



# **Planning Applications Sub-Committee**

## **PRESENTATION PACK**

**Date:** FRIDAY, 8 DECEMBER 2023  
**Time:** 3.00 pm  
**Venue:** LIVERY HALL - GUILDHALL

4. **CRESCENT HOUSE, GOLDEN LANE ESTATE, LONDON, EC1Y 0SL**  
Report of the Planning & Development Director.
5. **CRESCENT HOUSE GOLDEN LANE ESTATE LONDON EC1Y 0SL - LISTED BUILDING CONSENT**  
Report of the Planning & Development Director.

**Ian Thomas CBE**  
**Town Clerk and Chief Executive**

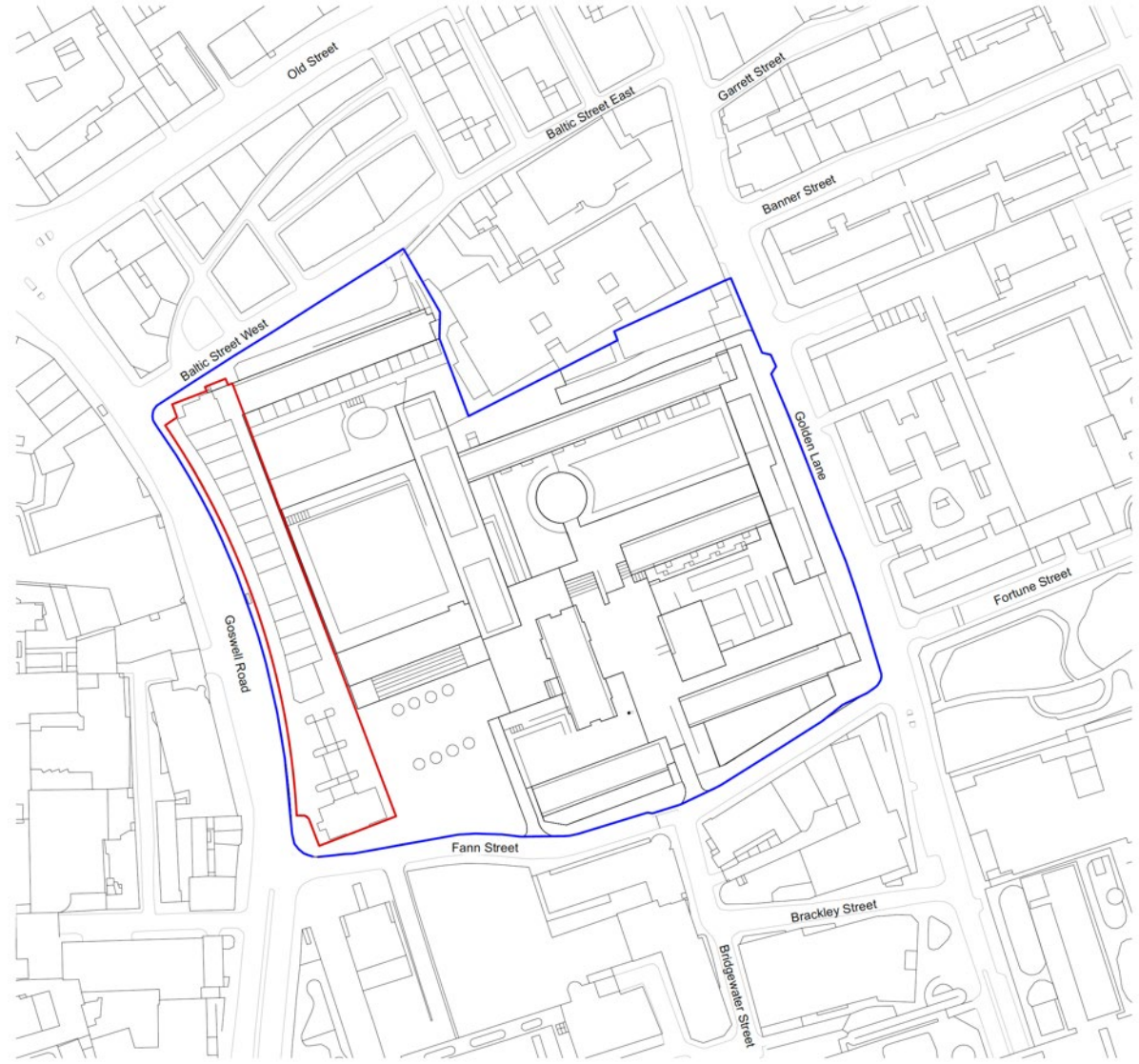
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# **Crescent House**

## **Planning & Transportation Committee**

# Crescent House



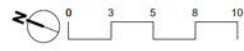
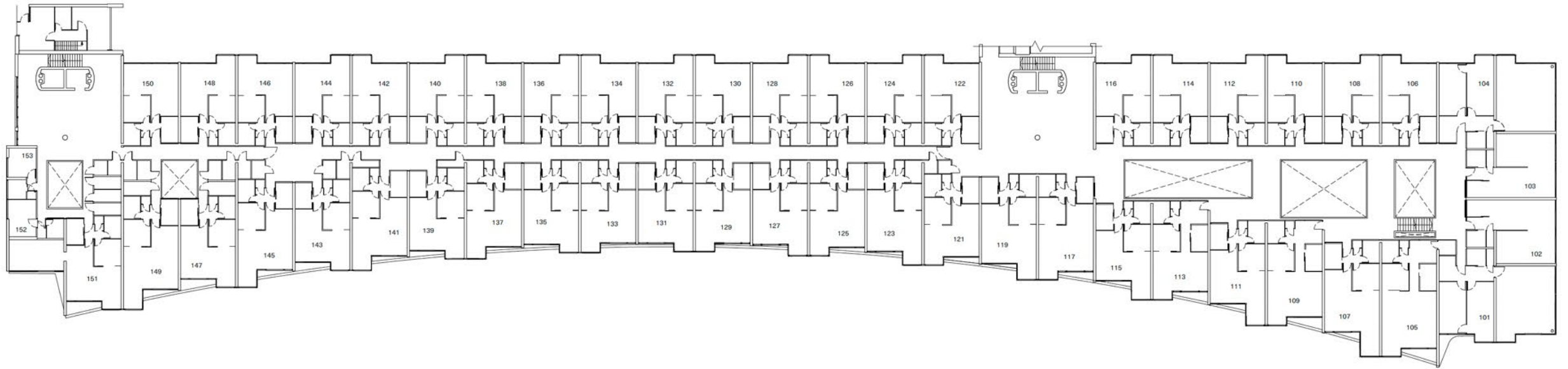
Area pertaining to this application ————

Area within the ownership of the applicant but not part of this application ————



# Site Location Plan

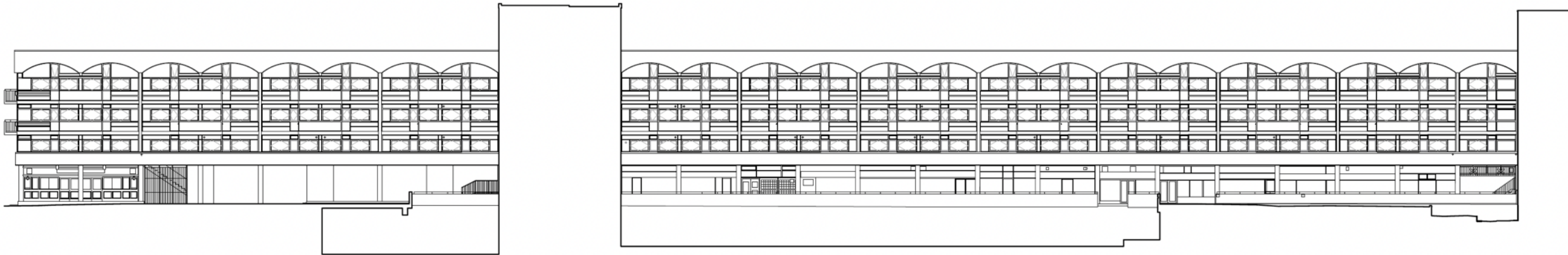




**Typical General Arrangement Plan**



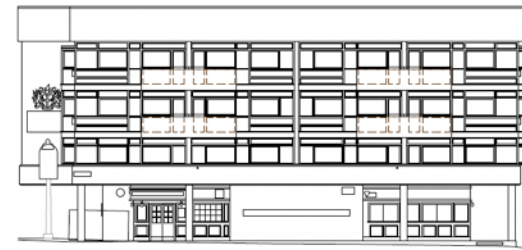
West Elevation



East Elevation



North Elevation



South Elevation

# Elevations





**View of Crescent House from Goswell Road**





**View from Golden Lane Estate**





View from Goswell Road - 1962





**Typical window – 1962**

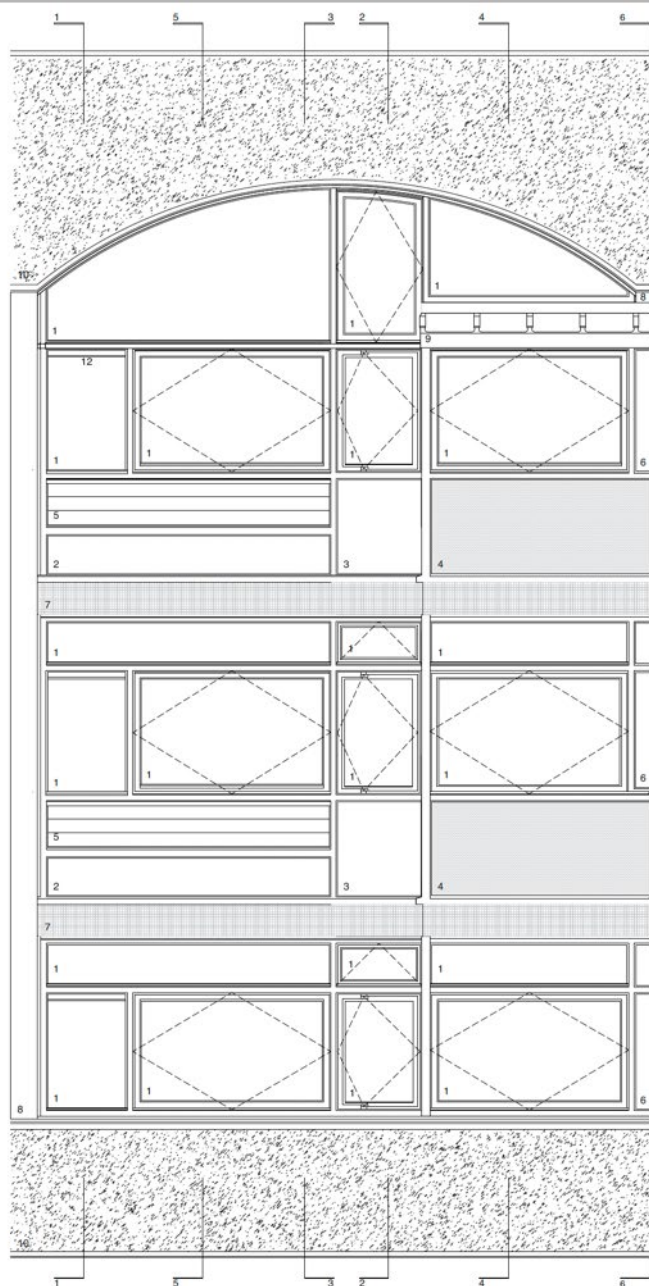


**Typical window – 2023**

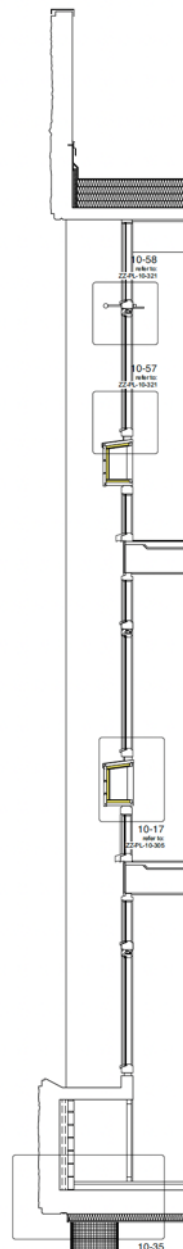




**Window Condition 2023**



External Elevation



Section 1

## Key Proposals:

Repair existing window frames – retaining as much original fabric as possible.

Replace existing single glazing with new Vacuum Insulated Glass (VIG)

Addition of insulation to projecting bookshelf

Replace existing roof covering and add additional thermal insulation

Add rendered insulation to first floor soffit

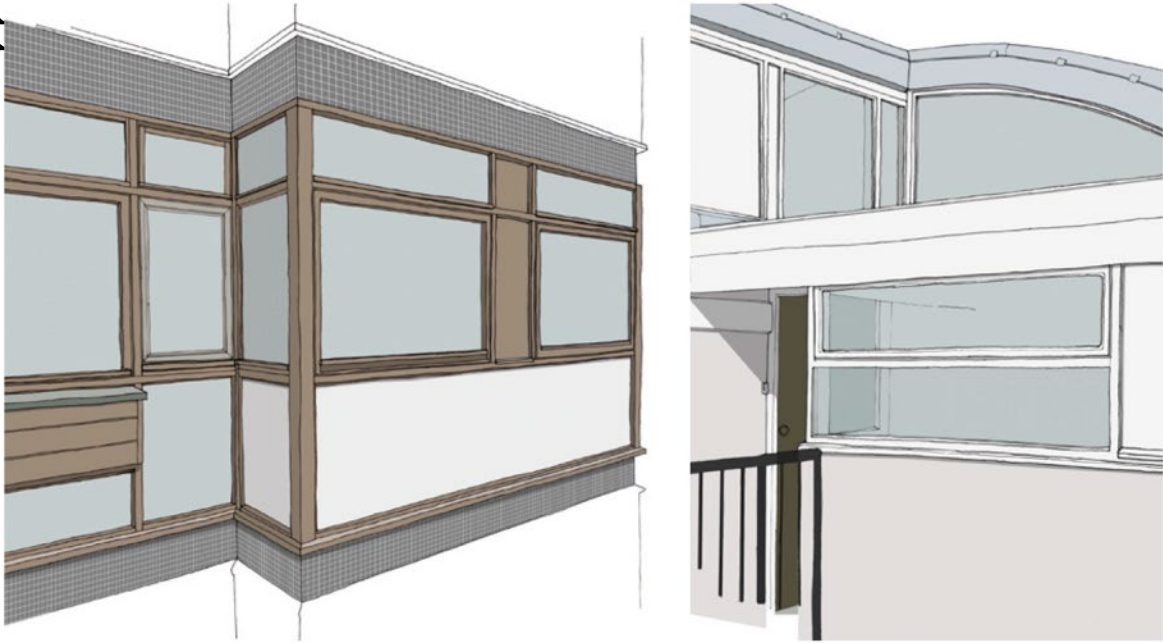
General external decorations





## Types of Window Repairs & Refurbishments

- ① Damaged or decayed wood
- ② Stained/dirty surfaces
- ③ Damage/failure of mosaics
- ④ Historic repairs
- ⑤ Failure of opening casements
- ⑥ Damaged or missing ironmongery/hardware
- ⑦ Poor quality paintwork

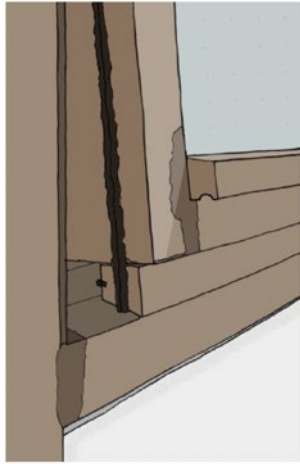


**Repair of Window Frames**

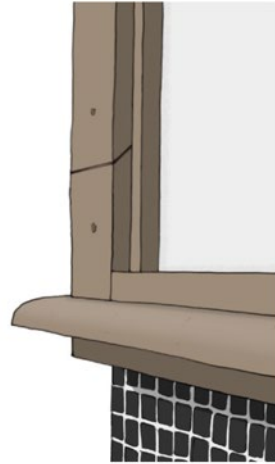
All existing frames will be stripped of paint and stains to allow the condition of the timber to be assessed.

There are three main types of repair proposed, depending on the extent to which the timber is degraded, damaged or missing. Details of these three methods are shown on the right. For further detail refer to NBS Specifications WR-C51 and WR-Z10.

Each type of repair is applicable to both sapele and softwood window frames.



① **Minor Repairs**  
Small areas of degradation will be repaired using two-part resin to infill the damaged area.



② **Small Sections**  
Where there are short sections of degraded timber, a new section of timber will be spliced in.



③ **Extensive Repairs**  
Where the degradation extends along a significant portion of the timber, the whole length will be replaced with a new section of timber. This also applies where a section of timber is missing. Where frames/casements are degraded to such an extent that they cannot be repaired effectively, they will be replaced with a like-for-like replacement.





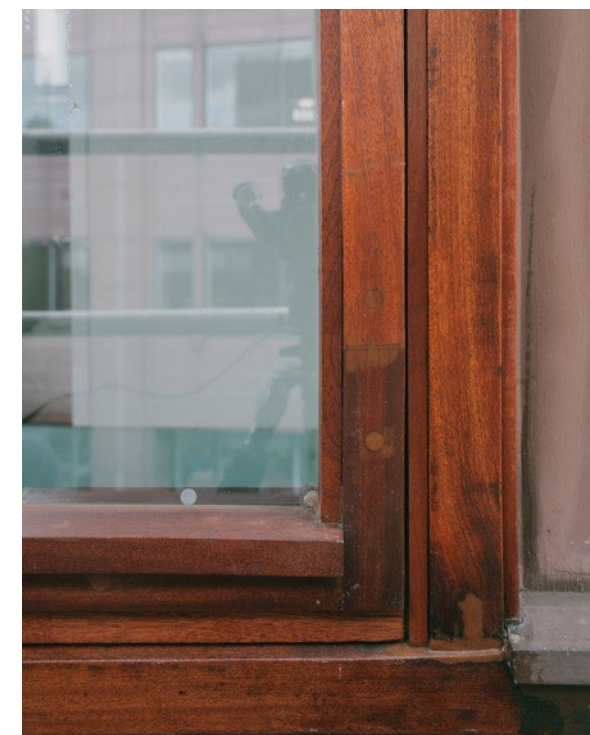
Original Window –  
no obvious rot



Window removed  
from frame and rot  
discovered

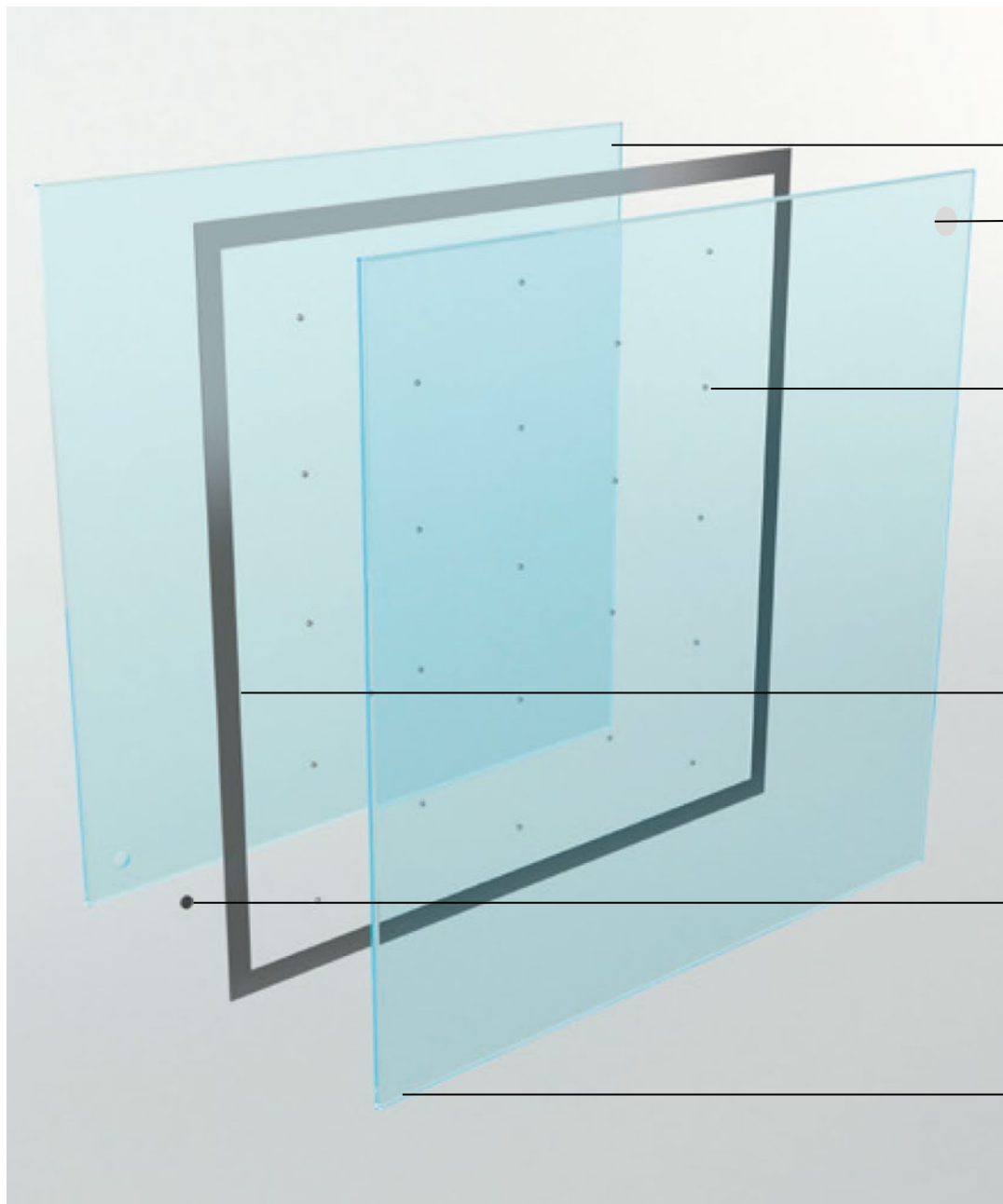


Window repaired  
with new sapele  
spliced into frame



Completed repair,  
window reinstalled  
and oil finish applied

**Window Repair – repair process**



4mm glass (toughened)

Getter (number dependent on sheet size)

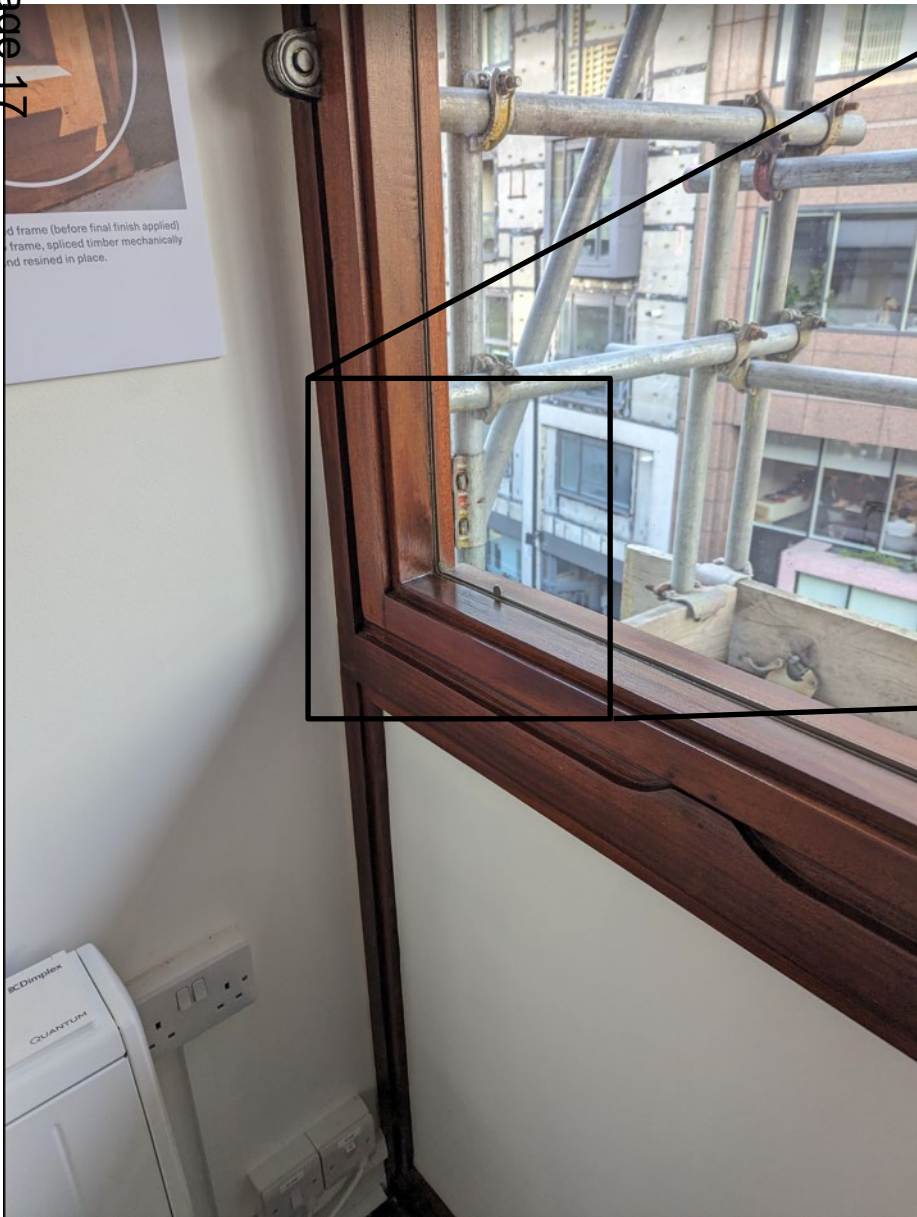
Micro support pillar

Edge seal (0.3mm)

Evacuation port

4mm glass (toughened)

**Glass Replacement – Vacuum Insulated Glass**



...d frame (before final finish applied)  
... frame, spliced timber mechanically  
... and resined in place.



Micro support pillar

Evacuation port

Getter

Edge seal

**Vacuum Insulated Glass - Installed**



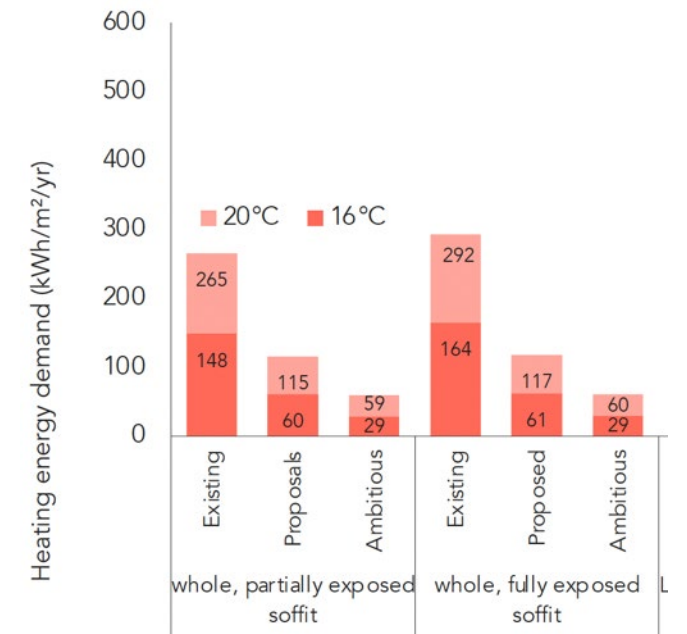


Performance  
 U-value:  
 VIG: 0.47 W/m<sup>2</sup>K

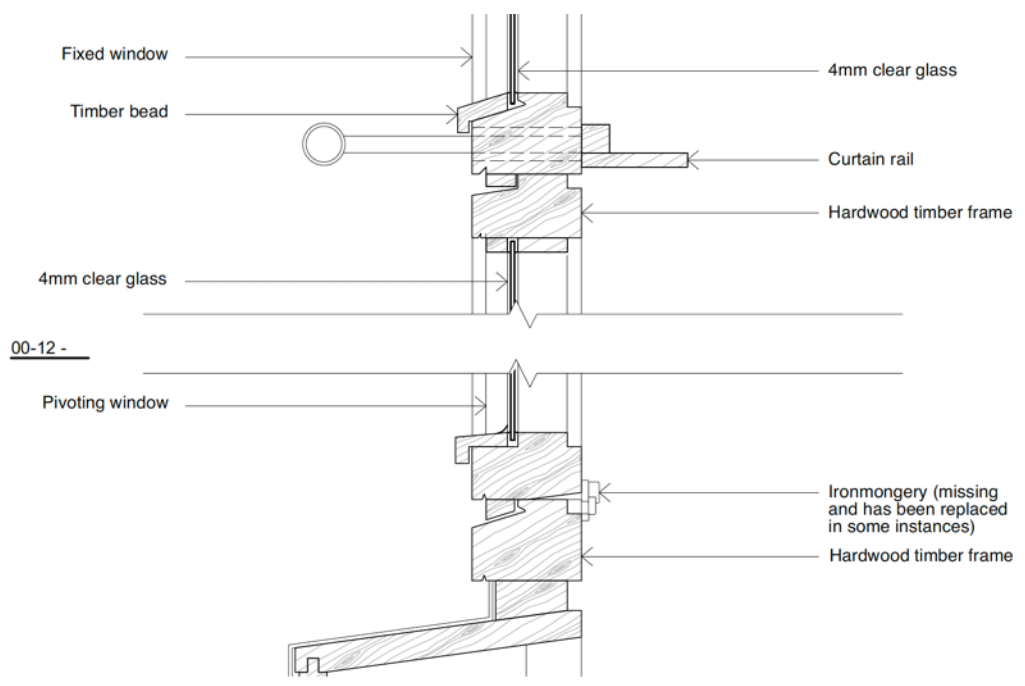
Sound Reduction: 36dB (RW)

Context  
 Existing glass U-value 5.0 W/m<sup>2</sup>K

Reduction in heating energy demand:

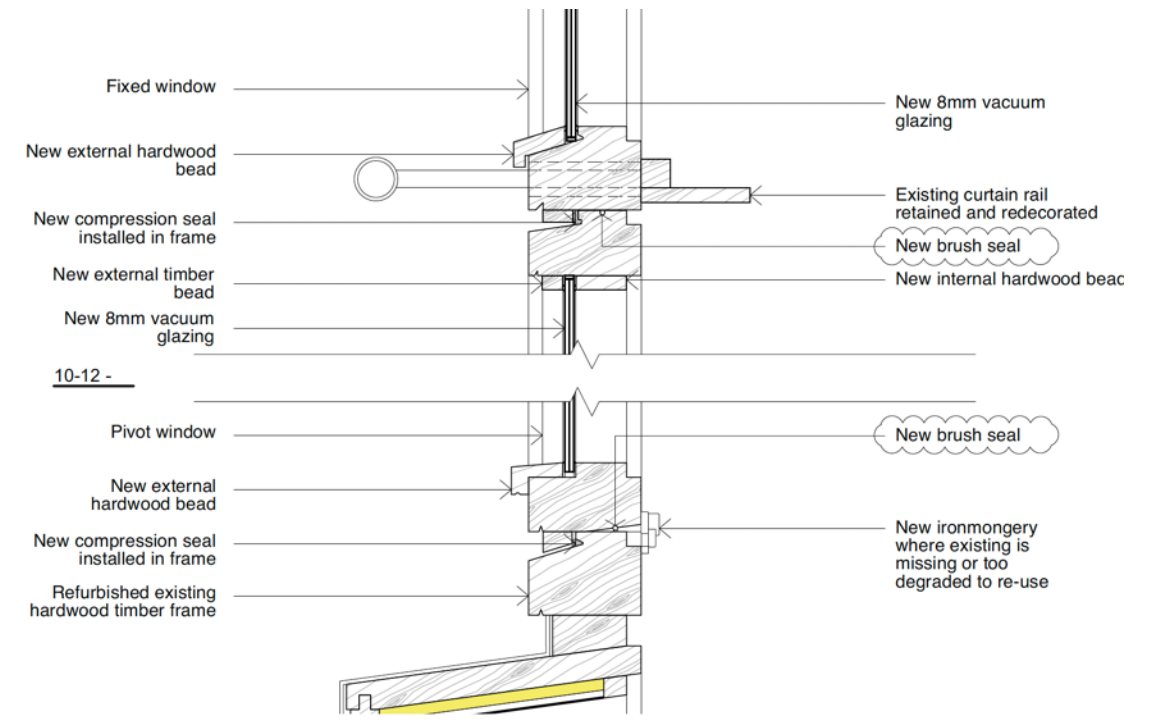


## Vacuum Insulated Glass - Benefits

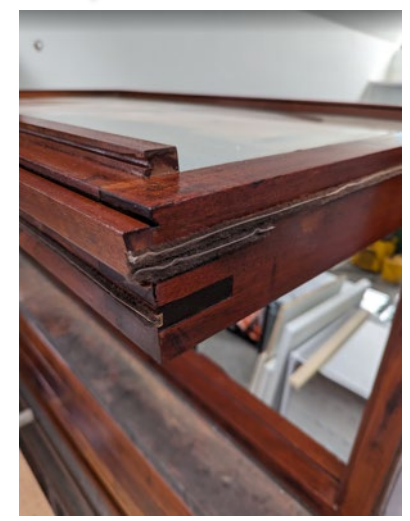


Existing window with single glazing

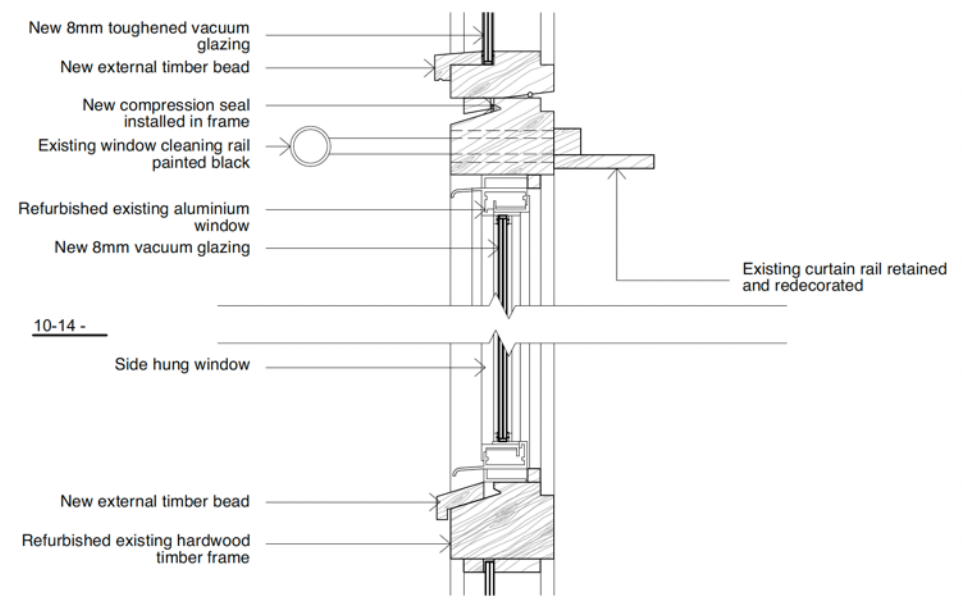
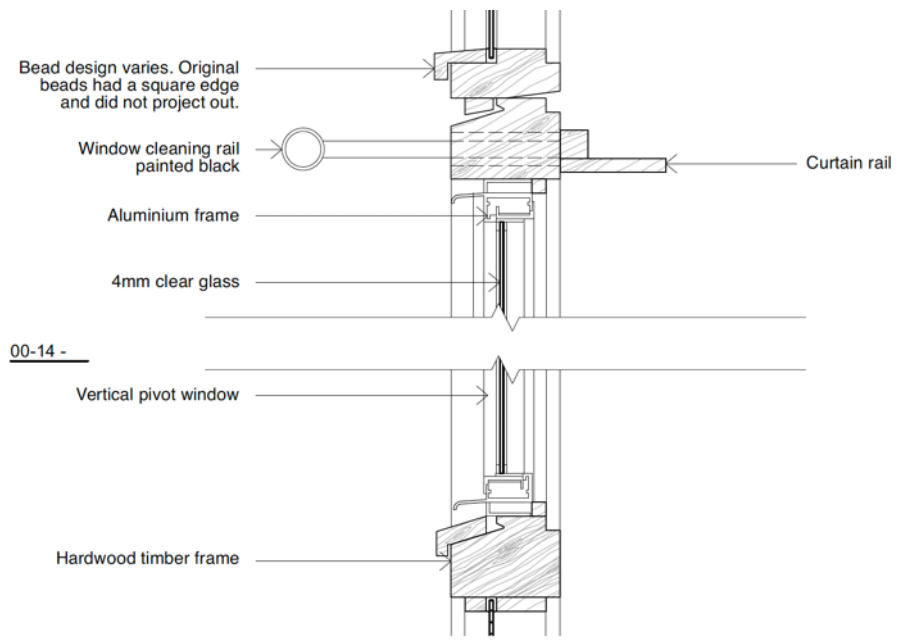
VIG can be installed into existing timber window with no adaptations required to the rebates in the window frames. Existing external sapele beads will be replaced with new sapele beads. Brush and compression seals will be installed into the opening window frames.



Proposed window with VIG







Existing window with single glazing

Existing window with VIG installed

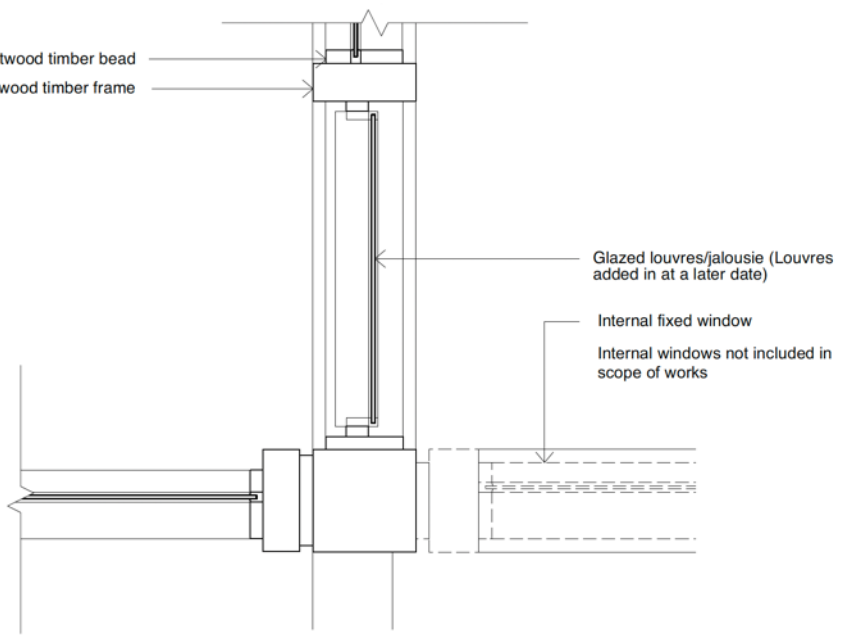
VIG can be installed into the vertical pivot window with no adaption required to the frame.

The existing frame will be cleaned and re-anodized (the original finish).

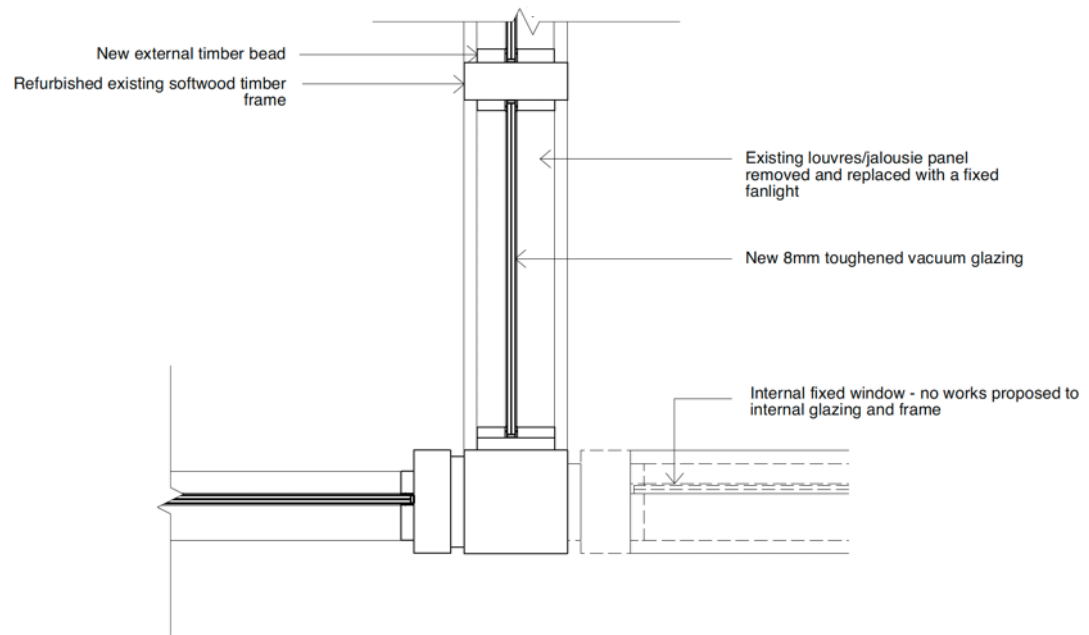
New compression seals will be installed into the frame.



# Vacuum Insulated Glass - Installation



Existing jalousie window



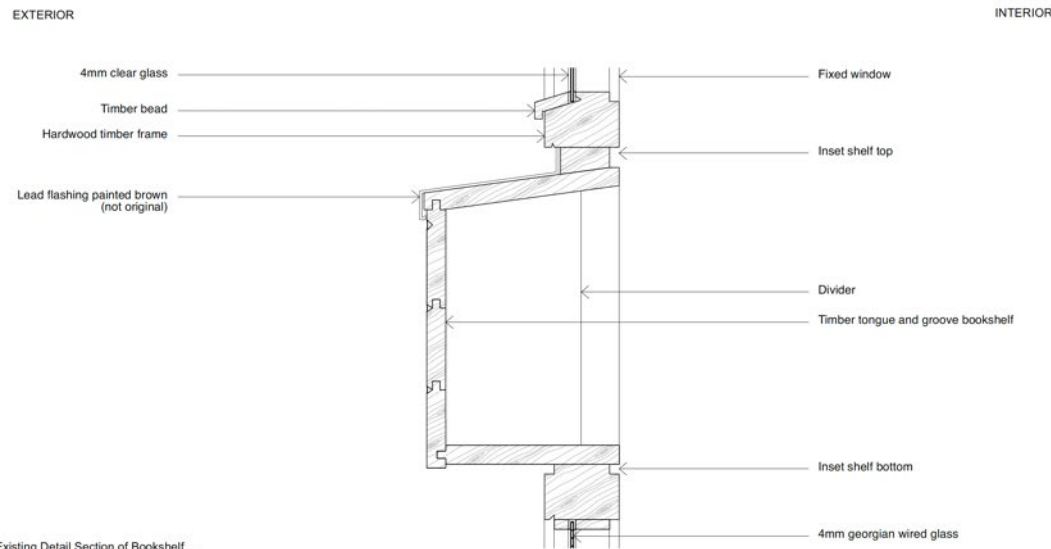
Proposed fixed light with VIG installed



The existing jalousie window is a significant route for heat loss in the home. It is proposed to remove and replace with a fixed panel of VIG.

The BRE testing data shows the air leakage through this window (when closed) accounts for 18% of the measured air leakage from the entire property.

## Vacuum Insulated Glass - Installation

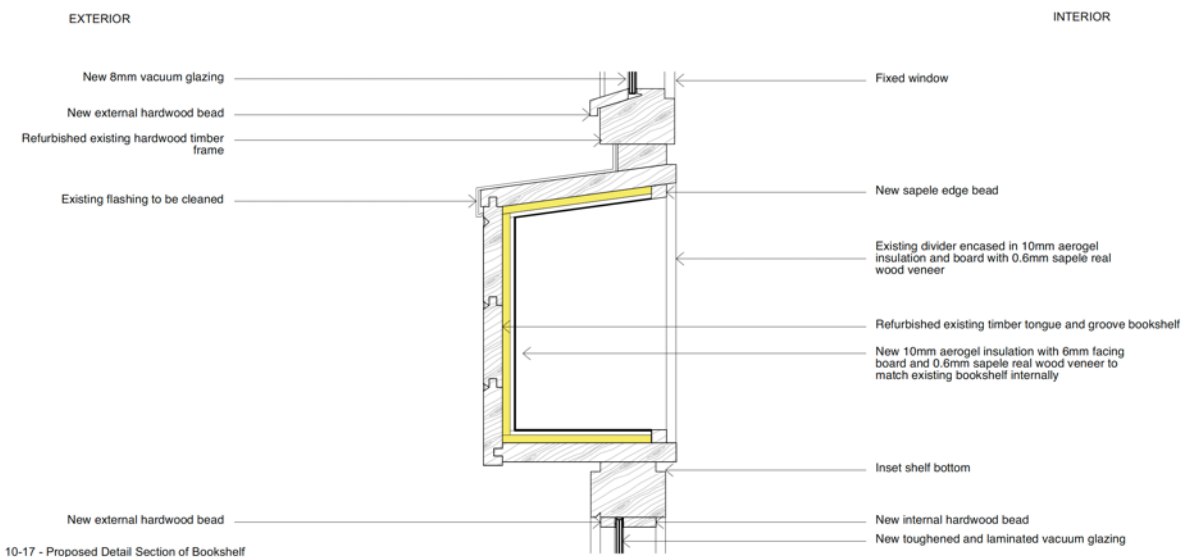


00-17 - Existing Detail Section of Bookshelf

### Existing

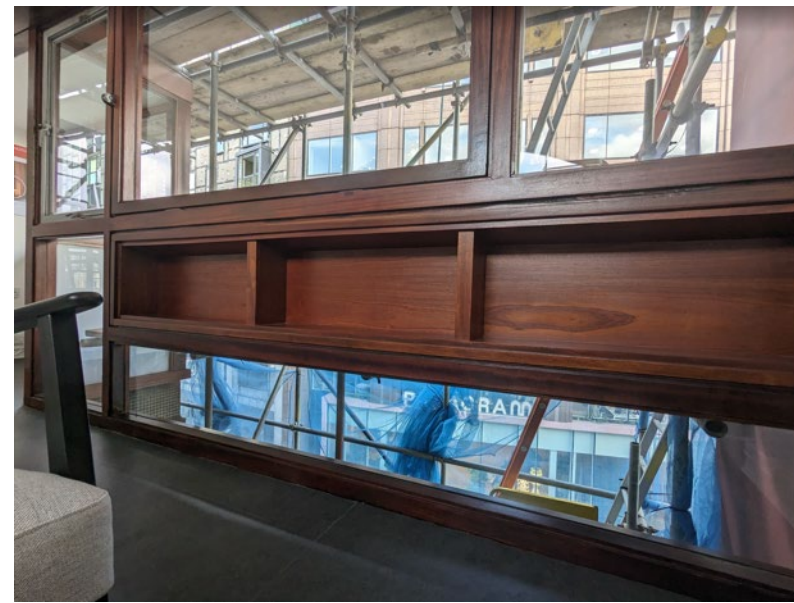


It is proposed to line the internal face of the bookshelf with a 10mm aerogel insulation, 6mm facing board, and a sapele veneer. The proposal aims to reduce the risk of condensation forming in the bookshelf.

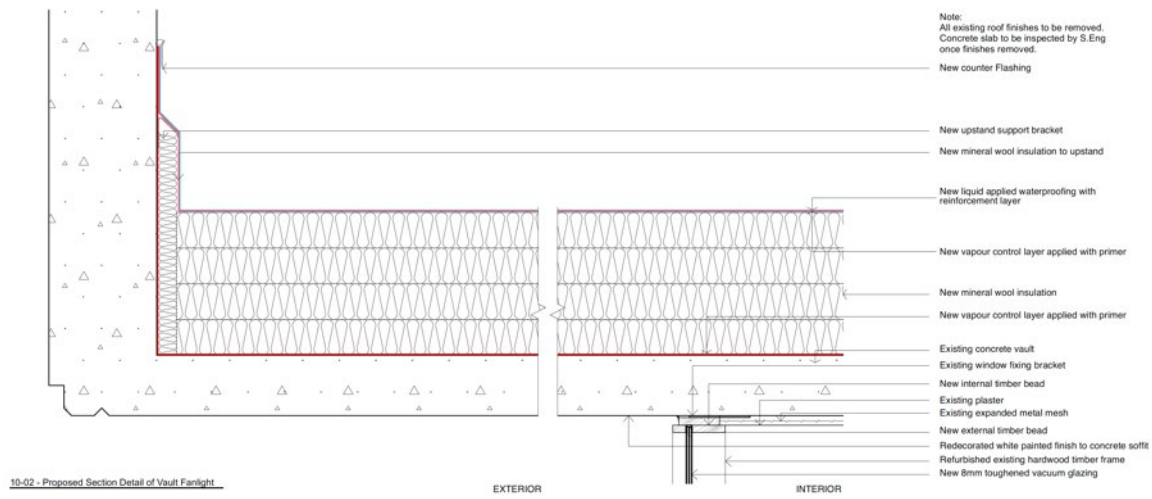
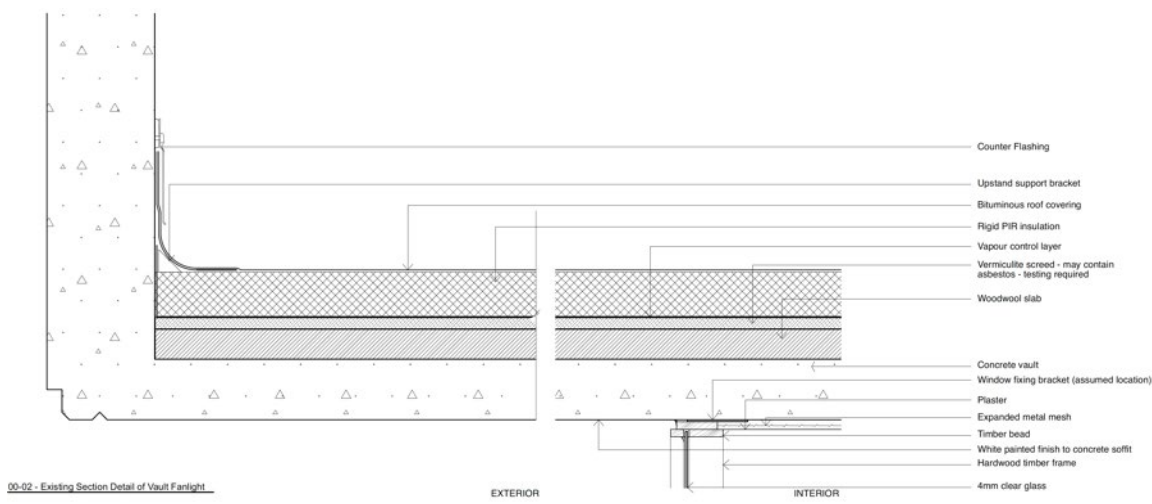


10-17 - Proposed Detail Section of Bookshelf

### Proposed



## Insultation of Bookshelf



Existing Roof Build-up (U-value circa: 0.38W/m<sup>2</sup>K)

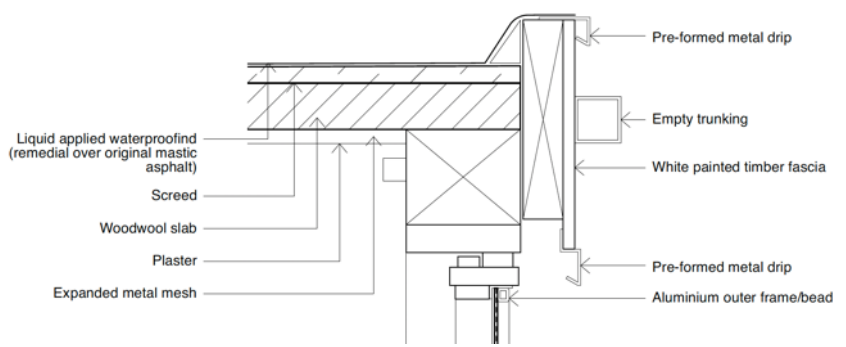
Proposed Roof Build-up (U-value: 0.17W/m<sup>2</sup>K)

Existing roof coverings to be removed.

Concrete slab to be inspected and any remedial works to concrete carried out.

New insulation and cold applied liquid waterproofing roof system added.



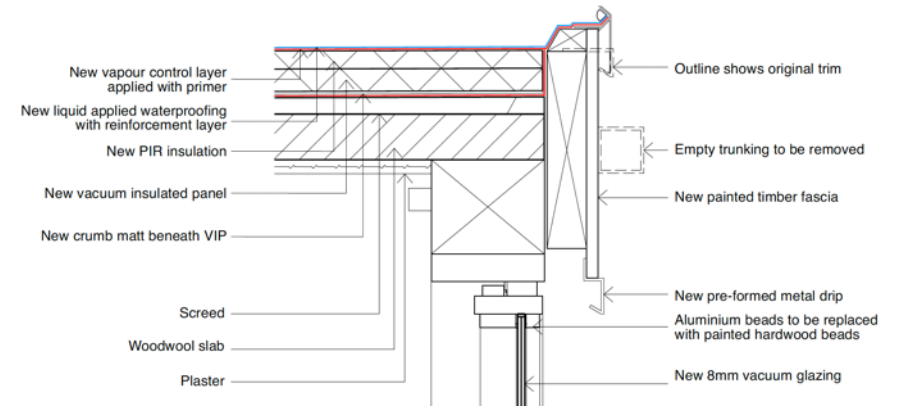


Existing Roof Build-up (U-value circa: 0.5W/m<sup>2</sup>K)

Existing roof coverings to be removed.

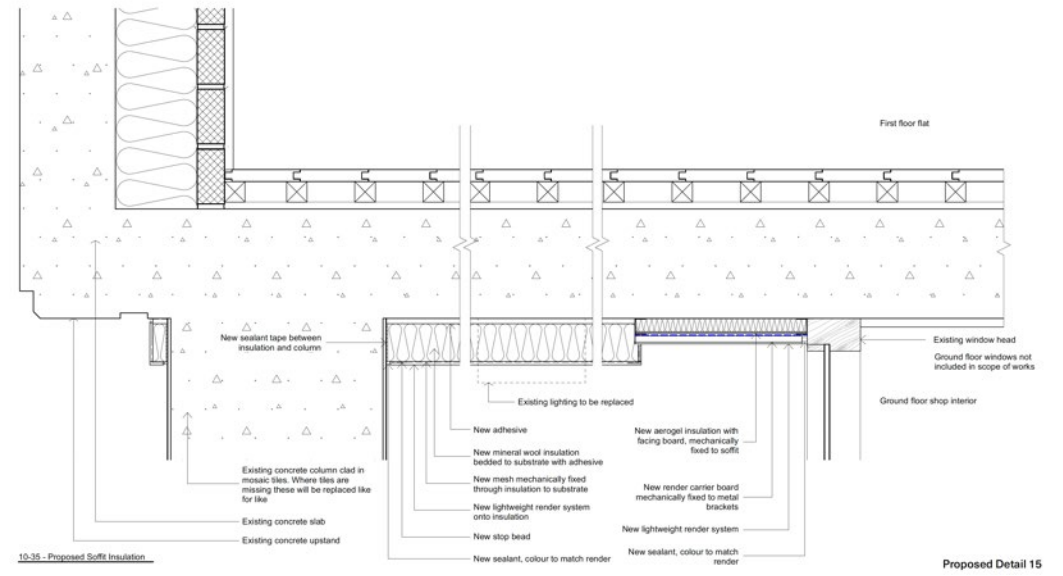
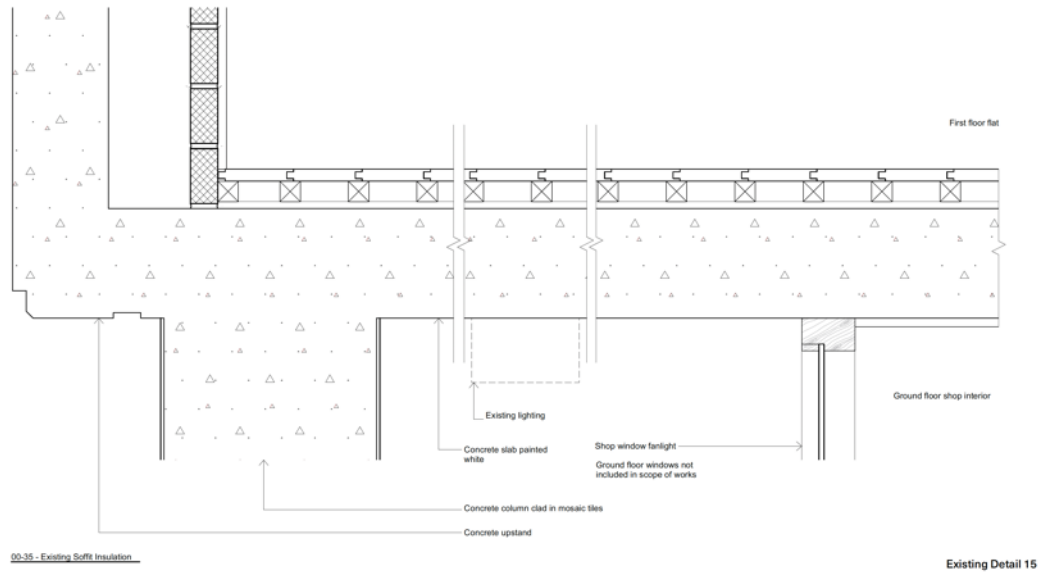
Woodwool decking to be inspected and any remedial works to concrete carried out.

New insulation and cold applied liquid waterproofing roof system added.



Proposed Roof Build-up (U-value: 0.22W/m<sup>2</sup>K)





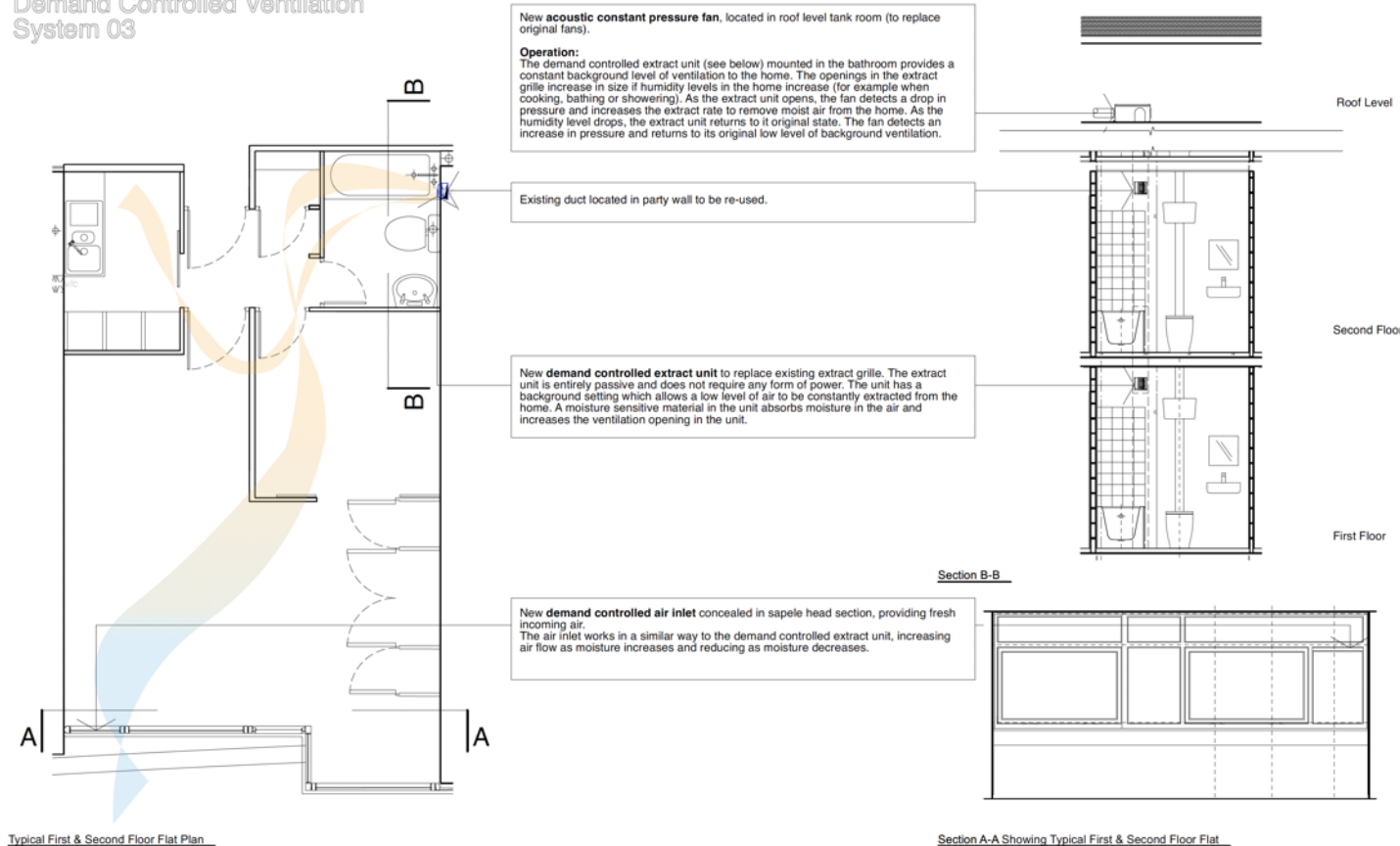
Existing (U-value circa: 2.3 W/m<sup>2</sup>K)

Proposed (U-value: 0.4 W/m<sup>2</sup>K)

New insulation to be applied to soffit.  
 Mineral wool insulation 70mm thick to main area.  
 Aerogel insulation 25mm thick to perimeter of ground floor shops etc.

Render applied directly to mineral wool insulation and onto carried board over aerogel

### Demand Controlled Ventilation System 03



Typical First & Second Floor Flat Plan

Section A-A Showing Typical First & Second Floor Flat

Ventilation System 03

As a result of the recognised link between improved thermal performance and the need for better, more controlled mechanical ventilation, new mechanical extract will be provided to all homes. This will take the form of adding a demand controlled ventilation system to each home.

Demand controlled ventilation adjusts ventilation extract rates based on the internal conditions in the home; as the moisture content of the air increases, extract rates increases to remove more air from the home.

## Additional Works - Ventilation



Internal view of trickle vent



External view of trickle vent



Trickle vent with sapele cover removed

The existing windows have non-controllable trickle vents incorporated into the jambs of the pivot windows. In the process of overhauling the windows these will be removed and new beads installed to close the gaps.

A new head section is proposed to the frame of the fixed light above the bookshelf, to allow installation of a concealed demand controlled trickle vent, to provide background ventilation as part of the demand controlled ventilation system.

## Additional Works – Ventilation Air Inlet (trickle vent)





A Pilot Project has been run to test a number of the proposals contained in the application. Work carried out:

Repair of window frames.  
Installation of VIG.  
Installation of demand controlled ventilation system.  
Installation of electric heating and hot water.

Interior of 347 Crescent House prior to Pilot Project starting.

**347 Crescent House – Pilot Project**





Original Naco pull handle



Original espagnolette handle



Replacement handle



Bookshelf



Aluminium window



Original pivot hinges



Shadow gap details



Kitchen window detail

## 347 Crescent House – Pilot Project – Before Works

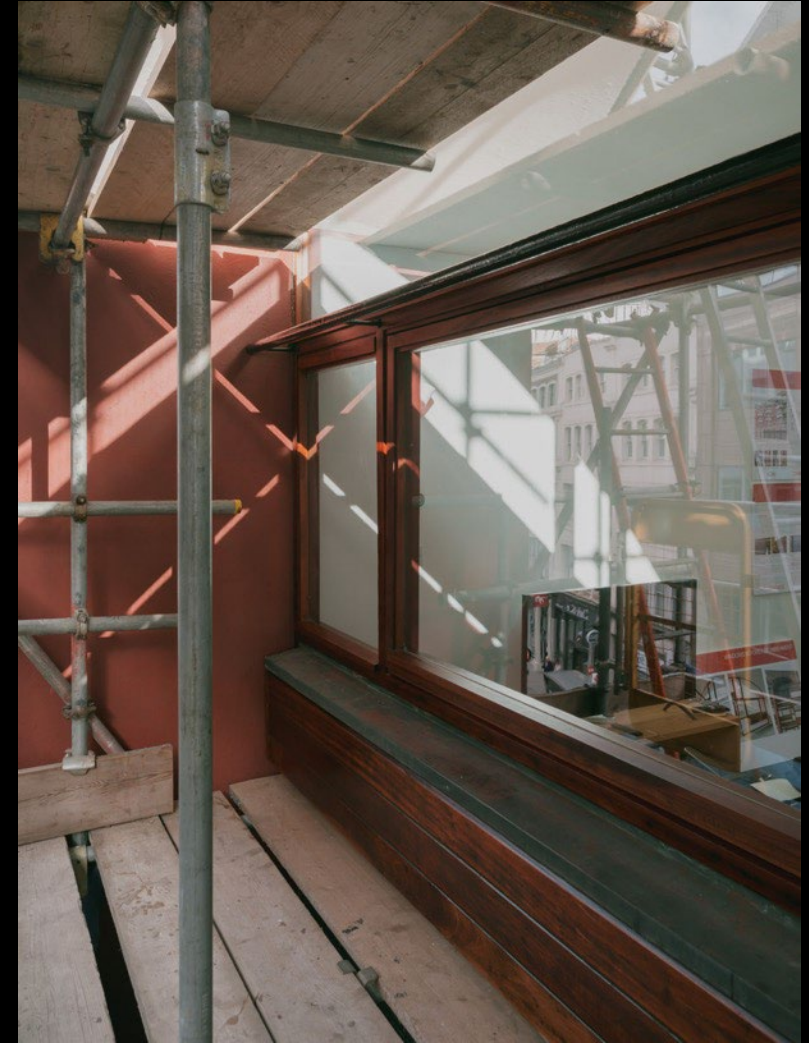




Interior of 347 Crescent House during Pilot Project

## 347 Crescent House – Pilot Project Works In Progress





**347 Crescent House – Pilot Project – completed works**





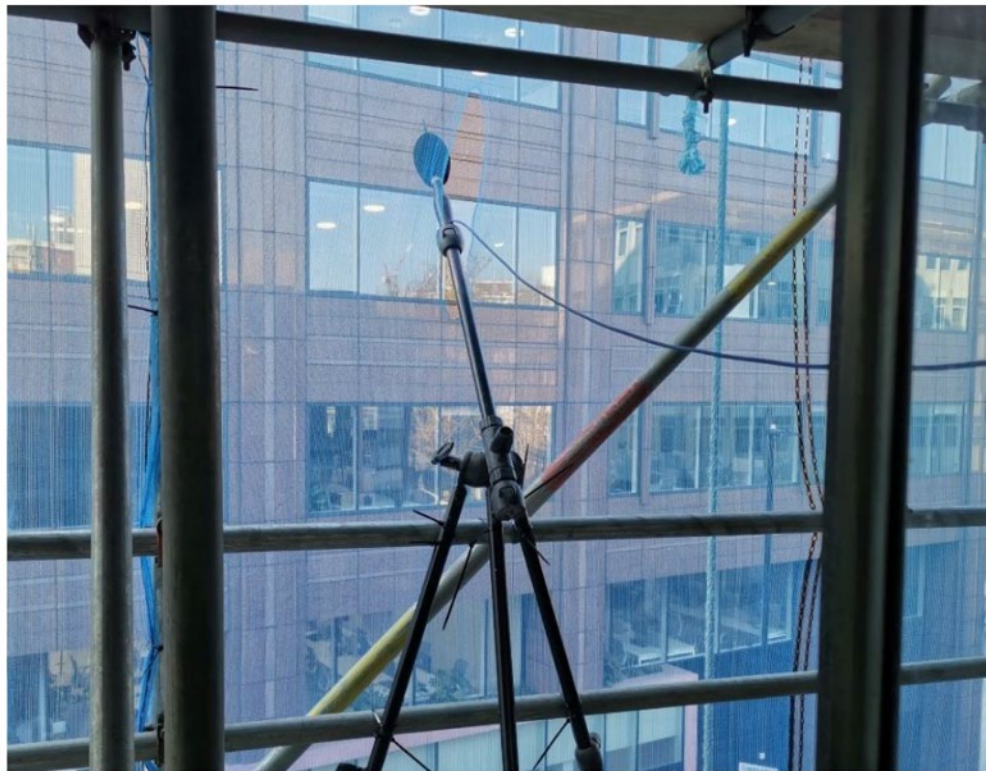
**347 Crescent House – Pilot Project – Completed Works**





**347 Crescent House – Pilot Project – Insulated Bookshelf**





The Building Research Establishment (BRE) have carried out test to measure the changes in performance of the home before and after the pilot project.

### Airtightness:

#### RESULTS

Whole home average airtightness - before: 8.13 m<sup>3</sup>.hr<sup>-1</sup>.m<sup>-2</sup>@50Pa  
 Whole home average airtightness - after: 4.82 m<sup>3</sup>.hr<sup>-1</sup>.m<sup>-2</sup>@50Pa

To put the result of 4.82 m<sup>3</sup>.hr<sup>-1</sup>.m<sup>-2</sup>@50Pa into context, building regulations say that new dwellings should achieve maximum air leakage of 10 m<sup>3</sup>.hr<sup>-1</sup>.m<sup>-2</sup>@50Pa. However, the building that is used as a benchmark (the notational dwelling) in the building regulations has an airtightness of 5 m<sup>3</sup>.hr<sup>-1</sup>.m<sup>-2</sup>@50Pa.

### Acoustics:

#### RESULTS

The figure (D) in the table below is the sound reduction provided by the windows and frames.

Test number	Test element	Measurement details	Overall Difference (D)
L152-007	Original window system	Logarithmically averaged overall performance for selected hourly results in Table 2.	33.7 dB
L152-014	New window system	Logarithmically averaged overall performance for selected hourly results in Table 4.	36.4 dB

From the results of the acoustic testing, the newer installed window system (LandVac) provides an increase in the acoustic performance by +3dB which equates to an approximate doubling of the original window system performance.



Interior of 347 Crescent House  
after completion of Pilot Project

## 347 Crescent House – Pilot Project





**347 Crescent House – Pilot Project**





347 Crescent House – Pilot Project





**347 Crescent House – Pilot Project**