atelier MB
URBAN ARCHITECTS & DESIGNERS

Supplementary Planning Report

Project: Churchgate and Lee – Capita Suites (3/4/5/6/7th floors)
Project Ref: 1841
Date: Sept 2019
Revision: A – Changes in Red.

Louvre Installation Justification

This supplementary report relates to the application refs.

123979/LO/2019 - 3rd floor CGH, and 6-7th floors Lee House

123883/LO/2019 – 5th floor CGH, and 4-5th Lee House.

This report is written in response to comment received from the Planning Officer with regards to the proposal to insert louvres into the courtyard facades.

The proposals include the installation of a series of ventilation louvres into the existing windows. These are necessary to ensure the suites can be let at an occupancy level dictated by the rental market, whilst complying with Building Regulation ventilation standards.

There exists precedent for the insertion of louvres into the courtyard façade, and these have previously been approved in applications ref 106092.

The extent of louvres proposed now, is due to the need to offer fully mechanically ventilated office suites to Capita. They will become the largest single tenant in the property and were likely to leave the building if such upgrades could not be made to the property.

It is understood from Heloise' email that the installation of louvres across the piece is required for Building Regs to be met, could this justification be expanded on within the Heritage Statement? Why are they required now?

Rental

Edwards and Co. are the Agent for the landlord. They have written commentary on the requirements to service this accommodation to enable the building to be let to viable levels.

The large floorplates reduce the number of tenants requiring such space. These larger tenants require high specification of environment, and often high density of occupancy within the spaces. Mechanical ventilation is key in achieving the market desired occupancy and environmental quality.

'The requirement to provide mechanical ventilation is key to achieving a low void rate at Churchgate House and Lee House. We feel that if this specification was not achievable and natural ventilation was provided the issues surrounding use during winter, temperature control, air pollution and noise would reduce the potential occupier pool considerably…..in turn have an impact on the service charge income which is spent on maintaining this important listed building."

The extract above highlights the need to provide high quality accommodation to tenants in order to ensure the building remains viable, and can be maintained in accordance with the high requirements for a listed building such as this. The ongoing protection of this listed building as a heritage asset is a clear public benefit to the works.

Capita are the current and proposed tenant for these newly refurbished suites. They too have commented on their need for a mechanically ventilated suite. This work being one of the key reasons they have decided to remain in this property – taking a considerable portion of the accommodation in the building overall.

"approximately 1 year ago, following a strategic review of the Capita occupied estate in line with our consolidation strategy it was determined that the space Capita occupied at these buildings was no longer suitable for our business needs…. A key reason for this was an unstable internal environment with a mixture of natural and mechanical ventilation and unreliable cooling and heating which resulted in fluctuating extreme temperatures during both summer and winter.

We can confirm that if the ability to achieve the requirements is not possible then Capita would likely have relocated elsewhere, to a building capable of achieving space that met our business needs and which may not have been within Manchester City Centre."

There appears to be a high no. of louvres proposed to Lee House Courtyard Elevation (dwg. P200), 12no. windows affected in total. This is a significant addition which has not been fully justified. Please can you explain why this number is required?

What thought has been given to mitigating the harm to the original fabric?

Could the harm be further mtiigated i..e extract/intake openings cut into the existing glass pane to sit within the frame, rather than removing the whole glazed pane? Or could fewer louvres be proposed?

Please can you look again at reducing the number of louvres on this elevation. Could they be moved elsewhere?

Could the louvres be smaller?

Size and Extent

The number of louvres proposed are required due to the high volume of air necessary to achieve Building Regulation air change standards.

Alternatives

ADT energy have been appointed to design the mechanical ventilation strategy. They have explained that alternative routes, such as ducting to the roof, are not possible in this instance due to the size of the existing duct routes and the extensive works required to the original fabric to enlarge these routes and relocate existing live services – much more intrusive and damaging to the building fabric, than the louvres located within the windows. The size of the ducts are dictated by the air flow calculations, but their shape has been optimised to suite the existing beam down stand depths and window sizes. This design avoids bending ducts below the beams which would result in a much less efficient and much more visually intrusive scheme internally – ducts that would be visible through the full length of the courtyard elevation glazing externally.

"Firstly by using the AHU route, we would require duct sizes as shown in what I am classing loosely as risers. I have not positioned the ductwork as there are other services in these rooms on the floor above. To exit the risers to roof level would require major builders works to accommodate the size of ductwork if they would actually fit. The ahu's at roof level would ideally go local to the risers and both would be circa 3m x 2m x 2m.
Internally, the ductwork needs to be as wide as shown, generally 1000 x 500, I would like to go any wider than this and will affect rigidity, this would obviously affect head height to all areas due to low beams. Trying to co-ordinate this size of ductwork(or equivalent free area) with all the other services, would not work and would mis align all services.

Reducing the window grilles will mean we would require supply & extract header ducts, which will run across windows where intake and exhaust is required. This may reduce grilles, but header ductwork will run across windows and drop to below soffit height (refer to soffit & window detail) and distribute from there. This will affect natural light in these areas. Although you wouldn't see the window grilles, the ductwork would be on view from the courtyard. Each lossnay type ventilation would connect into the header ducts and distribute from there as originally planned. The lossnay units would stay as proposed to suit distribution ductwork and co-ordination with all services.
Grilles & lossnay ventilation units have been located based on low height beams & occupancy. We would possibly also have noise issues trying to introduce the amount of required air through a smaller free area, internally & externally."

The attached annotated 5th floor plan explains the extent of plant required to duct to the roof.

The above centralised duct option is further clarified as follows:

As part of the design process we investigated siting air handling units (AHUs) on the roof of Lee House and Churchgate House to avoid the requirement for louvers in windows. This process included investigating riser routes and roof top plant locations. Taking each building in turn.

Churchgate House

The rising ductwork would need 2nr 650x500mm ducts in each of the two risers available. Whilst there is the physical space available within the risers, **the new ductwork would preclude maintenance access to other services which serve different tenants in the building,** these services include refrigerant pipework, toilet ventilation and electrical distribution boards. It would not be possible to rearrange these services and still allow the required maintenance access to both the new and old services, there is also no legal ability for the landlord to move these tenant services under the various leases. See attached photos NCP 6th Floor for the Great Bridgewater Street Side Riser (1) and image Canal 6th Floor for the Canal Side Riser (2).



Riser 1 - NCP 6th floor image





Riser 2 – Canal 6th floor images

A further issue to this approach would be the size of the ductwork as it runs horizontally within the suite, the window louver approach requires multiple small AHUs located at high level within the suite meaning the air volumes are lower and therefore the ductwork is a low diameter. The roof top AHU approach means that four 650x500mm ducts need to traverse the suite, when dipping under the lowest beams the floor to duct height would reduce to 1895mm at its lowest point. **This option would also require the formation of four openings in total within original brickwork fabric 650 x 500mm in size.**
Given the above this option was not explored further however there would be structural, aesthetic and air borne sound issues of locating a 2nr large 3m x 2m x 2m AHUs on the roof to overcome.
Refer to accompanying plan and cross sections illustrating the spatial impact of these huge ducts which would traverse the space and change the character as a result.

Lee House
The rising ductwork to serve 4th to 7th floors Lee House would need 2nr 1000x700mm ducts in the riser available (the previous sketch mentioned 2nr 600x600 but this was for 6 and 7th floors only not 4th and 5th as well). Whilst there is space available within the riser this would require the roof top plant room at the top of this riser to be clear. As can be seen on photo Lee House Plant Room attached there are already large amounts of ductwork which serve the car park ventilation system together with an AHU which serves the toilet extract system. **A review of the space available determined that there is not sufficient space to accommodate 2nr new 1000x700mm ducts.**
A further issue to this approach would be the size of the ductwork as it runs horizontally within the suite, the window louver approach requires multiple small AHUs located at high level within the suite meaning lower air volumes and that the ductwork is a lower diameter. Given the above, this option was not explored further however there would be also structural, and aesthetic and air borne sound issues of locating a 2nr large 2.5m x 2m x 2m AHUs on the roof to overcome.



Riser 3 – Lee House plant room at roof level.

Taking the above into account we feel that the insertion of louvers into original window frames of none street facing windows in a fully reversible way presents the least harm to the original structure and character of both the internal and external space, whilst still allowing the building to meet modern day internal office environment conditions enabling continued use.

Construction and Aesthetics.

The new office layout requires louvres to be fitted in a limited number of windows to address the ventilation requirements. These are noted on drawings as being in the elevation of Lee house facing into the courtyard. The proposal is to insert louvres within the existing powder coated frames of the windows, in the top panes only. They are to match the colour of the frame and are the same as previously approved existing louvres on other floors. The change is reversible and necessary to meet modern standards of office accommodation.

The louvres to Lee House are being inserted into non-original windows and will retain the same pattern of lights (frame will be retained). The louvre is to match the existing, previously approved style (application 106092). The level of impact is low in visual terms and when the elevation is read as a whole, the panes being altered are a small proportion of the whole. The change will have a low impact on the architectural and historic value of the building.

In CGH the window frames are timber, so here the grills are set back from the face of the frame and painted a dark colour to minimise their visual impact.

The level of visual impact is low when the elevation is read as a whole, the panes being altered are a small proportion of this. The change will have a low impact on the architectural and historic value of the building.

Acoustics

The location of rooftop plant was approved previously as part of app refs. 119075/LO/2018, and 119074/FO. A recent acoustic assessment was carried out as to the effect of the new courtyard located louvres linked to this equipment, on residential accommodation within the area.

The results of the assessment confirm that the location and attenuated sound levels would result in noise levels below the appropriate threshold at the nearest residential windows – located 20m away from the plant deck. Compliance with the council's stated criteria: "*ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location."*

"An environmental noise survey has been undertaken at Lee House, Manchester. The results of the survey have enabled criteria to be set for noise emissions from the relocated and proposed plant in order to protect the amenity of nearby residential receivers.

A noise impact assessment has then been undertaken using measured and manufacturer provided noise emissions to predict the noise levels due to the recent and current proposals at nearby noise sensitive receivers.

Calculations show that noise emissions from the relocated and proposed plant units would meet the set requirements. "

Summary

These works are necessary to ensure the long-term viable occupation of this heritage asset. They have been necessitated by market forces which dictate a high-quality controlled environment in such accommodation. The alternative duct routes have been explored and discounted as causing more damage to the historic fabric. However, the louvres proposed will cover the minimal elevational area and the glass can be carefully removed and stored on site for future reinstatement. We consider the louvres will cause a mild level of harm to the heritage asset only, and are a completely reversable intervention.

Appendices

A – Comment from Tenant – Capita
B – Comment from Agent – Edwards and Co.
C – Comment from Mechanical Designer
D – Acoustic Report

A – Comment from Tenant – Capita

B – Comment from Agent – Edwards and Co.

C – Comment from Mechanical Designer

Subject: FW: Comments re. 123883/LO/2019 - Churchgate House 3rd Floor, Lee house 6th and 7th
Date: Monday, 23 September 2019 at 17:09:27 British Summer Time
From: Richard Mansell
To: Heloise Wood
Attachments: image001.jpg, Churchgate 5th Floor Ventilation.pdf

Heloise

3rd time lucky, see below, I've highlighted the text for ease.

Thanks

Richard Mansell | Head of Commercial

ADT Workplace
Assess|Design|Transform

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Before you print think about the **ENVIRONMENT**

From: Mike McCormack - ADT Energy <Mike.McCormack@adtenergy.com>
Sent: 23 September 2019 07:49
To: Richard Mansell <Richard.Mansell@adtworkplace.com>
Subject: RE: Comments re. 123883/LO/2019 - Churchgate House 3rd Floor, Lee house 6th and 7th

Richard,
Marked up drawing of 5th floor Churchgate as attached. As noted in write up, the distribution ductwork is 1000 x 500, this obviously doesn't work due to beam heights and to reduce height by half, you would need to double the width.

Regards,

Mike McCormack | Contracts Manager

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T 0161 655 0292| M 07825 126657
Mike.McCormack@adtenergy.com | www.adtenergy.com

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Before you print think about the **ENVIRONMENT**

From: Mike McCormack - ADT Energy
Sent: 20 September 2019 09:16
To: Richard Mansell <Richard.Mansell@adtworkplace.com>
Subject: RE: Comments re. 123883/LO/2019 - Churchgate House 3rd Floor, Lee house 6th and 7th

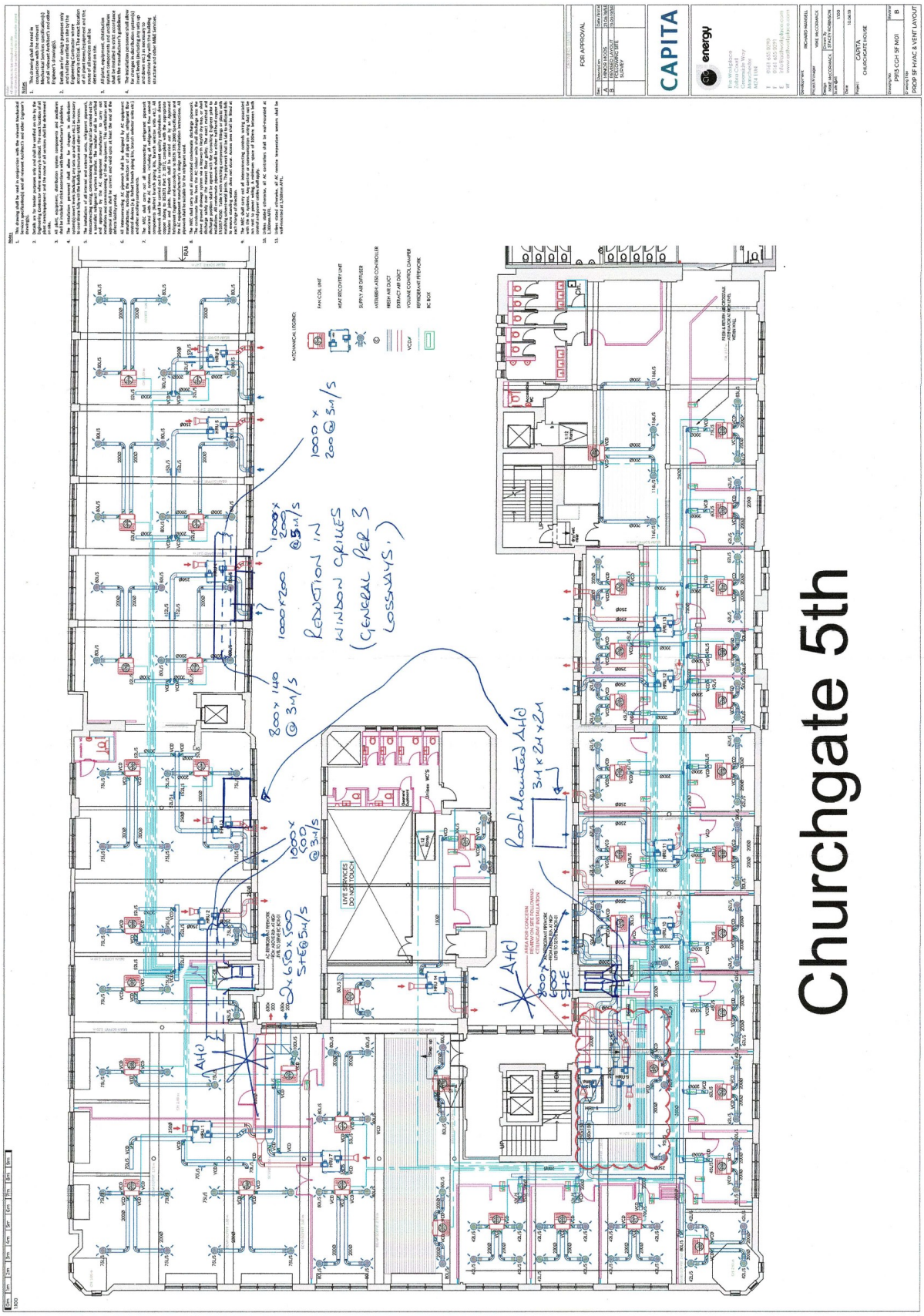
Richard,
Please find attached marked up drawing what would be required if changes were made to ventilation to 5th floor Churchgate house.

Firstly by using the AHU route, we would require duct sizes as shown in what I am classing loosely as risers. I have not positioned the ductwork as there are other services in these rooms on the floor above. To exit the risers to roof level would require major builders works to accommodate the size of ductwork if they would actually fit. The ahu's at roof level would ideally go local to the risers and both would be circa 3m x 2m x 2m.
Internally, the ductwork needs to be as wide as shown, generally 1000 x 500, I would like to go any wider than this and will affect rigidity, this would obviously affect head height to all areas due to low beams. Trying to co-ordinate this size of ductwork(or equivalent free area) with all the other services, would not work and would mis align all services.

Reducing the window grilles will mean we would require supply & extract header ducts, which will run across windows where intake and exhaust is required.
This may reduce grilles, but header ductwork will run across windows and drop to below soffit height (refer to soffit & window detail) and distribute from there.
This will affect natural light in these areas. Although you wouldn't see the window grilles, the ductwork would be on view from the courtyard. Each lossnay type ventilation would connect into the header ducts and distribute from there as originally planned. The lossnay units would stay as proposed to suit distribution ductwork and co-ordination with all services.
Grilles & lossnay ventilation units have been located based on low height beams & occupancy.
We would possibly also have noise issues trying to introduce the amount of required air through a smaller free area, internally & externally.

Regards,

Mike McCormack | Contracts Manager


Churchgate 5th
CAPITA
energy
FOR APPROVAL
REDUCTION IN WINDOW GRILLES (GENERAL PER 3 LOSSWAYS.)
1000 x 200 @ 3M/S
1000 x 200 @ 3M/S
1000 x 200
800 x 140 @ 3M/S
1000 x 500 @ 3M/S
2 x 650 x 500 S+E @ 5M/S
Roof Mounted AHU 3M x 2M x 2M
AHU
LIVE SERVICES DO NOT TOUCH
MECHANICAL LEGEND:
FAN COIL UNIT
HEAT RECOVERY UNIT
SUPPLY AIR DIFFUSER
MITSUBISHI ASSO CONTROLLER
FRESH AIR DUCT
EXTRACT AIR DUCT
VOLUME CONTROL DAMPER
REFRIGERANT PIPEWORK
RC BOX
CAPITA
CHURCHGATE HOUSE
P915 CCH SF M01
PROP SF HVAC & VENT LAYOUT

Subject: RE: Comments re. 123883/LO/2019 - Churchgate House 3rd Floor, Lee house 6th and 7th **Date:** Tuesday, 17 September 2019 at 11:39:22 BriKsh Summer Time
From: Mike Mccormack
To: Richard Mansell

AHachments: image001.jpg, image011.gif, image012.jpg, image013.jpg, image014.jpg, image015.jpg, image016.png, image017.png, image018.png, image019.png, Lee House Vent.pdf

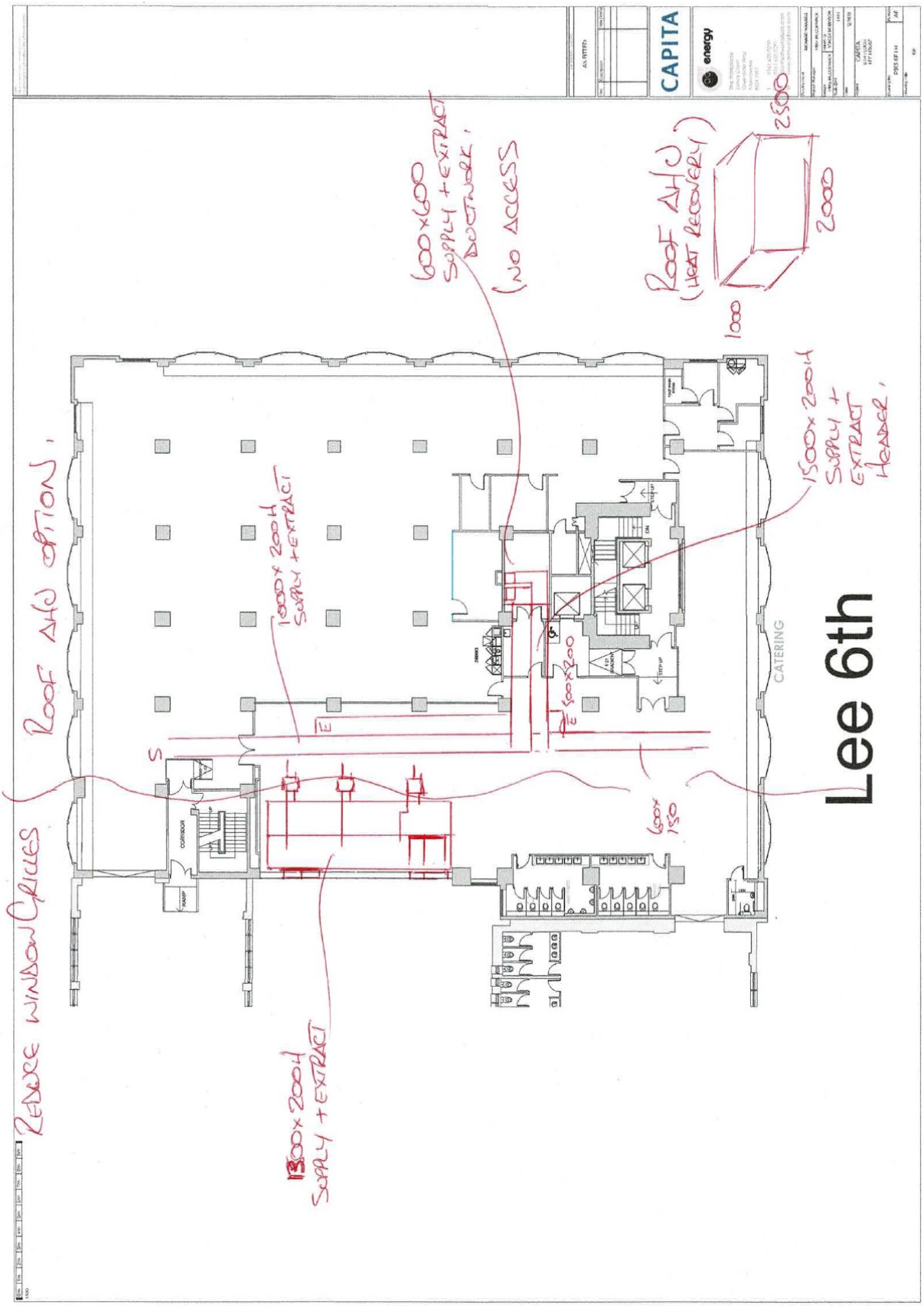
Richard,
Please find aUached marked up drawing what would be required if changes were made to venKlaKon to 4th & 5th floor lee house.

Firstly by using the AHU route, we would require a 600mm2 supply & 600mm2 extract in the only free riser that would accommodate that size of duct, unfortunately it is only a sha_ with no access at each floor level. The duct are shown indicaKvely and there maybe other services in that locaKon. Although we are showing in that riser, I would say it would be near impossible to get the ductwork onto the roof as the plantroom above is highly congested above the riser sha_. The size of ahu required as shown would most likely have to go on roof where all the plant was moved from recently.
Internally, the ductwork needs to be as wide as shown to not affect head height, although the main ductwork of the riser is 50mm deeper than exisKng plans. Trying to co-ordinate this size of ductwork with all the other services, would not work and would mis align all services.

Reducing the window grilles will mean we would require supply & extract header ducts, which will run across the full elevaKon of the courtyard. Although you wouldn't see the window grilles, the ductwork would be on view from the courtyard. Each lossnay type venKlaKon would connect into the ducts and distribute from there as originally planned. The lossnay units would have to sit further into the office space affecKng distribuKon ductwork and co-ordinaKon with all services.

The header ducts would have to run under the beams adjacent to windows, which would again affect head height and co-ordinaKon in that area with all services.
We would possibly also have noise issues trying to introduce the amount of required air through a smaller free area, internally & externally.

Ideally the installaKon would be as installed on 6 & 7 to date. Should you require any further informaKon please let me know. Regards,
Mike McCormack | Contracts Manager


Lee 6th
CATERING
CORRIDOR
RAMP
ROOF AHU OPTION.
REDUCE WINDOW CIRCLES
1000x200H SUPPLY + EXTRACT
1300x200H SUPPLY + EXTRACT
600x600 SUPPLY + EXTRACT DUCTWORK.
(NO ACCESS
1500x200H SUPPLY + EXTRACT HEADER.
600x150
500x200
ROOF AHU (HEAT RECOVERY)
1000
2000
2500
CAPITA
energy

D – Acoustic Report