

## Scope of Works



Photograph of GAH external elevation

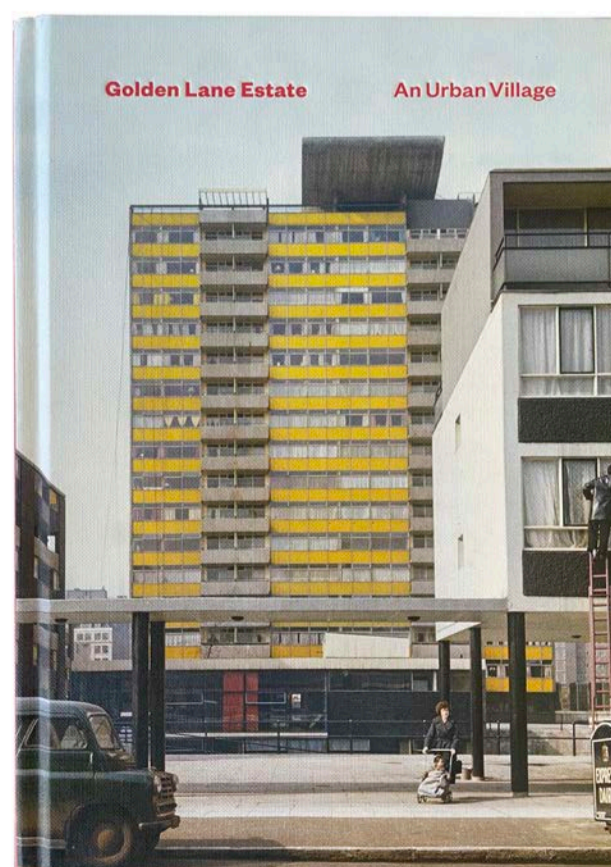
 Extent of external works.

Window frames - Existing timber frames to be repaired where required.

Glass replacement - All existing single glazing to be replaced with high performance vacuum insulated glass (VIG).

Ventilation - New Demand Controlled Ventilation (DCV) system proposed to be installed in all flats.

Proposals include returning these windows to their original design intent. The solid panel in the bathroom was originally painted a dark colour (black or dark grey). This can clearly be seen in the photographs below where the white frames are more prominent with a consistent appearance of the panels whether they are glass or painted board.



Golden Lane Estate, An Urban Village, book cover with photograph from after completion



## Window Frames

### Timber Windows

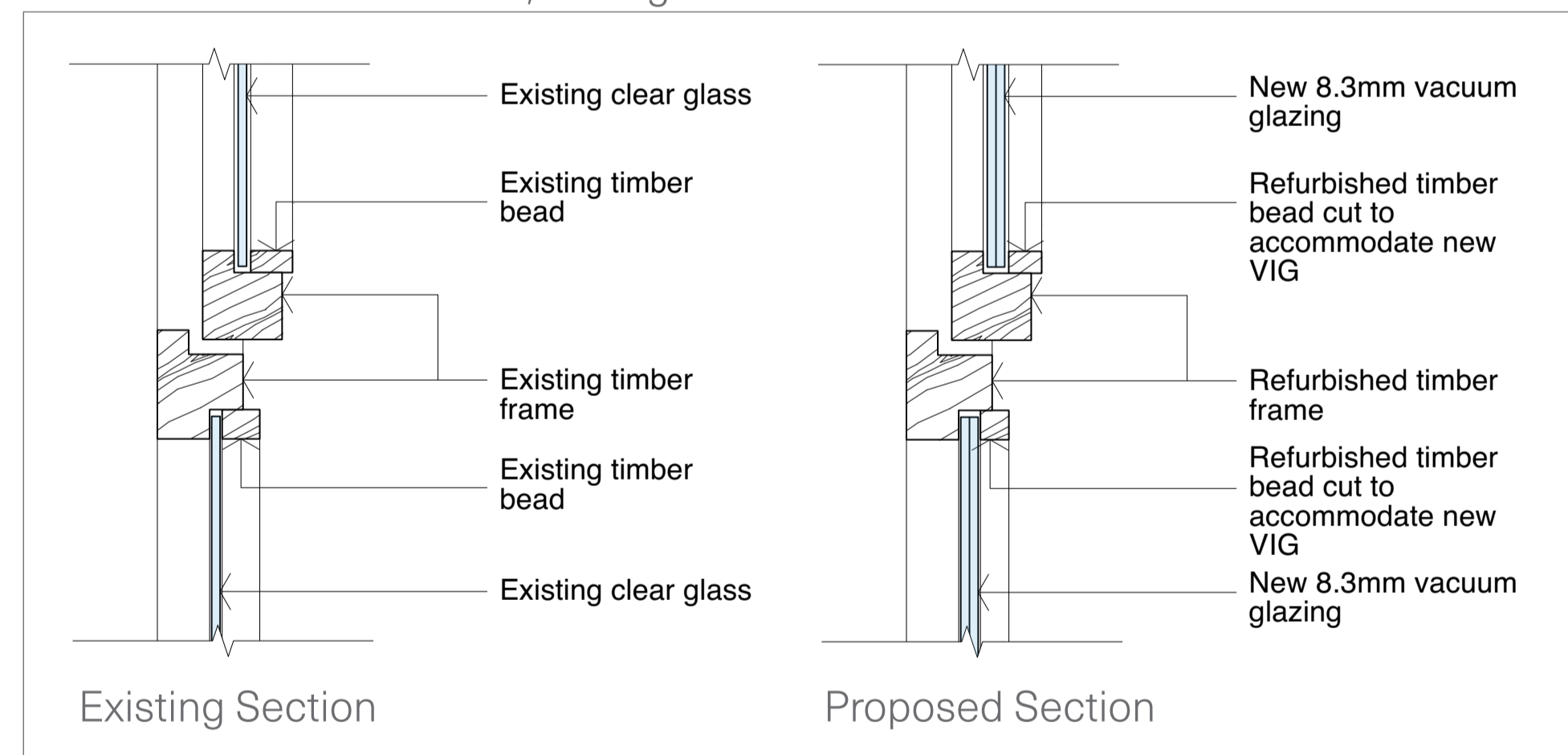
Existing timber window frames in the bathrooms and kitchens will be renovated. This work includes stripping off all existing paint finishes to expose any damaged or rotten sections of timber, carrying out any repairs that are identified, making minor adaptations to the frames to accommodate the new vacuum glass, and redecorating. The repair method options are as below:

(A) Resin - for repairs up to 5cm in depth

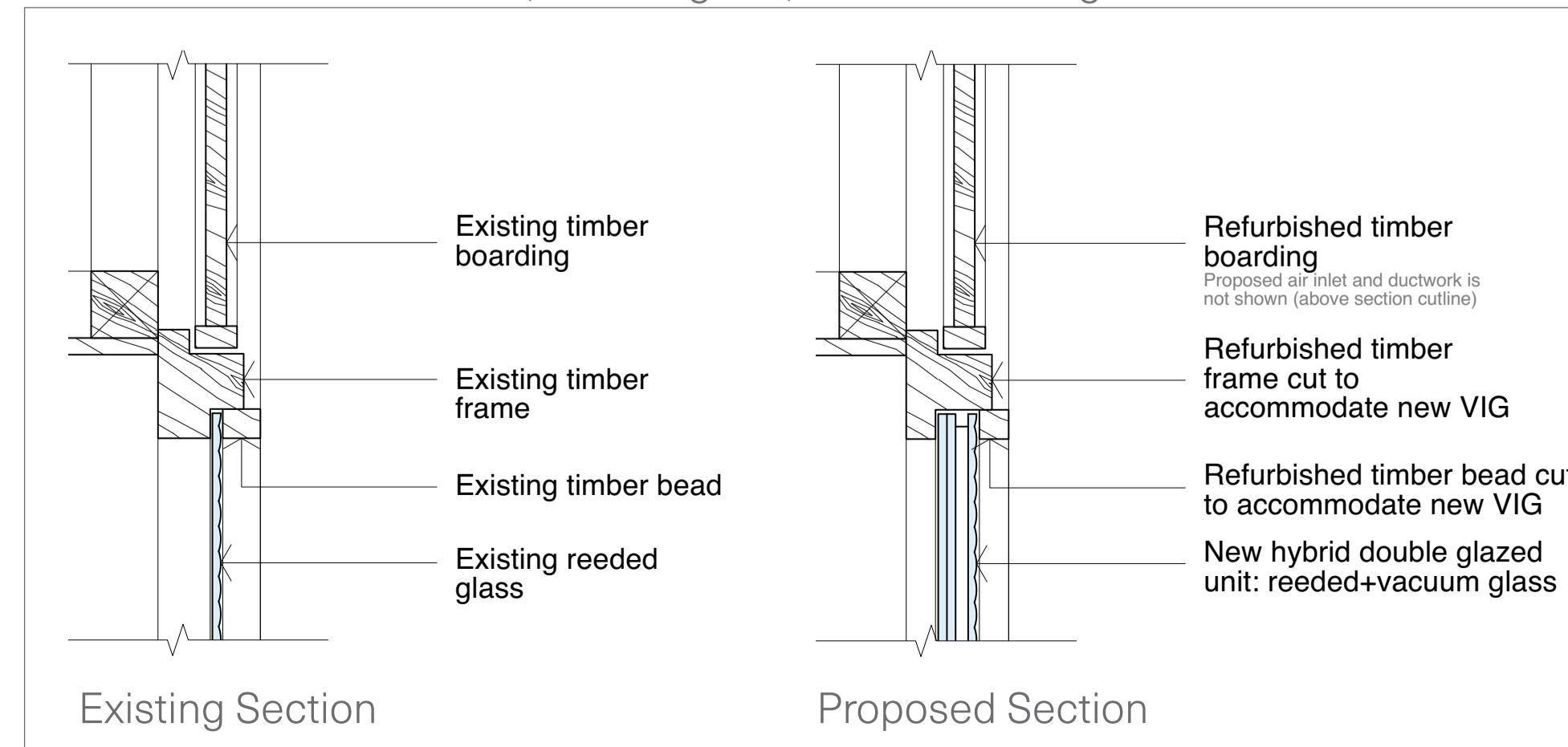
(B) Splice - new timber to replace rotten section

(C) Replacement - for large areas of rot

#### Section 01 - Timber frames, clear glass



#### Section 02 - Timber frames, reeded glass, timber boarding



### (A) Resin



Example of resin repair carried out in Stanley Cohen

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

### (B) Splice



Example of splice repair carried out in Crescent House

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

### (C) Replacement



Example of replacement (and splice) repair carried out in Stanley Cohen

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.

## Glass Replacement

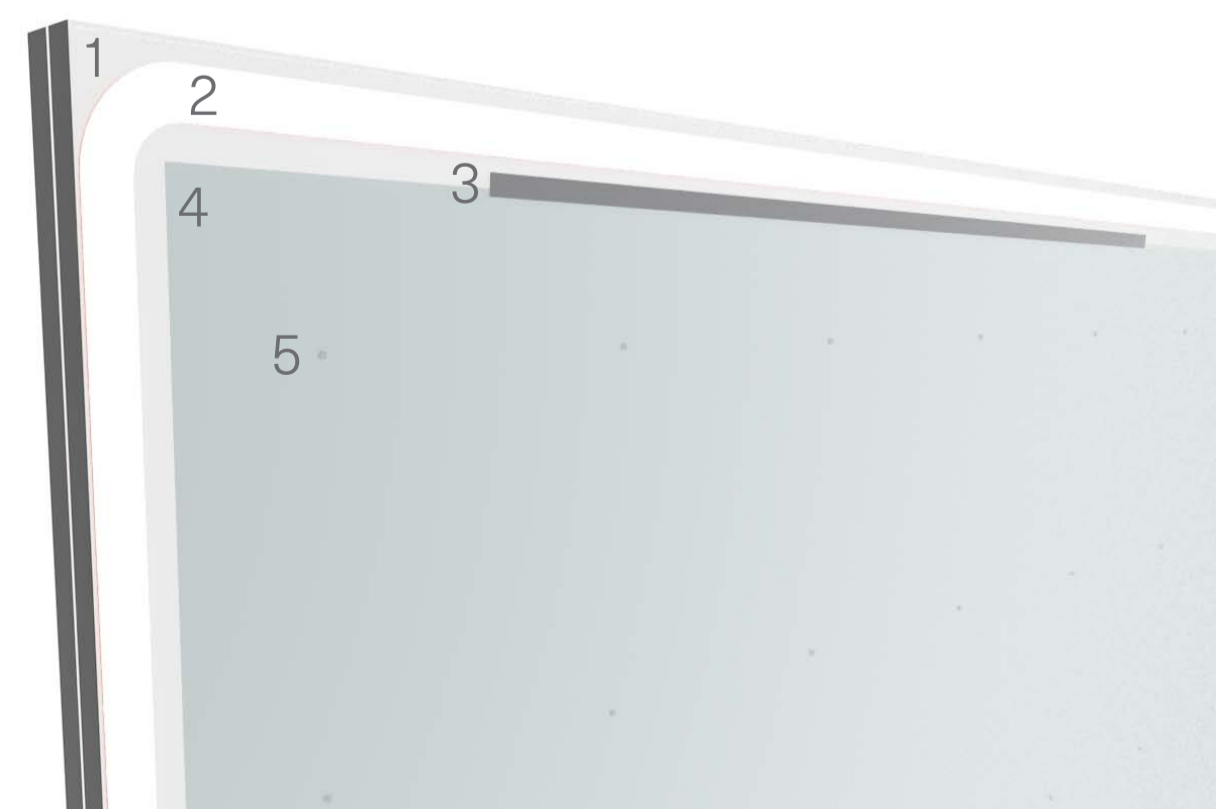
### Clear Glass

Clear vision glass within bathroom and kitchen window frames will be replaced with new vacuum insulated glass. Typically the vacuum glass is formed from two sheets of 4mm toughened glass separated by a 0.3mm vacuum. It is the vacuum which gives the glass its high performance in terms of thermal insulation and sound transmittance.

The glass is a relatively new technology. Initially developed in the 1990s, the latest generations of the product have been refined to eliminate evacuation ports and reduce the impact of the "getters" required to maintain the vacuum. The vacuum glass will help to retain heat and reduce solar gain & overheating.

	single glazing	vacuum glazing
U-Value (thermal performance)	4.8-5.8	0.5
G-Value (solar transmittance)	0.9 - 0.85	0.53
Acoustic (sound reduction)	29 dB	36 dB
Light Transmittance Value (LTV)	90%	77%

Performance of vacuum glazing vs single glazing. Lower U-value & G-value figures are better, higher acoustic and LTV are better.



CGI of vacuum glass (LandVac).

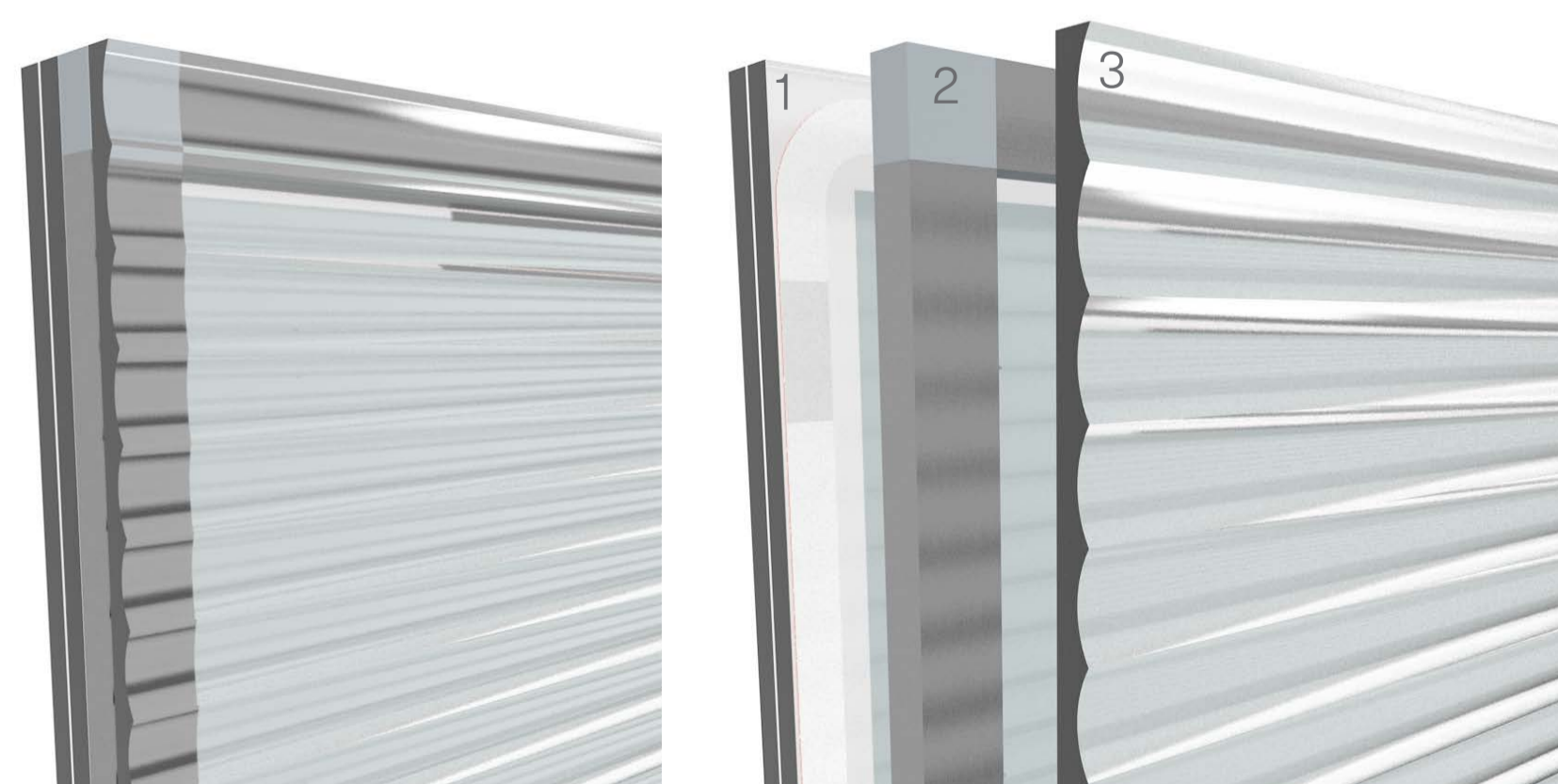
1. Toughened glass
2. Edge seal
3. Getter
4. Low E coating to glass
5. Micro spacers (required to maintain vacuum)

### Reeded Glass

Reeded glass is only used in the low level window of the bathrooms. These will be replaced with a hybrid double glazed unit consisting of an outer layer of reeded glass (new, or possibly salvaged) with an inner layer of vacuum glass.

This will provide an external appearance matching the existing and maintaining the same level of privacy while also delivering the same thermal performance of the new vacuum glazing elsewhere.

Reeded glass installed only in bathroom low-level window



Complete Double Glazed Unit

Individual Components

CGI of replacement reeded glass double glazed unit.

1. Vacuum insulated glass
2. Spacer bars
3. New reeded glass

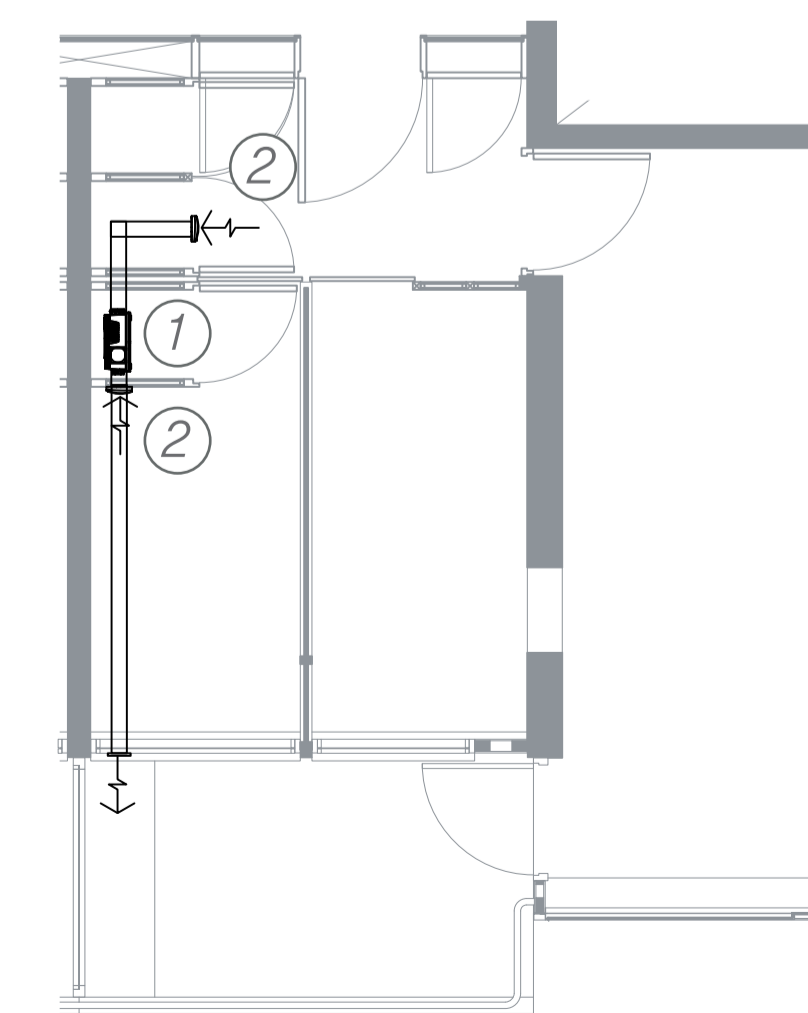
## Ventilation

### Existing Ventilation Overview

The current building regulations require designers to consider the provision of mechanical ventilation when improving the energy performance of a home. As there is no provision of mechanical ventilation in the original design for Great Arthur House, the cumulative works carried out to improve thermal performance mean that homes may have become more susceptible to the accumulation of condensation and, possibly, mould growth. Therefore a new mechanical extract system is proposed to all homes to provide better and more controllable ventilation.

### Ventilation Proposals: Demand Controlled Ventilation (DCV) - Typical

- Centralised extract fan to be installed at high level in existing services cupboard.
- Wall mounted extract units are installed to bathroom and hallway at high level
- Wall mounted air inlet installed to external boarded window on the balcony.
- Ductwork runs through existing high level boxing located in the bathroom.



1) Quiet running acoustic extract fan

Centralised demand controlled extract fan, linked to extract units. It provides a constant background level of ventilation, and increases extract levels as moisture levels in the bathroom and kitchen increase.



2) Extract unit

Demand controlled extract vent, extracting air from the kitchen and bathrooms depending on moisture levels in the air.