



SUPPORTING STATEMENT & METHOD STATEMENT

Wiswell Eaves House,
Wiswell
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INTRODUCTION

OVERVIEW

This supporting statement & method statement has been produced to support the Listed Building consent application for the proposed removal of the existing cement pointing to the building and the carrying out of new lime pointing works and repairs to damaged stone.

This report should be read in conjunction with the attached Heritage Statement prepared by Stephen Haigh Building Archaeologist.

PROPOSED WORKS

The existing building has been pointed with a cement mortar which it is intended to be replaced with lime pointing. To the rear of the property there is a damaged mullion which requires carefully cutting out and replacing with a new piece of stone.

It is proposed that all works will be carried out using traditional techniques and will respect the heritage asset.

UNDERSTANDING THE HERITAGE

THE LISTED BUILDING

The attached Heritage Statement has a detailed description of the property.

A brief overview of the heritage asset is, the property is in all intents and purposes built largely in its present form in 1766. The property is a grade II listed property and as such affords certain protection under the Planning (Listed Buildings and Conservation Areas) Act 1990. The property is located in the parish of Wiswell to the north east of the village.

IMPACT OF THE DEVELOPMENT

THE EXISTING BUILDING

The current owners of the property have previously applied to extend the property 3/2019/0697 & 0700 “Demolition of existing single storey conservatory and erection of proposed single storey extension to side. Demolition of existing garage and erection of proposed double garage. Conversion of existing outbuildings with construction of new external walls with slate roof covering. Erection of proposed entrance extension to the west elevation of the outbuildings”.

As part of the above works the owners would like to carry out an external refurbishment of the existing property. Looking at the existing property it is a good state of repair, with the only issues being the cement strap pointing and the damaged mullion. The cement pointing is not as porous as the stone surrounding. Water takes the easiest route to escape, which in this case is the stone as it is more porous than the cement strap pointing. If we were to leave the strap pointing in place this would result in damage being caused to the fabric of the building. The stones of the building will begin to become soft and delamination will occur. This type of damage can be seen on the damaged mullion to the rear of the property. It would appear that the mullion had a cement repair carried out on the stone previously which has resulted in the detrimental damage being caused to the point that the cement patch has fallen off exposing the damaged stone. For this reason, it is imperative that the cement point be removed and new lime pointing be carried out.

As mentioned previously the property has a window with a stone mullion which requires replacement (Figure 1). This section of stone is damaged beyond the point of repair and as concluded in the attached Heritage Statement; replacement of the mullion is required. Also, within the Heritage Statement it says as long as the works are carried out “like-for-like” the repair will benefit the heritage asset, as it is an essential repair. In addition to the replacement of the mullion the cement patching to the other areas will be carefully removed and replaced with lime mortar. This will ensure that the remaining stonework’s lifespan is extended further.



Figure 1 - Rear window with failed mullion

THE PROPOSED WORKS

It is proposed that the existing pointing is to be carefully removed and replaced with a new lime pointing. The method statement for the removal of the existing cement strap pointing can be found in the Appendix. The new lime pointing mix is to be a 1:3 mix (NHL 3.5 : aggregate). The aggregate will be a sand but the exact sand choice will be determined by carrying out sample panels onsite. Dependant on the existing pointing it may also be required to add other traditional crushed aggregates, such as chalk, wood and coal ash. This will be determined by what is found on site once the cement strap pointing has been removed.

The replacement of the mullion to the rear window will be carried out carefully and will be carried out like for like. The proposed new stone to be used for the new mullion will be selected carefully ensuring that the new stone matches in (as identified in Historic England, Sourcing Stone for Historic Building Repair);

- Petrography
- Chemical characteristics
- Geological age and setting
- Porosity & Permeability
- Appearance
- Compressive stress

The new stone can either come from a quarry that is extracting stone with match properties or if this can not be sourced it may be possible to use recycled stone from certified sources. For this samples will be obtained of the new stone and a stone to be agreed before the mullion is manufactured.

Once the new stone has been sourced the existing damaged mullion will be carefully removed in the traditional way causing minimal damage to the retained stone. The new stone will be tooled to match the existing detail of the window. It will be ensured that the new stone will reflect the profile of how the original window would have been and not the deteriorated stone profile. New lime mortar (mix to be as per pointing) will be used to secure the new stone in position.

The cement mortar that have been used to patch around the rest of the window will be carefully removed. Once the cement patches have been removed the stone is to be checked and any loose debris removed. Once a firm base has been established new lime:sand (1 NHL2: fine sand colour to match the existing stone) patch repair can be applied. It is to be ensured that the new patches are of a softer material than the stone it is being applied to. This is to ensure that no water is trapped behind causing crystallisation within the resulting in further damage.

SUMMARY

The council has been sought to address the legislative requirements and consider the features that make the building significant to the area. This statement along with the attached Heritage Statement (carried out by Stephen Haigh Building Archaeologist) has set out the issues affecting the building and the rationale behind the proposed remedial works. The proposals in the listed building consent application aim to ensure that Wiswell Eaves and the features of special architectural and historic interest are persevered.

It is concluded that the works are appropriate in respect of the historical appearance of the building and will ensure the building is maintained for further generations.

APPENDIX

METHOD STATEMENT FOR REMOVING THE EXISTING CEMENT MORTAR

WORKING METHODS

Pointing is a 'top-down, bottom-up' process. Clearing out and preparation of joints should always be carried out from the top down, and pointing should be carried out from the bottom up to take account of the effects of gravity.

Any cementitious or other non-original and inappropriate mortars should be carefully removed, avoiding damage to adjacent masonry. If a cementitious mortar cannot be removed without damaging the masonry, consideration should be given to leaving it in place. Defective lime mortars (those which are friable or have become detached from the adjacent masonry) should be raked out to a sufficient depth where sound mortar exists. However, care should be taken to ensure that sound, original lime mortars are left in place, in accordance with the principle of minimum intervention.

Where masonry is relatively impervious and a suction bond may be difficult to achieve, joints may need to be raked out further, (say) at least twice the depth of the joint width, to provide a level of mechanical anchoring of the new mortar into the joint.

Hand tools such as plasterers' small tools, half hacksaw blades and specially made steel hooks can be used to avoid damage to the stone courses and widening of the joints. Large chisels and any tools wider than the joint width itself should not be used. The use of power tools is frowned on by many conservators, but they should not be completely disregarded. There are some power tools available now which can be used successfully to remove existing mortars (particularly where cementitious), such as those with oscillating blades. However, where historic masonry is concerned, they should only be used by the most highly experienced craftspeople owing to the ease and speed with which they can damage masonry.

All loose and friable material must be removed prior to placing new mortar, as it requires a sound surface to adhere to. A stiff bristled brush should be suitable for clearing stone surfaces of unwanted material, followed by lightly spraying water (not under high pressure) into the joints to remove any remaining dust and debris. Preparation of the wall surfaces generally should include thorough cleaning down and removal of all loose material, dust, etc, and damping down before starting work.

Control of suction between the new mortar and the substrate is required. The more absorbent the stone or brick, the more wetting down it will need, in order to prevent water being drawn from the newly-placed mortar into the stone. If too much water is lost, the mortar will shrink excessively, become friable and ultimately become detached from the substrate. Impervious stones may require minimal or no damping down.

For re-pointing, the mortar should be sticky but not wet. A suitable mortar should stick to the underside of an inverted hawk (or trowel). An appropriate pointing tool should be chosen to suit the width of the joint, thus preventing spreading of mortar or staining on the masonry faces. The mortar should be firmly pressed into the depth of the joint with the pointing tool. Where pinning stones exist (normally found in

rubble-stone mortar joints over 10-15 mm) they should be hammered in any joints to force the mortar well back into the depth of the joint and to reduce the volume of mortar present in one location.

In general, when mortar has stiffened up, it should be firmly compacted into the joints by beating with a stiff bristle brush. This will help eliminate any initial shrinkage cracking and ensure that the mortar is fully compacted into the joint with a good bond to the surrounding masonry. The surface should then be lightly scraped back with the edge of the pointing tool or similar, to provide a rough, open-textured surface which is ideal for carbonation and curing, and for maximum evaporation of moisture from the joints once fully cured.

Overworking the surface of the mortar will result in surface laitance caused by lime particles being 'worked' to the surface, and forming an outer crust which may restrict carbonation of the mortar behind. This can also result in lime leaching if subjected to rainfall before the mortar has sufficiently cured.

Sample panels of pointing should always be produced at an early stage in the contract, as these will serve to clarify final details of specification, define the standards of workmanship and finish, and provide control samples for guidance of the contract work

COMPATIBILITY WITH ORIGINAL HISTORIC MATERIALS

The hardened mortar should:

- Have a vapour-permeability similar to, or greater than, that of adjacent historic materials
- Be visually compatible with surviving mortars and/or with the original appearance of the building
- Reflect the historic integrity of the original materials and methods of construction where practical

POINTING TOOLS

Below is a picture taken from Historic England, English Heritage, Practical Building Conservation, Stone

