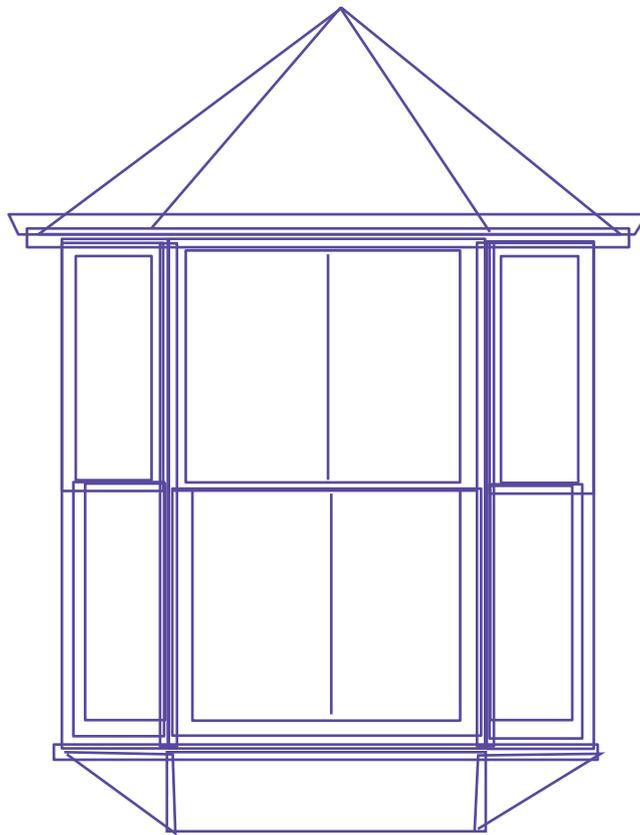


# **The repair or replacement of timber sash and case windows**

**Masterplanning, Design and Conservation**

Appearance re-designed January 2009



## **WINDOW REPAIR**

Defective sash and case windows should be repaired where possible, and their complete replacement should only be contemplated where they have clearly deteriorated beyond practical repair.

Most of the benefit which accrues from fitting new windows is that they are less draughty than older windows, the comfort value of the 'double glazing' itself being minimal by comparison. On the other hand, original windows can be fitted with modern draught stripping systems at a fraction of the cost of fitting new windows. Other benefits which result from this are a reduction in external noise passing through gaps around the window sashes, the ease of operation of the windows, and the elimination of rattles.

## **WINDOW REPLACEMENT**

Where an authentic timber sash and case window is to replace a non-original type of window, or where it is agreed that replacement of a defective original sash and case window is the only feasible option, the replacement window should match the original in all respects, with particular attention being given to the following:

## **SECTION DIMENSIONS**

The sizes of timber sections in the new window should closely match those of the original. This is particularly relevant to astragals and to the bottom rail of the lower sash, which is frequently too shallow on new windows. In this respect the bottom rail should be at least 75mm deep and 25mm deeper than the meeting rails, on elevation. No more than 20-25mm of the sash box should be visible in the window opening, the remainder being concealed behind the masonry window check. Generally, when the window is fully closed, the visible part of the sash stiles, top rail and meeting rails should be of a similar width/depth.

## **SASH OPERATION**

Sashes will slide vertically to open and may be operated by sash weights or spiral spring balances. Additionally it will be acceptable for the lower sash to be fitted with 'simplex' hinges or similar, to allow the sash to open inwards for ease of cleaning, providing both sashes retain their vertical sliding operation. The sash meeting rails of the new windows must be located in the same position as the meeting rails of the original windows.

## **GLAZING RETENTION**

Glazing should preferably be retained in position with putty but where double glazing units are to be fitted it may be that glazing beads will be required. In these circumstances the glazing beads should be wedge shaped to match as closely as possible, a putty fillet. Such a bead would taper from 10mm at the glass to less than 2mm at the outside. The edge of the bead should be flush with, or kept slightly back from the face of the sash. It must never project out from the face of the sash, or an unwelcome shadow line will be created around each pane of glass.

## **ASTRAGALS**

Where astragals are required, they must be kept slender to match the thickness of the original astragals, particularly in multiple pane sashes. Since this may be difficult to achieve when double glazed units are employed, single glazing may be the only practical alternative in some circumstances. In general, astragals must be no thicker than 27mm, but in certain, highly sensitive situations, only astragals of 17-19mm can be accepted.

Particularly in listed buildings, where the interior of the building can often be as important as the exterior, the internal profile of the astragals must not be crudely over-simplified, but should retain some form of traditional moulding. In certain circumstances, only a faithful reproduction of the original moulded profile can be accepted.

Astragals must carry through the sash to completely separate each pane of glass. Astragals stuck to the glass or hinged astragal cassettes are not acceptable.

## **SASHES WITH "HORNS"**

It has become common practice for some manufacturers to extend the side stiles of upper sashes of their sash windows to form "horns" by the way of extra embellishment. Original Georgian and early Victorian windows never have horns, and neither should the windows which replace them. Horns do however appear on some later Victorian and Edwardian sashes. Their use should be contemplated only where there is clear evidence that they existed on the original windows.

## **CONSTRUCTION MATERIALS**

Sash and case windows will normally be formed in red pine for painting. It is strongly recommended that the timber be double vacuum pressure impregnated with a suitable preservative, as this can greatly enhance the life of the window for a relatively small increase in cost. As this may not be included as standard by all window manufacturers, property owners should seek confirmation from their contractor that their windows have been so treated. A brush or spray applied preservative is not nearly as effective as one which is vacuum pressure impregnated.

Windows may also be formed in hardwood but in the interests of ecology property owners may wish to check that the timber has come from a managed plantation and not a tropical rainforest. As the window will, in most circumstances, be required to have a white finish, the value in using hardwood rather than treated red pine may be questionable.

## **UPVC WINDOWS**

UPVC vertically sliding windows are not regarded as authentic sash and case windows and can never be accepted in listed buildings. Vertically sliding UPVC windows which replicate the criteria shown on page 6 can however be regarded as sash and case "lookalike" windows where these are permitted in conservation areas.

## **EXTERNAL FINISHES**

As white is the colour of most existing sash and case windows in conservation areas in Aberdeen, this is the colour which new sash and case windows are generally required to be, and other colours will be agreed to, only in

exceptional circumstances. It is recommended that new windows be finished externally in white microporous paint applied in accordance with the manufacturers instructions, or white opaque stain, both of which allow the wood to breathe, rather than a polyurethane based gloss or varnish, which may retain moisture entering or already present in the wood, causing eventual failure of the paint finish and accelerated decay in the wood.

## REQUIRED DRAWINGS

As misunderstandings frequently arise as to what constitutes a "like for like" replacement, drawings will normally be required showing full details of the sash and case windows to be fitted. To avoid unnecessary duplication of effort, contractors who fit sash and case windows on a regular basis are advised to deposit with us, a set of drawings showing details of their windows, at a scale of 1:1 or 1:2. Such details would include sections through window head, meeting rails, bottom rail and cill, window jambs and astragals. In addition, an elevation of the window should be provided in every case, showing the position of the meeting rails and the arrangement of any astragals.

## GRANTS

Grants may be available from the Aberdeen City Heritage Trust for the repair, replacement or reinstatement of timber sash and case windows in certain situations. The grants will be directed mainly at the repair of existing sash and case windows, rather than their replacement. Replacing an existing sash and case window mainly to have "double glazing" fitted would not be considered grant eligible by the Trust. Applicants should note that where a grant is to be provided by the Trust, it can only apply to windows that are single glazed with glazing retained by putty fillets in the traditional manner.

For information about grants, please contact:

**Project Officer**  
**Aberdeen City Heritage Trust**  
**Telephone: 01224 522755**  
**E-mail: [info@aberdeenheritage.org.uk](mailto:info@aberdeenheritage.org.uk)**  
**Web: [www.aberdeenheritage.org.uk](http://www.aberdeenheritage.org.uk)**

## PAYMENT OF GRANTS

**Where a grant has been offered by the Aberdeen City Heritage Trust for new sash and case windows, it may be withheld if the new windows fail to comply with any of the following criteria:**

- (a) Astragals of correct thickness and profile
- (b) Windows single glazing having glazing retained with putty
- (c) Upper sashes not fitted with "horns" except where agreed by us
- (d) No more than 20-25mm of window frame to be visible
- (e) Arrangement of astragals and meeting rails as that on original window;
- (f) Window painted/stained white unless agreed otherwise.

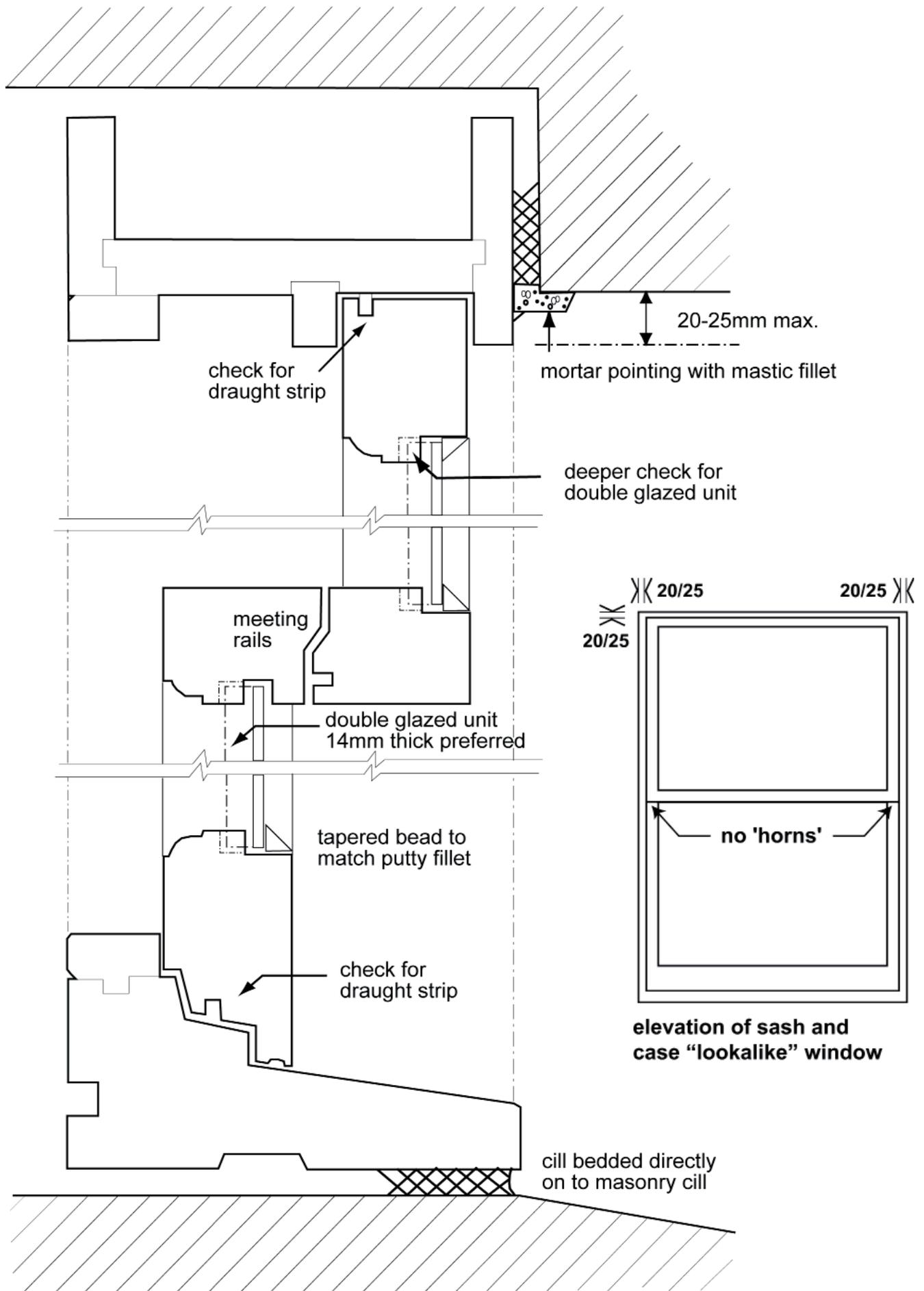
## FURTHER INFORMATION

If you require any further information please contact us:

**Masterplanning, Design and Conservation**  
**Enterprise, Planning and Infrastructure**  
**Aberdeen City Council**  
**Business Hub 4**  
**Marischal College**  
**Broad Street**  
**Aberdeen AB10 1AB**  
**Telephone: 01224 522155**  
**Fax: 01224 523180**  
**E-mail: [pi@aberdeencity.gov.uk](mailto:pi@aberdeencity.gov.uk)**

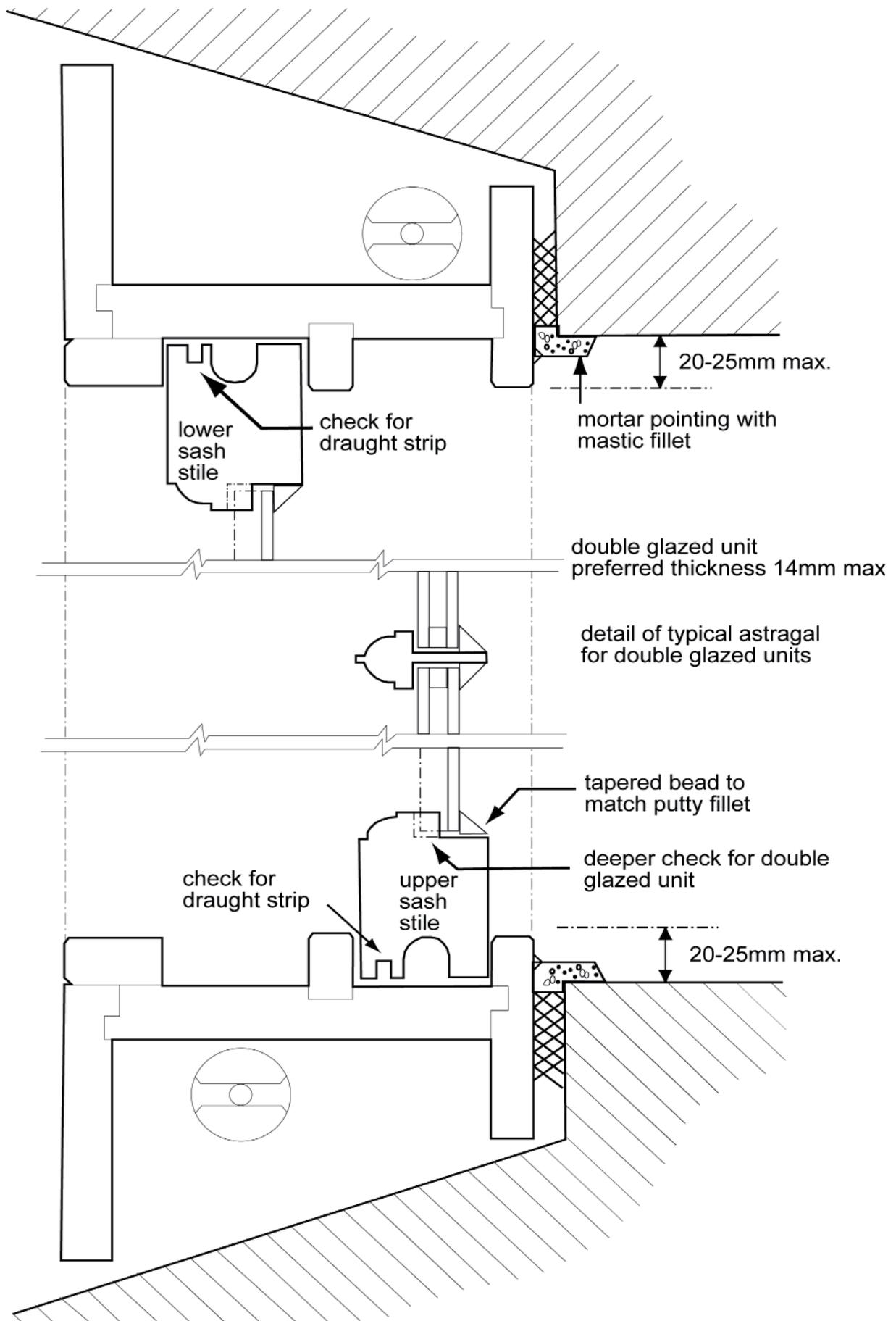
# Vertical section through typical sash and case window

Scale 1:2



# Horizontal section through typical sash and case window

Scale 1:2



# Vertical section through typical uPVC vertically sliding window (acceptable as a sash and case "lookalike")

Scale 1:2

