



**Plas Coch
Campus, Glyndwr
University,
Ventilation and
Refurbishments in
Block B**

**Heritage Impact
Statement**

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**The Environmental
Dimension
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On behalf of:
**Wrexham Glyndwr
University**

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Non-Technical Summary

- S1 This Heritage Impact Statement (HIS) was prepared by The Environmental Dimension Partnership Ltd (EDP), in accordance with Cadw guidance for *Heritage Impact Assessment in Wales* (2017), on behalf of Wrexham Glyndwr University. It supports the submission and determination of a listed building consent (LBC) application for proposed new ventilation systems and refurbishment in Block B at the Grade II listed building Plas Coch Campus building, Glyndwr University, Wrexham.
- S2 One aspect of the proposed development involves the reconfiguration of the internal room layout on the ground floor of Block B, involving the removal of non-original partition walls, new openings in the corridor and the preservation and reuse of original doors. This aspect is assessed as resulting in a very minor beneficial effect to the significance of the listed building, on account of the proposed ground floor layout more closely resembling the original 1953 layout than the present configuration.
- S3 The other aspect of the proposed development is the provision of a modern MVHR ventilation system for Block B. The assessment has compared the impact on the significance of the listed building form three options and the potential consequences of a 'do nothing' scenario, in which the rooms would continue to possess an inadequate system that does not meet acceptable standards.
- S4 All of the options for achieving the desired ventilation system resulted in negative effects on the significance of the building, although the effect from the preferred option has been demonstrated to be of the lowest magnitude, resulting in only a very minor adverse effect.
- S5 This very minor adverse effect should be considered in the context of the beneficial effect from the room re-configuration and, the general benefits of implementing the scheme, i.e. that the ventilation quality would be enhanced, national standards would be met for these rooms and student experience would be improved.
- S6 With reference to *Planning Policy Wales Edition 11* (PPW), Section 6.1.11 states that '*for listed buildings, the aim should be to find the best way to protect and enhance their special qualities, retaining them in sustainable use*'. For the Plas Coch listed building the proposed improvements would enable the building to sustain its long-term use for the university.
- S7 'Special regard' should be given to the desirability of preserving listed buildings, their settings and any features of special architectural or historic interest that they possess, and the continuation or reinstatement of the original use should generally be the first option. However, PPW recognises that not all original uses will now be viable or appropriate and that the application of planning and listed building controls should recognise the need for flexibility where new uses have to be considered in order to secure a building's survival.
- S8 In this respect, the need for an up-to-date ventilation system reflects the fact that the existing system is obsolete and not fit for purpose in a modern building. The preferred development option represents the best way of realising the implementation of the

required new system, and thus the sustainable use of the listed building, whilst minimising adverse effects on its heritage significance and should be treated favourably in the determination of the listed building consent application.

Section 1

Introduction

- 1.1 This Heritage Impact Statement (HIS) was prepared by The Environmental Dimension Partnership Ltd (EDP), on behalf of Wrexham Glyndwr University to support the submission and determination of a listed building consent (LBC) application for proposed new ventilation systems and refurbishment in Block B at the Plas Coch Campus building, Glyndwr University, Wrexham.
- 1.2 The HIS has been prepared in accordance with current Cadw guidance *Heritage Impact Assessment in Wales* (May 2017), which outlines the appropriate approach to be adopted where development proposals could have an adverse impact on historic assets. In this respect, the document conforms with the requirements set out in Section 7.1 of the guidance which states that a HIS submitted with LBC must include:
- *‘A description of your proposed work, including the design principles and concepts, and a schedule of works, with reference to any photographs, plans and drawings that support your consent application;*
 - *Your reasoning for the proposed works, which explains what you intend to achieve and why the works are desirable or necessary;*
 - *A brief description of the special architectural or historic interest of your listed building and an assessment of its significance, with particular emphasis on those aspects that will be affected by your proposals;*
 - *An assessment of the impact of the proposed work on the special architectural or historic interest of your listed building and its significance, including potential benefits and any harm;*
 - *A summary of your options and the reasons for your preferred approach; and*
 - *An access statement, if required’.*
- 1.3 In this case, the subject matter comprises the Grade II listed building *Plas Coch (Former Denbighshire Technical College)* (Cadw Reference 1851).

Aims and objectives of the proposed works

- 1.4 The project aims to modernise the classrooms within Block B of the listed building. Internal reconfiguration will aim to create larger, open, more accessible classrooms that are of greater use to the modern university than the present layout of small rooms. The rooms will incorporate modern air handling equipment, updated electrical services and new furniture. As such, they will require new ventilation systems built into the fabric of the building. The

refurbishment will aim to create spaces that are fit-for-purpose in a modern university with a minimal impact upon the significance of the listed building.

- 1.5 The University's refurbishment aims are set out in the statement below:

'As part of the HEFCW capital funds this part of the refurbishment programme at the main Plas Coch campus will convert the remaining outdated rooms along the north side of B Corridor into modern, multi use wheelchair accessible teaching spaces and will also include one to one tutorial spaces for staff and students to meet confidentially.

All the rooms will also be equipped with new WiFi access points, new laser projectors and new interactive touchscreens to enhance the technology available to staff and students.

In line with the University's values these spaces will be 'accessible, supportive, innovative and ambitious'. Furthermore, these developments are not only a key part of our Campus 2025 Strategy but are essential if the University is to realise outcomes related to its Strategy for Supporting Student Learning and Achievement, with a particular focus on collaborative, interactive, engaging and digitally-enhanced approaches to teaching and learning. We would expect this work to have a direct impact upon key performance indicators including recruitment, student satisfaction, retention and achievement.

Together with other investment under our Campus 2025 masterplan, these developments would 'future-proof' our learning environment so that it remained fit for purpose over a period of at least ten years, thus reducing the level of future expenditure on university operations.'

- 1.6 Regarding the ventilation issue, the new system would replace the current natural ventilation using openable windows. A thermal modelling exercise (Futureserv, 2019) has been undertaken to predict the internal temperature and CO² concentration over a typical year for a sample of three teaching spaces along the Block B corridor. The aim of the analysis was to assess if the existing ventilation strategy complies with the latest ventilation BB101 2018 guidance in terms of ventilation rates, CO² concentration and excessive summertime temperatures in line with CIBSE TM52.
- 1.7 The three rooms passed only one of five criteria, in relation to the daily ventilation rate (which passed), concentration of CO² (which failed) and three criteria related to the spaces overheating (which all failed).
- 1.8 The report recommends that to comply with the latest design guidance each of the teaching spaces would require the introduction of mechanical ventilation. A proposal for this system is as set out in the HIS.

Consultation

1.9 The proposals have been developed with consideration for advice issued by heritage officers. An initial draft of the HIS was circulated in April 2020. This resulted in the following comments from Anna Irwin, Conservation Officer at Wrexham Borough Council:

- *The HIA states that the proposed layout will better reflect the 1950's plan. The status of the 1953 plan should be made explicit within the HIA and then, assuming it is the plan as built, it would be useful if the proposed plan could be overlaid with this earlier floor plan to demonstrate the extent of reinstatement to the earlier layout;*
- *The HIA will need to make an assessment of the significance of the corridor space and the impacts of these proposals upon its significance. The corridor space retains much of its original character and the list description makes specific reference to original doors, lockers, display cabinets etc. The impact of the proposals upon this space should be reduced and I would suggest that the removal of doors to create direct access between the corridor and study areas would not be appropriate; and*
- *An evaluation of options for the proposed ventilation system has been clearly set out within the HIA and I agree that the introduction of the window vents will have the least damaging impact upon the historic fabric of the building. Having discussed these proposals with Nick Davies, Cadw, we both feel that a more refined vent design should be explored to ensure the least visual impact upon the primary façade.'*

1.10 In response to these comments, the HIS has been updated and the proposals modified to respect the character and appearance of the B-block corridor.

1.11 Further consultation occurred in February 2021 with Nick Davies, Inspector of Historic Buildings, Cadw. The updated proposals, as assessed in the current iteration of the HIS, were circulated and the following comment received from Nick on the proposed approach to the ventilation system update:

'The building has to function in the twenty first century and if improved ventilation is needed, the works have to be somehow accommodated. Your solution maintains the symmetry of the elevation and I would have thought that, as long as the colour and materials related well, the character of this principal elevation should not be diminished.'

1.12 This assessment accords well with that presented within the HIS, in the sections below.

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Section 2

Legalisation, Planning Policy Context and Methodology

Legislation

- 2.1 Legislation for the conservation and management of the historic environment is provided by the *Historic Environment (Wales) Act* (March 2016). Whilst providing a number of new provisions to existing legislation, this act does not specifically affect the planning process or the way in which impacts to heritage assets are identified or assessed.
- 2.2 As such, the *Planning (Listed Buildings and Conservation Areas) Act* of 1990 continues as the principal legislative instrument for the treatment of historic buildings and areas through the planning process.
- 2.3 The 1990 Act outlines the two ‘*special regard/attention*’ duties covering development proposals affecting listed buildings and conservation areas; i.e. Section 66(1) and Section 72(1).
- 2.4 Section 66(1) of the 1990 Act sets out the statutory duty of the decision-maker, where proposed development would affect a listed building or its setting:

‘In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.’

- 2.5 The ‘*special regard*’ duty of the 1990 Act has been tested in the Court of Appeal and confirmed to require that ‘*considerable importance and weight*’ should be afforded by the decision maker to the desirability of preserving a listed building along with its setting. The relevant judgement is referenced as *Barnwell Manor Wind Energy Ltd v East Northants DC, English Heritage and National Trust [2014] EWCA Civ 137*.
- 2.6 However, it must be recognised that Section 66(1) of the 1990 Act **does not** identify that the local authority or the Secretary of State *must* preserve a listed building or its setting; and neither does it indicate that a development that does not preserve them is unacceptable and should therefore be refused.
- 2.7 This point is made very clearly in Paragraph 54 of the High Court judgement in respect of *Forest of Dean DC v Secretary of State for Communities and Local Government [2013] EWHC 4052 (Admin)*, which sets out that:

‘...Section 66 (1) did not oblige the inspector to reject the proposal because he found it would cause some harm to the setting of the listed buildings. The duty is directed to ‘the desirability of preserving’ the setting of listed buildings. One sees there the basic purpose of the ‘special regard’ duty. It does not rule out acceptable change. It gives the decision-

maker an extra task to perform, which is to judge whether the change proposed is acceptable. But it does not prescribe the outcome. It does not dictate the refusal of planning permission if the proposed development is found likely to alter or even to harm the setting of a listed building.'

2.8 In other words, it is up to the decision maker (such as a local authority) to assess whether the proposal which is before them would result in 'acceptable change'.

2.9 Of relevance to the present application, Section 1(5) of the 1990 Act defines the extent of a listed building and that it includes:

(a) *'any object or structure fixed to the building; and*

(b) *any object or structure within the curtilage of the building which, although not fixed to the building, forms part of the land and has done so since before 1st July 1948.'*

National Planning Policy

2.10 National planning guidance, concerning the treatment of the historic environment across Wales, is detailed in Section 6.1 of Chapter 6 Distinctive and Natural Places of *Planning Policy Wales Edition Eleven*, which was published on 24 February 2021 (PPW 2021).

2.11 At Paragraph 6.1.2, it identifies the historic environment as comprising individual historic features, such as archaeological sites, historic buildings and historic parks, gardens, townscapes and landscapes, collectively known as 'historic assets'.

2.12 At Paragraph 6.1.6 the Welsh Government's specific objectives for the historic environment are outlined. Of these, the following is of relevance to the current assessment: to 'safeguard the character of historic buildings and manage change so that their special architectural and historic interest is preserved'.

2.13 At Paragraph 6.1.7, it is stated that:

'It is important that the planning system looks to protect, conserve and enhance the significance of historic assets. This will include consideration of the setting of an historic asset which might extend beyond its curtilage. Any change that impacts on an historic asset or its setting should be managed in a sensitive and sustainable way.'

2.14 As such, with regard to decision making, at Paragraph 6.1.9, it is stated that: 'Any decisions made through the planning system must fully consider the impact on the historic environment and on the significance and heritage values of individual historic assets and their contribution to the character of place'.

- 2.15 Regarding listed buildings PPW 2018 states, at Paragraph 6.1.10, that:

‘...there should be a general presumption in favour of the preservation of a listed building and its setting, which might extend beyond its curtilage’ and then adds that ‘For any development proposal affecting a listed building or its setting, the primary material consideration is the statutory requirement to have special regard to the desirability of preserving the building, or its setting, or any features of special architectural or historic interest which it possesses.’

- 2.16 It then adds that: *‘The aim should be to find the best way to protect and enhance the special qualities of listed buildings, retaining them in sustainable use’.*

Technical Advice Note 24 (TAN 24)

- 2.17 Additional guidance for the historic environment (i.e. including listed buildings) in Wales is outlined in *Technical Advice Note 24: The Historic Environment (TAN24)*, which sets out *‘...how the planning system considers the historic environment during development plan preparation and decision making on planning applications’* (see Welsh Government 2017).
- 2.18 TAN 24 clarifies how to consider impacts upon the historic environment as requested under Paragraph 6.1.19 of PPW. For designated historic assets (such as listed buildings, scheduled monuments and conservation areas), it outlines Heritage Impact Assessment (HIA) as a *‘structured process that enables the significance of a designated asset to be taken into account when considering proposals for change’*. It states that HIA should be *‘proportionate both to the significance of the historic asset and to the degree of change proposed and should include sufficient information to enable both the significance of the asset and the impact of change to be understood’*.
- 2.19 For listed building consent applications (LBC), TAN 24 states that *‘The results of the heritage impact assessment should be summarised in a heritage impact statement’* and refers to the Heritage Impact Assessment in Wales guidance document for further guidance on carrying out such assessments (Cadw, 2017a).

Local Planning Policy

- 2.20 The relevant Development Plan for the site comprises the *Wrexham Unitary Development Plan 1996-2011*; adopted by Wrexham County Borough Council (CBC) on 14 February 2005. The Plan includes the following policy addressing statutorily listed buildings:

‘Policy EC9: *Alterations or additions to, and development or redevelopment within the curtilage of, buildings or structures listed as of special architectural or historic interest must respect the setting and character of the listed buildings or structures.’*

- 2.21 In due course, these adopted Policies will be replaced by new (currently emerging) policies in the *Wrexham Local Development Plan 2 (LDP2) 2013-2028*, which will be a long-term land use and development strategy focused on achieving sustainable development.

Heritage Impact Assessment in Wales

- 2.22 The Cadw guidance *Heritage Impact Assessment in Wales (2017)* set out that Heritage Impact Assessment is ‘a *structured process to make sure that you take the significance of your historic asset into account when you are developing and designing proposals for change*,’ and is a ‘*core part of the design process, which tests whether your proposals for change to a historic asset are appropriate by assessing their impact on its significance*’ and that, ‘*It helps to ensure that any changes use the principles of good design to sustain or enhance the significance of your historic asset.*’
- 2.23 It also states that, ‘*the results of your heritage impact assessment should be summarised in a heritage impact statement submitted with your application for listed building consent*’.
- 2.24 The guidance goes on to set out the content of a Heritage Impact Statement. The following content is described:

‘Explaining your Objective

Your heritage impact statement will need to explain what the proposed works are intended to achieve and why they are desirable or necessary.

Understanding Significance

Your heritage impact statement will need to show that you have taken the significance of your asset into account by including a statement of significance. This should refer to the significance of the asset as a whole and to the specific part that will be affected by your proposed changes.

Identifying Proposed Changes

Your heritage impact statement should describe your proposals, including the design principles and concepts, and include a brief schedule of works, which gives enough information about the proposed work to enable an informed decision to be made.

Assessing the Impact of Proposals

Your heritage impact statement will need to demonstrate that you have considered the potential impact of your preferred approach. You will need to show how your proposed work will sustain or enhance the significance of your historic asset, including potential benefits and any harm.

Getting the Best Solution

Your heritage impact statement will need to show that you have considered a range of options to meet your requirements and explain why you have chosen your preferred approach. This will help the decision maker reach a balanced view.'

- 2.25 The guidance states that you should also outline any compensatory measures that are beneficial to the significance of the historic asset and which might serve to offset the impacts of development in the planning balance.
- 2.26 On the basis of this content, Section 7.1 of the guidance sets out what a HIS submitted in support of a LBC application must include. This list is reproduced in **Section 1** of this report.

The Significance of Historic Assets

- 2.27 In accordance with the HIA guidance, the definition of 'significance' employed here for the identified historic asset is taken from Cadw's *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment in Wales* (2011).
- 2.28 This describes this term '*significance*', as it relates to a historic asset, as embracing '*all of the cultural heritage values that people associate with it, or which prompt them to respond to it*', and then adds that these values '*grow in strength and complexity over time, as understanding deepens and people's perceptions evolve*'.
- 2.29 *Conservation Principles* identifies four component values that make up significance:
- The asset's '**evidential value**', which is defined as those elements of the historic asset that can provide evidence about past human activity, including its physical remains or historic fabric;
 - The asset's '**historical value**', which is defined as those elements of an asset which might illustrate a particular aspect of past life or might be associated with a notable family, person, event or movement;
 - The asset's '**aesthetic value**', which is defined as deriving from the way in which people draw sensory and intellectual stimulation from the historic asset; and
 - The asset's '**communal value**', which is defined as deriving from the meanings that a historic asset has for the people who relate to it, or for whom it figures in their collective experience or memory.
- 2.30 These values (insofar as they are relevant to the site and its surroundings) are referenced in **Section 3** of this report.

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Section 3

Statement of Significance

3.1 This section summarises the special interest (significance) of the Grade II listed building *Plas Coch (Former Denbighshire Technical College)*. Whilst providing a brief summary of the building as a whole, the focus is on Block B and the special interest encapsulated in its frontage onto Mold Road. The information below is predominantly derived from the *Plas Coch Campus, Revised Option 2 Design Heritage Impact Statement* (EDP, 2019).

3.2 The listing citation summarises the building's history as follows:

'Built as the Denbighshire Technical Collage in 1950-53, to designs of Saxon, Smith and Partners of Chester, with R.R. Jennings and Partners as consulting engineers and Holland, Hanner and Cubitt as contractors. In 1956, the architects were awarded the RIBA architectural bronze medal in the Liverpool Architectural Society's area for this building. At the time, the building was said to include many new features in its design and engineering, and particular attention was drawn to its planning, heating, lighting and acoustics.'

3.3 The listing citation provides a summary description of the building's exterior, as well as the aspects of it which underpin its special interest:

'Welsh sand-faced brick with artificial stone dressings over concrete frame with steel frame to assembly hall, gymnasium, workshops and tower; flat (concrete) and low pitched roofs. The design set out to clearly separate and articulate different areas especially with a view to noise limitation, and so divided administrative and teaching areas, and provided accommodation for the building department, and the gymnasium and music department in separate blocks. The building encloses 3 sides of a courtyard, with the separate blocks located outside the main area. The entrance is towards the east of the building, in a long advanced 2-storyed wing of rusticated brickwork. Alongside but of less height, to the SE is the projecting block of the main lecture theatre and former exhibition hall. This block has a shallow curve to its southern elevation, which is decorated with Portland stone low relief panels representing the crafts, by Darsie Rawlins. Running at right angles to the east of the entrance range (and set back from the lecture theatre wing) is the William Aston Hall (a 5-window range) with lower ancillary blocks (green room, dressing rooms etc) to the east; low reliefs (also by Darsie Rawlins) on its blind eastern elevation represent music and the dramatic arts. Rear range continuing the line of the entrance hall originally housed student common rooms with offices and library to first floor. Internal layout modified c1992, when the single storyed rear range was also raised in height in similar style (the original design had allowed for such an addition). Refectory and canteen in short wing running west of this range. Gymnasium and music department off-set to NE, linked to the main building by a covered way. Main teaching block in long SW wing, with rooms opening off a central corridor on each floor, terminating in clock tower off-set over subsidiary entrance and stair hall. Running north of this is the science wing, with single storeyed laboratory block projecting to west. Construction department housed in separate block to NW beyond. The building is characterised by continuous bands of fenestration on each floor, with simple

projecting concrete cornices, thrown forward as canopies over entrances, and with glass-brick lights to stairs, and as side and overlights to side and rear entrances.'

- 3.4 The listing citation provides a summary description of the building's interior, as well as the aspects of it which underline its special interest:

'Decorative finishes are largely confined to the entrance hall, which has tiled walls with stylised dragons, leeks and abstract representations of Welsh countryside, designed by Peggy Angus. William Aston Hall retains its original fittings with sloping floor and adjustable seating, and walls panelled in European ash and African walnut, to give resonance. Elsewhere, the building originally relied on the use of colour as decoration. Main corridors in teaching areas have built-in lockers, provided as part of the original design, as were the suspended ceilings concealing service ducts, and the use of acoustic tiles. Other internal details (the iron staircase balustrades, for example), are characteristic of their period.'

- 3.5 Finally, the citation sets out the reasons for the designation of the former Technical College as a building of special architectural or historic interest:

'The building represents a landmark...in the provision of technical education in Wrexham (the college was built to serve the wider N-Wales region) and in design for education, providing a highly functional plan, articulated for a precise use, together with innovative services. It is an excellent, little-altered example of the architecture of the early 1950s, and was considered outstanding at the time.'

- 3.6 Whilst the whole of the listed building possesses an intrinsic degree of heritage significance on account of its historic value in relation to the provision of technical education in Wexham, and the evidential value inherent in its innovative and functional plan, it is possible to identify a hierarchy of significance within it.
- 3.7 The most significant part of the building is the distinctive main entrance. Part of the prominent Mold Road frontage, the entrance hall retains its internal plan and displays original decorative finishes such as its tiled walls, designed by Peggy Angus. A similar, high level of significance is derived from the adjacent William Ashton Hall lecture theatre which contains original fittings and wooden wall panels. As described above, the external parts of this building display decorated Portland Stone panels on its gable end.
- 3.8 The clock tower at the north-west end also possesses a high degree of significance. This represents a prominent and distinct part of the Mold Road frontage, marking the north-western end of the building, and is also visible from across the Quad to the east.
- 3.9 The north-west to south-east block (Block B) is also a prominent aspect of the Mold Road elevation (**Image EDP 1**), with a strong continuous fenestration. Each window unit is comprised of five panes divided by thin transoms and mullions separated from the adjacent window by a thicker, white, concrete mullion with a simple, projecting concrete cornice above. The window units are not original, having been replaced prior to the 1990s and employ aluminium frames.

- 3.10 Between each band of windows, the elevation comprises sand-faced brickwork laid in an English bond (**Image EDP 2**). The only features of the brickwork are regularly spaced, small ceramic air bricks that are not especially noticeable. The roof is flat, of concrete and also with a simple projecting concrete cornice.
- 3.11 The make-up of the elevation reflects strongly the ideals of modernist, post-war architecture. The use of simple, identical components reflects the prefabricated origins of the individual parts, which could be mass produced, allowing the building to be constructed cheaply and efficiently. The modular appearance reflects the commonly held principle of such buildings that components should be capable of being removed and replaced without affecting adjacent elements.
- 3.12 The formality and repetition of the elevation lends the building a strong architectural rhythm, which is the basis of its aesthetic impact. The clock tower to the north-west and entrance block to the south-east form bookends to the block, adding to the aesthetic quality of the building as it faces onto Mold Road.
- 3.13 Internally, B Block consists of a single corridor with classrooms either side (**Images EDP 3, 4 and 5**). The corridor contains original internal doors (e.g. **Image EDP 6**) and well as later replacements designed to imitate the appearance of the original doors. Another feature are glass display cabinets and lockers (i.e. **Images EDP 4 and 5**). These are both original features of the corridor albeit with some modification from their original configuration.
- 3.14 A partial 1953 architects floor plan of Block B, which also details its original ventilation system, is included at **Appendix EDP 1**. This plan is set out adjacent to and at the same scale as a plan of the proposals at **Appendix EDP 2** (Historic Walls Overlay – Dwg 2, DAY SK-10-102 Rev P1) so as a direct comparison can be made between the present/proposed corridor layout and the 1953 plan.
- 3.15 The 1953 plan illustrates a room plan for both floors in Block B with large teaching rooms either side of a central corridor on the ground floor and large rooms alternated with pairs of (or occasionally individual) smaller rooms (presumably offices or stores), either side of a central corridor, on the first floor. The plan is repetitive, although the layouts are not precisely identical, suggesting a regimented system of rooms, in keeping with the functional, modernist ideology behind the building and, in this respect, similar to the external architectural approach of repeated elements.
- 3.16 It is considered likely that the 1953 plan was closely conformed to in the original building. When the 1953 and present plans are compared adjacent to each other (Historic Walls Overlay - **Appendix EDP 2**), it is apparent that the original masonry walls that are still extant on the ground floor of the building correspond directly in their location to those shown on the 1953 plan. Where removed on plan there is evidence in the form of buttresses for these walls having once been present.
- 3.17 The layout on the south-west side of the corridor (which is the side proposed for redevelopment) has been subject to modification, with most of the formerly large rooms subdivided into small individual offices with separate entrance lobbies and several new

entrances created in the corridor in response. It is also evident that lockers have been removed leaving alcoves, two of which have had doorways inserted into them. In this respect, part of the evidential value of the building encapsulated in its original layout has been eroded, although it should be considered that the building was designed so that, should re-configuration be required, it could be easily accommodated.

- 3.18 The present configuration of doorways in the corridor is a mixture of original entrances (as shown on the 1953 plan) and later entrances created historically when the layout was converted to a series of smaller rooms. Where doorways have been infilled, their locations are identifiable on the plan as indented alcoves. Original (from the 1950s) and replacement doors are identified on the Historic Walls Overlay plan at **Appendix EDP 2**, with 'o' for original and 'r' for replacement marked adjacent to the doors. It is apparent that some of the original doors were reused when the room arrangement was reconfigured and are presently *in situ* as office doors.
- 3.19 Also identifiable are the glass fronted cases (on the north-east side of the corridor) and, what were more extensive rows of lockers (shown as dotted lined units on the 1953 plan) on the south-west side. The positions of cases on the 1953 plan accords closely with those presently in the corridor albeit with some modifications in certain locations.
- 3.20 Nowadays, lockers are only preserved at the north-west end of the corridor (**Image EDP 5**). The former locations of lockers are preserved in the corridor as alcoves (one of which can be seen in **Image EDP 5**). It can be seen clearly in the comparison plan that the present configuration of alcoves closely respects the locations of rows of lockers shown on the 1953 plan, suggesting that the plan was fully implemented in this regard. In some locations these alcoves have been historically opened up to create new entrances to offices.
- 3.21 In conclusion, the corridor in B Block only preserves the original 1950s configuration of doorway and lockers to a limited degree, although the original doors are preserved within the building with some occupying their original locations in the corridor. The preservation of some of these elements retains a moderate degree of the 1950s character of the corridor, which contributes to the significance of the building, albeit this having been diminished through the loss of original features and the insertion of additional doorways.
- 3.22 By comparison, the two blocks perpendicular to Block B (Blocks A and C), that run from south-west to north-east, whilst containing some original internal features at their south-west ends, at the north-east ends, only the ground floor dates from the original build in the 1950s. These ranges have been subject to a great degree of internal and external modification resulting from the extension in the height of the north-eastern extents of these two parts of the listed building in the 1990s; which included an internal refit, resulting in the loss of many original internal features.
- 3.23 As such, given their modern modification, which is clearly evident in the appearance of their external elevations (i.e. **Image EDP 7**), these two ranges are considered to retain less of the evidential and aesthetic value inherent to the listed building than the parts to the south-west (such as B Block). However, as described, it was an original design intention for the building to be extended in this way, and thus these parts, although modified in the

1990s, retain a degree of significance related to the building's historic value, given that they illustrate the architect's original design intentions.

- 3.24 Also low in the scale of significance, is the building to the north-west, described in the listing citation as the 'construction department' and the buildings on the west side of the complex: the Student Union and refectory. These buildings share the historic value of the wider listing and have a degree of evidential interest in their functional design but have been modified by later internal refits and extensions and do not possess the aesthetic value contained in other more visually prominent parts of the campus.
- 3.25 The quad area also has a degree of interest, both in its relationship to the original design of the Plas Coch building, representing an open space for recreation, enclosed originally on three sides by the building and, as a part of its setting, by which it makes a strong contribution to its significance. From the quad, the original, 1950s parts of the Plas Coch building are highly prominent and certain features, such as the clock tower, are experienced clearly from this space; whereas from further to the north-east, views of the building's elevations and tower are less easy to appreciate, being screened from many locations by intervening buildings.
- 3.26 In summary, it is possible to draw the following conclusions regarding an overall 'hierarchy of significance' possessed by the listed building:
- The most significant parts are those which form part of the Mold Road frontage. Particularly significant is the prominent entrance block which contains original decorative features, and which epitomises the building's design intentions. Thus, in addition to a general evidential, historic and communal value shared by the whole building, this part possesses a high degree of aesthetic and evidential value;
 - The clock tower at the north-west end and the William Ashton Hall lecture theatre are also of significance for their evidential and aesthetic value (as well as their contribution to the building's overall historic and communal values);
 - The long north-west to south-east Block B range which joins the clock tower and entrance block is of slightly less aesthetic value, but still an important aspect of the Mold Road frontage. Due to its modular design this range has a strong architectural rhythm and also contains many original internal features, expressing evidential and aesthetic value, in its retained original walls, partially preserved original room layout and the retention of features and their appearance in the central corridor;
 - The south-west to north-east ranges are considered to be the next most significant parts of the building. These were extended upwards by a storey at their north-east ends and internally modernised in the 1990s. These form essential features of the building's plan, and, albeit modified, retain a degree of evidential value, as well as some limited aesthetic value in their long elevations which display a striking, continuous fenestration; and

- Subsidiary parts of the building are considered the least significant, such as the Students Union, the refectory, and the construction department. These parts, whilst containing a degree of evidential and historic value, related to the overall design intentions of the building, do not possess the degree of significance, especially of aesthetic value, contained in the south-western parts of the building, especially those which front onto Mold Road, and which were designed to be visually prominent, nor do they contain the same frequency of original internal features or high-quality decorative features.

Section 4 Preferred Approach

Internal reconfiguration

- 4.1 The plans at **Appendix EDP 2** illustrate the proposed internal reconfiguration works. The plans B Corridor 2021 General Arrangement (DAY – AL-20-100 Rev. P1) and Phase 1 General Arrangement (DAY – AL-20-101) both illustrate the finished scheme for six room – B20, B21, B22, B23, B24 and B31. The rooms will be fitted as teaching rooms, lecture theatres and study rooms. It is proposed to remove internal walls in order to open up the six rooms and infill some entrances onto the corridor.
- 4.2 A plan showing the walls to be removed is also included at **Appendix EDP 2** (Historic Walls Overlay – Dwg 2, DAY SK-10-102 Rev P1). As mentioned above in **Section 3**, this plan also compares the proposed new configuration with the original 1953 plans of the corridor. This plan demonstrates that most of the walls proposed for removal are later inserts and that all the surviving original masonry walls, that divide the original classrooms will be retained. An exception are two small sections of wall on the south-west side of the corridor (marked as '3' on the plan) where parts of the wall are proposed for removal to create a new entrance on Room B24 and a glazing onto Room B20. These removals will be of stud wall partitions forming the backs of alcoves rather than masonry walls.
- 4.3 The proposals will include the retention of original doors that were re-used as office entrances. Where original doors are marked on the plans for removal they will be then reused in the corridor, either to replace non-original doors at original doorways or to mark the former location of original entrances as 'false doors' set in the corridor wall. In this way, the works will aim to firstly, preserve original doors rather than remove them and, secondly, respect the appearance of the corridor in the 1950s with original doors occupying their original positions as identified on the 1953 plan.

Ventilation Re-fit

- 4.4 The preferred ventilation development option is the fan light design which is illustrated in the photographs at **Images EDP 8** and **9**, and the section plan and elevation drawings (External Elevations – Grilles, DAY AL-21-001 rev. P1) included at **Appendix EDP 2**.
- 4.5 The system would take the form of localised void mounted MVHR (Mechanical Ventilation Heat Recovery) units to each teaching space. The MVHR units would be provided to suit the ventilation requirements of the teaching spaces, with CO² sensors allowing fan speed to automatically adjust appropriately to the CO² and temperature levels within each space. Due to the increased occupancy level in the lecture theatre, the MVHR unit within this space would also require an additional duct mounted DX cooling coil on the supply ductwork to cool the supply air to condition the space to limit the internal room temperature.

- 4.6 The units would be mounted within a void created by lowering the ceiling by 680mm (see section plan on External Elevations – Grilles at **Appendix EDP 2**), coordinating with electrical equipment and structural beams and ducted to the high-level perimeter glazing panes which will be above the new ceiling. Supply and extract grilles in the new suspended ceiling would allow for air flow from the classrooms below. The MVHR units and other mechanisms and ductwork would be entirely hidden within the ceiling void.
- 4.7 The system would vent externally from the building via a series of louvred grilles. These would be fitted to replace each pair of small, upper glass panes in alternate window units on the front, south-west facing elevation of the block. The scheme is illustrated on the elevation drawing on External Elevations – Grilles at **Appendix EDP 2** (DAY AL-21-001). It should be noted that the window units are not original, being aluminum framed and having replaced older units at some point in the late 20th century.
- 4.8 The louvred grilles would be aluminum, and powder coated to match the white colour of the adjacent window frames and mullions. The photographs at **Images EDP 8** and **9** show a similar configuration as employed on another part of the building. It should be noted that the vents shown are not powder coated as this was not deemed a necessary requirement for this part of the building, which has a limited visual prominence.

Section 5 Impact Assessment

Introduction

- 5.1 In accordance with Cadw guidance, this section assesses impacts on the significance of the Grade II listed Plas Coch building from the preferred option for the proposed development, as described in **Section 4** above.

Effects from the proposed internal room reconfiguration

- 5.2 With reference to the original layout of Block B, as illustrated on the 1953 floorplan (**Appendix EDP 1**) and in direct comparison to the proposals in the Historic Walls Overlay plan at **Appendix EDP 2**, the removal of ground floor partition walls to create larger spaces for teaching would reference more closely the original design than the present configuration of small rooms.
- 5.3 In this respect, the removal of later partitions would bring the layout of rooms to a state of closer conformity with the original 1953 design. As illustrated on the comparison plan, it would also ensure that no original masonry walls that divide the rooms that remain in the building would be removed as a result of the proposals. A precise replication of the original room configuration would not be achievable as, historically several of the original masonry walls have already been removed.
- 5.4 The proposals would modify the present configuration of the corridor, with new openings created in two locations corresponding to alcoves formed by the historic removal of lockers. In this respect the proposals would open up existing indentations in the walls, one of which would be glazed. The proposals would also preserve and restore original doors to their locations as depicted on the 1953 plan. None of the original glass display cases or remaining lockers would be removed.
- 5.5 Whilst the two new openings would be a new feature of the corridor, the restoration of its doors in their original locations (albeit with some as 'false doors') would serve to respect the 1950s appearance of the corridor. The new openings would not result in the loss of any preserved original features (as the alcoves to be opened up no longer contain lockers). Furthermore, as the removals are across existing alcoves, if required in the future, the walls could be replaced, recreating the present configuration and thus reversing the change.
- 5.6 The corridor, in its present form, it is no longer a well-preserved replica of its appearance in the 1950s having been modified previously with the removal of lockers and the insertion of doorways. Given the replacement of the original doors in their original locations, whilst the corridors' appearance would not be restored to how it was experienced in the 1950s, the changes proposed to the corridor are, overall, assessed as increasing the degree to which the corridor will reflect and respect its original character and appearance, and, thus they will preserve an element of the building's evidential value, and of its illustrative historical value, within the B Block corridor.

- 5.7 Consequently, the aspects of the proposal concerned with room reconfiguration and changes to the corridor would result in a very minor positive benefit to the significance of the building, manifesting through the preservation of part of its evidential value, through the retention of original walls and doors and, an enhancement of its historical value as the room layout and appearance of the corridor would better illustrate the original appearance of the building than they presently do.

Effects from the ventilation re-fit to the fan light design

- 5.8 The use of a suspended ceiling to accommodate the ventilation system would ensure that the system does not physically impose upon the interior spaces of the building. The loss of ceiling height would encompass the top two panes of the window units and thus change the look of the windows within the interior spaces. This minor change would be unlikely to result in significant light loss as the larger part of the window unit would still be present in the room. As much as the appearance of the window unit would change, the current appearance of the rooms does not reflect a well-preserved original aesthetic, as the rooms have been refitted and updated, including the replacement of the window units themselves.
- 5.9 As such, internally, the change would have no impact on any well-preserved aspect of the building's evidential value with the proposed system only resulting in minimal change to the appearance of the rooms. In terms of the interior spaces, the preferred design option would result in no adverse effect to the building's heritage significance.
- 5.10 The louvered vents proposed for the exterior (**Appendix EDP 2** - External Elevations – Grilles, DAY AL-21-001 rev. P1) would change the appearance of the south-west facing elevation of the building onto Mold Road. As noted above, this elevation has a degree of aesthetic value in relation to the overall heritage significance of the building. The vents would replace a series of small panes of glass, components of window units that, although replicating the appearance of the original units are not original. As such, no aspect of the building's original fabric would be removed, and thus its evidential value would be unaffected.
- 5.11 The change to the building's appearance would result in the alteration of the window units as described, although the change would be in keeping with the ethos of functional modernist post-war architecture, of which the building is an exemplary early example. A replaceable component would be replaced with another prefabricated component, that is identical for each window unit, without affecting any adjacent part of the building. In this respect, by conforming to the design intention, the elevation would retain the repetition and rhythm that are characteristics of its present and historic appearance.
- 5.12 Evidently, the continuous fenestration is a key aspect of the appearance of the elevation and, although two small panes in alternate window units on the ground floor would cease to function as windows; overall, the windows and the visual effect that they engineer, as a group, would be predominantly unchanged. The vents, with their white powder coated louvered design would match the surrounding frames (see Proposed Louvre View on External Elevations – Grilles, DAY AL-21-001 rev. P1). In this respect they are designed to blend in with the existing window units and would not be especially prominent, although they would not have the reflective quality of the glass that would be replaced.

- 5.13 It is arguable that, from a broad viewpoint, stepped back from the building, in which the full aesthetic value of the Mold Road frontage can be appreciated (**Image EDP 10**), the vents would be mostly unnoticeable. Given their respect for the appearance of the window frames in which they would be set, and their repetition across the elevation, the key characteristic of the building that encapsulates its aesthetic value (its representative fenestration) would be unchanged, and the building's appearance would continue to be as striking as it presently is.
- 5.14 As such, it is considered that the vents would have a very limited effect on the aesthetic value of the Mold Road elevation of Block B resulting in no more than a very minor loss of significance, simply on account of the loss of windowpanes from the configuration, rather than due to any effect on the repetition and rhythm that are the key characteristics of the elevation's appearance.

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Section 6 Options and Offsetting

- 6.1 Cadw HIA guidance (2017) states that the HIS needs to show that a range of options have been considered in order to identify that the preferred approach will realise the greatest benefit and cause the least harm to historic assets. This section seeks to justify the negative effects from the preferred development proposals and in doing so identifies the options considered in the design process.
- 6.2 **Section 5** only identified a very minor negative effect from the preferred fan light option. In considering how to best achieve the objectives set out in **Section 1**, the project considered two other options for achieving the desired ventilation system upgrade. The options and their effects are described below and **Table EDP 1** summarises the effect of the options and compares them directly with the effects of the preferred option.

Underfloor System with Vents within Brickwork

- 6.3 An option was considered that would involve a ventilation system located underneath the ground floor. Equipment would be hidden, with the system venting externally through louvered grills set into the brickwork, close to the base of the walls and in line with existing air bricks (**Image EDP 11**). The vents would be 1000mm x 400mm and, due to their size, would require a load bearing lintel comprising a 15mm flat bar inserted above.
- 6.4 The system would, like the fan light option, result in very little internal change and no adverse effect to the building's significance on this account. However, the external modification would result in a loss of some original fabric as bricks would need to be removed to accommodate the vents and lintels. This loss of original fabric would equate to an extremely minor loss of evidential value.
- 6.5 Furthermore, the vents and lintel would change the appearance of the Mold Road facing elevation of Block B. Whilst the regularly spaced vents would reflect the repetition and rhythm of the elevation, their presence within the brick band would disrupt the continuous and homogenous appearance of the brickwork, resulting in a visual effect at odds with the elevation's original appearance. Notwithstanding this change, the insertion would not simply replace a component part with another, as designed, it would instead represent the modification of a fixed section of the building, and a loss of design integrity.
- 6.6 Given the effects above, it is considered that the vents set into the brickwork would result in an adverse effect to the significance of the listed building, principally to its aesthetic appearance and also to its evidential value. Whilst this effect would be relatively minor, it is considered that it would be greater than the effect imparted by the fan light option, which would replace a component rather than damage continuous, original brickwork.

System in Ceiling Void but with Ventilation via Rooftop Chimney

- 6.7 An option was considered that would involve a mechanical ventilation system with equipment located, as per the fan light option within a void created by a suspended ceiling. Risers would carry air through the first-floor rooms which would then vent via a small rooftop chimney. The system is illustrated on the plans at **Appendix EDP 3**.
- 6.8 Like the fanlight option, the rooftop option would have no serious implications for the evidential value of the ground floor interiors of the building. It would however result in pipework intruding into the first-floor rooms. This would have to be boxed into the corner and the straight-sided form of the rooms would change. This would represent a deviation from the original form of the rooms and the original ventilation system which was entirely hidden within wall and ceiling cavities. As such, on this account, the system would result in a very minor loss of evidential value.
- 6.9 There would be no change to the appearance of the south-west elevation of Block B, although the chimneys would protrude above the roof and would be visible in general views to the Mold Road frontage. The chimneys, whilst small, would represent a new element in this view and, being as presently there are no rooftop protrusions, would be highly noticeable. In this respect, they would contrast with the present roof line and level, flat-edged appearance of the building in general which extends to the clocktower and entrance lobby. On account of this visual effect the chimney would be considered to result in a minor adverse effect on the aesthetic value of the building.

Table EDP 1: Summary of effects of options.

Option	Internal effect	External effect
Preferred option – fan light option	No adverse effect	Very minor adverse effect to aesthetic value from change to south-west elevation.
Underfloor system with vents within brickwork	No adverse effect	Minor adverse effect to evidential and aesthetic values from change to south-west elevation.
System in ceiling void but with ventilation via rooftop chimney	Very minor adverse effect to evidential value from change to first floor rooms	No change to elevation but Minor adverse effect to aesthetic value of building overall due to rooftop chimneys.

Offsetting

- 6.10 It is evident that the fan light option would produce the least effect on the significance of the listed building. This very minor effect should be considered in the context of the benefits to the university that the new ventilation system would bring. The classrooms would be more pleasant spaces to inhabit and would conform the latest ventilation BB101 2018 guidance in terms of ventilation rates, CO₂ concentration and excessive summertime temperatures in line with CIBSE TM52. Furthermore, the development of new modernised spaces within the university improves the experience of current students and makes the university more attractive to prospective students.

- 6.11 A do-nothing scenario would result in no additional impacts upon the significance of the listed building. Nevertheless, the rooms would continue to fail environmental tests and, as such, the building would continue to not be fit-for-purpose as a modern teaching facility operating under modern environmental conditions.
- 6.12 As such, its ability to adhere to the function that it was built for would be diminished and there would be a greater potential for it to fall out of use in the future, as its function is superseded by more up-to-date buildings. The proposed refurbishments would safeguard the use of the building, as a university facility, as it was designed to be, for the use of future generations. *Planning Policy Wales Edition 10*, Section 6.1.11 states that '*for listed buildings, the aim should be to find the best way to protect and enhance their special qualities, retaining them in sustainable use*'. For the current site, the proposed ventilation system would allow the listed building to continue in sustainable use, with a minimum adverse effect on its heritage significance.

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Section 7

Conclusions

- 7.1 The preferred development option has been assessed in terms of its potential for impacts on the Grade II listed building *Plas Coch (Former Denbighshire Technical College)* (Cadw Reference 1851) in accordance with Cadw guidance for *Heritage Impact Assessment in Wales* (2017).
- 7.2 One aspect of the proposed development involves the reconfiguration of the internal room layout on the ground floor of Block B, involving the removal of non-original partition walls, new openings in the corridor and the preservation and reuse of original doors. This aspect is assessed as resulting in a very minor beneficial effect to the significance of the listed building, on account of the proposed ground floor layout more closely resembling the original 1953 layout than the present configuration.
- 7.3 The other aspect of the proposed development is the provision of a modern MVHR ventilation system for Block B. The assessment has compared the impact of the preferred option for implementing this with two other options for achieving the same desired outcome; and also outlined the potential consequences of a 'do nothing' scenario, in which the rooms would continue to possess an inadequate system that does not meet acceptable standards.
- 7.4 The preferred development option would result in a very minor adverse effect to the aesthetic value of the listed building. All of the options for achieving the desired ventilation system that were assessed resulted in negative effects on the significance of the building, although the effect from the preferred option has been demonstrated to be of the lowest magnitude.
- 7.5 This very minor adverse effect should be considered in the context of a very minor beneficial effect from the room re-configuration and, the general benefits of implementing the scheme, i.e. that the ventilation quality would be enhanced, and national standards would be met for these rooms.
- 7.6 As such, the experience of students using these rooms would be improved, with the refurbishments looking to have a direct impact upon key performance indicators including recruitment, student satisfaction, retention and achievement. The improvements would be part of the wider Campus 2025 Strategy to 'future-proof' the learning environment at the Plas Coch Campus so that it remains fit-for-purpose over a period of at least ten years.
- 7.7 With reference to *Planning Policy Wales Edition 10*, Section 6.1.11 states that '*for listed buildings, the aim should be to find the best way to protect and enhance their special qualities, retaining them in sustainable use*'. For the Plas Coch listed building the proposed improvements would enable the building to sustain its long-term use for the university.
- 7.8 In accordance with legislation, 'special regard' should be given to the desirability of preserving listed buildings, their settings and any features of special architectural or historic

interest that they possess. It is also stated in PPW that, although the continuation or reinstatement of the original use should generally be the first option, not all original uses will now be viable or appropriate and that the application of planning and listed building controls should recognise the need for flexibility where new uses have to be considered in order to secure a building's survival.

- 7.9 In this respect, whilst the building retains its original use, the need for modernisation and a new ventilation system reflects the fact that the existing system is obsolete and not fit for purpose in a modern building. This HIS has assessed that the preferred development option, as presented, represents the best way of realising the implementation of the required new system, and thus the sustainable use of the listed building, whilst minimising adverse effects on its heritage significance. As such, the preferred development option should be treated favourably in the determination of the listed building consent application.

Section 8

References

Cadw, 2011, *Conservation Principles for the Sustainable Management of the Historic Environment in Wales*

Cadw, 2017, *Heritage Impact Assessment in Wales*

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EDP, 2019. *Plas Coch Campus, Revised Option 2 Design Heritage Impact Statement* (edp4846_r006a)

Welsh Government 2016, *Planning Policy Wales Edition Ten* Cardiff

Welsh Government 2017, *Technical Advice Note 24 (TAN 24) The Historic Environment*

Wrexham CBC, 2005, *Wrexham Unitary Development Plan 1996-2011*

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Images



Image EDP 1: View of Block B from Mold Road.



Image EDP 2: Detail of the lower brick band on the Mold Road elevation.



Image EDP 3: View along the central corridor in Block B illustrating preserved original door and recesses in respect of former entrances.



Image EDP 4: View along the central corridor in Block B illustrating glass fronted cabinets some of which are used for visual display.



Image EDP 5: View along the central corridor in Block B illustrating original lockers in situ.

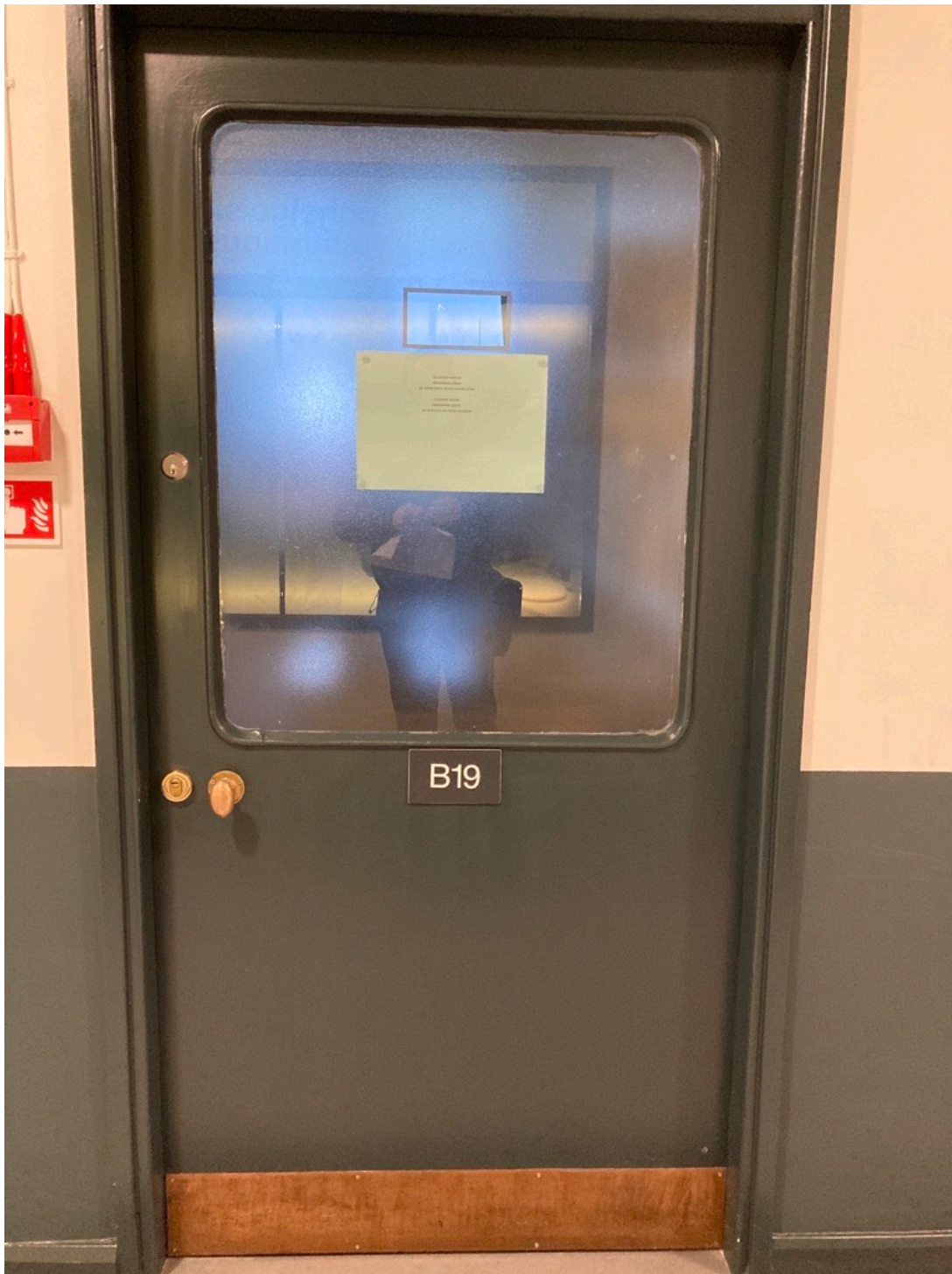


Image EDP 6: Detail of one of the original 1950s doors preserved in the corridor.



Image EDP 7: View showing modification to Block A.



Image EDP 8: View of the louvered vents as employed on a different part of the building.



Image EDP 9: Detail on the proposed vents.



Image EDP 10: View towards the main entrance with part of Block B from the far side of Mold Road.



Image EDP 11: Sketched photograph illustrating the position of proposed vents in brickwork.

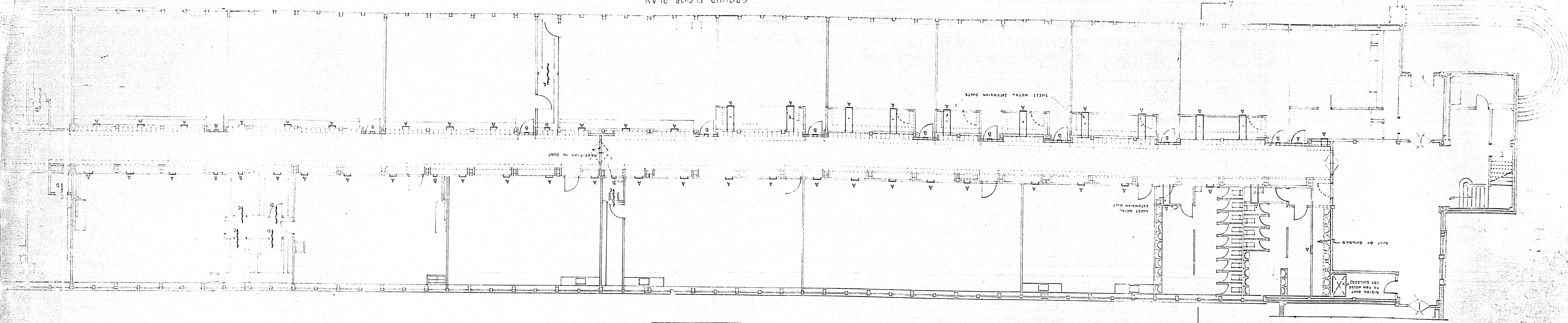
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Appendix EDP 1

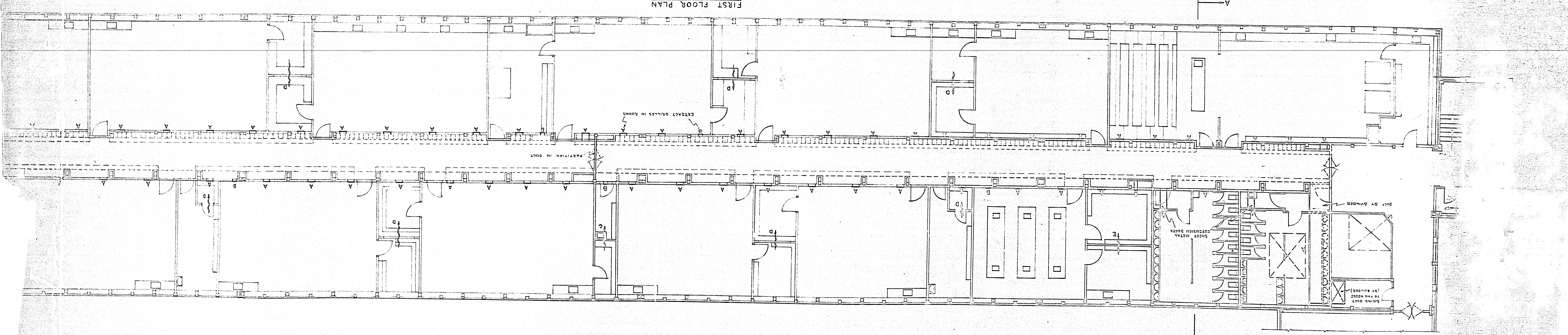
Plan of Block B from 1953

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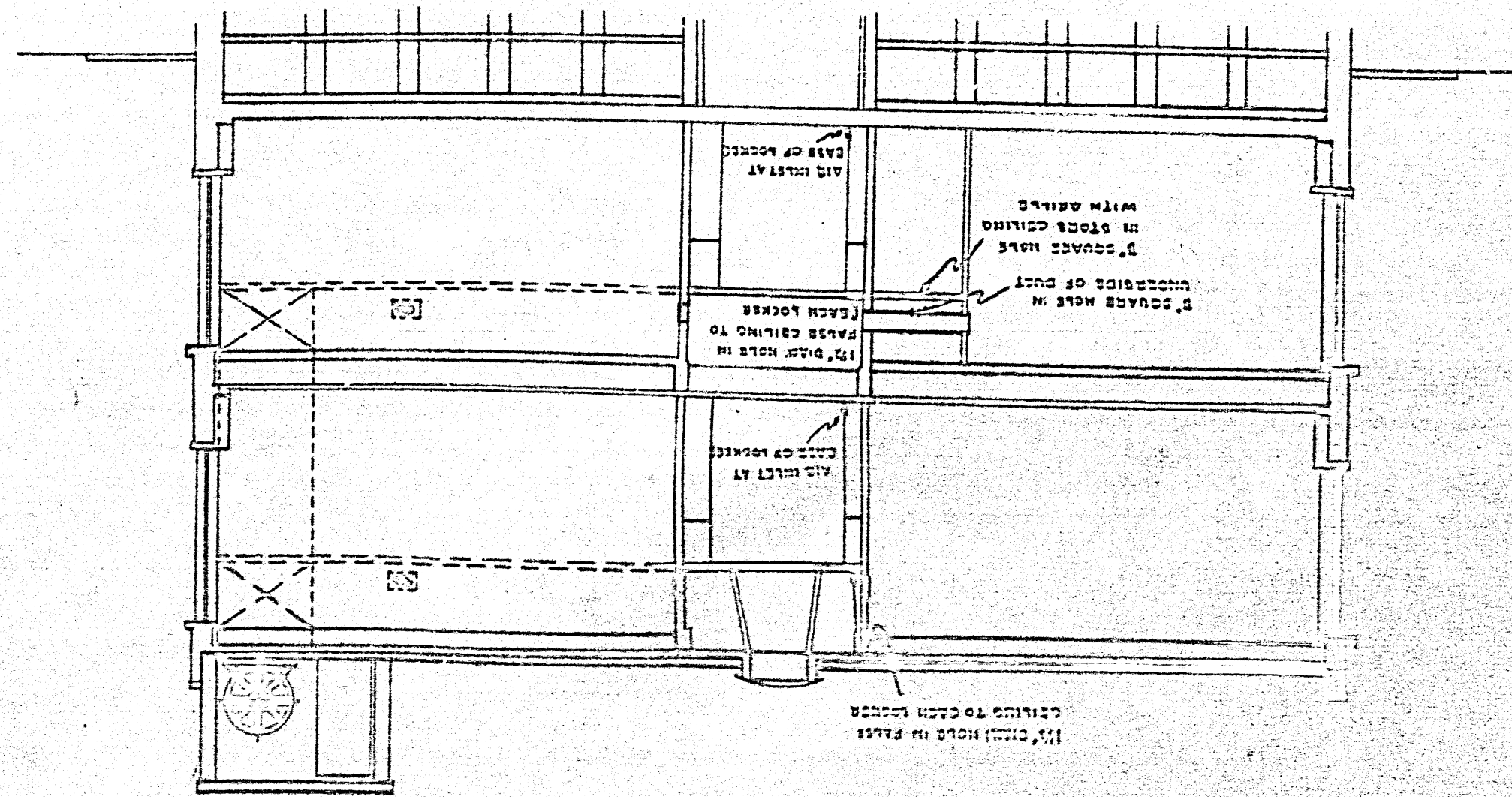
GROUND FLOOR PLAN



FIRST FLOOR PLAN

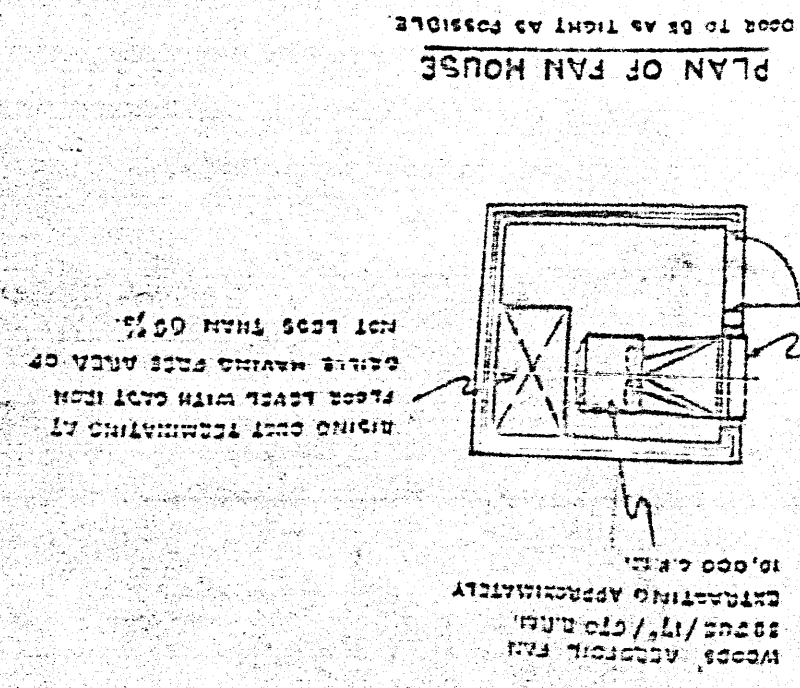


SECTION A-A



EXTRACT GRATES
TO FT OF FOLLOWING SIZE AND TO HAVE
A FREE AREA OF NOT LESS THAN 70%
OF THE AREA OF THE GRATE.
GRATES IN PARTITIONS OR DOORS (INDICATED BY WAVE
LINES) TO HAVE A FREE AREA EQUIVALENT TO THE
GRATE MARKED C - 170
D - 170
E - 255

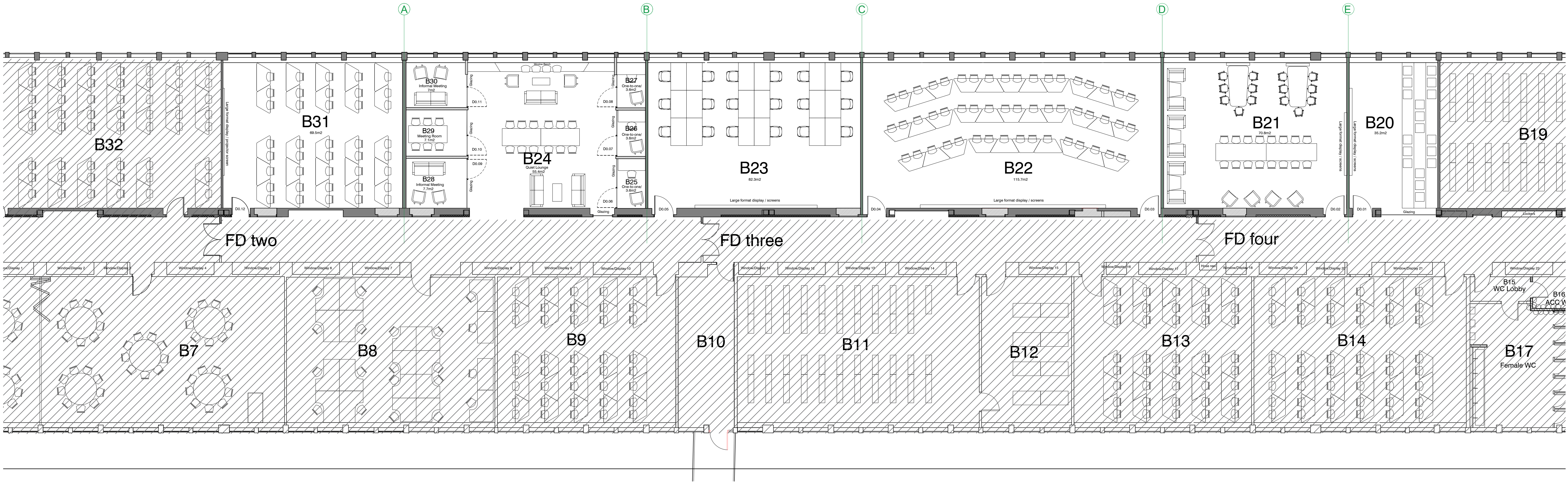
PLAN OF PAN HOUSE



Appendix EDP 2

Preferred Option: Plans and Drawings

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Proposed B Corridor Layout
Scale 1:100

 Area out of scope

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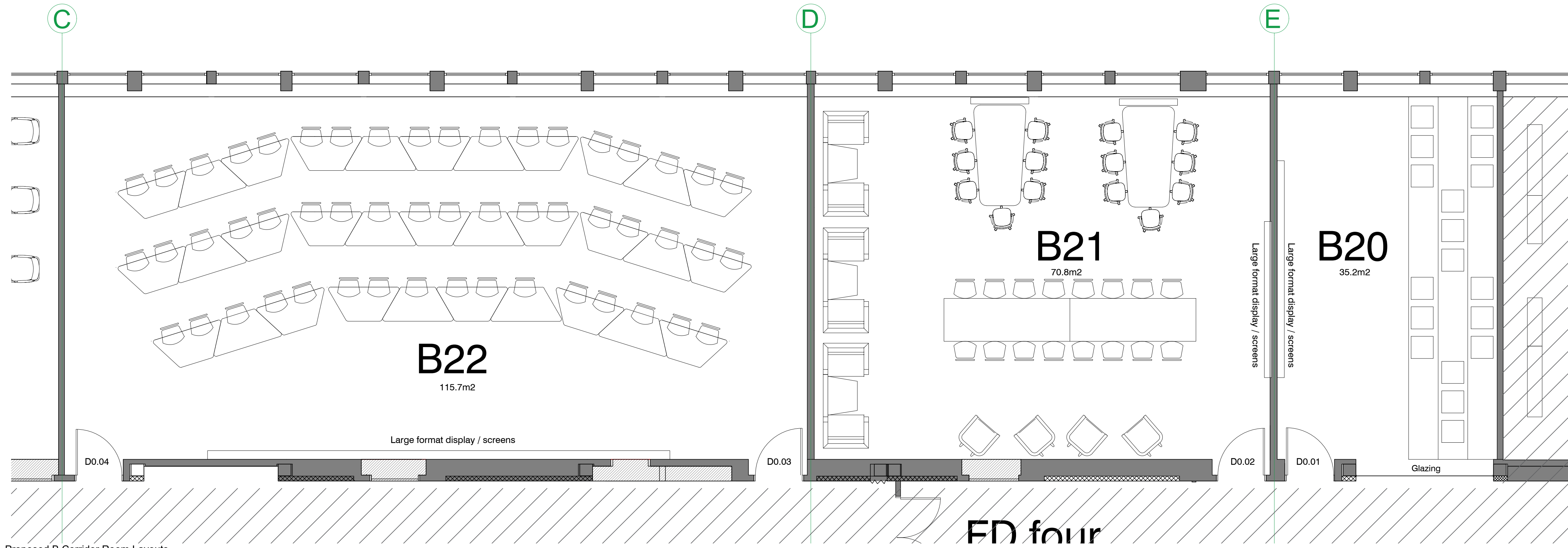
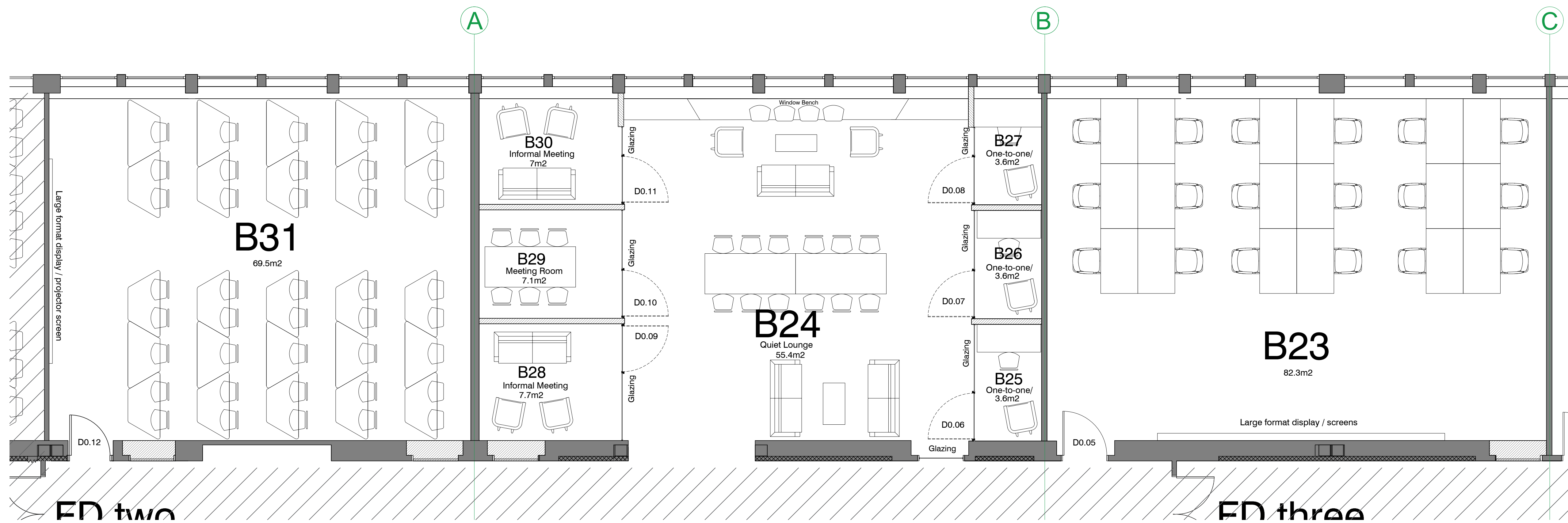
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CLIENT WREXHAM UNIVERSITY	PROJECT B CORRIDOR 2021

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DATE 14.10.2020	DRAWN BY JAB	
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Proposed B Corridor Room Layouts
Scale 1:50

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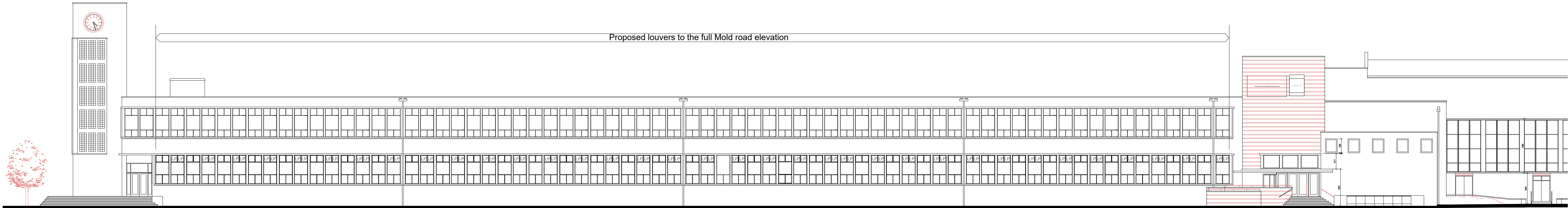
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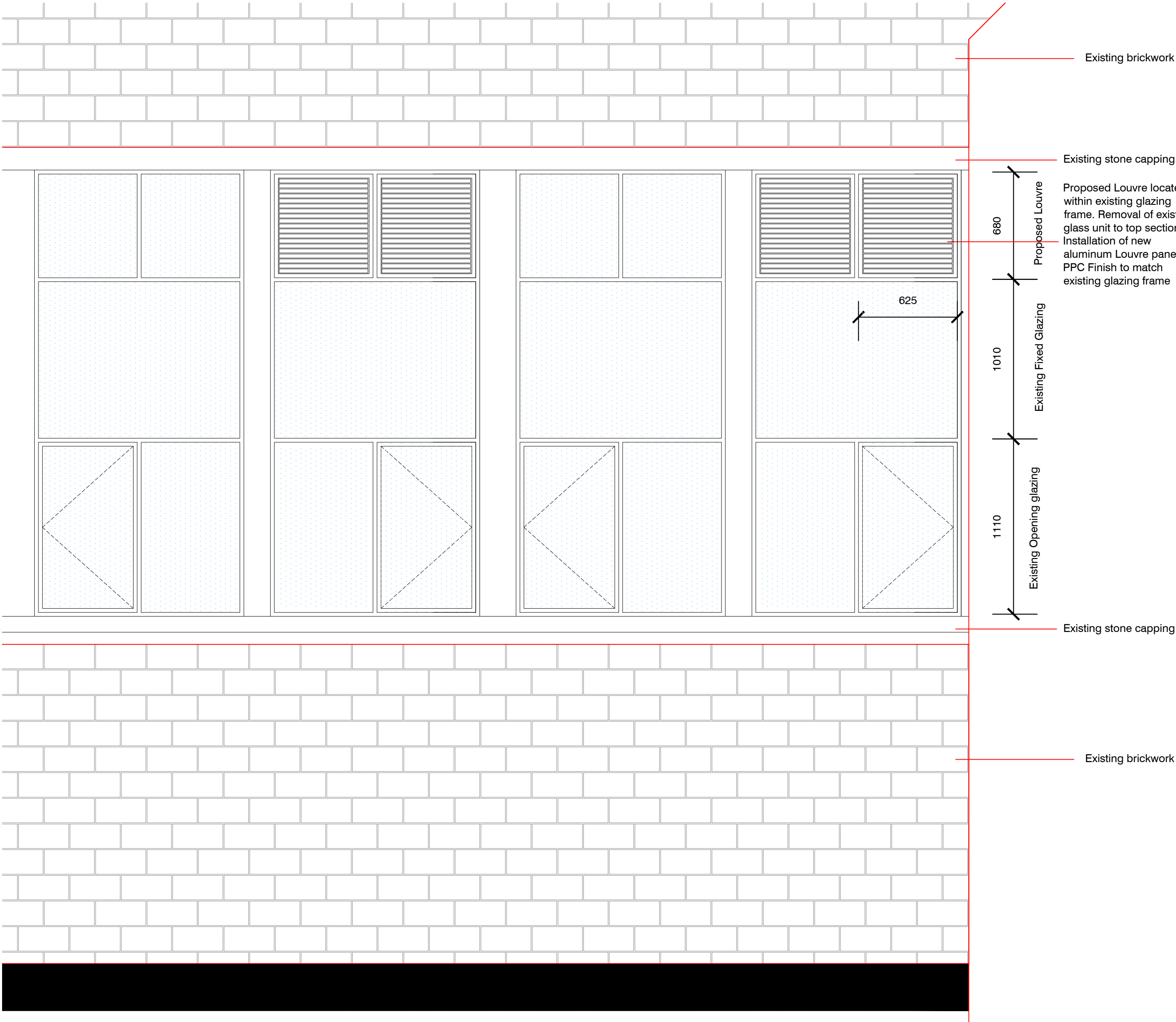
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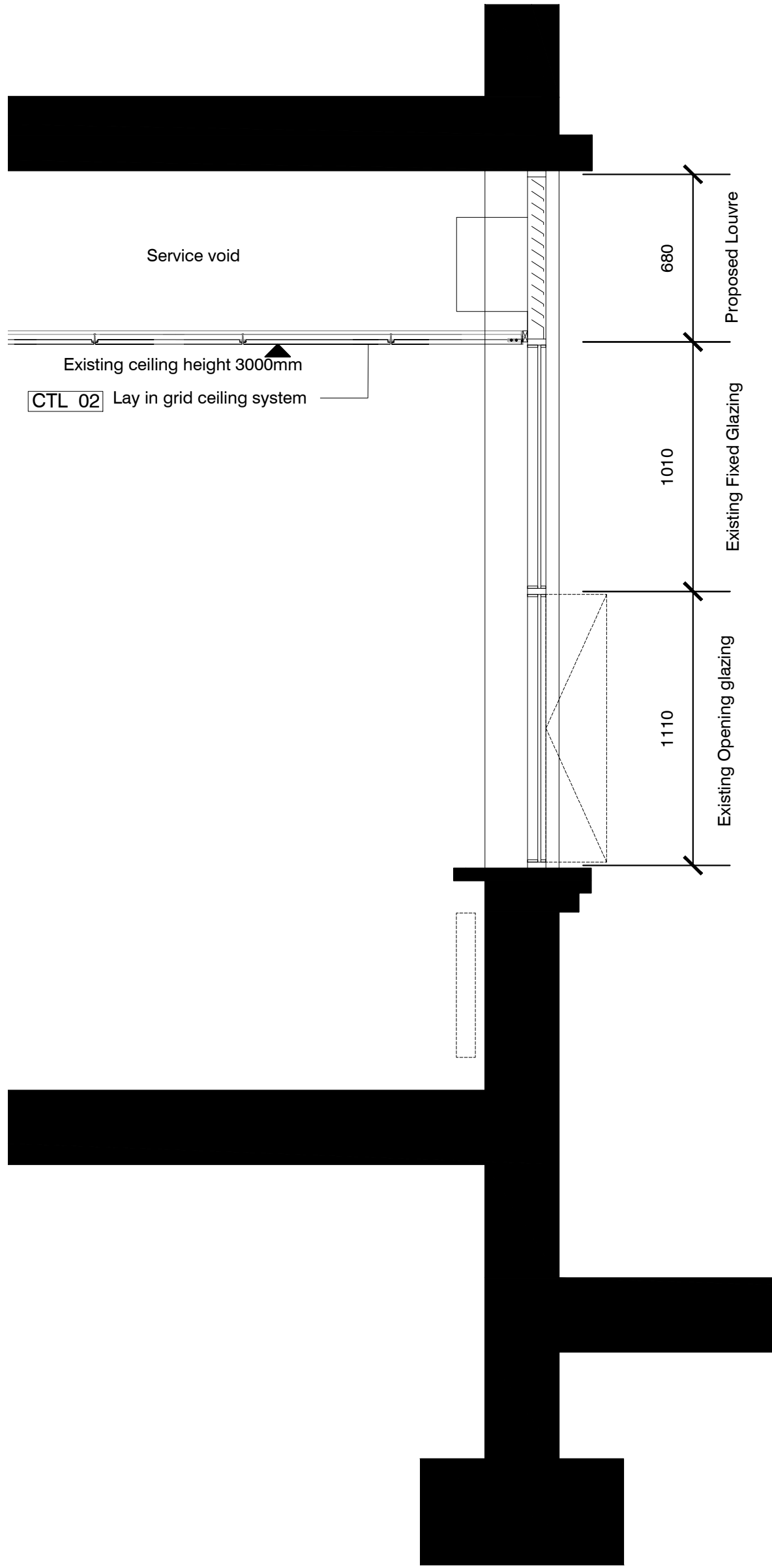
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Mold Road Elevation - External Louvres
Scale 1:200



Bay Louvre detail
Scale 1:20



Bay Louvre Section
Scale 1:20



Existing view
Scale NTS



Proposed Louvre view
Scale NTS

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CLIENT

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PROJECT

B CORRIDOR 2021

REV

DESCRIPTION

DATE

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DRAWING

External Elevations - Grilles

SCALE

1:50

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DATE

18.02.2021

DRAWN BY

JAB

DAY DRAWING No.

AL-21-001

REVISION

P1

PROJECT No.

1096-20

DRAWING STATUS

PLANNING

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DAYid

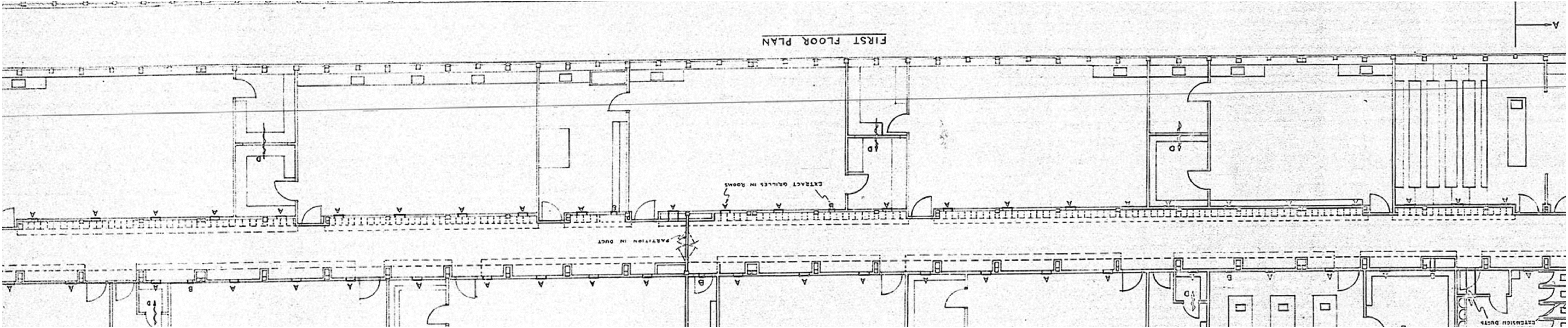
DAY Architectural Ltd.

Studio 1, Lancaster Buildings

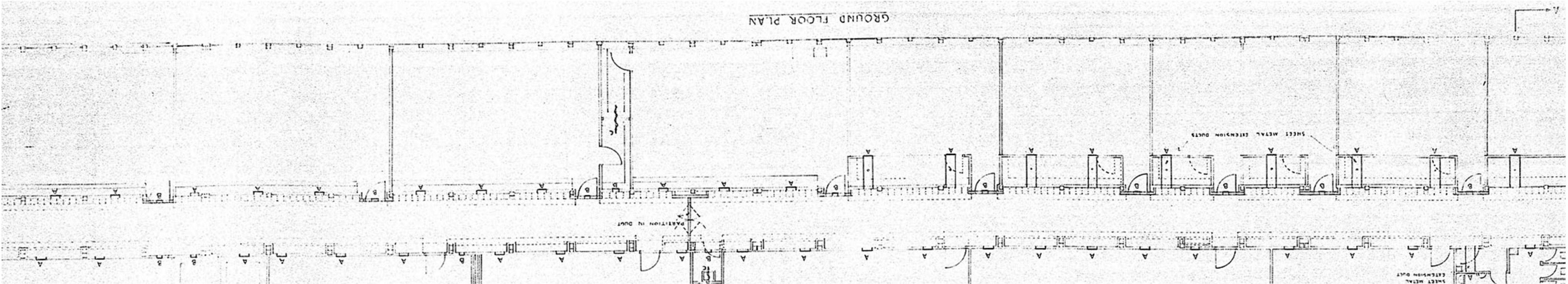
77 Deansgate, Manchester, M3 2BW

T: 0161 834 9703

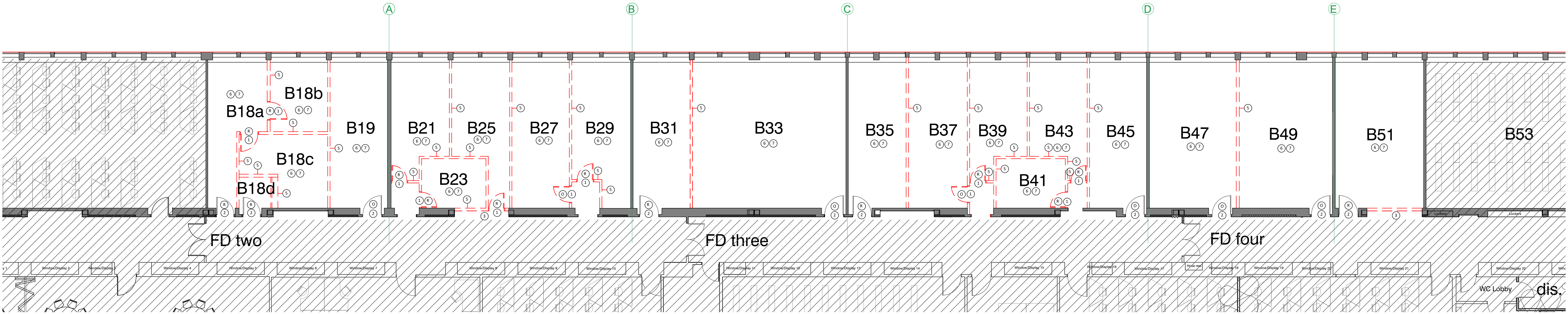
W: [www.day-architectural.com](#)



first floor mark up
Scale 1:100



Ground floor mark up
Scale 1:100



Proposed B Corridor Layout
Scale 1:100

GENERAL NOTES:

DAY Architectural Ltd accepts no responsibility for any costs, losses or claims whatsoever arising from these drawings, specifications and related documents unless there is full compliance with the Client or any unauthorised user of the following:

- 1 All boundaries, dimensions and levels are to be checked on site before construction and any discrepancies reported to the Architect / Designer.
- 2 Partial Service: Any discrepancies with site or other information is to be advised to the Architect / Designer and direction and / or approval is to be sought before the implementation of the
- 3 Block and site plans are reproduced under license from the Ordnance Survey.
- 4 Do not scale this drawing.
- 5 For the purpose of coordination, all relevant parties must check this information prior to implementation and report any discrepancies to the Architect / Designer.

GENERAL NOTES:

All details shown indicatively subject to detailed design by specialist manufacturer.
Samples to be submitted for approval.

CLIENT

WREXHAM UNIVERSITY

PROJECT

B CORRIDOR 2021

DRAWING

Historical walls overlay - Dwg 2

SCALE

1:100

DATE

15.02.2021

DAY DRAWING No.

SK-10-102

DRAWING STATUS

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PAPER SIZE

A1

DRAWN BY

JAB

REVISION

P1

FOR INFORMATION

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PROJECT No.

1096-20



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REV	DESCRIPTION	DATE	REV BY	CHKD BY
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Appendix EDP 3

Considered Options: Plans and Drawings

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SPECIFIC NOTES

- 1. FLEXIBLE DUCTWORK SHALL BE USED FOR FINAL CONNECTIONS ONLY. NO FLEXIBLE DUCTWORK SHALL BE MORE THAN 500mm IN LENGTH. FLEXIBLE DUCTWORK AT THE DUCTWORK SUB-CONTRACTOR SHALL ALLOW FOR A FINAL SIZE SURVEY OF THE DUCTWORK TO BE REQUIRED FOR FABRICATION OF DUCTWORK.
- 2. BRACKETED SLEEVES SHALL BE PROVIDED WHERE THE FLOWRATE IS LARGE FOR AN UNDERCUT.
- 3. ALL DUCTWORK SHALL BE MANUFACTURED & INSTALLED IN ACCORDANCE WITH THE FOLLOWING:
 - a. ALL DUCTWORK SHALL BE MANUFACTURED TO A RIGHT ANGLE BENDS IN SQUARE & RECTANGULAR DUCTWORK SHALL HAVE TURNING VANES.
 - b. FIRE & SMOKE DAMPERS SHALL BE INSTALLED WHERE DUCTWORK PASSES THROUGH ANY FIRE RATED STRUCTURE. THE MAZE SUB-CONTRACTOR SHALL REVIEW THE FIRE CERTIFICATE DRAWINGS & CHECK THE LOCATION OF FIRE WALLS FOR QUANTITIES & TYPE OF DAMPERS.
 - c. THE DUCTWORK SUB-CONTRACTOR SHALL ALLOW FOR TRANSFORMATION OF THE DUCTWORK TO THE CONNECTION SIZES OF MECHANICAL EQUIPMENT, FOR EXAMPLE SIZES, DAMPERS, ATTENUATORS, FANS & AHU'S ETC.
- 4. GENERAL DUCTWORK SHALL BE MANUFACTURED IN ACCORDANCE WITH THE REQUIREMENTS OF DW144, 90 BEND, PLUS AT THE BOTTOM OF EACH RISER. INTERNAL INSULATION SHALL BE APPLIED TO THE FOLLOWING AREAS:
 - a. INTERNAL DUCTWORK WHEN HEATED OR COOLED (WITH VAPOUR SEALING)
 - b. ALL FRESH AIR DUCTWORK WITH INTERNAL TREATED SPACES (WITH VAPOUR SEALING)
 - c. EXTERNAL DUCTWORK WHEN INSULATED (WITH WEATHERPROOF INSULATION)
- 5. SUPPLY AND RETURN DUCTWORK WITHIN RISERS OR UNTREATED SPACES WITH VAPOUR SEALING.
- 6. INTAKE AND DISCHARGE PLenums TO FAIL TO FALL TO

[illegible]

Architect

Client

DAY

STAGE 4

FUTURESERV
DESIGN ENGINEER SUSTAIN WWW.FUTURESERV.CO.UK

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☎ +44 (0)151 363 7627 ✉ enquiries@futureserv.co.uk 🌐 www.futureserv.co.uk

Project Title

WREXHAM GLYNDWR
UNIVERSITY
WREXHAM B CORRIDOR

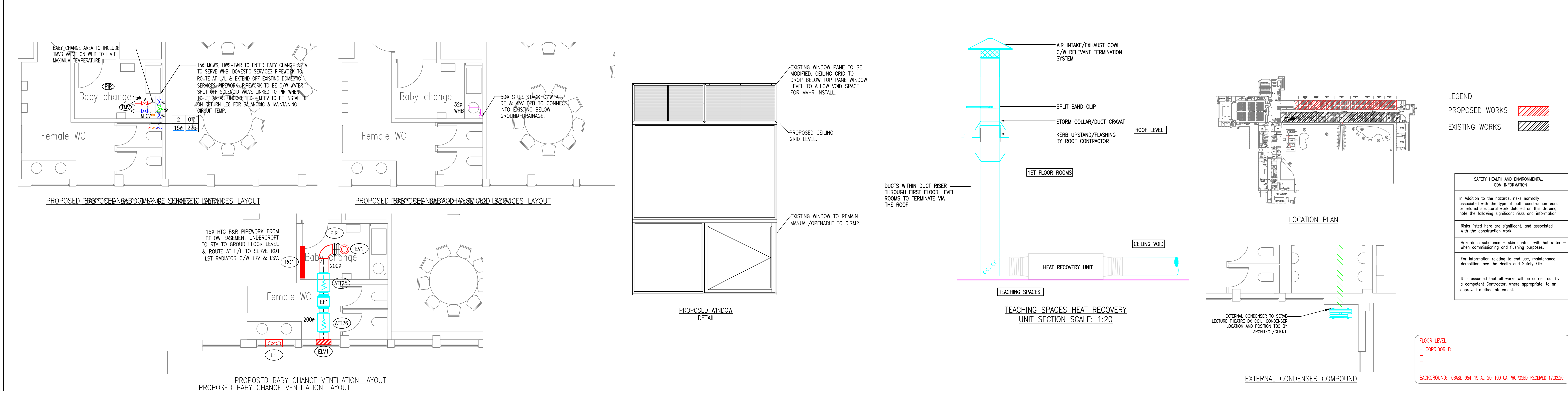
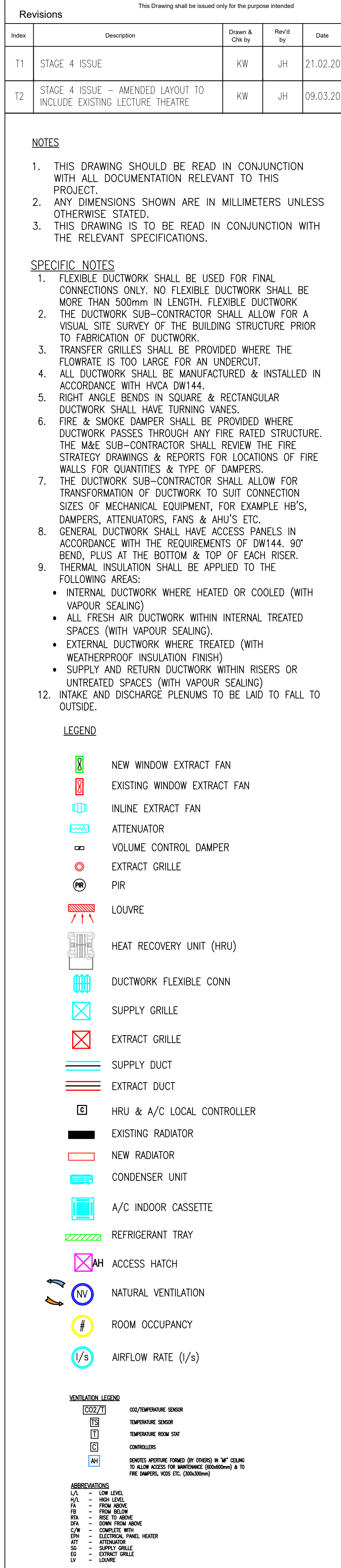
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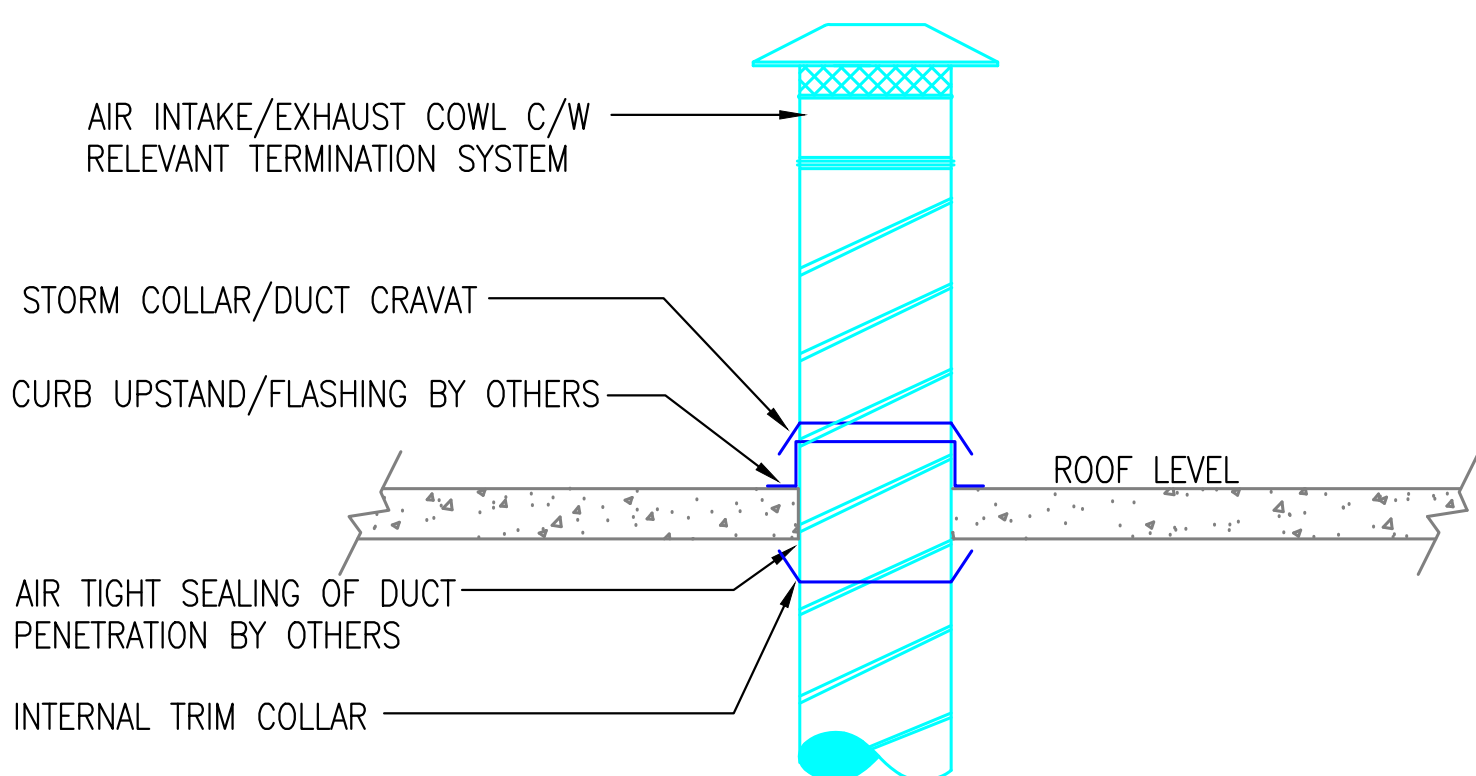
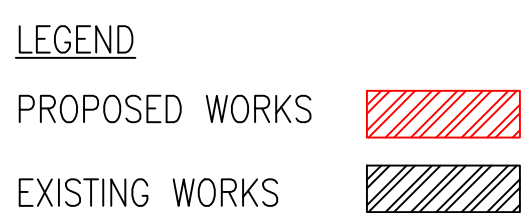
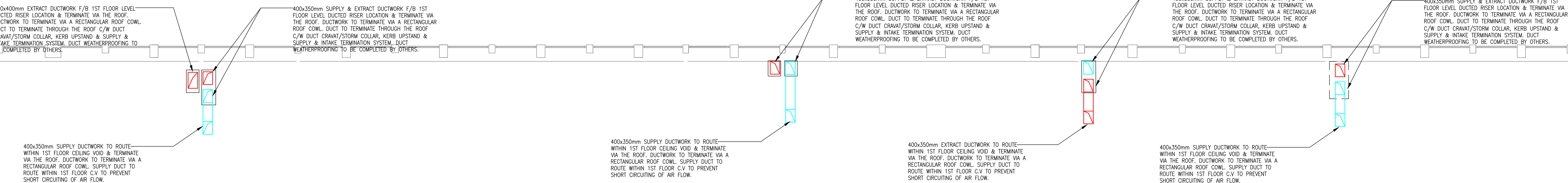
MECHANICAL SERVICES
1ST FLOOR LEVEL
PROPOSED - VENTILATION
SERVICES LAYOUT - OPT 2

Project No	L5598	
Drawn & Checked by	KW	
Reviewed by	JH	
Date	FEBRUARY 2020	
Scale	1:50 @ A0	
Drawing No.	L5598-M-B-57-PL-1-001	Rev. T2

SAFETY HEALTH AND ENVIRONMENTAL COM INFORMATION
In Addition to the hazards, risks normally associated with the type of path construction work or related structural work detailed on this drawing, note the following significant risks and information.
Risks listed here are significant, and associated with the construction work.
Hazardous substance – skin contact with hot water – when commissioning and flushing purposes.
For information relating to end use, maintenance, demolition, see the Health and Safety File.
It is assumed that all works will be carried out by a competent Contractor, where appropriate, to an approved method statement.

FLOOR LEVEL:
- CORRIDOR B
-
-
-
BACKGROUND: OBASE-954-19 AL-20-100 GA PROPOSED-RECEIVED 17.02.20





TYPICAL DUCT PENETRATION
TERMINATION DETAIL ABOVE ROOF
LEVEL - N.T.S.

SAFETY HEALTH AND ENVIRONMENTAL COM INFORMATION	
In Addition to the hazards, risks normally associated with the type of path construction work or related structural work detailed on this drawing, note the following significant risks and information.	
Risks listed here are significant, and associated with the construction work.	
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For information relating to end use, maintenance, demolition, see the Health and Safety File.	
It is assumed that all works will be carried out by a competent Contractor, where appropriate, to an approved method statement.	

FLOOR LEVEL:
- CORRIDOR B
-
-
-
BACKGROUND: OBASE-954-19 AL-20-100 GA PROPOSED-RECEIVED 17.02.20

Revisions				
This Drawing shall be issued only for the purpose intended				
Index	Description	Drawn & Checked by	Reviewed by	Date
T1	STAGE 4 ISSUE	KW	JH	21.02.20
T2	STAGE 4 ISSUE - AMENDED LAYOUT TO INCLUDE EXISTING LECTURE THEATRE	KW	JH	09.03.20

NOTES

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL DOCUMENTATION RELEVANT TO THIS PROJECT.
2. ANY DIMENSIONS SHOWN ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATIONS.

SPECIFIC NOTES

- CONNECTIONS ONLY. NO FLEXIBLE DUCTWORK SHALL BE MORE THAN 500mm IN LENGTH. FLEXIBLE DUCTWORK SHALL BE USED ONLY TO CONNECT TO A DUCT FOR A VISUAL SITE SURVEY OF THE BUILDING STRUCTURE PRIOR TO FABRICATION OF DUCTWORK.
- CONCRETE FLOORS SHALL BE PROVIDED WHERE THE FLOWRATE IS TOO LARGE FOR AN UNDERCUT.
- ALL DUCTWORK SHALL BE MANUFACTURED & INSTALLED IN ACCORDANCE WITH THE FOLLOWING:
- RIGHT ANGLE BENDS IN SQUARE & RECTANGULAR DUCTWORK SHALL HAVE TURNING VANS.
- FIRE & SMOKE DAMPERS SHALL BE PROVIDED WHERE DUCTWORK PASSES THROUGH ANY FIRE RATED STRUCTURE. THE M&E SUB-CONTRACTOR SHALL REVIEW THE FIRE ENGINEERING DRAWINGS TO DETERMINE THE TYPE OF FIRE WALLS FOR QUANTITIES & TYPE OF DAMPERS.
- THE DUCTWORK SUB-CONTRACTOR SHALL ALLOW FOR TRANSFORMATION OF THE DUCTWORK TO SUIT THE DIFFERENT SIZES OF MECHANICAL EQUIPMENT, FOR EXAMPLE H&V, DAMPERS, ATTENUATORS, FANS & AHU'S ETC.
- MECHANICAL DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF DW144, 90° BEND, PLUS AT THE BOTTOM & TOP OF EACH RISER.
- THE THERMAL INSULATION SHALL BE APPLIED TO THE FOLLOWING AREAS:
 - INTERNAL DUCTWORK WHERE HEATED OR COOLED (WITH VAPOR SEALING)
 - FRESH AIR DUCTWORK WITH INTERNAL TREATED SPACES (WITH VAPOR SEALING).
 - INTERNAL DUCTWORK WHERE TREATED WITH THERMOFLEX INSULATION.
 - SUPPLY & RETURN DUCTWORK WITH RISERS OR OUTREACHED SPACES. (WITH VAPOR SEALING)
12. WASTE AND DISCHARGE PLUMBINGS TO BE Laid TO FALL TO

LEGEND:

- | | |
|---|-----------------------------|
|  | NEW WINDOW EXTRACT FAN |
|  | EXISTING WINDOW EXTRACT FAN |
|  | INLINE EXTRACT FAN |
|  | ATTENUATOR |
|  | VOLUME CONTROL DAMPER |
|  | EXTRACT GRILLE |
|  | PIR |
|  | LOUVRE |
|  | HEAT RECOVERY UNIT (HRU) |
|  | DUCTWORK FLEXIBLE CONN |
|  | SUPPLY GRILLE |
|  | EXTRACT GRILLE |
|  | SUPPLY DUCT |
|  | EXTRACT DUCT |
|  | HRU & A/C LOCAL CONTROLLER |
|  | EXISTING RADIATOR |
|  | NEW RADIATOR |
|  | CONDENSER UNIT |
|  | A/C INDOOR CASSETTE |
|  | REFRIGERANT TRAY |
|  | ACCESS HATCH |
|  | NATURAL VENTILATION |
|  | ROOM OCCUPANCY |
|  | AIRFLOW RATE (l/s) |

VENTILATION LEGEND

- | | |
|----|--|
| TS | TEMPERATURE SENSOR |
| T | TEMPERATURE ROOM STAT |
| C | CONTROLLERS |
| AH | <p>DESIGNS APERTURE FORMED BY OTHERS IN "W" CELL
 TO ALLOW ACCESS FOR MAINTENANCE (300x300mm) &
 FIRE DAMPERS, ACCESS ETC. (300x300mm)</p> |

W - LOW

- FA - FROM ABOVE
FB - FROM BELOW
RDA - RISE TO ABOVE
DFA - DOWN FROM ABOVE
C/W - COMPLETE WITH
CPH - ELECTRICAL PANEL HEATER
ATT - ATTENUATOR
SD - SUPPLY ORILE
ES - EXTRACT ORILE
LV - LOUVER

Architect

Client

DAY

STAGE 4

FUTURESERV
DESIGN ENGINEER SUSTAIN WWW.FUTURESERV.CO.UK

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Project Title

WREXHAM GLYNDWR
UNIVERSITY
WREXHAM B CORRIDOR

Drawing Title

MECHANICAL SERVICES
ROOF LEVEL
PROPOSED - VENTILATION
SERVICES LAYOUT - OPT 2

Project No L5598

Drawn & Checked by **KW**

Reviewed by JH

Date FEBRUARY 2020

Scale 1:50 @ A0

Drawing No. _____

T2



CARDIFF
02921 671900

CHELTENHAM
01242 903110

CIRENCESTER
01285 740427

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