

43-47 Mecklenburgh Square Goodenough College

Window Upgrade Proposal Report - 17.01.24
742-MICA-GC-ZZ-RP-A-78015-PL1

MICA

REV	DETAILS	BY	QA	DATE
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INTRODUCTION



1.1 APPLICATION BACKGROUND

Applications for Planning permission and Listed Building Consent in association with the refurbishment of 43-47 Mecklenburgh Square were submitted to Camden on 07.08.23. Following this, meetings on site have been carried out on 05.10.23, 11.01.24 and 18.01.24 to review proposals, particularly in relation to the proposed window upgrades forming part of the Planning and LBC submissions.

Listed Building Consent

Application reference 2023/3243/L

Planning Application

Application reference 2023/3242/P

These applications include proposals for elements of the refurbishment works as part of a wider conservation and sustainability strategy. See above axonometric sketch and key below to define application split.

LISTED BUILDING CONSENT

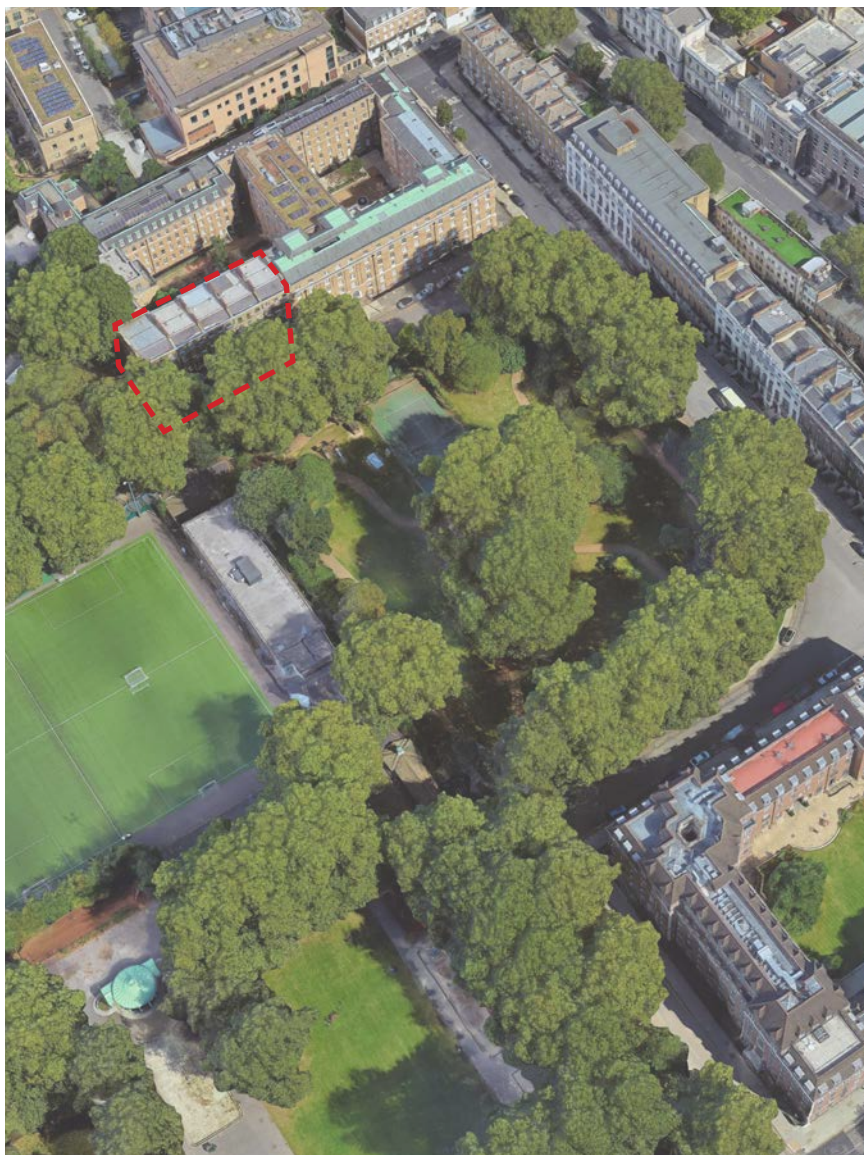
Includes the following elements:

- Internal works - new layouts and flat arrangements
- Thermal upgrades to windows and external walls
- Approach to heritage features
- External repairs to walls, roofs and other external features

PLANNING APPLICATION

Includes the following elements as part of an holistic sustainability strategy:

- Window upgrades
- Installation of Air Source Heat Pump system in garden of house 46
- Vents in facades for new services



Aerial view of Mecklenburgh Square looking North



Mecklenburgh Square

1.2 LOCATION

The project includes five terraced houses, numbers 43-47, located to the North of Mecklenburgh Square and to the West of William Goodenough House. With the Coram Campus and Coram's Fields to the west of the gable end of House 47, and William Goodenough House to the east, these five houses are separate from the rest of the surrounding Georgian terraces.

The location is in the Bloomsbury conservation area, within Sub-Area 12 - Coram's Fields / Brunswick Centre - and the houses are Grade II listed. Previously forming part of a longer terrace on the north side of Mecklenburgh Square, the houses are now connected to the later addition of William Goodenough House - which incorporates student accommodation and social facilities also for Goodenough College. All five houses are currently in residential use.

For further history of the houses and wider College site, see MICA Conservation Building Report [742-MICA-GC-ZZ-RP-A-78010-PL1]. This details the history of the houses along with significance of the buildings as a whole and individual components following various iterations of refurbishment. Accompanying this report, a full condition survey was carried out and, to review potential options for window improvements, all windows were surveyed to determine their current condition and inform the proposals described in more detail later in this report.

2.0 CONTEXT



South elevation of 43-47 Mecklenburgh Square (2022)



Fig.1



Fig.2



Fig.3



Fig.4

2.1 MECKLENBURGH SQUARE WINDOW STYLES

During the full refurbishment works of Houses 43-47 in the 1980s, all windows were replaced with single glazed timber sash windows, in keeping with the age of the buildings. In the replacement of the windows care was taken to replicate window bar profiles internally. This led to a variation across the houses - see images above which show an excerpt of some of the window bars. Record drawings from the 1980s refurbishments show that these vary in size from 20mm width to 22mm width - Fig.3 above shows one of the thinnest bars in House 43 which has been measured at 20mm. Other measurements taken on site show that there is a wider variation - Fig.4 shows an external section of window bar measuring 24mm.

Around Mecklenburgh Square, there are a variety of window types shown on the opposite page. To the east of the Square are the remaining Georgian townhouses, similar in scale to 43-47. These are broken up with rendered sections of the terrace which have different window forms and arrangements. There is evidence of some window replacements with the standard 2x 6 panel arrangements omitted to form large format single paned sash windows.

Adjoining 43-47 on the north of the Square is William Goodenough House which has timber sash windows with a different glazing panel format and overall proportions are significantly different, as is the case with London House on the south of the Square.

With this variation, adjoinments and adjacencies, Houses 43-47 are read as a separate set piece within the Square - a series of five Georgian townhouses that are viewed independently.



3.0

PROPOSALS



3.1 STATEMENT OF NEED

Following years of steady decline, the houses are currently in a poor state of repair and without intervention are likely to deteriorate further. The College recognises the heritage value of these buildings; a key part of the rich and varied history of Mecklenburgh Square, and as such, wishes to carry out extensive refurbishment works to secure their long term use and to ensure that the heritage assets are protected.

Offering affordable accommodation in a central location, the houses play a key part in the academic life of the area and should continue to do so. This will only be possible if they are brought back to life and up to modern standards of compliance. Part of this requires the climate emergency to be addressed through an holistic sustainability strategy that considers both the spatial and the thermal efficiency of the houses, considering them as part of a wider whole.

Given the size of the glazing, particularly on ground and first floor levels, the windows play a significant role in the overall heat loss currently and, as such, with a move towards a more sustainable heating strategy, it is imperative that improvements can be made.

A full window condition survey was carried out in May 2023 which showed that, over time the windows have suffered from weathering and general deterioration. Timbers are rotting, sashes are loose, glazing panels broken and sash cords unconnected. Internally, some shutters are still in use but many have been painted shut and handles are missing leaving them unusable. The level of deterioration visible is consistent across all houses which, along with the construction record drawings, gives confidence that all windows are from the 1980s refurbishment works and none are original Georgian building fabric.



3.0

PROPOSALS



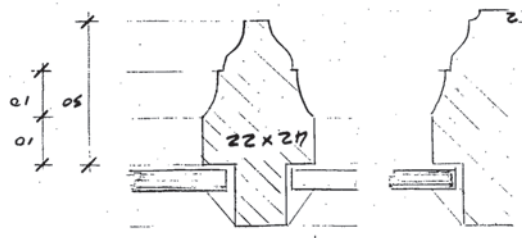
3.2 HOLISTIC SUSTAINABILITY STRATEGY TO ADDRESS CLIMATE EMERGENCY

The project brief outlined key aspirations for the team to take a sustainable approach, prioritising environmental and wider sustainability in the design, materials and fittings to the fullest extent possible whilst maintaining a sensitivity and consideration to the heritage settings and listed assets. In addition, the Climate Change Act 2008 requires that the UK reaches Net Zero by 2050 and Camden Council declared a Climate Emergency in 2019 committing to the target by 2030, creating a Climate Action Plan which, in part calls for all buildings to be “energy efficient, comfortable and fit-for-purpose for a zero-carbon future.”

The refurbishment of 43-47 Mecklenburgh Square is being carried out to increase the life of the houses, improving their functionality with a long term view. Part of this requires an holistic sustainability strategy to be in place which considers efficiency, future maintenance and cost in use as well as making it easier for the occupants to live and behave more sustainably in the houses.

With this in mind the proposals forming part of the holistic sustainability strategy include the following points:

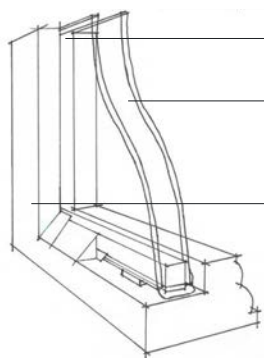
- 1. Wall and roof upgrades** - all external walls and roof to be insulated to improve thermal efficiency of houses.
- 2. Window upgrades** - upgrades to provide improved thermal efficiency
- 3. Airtightness** - perimeter seals introduced to all windows and doors.
- 4. Fire and acoustic upgrades** - all separating floor and walls to be upgraded
- 5. Energy** - gas boilers to be removed and replaced with an Air Source Heat Pump system located in garden of 46.
- 6. Biodiversity** - gardens to be replanted to improve biodiversity of the site.
- 7. Wellbeing** - internal arrangements of houses adjusted to provide garden access to all residents.



Example of window bar record drawings - 22mm width



Existing window bars and visible frame deterioration



Spacer bar coloured black to match window frames

10mm thick thin profile double glazing unit offering improvement from 5.1W/m²K to 1.9W/m²K

Surrounding window frame sizes to remain as existing

Sketch showing thin profile double glazing
Example - Histoglass HD10 (10mm unit)

Smaller windows at upper levels - thermal improvements to be coupled with improvements to wall insulation to reduce heat loss

Localised repairs to be made to external window reveals and cills. Internally all timber reveals and shutters to be retained and refurbished

Format of windows - pane numbers / arrangement, frame size and window bar sizes to be maintained to retain existing appearance while offering significant thermal advantages

Fanlights over main entrance doors to be retained as existing with localised repairs like-for-like



Excerpt from proposed South elevation

The existing houses are thermally inefficient, largely in part to the size of the single glazed windows which contribute to high levels of heat loss. The windows are a significant feature of the facade and add to the heritage value of the houses although the frames, sashes and glazing are later additions - replaced in the 1980s works. The single glazed units offer a U-Value of 5.1 W/m²K. Lack of maintenance has also led to high levels of deterioration throughout.

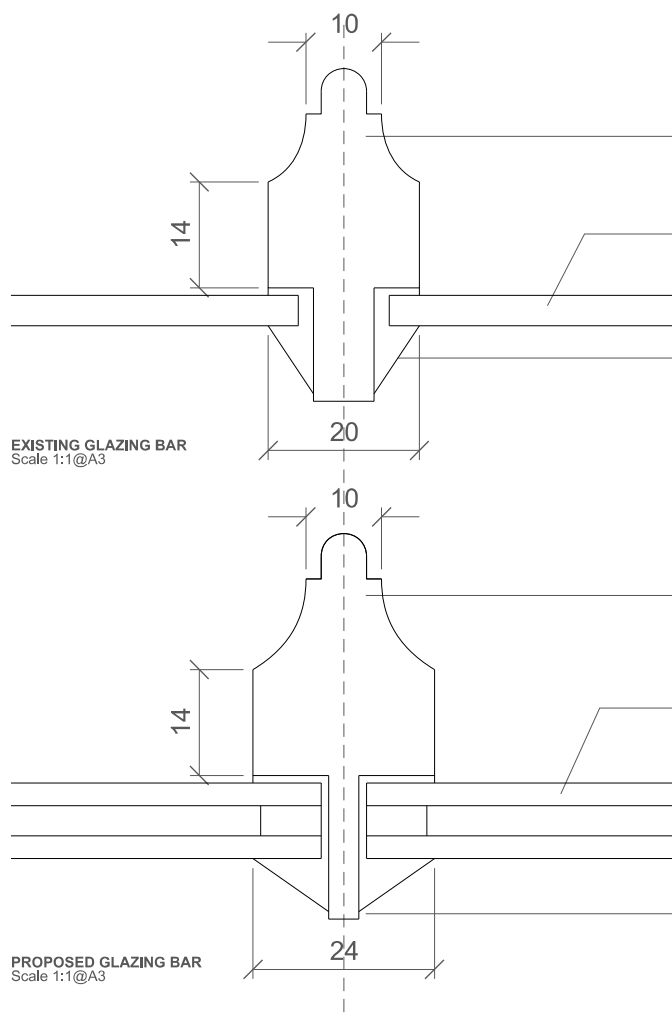
As part of the holistic sustainability strategy, to improve the thermal efficiency of the buildings, it is proposed that the sash windows are fully replaced, incorporating thin profile double glazing to improve the U-Value to 1.9 W/m²K, an improvement of 63%. In addition, new draught seals will be added, increasing air-tightness and further reducing heat loss.

In the design development stages, MICA worked closely with the services and energy consultants to review options for thermal upgrades. At this point calculations were carried out to assess the viability of a move away from gas to a sustainable ASHP system while retaining some of the existing glazing - primarily the large windows on ground and first floor levels. However, the potential to add insulation to the limited wall areas internally was low and as such the percentage improvement to the thermal efficiency was not great enough to achieve the required efficiency of the system.

Only on this basis was the proposal developed to replace all windows to ensure that the buildings work and last as sustainably and effectively for their residents as possible. A sensitive approach will be taken to the replacements, ensuring that existing window panel arrangements, sash frame sizes and window bar profiles are followed.

3.0

PROPOSALS



House 45 - model of proposed window bar against existing



Existing example showing external width of 24mm - varies

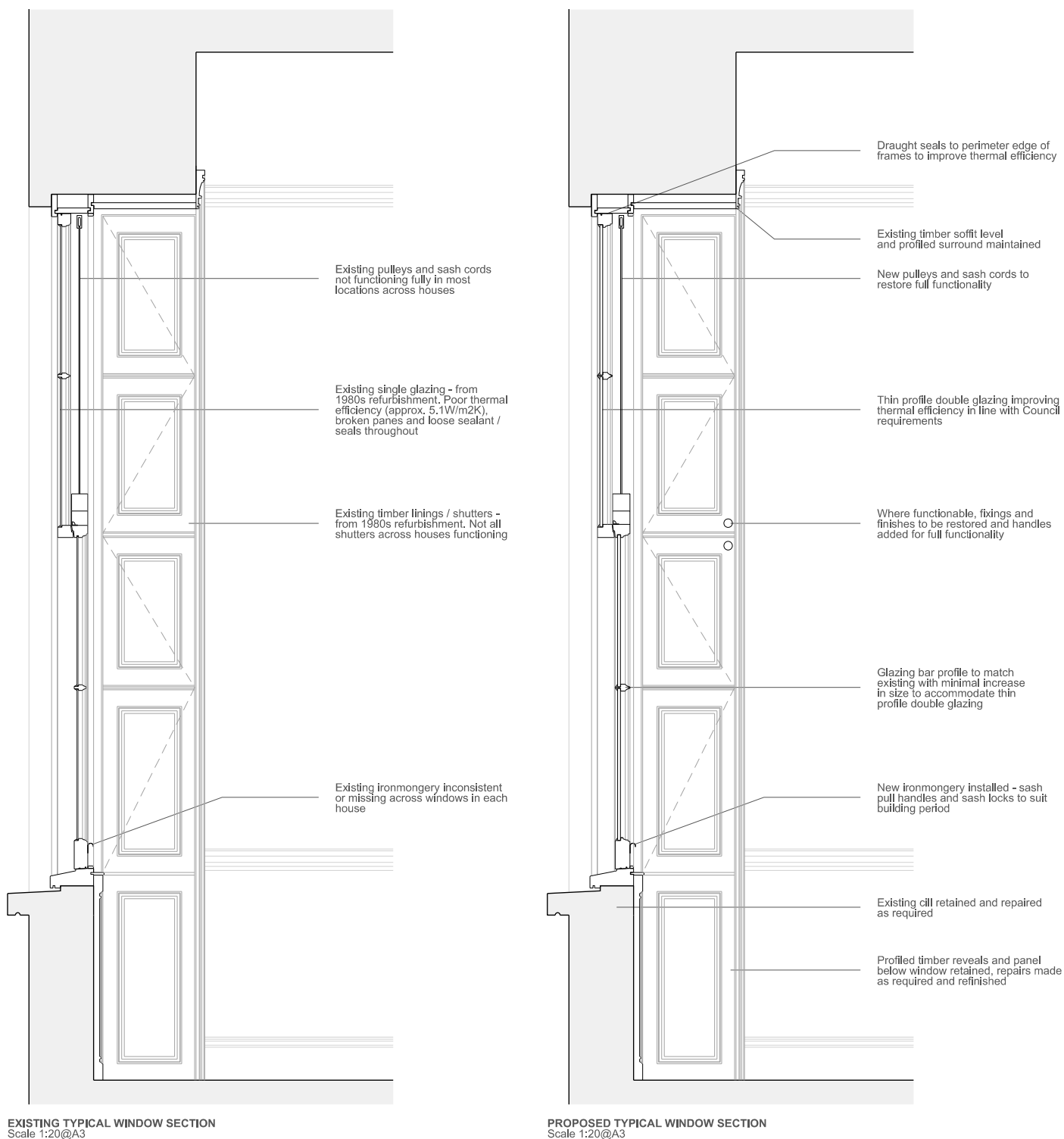
3.3 PROPOSED WINDOW UPGRADES

Based on the historic evidence gathered, the existing condition of the windows and a thorough review of options as to how to improve the thermal efficiency of the houses, MICA have proposed the replacement of all windows with new timber sash windows and thin profile double glazing. Histoglass HD10 has been used as the example glazing type due to its minimal 10mm thickness, efficient weight and overall U-Value improvements that it would offer.

Details have been drawn to test the differences between the thinnest existing glazing bar (20mm thickness) and the new proposed window bar thickness of 24mm. Due to the requirement to increase the putty from 6mm to 10mm on each side, to minimise the overall width, the externally visible timber would be reduced from 8mm to 4mm. Although the angle of the putty changes, the fact that both the putty and timber are painted black conceals this change. This has been tested through a model, using a sample section of glazing - see photographs above. The model shows that sight lines are only nominally changed and overall thickness variation is not visible across the large proportion of the windows and the facades as a whole.

Internally, the window profiles, as detailed in the 1980s construction record drawings, will be followed to maintain the historic detailing which is the significant aspect of these windows as existing. The internal section depth visible externally will be maintained so as not to impact the visual quality from the street.

Glazing is proposed as float glass - as existing - and colouration will be checked with further material samples to ensure no visible tint.



Internally, the overall depth of the window frame is maintained so as not to impact the timber linings and shutters. These linings also are likely to have been significantly adjusted in the 1980s refurbishment works to accommodate the creation of a cavity to the internal face of the external walls. However, these works were carried out sensitively and the timber linings are of significance to the detail quality of the houses.

Some of the timber shutters are in working order and others have been painted in. Where feasible, these will be refurbished to allow for full use - handles added, paint removed and repaired. Localised repairs will be made to timber linings as required.

The weight of the windows with the thin profile double glazing will still allow for the sashes to function fully, maintaining the visual and historic qualities so important to the life of these buildings.

3.0

PROPOSALS



House 45 - comparison of model of proposed window bar held against existing



House 43



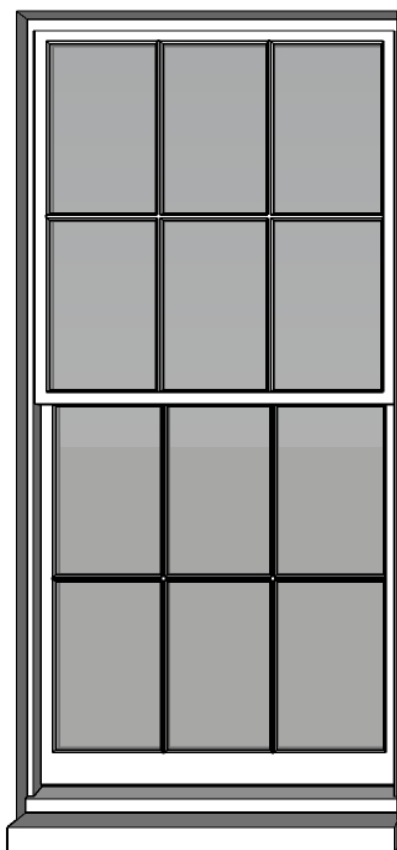
House 46



House 45

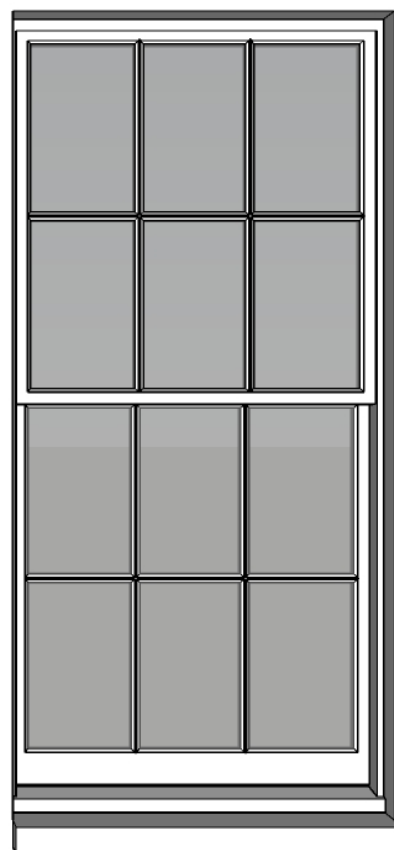
3.0

PROPOSALS



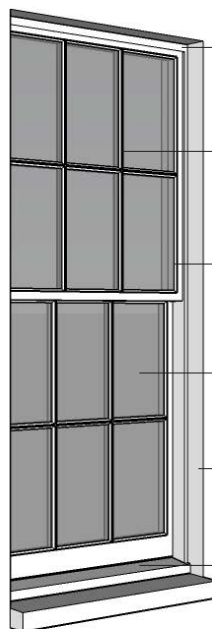
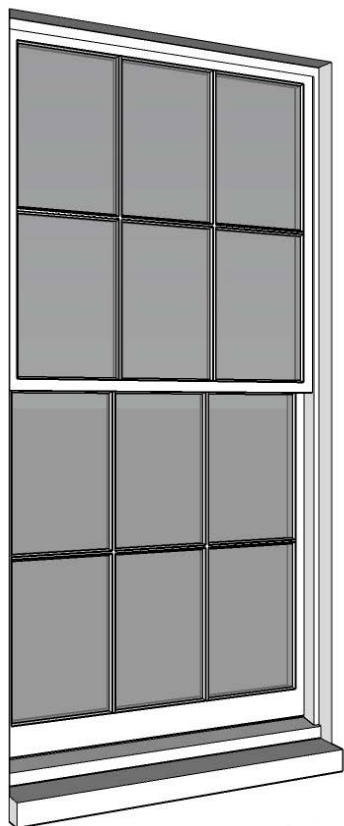
EXISTING

- Windows replaced in late 1980s refurbishment works to houses. Not original fabric but historic profiles followed. Standard float glass.
- 6x6 panel arrangement to each sash on lower floors and 3x3 on upper floors.
- Window bars vary from 20-22mm total width including putty.
- Internal profiles vary across the houses.
- Window bars and putty painted black externally.
- Single glazing - 4mm thick glass.
- U-Value of approx. 5.1 W/m²K. Due to the size of the windows this results in significant heat loss in all rooms.



PROPOSED

- Due to condition of existing window frames, full replacement is proposed. Timber frames with thin profile double glazing.
- Panel arrangement and proportions to be as existing.
- Window bars 24mm total width including putty. This represents a 2-4mm total increase. Nominal across full facades.
- Internal profiles to follow existing profiles.
- Window bars and putty painted black externally.
- Thin Profile Double glazing e.g. Histoglass HD10 - 10mm thick glass.
- U-Value of 1.9 W/m²K, a 63% improvement on the existing conditions, substantially reducing heat loss and energy requirements.



Depth and proportion of surrounding window frame remains as existing

View shows minimal-no visual change between existing and proposed in oblique street view

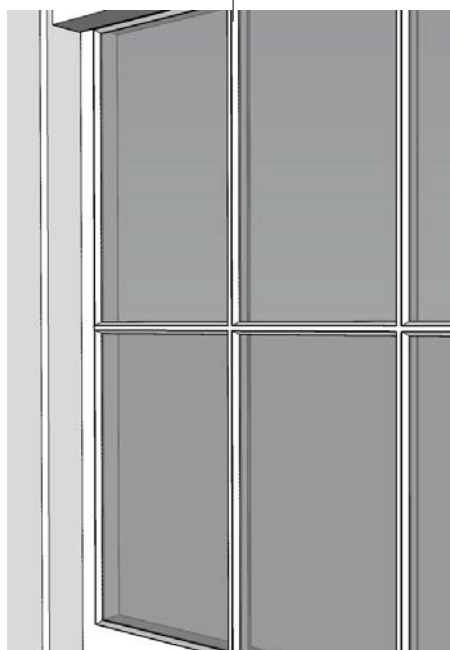
Increased glass thickness concealed within frame profiles. Spacer bar black to match frame and window bar colour

Number and proportion of glazing panels to be replicated as existing. No visual impact

Repairs made to render / brick window reveals to ensure robust detailing to windows. All materials to match existing

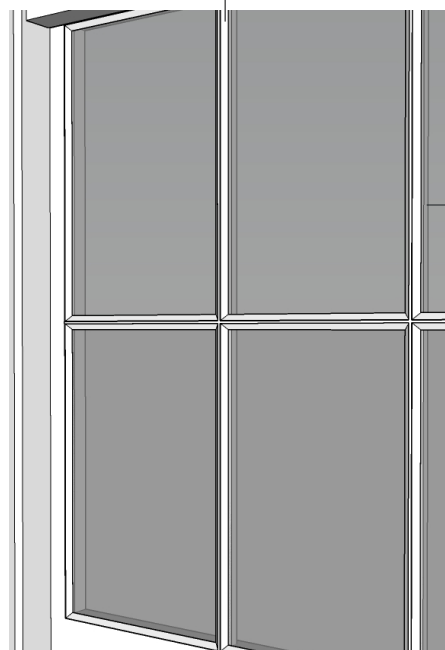
Size of base frame and cill as existing

Window bars - 8mm width central timber + 2x 6mm putty. **Total 20-22mm** (varies across houses)



Window bars - 4mm width central timber + 2x 10mm putty. **Total 24mm** (consistent across all houses)

Sightline of internal window bar profile as existing - see detail on previous page



Existing

Proposed

4.0

SUMMARY





4.1 SUMMARY

Houses 43-47 Mecklenburgh Square have a rich and varied history and, after many alterations over the years, in their current condition stand as a testament to the importance of sensitive retrofit works. MICA and Goodenough College want to see these buildings being used for decades to come and in order for this to be possible, the works carried out now need to be carefully considered and part of a wider holistic approach.

The key considerations that need to be integrated into this approach are a sensitivity to the historic fabric coupled with how the proposals align with national planning policy and local Camden policy on the requirements to address the climate emergency through all proposed works to existing building stock. Only in doing this holistically will the target of achieving Net Zero in the borough by 2030 be achieved.

MICA's architectural and conservation team understand the need for these works to be balanced; for the energy improvements to be made in a way that is not detrimental to the historic nature of the houses and the wider conservation area but rather celebrates the details while allowing for long term residential comfort. By carrying out extensive historic research and condition surveys, the proposals shown in the submitted Design & Access Statement, and elaborated on in this report, meet these requirements, aligning with the latest Historic England guidance on Climate Change and Historic Building Adaptation.

Set apart from the other buildings of historic significance on the square, these five houses stand as a set piece and the proposed new windows would restore a consistency across the facade that has been lost through deterioration and unsympathetic repairs. The improvements made through these works would restore the status of these houses and once again place them at the heart of College life.

