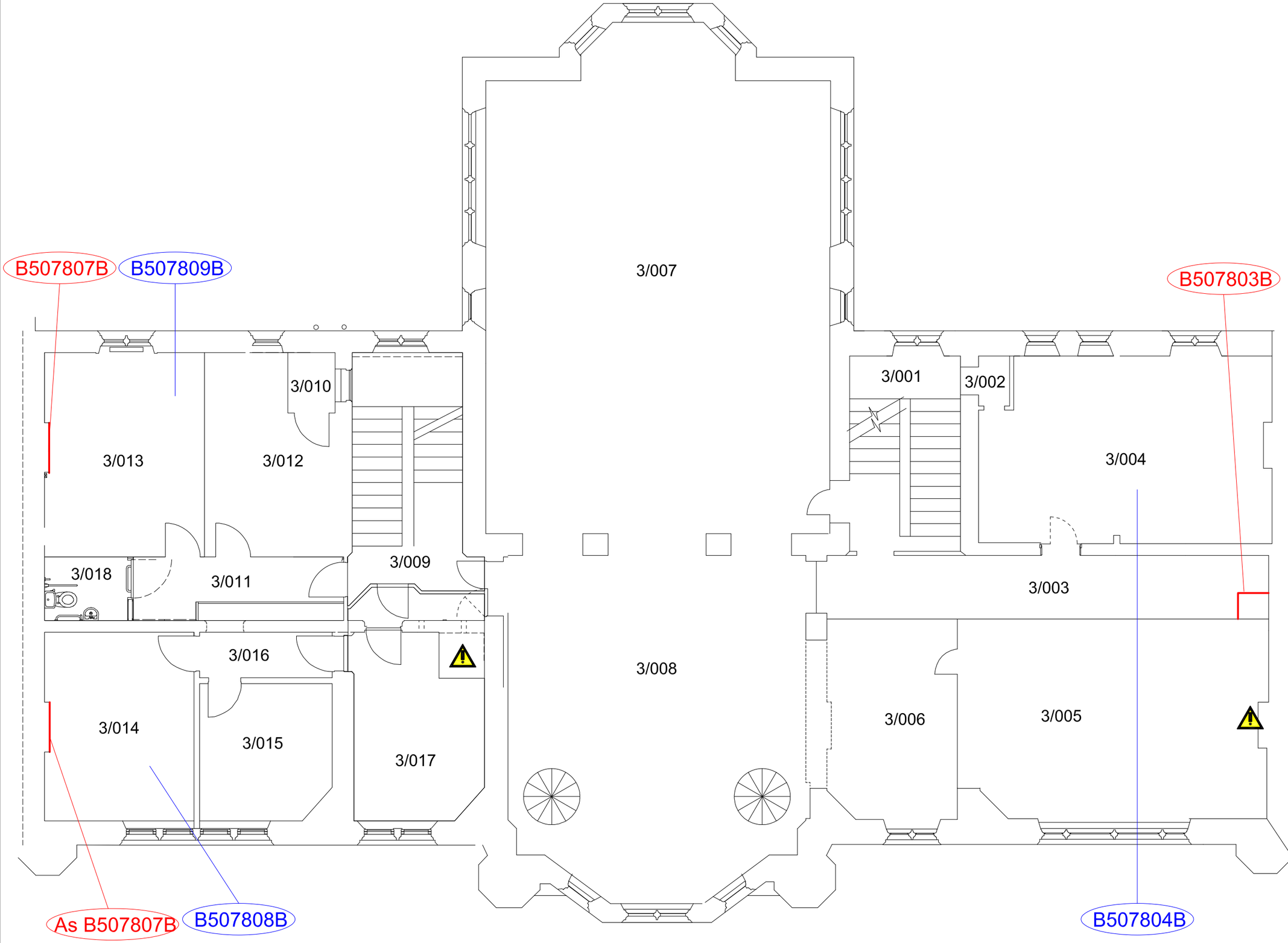
RPS DOC NUMBER: HLAR37140 / 009D

DRAWING REV:

RPS SURVEYORS: AE / MH

DRAWN BY / DATE: RSt / 24th August 2015

CHECKED BY: JS



INFORMATION RELATING TO DETECTED ASBESTOS CONTAINING MATERIALS IN THE BUILDING

(NB: This drawing provides a simple indication of ACM's locations; for more detailed and comprehensive information, reference must also be made to the Asbestos Register)

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Drawing Key

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	Insulation Products		Asbestos Spray Coating
	Textured Coating		Woven Products
H	CAF Gaskets		Bonded Materials
	No Access / Further Information [See Register]	P	Paper Products

01	Asbestos Sample / 'As' Sample Position	01	Non Asbestos Sample
01/001 Office	Room Number Room Description		Not in remit of survey

Not To Scale - For Guidance Only

For Sample Information See Section 4 In The Report And The Certificate of Analysis

LIMITATION OF INFORMATION

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TYPE OF SURVEY: Management

CLIENT: Dr William's Library

SITE: Dr William's Library

LOCATION: Third Floor

SURVEY DATE: 17th-19th August 2015

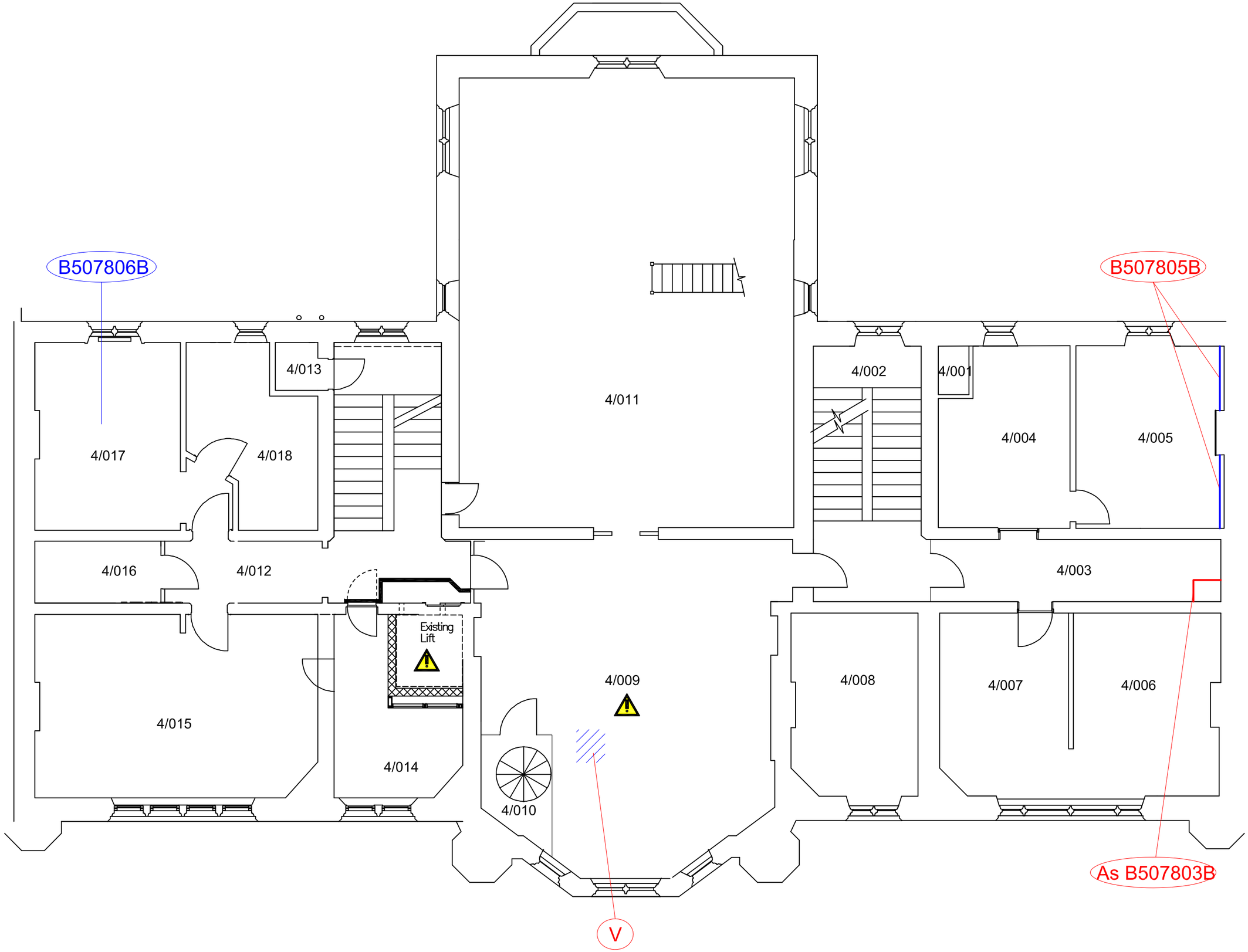
RPS DOC NUMBER: HLAR37140 / 010D

DRAWING REV:

RPS SURVEYORS: AE / MH

DRAWN BY / DATE: RSt / 24th August 2015

CHECKED BY: JS



INFORMATION RELATING TO DETECTED ASBESTOS CONTAINING MATERIALS IN THE BUILDING

(NB: This drawing provides a simple indication of ACM's locations; for more detailed and comprehensive information, reference must also be made to the Asbestos Register)

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Drawing Key

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Asbestos Cement Flue / Downpipe		Asbestos Cement Debris	
Asbestos Cement Guttering		AIB / Insulation Debris	
Asbestos Insulating Board (AIB) Horizontal		Asbestos Insulating Board (AIB) Vertical	
Insulation Products		Asbestos Spray Coating	
Textured Coating		Woven Products	
CAF Gaskets		Bonded Materials	
No Access / Further Information [See Register]		Paper Products	

01	Asbestos Sample / 'As' Sample Position	01	Non Asbestos Sample
01/001 Office	Room Number Room Description		Not in remit of survey

Not To Scale - For Guidance Only

For Sample Information See Section 4 In The Report And The Certificate of Analysis

LIMITATION OF INFORMATION

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THE REPORT SHOULD BE READ IN ITS ENTIRETY

THIS IS A COLOUR DRAWING AND SHOULD NOT BE RELIED ON IF VIEWED IN BLACK AND WHITE ONLY

TYPE OF SURVEY: Management

CLIENT: Dr William's Library

SITE: Dr William's Library

LOCATION: Fourth Floor

SURVEY DATE: 17th-19th August 2015

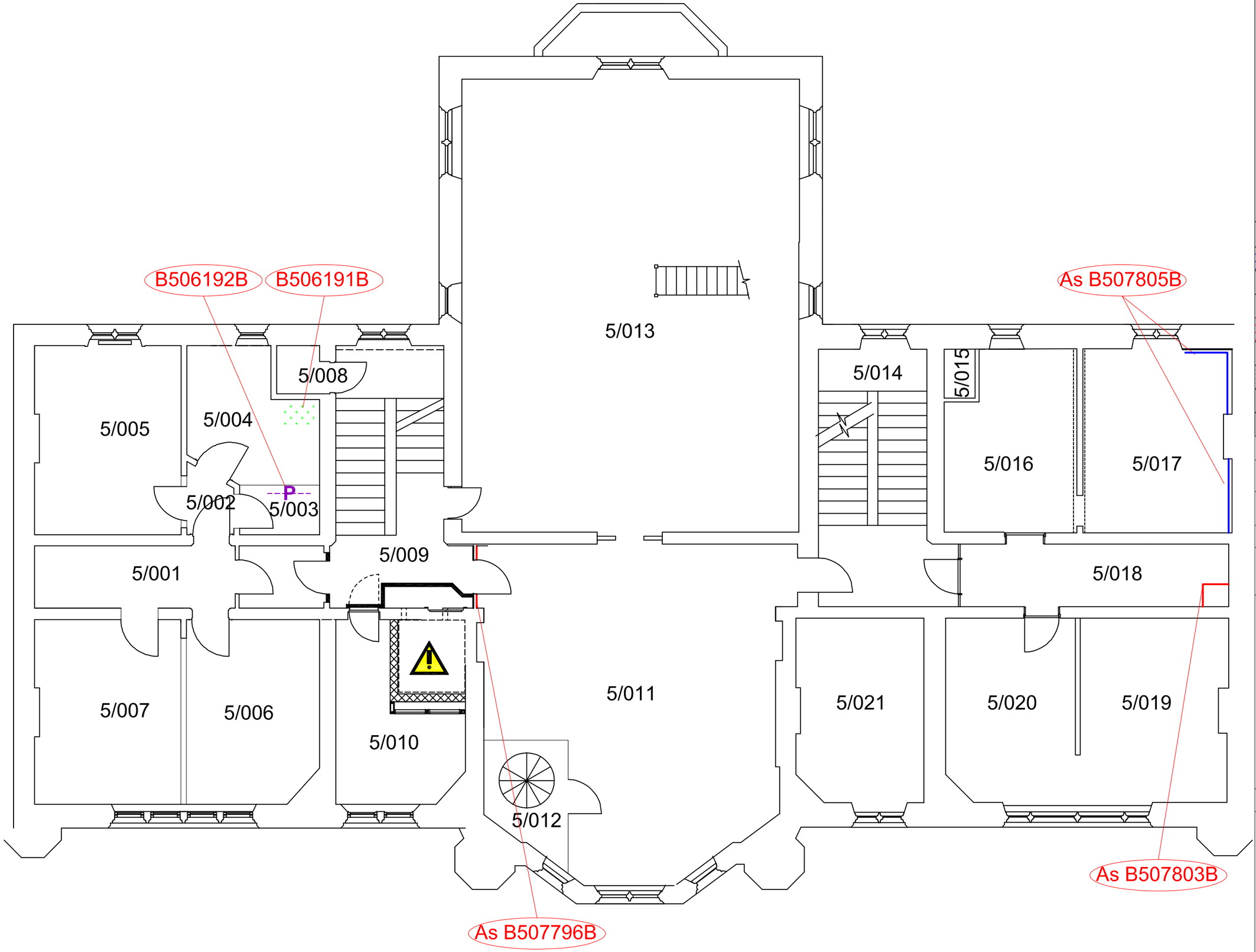
RPS DOC NUMBER: HLAR37140 / 011D

DRAWING REV:

RPS SURVEYORS: AE / MH

DRAWN BY / DATE: RSt / 24th August 2015

CHECKED BY: JS



INFORMATION RELATING TO DETECTED ASBESTOS CONTAINING MATERIALS IN THE BUILDING

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Drawing Key

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	Insulation Products		Asbestos Spray Coating
	Textured Coating	H	Woven Products
H	CAF Gaskets		Bonded Materials
	No Access / Further Information [See Register]	P	Paper Products
01	Asbestos Sample / 'As' Sample Position	01	Non Asbestos Sample
01/001 Office	Room Number Room Description		Not in remit of survey

Not To Scale - For Guidance Only

For Sample Information See Section 4 In The Report And The Certificate of Analysis

LIMITATION OF INFORMATION

The information indicated on this drawing relating to Asbestos Containing Materials (ACMs) detected within the building should not be considered as exhaustive and it must always be assumed there may be other ACMs present, hidden and/or undetected within the structure. In view of this it may be necessary to undertake further investigations prior to carrying out any works likely to disturb the building fabric.

THE REPORT SHOULD BE READ IN ITS ENTIRETY

THIS IS A COLOUR DRAWING AND SHOULD NOT BE RELIED ON IF VIEWED IN BLACK AND WHITE ONLY

TYPE OF SURVEY: Management

CLIENT: Dr William's Library

SITE: Dr William's Library

LOCATION: Fifth Floor

SURVEY DATE: 17th-19th August 2015

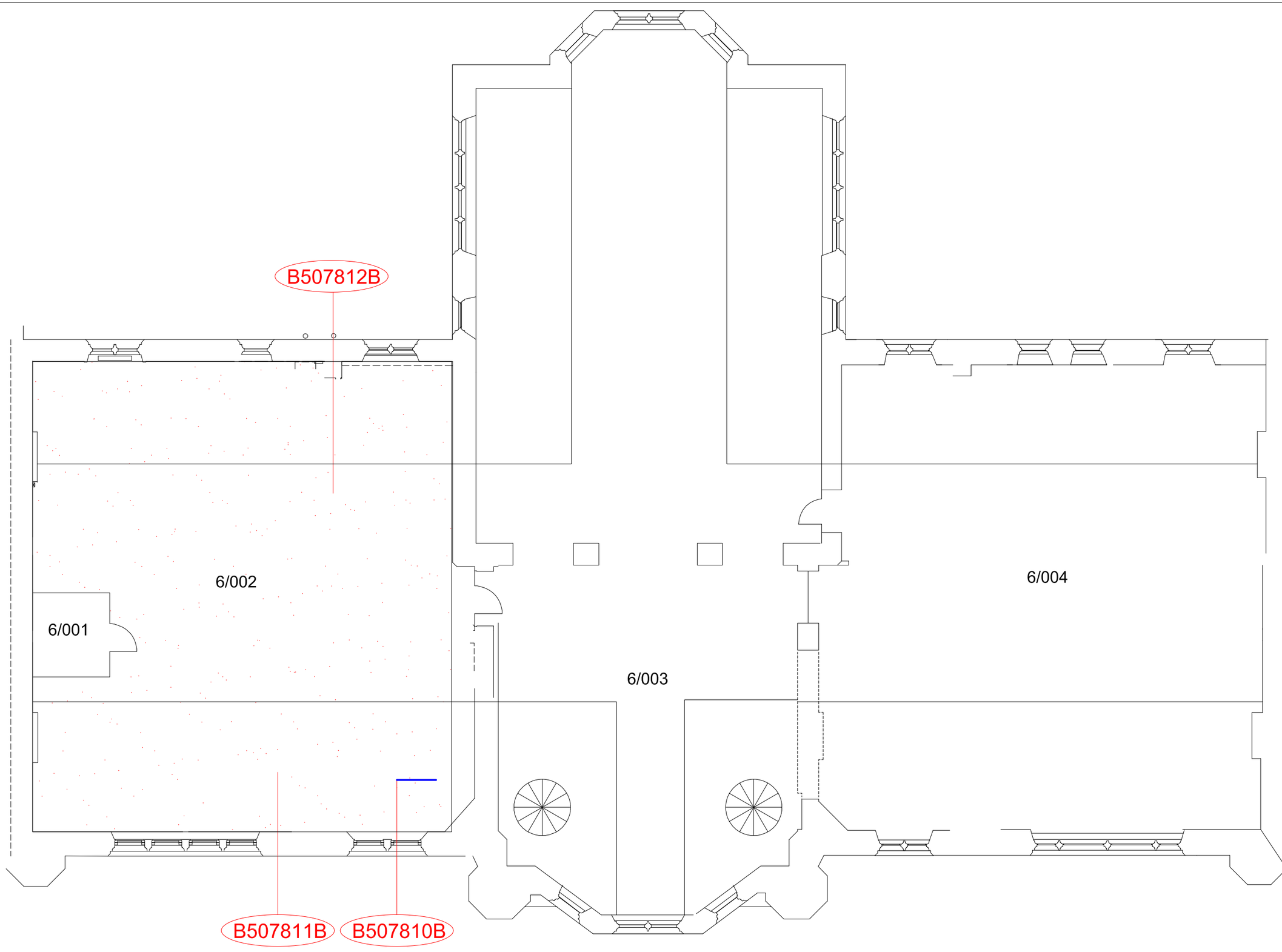
RPS DOC NUMBER: HLAR37140 / 012D

DRAWING REV:

RPS SURVEYORS: AE / MH

DRAWN BY / DATE: RSt / 24th August 2015

CHECKED BY: JS



INFORMATION RELATING TO DETECTED ASBESTOS CONTAINING MATERIALS IN THE BUILDING

(NB: This drawing provides a simple indication of ACM's locations; for more detailed and comprehensive information, reference must also be made to the Asbestos Register)

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Drawing Key

Asbestos Cement Sheet (Horizontal)		Asbestos Cement Sheet (Vertical)	
Asbestos Cement Flue / Downpipe		Asbestos Cement Debris	
Asbestos Cement Guttering		AIB / Insulation Debris	
Asbestos Insulating Board (AIB) Horizontal		Asbestos Insulating Board (AIB) Vertical	
Insulation Products		Asbestos Spray Coating	
Textured Coating		Woven Products	
CAF Gaskets		Bonded Materials	
No Access / Further Information [See Register]		Paper Products	

01	Asbestos Sample / 'As' Sample Position	01	Non Asbestos Sample
01/001 Office	Room Number Room Description		Not in remit of survey

Not To Scale - For Guidance Only

For Sample Information See Section 4 In The Report And The Certificate of Analysis

LIMITATION OF INFORMATION

The information indicated on this drawing relating to Asbestos Containing Materials (ACMs) detected within the building should not be considered as exhaustive and it must always be assumed there may be other ACMs present, hidden and/or undetected within the structure. In view of this it may be necessary to undertake further investigations prior to carrying out any works likely to disturb the building fabric.

THE REPORT SHOULD BE READ IN ITS ENTIRETY

THIS IS A COLOUR DRAWING AND SHOULD NOT BE RELIED ON IF VIEWED IN BLACK AND WHITE ONLY

TYPE OF SURVEY: Management

CLIENT: Dr William's Library

SITE: Dr William's Library

LOCATION: Loft

SURVEY DATE: 17th-19th August 2015

RPS DOC NUMBER: HLAR37140 / 013D

DRAWING REV:

RPS SURVEYORS: AE / MH

DRAWN BY / DATE: RSt / 24th August 2015

CHECKED BY: JS

Appendix F –
Existing Drainage Survey

DRAINAGE SURVEY REPORT

DR WILLIAMS LIBRARY
14 GORDON SQUARE
LONDON
WC1H 0AR

On behalf of

Dr David Wykes
Director
Dr Williams Library
14 Gordon Square
London
WC1H 0AR

Date: 4th June 2019

Job No: 190524 / db /pb

Prepared by: Steve Fidler

C J Uden & Co.
Drainage Consultants & Surveyors
The Old Builders Yard, 52 – 53 Dene Street, Dorking, Surrey, RH4 2DP
Telephone: 01306 882495 Email: contact@cjuden.co.uk

Dear Sir

Re: Dr Williams Library, 14 Gordon Square, London, WC1H 0AR

Further to your recent instructions we attended at the above on the 14th & 15th May 2019 to carry out a CCTV survey of the drainage as detailed on the enclosed sketch plan.

We would report as follows; all measurements in metric and approximate all materials assumed to be clay unless noted otherwise.

Foul Water Manhole 1 (Interceptor Trap) Depth 960 Face Brickwork / Render
150 White Glazed Channel

1 No Outlet	Clay	150mm-100mm	Downstream – Main Sewer – IL 960
6 No Inlets	Clay	100mm	Left Hand Branch 1 – Disused – IL 780
	Clay	100mm	Left Hand Branch 2 – Waste Gully – IL 820
	Clay	100mm	Right Hand Branch 1 – Yard Gully 1 – IL 760
	Clay	100mm	Right Hand Branch 2 – Rainwater Gully 1 – IL 840
	Clay	150mm	High Level – Disused Catchpit – IL 280
	Cast Iron	150mm	Upstream – Foul Water Manhole 7 – IL 930

Blocked on inspection and re-inspection. Large amount of gravel noted causing operational problems. 150 channel – 100 trap.
Manhole size: 1120 x 690. Cover size: 640 x 580

Overview Run 1

REM	The overview of this manhole highlights the channel to be 150mm white glazed that reduces to a 100mm clayware interceptor trap

Run 1 Foul Water Manhole 1 – Downstream to Foul Water Manhole 1A (In Gordon Square)

0.04	REM	Start point camera docked on rodding eye of interceptor trap
0.33	CC	Circumferential crack
0.66	JN	Junction 6 o'clock (interceptor trap)
0.90	REM	Passes over trap
1.23	DER	Settled deposits scale
2.54	DER	Settled deposits, heavy scale 7 – 9 o'clock
2.54	WL	Water retention starts
3.24	CUW	Loss of vision
3.60	JN	Junction 2 o'clock (unable to confirm its use)
4.00	REM	Approximate point where run passes beyond assumed boundary
6.81	LD	Bend down
8.41	LD	Bend down
9.68	MHF	Enters foul water manhole 1A downstream

Run 2 Foul Water Manhole 1 – Left Hand Branch 1 (Assumed Disused)

0.37	LL	Line of drain bends left
1.64	CC	Circumferential crack
3.49	LU	Line of drain bends up
4.00	OBX	Run capped off with mortar

Run 3 Foul Water Manhole 1 – Left Hand Branch 2 to Waste Gully

0.16	DER	Settled deposits, gravel / large shingle
2.05	DES	Settled deposits, heavy silt
2.58	DES	Settled deposits, heavy silt
4.35	DES	Settled deposits, 25% silt
5.04	JN	Junction 1 o'clock (unable to confirm what this run serves)
5.37	DES	Settled deposits 50%
5.37	SA	Survey abandoned unable to survey beyond this point

Run 4 Foul Water Manhole 1 – Right Hand Branch 1 to Yard Gully 1

0.98	LD	Bend down to yard gully
1.07	REM	Trap of yard gully 1

Run 5 Foul Water Manhole 1 – Right Hand Branch 2 to Rainwater Gully 1

1.56	B	Pipe broken on joint to gully
1.60	GYF	Enters rainwater gully 1

Run 6 Foul Water Manhole 1 – High Level to Disused Catchpit / Gully

0.00	FM	Multiple fractures start
0.66	DER	Settled deposits, heavy scale / mortar
0.70	REM	Enters disused catchpit / gully

Run 7 Foul Water Manhole 1 – Upstream to Foul Water Manhole 7

0.00	DER	Settled deposits starts
0.25	REM	Mild oxidisation to cast iron starts
6.36	DER	Settled deposits, heavy scale starts
13.37	MHF	Enters foul water manhole 7
	Note:	Mild oxidisation and scale, heavy in places throughout

Foul Water Manhole 2 (Interceptor Trap)

Depth 1030 Face Brickwork
100 White Glazed Chanel

1 No Outlet	Clay	100mm	Downstream – Main Sewer – IL 1030
5 No Inlets	Clay	100mm	Left Hand Branch 1 – Yard Gully 2 – IL 900
	Clay	100mm	High Level Left Hand – Vent Pipe – IL 380
	Clay	100mm	Right Hand Branch 1 – Disused WC – IL 920
	Clay	100mm	Right Hand Branch 2 – Foul Water Manhole 3 – IL 930
	Clay	150mm	Upstream – Foul Water Manhole 4 – IL 1000

Scale to channel. Blocked on inspection with large amount of gravel / shingle within trap.
Manhole size: 1300 x 600. Cover size: 510 x 440

Run 8 Foul Water Manhole 2 – Downstream to Foul Water Manhole 2A

0.00	REM	Start point rodding eye of interceptor trap
0.08	JN	Junction 6 o'clock interceptor trap
0.30	REM	Passes over trap
0.37	DES	Settled deposits, heavy silt and debris lodged in invert
0.94	DES	Settled deposits, heavy debris / shingle lodged in invert
2.21	JN	Junction 12 o'clock (unable to confirm use, possible test branch
3.03	CUW	Loss of vision
3.57	REM	Vision restored
3.98	LD	Bend down
4.00	REM	Approximate point where run passes beyond assumed boundary line
4.84	JDL	Joint displaced large
7.87	MHF	Enters foul water manhole 2A

Run 9 Foul Water Manhole 2 - Left Hand Branch 1 to Yard Gully 2

0.00	DER	Settled deposits, scale starts
0.37	LU	Line of drain bends up
1.56	LR	Line of drain bends right
2.01	GYF	Enters yard gully 2

Run 10 Foul Water Manhole 2 – Left Hand High Level to Vent Pipe

0.10	CC	Circumferential crack
0.21	CC	Circumferential crack
0.94	CC	Circumferential crack
1.27	FM	Multiple fractures
2.99	LU	Line of drain bends up to vent pipe

Run 11 Foul Water Manhole 2 – Right Hand Branch 1 to Disused WC

0.08	LR	Line of drain bends right slight
0.94	LU	Line of drain bends up
1.15	REM	In vertical section of pipe to disused wc

Run 12 Foul Water Manhole 2 – Right Hand Branch 2 to Foul Water Manhole 3

0.01	DER	Settled deposits, heavy scale deposits start
1.89	MHF	Enters foul water manhole 3

Run 13 Foul Water Manhole 2 – Upstream to Foul Water Manhole 4

0.00	DER	Settled deposits starts
4.67	DER	Settled deposits, very heavy scale
6.52	DER	Settled deposits, vent heavy scale
8.45	DER	Settled deposits, very heavy scale on joint
8.57	WL	Water retention noted
9.72	WL	Water level 50%
9.72	JN	Junction 2 o'clock (unable to confirm its use)
12.01	OJL	Open joint large
12.59	CC	Circumferential crack
14.00	CM	Multiple cracks
14.60	MHF	Enters foul water manhole 4

Foul Water Manhole 3 Depth 600 Face Brickwork
100 White Glazed Channel

1 No Outlet	Clay	100mm	Downstream – Foul Water Manhole 2 – IL 600
3 No Inlets	uPVC	100mm	Left Hand Branch – Stub Stack – IL 440
	Clay	100mm	High Level Upstream – Disused – IL 450
	Clay	100mm	Upstream – Disused – IL 580

Generally satisfactory.
Manhole size: 600 x 290. Cover size: 610 x 310

Run 14 Foul Water Manhole 3 – Left Hand Branch to Stub Stack

2.42	LU	Line of drain bends up
2.66	REM	In vertical section of stub stack

Run 15 Foul Water Manhole 3 – High Level Upstream (Assumed Disused)

0.70	DER	Settled deposits, heavy scale
0.94	LL	Line of drain bends left
1.10	CC	Circumferential crack
1.31	REM	Run appears disused and incorrectly capped off

Run 16 Foul Water Manhole 3 – Upstream

1.60	DES	Settled deposits 50% starts
4.02	H	Large hole at 12 o'clock
4.14	DES	Settled deposits 90% debris and silt
	Note:	Run is assumed to be disused

Yard Gully 2 Depth 400 Back Inlet Gully
Clay Trapped Back Inlet Gully

1 No Outlet	Clay	100mm	Downstream – Foul Water Manhole 2 – IL 400
1 No Inlet	Cast Iron	100mm	Upstream – Rainwater Gully 2 – IL 210

Generally satisfactory. Grid broken in halve.

Run 17 Yard Gully 2 – Upstream to Rainwater Gully 2

0.10	OBB	80% blocked with masonry / deposits
	Note:	Run length approximately 1200mm. Unable to inspect for condition of this run due to solids in invert

Foul Water Manhole 4 Depth 530 Gully Rendered
150 White Glazed Channel

1 No Outlet	Clay	150mm	Downstream – Foul Water Manhole 2 – IL 530
3 No Inlets	Clay	100mm	Right Hand Branch 1 – Rainwater Gully 3 – IL 515
	Clay	100mm	Right Hand Branch 2 – Soil Vent Pipe – IL 510
	Clay	150mm	Upstream – Foul Water Manhole 5 – IL 500

Hole in channel section. Scale to channel.
Manhole size: 1080 x 520. Cover size: 680 x 530

Run 18 Foul Water Manhole 4 – Right Hand Branch 1 to Rainwater Gully 3

0.16	DER	Settled deposits, large scale deposits start
0.78	DER	Settled deposits, very heavy scale
1.19	GYF	Enters rainwater gully 3

Run 19 Foul Water Manhole 4 – Right Hand Branch 2 to Soil Vent Pipe

0.62	LR	Line of drain bends right
1.19	LR	Line of drain bends right
1.60	LU	Line of drain bends up
1.89	REM	In vertical section of cast iron soil vent pipe

Run 20 Foul Water Manhole 4 – Upstream to Foul Water Manhole 5

0.00	CUW	Loss of vision
4.51	MHF	Enters foul water manhole 5
	Note:	Severe ponding issues throughout this run

Foul Water Manhole 5 Depth 420 Rendered
150 White Glazed Channel

1 No Outlet	Clay	150mm	Downstream – Foul Water Manhole 4 – IL 420
1 No Inlet	Clay	150mm	Upstream – Foul Water Manhole 6 – IL 395

25% ponding noted in channel.
Manhole size: 640 x 495. Cover size: 680 x 530

Run 21 Foul Water Manhole 5 – Downstream to Foul Water Manhole 4

0.00	CUW	Loss of vision
4.51	MHF	Enters foul water manhole 4
	Note:	Severe ponding throughout this run

Run 22 Foul Water Manhole 5 – Upstream to Foul Water Manhole 6

0.25	DER	Settled deposits, scale starts
3.69	CUW	Loss of vision
6.15	REM	Vision restored
14.19	JN	Junction 2 o'clock (discharge from foul water manhole 6A)
17.92	MHF	Enters foul water manhole 6
	Note:	Scale and ponding issues throughout this run

Foul Water Manhole 6 Depth 360 Rendered
150 White Glazed Channel

1 No Outlet	Clay	150mm	Downstream – Foul Water Manhole 5 – IL 360
1 No Inlet	Clay	150mm	Upstream (Not Inspected) – Serves UCL Building – IL 350

Generally satisfactory.
Manhole size: 640 x 350. Cover Size: 530 x 380

Foul Water Manhole 7 & 7a (Double Chamber)

Depth 580 Fully Rendered
150 White Glazed Channel

1 No Outlet	Cast Iron	150mm	Downstream – Foul Water Manhole 1 – IL 580
4 No Inlets	Clay	100mm	Left Hand Branch 1 – Rainwater Gully 4 – IL 575
	Clay	100mm	Left Hand Branch 2 – Foul Water Manhole 8 – IL 550
	Clay	100mm	Right Hand Branch 1 – Waste Gully – IL 545
	Clay	100mm	High Level Upstream – Soil Vent Pipe – IL 440

Benching worn and missing. Scale to channel.
Manhole size: 900 x 920. Cover size: 740 x 580

Run 23 Foul Water Manhole 7 & 7A – Left Hand Branch 1 to Rainwater Gully 4

0.29	LL	Line of drain bends left
0.82	GYF	Enters rainwater gully 4

Run 24 Foul Water Manhole 7 & 7A – Left Hand Branch 2 to Foul Water Manhole 8

0.37	DER	Settled deposits scale
0.98	FM	Multiple fractures
1.27	MHF	Enters foul water manhole 8

Run 25 Foul Water Manhole 7 – Right Hand Branch to Waste Gully A

1.02	GYF	Enters waste gully

Run 26 Foul Water Manhole 7 – High Level Upstream to Soil Vent Pipe

0.00	DER	Settled deposits, scale starts
0.33	LL	Line of drain bends left
0.98	LU	Line of drain bends up
1.23	REM	In vertical section of cast iron soil vent pipe

Foul Water Manhole 8

Depth 420 Rendered
100 Clayware Channel

1 No Outlet	Clay	100mm	Downstream – Foul Water Manhole 7 – IL 420
4 No Inlets	Clay	100mm	Left Hand Branch 1 – Disused – IL 360
	Clay	100mm	Left Hand Branch 2 – Disused – IL 350
	Clay	100mm	Left Hand Branch 3 – Disused – IL 350
	Clay	100mm	Upstream – Waste Gully – IL 410

Generally satisfactory.
Manhole size: 900 x 410. Cove size: 440 x 660

Run 27 Foul Water Manhole 8 – Left Hand Branch 1 (Run Disused)

0.16	OBB	Rubble / stones lodged in invert
0.53	OBB	Run capped off with mortar

Run 28 Foul Water Manhole 8 – Left Hand Branch 2 (Run Disused)

0.37	OBB	Brick / masonry in invert 50%
0.50	OBB	Brick / masonry in invert 90%
	SA	Survey abandoned unable to remove solidified deposits to inspect run in full
	Note:	This run appears to be disused

Run 29 Foul Water Manhole 8 – Left Hand Branch 3 (Run Disused)

0.62	OBB	00% blocked / capped off with mortar

Run 30 Foul Water Manhole 8 – Upstream to Waste Gully B

1.07	LL	Line of drain bends left
1.37	GYF	Enters waste gully B

Surface Water

Surface Water Silt Pit / Catchpit 1 Depth 500 Face Brickwork
Catchpit

1 No Outlet	Clay	100mm	Downstream – Rainwater Gully 3 – IL 250
2 No Inlets	Clay	100mm	Left Hand Branch – Rainwater Downpipe – IL 245
	Clay	100mm	Upstream – Assumed Silt Pit 2 (Unable to inspect due to extreme volumes of silt throughout runs) – IL 250

Full of heavy silt. Grid broken in two.

Run 31 Catchpit 1 – Downstream to Rainwater Gully 3

0.00	DES	Settled deposits, 100% full of heavy silty deposits. We were unable to carry out a meaningful inspection

Run 32 Catchpit 1 – Left Hand Branch to Rainwater Downpipe A

0.00	DES	Settled deposits, 80% blocked with heavy silty deposits. We were unable to inspect this run to determine its condition due to high silt levels within this run and catchpit 1 and run 31 / 33

Run 33 Rainwater Gully 3 – Upstream to Catchpit 1

0.00	DES	Settled deposits, 100% full of heavy silty deposits We were unable to carry out a meaningful inspection

Silt Pit / Catchpit 2 Unable to inspect due to high silt levels

Conclusions: The results of the CCTV survey highlight areas where the drainage requires attention. We would therefore recommend the following in accordance with our standard definitions.

		Priority
Run 1	We would recommend that the interceptor trap is excavated / removed and replaced using a straight section of uPVC pipe in an attempt at improving flow (the trap blocked on both of the days that we carried out our survey, even after extensive jetting). The remainder of the run down to foul water manhole 1A then requires scour / jetting works in an attempt to remove large scale deposits.	HIGH
Run 2	No works necessary.	
Run 3	This run serves a gully that is hidden below the crumbling steps. This run ideally requires extensive jetting works in attendance with a jet-vac tanker unit whilst attempting to remove the large volume of silt / ballast type material that is currently lodge in the invert. Once these works are complete the run should be re-inspected in an attempt to confirm its condition and report back our findings along with any further recommendations.	HIGH
Run 4	No works.	
Run 5	Excavate the rainwater gully at the head of the run and replace in modern materials.	MEDIUM
Run 6	Appears disused. Cap off correctly within the manhole.	MEDIUM
Run 7	Extensive scour / jetting works necessary in an attempt to improve flow.	HIGH
Run 8	Excavate and remove the interceptor trap and	

	replace with a straight section of pipe in modern materials. This run also requires extensive forward high pressure jetting works in an attempt to remove / reduce a large volume of ballast type debris lodged in invert that is causing poor flow.	HIGH
Run 9	No works.	
Run 10	Although defects noted this run serves as s vent pipe only. No works proposed at this time.	
Run 11	This run serves a wc that appears disused. No works proposed.	
Run 12	Although heavy scale noted within this short section the run only accepts grey waste. No works proposed.	
Run 13	Scour / jetting works are recommended in an attempt at reducing / removing heavy scale deposits and improve flow. Further works would be to re-inspect (12.00 – 14.60m) to confirm suitability for lining. If suitable an attempt should be made to line this section and cover defects.	HIGH
Run 14	No works.	
Run 15	This run would appear to be disused. We would recommend that it is capped off correctly within foul water manhole 3.	MEDIUM
Run 16	This run would appear to be disused. We would recommend that it is capped off correctly within foul water manhole 3.	MEDIUM
Run 17	Relay this run in modern materials.	HIGH
Run 18	Scour / jet in an attempt to improve flow.	LOW
Run 19	No works.	
Runs 20, 21 & 22	These runs (between foul water manhole 4 through to foul water manhole 6) are experiencing serious ponding issues that are causing very poor flow conditions. It is our understanding they block on a regular basis. Initially we would recommend a laser level survey is carried out in an attempt to confirm the amount of fall between foul water manhole 4 and foul water manhole 6. The results of this level survey will determine the	

	extent of any recommendations that need to be proposed to correct the issues.	HIGH
Run 23	No works.	
Run 24	Scour / jet and re-inspect to confirm suitability for a patch line repair at 0.98m. If suitable attempt to install patch liner to cover defects.	HIGH
Run 25	No works.	
Run 26	No works.	
Run 27	Appears to be disused. Cap off correctly within foul water manhole 8.	LOW
Run 28	Appears to be disused. Cap off correctly within foul water manhole 8.	LOW
Run 29	Appears to be disused. Cap off correctly within foul water manhole 8.	LOW
Run 30	No works.	
	Surface Water Runs	
Runs 31, 32 & 33 and Catchpit 1	All of these runs combine and discharge via rainwater gully 3 which then outfalls into the foul system at (foul water manhole 4). The entire system is clogged with heavy silty deposits that is causing operational problems. The extent of any recommendations would be dependent on both the level survey results for runs 21, 22 & 23 and any proposed extension / building works to this rear courtyard area.	
	Manholes	
Foul Water Manhole 1	Although blocked on each inspection during out survey this is due to the interceptor trap , works have been proposed in run 1. Otherwise the manhole is generally satisfactory.	
Foul Water Manhole 2	This manhole was also blocked on inspection and works proposed in run 8.	
	The channel section should be descaled to improve flow.	LOW
Foul Water Manhole 3	No works.	
Foul Water	Attempt to repair a large hole to part of the channel	

Manhole 4	using rapid hardening cement and epoxy putty. Descale the remainder of the channel section.	HIGH
Foul Water Manhole 5	Although ponding is noted in the channel section (caused by issues to runs 21, 22 & 23) the overall condition is generally satisfactory.	
Foul Water Manhole 6	No works.	
Foul Water Manhole 7 & 7A	Overhaul as necessary and descale channel.	LOW
Foul Water Manhole 8	No works.	
Catchpit 1 & 2	Both catchpits 1 & 2 are full of heavy silty deposits. Any works to these catchpits will be incorporated in any recommendations made for runs 31, 32 and 33.	

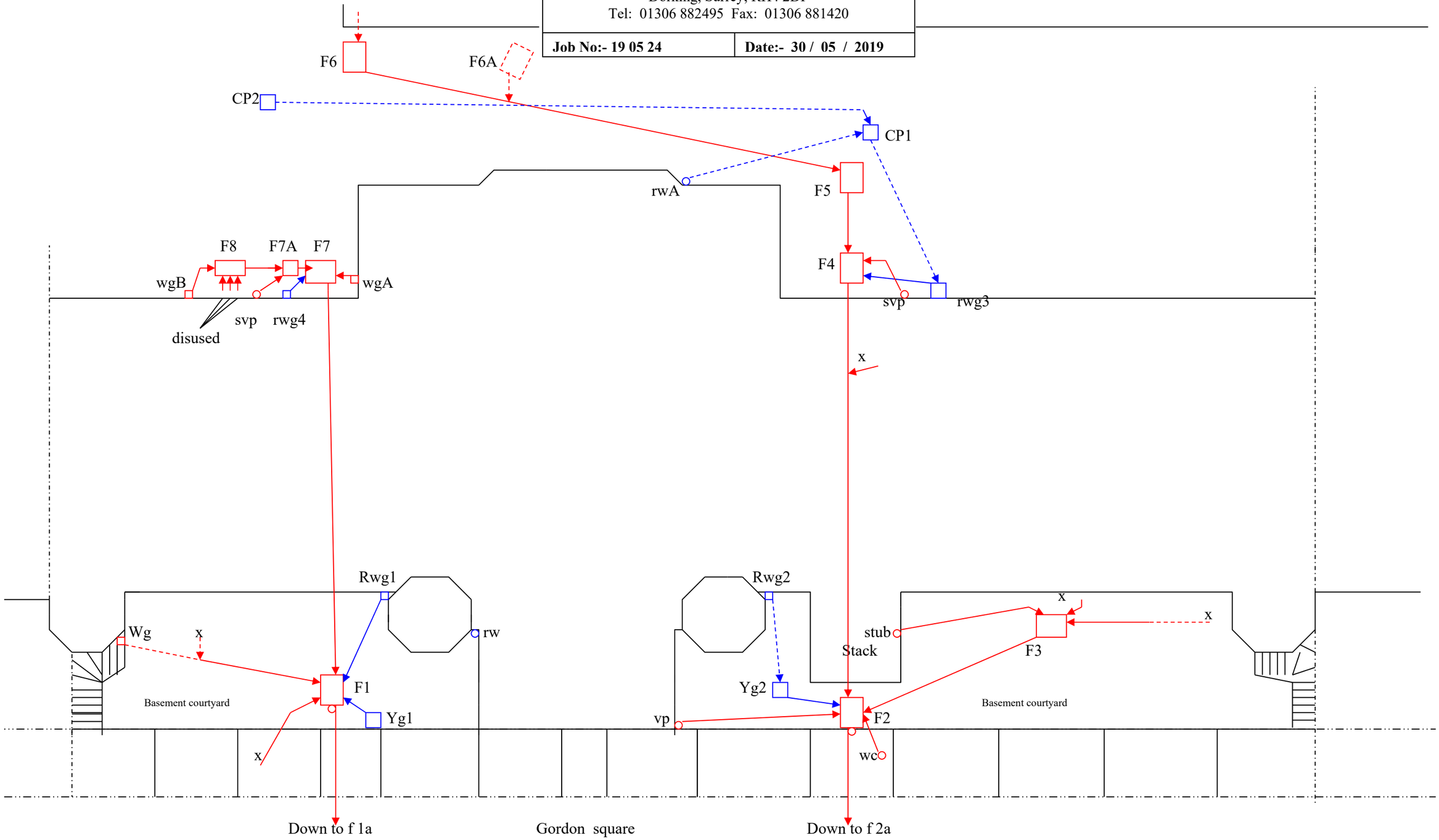
We trust the above meets with your requirements and look forward to receiving your further instructions. If we can be of any further assistance, please do not hesitate to contact us.

Yours sincerely

Steve Fidler
For and on behalf of
C J Uden & Co

C J Uden & Co
The Old Builders Yard, 52-53 Dene Street,
Dorking, Surrey, RH4 2DP
Tel: 01306 882495 Fax: 01306 881420

Job No:- 19 05 24	**Date:- 30 / 05 / 2019**



NOT TO SCALE FOR IDENTIFICATION ONLY E & OE

Site Address:- **DR WILLIAMS LIBRARY**
14 GORDON SQUARE
LONDON
WC1H 0AR

KEY

MH	Manhole	AV	Air Vent
WG	Waste gulley	VP	Vent Pipe
YG	Yard Gulley	SVP	Soil Vent Pipe
RWG	Rain Water	TP	Trap
Gulley		I	Interceptor
RW	Rain Water		

Appendix G –
Sun / Daylight Study

Dr Williams's Library

190825

BRE Daylight and Sunlight Assessment

DOCUMENT REVISION HISTORY			Ref:	190825
Rev	Author	Verification By	Date	Comments / Status
A	V.Sadler	N.S.Foster	08.08.19	Sunlight Assessment

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cpwp.com

Introduction

CouchPerryWilkes have written this report to summarise the calculation results following an assessment of daylight and sunlight availability to the adjacent premises following the proposed new extension to the existing Dr Williams's Library, London.

This report assesses the daylight and sunlight availability across the site to provide the reader with an understanding of what is to be expected within a number of adjacent spaces once the development is complete.

The existing site is shown adjacent to provide site context.

It is proposed to extend the current library building with two four storey extensions to the rear of the building.

Currently the rear of the library has a small courtyard space backing onto the adjacent buildings. The neighbouring buildings are a combination of residential, office and educational spaces.

The courtyard and neighbouring spaces contain a number of large mature trees.

The following sections within the report study the existing sunlight availability and the impact of any possible sunlight and daylight reduction.

The assessment is carried out to assess against the guidance laid out within the BRE Guide, 'Site Layout Planning For Daylight and Sunlight' produced by Paul Littlefair.

Image 1.

Google Maps Site Plan

Design Guidance

The document that this report has been carried out in line with is the:

'Site Layout Planning for Daylight and Sunlight, A guide to good practice' by Paul Littlefair BRE Trust

The document provides guidance on daylight and sunlight however currently there is no specific legislation that requires the values set out within are met.

The BRE Guidelines state that

'The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural light is only one of many factors in site layout and design.'

The two types of calculations carried out are defined within the 'Site Layout Planning for Daylight and Sunlight' guide as:

Vertical Sky Component (VSC)

'Ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Usually the 'given vertical plane' is the outside of a window wall. The VSC does not include reflected light, either from the ground or from other buildings.'

A VSC of 27% or greater is targeted as this is described as likely to produce adequate daylight within the spaces.

(Annual) Probable Sunlight Hours (APSH)

'The long-term average of the total number of hours during a year in which direct sunlight reaches the unobstructed ground (when clouds are taken into account).'

The APSH will appear 'reasonably sunlit' if one window to a main living room can receive 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in the winter month between 21st September and 21st March.

Site Plan

Image 2.

Architects Site Mark-up

Existing Ground Floor Site Plan

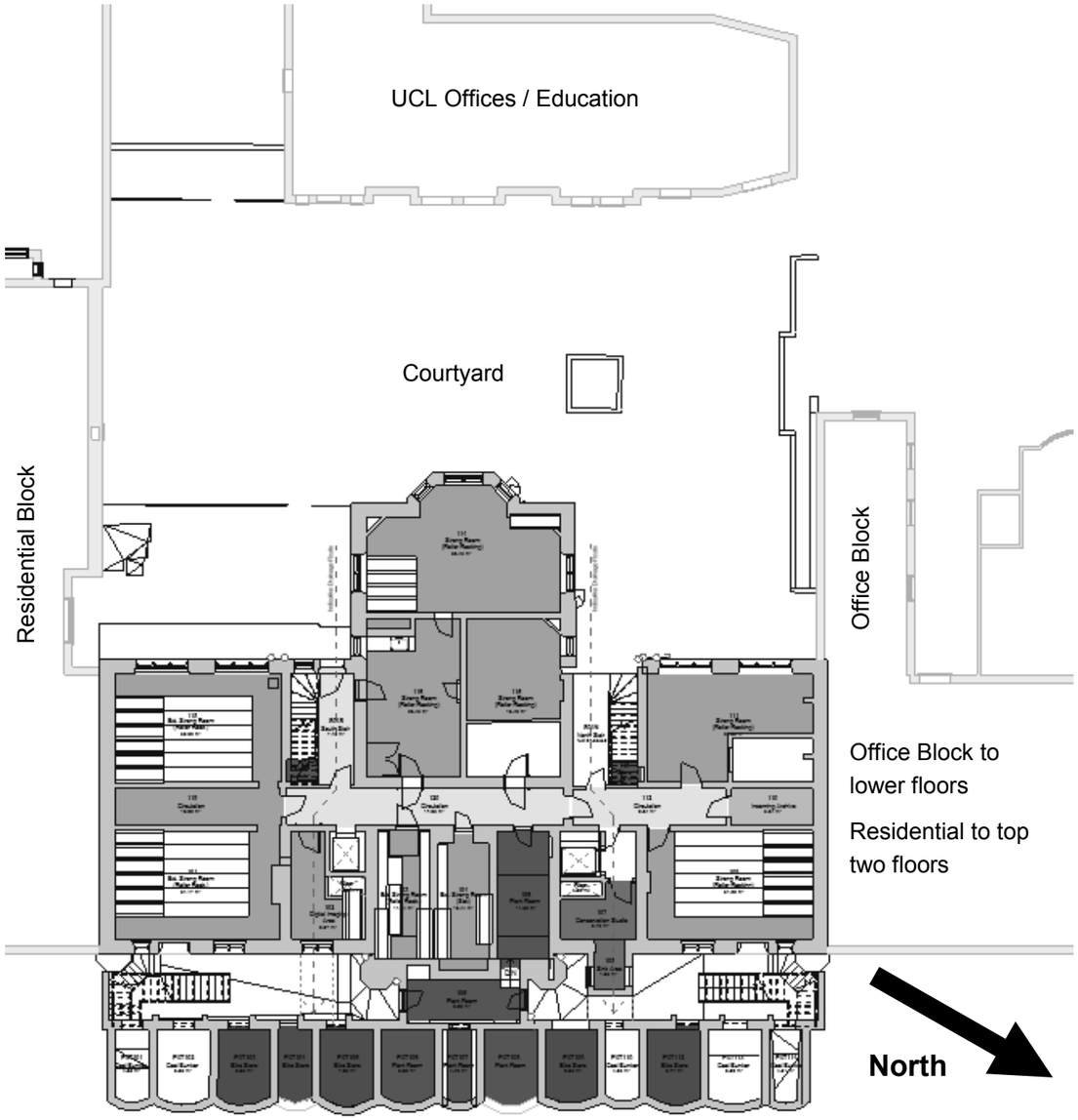


Image 3.

Site Plan from Architects Revit Model

Image 4.

3D Model from Architects

This existing ground floor site plan shows current courtyard area and adjacent buildings.

Proposed Ground Floor Site Plan

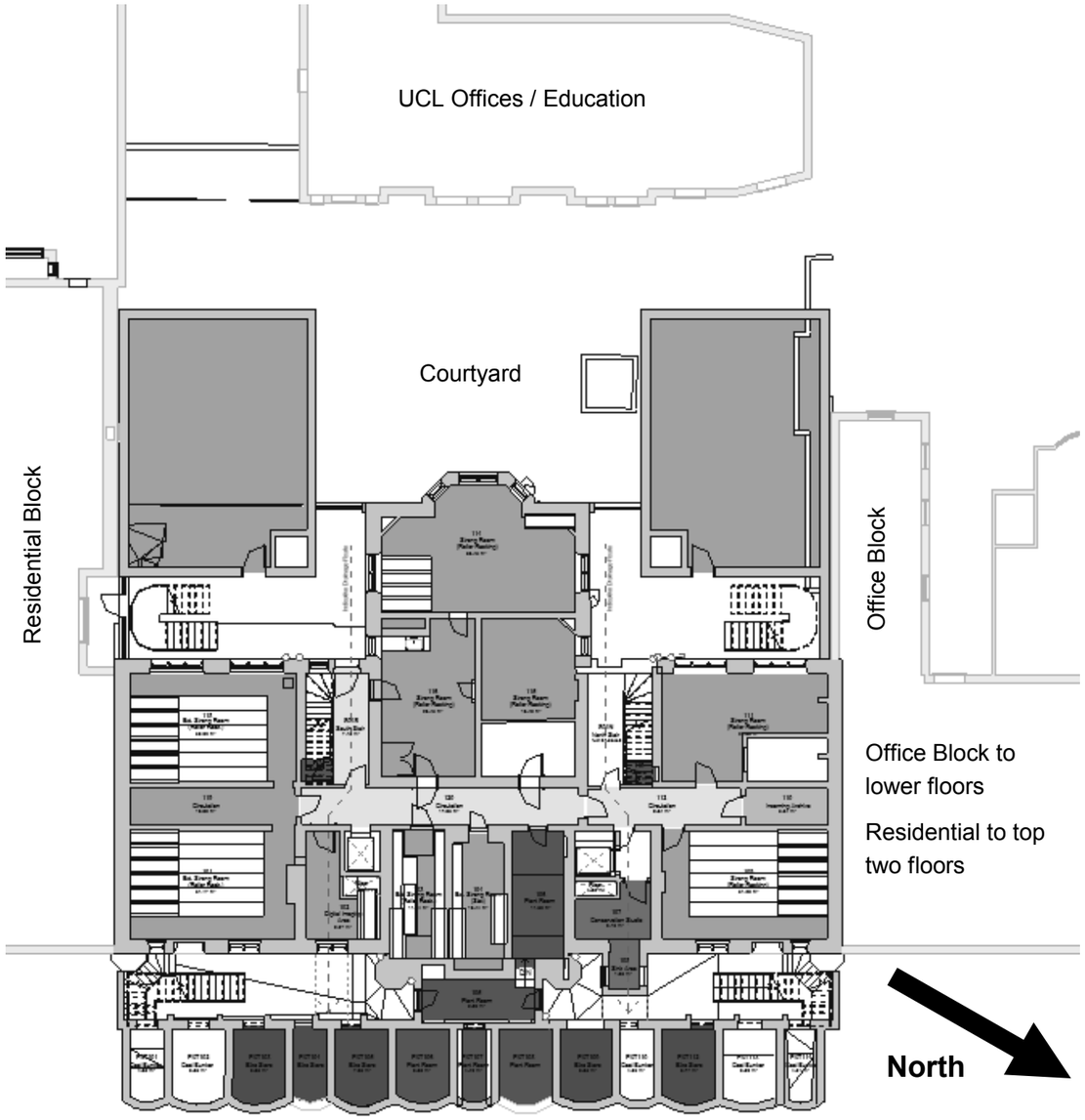


Image 5.

Site Plan from Architects Revit Model

Image 6.

3D Model from Architects

This proposed plan shows the two extension wings that will join onto the current library and protrude out into the courtyard.

Vertical Sky Component (VSC)

Vertical Sky Components have been calculated for the UCL building to the rear of the courtyard. This building comprises of offices and educational spaces. The centre points of all the windows that may be affected by the new extension have been calculated, these are depicted in the image below.

The guidance states that a VSC of 27% or more should provide enough skylight should reach the window. It states that "If the VSC, with the new development in place, is both less than 27% and less than 0.8 times its former value, occupants of the existing building will notice the reduction in the amount of skylight'.

To demonstrate any potential impact the 25 points were calculated using two models, one as the site currently is and one with the proposed extension included. These results are shown in the adjacent table. The results that fall below the recommended 20% reduction are highlighted in blue.

	Existing Site Results	Extension Modelled	Percentage Reduction
	(%)	(%)	
Point 1 (Window 1)	26.6	26.4	1%
Point 2 (Window 2)	17.7	17.7	0%
Point 3 (Window 3)	31.9	31.8	1%
Point 4 (Window 4)	22.7	22.7	0%
Point 5 (Window 5)	14.8	14.8	0%
Point 6 (Window 6)	19.4	16.6	15%
Point 7 (Window 7)	14.4	8.9	39%
Point 8 (Window 8)	14.7	9.6	35%
Point 9 (Window 9)	19.4	17.7	9%
Point 10 (Window 10)	19.3	17.4	10%
Point 11 (Window 11)	15.8	12.1	24%
Point 12 (Window 12)	16	12.3	24%
Point 13(Window 13)	12.8	8.6	23%
Point 14 (Window 14)	12.9	8.6	34%
Point 15 (Window 15)	19.3	16.4	15%
Point 16 (Window 16)	16.2	11.3	31%
Point 17 (Window 17)	16	10.8	33%
Point 18 (Window 18)	13.1	8.3	37%
Point 19 (Window 19)	13	8	39%
Point 20 (Window 20)	18.9	16.3	14%
Point 21 (Window 21)	16.1	11.1	32%
Point 22 (Window 22)	13.1	8.4	36%
Point 23 (Window 23)	20.6	19.3	7%
Point 24 (Window 24)	18.3	15.5	16%
Point 25 (Window 25)	16	13.1	19%

Image 7.

Architects photograph of UCL building

Windows 23, 24 and 25 just out of image view. Same size and location as adjacent windows.

Vertical Sky Component (VSC)

Vertical Sky Components have been calculated for the office and residential spaces adjoining the library to the north-west of the site. The centre points of all the windows that may be affected by the new extension have been calculated, these are depicted in the image adjacent.

The guidance states that a VSC of 27% or more should provide enough skylight should reach the window. It states that "If the VSC, with the new development in place, is both less than 27% and less than 0.8 times its former value, occupants of the existing building will notice the reduction in the amount of skylight".

To demonstrate any potential impact the 8 points were calculated using two models, one as the site currently is and one with the proposed extension included. These results are shown in the adjacent table. The results that fall below the recommended 20% reduction are highlighted in blue.

The residential block to the west of the site has not been assessed as the rooms that overlook the courtyard and may be impacted by the proposed development are store rooms, bathrooms and corridors. The BRE guidelines state that assessment is only needed for rooms where daylight is required and that "Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed."

	Existing Site Results	Extension Modelled	Percentage Reduction
	(%)	(%)	
Point 26 (Window 26)	25.2	21.5	15%
Point 27 (Window 27)	33.2	33.2	0%
Point 28 (Window 28)	30.8	30.7	1%
Point 29 (Window 29)	28.1	26.5	6%
Point 30 (Window 30)	32	30.7	5%
Point 31 (Window 31)	29	28.3	3%
Point 32 (Window 32)	25.9	22.5	14%
Point 33 (Window 33)	24.3	19.2	21%

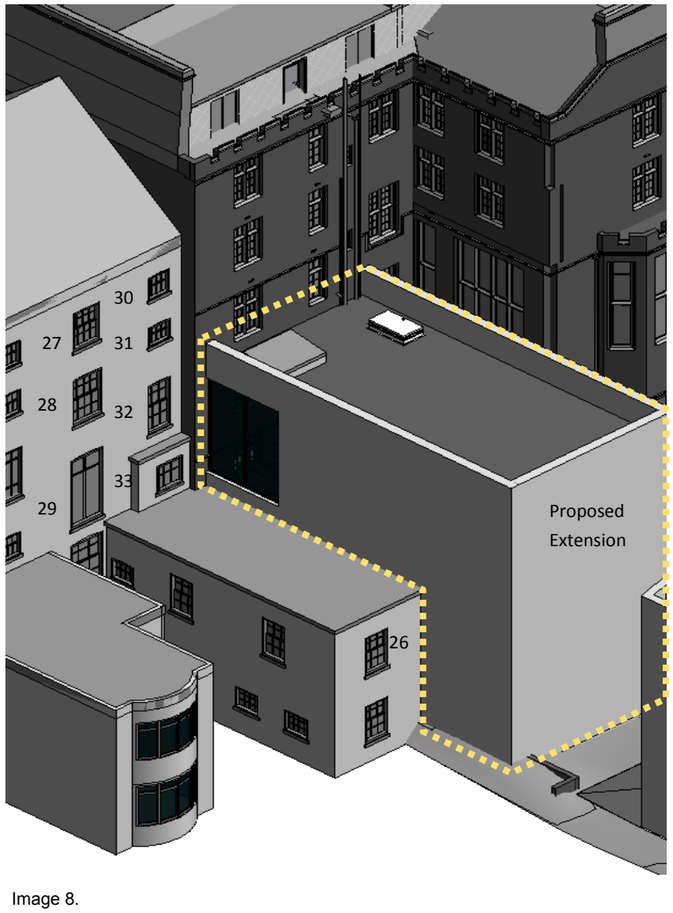


Image 8.

Architects Revit model of existing buildings and proposed extension.

Image 9

Architects Photograph of adjacent office building

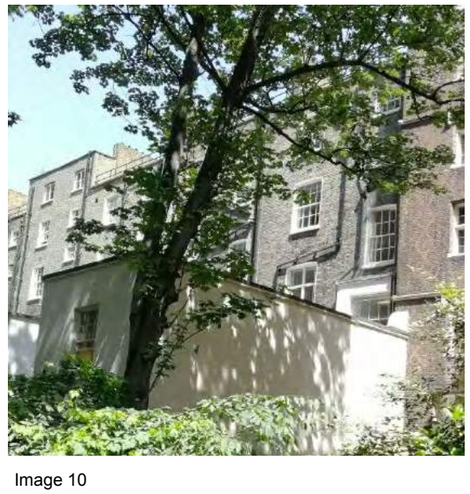
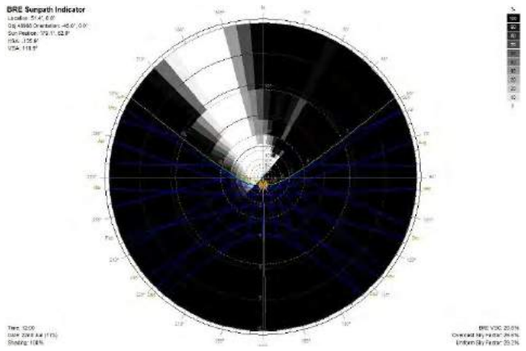


Image 10

Architects Photograph of adjacent residences and offices

Vertical Sky Component (VSC) : Point One



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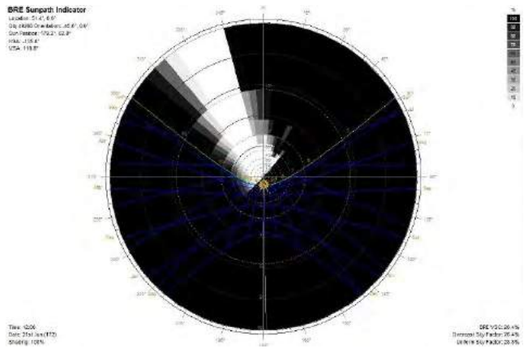
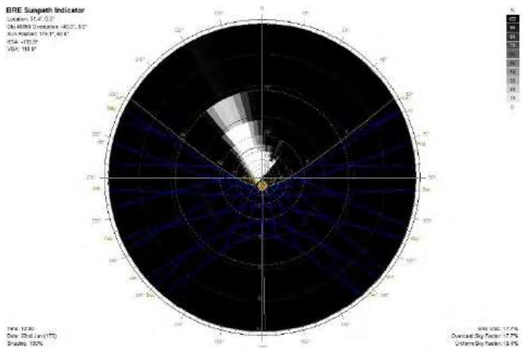


Proposed

Vertical Sky Component (VSC) : Point Two



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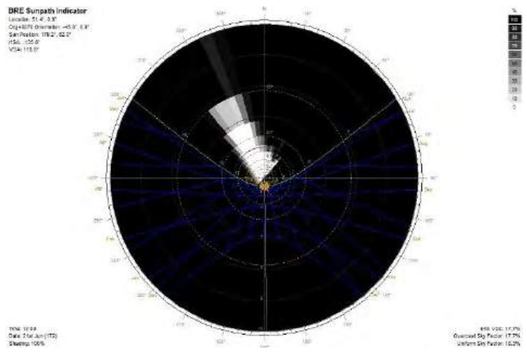
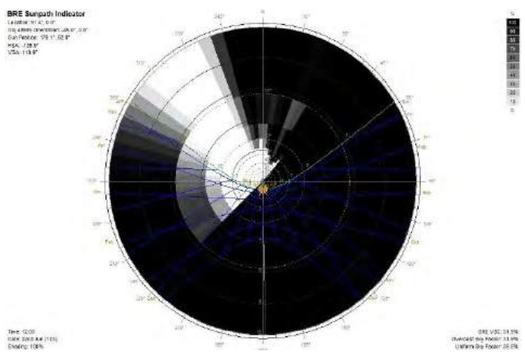


Proposed

Vertical Sky Component (VSC) : Point Three



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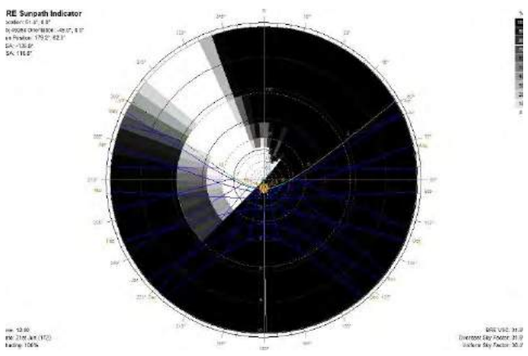
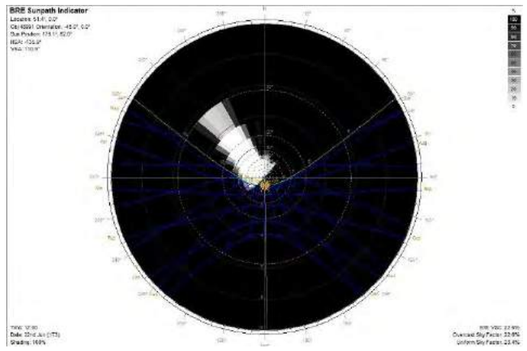


Proposed

Vertical Sky Component (VSC) : Point Four



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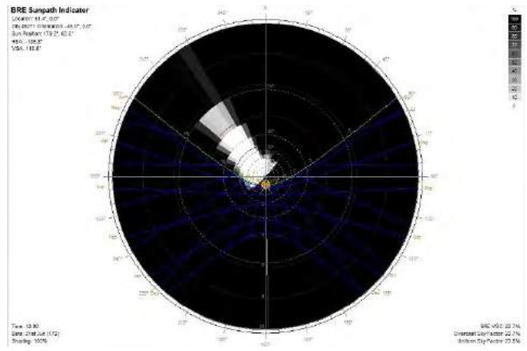
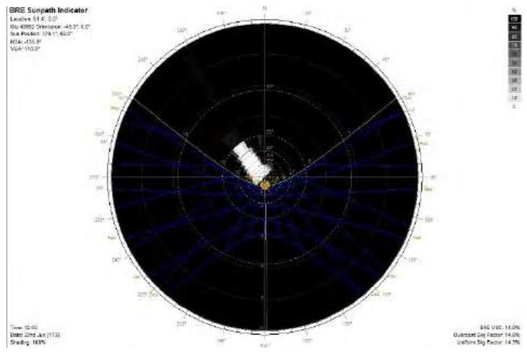


Proposed

Vertical Sky Component (VSC) : Point Five



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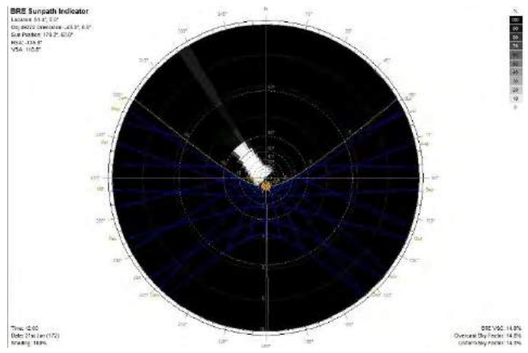
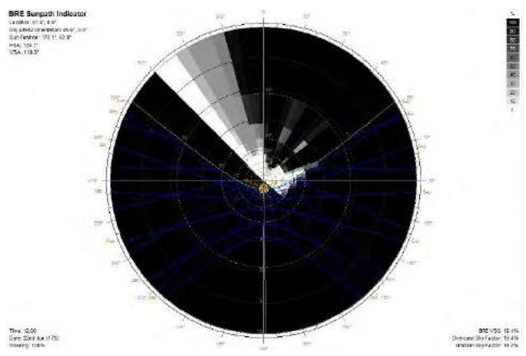


Proposed

Vertical Sky Component (VSC) : Point Six



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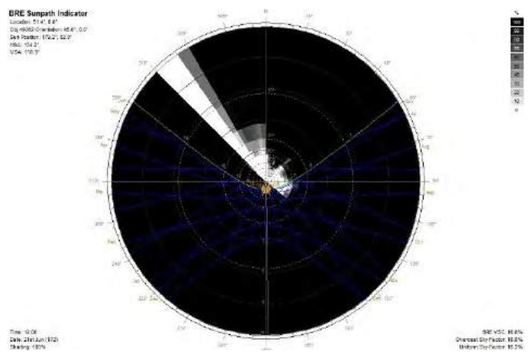
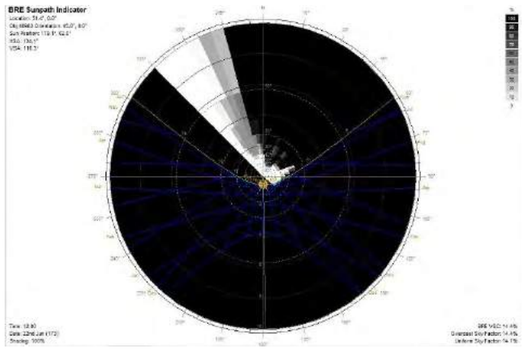


Proposed

Vertical Sky Component (VSC) : Point Seven



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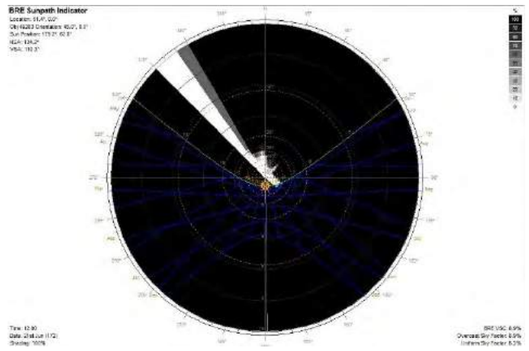

Proposed

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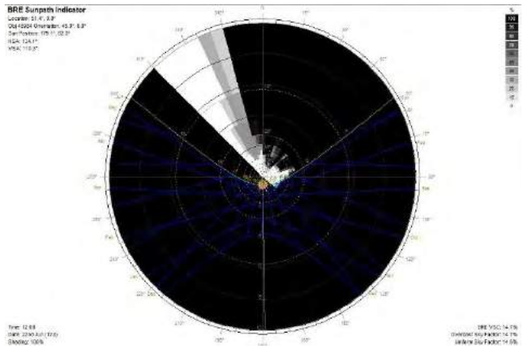

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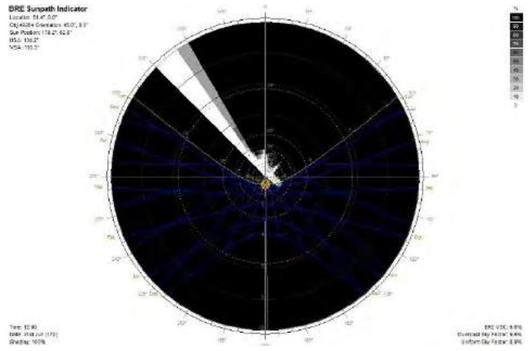
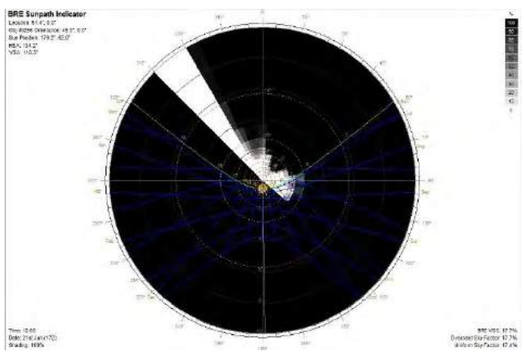


Proposed

Vertical Sky Component (VSC) : Point Nine



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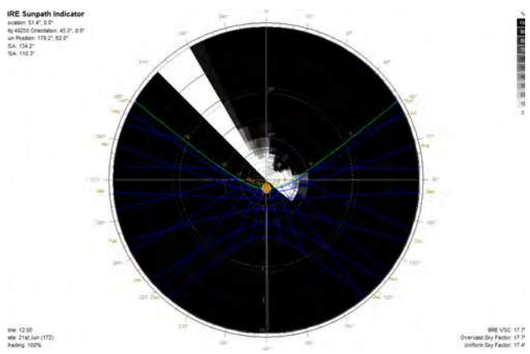
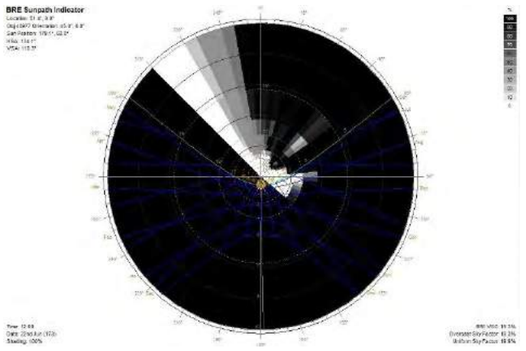


Proposed

Vertical Sky Component (VSC) : Point Ten



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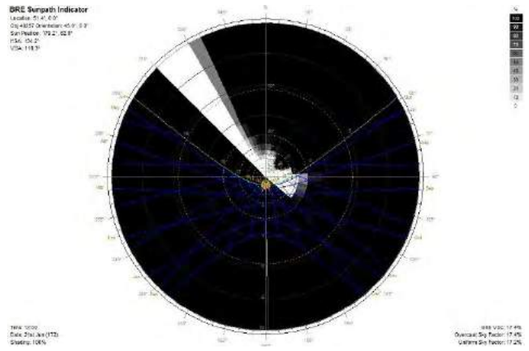

Proposed

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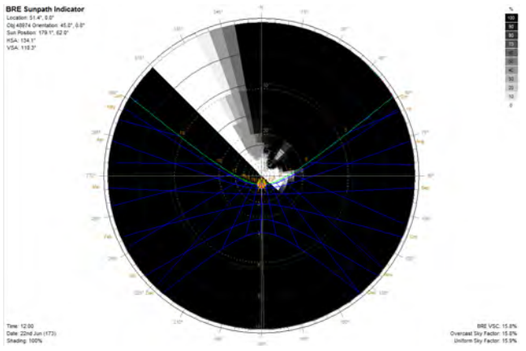

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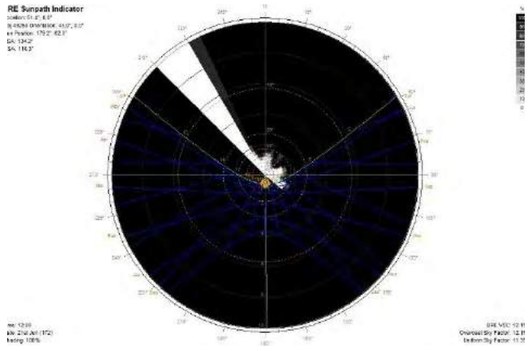
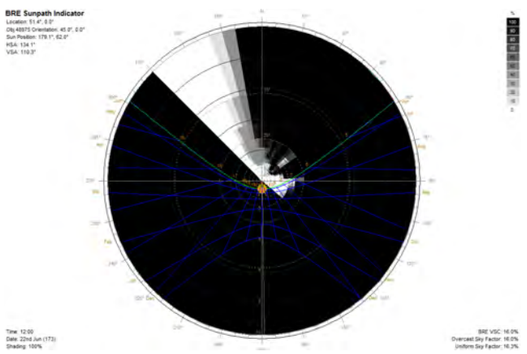


Proposed

Vertical Sky Component (VSC) : Point Twelve



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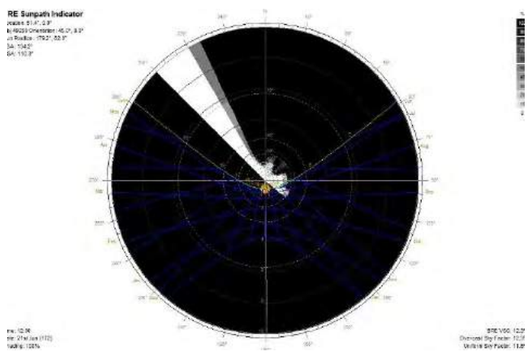

Proposed

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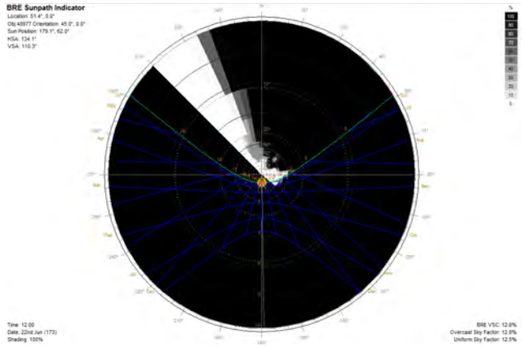

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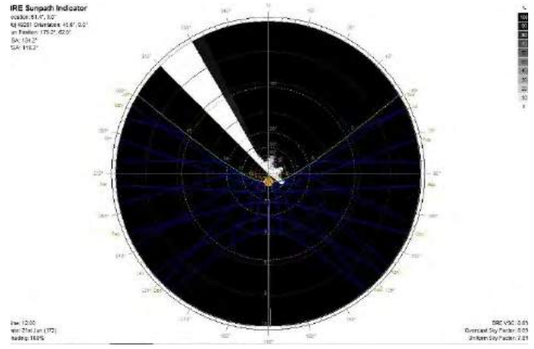

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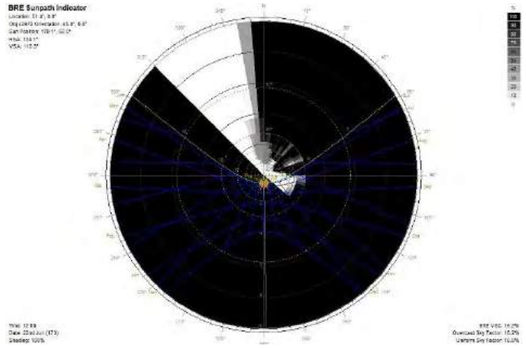

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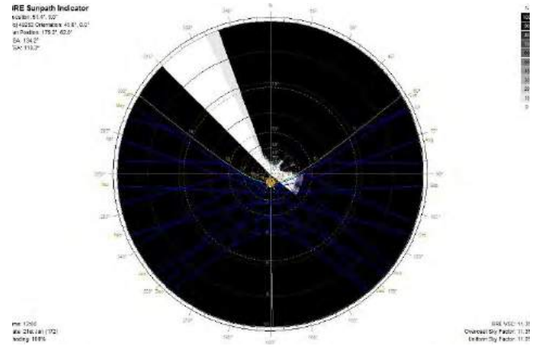

Proposed

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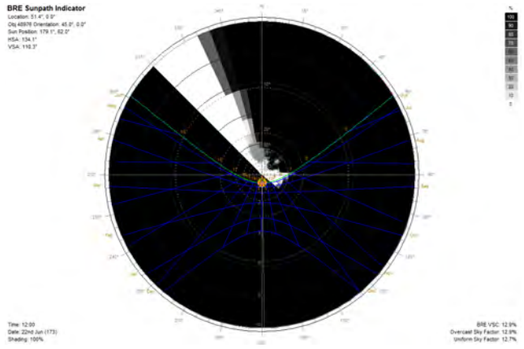

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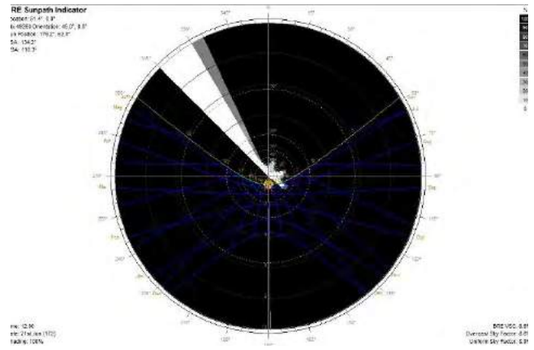
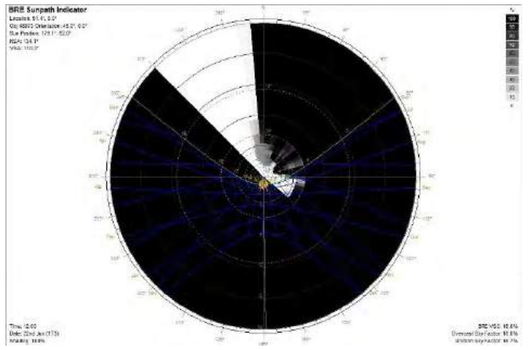


Proposed

Vertical Sky Component (VSC) : Point Seventeen



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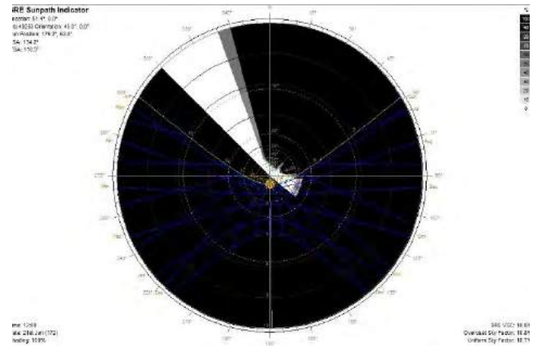

Proposed

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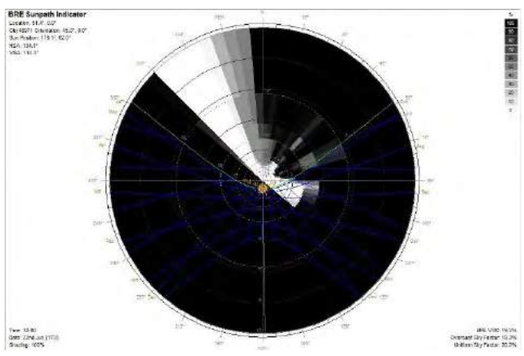

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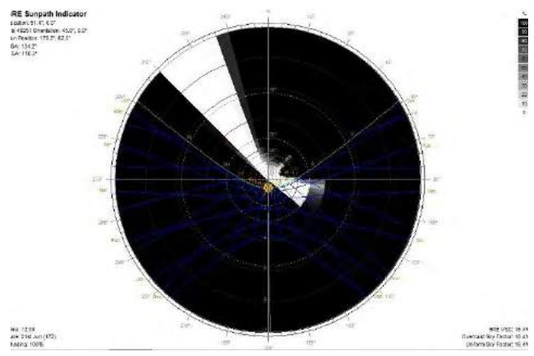
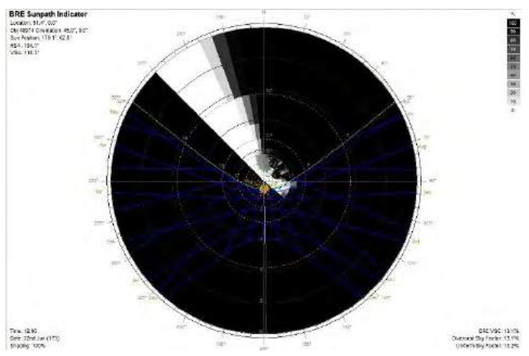


Proposed

Vertical Sky Component (VSC) : Point Eighteen



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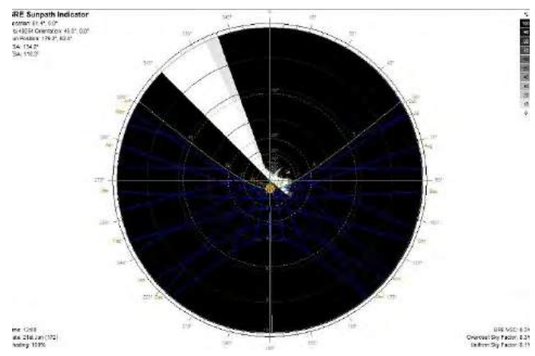
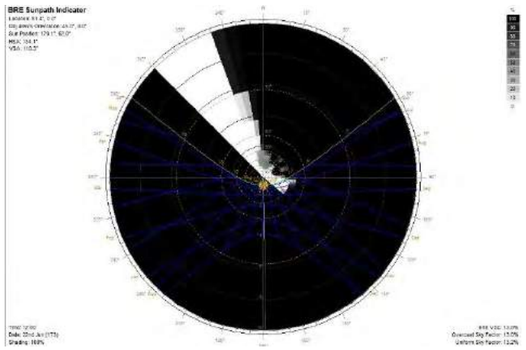


Proposed

Vertical Sky Component (VSC) : Point Nineteen



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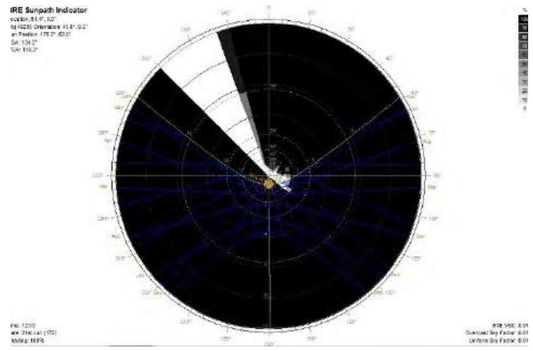
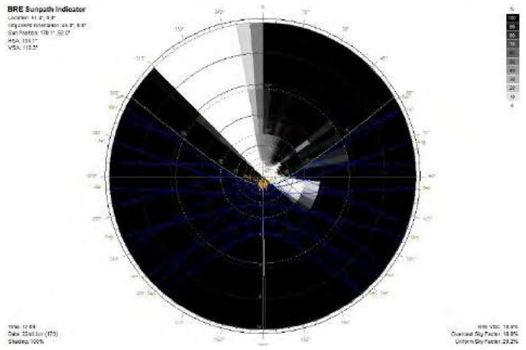


Proposed

Vertical Sky Component (VSC) : Point Twenty



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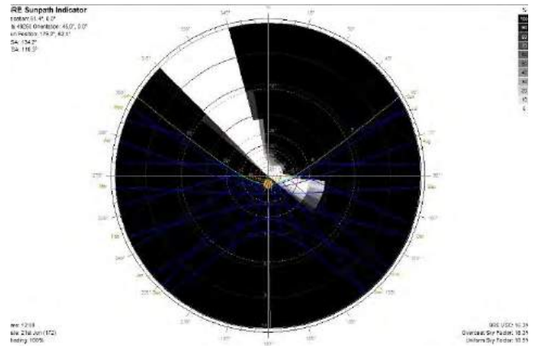
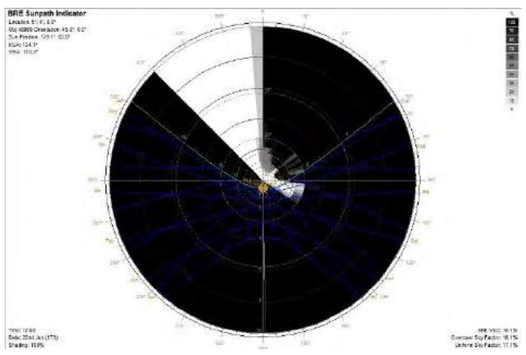


Proposed

Vertical Sky Component (VSC) : Point Twenty One



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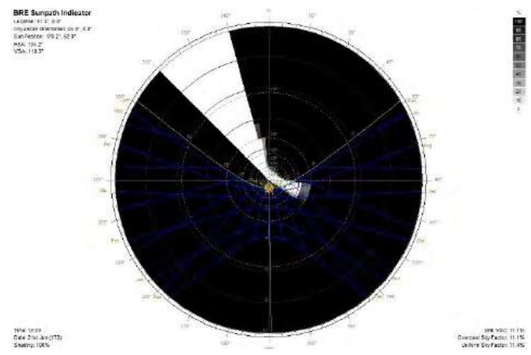

Proposed

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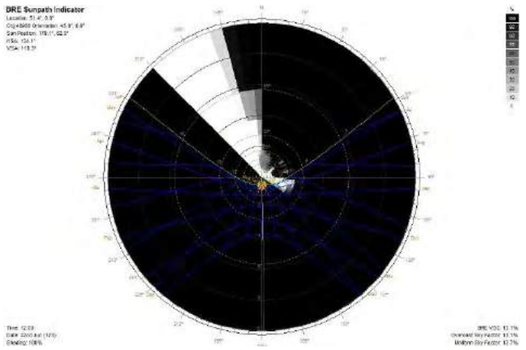

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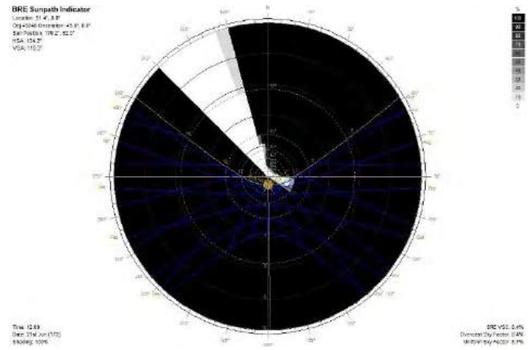
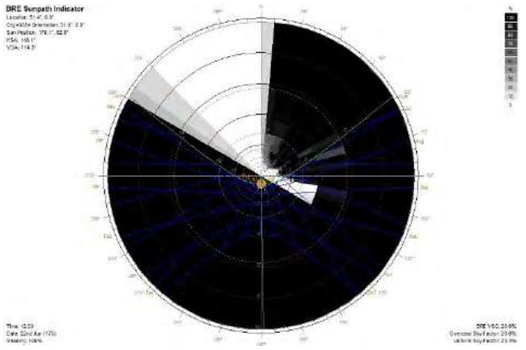


Proposed

Vertical Sky Component (VSC) : Point Twenty Three



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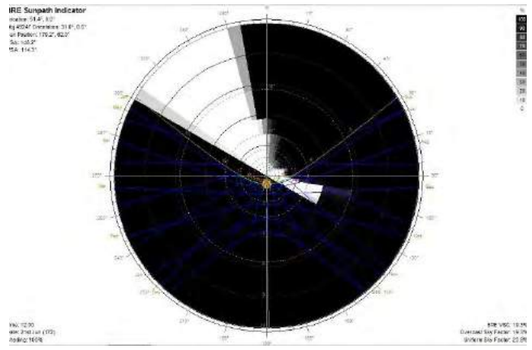
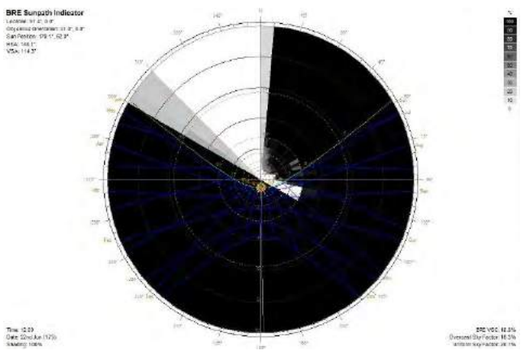
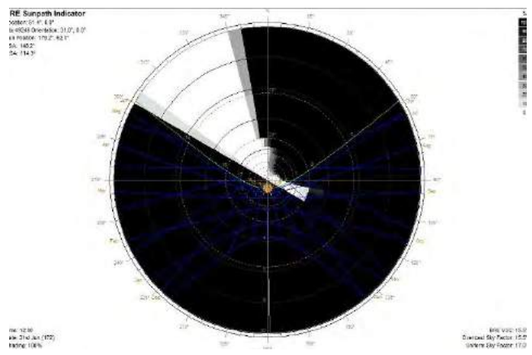


Proposed

Vertical Sky Component (VSC) : Point Twenty Four

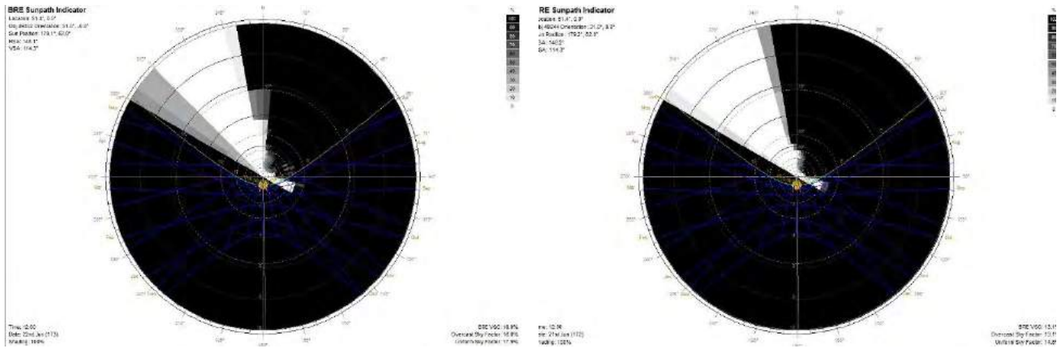


Existing



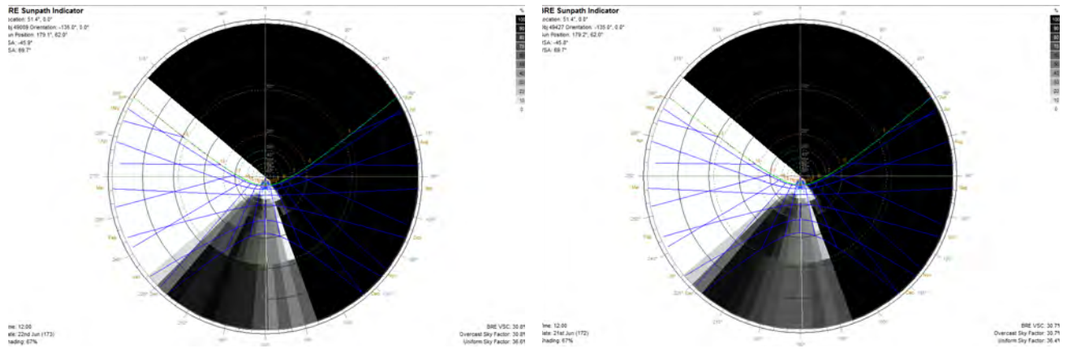
Proposed

Vertical Sky Component (VSC) : Point Twenty Five



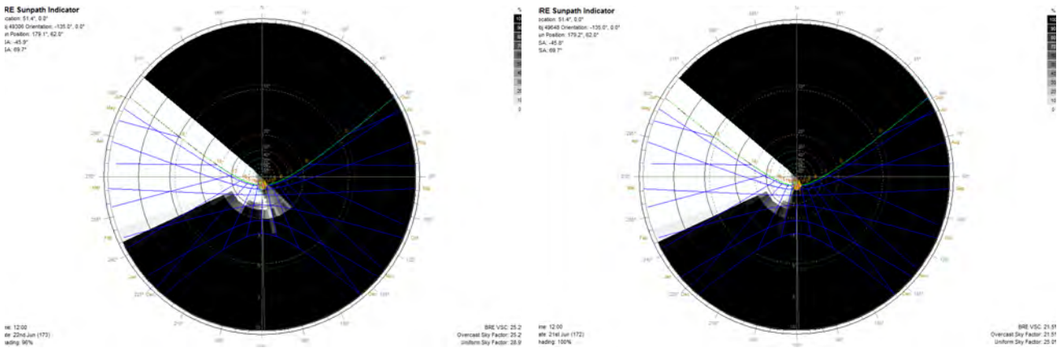
Existing *Proposed*

Vertical Sky Component (VSC) : Point Twenty Eight



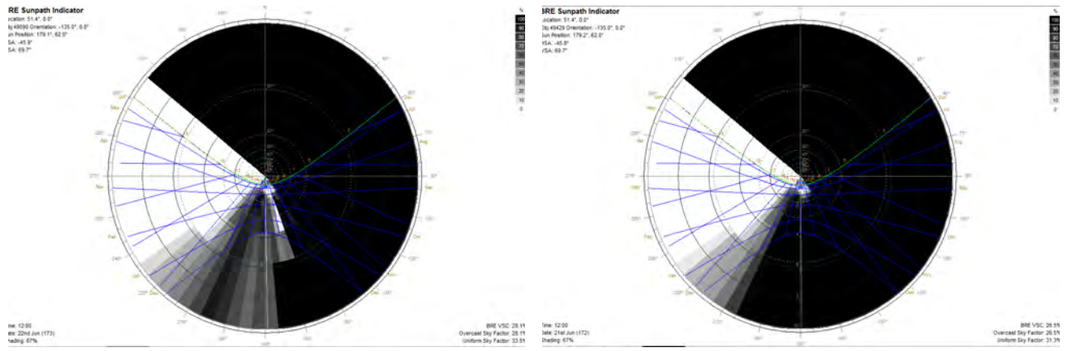
Existing *Proposed*

Vertical Sky Component (VSC) : Point Twenty Six



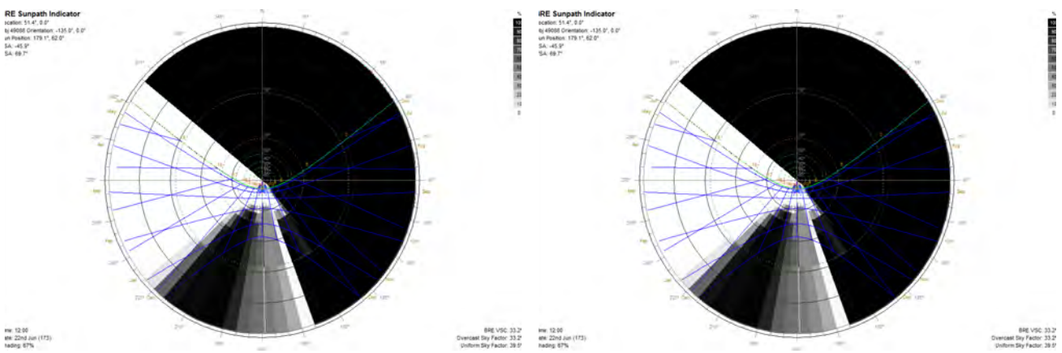
Existing *Proposed*

Vertical Sky Component (VSC) : Point Twenty Nine



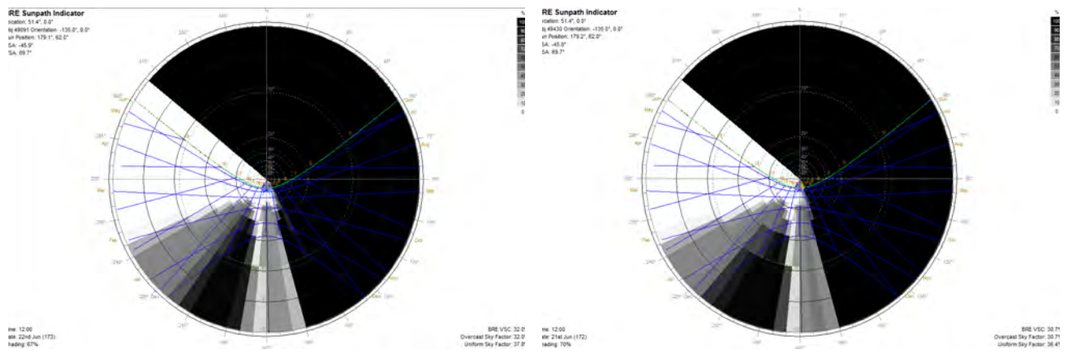
Existing *Proposed*

Vertical Sky Component (VSC) : Point Twenty Seven



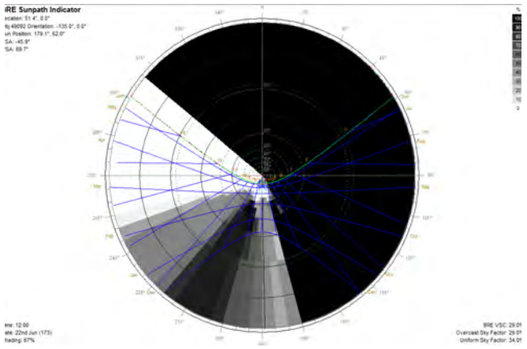
Existing *Proposed*

Vertical Sky Component (VSC) : Point Thirty



Existing *Proposed*

Vertical Sky Component (VSC) : Point Thirty One



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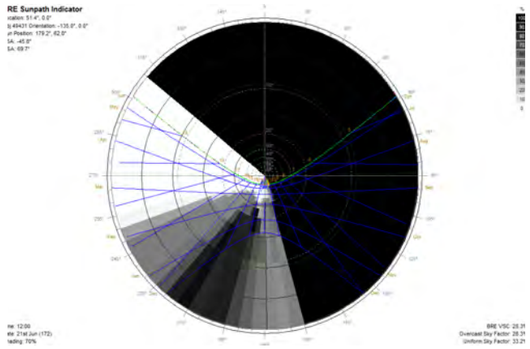
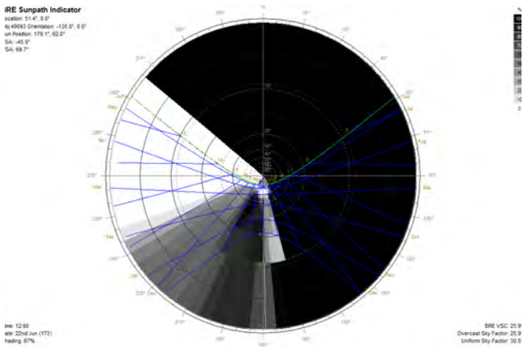


Proposed

Vertical Sky Component (VSC) : Point Thirty Two



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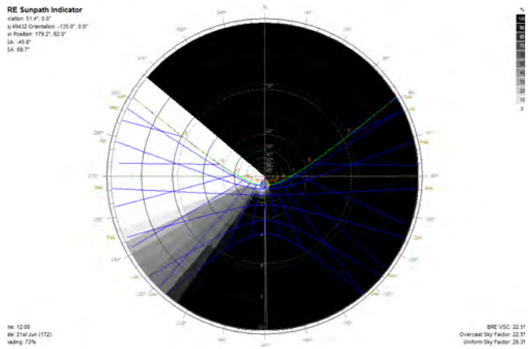
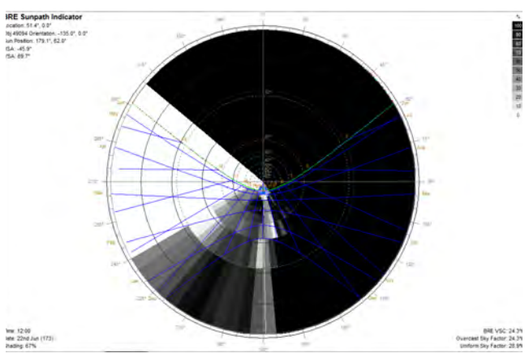


Proposed

Vertical Sky Component (VSC) : Point Thirty Three



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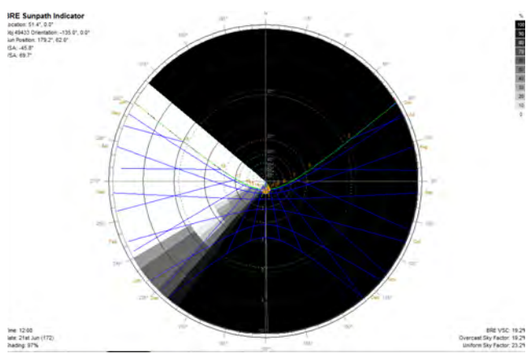

Proposed

Annual Probable Sunlight Hours (APSH)

Annual Probable Sunlight Hours have been calculated for the UCL building to the rear of the courtyard. This building comprises of offices and educational spaces. The centre points of all the windows that may be affected by the new extension have been calculated, these are depicted in the image below.

The guidance states recommends that the following hours should be achieved for adequate sunlight:

Annual sunlight hours figure of 371.5 hours or above

Winter sunlight hours of 74.3 hours or above

The table adjacent shows the results of the annual sunlight hours compared with the BRE 1486 hour baseline. The results that fall below the recommendations are highlighted in blue.

Image 7.

Architects photograph of UCL building

	Existing Site Results		Extension Modelled	
	Annual Sunlight Hours 1486 hours (25% equates to 371.5 hours)	Winter Sunlight Hours 21st September - 21st March (5% equates to 74.3 hours)	Annual Sunlight Hours 1486 hours (25% equates to 371.5 hours)	Winter Sunlight Hours 21st September - 21st March (5% equates to 74.3 hours)
Point 1 (Window 1)	1259	310	1259	310
Point 2 (Window 2)	562	96	562	92
Point 3 (Window 3)	2078	804	2078	608
Point 4 (Window 4)	1089	165	1078	165
Point 5 (Window 5)	506	42	503	42
Point 6 (Window 6)	1973	506	1953	506
Point 7 (Window 7)	674	13	674	7
Point 8 (Window 8)	816	23	816	23
Point 9 (Window 9)	2309	784	2309	602
Point 10 (Window 10)	1963	752	1854	750
Point 11 (Window 11)	1403	211	1399	172
Point 12 (Window 12)	1314	260	1277	260
Point 13(Window 13)	850	20	823	20
Point 14 (Window 14)	840	46	840	46
Point 15 (Window 15)	2308	847	2232	812
Point 16 (Window 16)	1527	345	1527	332
Point 17 (Window 17)	1495	308	1462	344
Point 18 (Window 18)	798	112	777	108
Point 19 (Window 19)	977	93	962	93
Point 20 (Window 20)	2280	790	2280	790
Point 21 (Window 21)	1368	353	1278	351
Point 22 (Window 22)	842	135	462	135
Point 23 (Window 23)	2103	772	2100	772
Point 24 (Window 24)	1180	327	1180	327
Point 25 (Window 25)	783	153	667	131

Windows 23, 24 and 25 just out of image view. Same size and location as adjacent windows.

Annual Probable Sunlight Hours (APSH)

Annual probable sunlight hours have been calculated for the office and residential spaces adjoining the library to the north-west of the site. The centre points of all the windows that may be affected by the new extension have been calculated, these are depicted in the image adjacent.

The guidance states recommends that the following hours should be achieved for adequate sunlight:

Annual sunlight hours figure of 371.5 hours or above

Winter sunlight hours of 74.3 hours or above

The table adjacent shows the results of the annual sunlight hours compared with the BRE 1486 hour baseline. The results that fall below the recommendations are highlighted in blue.

The residential block to the west of the site has not been assessed as the rooms that overlook the courtyard and may be impacted by the proposed development are store rooms, bathrooms and corridors. The BRE guidelines state that assessment is only needed for rooms where daylight is required and that "Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed."

	Existing Site Results		Extension Modelled	
	Annual Sunlight Hours 1486 hours (25% equates to 371.5 hours)	Winter Sunlight Hours 21st September - 21st March (5% equates to 74.3 hours)	Annual Sunlight Hours 1486 hours (25% equates to 371.5 hours)	Winter Sunlight Hours 21st September - 21st March (5% equates to 74.3 hours)
Point 26 (Window 26)	1497	341	1181	145
Point 27 (Window 27)	2148	701	2144	696
Point 28 (Window 28)	2003	582	1940	526
Point 29 (Window 29)	1820	486	1629	314
Point 30 (Window 30)	1812	550	1808	550
Point 31 (Window 31)	1764	443	1624	405
Point 32 (Window 32)	1512	342	1249	178
Point 33 (Window 33)	1519	387	988	195

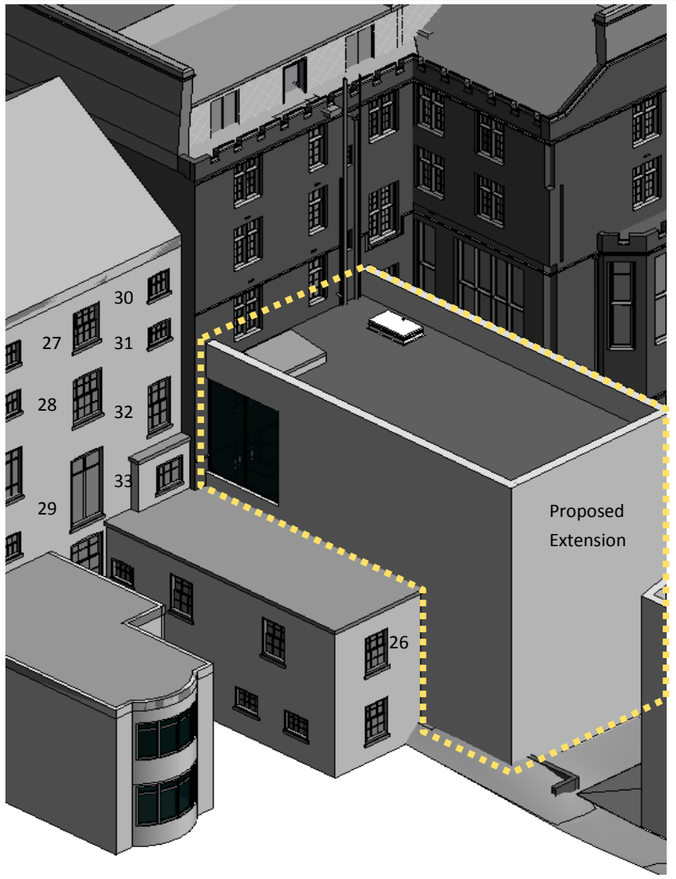

Image 8.

Architects Revit model of existing buildings and proposed extension.

Image 9

Architects Photograph of adjacent office building

Image 10

Architects Photograph of adjacent residences and offices

Summary

Vertical Sky Components Assessment

Thirty three windows were assessed in total, twenty five on the UCL building and eight on the adjacent residential and office buildings.

On the UCL building twenty five windows were tested, thirteen windows have a VSC value greater than 80% of the existing VSC value. It can be seen that even without the proposed extensions the existing buildings struggle to meet the recommended VSC of 27% with only one of the twenty five windows at present achieving this.

On the adjacent office and residential block seven of the eight have a VSC value greater than 80% of the existing VSC value.

Annual Probable Sunlight Hours Assessment

The same thirty three windows were used to assess the APSH as the VSC.

On the UCL building five windows fall below the recommended winter sunlight hours currently, all off the annual sunlight hours are above the recommended level. The five that fall below currently are the only windows that fall below with the extension modelled.

On the adjacent office and residential block all the windows achieve above the recommended hours.

Comments

The report uses the standard methods of analysis proposed by BRE to assess the likely impact of the proposed development. The report shows that although the new development does have an impact on the existing buildings this is predominantly on the UCL building which is office and educational spaces rather than residential. We believe that due to the urban nature of the site should be taken into consideration and that the BRE methodology does not represent the high density seen in city locations such as London.

Computer simulation software with climate weather files have been used for all calculations in order to improve accuracy of the results. These have used 3D geometry of the development and of other buildings within the immediate area to calculate all shading effects.

Appendix H –
M&E Service Scheme Design Summary Existing Building

GREEN BUILDING DESIGN CONSULTANTS

Building Services Consulting Engineers

Dr. Williams Library
14 Gordon Square
Bloomsbury
London
WC1H 0AR

Mechanical & Electrical Services Scheme Design Summary for the Refurbishment of Existing Building for inclusion in Design & Access Statement

October 2019

Project: Dr. Williams Library
14 Gordon Square
Bloomsbury
London
WC1H 0AR

Client: The Trustees of Dr. Williams Library

Document: Mechanical & Electrical Scheme Design Summary Report for The Refurbishment of the existing Building for inclusion in the Design & Access Statement

Date: October 2019

Revision	Date	Description	Prepared	Checked	Approved
	18.10.2019	Support of planning	HD	RW	SG

Contents:

1.0 SUMMARY OF BUILDING SERVICES DESIGN

The building services design for the refurbishment and extension of Dr. Williams Library at 14 Gordon Square, London, WC1H have been developed in conjunction with the architecture and existing structure with the aim of producing the clients ambition to deliver a highest quality working environment for the storage of historic books and manuscripts whilst maintaining the fabric of the existing building in accordance with the recommendations of BS EN 16893 2018 Conservation of Cultural Heritage – Specifications for the location, construction and modifications of buildings or rooms intended for storage or use of heritage collections.

The existing building was originally constructed circa 1849 and is grade II listed. The building has and the building services installations have been modified several times during the buildings history and there appears to have been a significant intervention dating from the 1980's.

The electrical installations in the main appear to date from the 1980's are well beyond their recognised economic life of 20-25 years published in CIBSE guide M.

Similarly the heating plant dates from 1980's but two of the original boilers have recently been replaced. The central plant has an economic life expectancy of 15-20 years as published in CIBSE Guide M and is past its anticipated life.

The installation has not been done sympathetically and had little regard for interventions into the building fabric.

The heating controls are very limited with no zone control. The system operates at 80C flow and 70C return which is too high and can cause damage to timber elements and finishes.

The lack of humidity and temperature control means that the existing heating system is not fit for purpose.

All of the building services have been designed in accordance with current legislation and good practice guides including but not limited to:

- Local Planning Policy and Supplementary Planning Guide Lines
- Local Authority Regulations and Approvals
- Local Bye-laws and Regulations
- Building Regulations Parts E,F and L,
- BS EN 16893; 2018

The design has been developed to ensure that there is no detrimental impact on the existing utility infrastructure.

The sites drainage system shall include separate foul and surface water drainage which shall connect to the existing sewer connections that have the capacity to handle the discharge.

The Building is to be compliant with Building Regulations Part L2B 2017 and will include the following:

- High efficiency gas fire heating extended from the new heating system in the main building.
- Conservation Heating including Zone Control of heating areas
- Energy efficient LED lighting
- Energy efficient fabric providing better than minimum building regulations standards where new elements to be constructed.
- Energy efficient Building Services solutions and plant selections compliant with Current Building regulations Part L 2A

2.0 DESCRIPTION OF PROPOSED SERVICES

2.1 Utility Services

Electrical Supplies

The existing electrical supply is limited to 200 amp TP&N located in the basement switch room.

The existing electrical supply to the main building is beyond its useful working life and is not compliant with current electricity at work act, regulations and good practice. For this reason a new supply has been requested from UKPN to be located in a more suitable location but it is not intended that an increase in supply capacity is required.

A new separately metered supply shall be provided to serve Split metered distribution boards for both the Landlord and Tenant at each floor level.

Gas Supplies

The existing gas supply to the existing building shall remain and be reused. There is no requirement to increase the gas supply but an application has been made for a new gas meter.

Water Supplies

The existing water supplies shall be retained and reused to serve a new potable water storage tank and booster set located at basement level adjacent to the incoming main and a plant space has been allocated

Foul Water Drainage

A CCTV survey of the existing underground combined sewer has been undertaken and generally the installation is sound but some remedial works on displaced joints and scaling have been identified.

Generally it is proposed that the existing installation is retained and reused but there will be some modifications to accommodate new foul water stacks to feed WC accommodation and showers.

2.2 Heating and Cooling

No cooling is being provided.

Conservation heating will be provided throughout the building to control the temperature and humidity within the achieve and library spaces.

Comfort heating shall be provided to library office spaces, breakout spaces and lettable office spaces.

The heating system shall incorporate high efficiency condensing boilers and shall operate at 60C flow and 40C return which would be more sympathetic to the building fabric.

Each room shall be an individual control zone.

All lettable office spaces shall be provided with an energy meter.

2.3 Ventilation

The building will be naturally ventilated.

Toilet and shower rooms shall be provided with extract ventilation in accordance with Part F of the building regulations.

2.4 Electrical Power

From the new meter supply power shall be taken to a new switch panel located at level 01. Each outgoing way shall be metered and this shall include supplies to the lifts and Motor Control Panels for mechanical plant.

From the switch panel new supplies shall be taken to each floor to serve new split metered panel boards so that metering for power and lighting can be measured. The design incorporates energy metering in accordance with the requirements of Part L

The investigation works undertaken by the structural engineer suggest that there is sufficient depth to accommodate recessed floor boxes.

2.5 Lighting and Emergency Lighting

High efficiency lighting using LED fittings complete with daylight dimming and local motion sensor switching shall be included throughout the Lettable Offices and Library offices and administration spaces.

There will be some feature lighting to the main entrance area and Library rooms.

Within cellular offices and meeting rooms local switching shall be provided and in addition scene setting or dimming shall be provided in meeting rooms.

External access routes at Roof levels and within Level 01 shall be provided with batten type Led fittings switched locally.

Emergency lighting shall be provided on all escape routes to comply with BS 5266

2.6 Fire Alarms

Fire alarms shall be provided through the building to comply with BS 5839 part 1 to category L1 standard.

The fire alarm panel shall be located within the reception area.

2.7 Domestic Water Supplies

A new potable water standard water storage tank and booster set shall be provided at basement level and water shall be boosted to serve water fittings at each floor level. A pressure reducing valve shall be provided at each floor to regulate the pressure to 1.5 bar

Hot water shall be produced by instantaneous point of use non storage electric water heaters.

2.8 Data Containment

Data containment shall be provided via the 3 compartment trunking system and cable trays within the electrical riser to connect each floor box back to the proposed comms room.

Each desk floor box shall contain 2 power and 2 data outlets.