I hereby award myself ...

Party walls case with significant implications

On the safe side
Understanding security risks and crime prevention

Best practice
The benefits sustainable procurement offers

BUILDING CONSERVATION
Damp detective
Damp diagnosis and retrofits

October/November 2016
RICS.org/journals
Kemperol®
Liquid roofing and waterproofing at its very best

- Ideal for roof refurbishment, repair and new build roofing projects.
- Complete solvent free and odourless waterproofing systems available that can be laid whilst the building is operational - ideal for schools, hospitals and offices. Have the work done when you want it or need it.
- Kemperol® is a cold liquid application removing the fire risk of hot works.
- Laid in a single wet-on-wet process to form a totally seamless, durable, fleece reinforced, UV stable, elastomeric waterproofing membrane that cannot delaminate.
- With BBA Approval and expected life in excess of 25 years your roofing budget will never be better spent.
- For more information visit www.kempersystem.co.uk

Our secretarial typing service offers:
• No set up fees, contract, fixed costs or minimum spend
• Dedicated British OutSec secretaries qualified in the property sector and familiar with all terminology, accents and nuances.
• Reliable, fast, accurate and simple to use service tailored to your needs
• Highly confidential with secure data transfer
• Record and upload dictation from any location via the OutSec App for iPhone, android, or digital recorder

Reports including:
• Project management reports
• Expert and witness submissions
• Purchase & sales reports
• Building and house surveys

Contact us today
0870 243 0294
sales@outsec.co.uk
www.outsec.co.uk

OutSec is the UK’s leading web-based transcription company specialising in the property sector. We are dedicated to ensuring high-quality, perfected reports for our clients with a fast turnaround.

Specialist departments handle transcription directly into the RICS Worksmart iSurv system, ValEx or other third party surveying software (such as Quest) or into your own custom template.
CONTENTS

BUILDING SURVEYING JOURNAL
Editor: Barney Hatt  •  +44 (0)20 7695 1628
bhatt@rics.org

The Building Surveying Journal is the journal of the Building Surveying Professional Group

Advisory group:
Gary Blackman (Lambert Smith Hampton), Alan Cripps (RICS),
Sukhjeet Dosanjh (Watts Group), Brad Hook (National Energy Foundation),
Mat Lown (Tuffin Ferraby Taylor), Patricia Newman (Patricia Newman Practice),
Trevor Rushton (Watts Group), Chris Skinner (Savills), Roger Stanton (Tuffin Ferraby Taylor),
Andy Tockey (Bally Garner), Terry Walker (Walker Associates Ltd)

The Building Surveying Journal is available on annual subscription. All enquiries from non-RICS members for institutional or company subscriptions should be directed to:

Proquest - Online Institutional Access  • sales@proquest.co.uk
+44 (0)1223 219512 for online subscriptions
SWETS Print Institutional Access  • info@uk.swets.com
+44 (0)1235 857500 for print subscriptions

To take out a personal subscription, members and non-members should contact licensing manager Louise Weale
lweale@rics.org

BUILDING CONSERVATION JOURNAL
Editor: Toni Gill  •  +44 (0)20 7222 7000
tgill@RICS.org

The Building Conservation Journal is the journal of the Building Conservation Forum

Advisory group:
Alan Cripps (RICS), John Edwards (Edwards Hart Consultants),
Alan Forster (Heriot-Watt University), Frank Keohane (Paul Arnold Architects),
John Kiahn (RICS)

Published by: Royal Institution of Chartered Surveyors, Parliament Square, London SW1P 3AD
+44 (0)20 7666 8555  •  www.rics.org
ISSN 1750-1032 (Print) ISSN 1759-3387 (Online)

Editorial and production manager: Toni Gill
Sub-editor: Matthew Griffiths
Designer: Nicola Skowronek
Advertising: Emma Kennedy  •  +44(0)20 7871 5734
emmak@wearesunday.com
Design by: Redactive Media Group  •  Printed by: Page Bros

While every reasonable effort has been made to ensure the accuracy of all content in the journal, RICS will have no responsibility for any errors or omissions in the content. The views expressed in the journal are not necessarily those of RICS. RICS cannot accept any liability for any loss or damage suffered by any person as a result of the material included in the journal. All rights in the journal, including full copyright or publishing right, content and design, are owned by RICS, except where otherwise described. Any dispute arising out of the journal is subject to the law and jurisdiction of England and Wales. Crown copyright material is reproduced under the Open Government Licence v1.0 for public sector information. www.nationalarchives.gov.uk/doc/open-government-licence

Explaining ourselves
Alex Charlesworth reflects on several key events he has recently attended in his role as Chairman of the Building Surveying Professional Group

Enabling a superfast future
Claire Haynes and Helen Garthwaite set out the new benefits-regulations that highlight the importance of sustainable digital infrastructure for broadband connectivity

Update

Raincoats and overcoats
Trevor Rushton and Mark Danby stress the importance of breathable renders

Thermal upgrading
Michael Dignan looks at how the non-standard construction properties of a Scottish housing association’s properties pose challenges for refurbishment

On the safe side
Understanding security risks and crime prevention should be essential for building surveyors, says Spencer Carroll

I hereby award myself...
Vivien King looks at a recent case with implications for all surveyors making party wall awards

Change on the way
Julia Dixon describes the key changes set out in the Housing and Planning Act 2016

Best practice
Laura Winter reveals the many benefits that sustainable procurement can offer

A question of physics
Robyn Pender discusses problems posed by using waterproof coatings to protect traditional buildings

Don’t multiply your problems
Ian Streets counts the cost of defective design

Laying claim to a change
Emma Vugus considers the changing nature of claims against the surveying profession

Legal Q&A
Legal experts answer common queries

Avoiding confusion
Laurence Cobb highlights some key issues with payment notices – and some pitfalls to avoid

Inspiring the next generation
James Baker explains what RICS is doing to encourage future generations of building surveyors

A late developer
Martin Laffey describes how he became a RICS member via the Professional Experience Route

Fire safety
Fire safety is an optional competency for building surveying, and Ewan Craig, a speaker at the RICS annual It’s Your APC conference, offers some guidance

Opinion
Peter Hinton sees conservation through an archaeologist’s eyes

Damp detective
Michael Parrett considers issues around damp diagnosis and the impact of retrofits

Blaze from the past
Our historic properties are at risk from fire; writes Nick Hunt

Knowledge base
John Williams and Jennifer Murgatroyd look at the role of specialist investigations in refurbishing heritage buildings

Heritage update

CONTENTS / RICS BUILDING SURVEYING JOURNAL

OCTOBER/NOVEMBER 2016 3
Alex Charlesworth reflects on several key events he has recently attended in his role as Chairman of the Building Surveying Professional Group

Explaining ourselves

I was not long ago invited to speak on behalf of the Building Surveying Professional Group to a delegation of 15 Chinese government and business representatives from the Sichuan province. This was the first meeting I have attended where a translator was required – and the first, too, where the use of mobile phones to take photographs was actively encouraged.

My brief was to give a presentation using iconic buildings to demonstrate the practice of building surveying. This now leaves me with a very useful marketing tool that I hope to adapt as part of our drive to promote building surveying among students, at both school and university levels, as well as among a wider client base.

Added value
The brief required a little collusion, so my thanks go to Trevor Rushton and David Mann, of Watts Group and Tuffin Ferraby Taylor respectively, and to my own firm Cushman & Wakefield. Between us, we came up with some exciting projects that really demonstrate where building surveying adds value at each stage of the property lifecycle, from development through acquisition and occupation and finally disposal.

Examples of projects ranged from huge-value purchases in central London such as 30 St Mary Axe – the Gherkin – to planned maintenance at Wimbledon tennis club and reinstatement cost assessments on British Airways hangars and the Royal Albert Hall.

Having prepared the presentation, I can see how easily it can be developed to appeal to a wider audience. I would now like to open this up to all building surveyors and ask for examples of your favourite projects, those which demonstrate what an exciting and varied profession we have all chosen. Please also send photographs where possible. Of course, our aim remains to attract a younger, more diverse generation of building surveyors – which leads me to the next event.

Diversity and inclusion
There has been a step change in attitudes to diversity and inclusion throughout government and business. The property world is no exception to this trend, although arguably we have one of the steepest hills to climb. It is imperative that we all make this one of our priorities, to ensure the RICS remains relevant and fit for the future.

RICS is leading on a range of various initiatives, and held a diversity and inclusion conference in London in June at which around 200 delegates exchanged ideas with a line-up of inspirational speakers. Attendees debated the best ways to move the agenda forward, and guests such as HS2 CEO Simon Kirby, MHBC Partner Toni Belcher and Paralympian Marc Powell all shared their personal journeys and encouraged delegates to get involved.

Sharing best practice is going to be key to leading the diversity and inclusion agenda forward and achieving change efficiently and quickly. The recent RICS report Building inclusivity: Laying the foundations for the future highlights the state of the land, construction and property professions as well as the current gaps.

RICS will also be launching Diversity Hub, an online platform promoting best practice and case studies that can help employers and employees address the gaps highlighted in the report. For more information, visit www.rics.org/uk/knowledge/ska-rating/.

Finally, with variety being the spice of life, it is worth remembering there is a great deal going on around us in the property world that is positive – despite the Brexit factor! Variety also has to be a key factor! Variety also has to be an essential way of selling our profession to a younger, more diverse generation.

Please do contact me to help me tell your stories about favourite projects. We can use these in photographs, social media, films, presentations – the possibilities are endless.

Skat ratings
I was recently invited to meet Elina Grigoriou of Grigoriou Interiors to discuss how we can all help improve the environment by using Ska assessments (see also Building Surveying Journal December 2015/January 2016 p.17, and March/April 2016 p.22). Where BREEM or LEED standards relate to whole buildings, a Ska rating can be used for fit-out projects.

Elina has been working very closely with RICS, and I am an advocate for everything that Ska ratings represent. Please promote these where you can. For more information, visit www.rics.org/uk/knowledge/ska-rating/.

Please do contact me to help me tell your stories about favourite projects. We can use these in photographs, social media, films, presentations – the possibilities are endless.

Alex Charlesworth FRICS
is Chairman of the Building Surveying Professional Group
BuildingSurveying ProfessionalGroup@rics.org

Manager Lucile Kamar
(lkamar@rics.org)
Superfast broadband connectivity is now seen as essential by businesses and by most homeowners, while the government targets 95% coverage of the UK by 2017.

The Building (Amendment) Regulations 2016, implementing the Broadband Cost Reduction Directive 2014/61/EU in England and Wales, aim to reduce costs and obstacles to superfast broadband. They introduce a Part R for Schedule 1 to the Building Regulations 2010, with a requirement that all new or existing buildings subject to major renovation are equipped with infrastructure to support superfast broadband of at least 30Mbps.

The government has also issued Approved Document R: Physical Infrastructure for high-speed electronic communications networks by way of guidance on complying with the technical parts of requirement 1. While following the guidance does not guarantee compliance, there will be a presumption of compliance; as there is no obligation to adopt any solution set out in an approved document, other routes can be discussed with the relevant building control body.

The Building Regulations take effect on 1 January 2017 in England and at a few energy-generating sites in Wales, but they will not apply to works subject to existing building control notices and applications that have already been submitted. A building will meet the requirements if it is ready to receive superfast broadband in the future, but this need not be installed immediately after completion of the works.

The new regulations apply not only to new-builds but also major renovation of the entire internal physical infrastructure of building or a “significant part” of it, and entail installations such as ducting for the networks by which services are delivered. No explanation is offered as to what is meant by a “significant part” of internal infrastructure, though, which will lead to uncertainty. This being so, it will be a question of fact and degree in the particular circumstances of each case.

### Access points

The regulations provide that in-building infrastructure is to be installed up to a “network termination point”, where an occupier receives broadband access. Multi-occupancy buildings will usually have multiple points, one for each occupier.

Such a building will also be required to have a “common access point” inside or outside, where broadband providers can connect to internal infrastructure. Single-occupancy buildings will also have to have such a point, but this will connect to one network termination point only.

The regulations only require in-building infrastructure between the access point and network termination points. Infrastructure extending externally from the access point is outside their scope, as is cabling or in-building infrastructure beyond the network termination point.

But the regulations have missed an opportunity to meet requirements for site-wide infrastructure – an important consideration given the increasingly connected world in which we live, and the drive towards ‘smart cities’.

### Exemptions

The regulations will apply to dwellings and non-residential property, but there are exemptions for:

- conservatories and other small detached buildings with no room to sleep
- listed buildings or conservation areas where compliance would unacceptably alter character or appearance
- isolated buildings where a high-speed connection is too remote to justify
- major renovation where the cost of compliance would be disproportionate to the benefit gained.

In the latter case, the cost of work required and the alternative means of high-speed broadband delivery must be demonstrated to be unreasonable. There is no guidance, though, on what constitutes an “unreasonable” expense.

### Incentives for stakeholders

The guidance states that suitable ducting should be provided to connect all network termination points to an appropriate access point, for example wall ducts or, for multi-occupancy buildings, dedicated vertical and horizontal riser service routes. Implementation of the new regulations will not be without challenges or costs, particularly for older buildings that were not designed with space for broadband infrastructure and ducting.

The regulations will encourage developers, investors and occupiers to consider IT infrastructure at an early stage when moving or during development, because non-compliance could significantly affect a building’s value, marketability and use. For some developers and investors, the cost implications may be minimal as many new buildings are designed with ducting for broadband access and termination points integrated into the design; for others, the changes will be a wake-up call.

The regulations are another step in the right direction for the law to keep pace with the practical realities of technology. A new Electronic Communications Code is promised as part of the forthcoming Digital Economy Bill, underpinning agreements to install and maintain communications apparatus.

A project led by the City of London Corporation has also developed a standardised wayleave. Together with the new regulations, these initiatives should help to improve connectivity and reduce the costs and delays of the current protracted processes for wayleaves and street works.

Claire Haynes is Professional Support Lawyer in the Commercial Property team at Wedlake Bell
chaynes@wedlakebell.com

Helen Garthwaite is Partner in the Construction team, Wedlake Bell
hgarthwaite@wedlakebell.com

Related competencies include

- Building pathology,
- Legal/regulatory compliance,
New energy department

The UK government has integrated the Department of Energy and Climate Change (DECC) into the Department for Business, Energy and Industrial Strategy (DBEIS). The new department will take on all of DECC’s policy areas, and Greg Clark has been appointed the first Secretary of State. The abolition of DECC is disappointing. Although it had been under-resourced for too long, as a dedicated department it clearly demonstrated the UK government's commitment to tackling climate change. This, together with the ‘slash and burn’ approach to energy policy over the last year or so, creates yet more uncertainty and could undermine the positive announcement about the fifth carbon budget, committing the UK to reducing carbon emissions by 57% against 1990 levels by 2032. It is only to be hoped that this move upgrades the status of energy policy and that DBEIS Minister Baroness Neville-Rolfe’s assertion that “energy and climate change will be at the heart of the new department” proves to be the case.

Mat Lown is Partner and Head of Sustainability, Tuffin Ferraby Taylor
mlown@tftconsultants.com

Flooding publications

The British Standards Institute has published BS 85500: 2015, Flood-resistant and resilient construction. Guide to improving the flood performance of buildings. The standard looks at the growing risk that buildings face from flooding, and is based on the Department for Communities and Local Government's 2007 publication Improving the flood performance of new buildings: Flood-resistant construction. It brings the document up to date by focusing on the flood performance of modern methods of construction, and provides guidance on how to improve the resistance and resilience of buildings to reduce the effects of flooding from all sources by use of suitable materials and techniques.

The Environmental Industries Commission has published Turning the tide: Proposals to reform flood policy. The report calls for amendments to Flood Re – the UK government and industry flood insurance scheme – so that it insures businesses as well as homes, rewards individuals making reasonable preparations for floods by reducing their premiums, and makes use of longer-term financial incentives such as the Repair and Renew grant to encourage people to take responsibility for their own flood risk.

The report's lead author Oliver Johnson said: “We can make buildings more resilient by ensuring that flooding is a primary concern in the planning process – basements, carpets and electrics at floor level in flood plains are out, and attics and stone floors are in – while also continuing to clarify standards on sustainable drainage systems.”

Scotland energy rules

From 1 September, owners of buildings in Scotland greater than 1,000 sq. m in size will be required to provide an action plan when they sell or rent their property. They will also have to ensure that energy improvement data, including the action plan and energy performance certificate (EPC), is submitted to the Scottish EPC Register.
Domestic Renewable Heat Incentive

The Domestic Renewable Heat Incentive is a UK government financial initiative designed to encourage a switch to renewable heating systems and help reduce carbon emissions. A homeowner must install loft and/or cavity wall insulation before applying, if this is listed as a recommendation on their energy performance certificate; however, should a property be unable to meet the insulation requirements, it requires an exemption. This could be the case, for instance, where older properties have a loft that could be insulated but, due to the presence of a protected species of bats, covenants on the building itself or other factors, this is not possible. Any exemption requires a professional such as a chartered surveyor to investigate and provide a report confirming that it is not possible to insulate the property.

As the incentive continues to expand, there is potential for an increasing number of homes to require a building professional to provide these services. For more information, contact DomesticRHI@ofgem.gov.uk or visit http://bit.ly/1VOYOpF

Apprenticeships

The former Department for Business, Innovation and Skills and the Construction Industry and Training Board (CITB) have agreed that firms with a payroll of more than £3m pay both the CITB levy and the government’s all-industry apprenticeship levy, coming into effect in April. Just over 900 firms will be affected, paying both levies for at least a year while the construction sector is consulted on a new CITB levy from 2018. Affected businesses will only have to pay the two levies on the portion of their payroll above £3m; firms with a payroll below this level will be unaffected by the changes.

MMC take-up increases

Most housebuilders have used or considered using modern methods of construction (MMC) in the past three years, according to a report published by the NHBC Foundation. Modern methods of construction: views from the industry found that one of the main attractions of MMC “is the perceived ability to build more quickly and there is some evidence that MMC can lead to a reduction in costs”.


Subsidence Forum

The Subsidence Forum is to hold a training day at BRE Watford on 20 October. It will include presentations on the Financial Ombudsman Service, Japanese knotweed, High Speed 2 and Crossrail, tree issues, satellite mapping and computer-controlled grouting. Book early to avoid disappointment.

www.subsidenceforum.org

Conferences

Scotland Building Surveying Conference
3 November 2016, Glasgow

www.rics.org/bsscotconf

COBRA
29–31 August 2017, London
Please register your interest by 4 November.


Construction survey

The pace of increase in construction market workloads continues to slow, according to the Q2 2016 RICS UK Construction Market Survey, extending a trend that began in the middle of last year. The report highlights that:

● workload growth has slowed in Q2 across all sectors as uncertainty around the UK’s referendum on EU membership has delayed investment
● private commercial and industrial sectors have seen most significant slowdown
● workloads and employment are projected to continue growing, although more slowly than previously anticipated.

Raincoats and overcoats

Until the end of the 19th century, the use of protective renders of lime or earth was a common form of external treatment for brickwork or for buildings constructed from clay or straw. Many examples still survive, illustrating the effectiveness of the materials and the skills of those who used them.

During the 20th century, however, the use of lime declined in favour of Portland cement, which, with its ability to set quickly, its considerable strength and its workability, was seen to be superior to hydraulic lime.

Today, we have a better understanding of the limitations and advantages of the way various render materials perform, according to their location and use. Conservation practitioners will be familiar with the limitations of cement renders and the harm they can do to historic structures; in contrast, many surveyors will be more familiar with buildings constructed over the last 100 years.

The purpose of this summary is therefore to deal with “modern” cement-based renders rather than cover the considerable variety of materials in conservation practice. Nevertheless, conservation-led practice will likely lead to more successful outcomes than approaches that rely on, or seek to achieve, watertight external coating.

Protection

Aside from their obvious decorative function, renders are designed to give a degree of protection to facades that would otherwise deteriorate with exposure to the elements. Renders may also be used to provide a suitable basis for ceramic tiling or tesserae, finishes that were very popular in the 1960s and early 1970s.

Until the more widespread use of cavity walling from the early to mid-20th century, rendering was used to improve the performance of solid, nine-inch brick walls that in exposed situations would otherwise become saturated. Problems arise when the permeability of the coating is reduced either by design or the gradual build-up of paint coatings.

Consider an analogy with raincoats and overcoats: a raincoat will shed water and, theoretically, keep the wearer dry; however, if the seams fail then the raincoat is hopeless. Water that gets through the fabric takes a long time to evaporate, and combined with the wearer’s natural generation of vapour, it means conditions can become very uncomfortable. By contrast, an overcoat does not shed water but absorbs it until it becomes saturated; water can evaporate and, because the coat is highly permeable, it can escape from inside as well.

This is obviously a simplistic example, but the similarity between dense impervious renders – “raincoats” – and softer, more permeable finishes – “overcoats” – has a big influence on the performance of a building. It is very difficult to achieve a watertight coating, and usually far better to aim for a breathable overcoat.

Water retention

Cement renders tend to be very dense and, if not totally impermeable, they are certainly highly resistant to vapour transfer. Coupled with the build-up of multiple layers of masonry paint over the years, this means the permeability of the finish decreases and the risk of water entrapment and interstitial condensation rises. Such water retention can be very harmful to a building, particularly if the masonry is constructed from lime mortar; this will deteriorate, and the effects of freezing and thawing can result in delamination and cracking.

For many buildings constructed during the 1930s, internal, sometimes apparently inexplicable, damp patches often relate to rendering problems and water entrapment, possibly with defects at a higher level permitting water to enter the building and be drawn downwards by gravity. The dilution of deliquescent salts – which liquefy – and hygroscopic salts – which absorb moisture – from the masonry and their subsequent deposition at or near the internal wall surface can be very troublesome, and consequently damp patches will often persist even after the rendering defects have been repaired.

Buildings are not static; they move according to changes in temperature and

The application of a cement render over an old stone wall has resulted in serious water entrapment and subsequent deterioration of the lime mortar in this example
moisture throughout the year, and can expand and contract irreversibly. If the render can accommodate these changes then all is well, but if not, cracks will form and these will allow water ingress. A good rendering system must be sufficiently flexible, with suitable provision for movement, to avoid cracking.

One method of dealing with this, and with soft, unstable surface materials as well, is to use a wire render carrier and treat the render layer very much as a rainscreen. Some render carriers can be supplied with a separating layer of building paper for this purpose.

**Sulphate attack**

Sulphates are a common culprit in the failure of a building's exterior, particularly with features such as chimney stacks and exposed party walls where the surface can become saturated. Some common bricks have a highly soluble sulphate content that can be released in damp conditions. As sulphates react with water, ettringite can form where the render meets the surface to which it is applied, and problems such as spalling and brick joint expansion can occur; such failures can be confused with frost attack.

Unfortunately, simply replacing the render is unlikely to provide a long-term solution, and further cracking and water ingress can be anticipated. Always avoid render on sky-facing surfaces, such as the top of a parapet wall.

For many years, construction practice in the UK has employed cementitious render with a smooth trowelled surface. Such finishes tend to develop a strong surface layer as part of the trowelling process, which can lead to shrinkage cracking and water ingress. By comparison, the European practice of using a textured surface, which gives greater area, will perform much more like an “overcoat” and be less prone to cracking, so long as the mix is right.

A lime–cement mortar will be more vapour-permeable and slightly more flexible than a cement render while encouraging a strong bond between mortar and masonry units. A flexible render of one part cement, one part lime and six parts sand offers a high level of absorption and reduced cracking, thus enabling swifter drying by evaporation after damp penetration, and reduces problems related to frost and chemicals.

In comparison, a sand–cement render will be brittle and inflexible; even though little water will be absorbed, some will penetrate and become trapped behind the render via cracks, and various forms of deterioration are likely to occur.

The most important lesson therefore is that a rendering system must be designed to be vapour-permeable; it needs to follow the principle of a stronger backing coat and weaker external coats, never the reverse.

The render must adhere securely to the material to which it is applied because subsequent detachment will jeopardise its effectiveness as well as threatening health and safety. Secure adhesion can be ensured by cleaning away any loose particles and applying the render to a sound, textured surface.

Other ways to improve adhesion involve hacking the surface, applying a surface bonding agent or fixing metal lathing. If lathing is used, ensure that the fixings are appropriate for the job – it is not unknown for large sheets of render to collapse as a result of corroded or unsuitable fixings.

**Render failure**

While render failure is often attributed to delamination from the surface, this is not necessarily the reason. One may spend a good deal of effort hacking off loose areas and sealing cracks, but if the fundamental problem is lack of permeability then the process may not be entirely successful. Replacement with a lime-based mortar or a contemporary pre-bagged, polymer-modified system may yield better results.

Nevertheless, there are many occasions when wholesale replacement is inappropriate or unaffordable. In these cases, the extent of delaminated render can be determined by the hammer test, save that this is a fairly imprecise method; invariably, the release of surface tension off leads to a degree of peel-back on otherwise sound areas.

An alternative method of diagnosis is thermography, but for this to succeed the equipment must be sensitive to very slight changes in the thermal performance of delaminated areas, and obtaining appropriate temperature differentials can be tricky. Patch repairs are best undertaken using a mix as close as possible to the existing one.

There is a wealth of published information on the subject of rendering and the selection of appropriate mixes. Success or failure depends entirely on the degree of care taken in selection and mix design, but attempts to create a watertight envelope are likely to result in disappointment. A flexible, breathable coating should be the goal.

---

Buildings are not static: they move according to changes in moisture and temperature
Thermal upgrading

Michael Dignan looks at how the non-standard construction characteristics of a Scottish housing association’s properties pose challenges for refurbishment.


Abertay Housing Association (AHA) of Dundee owns around 3,000 properties, and, as a registered social landlord, has thermally upgraded a large number of these ahead of the new regulations.

Steel primary structure

Unfortunately, some AHA properties are deemed to be “hard to treat”, including around 100 Atholl-system houses – properties built around 1927 for a UK government programme that promoted non-traditional construction methods under the Housing (Financial Provisions) Act 1924. With a steel primary structure and cladding, these properties mainly take the form of four-in-a-block dwellings.

The energy efficiency rating for each such property is currently 51, so the flats clearly require a significant intervention in order to comply with the standard. Table 1 shows the minimum requirements set out in the legislation; however, due to the age of the properties and their non-standard method of construction, it was thought that a conventional intervention might cause unintended damage to the building.

The Scott Sutherland School of Architecture and Built Environment at Robert Gordon University, Aberdeen, has been involved in applied research on building performance for some years. It came to the attention of AHA, which sought its help with the Atholl houses. Together, the School and AHA developed a proposal for funding from the Knowledge Transfer Partnership to design and monitor upgrades for the properties. Around £140,000 was secured for the project over two years.

Before considering potential upgrades, however, it was essential to investigate one or more properties to confirm the construction methods that had been used and to ascertain their current condition. This article describes the construction and condition of one vacant ground-floor property to which we had full access.

Table 1

<table>
<thead>
<tr>
<th>Dwelling type</th>
<th>EE Rating (SAP 2009)</th>
<th>EE Rating (SAP 2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gas</td>
<td>Electric</td>
</tr>
<tr>
<td>Flats</td>
<td>69</td>
<td>65</td>
</tr>
<tr>
<td>Four in a Block</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Houses (other than detached)</td>
<td>68</td>
<td>65</td>
</tr>
<tr>
<td>Houses (detached)</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>


The starting point was a desktop study on the construction of the properties. As published, the construction comprised:

- **primary structure**: T-shaped steel stanchions
- **fabric**: 11- and 12-gauge steel cladding fixed to the primary structure; cladding panels coated on inner face with a thin layer of granulated cork
- **floors**: timber joists and flooring.

Detailed survey

Clearly, this published information was quite basic, and we required much more detail to progress properly. We were fortunate that a vacant flat became available early on for experimentation as a ‘living lab’, allowing us to open up isolated areas then, at a later date, completely strip all internal linings to expose the primary structure, external cladding and some areas of sub-floor.

We found that the construction of the primary structure, measured at 9mm thick, was as described, but there were interesting differences with the cladding and floor construction. The thickness of the cladding panels varied from 3mm to 6mm, and the vertical joint between the panels and stanchions was sealed with a material that resembled canvas; although, given that the properties are located in Dundee, it could very well be jute.

The floor joists were fixed to a wall plate on damp-proof course supported by a concrete ledge (see image 1) with a sub-floor void of around 300mm. The most surprising discovery was made on the inner face of the cladding panels: at the top edge, each was shaped to form a lap for a joggle joint and bent inwards to form a horizontal lip (see image 2). It is suspected that these were formed with the intention of giving rigidity to each panel.

With regard to health and safety considerations, we noted on our first investigation that there was substantial...
debris in some of the cavities. We had it tested and found that it contained lead paint, which had been the original protective coating. This required that we discontinue investigations until all internal linings had been stripped and the debris cleared in a safe and appropriate manner.

**Condition**

Once the property had been made safe, we could inspect the building in greater detail, and found the primary structure was in surprisingly good condition for a 90-year-old steel building. Prior to stripping the paint protection, we noted significant rusting to the stanchions. However, after the paint and corrosion were removed, we found the steel in very good condition. Clearly, our first inspection had found only surface rust.

The cladding panels displayed varying degrees of corrosion to their inner faces, but none of the panels had decayed sufficiently to warrant replacement. The main point to understand when inspecting a property of this type is that the horizontal lips are the most vulnerable part of the fabric. As they are flat, there is very little chance of them shedding water and they will therefore retain moisture on their surfaces. The condition of the lips ranged from very good, that is, unaffected by corrosion, to extremely bad, with a severe loss of section, or in some cases had disappeared completely (see image 3).

There was a trend to the deterioration: the uppermost lips, at window-head level, were almost all in excellent condition, while those at sill level were the opposite. At this stage, we are unable to ascertain why this pattern occurred; however, the same pattern has since been identified in other similar properties.

One of our more fascinating findings was that the orientation of the property significantly influences the condition of the structure and fabric. The property is around 2m below road level at the front elevation, and the general topography of the area slopes downwards towards this (see Figure 1). Combined with a lack of direct sunlight, this means the front elevation is permanently cold and damp. Therefore, the condition of the structure and fabric to the north-west-facing front elevation has deteriorated to a much greater degree than the rear elevation.

As a result, the front elevation:
- shows significantly more corrosion than the rear elevation
- contains more debris in the cavity
- demonstrates signs of timber decay to the joist ends and wall plate (see image 1), though none to the rear elevation elements.

Clearly, the south-east-facing rear elevation is exposed to a greater amount of direct sunlight and, as a result, it is thought that any water vapour that condenses on the steel will not accumulate. The heat will also raise the temperature of the steel surface, thereby reducing the potential for condensation to form. However, given that atmospheric corrosion starts at around 60% relative humidity, it appears that the conditions to the rear elevation remain below that.

**Summary**

The findings might indicate that Atholl houses are in better shape than first thought, and that refurbishment rather than demolition may be possible. But their construction is more complicated than the published information suggests, so the surveyor should approach them having undertaken the usual desktop study, while keeping an open mind.

The influence of topography and orientation cannot be underestimated. The property we investigated had two very different micro-climates to the front and rear elevations, which produced very different levels of decay. Be aware, too, that the combination of lead paint and corrosion may mean there is potential for the inhalation of lead dust particles.
Understanding security risks and crime prevention should be essential for building surveyors, says **Spencer Carroll**

**On the safe side**

Like many concerns for building surveyors, security cuts across building types, sectors and services, and is more far-reaching than one might expect. But for major or new-build projects, there is a wealth of design guidance.

Approved Document Q (ADQ) of the Building Regulations – Security in Dwellings came into effect on 1 October 2015. ADQ applies to all new dwellings and sets out security standards in relation to doors, windows and accessible rooflights, in order to safeguard against intruders.

The product must be shown to have been manufactured to a design tested to an acceptable security standard. ADQ does not apply to extensions or replacement doors and windows in existing dwellings.

Police initiative
Set up in 1989, Secured by Design (SBD) is a UK police initiative focusing on the design and security of new and refurbished homes, commercial premises and car parks. It is intended to provide research to inform guidance for “designing out crime” through physical security measures and processes.

For example solid shutters to shopfronts create dead frontages, attract graffiti and prevent the shop’s interior being seen.

SBD offers a more holistic approach to crime prevention, and there is a wealth of guidance ranging from garden design for deterring intruders to information on the use of alarms and external lighting.

Homeowners and business proprietors are advised to take this guidance on board and, where possible during cyclical maintenance or capital repair projects, to improve security in accordance with the best practice it outlines.

Building fabric theft
Thiefs from the external fabric of a building are on the up, and the continued increase in the value of metal, especially lead and copper, means that it will continue to be a common problem. This so-called heritage crime – with lead being stolen from ecclesiastical buildings for example – has long been acknowledged as a risk. However, continuing economic hardships have seen criminals diversify and become more organised.

Primary schools and nurseries are now at particular risk, because their typically single-storey construction often means that access to roofs to remove lead is relatively straightforward under the cover of darkness.

The lengths to which criminals will go to steal metal shows no limit. There are often reports of thieves scaling tall buildings or removing live copper cables, with ensuing disruption to public or private services.

In cases where lead flashings are stolen, for example, it can be many months before there is any noticeable ingress of rainwater, by which time often costly damage will already have occurred to the roof deck and building structure itself. This is a particular problem on flat concrete roofs where large volumes of rainwater can be trapped between the concrete deck and the roof system.

Figures from a Freedom of Information request to the London Borough of Croydon show that there were 27 lead thefts to schools in 2015, costing the taxpayer a total of £143,000. For an education sector already challenged financially, these costs have a direct impact on the bottom line of budgets.

The use of lead-free products that perform in a similar way is now more routinely specified for low-rise buildings. Unfortunately, none of these materials offers the same heritage value or durability that lead does, neither do they weather with such an attractive patina.

Damaged brickwork
The latest reported escalation in building fabric theft concerns deliberate damage to boundary walls made from high-value Georgian and Victorian London stock brickwork.

This brick is predominantly formed with shallow deposits of brickearth, a clay-based material overlying the natural geology of much of London clay. The unique yellow-clay brickearth was then mixed with what was essentially the rubbish of London, but which also contained a large quantity of ash and cinders. The result was an economic
mix of ingredients that, once fired, resulted in a very distinctive handmade brick.

Its rustic appearance, durability and in particular its resistance to pollution in the capital has seen it become the architectural equivalent of the red phone box. The price of reclaimed or second-hand bricks is around £1.50 apiece on the open market.

The Georgian London stock brick is particularly prized for its suitability in extensions to period houses, especially those in conservation areas where there is often a strict planning requirement to build with matching materials.

The summer of 2016 has seen a particular spike in the theft of such stock, and reports of criminals toppling garden walls to remove the disturbed brickwork for sale on the black market have not been uncommon.

The company SmartWater provides one solution to such thefts in the form of a permanent forensic liquid marking, containing a unique code that is registered to a particular property and can only be seen under ultraviolet light. Active display of its use at a property can serve as an important deterrent for would-be thieves.

DIY protection measures
In an effort to protect their property, homeowners and business proprietors may sometimes be tempted to consider the introduction of DIY or budget measures to deter intruders.

The proliferation in the use of spikes, broken glass and barbed wire to boundary walls or fences is now quite common (see images, left and above). The legality of such approaches may be questionable, however.

Anyone who owns or controls a property has a duty of care to protect people and animals on the premises from foreseeable harm, and this extends to uninvited persons whether they be a burglar or simply a child trying to retrieve a ball. Similarly, spikes or razor wire on boundaries next to the public highway could potentially result in the injury of innocent humans or animals. A local authority also has a duty of care to protect such persons using the highway, and therefore may insist that barbed wire on a garden fence, for example, is removed.

Any injury or harm to persons or animals could result in a prosecution. The fortification of property is also likely be challenged by the local authority if it contravenes the permitted height of boundary walls, and by neighbours whose visual amenity may be spoilt.

It may under certain circumstances be possible to discharge a duty of care from the risk of harm by razor or barbed wire by positioning it at such a height that accidental injury is unlikely, as well as by the use of warning signs. Nevertheless, clarification should also be sought from your building insurer as to whether you are indemnified against the risk of injury to others.

Building fabric theft is not only a threat to existing buildings but also to those under construction or nearing completion. Very often, the presence of scaffolding around a building will provide the perfect opportunity for safe access to carry out a theft. Not only are the building fabric and components at risk but, on a construction site, tools, plant and equipment also present rich pickings for resale on the black market.

Construction sector response
The construction sector has responded well to this challenge with the provision of remotely monitored wire-free scaffold alarms, lighting, CCTV and site hoardings with biometric or access-controlled entry points. As ever, balancing cost with risk requires careful consideration because all of the above security measures can have quite a significant effect on the bottom line of a project budget.

The building surveyor’s relationship with the security specialist is critical, too, as these measures are not necessarily a panacea. There needs to be early collaboration between those working on the overall project, scaffold and security design to ensure that all aspects are optimised.

Every client wants to avoid paying for state-of-the-art equipment, while at the same time preventing false alarm activations or alarm downtime. They will also want the on-site workforce to be able to operate the technology on a day-to-day basis.

Bear in mind that construction sites are dynamic work environments: scaffolding is modified, subcontractors work at different times and sensors can be blocked, and all of these could inadvertently undermine the function or adequacy of site security.

It is strongly advised that the project’s security arrangements are understood and accepted by the building or contents insurers, particularly if the building is either fully or partially occupied. It is likely that building or contents insurers will request that scaffold security complies with an industry quality benchmark, such as that provided by the National Security Inspectorate.

All of these issues can be considered in much greater detail in their own right, but as ever the role of the building surveyor can be crucial in connecting them in a logical manner, when carrying out a due diligence survey for a purchaser or providing contract administration or project management services.

Spencer Carroll is a director at Lighthouse Chartered Building Surveyors.

spencer@lighthousesurveyors.com
I hereby award myself …

Vivien King considers a recent case with implications for all surveyors making party wall awards

The High Court case The Queen on the Application of Farrs Lane Developers Limited v Bristol Magistrates’ Court (Defendant) and James McAllister (Interested Party) [CO/3431/2015] has raised a few eyebrows – and not just because of its name. It will no doubt be noted by all surveyors who are making awards under the Party Wall etc. Act 1996 (the act).

The case concerns 10 awards made by one surveyor. In five of these, he was the “agreed surveyor”; in the remainder, he acted jointly with the surveyor appointed by the relevant adjoining owner. Each award stated that the building owner should pay the surveyor’s fees of £1,300 plus VAT for preparing and serving the relevant notice, plus fees for their additional work at the rate of £80 per hour plus VAT.

Facts of the case

The claimant, property owner Farrs Lane Developers Ltd, instructed the surveyor, the interested party, to serve party structure notices on owners of 10 adjacent sites in Bristol at an agreed fee of £90 per hour plus VAT. The aforementioned awards were made, and, while the claimant felt that the fees – totalling £24,363.72 – were excessive, it did not appeal them, but instead simply failed to pay.

Under section 17 of the act, the surveyor issued 10 complaints in Bristol Magistrates’ Court for non-payment of his awarded fees. The claimant’s defence was that the magistrates had no jurisdiction to make the orders sought by the surveyor because he was neither the building owner nor adjoining owner and his fees were not a matter of dispute between those parties.

The magistrates said that they had been making orders for unpaid fees for 10 years. They granted the surveyor a favourable judgment for his fees, but they refused to give reasons for doing so. The claimant then issued proceedings for a judicial review of the magistrates’ decision.

There were three issues to be decided by Mr Justice Holgate.

1. Were the awards in respect of the surveyor’s costs ultra vires, because they did not relate to a dispute between the building owners and the owners of the adjoining property?
2. Even if an award includes an order to pay surveyor’s costs that are not disputed between the owners, can it direct a party to pay them to the surveyor directly, instead of awarding direct payments between the two relevant owners?
3. Had the magistrates erred in awarding costs to the surveyor based on the 38.5 hours he spent on the case multiplied by his £90 hourly rate?

Judgment

Reviewing comments made in paragraph 7.5.1 of the RICS Practice Standards, UK, Party wall legislation and procedure, 6th edition, guidance note (http://bit.ly/1UEefrM) – to the effect that case law rules that there is no contractual or statutory basis for surveyors addressing responsibility for costs in an award – the judge disagreed. He said the issues before him had not previously been dealt with by any judicial authority.

Issue 1

While the act did relate to disputes between the owning parties, an award may determine “any other matter arising out of or incidental to the dispute” (section 10(12)(c) of the act). Second, “the word ‘determined’ is not limited to the making of a decision on a dispute. As a matter of ordinary English, the word can simply mean ‘to lay down decisively or authoritatively or to pronounce or to declare’.”

The judge found an award under the act is not restricted to matters about which the building owner and the adjoining owner disagree.

Issue 2

The judge rejected the contention that an award could not direct that payment be made directly to the surveyor. “The statute enables the surveyor(s) to determine which party is to pay the costs awarded without limiting the discharge of that obligation in the award to a payment to another party, rather than to the surveyor entitled to receive that payment,” he said.

Issue 3

Addressing the magistrates’ award for costs, the judge said it was in their discretion to award the surveyor reasonable and just costs. Regarding the costs of the hearing before him, Mr Justice Holgate awarded these to the surveyor, but at the rate for a litigant in person – that is, £19 per hour.

Finally, the judge commented that the claimant had an opportunity under the act to challenge the 10 awards in the county court. However, the route down which this case had subsequently been drawn – through the magistrates’ court and High Court – incurred costs that exceeded the challenged fees, and although this did not form any part of the basis of his judgment, he said it should be noted. His disapproval was clear.

Vivien King is a consultant at Malcolm Hollis vivien.king@malcolmhollis.com

Related competencies include
Contract administration, Legal/regulatory compliance
A unique guide on ‘HOW TO RESTORE AND PROTECT BUILDING SKINS’

This book provides the architecture, solutions and pro-active strategies needed to help commercial property specialists and surveyors protect, manage and increase the life-span of the external building façade. Explore new methods, techniques and a completely fresh approach to pro-active building skin care.

REQUEST YOUR FREE BOOK TODAY at
www.buildingtransformation.co.uk/modus

WE PROVIDE EXPERT FAÇADE SOLUTIONS
/ Condition Consultancy / Façade Protection / Façade Restoration / Specialist CPDs

Call us 01234 964 017 for expert advice.

Visit us at
THE UK PROPERTY MARKETPLACE
mipimiUK
19-21 October 2016 - Olympia, London

Party Walls and Boundaries essential update
November 2016
London and Warrington

This seminar will ensure you remain at the forefront of this practice area and are working to the highest professional standards by providing crucial CPD on topics including interpretation of the Party Wall Act, legal issues around access and possession, disputes, awards and appeals and recent case law.

Bringing together the combined expertise of surveyors and legal professionals, our expert speaker line-up makes this a must-attend event for anyone thinking of, or currently practicing in this field.

Book your place online today: rics.org/partywallupdate

To advertise contact Emma Kennedy +44(0)20 7871 5734 or emmak@wearesunday.com
Change on the way

Julia Dixon describes the key changes set out in the Housing and Planning Act 2016

The Housing and Planning Act 2016 (the act) received Royal Assent on 12 May after seven months of parliamentary debate. It introduces some key changes to the planning system, essentially designed to increase the supply of new homes and meet the government’s stated aim of having one million new homes built by 2020. It also introduces changes to the process of compulsory purchase and compensation.

While much of the detail remains to be set out in secondary legislation, the government has been undertaking technical consultations that give an indication of the way some provisions may work in practice. The key planning changes concern:

- Starter homes
- Self-build and custom build
- Planning permission in principle and brownfield registers
- Wider definition of Nationally Significant Infrastructure Projects (NSIPs) to allow schemes that include housing
- Alternative providers for processing applications.

Starter homes

These are covered in Part 1, chapter 1, sections 1–8 (England only), and are defined as new-build housing for first-time buyers of at least 23 years of age but younger than 40. The housing is to be sold at a discount of at least 20% of the market value and at less than the price cap, which is £450,000 in Greater London and £250,000 elsewhere. Local authorities will be under a duty to promote the supply of starter homes, for example in local plans and when determining planning applications. The National Planning Policy Framework definition of “affordable housing” is also to be amended to refer to starter homes.

On 23 March, the government published its Starter Homes Regulations – Technical Consultation, which stated that 20% of all homes constructed should be of this type, and this requirement would be triggered for developments of 10 units or more or on sites of 0.5ha and above. Those in the development sector consider it likely that the requirement will prioritise provision of starter homes over other, more traditional forms of affordable housing.

Self-build and custom build

While there is already a requirement for local authorities to keep and have regard to a register of people seeking to acquire land to build or commission their own home, Part 1, chapter 2, sections 9–12 of the act explain what is meant by self-build and custom housebuilding and introduces a duty on councils to grant sufficient planning permissions for serviced plots to meet demand. Regulations may specify the circumstances in which an exemption may be sought.

Planning permission in principle and brownfield registers

A new, alternative method of obtaining planning permission for certain housing-led developments is set out in Part 6, sections 150 and 151 (England only).

- Permission in principle will establish the basis for development on a specific site. It will be obtained in two ways:
  - Allocation in the new brownfield land registers, development plan documents or neighbourhood plans
  - Direct application to the local authority (for minor developments only).

The permission in principle will not in itself constitute a planning permission, but will establish location, uses and the amount of development. A subsequent Technical Details Consent will need to be granted in accordance with the permission in principle; together these will constitute a full grant of planning permission.

- Local authorities will also be required to maintain a new register of brownfield sites suitable for housing, though regulations are awaited setting out registration criteria. The government has indicated that brownfield sites suitable for five or more dwellings or larger than 0.25ha should be registered.

NSIPs

Part 6, section 160 (England only) enables housing associated with an NSIP to be approved as part of a Development Consent Order for that project, if it constitutes “related” development, rather than requiring a separate planning application to the local authority. Restrictions and limitations will be imposed on this.

Alternative providers

Part 6, sections 161-164 (England only) of the act introduce provisions to allow planning applications to be processed by “alternative providers”, that is, parties other than the council. Regulations will be put in place allowing certain applications to be processed by “designated persons” and specifying whether other local authorities can act as alternative providers, as well as detailing procedures, fees, performance standards and complaints procedures. The alternative providers will only process applications and not be responsible for determining them – that onus will remain on the relevant local authorities.

The act introduces many more changes in terms of housing and compulsory purchase but this article has considered the key changes from a planning perspective. The Queen’s Speech in May also promised a Neighbourhood Planning and Infrastructure Bill, so further changes will be coming our way shortly.

Julia Dixon is a senior associate at Squire Patton Boggs, UK. julia.dixon@squirepb.com

Related competencies include Inspection, Legal/regulatory compliance

http://bit.ly/2SWxHAc
Sustainable procurement involves the purchasing of goods, services and works in the most efficient manner without compromising resources for future generations. Developing and implementing a well-crafted sustainable procurement strategy will not only achieve value for a procuring organisation, it will also take into account the social, economic and environmental impact of the overall process.

The procurement of design and construction for any building project will involve three key parties: the client, the consultant and the contractor. It is common for a lead consultant to provide guidance and advice regarding the most appropriate procurement method and design to meet the client's requirements.

As lead consultant, a surveyor must ascertain whether their client has a sustainable procurement policy, and if so, they should familiarise themselves with its strategic goals. The contents will inform them of their client's key sustainable considerations, and in turn influence the advice they provide on the choice of procurement route, appropriate contract selection, design and specification criteria and project management strategy. Without the surveyor's understanding of sustainable procurement, the client's objectives may not be met, reducing the potential value gained.

Key benefits
Where a robust sustainable procurement strategy is understood and endorsed by a consultant surveyor, the following benefits will be realised for all three key parties.

- **Risk reduction**: risks resulting from poorly managed supply chain practices are reduced as a result of heightened due diligence and communication with suppliers and subcontractors. Identifying exploitative, unethical and environmentally harmful behaviours will reduce exposure to reputational, legal and supply risks.
- **Financial betterment**: analysis of existing purchasing and operational practices can highlight inefficiencies and waste, so savings on operational costs can be identified. Whole-life costing can show how higher initial investment could reduce the need for maintenance and lower operational and disposal costs, benefiting the contractor in the short term and the client in the long term.
- **Stakeholder expectation**: stakeholder awareness and education has brought with it increased levels of expectation. Ethical organisations perceived to be actively accountable for their supply chains and in-house procedures and processes win both trust and support from their stakeholders. This in turn contributes to an enhanced reputation and long-term loyalty – assets valued by all organisations.
- **Market differentiation**: an effective sustainable procurement strategy will set industry leaders apart from their competitors, enabling extra market shares and attracting additional investment. Buildings procured in a sustainable manner are seen to offer increased value for their end users, as well as providing a unique selling point for the key individuals involved.
- **Innovation and improvement**: in striving to achieve sustainable targets, organisations demonstrate proactivity and achieve efficiency. Clear, measurable goals for both procurer and suppliers provide a sustainable benchmark, driving innovation and progress and resulting in safer, greener outputs.

Wider benefits
Outside the project team, sustainable procurement has wide-ranging benefits.

- **Locally sourced**: encouraging supplies to be sourced locally reduces the emissions associated with transportation and improves local economies and employment.
- **Better built environment**: occupiers of sustainably procured buildings enjoy improved health and wellbeing.
- **Improved quality of products and services**: sustainable benchmarks promote innovation, improving the quality of our built environment.

In recent years, there has been a perceptible shift in the way business is conducted globally. Organisations are going beyond their legislative and regulatory duties, taking responsibility for their supply chains and using their buying power as a force for positive change.

Barriers to entry do exist, of course, including the time and costs associated with initial implementation. However, sustainable procurement is now widely regarded as best practice, and where appropriate, consultant surveyors should add value by advising clients on the merits of developing such strategies. Projects should be tendered to contractors who show a sustainable ethos and credentials, potentially having developed their own sustainable policies.

With such a diverse range of benefits to be realised, it is worth taking time to build knowledge and understanding of sustainable procurement, and for procuring organisations to invest in securing our collective social, economic and environmental futures.

---

**Laura Winter** is a building surveyor at Fulkers Ltd

laura.winter@fulkers.co.uk

Related competencies include:

Accounting principles and procedures, Design and specification, Sustainability
Building professionals often propose using water-resistant coatings to protect walls of masonry and other permeable materials, especially after devastating events such as floods. So why are conservation specialists opposed to them?

Traditional buildings are actually very good at keeping out the rain, although they do this in quite a different way to modern construction, which relies instead on waterproof materials such as sheet metal, glass and cement. The effectiveness of materials such as stone, timber, brick and lime mortar lies in the very fact that they are water-permeable – that is, they have an open and connected pore structure through which water can travel.

Water vapour v liquid water

The difference between water vapour and liquid water is critical: in a vapour the molecules are widely separated and move independently, too light to be affected by gravity; but in a liquid they are close enough to bond ionically, flowing as one and entraining any other water with which they come into contact.

There is a continual exchange of moisture between permeable building materials and the air surrounding them, which is driven by changes in the exterior humidity and the way moisture moves through the pores.

The pores will almost always have a lower vapour pressure than the surrounding air, essentially because water molecules travelling into the material condense as they collide with the pore walls, or are held by contaminants such as salts and clays. Pores may connect to form fine capillaries, and these can fill with water even when many larger pores are mostly dry; capillarity will then cause this water to flow through the material. Together, these processes draw in water vapour from the air. In contrast, if a liquid-filled capillary connects to the surface, it may lose water to the air through evaporation.

When a raindrop hits the surface it is not instantly absorbed, unless it should chance to hit the mouth of liquid-filled capillaries, which can entrain the water into the material. More usually, air in the pores prevents the water being absorbed. A sponge provides a perfect analogy: if it is dry – that is, its pores are filled mostly with air – it will not absorb water very readily.

The likelihood of two consecutive raindrops hitting the same spot is vanishingly small, even in a severe storm, so there is never enough water to overcome the air resistance. Most rain will therefore rest in the surface pores until it evaporates, rather than running down the surface. The big problem with waterproofing is that flowing water will instantly be drawn into any crack or joint by capillarity.

Traditional construction also incorporates details such as eaves, hood mouldings and footings to protect weak points where water might collect and be drawn into the wall, though maintenance remains critical to its performance.

Coating effect

If a coating is applied to a permeable material, it will have little effect on the amount of water vapour drawn in because the physical processes in play are easily strong enough to overcome even a very thick coating. However, any coating will greatly reduce evaporation, meaning that, over time, moisture in the wall increases.

When rain hits a coating that reduces the surface roughness, it will run down until it reaches any flaw and there be drawn, or ‘wicked’, into the wall, as does flood water. The coating will prevent that water evaporating, so moisture levels will again increase over time.

Perhaps the most important point is that rain hitting the surface is not the only source of water. Collecting in blocked gutters it can enter the wall at the top and be drawn down by gravity, while all surveyors know the problems of failed downpipes and drains. Water escaping from mains or internal plumbing is another common problem, and high internal humidity can lead to serious condensation. Whatever the source of water, the coating will hamper drying.

With time, a coated permeable material will start to fail, usually at the point where it alters the permeability, since it is here that salts will tend to be deposited and air trapped. It is very common for the entire surface to begin to spall away. Walls given waterproofing treatments all fail sooner or later – sometimes slowly, but often quickly and spectacularly.

The lesson is that treatments need to be tested outside the lab, and for longer periods. It is not enough to show that a coating can slow initial water uptake: other consequences need to be investigated, especially over the life of the building.

Dr Robyn Pender is a physicist specialising in moisture transport in building materials and systems in the Building Conservation and Research Team at Historic England. robyn.pender@historicengland.org.uk

English Heritage, Practical Building Conservation: Building Environment

The Building Conservation Directory 2016
http://bit.ly/1T44PFT

Related competencies include Building pathology, Design and specification
Don’t multiply your problems

Ian Streets counts the cost of defective design

Good design is important regardless of the property, the product or the people using it. The additional factor to consider when designing access for disabled people is the possible cost of rectifying any errors – and of dealing with any discrimination claims that may result.

This can leave you facing a triple whammy – paying for improved design, loss of business and compensating the customer – and it underlines the importance of getting the design correct at the outset.

A new construction project or major renovation can involve an army of experts all working towards the same end but not necessarily aware of the fine detail that can make or break the best-laid plans.

You might have a lead architect, someone looking after construction design and management, a fire engineer, a mechanical and electrical expert and a landscape architect. They are all specialists in their respective disciplines, but they may not necessarily anticipate the impact of their individual contributions on the accessibility of the wider project.

The general principle of a tenfold increase in the cost of an error for each stage of a process is particularly applicable to building design. For every £1 you might spend remedying a problem at the concept and preparation phase, you can expect to spend £10 if it is not resolved by the time you get to scoping a project, and £100 at the planning and pre-construction stage. Add another zero if it remains at the point of application and construction, and be prepared for that initial £1 to have multiplied to £10,000 if the failure to act early leaves you making alterations once the property is occupied and in use.

Access consultant

By appointing an access consultant to the team, you can ensure you get things right first time, avoiding the delays and cost that result from having to revise the work of one specialist and then making sure it fits with the plans of all the others. The savings in time and money are such that the investment will typically pay for itself.

At our consultancy About Access, we conduct appraisals to ensure that inclusive design is achieved throughout the construction process. We study accessibility provision from the earliest stage, looking at the plans and providing our advice at a point where corrections and improvements can easily be accommodated.

We use our experience and understanding to make recommendations that will assist a design team in incorporating features to improve access, and we also help them save time and money by avoiding costly corrections once construction is under way – or even complete.

Our advice could be as simple as suggesting the provision of a meeting room on the ground floor, but even that can represent a significant saving in an environment where having just a little knowledge can prove dangerous and expensive.

Ramp installation

We were called in by one client to advise on installing a new ramp for an existing emergency exit, which was to become an entrance for a member of staff who uses a wheelchair.

The client had already had to arrange for the previous ramp to be removed, redesigned and rebuilt, all at the architect’s expense, because it was not suitable. We reviewed the design and made recommendations, and also pointed out areas that had not even been considered. It was clear that, without our input, the same failings would have happened again.

Another client engaged us to give design guidance on an accessible toilet for an improvement programme at a small church. We offered our advice, but the builders failed to stick to the plan and their completed job required substantial and expensive modifications.

But there is more to accessibility than complying with the law and avoiding the discrimination against disabled people that could leave your business vulnerable to a claim. Think also about the cost of the business lost when a disabled person and the other members of their party decide to shop, eat or stay elsewhere because your facilities do not extend the welcome and level of care that they are used to.

The Department for Work and Pensions refers to the “purple pound” to indicate the spending power of a disabled person and others in their household. Citing the Family Resources Survey for 2012–13, it calculates that the 12.2m households in the UK that include a disabled person have a combined income, after housing costs, of £212bn (http://bit.ly/25Jsjng).

Ian Streets is Managing Director of About Access
www.aboutaccess.co.uk
Laying claim to a change

Emma Vigus on the changing nature of claims against the surveying profession

Allegations of negligence are heavily influenced by the economic cycle but, over a 10-year period, building surveys are less likely to result in such an allegation than are lending valuations. Where an allegation does arise, it is usually resolved quickly without legal assistance, and often at an amount that falls under a firm’s self-insured excess.

So professional indemnity insurers are rarely troubled by claims arising from building surveys and are therefore happier to cover them, and HomeBuyer Reports (HBRs), than they are to cover higher-risk lending valuations. This results in a professional indemnity insurance (PII) rate for building surveys of around a third in 2016 compared to both building surveys and HBRs are made against the profession.

The majority of surveyors provide good-quality work, consistently practising effective risk management. However, it is surprising how many allegations relating to both building surveys and HBRs are made against the profession.

Analysis of a sample of residential survey and valuation notifications made since 2006 reveals that around 30% relate either to a building survey or an HBR. By 2015 and 2016, more than 70% of notifications in each year related to both building surveys and HBRs are made against the profession.

So professional indemnity insurers are rarely troubled by claims arising from building surveys and are therefore happier to cover them, and HomeBuyer Reports (HBRs), than they are to cover higher-risk lending valuations. This results in a professional indemnity insurance (PII) rate for building surveys of around a third in 2016 compared to higher-risk lending valuations.

The major overall trend is that around 54% of claims against property services providers, both building surveys and HBRs, account for just 1% of complaints received in 2015. However, data from the Ombudsman Services shows a fourfold increase in complaints about property services to the Ombudsman Services (Ombudsman) in 2015. The report also highlights the growing popularity of social media as a route for getting a complaint resolved (http://bit.ly/2a46o3H).

According to CAM, complaints against property services providers accounted for just 1% of 52m complaints received in 2015. However, data from the Ombudsman Services shows a fourfold increase in complaints about property services to the Ombudsman in 2015.

Claims issues

So what sort of claims are we seeing? Alleged failures to report accurately on damp, flooring, movement and services are the most common. The nature of complaints has been relatively consistent throughout the last decade, allowing for peaks in notifications relating to damp, roofs and conservatories during wetter months. There is little variation between regions, although consumers in the South East of England are more prone to complain – a finding supported by data from CAM.

Pinpointing the underlying cause of a claim is essential if a firm is to manage risk effectively. While it is tempting to blame an increase in the number of damp-related issues on the weather, repeated allegations could point to a more systemic problem – for example, lack of experience or shortage of time to complete inspections and reports.

Anecdotal evidence from the internet, including review sites such as Trustpilot, suggests that consumers often lack understanding about what they are commissioning and the scope of inspections. It is encouraging that both RICS and surveying firms are now running campaigns to educate consumers.

The internet has an important role to play in this process but, increasingly, it is also the first place a disgruntled customer turns, whether to find a lawyer or to complain about service via social media or a consumer review portal.

Regardless of how you become aware of a complaint, you must handle the matter in line with your PII terms and conditions and notify your broker and/or insurer as soon as possible. Where a criticism of your service is posted publicly, ensure that your response does not inflame the situation or breach your PII policy’s terms and conditions by admitting liability.

You should also ensure that clients are aware of your complaint-handling procedures, which should flag the consumer’s right to redress via the ombudsman, an option that will typically be cheaper and less confrontational than a complaint that comes through a law firm.

Social media and consumer review websites mean that numerous people can access both positive and negative comments on your service. One hopes that consumers will take a balanced view of the odd negative comment but long-term reputational damage resulting from consistently poor service is now far more likely than it was a decade ago. And this change necessitates the addition of another skill set for risk managers – that of reputational management.
Underground services

On a JCT Design and Build project, the contractor is claiming extra costs for additional work because the existing underground gas pipe is in a different location to the one that is shown on the drawings supplied with the employer’s requirements. Is the contractor entitled to claim these extra costs?

> Charles Blamire-Brown

All too often there are discrepancies between the drawings forming the employer’s requirements and actual physical structures, particularly when it comes to detailing existing underground services.

The key questions are as follows.

- Who is responsible for these discrepancies and their impact?
- If it is not the contractor, what additional cost is that contractor legitimately entitled to recover?

Who is responsible?

In the current scenario, the discrepancy originates from the employer’s requirements, so it is necessary to understand the contractor’s responsibility for these. Clause 2.11 of the JCT Design and Build contract makes clear that the contractor is not responsible for the contents of the requirements or for verifying the adequacy of any design they contain.

The contractor’s responsibility is instead to develop its own proposals. However, to the extent that any discrepancy originates from the employer’s requirements – which are not dealt with in the contractor’s proposals – then these requirements must be corrected, in this instance to show the correct location of the gas pipe. This and any other corresponding amendments that may need to be made to the contractor’s design to accommodate the corrections will be termed a “change”.

As a change, it is to be valued in accordance with clause 5. In practice, however, is the change likely to require a redesign? Will additional work need to be undertaken as a result of any revised design? It will depend on the nature and extent of the redesign, but this could well be relatively limited.

The real battleground is instead likely to be the contractor’s claim for any loss and/or expense that arises from the delay and disruption to the works as a result of making the change – for instance, in stopping or reprogramming the work while the redesign is completed.

This will likely include a number of components, such as:

- prolongation costs associated with any critical delay to completion caused by the change
- disruption costs caused by having to carry out works in an inefficient manner as a result of the change.

Any claim for the former will be subject to analysis and challenge, in relation to whether the costs were caused by the change to accommodate the discrepancy and associated delays or by other delays for which the contractor is culpable.

There is also the issue of mitigation. If the discrepancy is spotted at an early stage, then it may well be that the contractor can mitigate the effect of any delay by reprogramming its works. In such cases, there may be no overall critical programme delay or associated cost. In terms of any disruption costs, the later the discrepancy is spotted the more disruptive the effect of redesigning the works to accommodate it will likely be on the contractor’s works.

Delayed notification

It is also worth bearing in mind that the contractor is obliged under clause 2.13 to notify any discrepancy as soon as it becomes aware of it. If there is a delay in notifying, then the contractor may be responsible for any additional costs arising, which might include the expense of redoing work it would not have needed to repeat had the discrepancy been notified before the original work was carried out.

It is very common to see clause 2.11 amended, effectively making the contractor responsible for any errors or divergences in the employer’s requirements by deeming the former to have verified their accuracy. In such circumstances, any discrepancy in the employer’s requirements would not require a change, neither would it constitute a relevant matter, and the contractor would be unable to recover its additional costs.

Overall, a scenario such as this comes down to the scope of the contractor’s responsibility for the employer’s requirements, and so it will be important to see whether clause 2.11 has been amended. If it has not, then an employer will likely struggle to prevent the contractor from claiming additional costs arising from changes to the requirements. However, the contractor will need to demonstrate that these were in fact caused by changes to accommodate the discrepancy and associated delays to the works, rather than by other factors for which it is responsible.
Laurence Cobb highlights some key issues with payment notices – and some pitfalls to avoid

Avoiding confusion

The best way to avoid problems when issuing a payment notice or a pay less notice is to agree at the outset of the contract a payment mechanism that identifies when each notice needs to be issued.

Clear understanding of this is absolutely critical. Missing a deadline, especially with a pay less notice, can be fatal in resisting any claim under that particular interim application, even if you are only late by a matter of a day.

This is demonstrated by the case of ISG Construction v Seevic [2014] EWHC 4007, in which it was stated: “If the Employer fails to serve any notices in time it must be taken to constitute a valid interim application irrespective of the true value of the work actually carried out.”

Written schedule

In practical terms, it is best to have a written schedule of dates either open on your screen or to hand as near to your computer as possible. It is also advisable to have made and agreed in advance any extensions of time or variations to the contract period due to overrun or for any other reason. As a result, all parties remain clear as to the dates for service of the various notices.

This approach is clearly sensible from a business perspective as well, because if the person responsible for that schedule is out of the office then there will be some form of back-up to ensure that the dates will not be missed. Comments such as “I missed the date because I was at the gym/dentist/holiday retreat (delete as applicable)” will not save the day.

Regarding the notices themselves, it is perfectly legitimate to challenge the content of a payment application if it is not adequately set out. As referred to in the case of Henia Investments v Beck Interiors [2015] EWHC 2433, “The document relied upon as an Interim Application must be in substance, form and intent an Interim Application stating the sum considered by the Contractor as due at the relevant due date and must be free from ambiguity.

“In this context, the Interim Application should be considered in the same light as a certificate … If there are to be potentially serious consequences flowing from it being an Interim Application, it must be clear that it is what it purports to be so that the parties know what to do about it and when.”

Full content required

A notice must be of full content as indicated in the case of Jawaby Property Investment v The Interiors Group [2016] EWHC 557, where it was found that a valuation described as an initial assessment by the contractor did not constitute a valid interim application for payment because it did not set out what the contractor considered was due on the valuation date.

It was stated that: “If a Contractor wishes to have the benefit of the interim payment regime such as that contained in the Contract, then its application for interim payment must be in substance, form and intent an interim application stating the sum considered by the Contractor as due at the relevant date and it must be free from ambiguity.”

Please remember that a final account is also an application for payment, and under many contracts there are payment provisions entitling applications after practical completion. Therefore, you should be aware that what may appear to be a fairly straightforward repeated claim for money after practical completion might, if reviewed with some care, transpire to be an interim application.

If it is ignored, this could lead to a considerable payment being due without the possibility of challenge because no pay less notice has been served in regard to that application.

There are ways in which payment notices can be challenged even if a pay less notice has not been correctly issued. These usually relate either to the inadequacy of content of the original application or – more usually by accident rather than by design – the mistiming of such an application under the contract.

So if you are involved, as many of you will be, in dealing with payment regimes under building contracts, make sure that you fully understand the provisions regarding applications and notices. You should also understand the period in which applications are permitted throughout the contract and beyond practical completion, including the final account application.

Also make sure that any notices served under the contract contain sufficient detail, whichever party you represent, to be certain there can be no arguments as to lack of clarity of content. Getting any of this wrong is likely to prove to be a very expensive and painful experience.

Laurence Cobb is Partner at law firm Taylor Wessing lcobb@taylorwessing.com

Related competencies include Legal/regulatory compliance
Inspiring the next generation

James Baker explains what RICS is doing to encourage future generations of building surveyors

As a chartered building surveyor and RICS Matrics UK Chairman 2015–16, I am pleased to see that the profile of surveying is a priority for RICS with the appointment of a Future Talent Director.

Alex Charlesworth makes some very good points in his careers article (see Building Surveying Journal July/August, p.24), but it is important to add to these. We definitely need to be loud and proud about what we do and encourage future generations into careers in building surveying.

I agree that recruitment is key, but the profile of our job first needs to be elevated to take its place alongside other careers of choice, such as solicitors and accountants. Once this is done, recruitment will be improved as larger talent pools will be available.

Diversity

Diversity is clearly an issue, with surveying lagging behind other professions. However, it is not all doom and gloom, and things are definitely changing. For instance, the RICS now has a diversity and inclusion mark, with large employers recognising the benefit of having a diverse workforce. In 2015–16, the RICS Matrics board had an almost 50/50 split between male and female members as well.

Diversity is obviously not just a matter of gender, and attitudes are changing for the better to ensure that building surveying is a more inclusive profession. Teams with which I have worked in my career have definitely become more and more diverse, and it is important that this issue remains at the forefront and that we continue to make forward strides.

Profile

In terms of profile, the board and its network of 40 local groups across the UK are working with the RICS Future Talent team to implement a newly established RICS careers strategy. Both the board and local members will inspire the next generation of building surveyors by running workshops for and giving presentations to a range of schools and technical colleges. We have already consulted with the target audience, and it is clear that students want to experience prospective careers through interaction and case studies.

I am looking forward to being a part of the team that helps raise the profile of the profession by attending careers fairs and engaging with students.

Building surveying needs to be portrayed as a diverse, forward-thinking profession with vast opportunities; the RICS is working hard to achieve this, and RICS Matrics intends to be integral to the process. We need the support of employers to promote the profession, to signpost placements, and to provide inspiring case studies.

Schools

I have visited local schools to talk about surveying as a profession – and more specifically building surveying – attending careers fairs as well as giving presentations with which students have engaged with interest. I particularly remember one large fair where virtual reality technology was used to demonstrate the vast range of opportunities that careers in surveying can offer.

RICS has invested in and now launched a “World” on the careers website Plotr (www.plotr.co.uk), which is used at schools and colleges by young people to find out about potential careers. This is a great use of technology to reach out to a wider audience and present surveying as a possible career.

With the appointment of a Future Talent Director and team at RICS, I have no doubt that things are moving in the right direction. It is vital that RICS members and firms work together to raise the profile of building surveying. With this joined-up approach we can make big advances; if we do not work together, then there is a chance that the message could be diluted or disjointed, having little or no effect.

I am extremely passionate about building surveying, and am looking forward to contributing to giving the profession a higher profile.

When I became RICS Matrics UK Chairman in June 2015, I wanted to inspire the next generation through careers and education, and this is something I fully intend to continue pursuing. I encourage anyone with a passion for what they do to contact the RICS and get involved as well.
A late developer

My first attempt to gain full professional membership of the RICS was 23 years ago as an undergraduate in my late 20s, studying at what was then Anglia Polytechnic.

I was at the tail end of an RICS-approved degree course in building surveying; I had been in higher education for the past eight years, gaining technical qualifications along the way and suffering from what I refer to as ‘college fatigue’. I was also keeping a work diary, as well as recording projects, in dread of the fast-approaching APC interview.

I can still recall the feeling of sickness in my stomach when I received the details of the project I had to develop and present to the panel within too few days. This feeling became more intense as I walked out of the interview room with the disapproving faces of the panel imprinted on my mind.

Little did I know that it would take almost a quarter of a century before the feeling of disappointment in my failure to secure those august initials “MRICS” would abate. Given my college fatigue, work commitments, the purchase of a rundown family home and my engagement to my future wife, my ambition to be an MRICS had not even made it to the back burner, I realised.

The years passed, our children came along and grew and our home was refurbished – although the feeling of disappointment at that Heathrow hotel where I had had my APC interview never left me. But neither did my ambition to finish what I had started.

Second contact

It was during summer 2013 that I found myself browsing the RICS website. I learnt that the experience I now had along with my degree may qualify me for acceptance onto the RICS Professional Experience Route (PER) to full membership. I resumed contact with the organisation and received a response furnishing me with all the necessary information, including an application pack.

Little did I know that it would take almost a quarter of a century before the feeling of disappointment in my failure to secure those august initials “MRICS” would abate. Given my college fatigue, work commitments, the purchase of a rundown family home and my engagement to my future wife, my ambition to be an MRICS had not even made it to the back burner, I realised.

I have heard on several occasions the argument that the PER is an easy route to full membership. I would not necessarily agree, although based on my experience of the graduate APC route in the early 1990s, I would say the PER was one more suited to me personally. I would promptly add, however, that the route is no walk in the park, and RICS is extremely careful that its standards are not compromised.

For those who are unfamiliar with the PER process, once RICS has analysed the applicant’s experience and qualifications, the applicant then submits the following review documents for consideration before being accepted for an interview:

1. a case study detailing a building project managed in the past two years
2. a summary of professional experience that includes samples covering a wide range of competencies
3. a 12-month CPD record
4. a copy of their employer’s organisational chart, showing where the applicant is placed.

In addition, the applicant has to pass an online ethics test.

Following my acceptance on the route, I was invited to attend a preliminary workshop at RICS headquarters in July 2013. However, it was my networking at the annual APC conference the previous month that would prove pivotal to my success.

The conference included talks from eminent members on competencies such as regulatory compliance, building pathology, design and build and technology, as well as giving me a chance to see a mock interview that left an indelible impression on me. I was most impressed by the knowledge and eloquence of the applicant and the searching questions posed by the panel.

Ethical standards

One of the most important lessons I have learned from my experience has been that the relevant competencies, while essential for any professional surveyor, are not the entire story. Exercising these competencies in accordance with high ethical standards and behaviour is no less important.

Before applying to RICS, I had thought that my ethical compass was in good shape. However, I learned that business ethics should be at the forefront of any decision-making process – no
matter how insignificant it appears at the time.

I made my first review submission in November 2014, and my interview date was set for May 2015. Once again, the countdown had started – but I had a chance this time to plan my presentation as if it were a military campaign. I knew my case study back to front and my presentation was clean and polished.

I remember leaving the interview room being quietly confident. But on my way home, while rattling along the Piccadilly Line, my mind began to race and the sickness in my stomach returned. It took two weeks before my fears were confirmed and I found out that I had not passed. I felt devastated and found myself experiencing feelings of bereavement – guilt, blame and anger.

But once these feelings had subsided, I realised that my mistake had been trying to achieve chartered status with the minimum of help – on an island, so to speak. So, I decided to attend APC surgeries and cast my net far and wide, making contact with members I had met during the conference. The response was astounding. The generosity and encouragement I received from them was humbling, something I will never forget.

**Member support**

The support of two individuals in particular – Brad Hook and Trevor Rushton – was without doubt the support I am now a full RICS member. They taught me that no matter who we are or where we may be, members are bound together and ready to help each other, in a way not dissimilar to a family. I was reinvigorated and more determined than ever, and I resubmitted my work for the interviews in November 2015; the date I was given for my interview was Friday the 13th!

The interview slightly overran, but was followed by firm handshakes and smiles; I felt I was in a good place, and suddenly the hotel looked friendly and inviting. I remember stepping out of the doors into the autumn sunshine, waiting for the hopper to take me to Heathrow Airport tube station.

I immediately phoned my wife and said all was well. It was precisely one week later as we were sitting having lunch in a café that the congratulatory email came through. The elderly lady sitting on the next table commented: “I don’t know what just happened but it must have been momentous.” She was not wrong.

**The London Crown Glass Company**

The London Crown Glass Company specialises in providing authentic glass for the windows of period buildings. This glass, handblown using the traditional techniques of the glass blowers, is specified by The National Trust, the Crown Estates and indeed many others involved in the conservation of Britain’s heritage. Specify authentic period glass for your restoration projects.

---

**Glass for period windows**

The London Crown Glass Company specialises in providing authentic glass for the windows of period buildings. This glass, handblown using the traditional techniques of the glass blowers, is specified by The National Trust, the Crown Estates and indeed many others involved in the conservation of Britain’s heritage. Specify authentic period glass for your restoration projects.

---

**Related competencies include**

- Business planning
Fire safety is an optional competency for building surveying, and Ewan Craig, a speaker at the RICS annual It’s Your APC conference, offers guidance.

Fire safety

Fire safety is one of the optional competencies for the building surveying APC. Applying it brings together several technical competencies, for example the following:
- construction technology and environmental services: the performance of building elements in the event of a fire
- building pathology: how the building has, or is prone to, deterioration and how this may affect fire safety
- design and specification: the process of construction, incorporating good fire safety practice such as standards on fire engineering
- legal/regulatory compliance: legislation and regulations on fire safety such as the Regulatory Reform (Fire Safety) Order and Building Regulations.

The levels

The requirements for this competency are provided as follows, by level.

At Level 1

Demonstrate knowledge and understanding of the consequences of fire in a building, how it is modified by the enclosure and how the impact may be controlled. Apply fire safety principles to practical situations so as to minimise the risks of personal injury or death, physical loss and adverse environmental impact from fire.

At Level 2

Demonstrate knowledge and understanding of the combustion process; the physics and chemistry of fire; the physiological and psychological effects of fire; and the ability to assess means of escape systems according to circumstance, including fire safety management systems.

At Level 3

Provide research advice to clients or other bodies on the requirements for fire safety engineering including strategy. Represent clients to statutory bodies in preparing, agreeing and defending a fire safety strategy.

You should be familiar with the fire safety issues in your submission documents, and prepare to address questions on them and related matters.

Questions

Actual questions are based on the candidate’s experience, which should be at Level 2 but could exceed this, for example when you have provided advice on fire safety engineering. Two examples are given below.

Please explain how you assessed the fire safety compliance of the proposed design for refurbishment of building A.

This question is aimed at Level 2 candidates. Your response should show the issues that were considered in applying your knowledge and understanding.

This was a large refurbishment project on a four-storey block of offices. The works included reconfiguring the layout to provide large, open-plan areas, kitchens, meeting rooms and storage.

The design strategy had followed the guidance in the Building Regulations Approved Documents. I considered how the project complied with the regulations, in particular Approved Document Part B volume 2.

I assessed the project drawings, showing the existing and proposed layouts, as well as the specification, providing detail on the construction. The horizontal and vertical travel distances were compliant with one exception, a room that created an excessive travel distance. I discussed this with the designer and the room was relocated to ensure it fulfilled the requirements. I assessed other aspects for compliance, such as the new emergency lighting and fire alarm systems, as well as the access and facilities for fire and rescue services.

Can you please describe how you inspected the fire safety measures on the completed refurbishment of building C?

This question is aimed at Level 2 candidates, but it could be extended to Level 3 if, say, you have prepared a Fire Risk Assessment. The answer should demonstrate your application of knowledge.

This was a refurbishment project to improve the fire safety of a student accommodation block. I surveyed the improvements when the works were complete and accessible, referred to the approved plans, specification and the brief when inspecting the block, and worked methodically, from the upper storey downwards, concentrating on the fire precautions.

I found a number of defects in the fire safety measures – for example, fire dampers that were missing or incorrectly positioned in ducts, and large holes around services penetrations fire-resistant barriers. These defects were corrected, and I then re-inspected the block to confirm the implementation of the fire safety measures.

Care

Given the time constraints of the APC, your answer should be brief but comprehensive. Care should be taken to demonstrate your own skills, abilities and knowledge to the assessors.

Ewan Craig is an APC assessor and Associate with Ridge and Partners LLP. E.craig@ridge.co.uk

For details on the APC pathway guide for building surveyors, please visit http://bit.ly/1q8VUhw

Related competencies include Building pathology, Design and specification, Legal/regulatory compliance.
Archaeology, like surveying, is a global profession. As with RICS professionals, accredited members of the Chartered Institute for Archaeologists (CIfA) have agreed to subscribe to the organisation’s code of conduct, to apply its ethics and to follow its standards wherever in the world they find themselves practising.

This cross-border connection between professionals becomes significant in times when national issues may prove divisive, the recent referendum on UK membership of the EU being a prominent example. Institutions such as ours have a duty to reaffirm our commitment to working with professionals from around the globe in promoting our standards and ethics – working with what unites rather than what divides us.

Archaeologists can offer a particular perspective on our common humanity, by studying the physical past – whether under the ground, beneath the sea or in buildings and structures that have survived on the surface – and we help different people to understand the variety of cultures and traditions that the world comprises.

Remnants of the past can reveal how civilisations have thrived on cooperation, and how conflicts can arise where this is lacking. They also show how socio-economic problems are generated within societies as often as they are caused by outsiders.

More than anything, archaeology attests to the mobility of our species. We are all of migrant stock: some have travelled from choice and in hope, others from danger and in distress. All have left their mark on the environment; and researching that through archaeology shows how these peoples flourished or faded, whether their cultures remained separate, became integrated and retained their heritage, or were absorbed almost without trace.

Being conscious of the way in which societies have adapted to and benefited from interactions with other peoples helps us understand why the world is the way it is today, and gives us greater insights into how to handle some of the challenges and chances it now faces. Those challenges are highly evident in today’s Europe, just as there are magnificent examples of generosity and hospitality.

Building conservation professionals and archaeologists read and relate the stories that historic buildings can tell; archaeologists also study the much longer eras that precede the short but rich history of buildings. Together, we can share our insights about the past, to help people comprehend the world as it is today and shape a more understanding future.
Michael Parrett considers issues around damp diagnosis and the impact of retrofits

Damp detective

Damp is a significant issue in listed buildings as well as millions of ordinary traditional buildings. But it can be difficult to identify its true cause. For example, in the case of damp on an internal wall, is it caused by the building’s design, by a defect or by occupiers’ use? Or by a combination of these?

To help understand these issues, we need some basic definitions:

- **penetrating damp** describes moisture that has moved from one side of a wall to the other
- **rising damp** is moisture that has moved vertically upwards from the ground below the building by capillary action or suction.

These definitions are important because:

- rising and penetrating damp and condensation are not themselves causes of damp but mechanisms
- all the causes of rising and penetrating damp create condensation
- condensation caused by use or occupation rarely creates penetrating or rising damp.

Surveyors should consider the failures associated with different building periods, which often provide clues on the risk of damp. For example, Victorian properties with chimneys rarely have a physical damp-proof course (DPC) to fender walls – that is, brick support walls for fire hearths – which means these then act as conduits for upward moisture transfer.

The main causes of damp are:

- high abutting external ground levels
- blocked cavity wall voids at low level
- leaking rainwater goods
- physical blockages underneath suspended floors
- blocked external vents to suspended ground floors
- leaking internal water pipes
- high local water tables
- chimneys and fire hearths
- drainage defects
- general building defects, including those related to the use and occupation of the property, such as cooking, washing, bathing or drying of laundry internally, inadequate or defective ventilation.

**Pointing issues**

Before the 1965 Building Regulations, many older buildings suffered from poorly conceived repairs, such as the use of inappropriate Portland cement mortar to replace lime mortar pointing to external brickwork. This made the damp worse by preventing the wall from ‘breathing’, and, as old buildings move slightly, it also cracked because it is brittle. Those cracks then suffered from frost action and widened, causing rainwater penetration and internal damp problems. Portland cements have also been used in renders, where they again retain moisture by stopping a building from breathing. Different types of stone and walling require careful analysis to identify which natural lime mix is needed to maintain breathability and to help in preventing dampness.

**Damp-proof membranes**

Until the 1960s, many new and replacement solid ground-supported floors were laid without a damp-proof membrane (DPM) because it was believed that compacted reinforced concrete, even 400–500mm thick, was impermeable to vapour. But rising water tables result in moisture transfer through concrete slabs because these are actually vapour-permeable.

A DPM in a retrofitted solid floor is virtually impossible to link with a physical DPC in walls. It is either trimmed off level with the floor or placed behind the skirting board, leaving a gap through which ground moisture can penetrate. The problem is compounded in pre-1875 properties that do not have a physical DPC in the walls.

Surveyors and the commercial sector will, unsurprisingly, frequently find damp in walls even though it is actually a floor-related problem.

**Chemical DPCs**

A surveyor will often examine building elements using only an electrical resistance or capacitance meter. If they obtain high readings, they will recommend that the client contacts a “bona fide damp-proofing specialist” – merely a member of a commercial trade association who benefits financially from their own diagnosis. It is like a doctor passing their patient on to a drug company.

These “specialists” will typically use the same meters as the surveyor and form an opinion of causation with remedial recommendations. The result is usually a chemical DPC and a long-term guarantee. But is the guarantee worth anything if the other possible causes of damp have not been eliminated?

Electric resistance or capacitance meters can indicate that a wall is dry. Raised readings indicate that there could be damp, but they could also simply indicate a conductive material, for example. A raised reading is when the investigation should start, not where it ends.

**Damp misdiagnosis**

Surveyors may make intelligent assumptions based on high meter readings in skirtings, for example. However, the main assumptions about damp in walls are that it is caused by a failed, missing or a bridged DPC.

But surveyors should assume nothing. If they find a high moisture reading in a wall it would be a huge error to consider that it is DPC-related since it will more likely have another cause, such as a solid floor without a DPM. An incorrect diagnosis is easily made but can have huge consequences for occupiers and their property.
A localised excavation had been caused by replacing the original timber suspended flooring with a solid floor. A localised excavation found the floor had been laid without any BPM.

To understand the cause of damp properly, we must eliminate what is not causing it until we are left with what is. This process is driven by knowledge, measurement and monitoring.

Defects and failures occur through natural deterioration, lack of maintenance, architectural design and poor construction. The difficulty arises when internal dampness and mould develop and investigators often struggle to make the vital connections between the principal factors.

For example, in social housing, emphasis has been placed on problems caused by occupants’ lifestyles. In my opinion, based on thousands of investigations, it would be a mistake for practitioners to make this assumption without eliminating the other elements affecting the building: the approach must be holistic. This means a surveyor has to understand design (see the RICS Property Journal May/June 2016, p.36) and defect issues (Property Journal July/August 2016, p.42), and how these relate to use and occupation (Property Journal March/April 2016, p.38).

Analyzing damp

To investigate the cause and source of damp properly requires a Level 4 survey, as detailed by myself and Ralph Burklinshaw in Diagnosing Damp (http://bit.ly/22pV87C). This covers a range of measurements, such as:

- electrical capacitance meters for mapping walls and/or solid floor surfaces
- invasive tests, such as calcium carbide testing, gravimetric profiling and optical endoscope examinations
- testing for chloride and/or nitrate ions
- a hygrometer to measure humidity of air and moisture exuded from solid floors
- testing for sulphates in solid soils
- taking environmental readings, such as internal/external air temperatures
- heat-loss gradient profiling and dew point locations across walls.

Some tests may be beyond the scope of standard surveys, but by understanding the symptoms, surveyors can refer clients to further prescriptive pathology work. Greater emphasis should therefore be placed on developing skills and expertise in the surveying profession; the findings will help educate clients in follow-up conversations with damp experts.

Gravimetric profiling

This can be done on wall or mortar samples taken at intervals up a wall. BRE Digest 245 describes the gravimetric method as follows:

1. collect the sample in a stopped bottle
2. shake it well before removing the stopper; spread about 2g of the sample onto a previously weighed Petri dish of about 40mm diameter (weight W0) and weigh immediately (Ww)
3. place immediately in an enclosure at 75% relative humidity (RH); leave for a time – overnight should be sufficient if the layer is only 1–2mm deep
4. reweigh (Ww)
5. place in an oven at 100°C for about an hour; remove and allow to cool then reweigh (W75)
6. calculate the following:
   - hygroscopic moisture content at 75% RH =
     \[
     \frac{100 (W_w - W_d)}{W_{75} - W_d} \%
     \]
   - moisture content of sample when found =
     \[
     \frac{100 (W_w - W_d)}{W_w - W_d} \%
     \]

If there is a high found moisture content that reduces further up the wall, and this is always higher than the hygroscopic moisture content, then we have rising damp. We must then find the cause.

Calcium carbide tests

These involve taking a core sample of, say, a masonry wall using the cold drill method, so that the drill’s heat does not falsify dry the sample. The masonry dust sample, of around 6g, is weighed and placed inside a pressurised chamber. A measured amount of calcium carbide is then introduced.

The pressure chamber is sealed and the two elements are vigorously mixed together. The calcium carbide absorbs all the moisture from the sample and converts it into acetylene gas. The pressure of this will be proportionate to the total moisture content in the sample.

In most types of brick, the normal hygroscopic moisture content is around 0.2% or below. If this increases, certainly above 1%, then we should start being concerned about damp. At around 2% in a masonry wall, damp may be sufficient to disturb decorations. However, BRE Digest 245 suggests that a found moisture content of less than 5% is unlikely to be serious rising damp. It is always useful to test a sample of around 2g of the extracted masonry dust separately for its hygroscopic moisture content by subjecting the sample to a 75% RH environment and compare its weight to the other.

Conclusion

William Morris, founder of the Society for the Protection of Ancient Buildings (SPAB), had a very simple philosophy, which included the exhortations “To put protection in the place of restoration” and “To stave off decay by daily care”. Done properly, both will help prevent damp.

Without an holistic and independent approach to damp diagnosis, it can be difficult to differentiate between the various causes relating to building design, building failure and occupiers’ use, and the connections between them.

Michael Parrett is a building pathologist, chartered building surveyor and founder of Michael Parrett Associates. He is an Eminent Fellow of RICS, the lead author on the Building Pathology Damp section of Isury and a former trustee of SPAB. Info@michaelparrett.co.uk.


Images © Michael Parrett

OCTOBER/NOVEMBER 2016
Nick Hunt explores why our historic properties are at such risk from fire

Blaze from the past

There are around 500,000 nationally listed buildings in the UK. Securing their future is one reason for their conservation, but ensuring that risk from fire is minimised is also a priority for the guardians of our heritage. Smoke kills, fire destroys.

Fire and water – the latter in the form of flooding and damage to construction materials – are the most significant threats to the fabric of our historic properties. This article will therefore look at some of the common factors that increase fire risk at heritage properties.

Evolution and adaptation
To have survived into the present, heritage properties may have had to evolve, adapting to remain relevant to contemporary living and working requirements – as well, of course, as complying with the Building Regulations of the day.

These very acts of ‘modernisation’; however, can make a building more vulnerable to fire by altering layouts and introducing both features and services as a result of evolving building technology and building owners’ expectations.

Take the example of a building constructed in the early Victorian period. It is unlikely to have been built with an internal toilet and would probably have been lit by candles. By the end of Victoria’s reign, however, buildings would be likely to have had an internal toilet and a bath in a dedicated bathroom; while being lit by town gas or later, electric light bulbs. Simply accommodating electrical works and plumbing will have significantly altered the original integrity of the building and introduced more voids.

Working on site
Ironically, the point at which deteriorated cabling or waterproof coverings, for instance, are repaired can also be a time when heritage buildings are susceptible to fire. Contractors or conservators following unsafe work practices or being careless during hot working were both contributory factors in outbreaks of fire at Windsor Castle in 1992 and the Cuming Museum in London in 2013.

Unique but at risk
Heritage buildings have a number of features, both original and introduced, that make them potentially susceptible to the rapid spread of fire. Awareness of these features – including the following – is the first step in mitigation:

- flammable materials: for example, wood and thatch
- voids: these allow smoke and fire to travel rapidly and potentially undetected, and can be original or introduced by alterations (see images 1 and 2)
- open construction: lack of
dealing with small fires that could lead to catastrophic loss.

Indeed, access is important not only for firefighters, as the last item on the list shows, but also to ensure that easy egress is possible in the event of a blaze.

Other factors affecting access include:
- disorientating floor or corridor layouts
- false doors and windows to maintain symmetry in the external facade
- concealed doorways (see image 5)
- rooms off dead-end corridors (one way out)
- alterations affecting pedestrian routes (see image 6)
- routes that pass through areas of higher fire risk
- rooms leading to other rooms
- single escape routes
- long distances to exit
- narrow corridor or access routes (see image 7)
- storage in access routes (see image 8)
- unusual locations for services or switchgear (see image 9).

compartmentation, especially in roof voids (see image 3)
- gaps in construction: these can be original or may have developed over time due to differential material movement, warping, rot, insect or rodent damage, insufficient support or inappropriate replacement materials (see image 4)
- innovative elements: for example, vertical ventilation shafts allowed a fire in the basement of the Glasgow School of Art in May 2014 to reach the roof rapidly and resulted in around 30% of contents being destroyed
- cladding or ‘re-fronting’: can create significant potential voids; some early timber-framed stately homes had a shell of brickwork built against original external walls to appear contemporary, such as Moseley Old Hall, Wolverhampton
- limited water supply: lack of access to water – whether plumbed or a nearby body of water such as lake, river or canal – can significantly affect firefighters’ ability to combat blazes
- location and access: can delay dealing with small fires that could lead to catastrophic loss.

With planning and know-how, there are usually ways of overcoming the aesthetic challenges that “maintain[ing] the character of the building” entails while also preventing fire. By following the requirements of the FSO and instilling in employees and volunteers an appreciation and understanding of prevention, protection and response, life and property safety can be protected to give the best chance of survival for all. Prevention, protection and response will be considered in a future article.
Knowledge base

John Williams and Jennifer Murgatroyd look at how specialist investigations can help in the refurbishment of heritage buildings

Working with heritage buildings is often a challenge. Projects need to have a robust business case and be commercially viable, because only then can the construction challenges be addressed. This is where the process requires specialist knowledge: a lack of expertise or a failure to understand the construction issues fully will at best incur unnecessary costs and delay, and, at worst, undermine the business case entirely.

Understanding the balance between intervention and preservation of historic fabric can ensure that potentially expensive mistakes are avoided. By providing expert advice on the condition and strength of materials, specialists can also reduce a refurbishment project’s exposure to risk pricing.

Inspection techniques

Non-destructive inspection techniques can minimise the disturbance and destruction of historic fabric. They can also provide the evidence and justification for targeted opening works in order to understand how the building was constructed, which materials were used and what condition they are in – key considerations for structural assessment.

Access using conventional methods can be difficult or damaging, in which case rope-access techniques offer distinct advantages. Industrial rope-access techniques, employed by suitably qualified and experienced personnel, can provide hands-on expertise to inspect otherwise difficult locations; they also offer significant advantages in terms of speed, the low staffing levels required, and flexibility. There is no substitute for hands-on examination, which cannot be provided by remote-controlled drones.

Ground penetrating radar

Ground-penetrating radar (GPR) can reveal many unseen areas of concern in buildings. In most cases, things are not as bad as they appear; but conversely, buildings that might initially seem to be free from serious defects can prove to have hidden problems.

GPR uses pulses at different frequencies to generate images of the subsurface, a technique that can be used to search for voids, cracks, channels and hidden services in buildings. More importantly, this method can detect areas apparently affected by significant wetting, which can then be further evaluated more directly using appropriately targeted invasive techniques.

The consultancies Exova and RSK have recently used GPR to evaluate the condition of plywood decking that supports the road surface of the bascules of Tower Bridge in London, with RSK identifying locations where water penetration had caused significant wetting. This enabled targeted sampling of the deck so specimens could be analysed at Exova’s timber technology laboratory for evidence of deterioration.

Assessing timber

Timber is arguably the oldest building material we use. However, it is also one of the least understood. When undertaking refurbishment, the developer must answer two questions. Are the timbers in good condition, and how strong are they?

At first glance, these are straightforward questions. Unfortunately, poor advice or a lack of knowledge can often result in unnecessary and expensive remedial or replacement works.

There is a common belief that timber in older buildings will be in poor condition and require replacement. Commonly, the reverse is true, and the timber may appear to be in far worse condition than it actually is. All too often, the perceived risks of decay caused by fungi and wood-destroying insects far exceed the actual risk to the building, because developers may not have the necessary skill to understand them.

These hazards have traditionally been viewed as a construction problem rather than a biological one, which can lead to unnecessary interventions. Structural timbers are inherently durable and resistant to decay and insect attack, provided they remain dry. Most deterioration may be localised or limited to the surface, although internal pockets of decay may be present and these can be detected using non-destructive techniques such as decay detection drilling. A specialist can turn a trained eye to historic materials and ensure the building is protected while preventing unnecessary invasive repairs.

Modern grading rules for assessing timber condition can prove punitive when applied to historic structural timbers. Moreover, identifying the correct timber species is essential because misidentification can lead to the incorrect strength class being assigned, which can significantly increase the risk of structural failure. A skilled consultant can often assign a strength class to the residual sound section and find evidence of greater strength than modern standards would indicate.

Laboratory analysis

Non-destructive techniques may sometimes not reach far enough, offering insufficient clarity to answer all relevant questions or fail to account for the observations from site investigations.

In these cases, samples can be analysed in the laboratory by using a variety of techniques to identify composition, evaluate condition and investigate any degradation.

One of the most universally useful of these techniques is optical microscopy, which enables a very close look at materials using a high-power microscope. Small fragments of all types of construction materials of any age can be analysed using traditional petrographic techniques, and a great deal can be learned about the samples under high magnification (see image, above right).

Microscope analysis can, for example, help verify the wood species of an historic timber, identify lime or cement in an historic mortar or determine the cause of cracking in an old plaster. This type of information is invaluable when drafting a conservation plan, especially in cases where structural elements need to be replaced with sympathetic materials.
Risk assessment

Safeguarding our built heritage should be thought of as a means of protecting it for future generations, and the work does not stop once the materials have been inspected. Like modern structures, historic buildings are subject to inherent risks, and fire is an obvious, serious threat to life and the structure itself; in respect of fire safety, such buildings come under the aegis of Approved Document B of the UK Building Regulations.

In considering fire risk, two essential factors must be addressed: the protection of life and, secondarily, the protection of the building fabric. The dilemma is that local authorities will be concerned that the risk to life is minimised, whereas conservationists will focus on protecting the fabric (see Nick Hunt’s article on pp.30–31 of this issue for more on fire safety).

Fortunately, sympathetic solutions can be derived from a process of risk assessment and the development of a mitigation strategy. The former serves as part of a comprehensive fire safety review of the building, which identifies the degree of risk to both life and property. Historic buildings are unique, and as such there is no standardised format for recording or presenting the findings of a risk assessment or a standard fire safety plan. However, bespoke fire strategies can be devised with the input of fire engineers, supported by fire modelling software.

A number of organisations offer independent specialist services to assist with the inspection and assessment of heritage buildings, for example Exova BM TRADA and RSK. Technical experts are trained to identify the agents of deterioration and decay, evaluate the condition and strength of materials and assess their future performance. The addition of supporting laboratory assessment services, including petrographic analysis, enables such organisations to provide those working on heritage projects with an integrated solution.

Exova BM TRADA and RSK Group are co-hosting a Heritage Buildings seminar at Manchester’s Museum of Science and Industry on 1 November. A panel of industry experts and guest speakers will discuss the role of the specialist consultant in refurbishment projects.


---

Storm Windows is the leading UK supplier of bespoke secondary glazing for historic and listed buildings.

Storm’s unique system of slim-line secondary glazing is individually surveyed and has none of the usual wooden sub-frames. This bespoke approach enables us to manufacture a huge range of different shapes including out of square, Norman and Gothic Arches as well as cylindrical turrets and curved glass sashes.

Our window systems are specified and used regularly by organisations such as the National Trust due to the superior quality of construction, discreet appearance and virtually perfect fit.

For more information please call us on 01384 636365 or visit our website at www.stormwindows.co.uk

---

J. & J.W. LONGBOTTOM LTD
Bridge Foundry, Holmfirth, Huddersfield HD9 7AW

Ironfounders

Cast Iron Gutters
Ornamental Hopperheads
Rainwater and Soil Goods
Gratings, Air Bricks

Exclusive Pattern Range

Comprehensive Stocks for prompt delivery

Tel: 01484 682141 Fax: 01484 681513 for our fully illustrated catalogue
UPDATE

Energy efficiency and historic buildings

This issue covers a single topic – energy efficiency in historic buildings. The historic environment needs to play its part in conserving energy while at the same time ensuring that the impact of works on the significance of heritage is carefully managed.

Retrofitting historic buildings to improve levels of insulation and energy efficiency remains an important issue, and there is a wide range of guidance available for practitioners. When dealing with historic buildings, the approach must first be to assess their importance and significance, which will inform the work that can then be carried out.

Bear in mind that heritage consents may be necessary, so the local authority should be involved in discussions. The guidance from the national heritage bodies and local authorities alike starts with the conservation and consent requirements, which help determine the options that are likely to be acceptable for a project.

The Society for the Protection of Ancient Buildings (SPAB) has carried out valuable research in this area, and its website’s energy-efficiency page links to the relevant reports, including work by Dr Caroline Rye on in-situ U-values, which indicates that 77% of the traditionally built walls sampled including walls of timber, cob, limestone, slate and granite actually perform better than expected.

- The SPAB briefing note Energy efficiency in old buildings is available at: [http://bit.ly/1TqdS1L](http://bit.ly/1TqdS1L)

Recently updated Historic England advice includes the suite of 13 Energy Efficiency and Historic Buildings guidance documents on insulating pitched roofs at rafter level, timber-framed walls, insulating dormer windows, insulating solid and suspended ground floors, solid walls, thatched roofs, open fireplaces and secondary glazing; at: [http://bit.ly/1RQmFXc](http://bit.ly/1RQmFXc)

Historic Environment Scotland, formerly Historic Scotland, has conducted research into energy efficiency with Heriot-Watt University and provided advice notes on this, available at:


The Sustainable Traditional Building Alliance is also active in this field and has published Planning responsible retrofit of traditional buildings as part of its Responsible Retrofit series, in conjunction with Historic England, Historic Environment Scotland, Cadw and the Construction Industry Training Board:


The site www.buildingconservation.com publishes many articles from its annual directories, and these are a good source of information on all conservation topics. The 2013 Building Conservation Directory for instance has an article on ‘Sensible Heating: Balancing Energy Consumption, Comfort and Conservation’ at:


A number of local authorities also provide guidance. Bath and North East Somerset Council’s Energy Efficiency & Renewable Energy Guidance for Listed Buildings and Undesignated Historic Buildings provides useful guidance on the consents requirements, advice on making a good listed building consent application and helpful case studies.


The London Borough of Islington takes a similar approach by looking at legislative and conservation approaches, then providing advice and case studies.


Microgeneration

Microgeneration technologies have been installed on a number of historic buildings and sites, commonly in the form of solar heat and power, and guidance from Historic England is available on the processes and application of these.

EXCITING NEW TRUSTEE OPPORTUNITY
Can you help LionHeart deliver its strategic vision?

Do you want to join an organisation that is making an impact?
Do you enjoy working with others in a committed and challenging team?
Do you want to help make a difference and support families in need?

LionHeart, the charity for Chartered Surveyors, is looking for ambitious and committed trustees.

We need strategic thinkers with drive, ambition and commitment to help us plan for the future and deliver our strategy.

During this round of recruitment we are particularly interested to hear from candidates who have one or more of the following attributes or skills:

• Experience of marketing and promotion at a strategic rather than operational level within a not for profit or charitable environment
• Investment Management experience

• Experience of/involvement in long term fundraising strategy
• Connections within RICS and an up to date understanding of the issues affecting RICS members
• Experience of philanthropy or providing advice and expertise to philanthropists

Interested?
Please download an application pack from our website lionheart.org.uk/current-staff-vacancies or give us a call on 02476420801

Applications must be received by Thursday November 3rd.

Deconstructing Party Wall legislation and your professional responsibilities
A series of half-day events on issues surrounding neighbourly matters

Pyramus & Thisbe Club
Promoting Excellence in Party Wall Practice Since 1974

Talking Party Walls
for RICS members and their families

Relevant Case Law References to the Third Surveyor Serving Notices Understanding when the Party Wall Act applies Making Awards Security for Expenses

Early booking essential as spaces are limited partywalls.org.uk

Event Dates 2016
5th Oct 20th Oct 8th Nov
BRIGHTON OXFORD CANTERBURY

Pyramus & Thisbe Club
info@partywalls.org.uk

To advertise contact Emma Kennedy +44(0)20 7871 5734 or emmak@wearesunday.com
A COMPANY THAT OFFERS YOU EASY ACCESS TO THOSE DIFFICULT TO REACH PLACES!

WHY HELIDRONE SURVEYS?
- Low cost
- High resolution images can be issued electronically within hours
- Low health & safety risk
- Minimal disruption
- No scaffolding
- No cherry pickers
- Environmentally friendly

HeliDrone Surveys Limited specialise in aerial photographic surveys utilising a remote controlled drone, which is particularly useful where access by conventional methods is expensive, disruptive, inconvenient or time consuming. Our services are predominantly used for roofs, high level elevations and panoramic landscapes. High resolution photographs can be issued electronically within hours and these can be zoomed to achieve a very detailed image of the surface.

The benefits of using us are the minimal disruption, reduced health and safety concerns and reduced time at the property in comparison to scaffolding or cherry pickers. Our drones also have the benefit of being environmentally friendly.

If we can be of any assistance, or would like a demonstration, we’re sure you’ll find our service second to none.

Call us on 01279 874379 or email info@helidronesurveys.co.uk for more details

HeliDrone SURVEYS LIMITED
www.helidronesurveys.co.uk