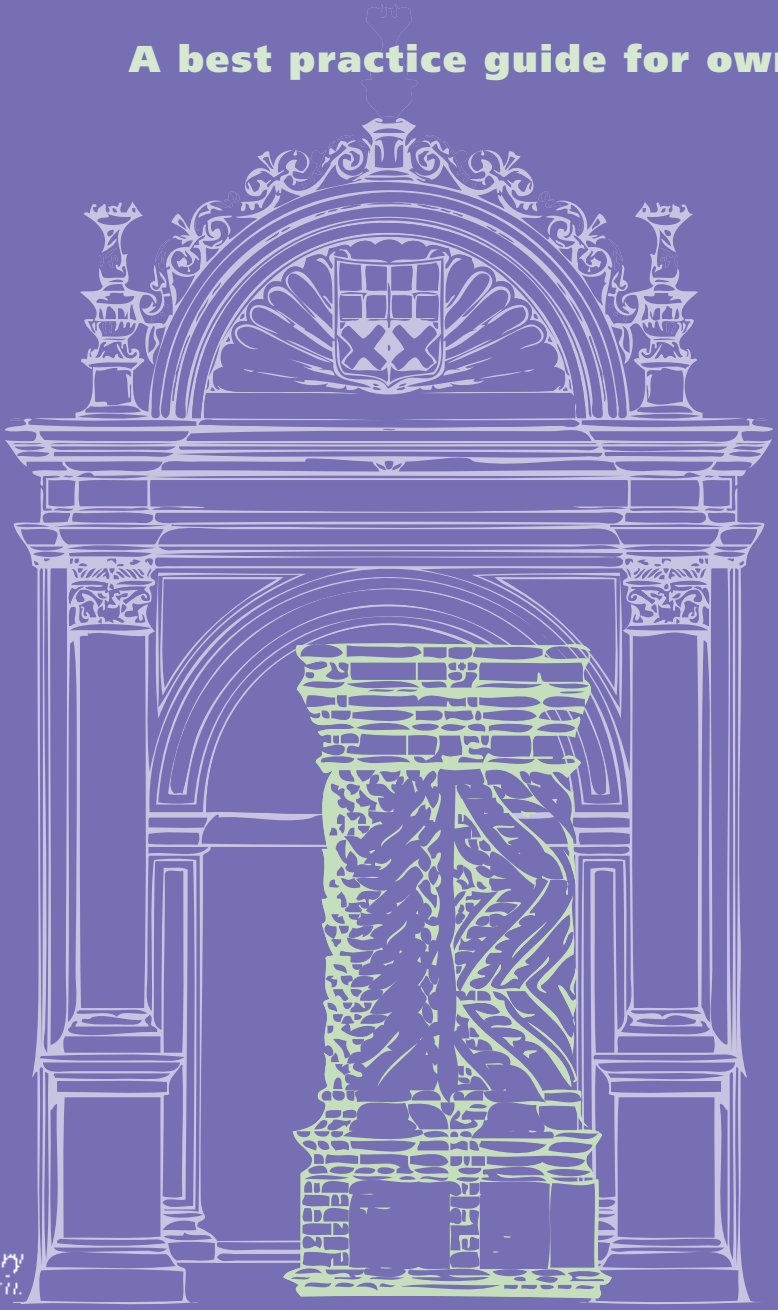
CONSERVATION

Maintaining Historic & Listed Buildings

A best practice guide for owners



St Edmundsbury
BOROUGH COUNCIL

MAINTAINING HISTORIC AND LISTED BUILDINGS – A BEST PRACTICE GUIDE FOR OWNERS

Introduction

Sadly, many people who own historic buildings only carry out work when the building is so badly decayed that repairing the fabric is no longer an option. Lack of low cost, regular maintenance leads to more expensive and extensive works at a later date and the value of a property can be reduced if defects are uncovered at the time of sale. Potential buyers will be discouraged from purchasing historic buildings if much of the original fabric has been replaced.

"The principle of modern times.... is to neglect buildings first and to restore them afterwards. Take proper care of your monuments and you will not need to restore them. A few sheets of lead put in time upon the roof, a few dead leaves and sticks swept in time out of a watercourse, will save both roof and wall from ruin. Watch an old building with an anxious care; guard it as best you may, and at any cost, from every influence of dilapidation." John Ruskin, 1849.

Consider how you maintain a new car. It goes to a reputable dealer for servicing once or twice a year and parts are replaced near the end of their life before they cause damage and failure. Similarly, a budget should be provided for regular maintenance of a building with repairs carried out by suitably skilled and experienced contractors.

"Regular maintenance and repair is the key to the preservation of historic buildings. Modest expenditure on repairs keeps a building weather-tight, and routine maintenance (especially roof repairs and the regular clearance of gutters and down-pipes) can prevent much more expensive work becoming necessary at a later date.... Major problems are often the result of neglect and, if tackled earlier, can be prevented or reduced in scale. Regular inspection is invaluable." Department of National Heritage 1994

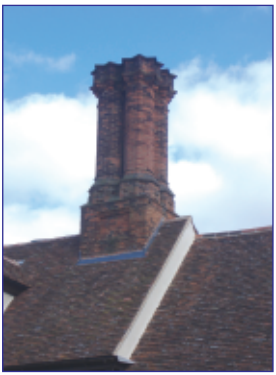
ROOFS should be checked once or twice a year. Any broken or missing tiles or slates should be replaced with new or second-hand products which match the original materials. Valleys, dormer windows, flashings, parapet linings and other areas of the roof that channel rainwater are all potential weak spots. If these areas fail it will cause timber decay inside the building.

It is important to inspect a loft at least once a year for evidence of rainwater leaks. This can be done by looking for water staining on timbers. You should also make sure the roof space is not filled with too much clutter, as this will make carrying out a proper inspection difficult.

Bituminised treatments and spray-on foams reduce ventilation and increase the risk of timber decay in the roof structure. If these substances have been applied, it will not be possible to carry out a proper inspection, or reuse tiles or slates. Every slate and tile will also need to be replaced when the bitumen or foam fails.

Lead roofs can be repaired with a lead patch while thatched roofs should be checked for wear and repairs carried out in a matching material. It is usually only necessary to remove the top few inches of thatch to repair the roof if long straw has been used. Regular maintenance could also help you to avoid having to re-thatch the entire roof at one time. Different slopes will weather at different rates depending on conditions and orientation, although ridges usually need replacing more frequently than the slopes of the roof.

CHIMNEYS still in use should be regularly swept. Even if the chimney is not being used, you should make sure the entire length of the flue is ventilated to avoid damp. Repointing should always be carried out using a mortar which is softer than the brick. In practice this will mean using a lime and sharp sand mortar without any cement. The original chimney pots should be retained or, if broken, replaced. Care should also be taken to ensure the mortar flaunching or lead flashing between the stack and the roof do not leak.



Chimney and roof in good repair

GUTTERS AND DOWN-PIPES must be regularly cleared of leaves and any other debris. This should help prevent water from penetrating the building and causing widespread damp, which can lead to wet and dry rot. Look for overflows and leaking gutter junctions during heavy rainfall. Overflowing rainwater will soak into walls causing internal damp and decay. It can also cause penetrating damp problems by soaking into the walls at ground level – something often misdiagnosed as rising damp. Cast iron gutters need to be painted regularly to prevent them from rusting.

EXTERNAL JOINERY, such as windows and doors, makes a major contribution to the architectural character of a building. Historic windows and doors are usually cheaper to repair than to replace and repainting window frames regularly is a cheaper option than waiting until things are so bad that preparing the surface takes longer than the actual painting. Buying the best paint possible will ensure the decoration lasts longer and is much cheaper than replacing rotten windows. You should also replace broken or missing putty.

If sections of external joinery are rotten, you should limit any repairs to those parts which have decayed. Repairs should be carried out on a like-for-like basis by a specialist using traditional carpentry techniques. Some builders are quick to replace damaged windows because they lack the joinery skills to carry out repairs. If your builder suggests this, you should get another builder or a joiner. Consult the conservation team if you think a window in a listed building is beyond repair and needs replacement, as you will need to get listed building consent.

BRICK WALLS rarely need repair or maintenance, except where water has been allowed to erode the mortar. It is never the case that an entire brick wall will need repointing. Some builders are too eager to repoint brickwork just because the mortar has weathered and is slightly recessed from the face of the brick, but you should only repoint the areas that need doing. Never use a lump hammer or angle grinder to remove sound mortar – it is a waste of money and likely to damage the bricks. If mortar cannot be raked out with a hand-held chisel, leave it alone. **If it ain't broke don't fix it!**

Any repointing must be carried out on a like-for-like basis, usually using a lime and sharp sand mix. The new mortar for repointing should match the texture and colour of the existing historic mortar as closely as possible. Replacing a soft porous lime mortar with a non-porous cement mortar will trap moisture in the brick, leading to frost damage and the rapid deterioration of historic brickwork.

The effect of cement mortar on historic brickwork

LIME HAIR PLASTERS on timber lath backing are a common feature in historic buildings. As well as its historical value, lime plaster is an excellent material for managing moisture in an historic building and is better able to tolerate condensation. Replacing lime plaster with plasterboard and gypsum plaster in a listed building without listed building consent is illegal. However, repairing lime plaster is not difficult and if repair is not an option, you should use new lath and lime plaster to replace the old. Listed building consent may be needed if you are planning to replace large areas of lath and plaster. If your builder insists on using cement and is unwilling to work with lime, they should not be working on an historic building, and the work may be unauthorised.

TIMBER FRAME buildings will last indefinitely if they are properly maintained. If the timber has decayed, you should find out why and fix the cause before starting any repairs. The most common cause of timber decay is damp, which creates the conditions for wet rot, dry rot, and other fungal and beetle infestations. You should seek specialist advice on these problems from an independent consultant. The wholesale replacement of historic fabric and the indiscriminate use of toxic chemicals are expensive, destructive and often unnecessary, and frequently fail to address the underlying cause of the problem.

It is not necessary to remove a whole timber when only part of its length is decayed. Only decayed and structurally unsound sections of timber should be removed and replaced by inserting new timber into the framing using appropriate historic jointing techniques. The most common timber used was oak and its availability makes it an ideal material for repairs. Green oak (unseasoned oak) should always be used to repair timber framed buildings because of its structural properties, the ease of working and its authenticity. Do not be tempted to use reclaimed wood - it is hard to work and could introduce infestation into the building. It is perfectly acceptable to repair timbers and joints with metal plates and straps, especially if this method will avoid loss of historic fabric.

If you live in a listed building, you should only carry out the most minor of timber frame repair without discussion with the conservation team. It may be possible to retain far more of the frame than you first thought, while the retention of wattle and daub infill panels, historic lime plaster and wall paintings will also need to be considered. You may need listed building consent if the repairs are extensive or develop into a substantial reconstruction project.

WATTLE AND DAUB INFILL PANELS should either be repaired or replaced with newly made wattle and daub. Any daub which has fallen out or become loose can easily be broken up, mixed with a little water and returned to a mud-like consistency ready to be reused. The main ingredient for daub is boulder clay, which can be found about a foot or two (50 – 70cm) below the topsoil of your garden. To make it into building material, all you need to do is add some chopped straw - it really is that simple! Ready mixed dry clay and straw suitable for repairs are also available from specialist suppliers.

CLAY LUMP is made out of the same material as daub, with extra straw added to the mix. When rebuilding, you should reuse existing clay lump blocks which should be laid in either a clay or lime mortar. If you need new blocks, they can be formed in wooden moulds and allowed to dry. A dubbing out process should be adopted to repair shallow holes, using a clay-based daub, typically consisting of recycled clay lump (removing large stones), sharp sand, lime and straw.

Clay lump walls were typically rendered using a clay daub, coal tarred over from the mid-19th century, and often sanded, a process of throwing sand at the wall, to provide a key for limewash. A lime plaster applied on top of the daub is often indicative of either a later repair or a more prestigious building.

EXTERNAL RENDERS act as a protective barrier to timber framed and clay lump buildings. All original renders would have been lime or daub plasters and it is important that the repair or maintenance of such render should be carried out using lime mortar. This material is ideally suited to historic buildings and should not be repaired or replaced with cement. Lime plasters were traditionally finished with a limewash and occasionally you should apply a fresh coat or coats of limewash. Waterproof paints or sealants should not be used on a lime render as it will seal the surface and prevent evaporation, creating the conditions for damp problems.

Any cracks which appear in hard cement renders should be repaired immediately, as water can penetrate into the wall behind the render and cause substantial damage to the timber frame. Cement renders and waterproofing paints and finishes which do not breathe are probably the most common cause of wet rot, dry rot and death watch beetle in a timber frame building. Lime plasters also have the advantage of being flexible and better able to accommodate the movements inherent in a timber frame building without serious cracking. However, as timber frame buildings do move, lime plaster may crack if the contractor has not prepared a sufficiently flexible mix. This can easily be repaired and is not usually a significant problem.

An outbreak of dry rot

DAMP-PROOF COURSES AND TIMBER TREATMENT – building society surveyors regularly advise the owners of historic buildings to spray timbers with toxic chemicals and add a damp-proof course. This is rarely justified and, if carried out by a contractor without the relevant experience, can cause damage.

If you have a damp problem it is important to identify the cause. The most common reasons are lack of ventilation, high external ground levels, leaking roofs, cement renders and concrete floors. These all encourage a build-up of moisture in the fabric of the building making it damp and providing the conditions for beetle and fungal attack of timber. Identifying the cause is the first step towards finding a solution which will avoid any extensive loss of fabric.

Areas of damp timber are more prone to beetle infestation but most beetle holes seen in historic buildings date back to when the house was first built. If you have ever tried banging a nail into a piece of oak which is centuries old, you can imagine the trouble a beetle will have - and it won't even have a hammer! Beetles like decayed timber, again underlining the importance of finding out the cause of the decay and remedying it. Once the cause has been repaired, if necessary, just the decayed area can be treated. If there is an active beetle infestation, you should only treat the area affected. You can also call in an independent specialist surveyor or consultant to analyse the problem and recommend a solution.

For further details about the causes of damp and how to deal with it, please see the leaflet 'Damp in old buildings' available free of charge from the borough council's conservation team.

VEGETATION - The setting of a listed building is often enhanced by trees and climbing plants. However, unmanaged vegetation will cause damage. Vegetation should be controlled as overgrown climbing plants and trees will attract damp.

Conclusion

Historic building inspections are best carried out by the owner or by an independent consultant or surveyor. These specialists can both identify any work which is required and, if necessary, prepare a specification for the work to make sure appropriate materials are used.

You should carry out an inspection of your property at least once a year. Gutters and down-pipes usually need inspecting during the autumn and again once autumn is over. Any blockages should be dealt with immediately while dripping overflow pipes also need urgent attention. Paintwork on windows and doors will deteriorate at different rates, depending on its exposure to the weather. It is unlikely all your windows will need painting in the same year and it makes more sense - and is easier on your bank balance - to do a few at a time.

Whatever the problem, do not panic. Your house is hundreds of years old and is not going to fall down overnight. Make sure you have found out the extent of the problem and the cause. Be sure you have decided on the least damaging way of dealing with the problem and wait for a competent builder who understands historic buildings.

An historic building is part of our heritage as well as your home. Approach everything with a view to repairing and retaining the historic fabric. Do not spend thousands of pounds on your dream home and then let a builder put half of it into a skip!

This leaflet can only give a basic guide and many of the general statements and comments would, in a longer publication, carry some qualification. However, there are builders, architects, surveyors and specialist historic building consultants who understand old buildings and give a good service to the homeowner. Make sure you find one.

Advice and Contact Details

The conservation team can provide further information on builders and craftsmen who carry out repair work to historic buildings. If you need further information or would like advice about maintaining and repairing your property please contact:

The Conservation Team
Planning and Engineering Services
St Edmundsbury Borough Council
Western Way
Bury St Edmunds

Tel: (01284) 757356 or 757339
E mail: conservation@stedsbc.gov.uk

Further reading

The information is based in part on the following publications, which are recommended as further reading.

AF Bravery, JK Carey, RW Berry, DE Copper, **Recognising Wood Rot and Insect Damage in Buildings.** BRE 1987
Christopher Brereton, **The Repair of Historic Buildings.** English Heritage 1995
Pamela Cunningham, **Caring for Old Buildings**. Donhead 2002
Jeff Howell, **Daily Telegraph Guide to Looking After Your Property.** Pan 2002
Stafford Holmes, Michael Wingate, **Building with Lime.** Intermediate Technology 1997
Phillip Hughes, **The Need for Old Buildings to Breathe.** SPAB 1987
Hugh Lander, **The House Restorers Guide.** David and Charles 1986
A Lawrence, D Wrightson, **A Stitch in Time.** IHBC 2002
Melville and Gordon, **The Repair and Maintenance of Houses.** Estates Gazette 1973
Richard Oxley, **Is Timber Treatment Really Necessary.** SPAB 1999
Jagit Singh and Nia White, **Timber Decay in Buildings.** Journal of Performance of Construction Facilities 1997
Jane Schofield, **Lime in Buildings.** Black Dog Press 1999
Brian V Ridout, **An Introduction to Timber Decay and its Treatment.** Scientific and Educational Services Limited, 1992
Ed M Wood, **Building Regulations and Historic Buildings.** English Heritage 2002

Useful Websites

English Heritage www.english-heritage.org.uk
(includes access to the National Monuments Record and the Images of England website)
Institute of Historic Building Conservation www.ihbc.org.uk
Building Conservation Directory www.buildingconservation.com
HELM www.helm.org.uk
Ancient Monuments Society www.ancientmonumentssociety.org.uk
Council for British Archaeology www.britarch.ac.uk
Friends of Friendless Churches www.friendsoffriendlesschurches.org.uk
Society for the Protection of Ancient Buildings www.spab.org.uk
Victorian Society www.victorian-society.org.uk
Twentieth Century Society www.c20society.org.uk
Georgian Group www.georgiangroup.org.uk

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