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39 Great James Street

125 DOC B36 - Variation of Conditions

September 2024

Contents

Introduction

This document outlines the proposals to vary conditions related to no. 39 Great James Street under listed building consent 2016/6155/L, which is related to planning consent 2016/5824/P. The condition to be varied is Condition 3, which relates to the development being carried out in accordance with the approved drawings.

The approved drawings:

'125 P 00 Rev C, 125 P 01 Rev B, 125 P3 02 Rev C, 125 P3 10 Rev C, 125 P 11 Rev B, 125 P 25 Rev B, 125 P3 26 Rev C, 125 P3 27 Rev C, 125 P 28 Rev B'

are to be superseded by the revised drawings:

'125 P4 00 Rev D, 125 P4 01 Rev C, 125 P4 02 Rev C, 125 P4 10 Rev D, 125 P4 11 Rev C, 125 P4 25 Rev C, 125 P4 26 Rev D, 125 P4 27 Rev D, 125 P 28 Rev C'.

The changes proposed are as follows:

- Installation of air conditioning system with 2no. condensing units located at main roof level and 1no. condensing unit above the rear basement and ground floor extension.
- Change from structural glazing to timber frame glazing and insertion of doors to basement and ground floor rear extension lightwell.
- Change of external finish of main roof terrace and ground floor patio from timber decking to paving slabs.
- Change of rainwater goods to roof of rear extension from hidden gutter to external gutter.

Air Conditioning System

Introduction

The proposal seeks to discretely install air conditioning to the basement, ground and third floor, with 2 no. condensing units being located to the existing rear outrigger roof and 1 no. unit above the proposed ground floor rear extension.

We have identified local planning precedents, set out the proposed design approach, outlined a method statement for installation of the air conditioning system and, conducted a review of and responded to relevant policy.

Planning Precedents

We have identified 3 no. precedent planning applications for the installation of air conditioning to houses on Great James Street. These are labelled below.

Two applications (for nos. 15 and 30) were granted after the introduction of the Camden Local Plan (2017) and Supplementary Planning Guidance “Energy Efficiency & Adaptation” (2019). The third application for no. 40 was approved in 2017.

The updated (2021) supplementary guidance document largely follows the same content with respect to active cooling guidance, which we have referred to on page 8 of this document.

Context

No. 39 Great James Street is an 18th century Grade II* listed Georgian townhouse. The house is oriented East-West meaning the windows receive low angle sunlight, which makes it difficult to prevent solar gain. Furthermore, any capacity to install passive shading measures such as external blinds or low-g glass to mitigate overheating would not be appropriate due to the building's Grade II* listed status.

Bedrooms are located on the third (top) floor level, which is especially prone to overheating due to limited shading from neighbouring dwellings.

The basement and ground floor rear extension hosts the cinema room and kitchen respectively. There is a higher likelihood of these spaces overheating due to their uses - cooking in the kitchen and higher occupancy in the cinema room.

The need for air conditioning has been established by installations on neighbouring terraces, which suffer from similar overheating issues.

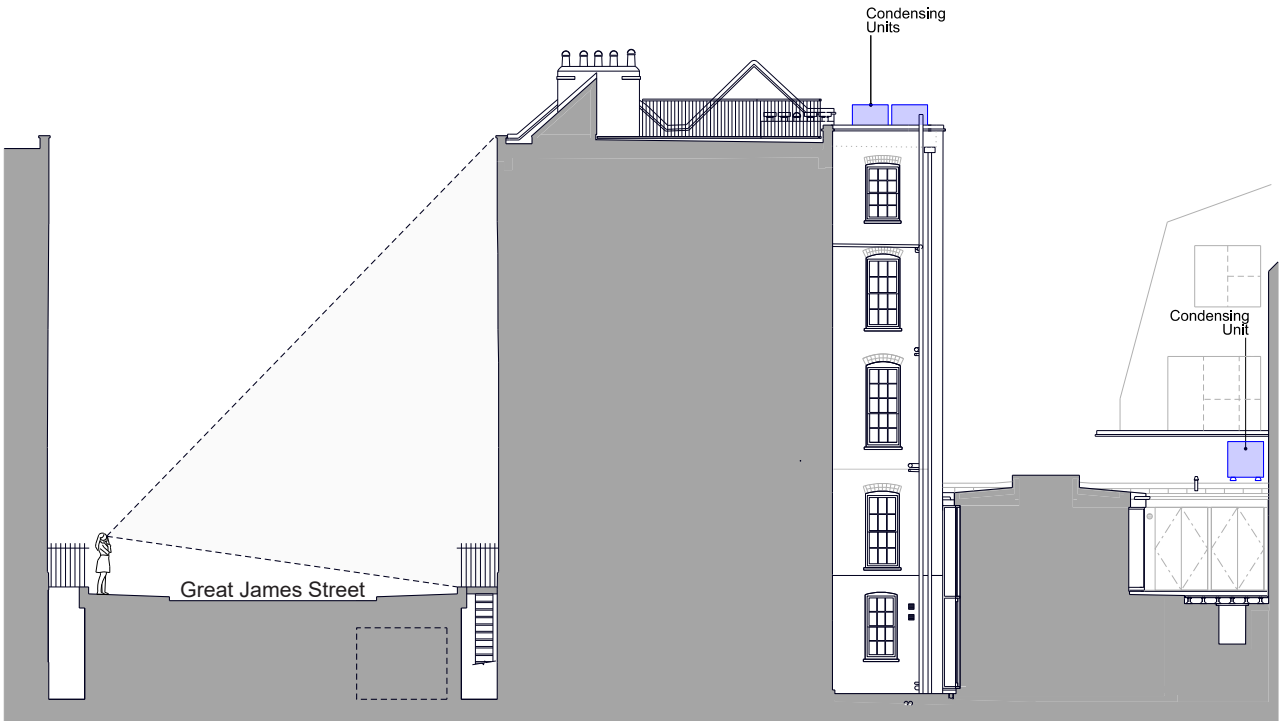
Air conditioning units to roof of No.40 Great James Street

Design Approach

3no. air conditioning units have been proposed, with the intention of avoiding running ductwork through the listed building:

- 2no. condensing unit is located on the proposed roof of the existing rear outrigger, which serve the third floor. The main roof is due to be replaced and is non-original in form. Therefore, there is no impact on historic building fabric.
- 1no. condensing unit is located on the proposed roof of the bike store and serves the basement and ground floor rear extension. The rear extension and bike store is all new building fabric. Therefore, there is no impact on historic building fabric.

None of the units are visible from the public realm and thus will result in a negligible impact on the historic conservation area context.



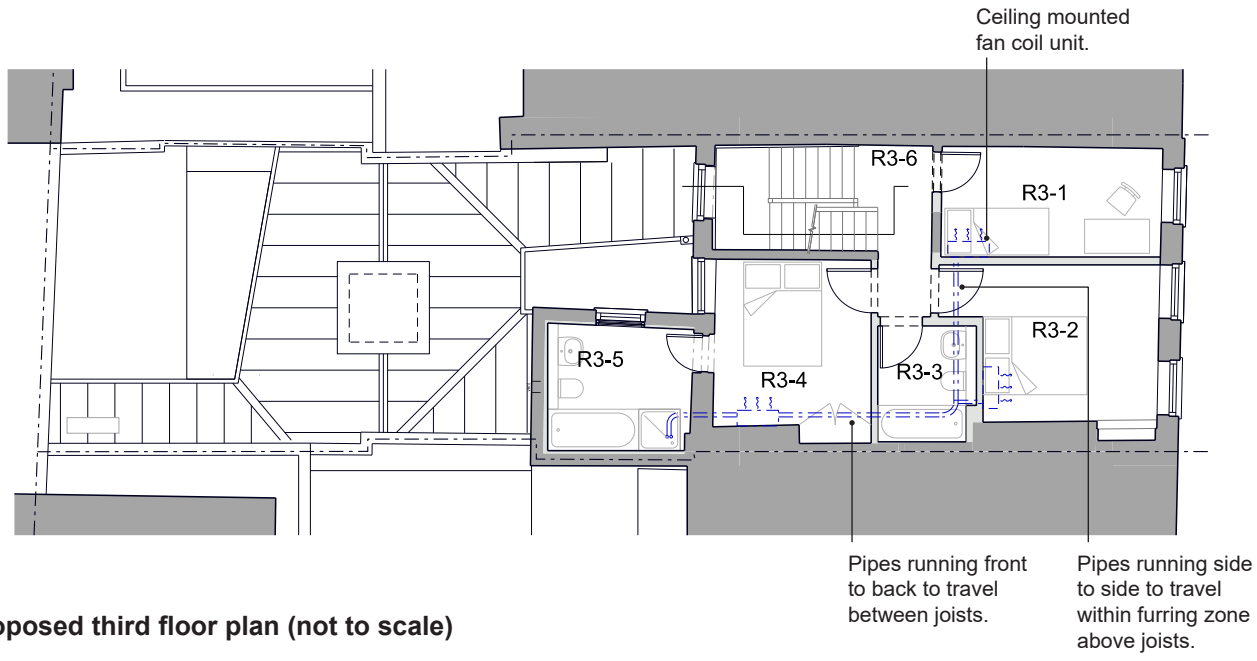
Proposed section showing condensing unit location (not to scale)

Method Statement

Set out below is the proposed method statement for installation of the air conditioning system within the existing building.

1. **Remove ceilings as necessary to access joists.**
   The existing plasterboard ceilings at third floor level, which are not historic fabric, will need to be removed to allow for the installation of the air conditioning insulated pipework. Some of the joists are already exposed.
2. **Installation of insulated pipework.**
   The insulated pipework will be run within the joist zone. The third floor joists are not original as evidenced by saw marks (see adjacent image).
3. **Re-installation of ceilings.**
   Ceilings and walls will be re-lined with plasterboard.
4. **Installation of fan coil units.**
   Ceiling mounted fan coil units will be installed in R3-1 (Bedroom 4), R3-2 (Bedroom 5) and R3-4 (Bedroom 6).

Modern third floor ceiling joists with visible saw marks



Proposed third floor plan (not to scale)

Planning Policy (Cooling Hierarchy)

Set out below are responses to show compliance with the Cooling Hierarchy, which is referred to in 'Energy Efficiency & Adaptation CPG'. Each point has been responded to separately in blue.

Energy Efficiency & Adaptation CPG (January 2021)

"3.14 Local Plan Policy CC2 discourages active cooling (air conditioning). Air conditioning will only be permitted where thermal modelling demonstrates a clear need for it after all preferred measures are incorporated in line with the London Plan cooling hierarchy (please see Chapter 10 for further information on overheating and the cooling hierarchy). The following passive measures should be considered first. If active cooling is unavoidable, applicants need to identify the cooling requirement and provide details of the efficiency of the system."

"10.7 All developments should follow the cooling hierarchy outlined below, to reduce the risk of overheating and subsequent reliance on active cooling:

1. Minimise internal heat generation through energy efficient design, considering the following:

- *Layout and uses: locate any spaces that need to be kept cool or that generate heat on cooler sides of developments.*

The existing building is Grade II* listed which limits opportunities to factor in passive design principles. However, the proposed basement and ground floor rear extension has been designed so that heat generating spaces such as the cinema and kitchen are located within the shaded yard area to the rear of the existing building.

- *Reducing heat gains e.g. including low energy lighting.*

Proposed lighting will be low energy LED lighting.

- *Seal/ insulate heat generating processes.*

There is a proposed new boiler and hot water tank. The hot water tank and pipework will be appropriately lagged.

- *Reduce the distance heat needs to travel and insulate pipework.*

The design of the air conditioning system minimises pipe runs.

- *Design layouts to promote natural ventilation e.g. shallow floor plans and high floor to ceiling heights.*

The floor plans and ceiling heights are largely dictated by the existing structure.

- *Consider evaporation cooling which cools air through the evaporation of water.*

As mentioned in the Cooling Hierarchy Statement within the planning application for no. 30 Great James Street (ref. 2019/6233/P): "This approach could only be adopted via larger mechanical ventilation and air conditioning system which is unlikely to fit within the existing building at 30 Great James Street."

- *Consider 'free cooling' or 'night cooling', which uses the cooling capacity of ambient air to directly cool the space.*

The proposed roof access stair door can be opened to facilitate stack ventilation; however, there are security concerns with allowing this door to remain open for extended periods of time.

2. Reduce the amount of heat entering a building in summer:

- *Consider the angle of the sun and optimum daylight and solar gain balance.*

This is an existing building so cannot be changed.

- *Orientate and recess windows and openings to avoid excessive solar gain.*

The position of the windows to the existing building cannot be altered due to the Grade II* listed status.

- *Consider low g-values and the proportion, size and location of windows.*

Due to the Grade II* listed status it would not be appropriate to use low G-value or 'solar' glass, which has a 'reflective' appearance.

- *Make use of shadowing from other buildings.*

N/A

- *Include adequate insulation.*

The proposal features insulation where possible within the ground floor and basement rear extension and within the proposed main roof; however, it is not possible to insulate the walls of the existing building due to the presence of timber panelling.

- *Design in shading: e.g. include internal courtyards, large shade-providing trees and vegetation, balconies, louvers, internal or external blinds, and shutters.*

The proposed basement and ground floor rear extension features a small internal courtyard area; however, heat gain will primarily be generated by occupants in this part of the house, instead of through solar gain.

Upstairs, installation of external blinds and louvres is restricted for the existing house due to Grade II* listed status. Internal blinds are significantly less effective at reducing solar gain.

- *Make use of the albedo effect (use light coloured or reflective materials to reflect the sun's rays).*

Materials used have been selected to enhance and improve the historic context of the existing building. The zinc roof to the rear extension will be somewhat reflective.

- *Include green infrastructure e.g. green wall, green/blue roofs and landscaping, to regulate temperatures.*

N/A

- *Reduce the amount of heat entering a building in summer.*

Refer to previous points.

3. Manage the heat within the building through exposed internal thermal mass and high ceilings, (see 'Thermal performance' Chapter 3 of this CPG).

The floor in the basement of the rear extension is to be exposed concrete; however, the existing building largely features timber panelling internally and thus has limited thermal mass. Ceiling heights are largely dictated by the existing building.

4. Passive ventilation:

- *Natural ventilation, openable windows, the 'stack effect' system (see Chapter 3 of this guidance).*

There are openable sash windows to the existing house and openable windows and doors to the basement and ground floor rear extension.

- *Design layouts to promote natural ventilation e.g. shallow floor plans and high floor to ceiling heights.*

Refer to previous points.

- *Consider evaporation cooling which cools air through the evaporation of water.*

Refer to previous points.

- *Consider 'free cooling' or 'night cooling' which uses the cooling capacity of ambient air to directly cool the space.*

Refer to previous points.

5. Mechanical ventilation:

- *Ensuring the most efficient system possible.*
- *Consider mechanical ventilation with heat recovery.*

A decentralised MEV system is proposed to minimise duct runs throughout the existing building, which mechanical ventilation with heat recovery (MVHR) would require. For an MVHR system supply ducts would be required to all habitable rooms and extract ducts would be required to all wet spaces; this would be highly intrusive and difficult to accommodate without impacting historic fabric of the listed building.

6. Active cooling:

- *Ensuring they are the lowest carbon options.*
- *Ground Source Heat Pumps and Air Source Heat Pumps can be used in reverse to provide cooling to buildings.*
- *Water based cooling systems also reduce the need for air conditioning by running cold water through pipes in the floor and/or ceiling to cool the air.*

Due to the lack of existing insulation and capacity to install insulation to the existing listed building, as well as the lack of opportunity to upgrade the windows, heating the building via an ASHP would not be economically viable. As such heating is proposed via a boiler (as per planning application 2016/5824/P) with cooling sought to be provided by condensing units.

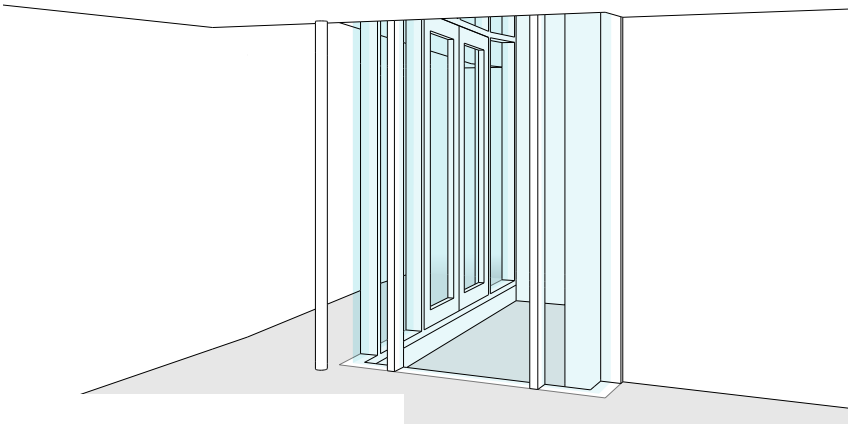
Changes to Rear Extension Lightwell

It is proposed to change the structural glazing to the rear extension lightwell to timber frame glazing and introduce a pair of doors at basement level between the lightwell and RB-5 (Cinema).

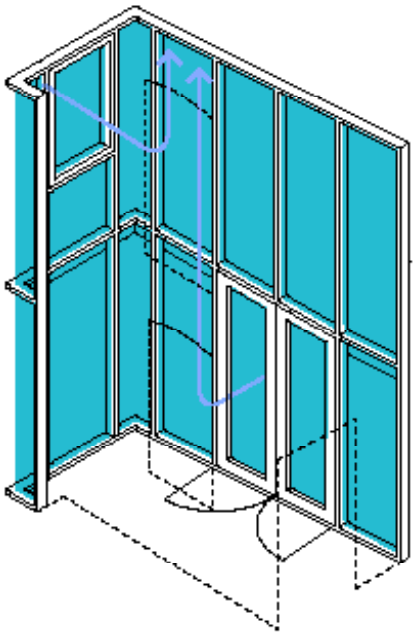
The aim of the proposal is to allow the rear extension to be more harmonious with the existing main house; the timber framed glazing would be more in keeping with the existing timber framed sash windows.

Further to the above, the smaller panes could be carried through the house, whereas the structural glazing (as currently proposed) would need to be carried over the building, which is an avoidable health and safety risk.

The proposed doors will increase ventilation to the basement and improve the usability of the lightwell space as an internal courtyard.



basement rear room (RB-5 Cinema)



Ventilation

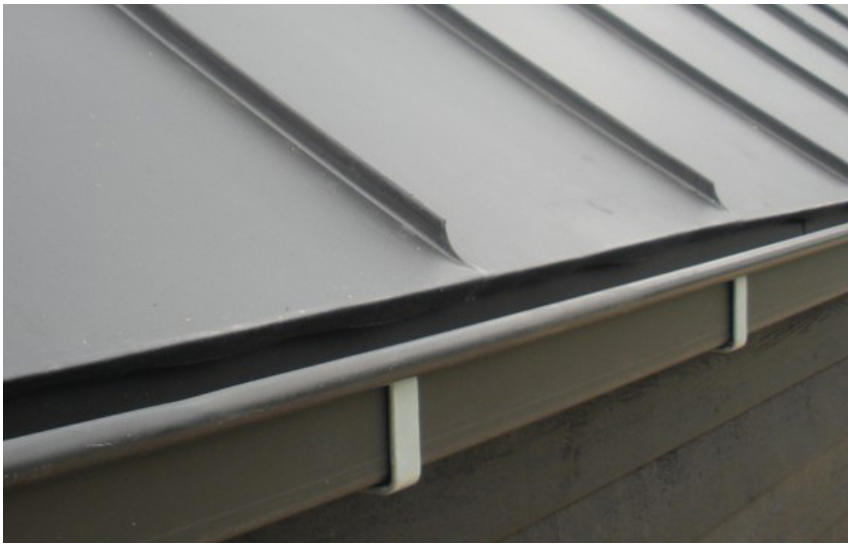
Axonometric view of lightwell

Change to Roof Terrace & Patio External Finish

The approved proposal (ref. 2016/5824/P) features timber decking to the main roof terrace and ground floor patio. However, building regulations Part B - Fire Safety stipulates that the roof should have a covering classified as B_{ROOF} (t4), on a substrate or deck of a material rated A2-s3, d2 or better. This means that the external surface to the roof structure must be a non-combustible finish. Therefore, paving slabs are proposed.

Change to Rear Extension Roof

An external zinc gutter is proposed to the rear extension roof in place of the previously proposed internal gutter. This will result in a traditional appearance and will be more robust as the rainwater goods will be located outside of the building envelope.



External zinc gutter