Security of Heritage Properties
– a guide

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ATTENTION

Any work carried out to historic buildings and sites may require consent from a local authority or other relevant authority. This could include temporary or permanent measures described in this guide. Where historic buildings or sites are designated (for example listed buildings or scheduled monuments) then listed building or scheduled monument consent may be required. In the case of a place of worship the appropriate ecclesiastical consent may be required.

It can be a criminal offence to carry out works to a designated historic building without consent when it is needed.

Planning permission may also be required for works to historic buildings or sites and those in conservation areas.

The Department for Communities and Local Government's National Planning Policy Framework defines a "Heritage Asset" as "A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing)."

The Framework considers "Designated Heritage Assets" and "Non-designated Heritage Assets". Both types of asset may be subject to additional planning controls.

You are strongly advised to speak to your local authority planning department or relevant advisory body if you are in any doubt about whether a permission or consent is needed to implement a protective measure, particularly if your building is designated or within a conservation area.

In deciding whether a protective measure should be given consent the local authority or other relevant authority will need to weigh up the need for the improvement to the site and the impact of the measure on the significance of the historic building or site.

Measures that do not alter the fabric of historic places and that are inconspicuous are preferred.

Further advice about this can be found at:

www.english-heritage.org.uk/your-home/making-changes-your-property

Contents

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1. Introduction

1.1 This Guide

The purpose of this guide is to assist those with a need or responsibility to improve the protection given to "our nation's heritage". The term "heritage" is explained below but in essence we are referring to anything that has an inherent value because of its irreplaceability or because it has a communal and shared value. For example, this guide could be read by a homeowner of a listed house who will be just as concerned about the security of their property as the owner of a brand new house. Their position is affected by the concern that the wider community has for the house both in terms of its protection but also not wishing to see it devalued by security measures. This guide will be equally useful for those who care for sites they do not personally own but care for as volunteers or trustees, such as community buildings, churches, halls, mills and cinemas.

As well as providing advice about security measures that can be applied to properties (e.g. the use of alarm systems) this guide also describes how to approach the subject of security and ways of making decisions when resources and finances are limited. The guide also introduces some of the specific threats that heritage property may face.

1.2 What is meant by "heritage"?

UNESCO defines two forms of heritage – cultural heritage and natural heritage. Cultural heritage includes monuments, memorials, architectural works, sculpture, painting, archaeology, and other features of value from the point of view of history, art or science. It also includes groups of buildings and sites. Natural heritage includes environmental features such as areas of natural beauty, geological formations and the habitats of threatened species of animals and plants. These may have value from the point of view of science, conservation or natural beauty.

Heritage crime is any offence that harms the value of our heritage assets and their settings to this and future generations. In some cases this harm could be done by the owners of the heritage (for example, a building owner could allow it to fall into disrepair) but from the point of view of our guidance we shall be concentrating mainly on ways in which the owners, guardians and other concerned parties can protect against criminal threats.

1.3 Heritage Crime

Heritage Crime is any criminal activity that damages the heritage. It could be theft of contents or statues and other valuable materials from the property or vandalism or other anti-social behaviour. A list of things to consider is included in this guide (in section 5). Criminal activity can also have an impact on other businesses and individuals. For example criminal damage causing temporary closure of a tourist attraction can also cause a loss of income to nearby businesses. Similarly, nighthawking (illegal metal-detecting) causes a loss of the historic remains and possibly treasure and may also damage farmland, destroy crops, disturb animals and frighten local people.

1.4 Who owns our heritage?

Although some of Britain's heritage is in public ownership the majority is in private ownership. For example almost all of the houses with a designated listing are privately owned as are the commercial properties. Local authorities own a significant amount of heritage, including public buildings, statues and monuments. Perhaps of greatest risk of criminal damage and burglary are places of worship, particularly traditional churches and chapels, which the congregation wish to remain accessible without supervision at all times in contradiction to best security practices.

1.5 Why is security for heritage different?

There are a number of problems affecting the ability to secure our heritage. The major consideration is that any significant change to the heritage item devalues it. Moving a statue from a park to a gallery makes it less available to the public, changes its aesthetic appeal, and reduces the quality of the park. Security measures need to be unobtrusive – a Georgian shop front with external roller shutters becomes a bland modern building; fitting CCTV cameras to the front of a house is unappealing and can contravene regulations. Even if adding the necessary protection without detracting from its character is possible it can be more costly.

By its nature most heritage property was created without consideration for modern criminal behaviour and owners can find that new threats (such as the dramatic increase in metal theft in recent years) appear regularly and place a heavy burden on them.

Much of our heritage is in open areas away from obvious protectors but also far from sources of power to support CCTV, alarms, lighting or conventional equipment. It is also remote from neighbours who could keep an eye on things. On the other hand, the need to allow authorised public access obviously also allows criminal access. In these remote locations protection is difficult to achieve.

This guide highlights some of the crime related threats that owners and guardians of heritage should consider and describes some of the ways in which these may be addressed. It also describes a way of approaching security that should help with the difficult decisions of how to allocate resources to security measures. For security measures every case is individual and there is undeniable benefit to seeking expert and preferably unbiased advice. Suppliers of individual aspects of security, whether it is CCTV, property marking systems or guarding, might be experts in their own field but independent advice may yield a better solution. For security and protection of heritage properties it is especially important to work with people with experience of heritage issues. They will recognise the additional difficulties and know of appropriate solutions or where to seek advice. For larger and more complex problems employment of a security consultant can often provide cost-effective advice for a combination of practices and equipment that will achieve a better overall result. It is always advisable to talk to your insurers. Insurance companies can provide advice but equally if you fail to follow their recommendations this could be a problem in the event of a claim.

Any changes made to listed properties may require consent to be given. That includes security measures. Advice about this can be found on the English Heritage website at:

www.english-heritage.org.uk/professional/advice/our-planning-role/consent/lbc

1.6 Making the most of this guide

This guide covers many types of heritage property and includes many possible solutions to threats. Many of these will not apply directly to you. If you are a homeowner you will not have to contend with a throng of visitors every day. If you are a commercial organisation then the concerns of running a business will be more important. However you can still learn from all of the examples given. You may find an idea that is intended for one type of heritage protection can be adapted for your needs.

The ideas suggested in the guide are accompanied in some cases by examples of how BSIA member companies have provided security and protection for heritage properties.

2. Scope

These guidelines are designed to provide owners, managers and guardians of all kinds or heritage sites and property with an overview of the common considerations of risk assessments and security measures to be taken into account on heritage sites. It is not intended to be a detailed manual, but should be used to help frame thinking about security and to outline the process to follow in preparing risk assessments and the necessary mitigation measures to be taken.

This guide is primarily intended for owners of private houses, smaller businesses in listed properties, custodians of individual properties open to the public and groups of volunteers caring for heritage in their community.

It is assumed that larger businesses and organisations that own or manage a large number of heritage properties are more likely to employ expert advisors.

This guidance does not cover threats to heritage caused by the owners of the heritage (such as: "Contravention of Discontinuance of Use" or "Contravention of Stop Notices", "False Certificate on Application For Consent", "Non Compliance with Enforcement Notices" and similar activities). This guidance also does not cover activities designed to reduce crime against heritage but targeted at criminal activity away from the heritage site (e.g. preventing illegal artefact dealing).

This guide is directed towards individuals and organisations having authority over the heritage to be protected (e.g. the house owner, the gallery management) rather than groups of interested individuals (e.g. community associations, neighbours) working without the responsible persons consent. Any security measures should only be instigated by those responsible for the heritage to ensure conflicting and detrimental measures are not introduced by well-meaning interest groups with different objectives.

3. Terms used in this guide

3.1 Definitions

3.1.1 Guardians

In this guide the term "guardian" is used in a general manner to refer to the people who are seeking to protect the heritage and the term "responsible guardian" used to refer to the person in charge of guardians. These terms are to allow for the many varied forms of ownership and appointment of protectors. Guardians could be the owners of a property, a manager of a business, a group of volunteers or a representative of an organisation, for example a local authority or church congregation.

3.1.2 Hazard

An event with negative consequences, brought about through natural, environmental or non-malicious human intent (e.g. flooding).

3.1.3 Risk

A threat or hazard assessed for likelihood and impact.

3.1.4 Threat

An event with negative consequences, brought about through malicious human intent (e.g. arson)

3.2 Abbreviations

ACPO	Association of Chief Police Officers
ANPR	Automatic Number Plate Recognition
ARCH	Alliance to Reduce Crime against Heritage
ATS	Alarm Transmission System
BS	British Standard
BSI	British Standards Institution
BSIA	British Security Industry Association
CCTV	Closed Circuit Television
CESAR	Construction & Agricultural Equipment Security and Registration
CTSA	Counter Terrorism Security Advisor
EN	European Norm (Standard)
IEC	International Electrotechnical Committee (Worldwide standards body)
ISO	International Standards Organization
LPS	Loss Prevention Standard
LWD	Lone Worker Device
PAS	Publicly Available Specification (similar to a Standard)
PIR	Passive Infra-red (a type of movement detector)
PTZ	Pan-Tilt-Zoom
UKAS	United Kingdom Accreditation Service
UV	Ultraviolet
VIN	Vehicle Identification Number

4. How to review the security of your property

4.1 Introduction

As somebody looking to improve protection of heritage you may think that security management is something that you should employ a professional to do for you. Undoubtedly a professional security consultant would be able to give the best advice and when possible this is the approach we would recommend.

The professional approach to deciding which methods of security and protection to use is to use a risk management approach and assess each risk and the benefits of the solutions available to achieve the best possible result within a budget. The BSIA Brief Guide to Risk Management (Form 247) may help you understand this subject.

If you think this method is too much for your circumstances then you can take a more simplistic approach.

4.2 Important

It is essential that you are aware of any regulations, laws and controls that are in place and affect any work that affects your property. Please see the warning marked "**ATTENTION**" at the front of this guide.

4.3 Don't start with the detail

Take a holistic approach. If you start by considering just one aspect of security then there is a risk that you will concentrate your efforts in the wrong place.

Instead look at the property and its surroundings as a whole. Think about things from a criminal's point of view and work out what are the most likely targets and the ways that they would attack the property.

The risks to the property result from events that come in two forms which are normally called threats and hazards. The starting point is to consider all of the threats and hazards. See section 5.

If one of these events happens it can have an impact. It is important to bear in mind that the impact may take various forms – some impacts are straightforward and are defined by danger to life or property, others are less tangible such as reputational impact. You should consider:

- Impact to life (e.g. violence, fire)
- Impact to property (e.g. theft or vandalism). In the case of heritage properties not only could the impact be higher than for other property (e.g. in terms of the extra difficulty to carry out repairs) but the damage or the loss to the heritage itself should be considered (e.g. a replaced stain-glass window may look similar but it is no longer an original).
- Impact to operations (e.g. the need to close a visitor attraction or business)
- Consequential impacts (e.g. the time and effort to handle the impact, the loss of visitors to an associated attraction).

Once you have considered what could go wrong and how it might impact on you then you need to think about what you should do about it. The things you do are called mitigating actions.

4.3.1 What is Mitigation?

A mitigating action is something done to protect your property and broadly may take three forms:

- Ignore / Accept
- Export / Transfer
- Address ("Deal with it")

Ignoring a risk is sometimes appropriate, where the cost of any security measure exceeds the impact of the event. The cost could be financial but for heritage protection it could be that the effect on the heritage is too detrimental – storing a painting in a vault may be cheap but it then can't be seen. Risks should only be ignored after careful consideration. Ignoring a risk means that a decision has been made to take no action for now - it does not mean it is forgotten. Such risks should still be reviewed in case the situation has changed.

Exporting a risk usually means that you accept something may happen and will seek a way of reducing its impact on you. Typically this means you take out insurance to prevent financial loss but in the case of heritage exporting a risk also means that if the threat happens then the heritage may be lost. Exporting is therefore not a favoured approach for heritage.

Addressing (or dealing with) a risk involves the use of resources, such as people and technology, or the introduction of processes to an issue to reduce the impact or the likelihood (or, ideally, both) of a risk. In other words: "security measures". Whilst it may be possible to reduce the risk to a very low level ("zero risk") the cost of doing so may be higher than the impact or the method of mitigation could itself have an unacceptably negative impact on the heritage to be protected. This is a possibility that should always be considered and included in any assessment.

> It is impractical to protect heritage property against every conceivable threat. The strategy used should consider the risk from each threat compared to the costs of protection (i.e. the mitigation).

4.3.2 Mitigation Strategies

Mitigation strategies selected may include the following:

- Restriction of access to a property
- Surveillance of persons on a property
- Protection of assets
- Safety provisions
- Provision for controlled and monitored evacuation
- Liaison with police, local authorities and other stakeholders

Generally, a heritage business or property will have some, or all of these measures applied. Whether this is a new site (e.g. a museum housing heritage artefacts, a public art installation) or an historic property or business will influence which, and how, measures are applied.

New developments, such as an art gallery or extension to an older property, will give much greater flexibility for the use of both physical and operational measures to mitigate risk. The site can be laid out and designed in such a way as to maximise advantage from, say, perimeter fencing, or surveillance and thus provide good security at minimum cost.

Applying security measures to older properties will often reveal limitations to what can be done. For heritage properties there will be significant restrictions. It will be much more difficult to make alterations to the property, and any alterations may require consent. There may be compromises to security through unchangeable elements of the property and its layout or a need to devote relatively more resources, in terms of physical barriers or operational measures, to provide appropriate security than would be the case for a new development.

In either event, it is important that the risk mitigation plan is designed in close cooperation with whoever is responsible for site facilities and operation and that all parties remain in dialogue to ensure maximum value is obtained from the sometimes significant resource investment required. It should always be borne in mind by the security planner that the aim of the exercise is not to overwhelm the property with the security measures. The measures should support the use of the property as a home, business or as an amenity rather than prevent this.

4.4 General Principles of Mitigation

4.4.1 Don't do this once and then forget it!

The first thing to note about mitigation is that you should review the situation regularly. Once you have carried out whatever actions you think necessary think about the new situation. Has strengthening one area made another weaker?

Then from time to time think about the risks and mitigation again. Perhaps a new criminal threat has developed. Perhaps you have acquired something of greater value or that is easier to steal. Don't just do this once and think all is taken care of.

4.4.2 Listed Properties

Any changes made to listed properties, including security measures, may require consent to be given. Advice about this can be found on the English Heritage website at:

www.english-heritage.org.uk/professional/advice/our-planning-role/consent/lbc

4.4.3 Layered Security

The principle of layered security is basically not "putting all your eggs in one basket". The idea is to spread the security features in an appropriate way. This means starting with the property boundary and considering each possible feature on the route to the most secure location. For example not leaving tools in a garden but instead returning them to a secure shed or removing particularly valuable items to a safe for overnight storage means that they are easier to protect.

Security can be compared to the layers of an onion made up of a series of physical security measures, starting with a perimeter fence or barrier with controlled entry points. Each layer may be used in combination with electronic detection systems. This means that, after overcoming one layer, detection methods can prompt for a response to arrive while the next layer delays the criminal.

4.4.4 Deterrence, Detection, Delay and Response

Successful crime prevention strategies should aim to reduce the risk to the property by increasing the risk of detection to the thief or other criminal. The types and level of security and protection used should be determined by the results of the risk assessment. Consideration should be given to the way the property is used. The level of security should reflect the time when it is most at risk. Is the threat to the property greater at times when it is not in use or when the public have access?

A simple piece of advice is not to place all hope in a single solution. Security provisions should be used in combination to achieve four things: Deterrence, Detection, Delay and Response. In many cases a solution will contribute to more than one of these. For example, a strong fence will deter a burglar and also cause a delay gaining entry. It is the combination of these features that allows for a practical solution. Safes, for example, are manufactured with various levels of resistance to attack. Used on its own a very strong safe will be required but if an intruder alarm has already detected an intruder they will have less time to attack the safe.

Deterrence

Deterrence takes many forms. A ramshackle property will appear easier to break into and may imply less protection. Alternatively the fitting of solid fencing, high quality locks, intruder alarms, CCTV or signs advertising guard patrols shows a potential thief that the owner takes the issue of security seriously and may make them go elsewhere. Deterrence can simply be a matter of making a house look occupied and cared for. The same would apply to public areas (e.g. tending the grass around a memorial and keeping it clean).

Delay

One view is that no barrier is impenetrable if an attacker is determined enough, however measures put in place to slow a criminal mean that they will put themselves in greater risk of capture. Delays can be provided by strong doors, locks, fences, and similar measures. Any delay during the committing of crime increases the danger to a criminal that they will be caught and therefore acts as a deterrent. So consider not only whether a determined criminal will overcome the security measure but also how long it will take to defeat and what effort will be required. Another factor to be taken into account is the time between detection and response. A delay can mean that a response can be made before the criminal has time to complete their intentions. For example if a burglar cannot break into a safe in the time it takes to respond to an intruder alarm then it is more likely that the contents will be protected.

Detection

Detection is the identification of the presence of a threat such as a burglar. Identification is used in two senses. There is the immediate identification to alert those affected by the threat or request response by protectors (e.g. the police) and there is also the use after an event to identify criminals. The latter does not just mean CCTV. Detection can include monitoring of visitors to ensure only authorised people are on the property and their times of arrival and departure.

Response

If a criminal is not completely deterred then at some point a form of response is required. Response could be actions of a security guard or the arrival of police. To determine the security provisions the form of response must be known. If it is going to take fifteen minutes for guards or police to arrive then the delay provided should match this.

4.4.5 Insurance

Insurance is often seen as a method of reducing the impact of a threat or hazard on the owner of a property. For heritage properties it is not possible for insurance to reduce the impact to the same extent as a modern property. For example, if materials for reconstruction are no longer available an insurance pay-out will not be able to rebuild the property. You should check with your insurance company whether any security measure you put in place will be viewed favourably by them. In some cases security measures might result in reduced premiums whereas if the insurance company does not approve of the measure insurance cover may be limited or withdrawn.

4.4.6 Continuity and Contingency Planning

Although not normally considered as part of the security arrangements it is important to ensure that some steps are taken towards allowing a restoration to some form of normality as soon as possible after an incident, should one occur. If you are operating a business then considering how the business can remain operational is vital. This might include ensuring backup copies of computer information or having a prepared alternative business location. For businesses and homeowners being generally prepared and having vital information available can greatly ease problems especially in the first few hours after an incident. For example knowing who to contact in an emergency and having copies of essential contact details to hand.

4.4.7 Other factors to consider

4.4.7.1 Safety and Security

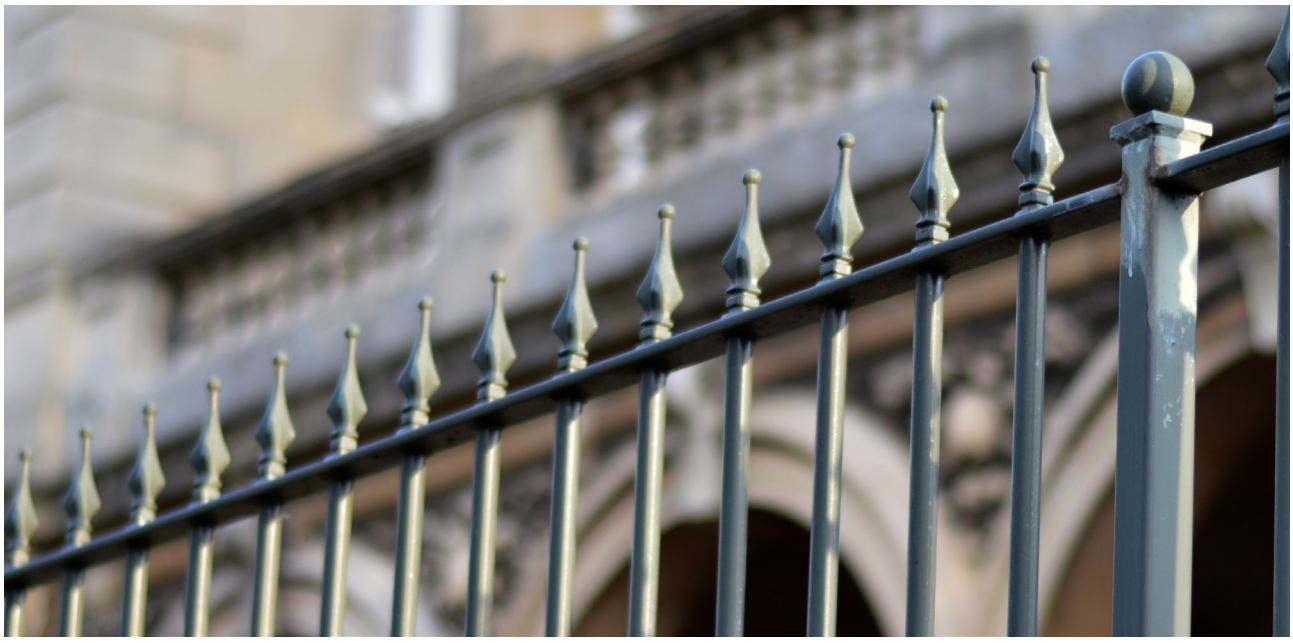
Sometimes security measures are intended to improve safety. For example doors can be locked to protect staff from violent persons. The need to ensure safety at all times can however affect the ease of applying security measures such as the need for efficient evacuation in the case of fire.

The interaction between fire safety and security is particularly important. Fire regulations should be adhered to in all cases. The choice and design of doors and locking mechanisms need particular care to ensure that escape from a fire is possible.

4.4.7.2 Suppliers, maintenance and on-going costs

It is always important to check the competency of any suppliers or providers. Check to see that they are members of reputable organisations and that, if applicable, their employees and sub-contractors are vetted with respect to their criminal records. The latter is likely to be carried out in accordance with British Standard BS 7858 "Security screening of individuals employed in a security environment - Code of Practice".

A further important factor when choosing security measures are the on-going costs such as maintenance. A product that initially appears cheap may need expensive up-keep whereas a small additional outlay, at the time of purchase, may reduce this. Upgrading security products after purchase is sometimes difficult and this should be checked with the supplier. Some suppliers may offer discounted installation prices but include contractual obligations for monthly or annual charges. The cost of monitoring for intruder alarm and CCTV systems should also be taken into account.



4.4.8 Twenty-five Techniques

English Heritage has published a guide that gives an overview of security measures that can be applied to reduce the risks to heritage assets. The guide is "Heritage Crime Prevention: A Guide for Owners, Tenants and Managers of Heritage Assets". It is available for download from:

www.english-heritage.org.uk/publications/heritage-crime-prevention-guide

The following table is an extract from that guide showing examples of how the 25 techniques of crime prevention can be applied to heritage protection.

Table 1 – Twenty Five Techniques of Crime Prevention

Increase the Effort	Increase the Risks	Reduce the Rewards	Reduce Provocations	Remove Excuses
1. Make crime harder to commit Remove valuable items. Secure edges of metal plaques. Improved locks. Security surveys.	**6. Extend the sense of community ownership** Maintain site. Use neighbourhood watch style groups. Set up a heritage watch group.	**11. Conceal targets** Hide any removable valuables. Place valuable objects at maximum distance from visitor access. Security lights activated when visitors enter prohibited areas.	**16. Reduce frustrations with a service or access** Frequent guided tours starting at different points to avoid delays. Make sure it is clear why access is restricted to certain areas.	**21. Set rules** Display bylaws. Keep regulations updated.
2. Deny access Restrict vehicular access. Grow spiky plants. Restrict access to roof. Locate parking at distance so heavy items hard to remove. Anti-climbing paint.	**7. Increase the potential for being seen** Tree thinning, removal of excess undergrowth. Encourage use of public buildings and spaces. Security lighting where the site is visible by neighbours. Out of hours proximity alarm.	**12. Remove temptation** Take maintenance tools and cash off-site overnight. Consider alternatives to lead for roofing replacement. Ensure there are no combustibles on-site. Regular risk surveys across site to establish common trends.	**17. Avoid escalation of disputes** Antisocial behaviour may be aggravated by confrontations – talk to your community policing team for advice.	**22. Display rules** Erect signage (e.g. No metal detecting, no vehicles) Advice on wording to signs may be available from sources such as insurance companies or police. Instigate hotline for visitors to report incidents.
3. Screen exits CCTV. Access barriers where appropriate. Make random searches of vehicles a condition of entry.	**8. Reduce anonymity of visitors** Timed automatic number plate recognition (ANPR). Develop information sharing process. Greeting visitors reduces feeling of anonymity.	**13. Mark property** Consider forensic marketing techniques. Visible marking may be appropriate in some cases.	**18. Use calming measures** Play classical music at sites which are hotspots for problem behaviours. Sweet smelling plants in vulnerable places.	**23. Increase understanding** Advertise the cost of replacing valuables after thefts. Post stories of people remembered on war memorials.
4. Move potential offenders away. Provide designated spaces for disruptive activities. Review seating positions. Enforced disabled bay parking. Vary site lighting to move people to where you want them.	**9. Encourage local vigilance** Training for staff and volunteers to incorporate crime prevention. Alarms linked to key holders. Interior lights on time switches to provide signs of occupancy. Consider initiatives such as wildlife days to attract new volunteers.	**14. Make dealing more difficult** Dated and police validated photographic record of assets. Report any suspicious activity at trade and auction sites.	**19. Increase local engagement** Organise events for local community, engaging with disenfranchised groups. Encourage visitors to provide feedback about the site and possible improvements.	**24. Enable lawful behaviour** Provide bins and toilets where needed.
5. Control tools/weapons Lock away ladders and tools. Alert community to higher crime risk where scaffolding erected. Keep wheelie bins away from access points.	**10. Strengthen formal surveillance** On-site accommodation for staff. Maximise staffing at times of greatest risk. Consult secured by design (www.securedbydesign.com) Give police updates that might help them to target their activity.	**15. Deny benefits** Remove graffiti and vandalism quickly. Liaise with art loss register and similar organisations to ensure photographs of valuable items are available to those scanning stolen goods markets.	**20. Discourage imitation** Remove litter. Quick repair of vandalism. Security lighting around.	**25. Control drugs and alcohol** Allow alcohol on-site only at organised events. Blue lighting in toilets. High price on site alcohol sales.

This table is reproduced with the permission of English Heritage from their guide "Heritage Crime Prevention: A Guide for Owners, Tenants and Managers of Heritage Assets".

5. Threats and Hazards to Heritage

5.1 Introduction

The starting point for managing risks is to look at the threats and hazards that might exist. Then consider these threats and hazards and how to deal with them rather than starting with the solution. In other words start with the burglar not the intruder alarm.

A **threat** is defined throughout this guide as:

> "An event with negative consequences, brought about through malicious human intent"

A **hazard** is defined throughout this guide as:

> "An event with negative consequences, brought about through natural, environmental or non-malicious human intent"
>
> In other words a hazard would include things such as flooding or the result of a vehicle crash whilst a threat is something like a burglary, arson or vandalism.

5.1.1 Threats related to heritage property

5.1.1.1 Introduction

This section highlights the kinds of threats that should be considered. Not all of these may be appropriate to your property but having a better understanding of the possible threats will assist with planning any response.

5.1.1.2 Assault

Although not typically the first thing that comes to mind, physical (and other forms of attack or abuse) may occur to guardians and visitors to heritage sites and also to other individuals (e.g. those transporting heritage or buying and selling it). Individuals could be subject to physical or verbal intimidation.

5.1.1.3 Damage

In the context of a threat this implies criminal damage, fire setting (arson), graffiti and similar activities. Damage could result from a direct attack (e.g. smashing of masonry) or indirectly (e.g. damage to interiors following theft of roofing or fuel following cutting of pipes).

Fires can be caused by burglary related arson (e.g. to destroy evidence), accidental vandalism (e.g. children playing) or by deliberate vandalism. Although there is some overlap in the precautions needed to protect against these each should be considered according to the type of property. You should be aware that arson causes considerably more damage than an accidental fire. This is because arsonists will set out to ensure their fire causes damage and may set multiple fires.

5.1.1.4 Inappropriate Use of Vehicles

Heritage properties, particularly large gardens, parks, woodland and similar can be at threat from the use of vehicles. This could simply be illegal parking or abandoned vehicles (including the threat of the vehicle being set alight) but could also be from off-road driving or riding. The latter could include cars, motorcycles and bicycles. Routes through larger heritage properties could be used as short-cuts or as part of some other criminal activity.

5.1.1.5 Theft

Consideration should be given to a variety of different forms of theft. These could be targeted at the heritage itself or at business or personal possessions in the property. The form of the theft might vary depending on the property. For example removal of objects could occur from properties open to the public.

Other (non-heritage) properties could be subject to attack for the purpose of locating and taking heritage. This includes nighthawking (the use of metal detectors to illegally gather items, typically at night) and removal of flora and other natural elements e.g. bird's eggs.

Architectural features (both inside and outside a property) can be a target for theft. The high cost of repairing heritage property has unfortunately had the consequence of raising the value of architectural "salvage". Theft of stone is becoming increasingly common. Even gravestones are being stolen simply for the stone content. Already carved stone with architectural features (e.g. for window surrounds) will have high salvage value.

The current high price of metal has led to a huge increase in recent years of the theft of metal items for its scrap value. This includes lead roofing, ironwork as well as brass, copper and bronze.

Unfortunately the consequences of the theft can cause greater damage than the theft itself. For example the theft of lead roofing can permit rainwater to leak into a building causing damage to roof timbers and interior decoration and a stained glass window smashed to enable the thief to steal brass candlesticks will probably have a higher replacement cost than the items stolen.

Metal, Tile and Stone Theft

There is no doubt that in recent years the rising value of all types of metal has contributed to a huge increase in the theft of metal. This has included roofing lead and other building materials but also theft of copper cabling used for power and telecommunications. The return for criminals is relatively small but it is still lucrative. Many measures have been taken to reduce the number and scale of thefts but it is likely to continue.

The harm caused by the theft of the material is usually far more significant than the loss itself. The loss of power or phone lines can cause business disruption or damage to property interiors because of a lack of heating. Damage to roofing and guttering can cause irreparable damage to walls, flooring and valuable contents.

Statues, metal plaques and lettering from war memorials are all at risk.

For more information refer to the BSIA guide "Metal Theft – A guide to securing your business" – Form 156 available here:

www.bsia.co.uk/web_images/publications/156_metal_theft_guide.pdf

Equally damaging to properties is the theft of easily reusable stone such as tiles, roofing slates and paving slabs and the theft of ornate features. In some cases these may be stolen to order but in others they are simply taken to architectural salvage businesses for cash sales. As the ability to sell on stolen metal is restricted the likelihood of stone theft may rise.

300 Cotswold stone roofing tiles were stolen from a church in Stonehouse, Gloucestershire in October 2013. A local newspaper, The Citizen, reported that the retail value of the tiles was up to £6,000 and that they may have been stolen to order. A spokeswoman for Ecclesiastical Insurance was reported as saying "It is clear that Cotswold stone tiles are an attractive and highly sought-after roofing material. They're also quite expensive in comparison with other roofing materials, hence there's a buoyant market in reclaimed tiles".

5.1.1.6 Environmental Crime

Environmental crime threats include fly posting, fly tipping, littering, dumping of drug and sexual paraphernalia. In particular dumping of waste chemicals (including paint, detergents, etc) is a serious issue. There is also the possibility of illegal land-occupation and crop damage.

5.1.1.7 Natural Environment

Threats to the natural environment include badger baiting, bat disturbance, wildlife poisoning, shooting and trapping, bird egg removal, flora theft, etc. Also possible are criminal attacks on livestock and horses.

5.1.1.8 Nuisance Behaviour

There are a wide variety of activities undertaken by individuals and groups of people that can be a nuisance. This can be in the form of annoyance to occupants, things that deter visitors to an attraction, behaviour that results in additional costs or effort (such as dealing with litter). Examples include: Alcohol and drug misuse; drug dealing; begging; street drinking; firearm and airgun misuse; ritual activity; noise and rowdiness; urination and allowing animals to go uncontrolled.

Depending on the type of heritage property there may be potential for the playing of unauthorized sports or games. Some types of property may attract certain types of activity because of an association between them (e.g. parkour, free-running or role playing games centred on a theme related to the property).

5.1.1.9 Unauthorised Access

Apart from criminals entering a property for the purposes of their crime, people may wish to gain access to a property for a large number of reasons; many of these may not be intentionally criminal but could have a detrimental effect on the property. Some attempts at access may be directly related to the fact that there is a heritage aspect to the site. Examples of this are forms of exploration such as unauthorized diving and urban exploration.

Other reasons for unauthorized access could be for use of the location for other activities. The exact threats will depend on the type of property and its location (e.g. close to a city or motorway junction). The threats could include things such as: unlicensed raves and parties; sex related activities (including prostitution); substance, alcohol and drug misuse.

5.1.2 Consequential Threats

When assessing the consequences of any threat you should also take into account any additional problems that could result and cause financial difficulties, require additional insurance measures or other precautions.

For example the loss of use of a property could affect the ability to operate a business, to host gatherings (e.g. weddings) and could reduce income from associated business (e.g. tea rooms).

5.1.3 Other Potential Threats Affecting Heritage Property

Other threats include those that are not specific to heritage property but depending on the type of property may need consideration. Advice generally given with regard to these aspects can equally be useful at heritage properties.

a. Domestic burglary
b. Burglaries from outbuildings (sheds, barns, stores, stables)
c. Commercial burglary (including those affecting shops, farm shops, garden centres, rural pursuits / outdoor centres, hotels, holiday centres, country estates, fish farms, stables, kennels, catteries, nurseries and zoos)
d. Vehicle/machinery theft (including cars, motorbikes, quad bikes, 4 x 4 vehicles, agricultural machinery, tractors, mowers)
e. Tools and equipment stolen for sale or personal use (including work tools, ladders, sports and leisure equipment).
f. Fuel theft (from fixed fuel storage, portable fuel containers and from vehicles). Thieves target fuel as it is valuable and easy to sell on. Fuel stores should be protected as well as fuel in vehicles.
g. Firearm theft (including historic weapons, farm guns and from shooting centres and gun shops)
h. Livestock theft, poaching, rustling
i. Theft of armour, including swords, daggers, bows and helmets

5.1.4 Hazards affecting heritage property

When considering security it is useful to take a holistic approach by considering other hazards and threats at the same time because addressing one may have an impact on the other. For instance, planning to deal with a flood needs to be effective whether it has been caused by frozen pipes, or pipework stolen by a thief. Building security into such emergency planning can be cost effective and minimises the consequential damage of criminal behaviour.

This section highlights the kinds of hazards that might occur. Again not all of these may be appropriate to your property but having a better understanding of the possible hazards will assist with planning any response.

5.1.4.1 Flooding

Flooding can occur from ingress of water from natural watercourses or following bad weather but can also result from leaks from water supplies (both from within and outside the property). Advice about flooding can be found at the National Flood Forum: (www.nationalfloodforum.org.uk) and the Environment Agency:

www.environment-agency.gov.uk/homeandleisure/floods

5.1.4.2 Health and Safety

Particularly in the case of properties with some form of public access or employees on site, failure to protect the health and safety of people can result in prosecution or loss of business. It is worth considering hazards that may cause a failure of this protection. Employers should ensure their compliance with the Health and Safety at Work Act 1974. More advice is available from the Health and Safety Executive: www.hse.gov.uk.

5.1.4.3 Environmental Damage / Effects

Fuel leaks, burst water pipes and other problems (e.g. loss of temperature control in a plant nursery) can cause diverse problems. For example the leakage of fuel can cause damage but also result in a lack of heating.

CS

Case study

SMARTWATER FOUNDATION

Protecting war memorials to mark 100 year anniversary

BSIA member company, SmartWater, has provided property marking solutions, via the not-for-profit SmartWater Foundation, to help protect war memorials across the country as part of the In Memoriam 2014 project, an initiative which aims to commemorate the 100 year anniversary of the outbreak of World War One by protecting and maintaining monuments.

Praised by – among others – David Cameron, Nick Clegg and Boris Johnson, In Memoriam 2014 aims to unite custodians and volunteers under one banner. The SmartWater Foundation has partnered with the War Memorials Trust to spearhead the project, and has donated enough property marking solution to mark every war memorial in the UK, to protect them from the increasing threats of theft and vandalism.

Despite the metal having relatively little monetary value, it is estimated that on average one war memorial a week is targeted by thieves looking to illegally remove bronze, copper and other metals to sell to unscrupulous scrap dealers. Prime Minister, David Cameron, said: "I, like most people, have been appalled by the instances of theft from, and desecration of, our war memorials in recent times. Of course, the Government commends any initiative that commemorates the sacrifices of those who served in Her Majesty's Armed Forces and died in the service of their country."

Nick Clegg, Deputy Prime Minister of the United Kingdom, added: "Projects such as In Memoriam 2014 are a testament to this country's determination to remember our dead. I was particularly interested in learning about the role SmartWater can play in preventing crime and helping to ensure that our memorials serve as a focal point for commemorations."

Mayor of London, Boris Johnson, said: "War memorials are there so that people of our generation, and the next generation, would never forget the sacrifice that was made. It is therefore tragic when the monuments are cynically stolen so that the thief can make a few pounds. I encourage our communities to look after the memorials and thank all the volunteers who are already doing this."

War Memorials Trust Director, Frances Moreton, said: "In Memoriam 2014 is a very special project to protect war memorials in communities across the UK. War Memorials Trust seeks to both protect and conserve this unique part of our national heritage and it is delighted to be involved."

Sir Keith Povey QPM, Chairman of the SmartWater Foundation, said: "The SmartWater Foundation is pleased to be partnering with War Memorials Trust in this project and I hope that the community will embrace it by taking an interest in locating and preserving these symbols of our commemoration."

Figures compiled by War Memorials Trust show that war memorial thefts have fallen by around two thirds since the launch of In Memoriam 2014, with the last 12 months seeing an unprecedented amount of media coverage about war memorial-related metal theft, resulting in heightened awareness amongst the general public. Both War Memorials Trust and the SmartWater Foundation hope that as knowledge of In Memoriam 2014 continues to grow it will reinforce the message that war memorial theft is totally unacceptable, and that war memorials are no longer a soft target for thieves.

For more information about property marking solutions, visit the BSIA Asset and Property Marking Section web page:
www.bsia.co.uk/asset-and-property-marking/about-bsia-asset-and-property-marking

6. Securing the Property

6.1 General Guidance

6.1.1 Introduction

This section covers specific measures which may be applied to secure a heritage property.

Security is applied through the application of **physical** and **operational** measures.

- **Physical Measures** are constructed, designed and fitted (or deployed) to support security; These are usually divided into two basic types:
  - **Physical Protection** (or Containment) measures such as fences, gates, doors, locks, safes, etc.
  - **Technical Security** (or Electronic Security) measures such as intruder alarms, CCTV surveillance, electronic access control systems, lighting, etc.
- **Operational Measures** are those human activities and processes designed and performed to support security. In some cases this might mean the employment of guards but more typically for heritage protection it means the things that a homeowner, steward or other guardian will do to assist with protection.

6.2 Physical Protection Measures

6.2.1 First actions

The sort of measures that might spring to mind immediately are strong fences, window locks and safes, the use of bollards to stop vehicles, grilles on windows, and similar physical interventions. However the starting point should be to consider the existing property and view it as a criminal might see it. Criminals think about their actions and to some extent try to rationalise it. In other words they give themselves an argument as to why it is acceptable to commit their crime. Examples of this are "it doesn't matter, they have loads of money" or "it was already broken, I just broke a bit more". For this reason the first steps should be to look at the property and remove these arguments.

Firstly, it should be made clear where a boundary is. If the edge of a property or a protected area is unclear then criminals can start with the argument that they didn't know they shouldn't be there. This could be achieved by:

- Keeping grass verges or lawns neat
- Adding a fence or chain – even a low fence highlights a boundary
- Putting up clear signs (giving directions or stating "private")
- Making sure that public footpaths and access routes are obvious (so that people keep to the proper path)

For public heritage, such as a war memorial, consider the landscape surrounding it and whether it can be made to appear different to suggest it is has protection.

Secondly, the external appearance of the property is important. For example if one window is broken then a vandal might think that nobody will be concerned if another is smashed. Likewise one area of graffiti may quickly spread. The appearance might then attract other undesirable attention. For this reason it is important to regularly check the outside of the property. Consider the general appearance of the property and its surroundings. Look out for accumulation of litter which could also give rise to risk of fires. Take basic measures to stop the property entering into a cycle of decline.

Thirdly, although you might think that hiding your property will make it safer it also means that criminals approaching it are hidden. Cutting back vegetation to allow neighbours or others to see criminals increases the risk to the offender and provides a deterrent. What is needed for this is a balance between creating a clearly defined boundary and allowing for natural surveillance (this is the ability to observe criminals and therefore the increased risk they perceive). Secured by Design recommend to plant prickly bushes along boundaries and use gravel, which is noisy to walk on. If bushes are no higher than 1m and trees have foliage removed below 2m then it is more difficult to hide. Advice about this can be found in Secured by Design's "New Homes" guide.

If you need to cut back trees you should always check first to ensure that you have the necessary permission. For example, some trees are subject to preservation orders.

6.2.2 Initial Assessment

To begin the assessment consider the property, its surroundings and the environment beyond the immediate vicinity. It is often useful to start at a distance and then approach the property.

For the environment beyond the immediate vicinity:

- What are the levels of crime in the area? For example, use the crime map and statistics available at **www.police.uk** Check for how many incidents there have been of each type and the proportion of crimes resolved. This will help to determine the types of threat.

- What specific incidents of metal theft, vandalism or arson have occurred in the area in the last three months? Check with neighbours, local police or newspapers.

For the immediate surrounding environment consider:

- The grounds in which the building is located - their visibility and ease of monitoring
- The strength and security of perimeter fencing or other boundaries
- Access required for maintenance
- Public footpaths or passageways that run through or close by the grounds
- Accessibility of car parking spaces/facilities that are part of or next to the property
- Accessibility of a waste disposal area for bins

For the property consider:

- The size and shape of the building – how easily can it be monitored by manned guards and/or technological solutions; what resources may be required to meet the risk.
- The strength, security, positioning and visibility of the entry points, and also the accessibility of windows and access to roofing.
- Establish at the earliest opportunity if the property is a heritage asset (see the advice notice at the front of this guide) and, if so, whether it is a designated or non-designated heritage asset and therefore whether any special consents might be required or whether specialist conservation advice should be sought.

6.2.3 Containment

Physical protection or Containment includes those measures that most clearly relate to the layering principle. Protection begins at an outer perimeter (the property boundary) and if possible can proceed through other boundaries until finally a building is reached. Then within the building certain rooms can be given extra protection and valuables stored in specialist cabinets and safes. Consideration of who should be allowed access to certain areas and at what times will help with design of the security.

For larger properties gates and other perimeter openings should be designed in such a way as to permit control – and blocking – of pedestrians and vehicles moving in an out of the property. Many larger heritage properties have frequent vehicle movements in and out and each movement represents a discrete threat. It is recommended that busy/high value sites consider protection of vehicular interfaces through the perimeter with deployable traffic control measures such as gates or mobile bollards.

Minimising the number of entrances to a property always helps with security. It also means that improving the security at entrances is easier and less costly because there are fewer to deal with. This is known as reducing a site's "permeability".

High-value assets are necessarily often left on a property when the owners are away or it is unmanned or partially manned. Consideration should be given to secure storage (such as safes) for high-value objects as well as tools and equipment.

Procedural issues

Providing the containment for a property is a first step to improving security, but it is important to ensure that everybody realises the importance of returning valuables to the secure areas. Limit the number of keyholders and keep track of who has keys for gates, safes, and other secured areas. Always ensure that keys for vehicles are not left in them and are secured properly when not in use.

6.3 Technical Security Systems

Technical systems include intruder (burglar) alarms, CCTV surveillance, electronic access control and lighting. These are often used in combination for example movement detectors can trigger the remote monitoring of CCTV. The way in which the system is intended to provide protection should be considered. Most electronic systems can provide a deterrent effect whilst intruder alarms provide detection. If CCTV images are only recorded then the cameras provide a deterrent effect but the "detection" is primarily of a forensic nature giving evidence after the event. When "live" detection is available it is important that it is linked to a suitably fast response by somebody capable of intervening or implementing other defences.

CCTV surveillance systems also require lighting to be effective – and lighting also has a key role to play in supporting security operations and site health and safety. Lighting should eliminate impenetrable shadow at key locations. Consideration should also be given to the need to minimise light pollution, possibly by aiming lighting downwards and towards the centre of the site – and to the need to limit excess energy expenditure. Use of photo-electric activation, which allows lighting to remain inactive when ambient light levels are at an acceptable level, should be considered.

Lighting need not be obviously intended for security purposes. If designed properly it can have other functions such as enhancing the appearance of the property, highlighting its features and presence at night (by "floodlighting") or guiding pedestrians.

All infrastructure (network cabling, switching, power supply, antennae etc.) used to support technical systems should be protected in its own right from damage, whether through environmental effects, vandalism or deliberate attack. Vital infrastructure should be securely contained and access limited to authorised personnel. Consideration should be given to protecting cable runs and cable containment systems similarly. All equipment fitted outdoors or in exposed areas should be robust, weather- and temperature-resistant and be capable of continued operation under challenging environmental conditions.

Weather proofing

Equipment made to meet European or International Standards (e.g. EN 50131 series for intruder alarms, EN 50132 or IEC 62676 for CCTV, EN 50133 or IEC 60839 for Access Control) will state their suitability for different Environmental conditions in one of four classes which are in rough terms:

- Class I – Indoor - Temperatures between +5°C and +40° C.
- Class II – Indoor – General - Temperatures between -10° C and +40° C.
- Class III – Outdoor – Sheltered or indoor extreme conditions -Temperatures between -25° C and +50° C
- Class IV – Outdoor – General - Temperatures between -25° C and +60° C

Another commonly used term for equipment rating is the IP category, e.g. IP 56, which means the kit is both dust protected and able to withstand powerful water jets. The two digits mean different things. The first is protection against solid particles and the second is protection against liquid as shown in the following table:

Table 2 - IP Categories

Number	First Digit Protection against things larger than:	Second Digit Protection against
0	No protection	No protection
1	50mm	Dripping water from above
2	12.5mm	Dripping water tilted up to 15°
3	2.5mm	Sprayed water up to 60°
4	1mm	Splashed water
5	Dust Protected	Water jets
6	Dust Tight	Powerful Water Jets
7	Not applicable	Immersion up to 1m
8	Not applicable	Immersion over 1m

It should be noted that this protection should also extend to protection of security-related IT systems and their connecting networks and that best practice IT security measures and associated policies must be applied to these. In addition, it is necessary that the systems operator also ensure that Data Protection Act and Computer Misuse Act protection is in place through technology and policy.

Technical Systems

A common problem inherent with heritage properties is the difficulty of providing power and cabling to equipment. Battery powered devices are available and the use of wireless equipment can alleviate some cabling issues. Wireless systems can be quicker to fit and easier to move, for example to accommodate seasonal changes. Care should be taken to ensure that the material the property is made of does not prevent wireless systems from working (e.g. stone and reinforced concrete reduces the range of transmission). The best way of checking that wireless equipment works is for testing to be performed in the location it is to be installed.

Care is needed to ensure detectors and views from CCTV cameras are not blocked by stored materials (either accidentally or as part of a deliberate action), temporary displays, exhibitions, signage and growing vegetation.

6.4 Operational Measures

These are the "things you do". The nature of these things and whether they are simply something a homeowner must remember to do or are part of a set of policies and activities given to employees will obviously depend on the type of heritage being protected. For large properties, typically those with public access, it might mean the employment of guards. The starting point, no matter the size, is the adoption of a security culture.

6.4.1 What is a Security Culture

The most secure places are those where all the people involved in the property have a "security culture". This simply means that the protection of the property is considered whenever making a decision. So:

- You are leaving your house empty to go to the shops – should you close the window?
- You are letting somebody into your property – should you check they are who they claim to be?
- You are buying a new door – should you check how good its locks are?
- Should you make use of the alarm that is already fitted?
- Is it a good idea to post on social media that you are leaving the building unprotected (e.g. by going on holiday)?

Simply by adding the security and protection of your property into every decision it will be better protected.

When all the people involved, whether it is a family, a group of concerned people or a business, take ownership of the problem and help with the protection of a property there is less chance of a failure. Creating a culture of security awareness reduces the likelihood that an individual will consider that dealing with a potential problem, such as a gate left open, is "somebody else's problem".

6.4.2 Protection Plan

The responsible guardian, in conjunction with others, should consider all the activities needed to ensure the property is protected on a day to day or regular basis. One method of doing this, particularly if a large number of people are to be involved, is the creation of a checklist. Lists can cover both things that need to be done every day and things to be checked once a month or less often. The things that go on the list will be different for every property but examples include:

- Check doors and windows are shut and locked
- Ensure the building is clear of visitors at the end of the day
- Ensure all temporary keys/passes are returned and secured

6.4.3 Heritage Sites Employing Staff or Workers

6.4.3.1 Non-security Staff

In addition to the consideration of whether staff should assist with security measures it is also important to consider the safety of staff. For example training could be given in how to deal with potentially violent customers or visitors.

It may be useful to provide staff with personal attack or hold-up alarm devices (see 7.14) or Lone Worker devices (see 7.15). Inattentive or shy individuals, or those working in isolated areas, may be at greater risk.

There are also useful techniques that assist with the security of property. For example greeting customers or visitors shows that members of staff are attentive and noticing what is happening and therefore more likely to be able to identify criminals. Again inattentive or shy individuals may be at greater risk. Training volunteers to engage with visitors can enhance the legitimate visitor's experience but is very unnerving for criminals assessing the site.

Staff can also represent a threat to property and consideration should be given to the checks that are carried out when employment begins. In addition to obtaining references in some cases it may be appropriate to have vetting to include criminal records checks, etc.

6.4.3.2 Occasional Workers

Heritage properties are frequently used for events such as weddings. Care should be taken that workers, who may be given free rein of the property, are bona fide or are monitored by trusted people.

6.4.3.3 Security Staff (e.g. Guards)

All security operations on site should be performed in accordance with a Security Policy, which should be properly managed.

If security is sub-contracted, processes should be developed in agreement with the manager and operator and should underpin the Security Policy. These processes should be managed, monitored and their performance measured and form part of the service level agreement above.

The Security Policy should explicitly state the requirements of the security and the means and extent of its enforcement. It should define, for example, the classes of person to be granted access, the requirements for gaining access (such as agreement to exit searches, for example), the powers of any guard patrols and all other requirements for security.

The Security Policy should also cover the obligations and responsibilities of personnel employed on the site. This could include traffic circulation, responsibility for reporting safety or security breaches and the requirement to cooperate with a guard patrol, if one is employed. For properties that would expect visitors, whether suppliers, delivery people, workers, or customers, a condition for access might be explicit acceptance of the Security Policy. Persons not accepting the Security Policy could be denied access.

6.4.4 Site Access

One procedure that will aid the protection of some properties is to control the number of people and vehicles allowed on to the property. When fewer people and cars are on site then it is easier to spot ones that should not be there. If possible ensure all deliveries are scheduled in advance and access by delivery vehicles logged so that the amount of vehicular access can be minimised.

Vehicles can not only be used to carry stolen goods but also to assist with climbing to gain access over walls or into windows. The further away from the property that vehicles are made to park the easier it is to prevent these uses and the more obvious it is if a vehicle is in an inappropriate place.

6.4.5 Fire Precautions

Although this guide does not specifically cover measures related to protection of heritage property against fire it is worthwhile noting that similar methods can help to prevent accidental and deliberate fires. Examples include making sure that flammable materials are not stored dangerously or allowed to build up by accident (e.g. by removal of waste and not locating bins near the property). Special care should be taken during construction and renovation work.

6.5 Vacant Properties

6.5.1 Introduction to Vacant Property Protection

Also known as void and empty properties, vacant properties are those that would normally be used or occupied but for a period of time are left empty. In some cases (e.g. some tourist attractions) this could apply on a seasonal basis. In other cases it could be a period of time between tenants. The security and protection measures applied in the case of vacant properties vary from occupied properties because they do not benefit from having a normal level of observation from the occupants.

In addition to the other aspects already mentioned, in the case of vacant properties consideration should be given to:

- The access required by authorised personnel for maintenance, inspections, prospective new tenants or owners – control, frequency and range of access
- The utilities (e.g. water, electricity) required for the vacant property (if any) – control and safety requirements
- What is the level of awareness that the property is vacant, and assumptions of any contents or valuable fabric to the building?
- What specific incidents of metal theft, vandalism or arson have occurred in the area in the last three months?
- Are there police patrols? Where is and how far is the nearest police station? Are the police aware of the heritage status and consequent additional legal protection enjoyed by the site?

The risks can be managed by assessing the location and employing the most appropriate measures as a consequence of the assessment.

6.5.2 Drain down

This is a cost effective preventative measure that includes the drain down of all water systems, as well as the switching off of other utilities such as gas and electric services. This can prevent catastrophic damage to vacant properties if metal pipes are stolen and can help ensure property owners meet the relevant insurance criteria. It should be the minimum protection that property owners and managers take to protect property from the damage caused by metal theft.

It is important to remember that in some cases utilities will be needed for the running of systems on site. Check to ensure that cutting off a service (e.g. electricity) will not cause a problem.

Detection devices are available that add to the protection from accidental or unauthorised turning on of water carrying pipes, or leakage or breaking of a water pipe.

6.5.3 Proprietary steel screens and doors

Proprietary steel screens and doors are much more effective for securing the vulnerable points of ingress than plywood boarding. In addition they are perforated to allow air to circulate within the property. Sealing letterboxes so that piles of post cannot form will prevent an increased risk of damage by accidental fire or arson attack.

Some heritage sites will not wish to use screens because of the impact on the visual appearance of the building. Additionally the attaching of screens may cause irreversible damage to the property and for listed buildings this would require consent to be given prior to the work. However recommendations for using screens should take into account the risk of damage to the site if they are not deployed. There have been examples where the use of screens has been initially declined, but then implemented when windows have been broken by vandals.

Recent trials have included the use of specially commissioned decals (pictures) that soften the appearance of steel screens by emulating the appearance of windows.

6.5.4 Strengthening the perimeter

Erecting hoardings, temporary fencing, bollards and anti-climb paint will help protect unauthorised access via the perimeter of a property. In the UK sixty fires a day are started next to or on the grounds of vacant properties, so preventing access to the area surrounding a heritage site can significantly reduce the opportunity for criminal damage.

6.5.5 Technological solutions

Electronic security specifically designed for rapid or temporary deployment can be used to provide instant visual monitoring and protection. Sensors provide immediate detection and report on a range of incidents including intruders, flooding and fire. Systems can use wireless technology, solar power and modern long battery life, so mains power is not required.

6.5.6 Manned Guards

For properties requiring additional protection a manned guard service is recommended, especially for high profile sites where an onsite presence is imperative. Very often such sites benefit from increased security at a reduced cost if there is a blend of guards and alarms, effectively providing increased security, with less human resource needed. See 7.17.

6.5.7 Regular Inspections

Inspections of the property should be carried out at regular intervals. This should form part of any contract with a service provider. It is important to check for any breaches of the protection, the condition of security measures and also the property itself. Additionally the appearance of the property should be checked (as described in 6.2.1) and any combustible materials (e.g. leaves, litter, mail) will need to be dealt with.

6.6 Alternatives to Vacant Property Protection

An alternative way of protecting property that you are leaving empty is to have somebody else occupy it. Companies exist that offer a service to find suitable occupants. This applies to all types of property so a commercial property could have people living in it. One benefit of this is that it may change the legal nature of the building and bring it within the scope of anti-squatting legislation (e.g. The Legal Aid, Sentencing and Punishment of Offenders Act 2012).

CS
Case study

vps
The Vacant Property Specialists

Protection for UK Charity's Heritage Site

BSIA member company VPS (UK) Ltd specialise in security for vacant property. They were asked by a major UK charity to provide protection to a very large, grand, listed building, in highly visible grounds. Due to its former use and publicity of its closure, the assessment placed 'awareness of being vacant' as high.

The task was to preserve the integrity of the site building and associated building fabrics that are of potential value (e.g. approx. £500,000 lead roof) to maintain its saleable condition. This also serves to minimise the public relations impact from and likelihood that public liability damages will be sought by those entering the site and suffering injury, serious injury or death, whatever the purpose of their presence.

VPS undertook a site risk assessment and recommended a combination of measures using physical and electronic security equipment and manned guarding services:

- Minimising the holistic risk through a utility drain down and clearance of combustible items
- Remotely Monitored Alarm Systems with Visual Verification using VPS product SmartAlarm Gold
- Perimeter Protection including steel security screens
- Daily Inspection / Mobile Patrol

The purpose of the SmartAlarm Gold is to detect any approach made to the building, regardless of intent, to sound a deterrent warning (such as a verbal "Your presence has been detected") and to trigger an external monitoring source and response if the warning goes ignored. It is an entirely self-contained system with no need for hard wiring, an external power source, telephone line or internet connection. It is therefore ideal for heritage properties. The unit can be housed in a weather proof dome and is linked to outdoor PIR sensors with integrated cameras. On activation the cameras will capture the scene, even in low light, feeding still pictures and then a video capture to an external monitoring station. The images can be used to 'visually verify' the activation source as real or a false alarm. If the activation is found to be malicious, it is then escalated to a security or police response, depending on severity. The system also incorporates a 120dB siren as an additional deterrent.

Steel security screens intended to deter would-be trouble makers can be deployed. These measures are intended to prevent access for illegitimate causes and to prevent any associated theft from internal areas of the building, vandalism, arson and/or public liability claims due to injury. The steel security screens are perforated to allow light to enter for the purpose of a viewing, and to allow air to circulate so as to prevent dampness within the property. Graffiti can also be removed from the screens and, unlike timber, the screens do not deteriorate over time.

The provision of a manned security presence at the site on a daily basis also allows for a 'real time' inspection of the property and ensures any noticeable changes that may occur to be spotted. Inspection reports are uploaded, reviewed for any 'exceptions' or major changes, and the client informed if this is the case. If the daily inspection report doesn't uncover any changes to the site the report will be uploaded to the VPS secure online portal for client access and auditing purposes.

The client says "We and our insurers are very happy with the security measures VPS have put in place to secure our building and structures. We are confident that their work has significantly reduced the likelihood of any theft and their services represent good value for money."

For more information about vacant property protection, visit the BSIA Property and Asset Protection Section web page:
www.bsia.co.uk/property-asset-protection/about-bsia-property-asset-protection

6.7 Heritage properties with public access

6.7.1 General

When members of the public have access to heritage properties criminals have the opportunity to breach the property's security during open periods and to use those times to gather intelligence about the property. This increases the likelihood of any threats and so raises the risk.

Consideration should be given to restricting access where possible and in particular considering the routes that public are given through buildings. For example increasing the length of the route from the location of valuables to the exit, so the public has to pass by stewards or other staff, increases the perceived risk of detection from a criminal's perspective.

6.7.2 Commercial Operations

Properties open to the public frequently have ticket offices, refreshments and retail outlets. Each of these introduces further threats such as the theft of cash and stock. This guide does not include particular advice related to the protection of these but they should not be ignored.

6.7.3 Interior Tours of Open Properties

When the public can tour historic properties with artwork and valuables on show it is necessary to protect those items. This can be helped by specific routes that ensure the public are out of reach of valuables. People crossing barriers can trigger alarms. Sometimes however the size of the property prevents this. In this case individual items can be protected electronically or by looping cables through them. It is useful to ensure that the absence of items that are taken is obvious. For example if bookcases are full of books then a space on the shelf is more apparent. Bookcases can also be protected by wire across the front or in some areas it may be appropriate to add Perspex sheeting.

Stewards in rooms should not simply be attentive but should ensure that visitors are aware of their attentiveness.

It is also useful to make sure that visitors are aware of the heritage value and the damage that can be done by touching objects.

Inertia alarms, that detect movement of objects, can be fitted to valuables but it is important that they do not damage the items. Always check with a specialist and your insurance company before using such devices.

6.8 Terrorism and Fertiliser – A special mention

A terrorist attack is probably not the first thing that springs to mind for most guardians of our country's heritage but in some cases this is a possibility. Examples are heritage properties used for important meetings or housing national treasures. In these cases it is likely that guardians will have been made aware of this by police and the necessary measures agreed. If you believe that a terrorist threat exists and you need to discuss this in more detail then you should contact the local police Counter Terrorism Security Advisor (CTSA).

One particular area of concern with respect to heritage properties that make use of fertiliser (e.g. those that include farms) is the theft of the fertiliser for bomb construction. Whilst not a direct terrorist threat against the property it is a threat that should not be overlooked.

7. Practical Suggestions for Addressing Risks

7.1 Introduction

This section outlines a number of practical suggestions that could be employed as methods of risk mitigation. This list is by no means exhaustive and not every suggestion will be practicable in all cases. It is recommended that the responsible guardian makes use of consultants to give expert advice about security measures and solutions. Independent consultants, i.e. those not promoting their own products or services, will give the best advice. Whilst security measures can sometimes be seen as an expensive grudge purchase, the use of a consultant with knowledge of heritage protection can prevent wasteful and unnecessary purchases and can lead to overall cost savings.

It is always advisable to talk to your insurers. Insurance companies can provide advice but equally if you fail to follow their recommendations this could be a problem in the event of a claim.

Remember that historic sites are subject to special legal protection and you may need planning or other consents, which would not be necessary for modern buildings, to undertake interior and exterior works. You may also need expert advice on the impact of proposed works on historic fabric, in addition to the recommendations of the security consultant or contractor.

7.2 Records, Inventory and Photographs

It is particularly important in the case of heritage properties to record information about the contents and the structure and history of the property. If the protection fails in some way and the property is vandalised or destroyed it is of great benefit to have as much information as possible to enable restoration. For example, during any building work or decorating it is useful to record details of the structure of the wall. Professional advice should be sought about this.
Keep an inventory of items to ensure anything that goes missing can be identified. It is a good idea to photograph items such as jewellery, watches, medals and other heirlooms and heritage items so that you do not need to rely on a description. Ensure that any distinguishing marks are shown in the photographs. Colour photographs taken against a plain background and with a ruler in the picture to give an idea of size are recommended. If possible make a copy of the photographs in case the originals are lost or accidentally deleted.
Registration of property is recommended. For example, works of art, antiques and collectibles can be registered with the Art Loss Register (www.artloss.com).

7.3 Doors

7.3.1 Introduction

As the primary means of entering and leaving properties, and the rooms within a property, doors obviously form a significant part of the security of any building. There are numerous types of door, some providing built-in security features that could be called “Security Doors” and others which can have security features added to them. The latter will never be as secure as the Security Doors but many factors influence the purchase of doors. For heritage properties the use of Security Doors may not be possible or possible only to replace certain doors. When considering security it is normal to think that the outer doors should have the highest level of security but for heritage properties it may be necessary to fit more secure internal doors and make arrangements to keep items of higher value in a more secure area within the building.

Before changing the structure of doors in the property consider whether changing the way the property is used may make it easier to protect. For example if the main door to a property is a major feature of the heritage then it may be difficult to change. An alternative approach may be to normally enter the property by a different door. This could allow for the main door to be protected by internal changes (such as locking bars, see 7.4) or overcome a need to add electronic security to the door itself.

Among the factors that should be considered is the danger of making the use of doors too restrictive. This is a particular concern of fire officers who warn against the use of certain locks or methods of fastening that hinder escape from a property. There is also a concern when buildings are too difficult for fire fighters to enter in the event of an emergency.

Factors to consider when purchasing a door include:

- Usability
- Aesthetics
- Fire protection
- Emergency access
- Intruder prevention (and, where applicable, blast protection)
- Environmental properties
- Disabled Access

7.3.1.1 Disabled Access

Disabled access and egress considerations should take into account the relevant regulations (e.g. Equality Act, 2010). Guidance on this is given by:

- In England and Wales: Building Regulations - Part M
- In Scotland: Planning and Building Advice Note 78 "Inclusive Design"
- In Northern Ireland: Department of Finance and Personnel (DFP) Technical Booklet R "Access to and Use of Buildings"

Care must be taken that locking devices provide the necessary security but can still be used by those with disabilities.

7.3.2 Glazed Doors

One particular aspect of the design of doors is the inclusion of glazed panels or the use of doors made almost entirely of glass. In some cases security can be improved by the use of glass. The ability to see activities beyond the door can be useful from a security point of view as well as for safety (e.g. for fire safety or supervising visitors). Clear glass can however also reveal the interior to a potential burglar. The glass can form a weak point in the structure of the door enabling access to locks on the protected side or even allowing an intruder to pass through a removed panel. Fully glazed doors, like those in shop frontages, may also prevent the use of additional locks or security features (such as the detectors used by intruder alarm systems to determine whether the door is open). There are particular problems with the fitting of electrical systems to glass doors.

7.3.3 Improving the security of existing doors

The security of a door consists of three parts:

i) The strength of the door
ii) The quality of the lock
iii) Additional security features

A door that is not locked provides very little in the way of security. There are many types of lock which can often be changed to provide better security. It is also possible to cover doors and windows with grilles or shutters. The latter should not be confused with roller shutter doors (where the door is itself a roller door). In some instances doors can have stronger security supplied by bars fitted across the door and frame but this is only possible when securing the door from the inside.

If the existing door is not structurally sound it may be necessary to fit a new door. For heritage properties this may not always be possible. In some cases it may be possible to improve the security of the existing door (e.g. by addition of new structural elements or metal plates). This work should only be undertaken by professionals with knowledge of heritage property and security requirements. Hinges may need to be upgraded to support the increased weight.

Two issues in particular, which may reduce the security of a building and especially its doors, are the need to allow doors to be used for emergency access or exit and the provision of openings for posting of letters. In domestic properties doors for pets can also be an issue.

7.3.4 Other Considerations

Doors may need to be fitted with detection devices for intruder alarm systems so that the system knows whether the door is properly closed and detect when it is open.

Even if a door still provides sufficient security it may attract the attention of burglars if it appears to be in poor condition. Regular maintenance will both preserve the security performance and make it less likely to attract criminals.

7.3.5 General Advice for external doors

Doors should be solidly constructed so that they cannot be easily smashed through or ripped away from the lock or hinges (and hinge bolts). To achieve this the main body of a wooden door should be at least 44mm (1.75") thick. Any panels in the door should be at least 9mm (1/3") thick. Hinges should be at least 100mm (4") long and there should be three or more hinges. It is recommended that external domestic doors should open inwards but if this is not possible then the hinges should be protected (e.g. using hinge bolts) so that the door cannot be removed by breaking the exposed hinges.

When two locks (e.g. a rim latch or cylinder lock and a mortice lock are fitted they should be fitted no closer than 450mm (18"). Doors can be fitted with extra mortise locks (such as the type operated by a mortice rackbolt key only from the inside) for additional security.

Locking mechanisms are available that can be remotely controlled or operated on a time switch. These have in the past been sold to churches so that they can be locked and unlocked without the need for somebody to go the church. These are not recommended unless it is absolutely certain that the lock has operated correctly. It is easy for a criminal to prevent the bolt in such locks from moving, or simply prevent the door from closing properly. This leaves the property without protection.

7.3.6 Sliding Patio Doors

The major issue with patio doors is the ability to lever the doors out of the tracks. Incorrect fitting of the doors may permit this to be done easily from outside the property. Anti-lift devices should be fitted. Multi-locking systems (with at least three locking points) are recommended or mortise locks with removable keys fitted on all doors at the top and bottom. Additional locks can be fitted so long as these do not weaken the door.

7.3.7 French Windows

With French Windows there are typically two problems. One is the common use of outward opening doors. Hinges of doors that open outwards can be broken thereby leaving the door vulnerable to removal. Protection against this can be provided by using hinge bolts. The other problem is that there are usually two leafs to the door. That means that each door does not have a secure frame to lock against and instead relies on the strength of the other door. Mortise locks with removable keys (such as rackbolt keys) fitted on each door at the top and bottom and securely fixed into metal plates on the frame can provide useful extra strength.

7.3.8 Advice about using doors and door accessories

No amount of security will help if the door is not locked, nor if the key is left outside the door or close to the letter box. Even when the door is secured keys should not be left in the lock. Burglars will check above and around doors for keys and will also open letter boxes to check for keys and other valuables within reach.

Sliding door bolts can offer additional security but (for security purposes) they are inferior to mortice locks.

There are several standards relating to locks and door security including:

BS 3621: "Thief resistant lock assembly. Key egress"

BS 8621: "Thief resistant lock assembly. Key egress"

PAS 24: "Enhanced security performance requirements for doorsets and windows in the UK. External doorsets and windows intended to offer a level of security suitable for dwellings and other buildings exposed to comparable risk".

LPS 1175: "Requirements and Testing Procedures for the LPCB Approval and Listing of intruder resistant building components, strongpoints, security enclosures and free-standing barriers" (BRE Global Ltd.)

CS

Case study

BEYOND SECURITY

KABA®

Security is Key – Customised key solutions from Kaba

An often overlooked issue pertaining to physical security is the mechanical lock and key. Whilst considering a padlock for a remote application or a lockcase and its associated door furniture for a heritage project, the design and aesthetics of these very often take precedence over the functionality. The key itself is often ignored, yet it is the most important piece in the jigsaw.

Who will have access to that key, where can they get into with the key, and most importantly can the key be surreptitiously copied without the knowledge of the building management? These are all serious questions to be taken into consideration when choosing a locking system for a building of historical importance, a prestigious display case for a static or loaned exhibition or even a remote gate forming part of the perimeter security.

This is exactly where Kaba can help. With a product design, development and manufacturing facility still located in the UK, Kaba Ltd works with customers to create tailor-made products based upon their specific needs, giving particular consideration to the environment in which the product is to be used. The planning process for a new locking system and the associated key plan developed by Kaba's permutations department depends to a great extent on the intended complexity and capacity of your key requirements. A need to know and understand the proposed long term size of the locking system together with a user 'hierarchy' will be required.

Permutation Sudoku

The phrase "Permutation" refers to the calculation of different possible combinations as to how the small depressions on the surface of a key are to be arranged. The two sides of the Kaba key give a left-hand and right-hand hole pattern. There are also additional inclined holes and others on the edge of the key, all in variable depths and arrangements. In theory, around 2.53 trillion permutations are possible in the Kaba Quatro pluS system one of Kaba's many cylinder series. However, the high standards which Kaba sets limit the range of permutation possibilities — for the sake of greater security. It is stipulated, for instance, that a Kaba Quatro pluS cylinder must have a minimum of tumbler pins. The depth of the different depressions arranged on the key is also precisely defined. In addition, baffles are built into the cylinder. All these components make Kaba cylinders what they are: a high security cylinder and key system.

Once calculated the permutation codes are then sent securely onto the factory production equipment and the keys and cylinders are manufactured in-house. The combinations used remain permanently blocked for other systems and installations. Any keys used in the manufacturing process to test the cylinders are destroyed. Once supplied the keys are registered with Kaba directly as the manufacturer. This will ensure that replacement keys and cylinders can only be ordered by authorised persons. The system owner always retains control over his locking system, something that cannot be said of a lot of systems currently in use today. The solution to an effective and long-lasting system is often simplicity. New master plan systems are individually designed from the start to suit the customer's requirements.

For more information, visit the BSIA Property and Asset Protection web page: **www.bsia.co.uk/property-asset-protection/about-bsia-property-asset-protection** or the BSIA Access Control webpage: **www.bsia.co.uk/access-control/about-bsia-access-control**

7.3.9 Letterplates and Letterboxes

Technically the hole in a door or wall through which post is delivered is called a "letterplate", whereas a "letterbox" is a separate box in which letters are put. Letterplates reduce security by forming an opening which is of use to a criminal. They can be used to extract items close-by (such as keys and post) or to assist in opening the door by attacking locks from the inside. It is common practice for burglars to carry long poles with hooks to reach a considerable distance through a letterplate and "fish" for car and door keys, wallets, etc.

Letterplates close to floor level leaves post at risk while those close to door locks increase their vulnerability. The use of a cage around letterplates will help to prevent this but may also mean that post can be pulled back through the opening. Removing the bottom of the cage can help this. A similar but alternative design approach involves a deflector plate which can be hinged. Remember that anything fixed to the door may prevent it from opening fully.

Letterplates should not be positioned close to a lock because some burglars are very adept at manipulating locks through the opening. The opening should not be larger than 260mm x 40mm.

If possible it is recommended that letterplates are not part of a door but built into a wall. This also assists by making it easier to protect buildings against arson attacks. This is achieved by putting a fireproof enclosure on the inside.

An alternative is the use of an external letterbox either mounted against the surface of the building, on a separate post or in an enclosure. Care should be taken that the delivered mail is not at danger by removal of the mail from the box (either through the letterbox opening or an access door), nor by complete removal of the box and contents. Careful positioning of such boxes is crucial as this solution can facilitate climbing.

> The applicable standard for letter boxes is BS EN 13724 "Postal services. Apertures of private letter boxes and letter plates. Requirements and test methods".

7.4 Locking Bars

NOTE: Locking bars are not suitable for emergency exit doors.

These are bars that are fitted across the whole width of a door and its frame. In the simplest example a square shaped bar is slotted into two hooks or slots either side of a door. Typically the bar should be drop forged iron or hardened steel and 10mm thick with a width of over 60mm. If the door opens inwards then the bar can be held in place by hooks attached to the frame only but it is preferable for it to be fastened to the door with a padlock. If the door opens outwards then the bar must be held on the door itself. It is possible for the bar to be hinged or fixed in a way that it can be swivelled into place.

The normal use of a locking bar is for it to be locked in place from inside the door. They are therefore not usually suitable for use with the door that is normally used for entry to the premises. They can be used externally but this will affect the appearance of the entrance and is unlikely to be a good solution for a heritage property.

Locks (e.g. padlocks) can be used to ensure that the locking bar is not removed. It is essential that the fixing points to the door or the frame are sufficiently secure.

Locking bars can be a method of improving the security of an entrance when the door itself cannot be changed. They also allow for improved security without affecting the external appearance of the door or the opening it is in.

7.5 Roller Shutter Doors

This section is about the use of roller shutters as doors rather than additional roller shutter used in combination with other doors or windows. In reference to protection of heritage it is more likely that a roller shutter door would be used in a more modern building housing heritage although some industrial properties may already have roller shutters.

Roller shutter doors are commonly used for entrances used for goods entry or despatch. They are often used for loading bays and vehicle entrances. They can be manufactured in a wide variety of sizes including ones for wide and tall openings and have the advantage of taking up relatively little space when open. Unlike a hinged door they do not need free space to open.

Roller shutter doors are fitted into a box section guide that ensures they run straight. Sometimes, particularly when these doors are added late in a buildings life, these sections are fitted externally to a building. This method of fixing is not as secure. It is recommended that the frame for roller shutter doors is integrated into the fabric of the building whenever possible.

It is also preferable to not use roller shutter doors as the normal route of entry and exit into a building because doing so means the locks have to be on the outside and are therefore vulnerable. Ideally locks are fitted internally but where this is not possible they should be suitably strong. Close shackled padlocks meeting BS EN 12320 are recommended or alternatively locks built into the channels that the shutter runs in. It is preferable to fit locks on both sides (left and right) of the shutter.

The standard that applies to the testing of Roller Shutter doors is LPS 1175. A minimum rating of 2 is recommended.

Referenced Standards:

BS EN 12320 "Building hardware. Padlocks and padlock fittings. Requirements and test methods"

LPS 1175 "Requirements and testing procedures for the LPCB approval and listing of intruder resistant building components, strongpoints, security enclosures and free-standing barriers" (BRE Global Ltd.)

7.6 Fences and Walls

7.6.1 Introduction

Walls and fences can serve a variety of purposes including agricultural use to control livestock and protect crops, safety and to provide privacy. The obvious function is to prevent or hinder movement across a boundary. The wall or fence also serves to indicate the boundary. From a security point of view this can be important. A fence highlights the boundary between public and private space. It is easier to identify criminal activity if a person is within a fenced area. Typically, fences will be used in combination with gates or other forms of controlled entry. The type of fence chosen and the level of security provided should take into account the other perimeter security measures in place or planned.

Just because a wall or fence is used to provide security it does not mean that it has to be ugly, there are many very fine historic walls around country estates. There are many choices of design that allow for a good appearance. However certain fences may give an impression of security that deters intruders.

The standard fence can also be enhanced by the addition of features to prevent climbing or burrowing and also include intruder detection (perimeter intrusion detection). In some cases it may be appropriate to use an electric fence.

For very high security applications it is likely that a series of fences in combination with rolls of barbed or razor-edge wire, ditches and electronic security measures may be employed. This level of security will require expert advice beyond the scope of this guide, including advice on its appropriateness within the historic environment.

British Standards related to fencing can be found in the BS 1722 Series ("Fences – Specifications") . Each part covers a different type of fence.

7.6.2 General Features of Fence and Wall Design

Purchasers should consider many attributes of a fence before purchasing.

- How will the fence be supplied, delivered and erected
- Is the appearance of the fence important?
- Is visibility required through the fence or is privacy preferred? If it is not possible to see through the fence then property may be hidden but equally intruders can hide behind them.
- Are people (e.g. children) likely to come into contact with the fence?
- How easy would it be for an intruder to dismantle the fence (e.g. removing panels)
- Fences made from primarily vertical parts, or that do not allow for foot or hand holds, are more difficult to climb.

Similar attributes apply to walls:

- How tall will it be?
- How difficult will it be to climb
- If it is an existing wall, is it in good repair

7.6.3 Height and Planning Permission

For security purposes fences below 2m in height are considered less secure. 2.4m is often considered to be preferable. Bear in mind that intruders could stand on top of vehicles or other objects (e.g. wheelie bins) to gain access. Fences that are high enough to provide security against climbing are very likely to require planning permission.

If anti-climb features (e.g spikes, barb wire, etc) are fitted then the lower the fence the more likely that the owner will be required to take further action (such as provision of signs) or will be breaking the law. Your attention is drawn to the Occupiers Liability Act 1984.

7.6.4 Resistance to burrowing

An intruder may consider it easier to go under the fence. To prevent this fences can be extended and buried into the ground or a concrete barrier (or sill) constructed.

7.6.5 Types of Fence

There are many types of fence. The following summarises some of the important information that may help in decision making.

Wooden Fences – From a purely "security" perspective wooden fences may not be considered the best but for a heritage property they have a more traditional appearance and are more likely to be used. The characteristics of fence design still apply. For example using only vertical elements on the outside to make climbing more difficult.

Chain-link – Chain-link fencing is made from intertwined wires forming a square shape with diagonal wires. Typically chain-link fencing is supplied on a roll and is fastened to wires pulled taught between fence posts. It provides a minimal amount of security because cutting a single wire allows for the link to be broken and opening to be formed rapidly. It is possible to purchase types with stronger wire but in any event the style can provide easy handholds and so can be climbed.

Expanded metal mesh – Expanded metal mesh can appear similar to chain-link but differs by being a single piece of metal. Cutting any single link does not break the strength of the fence as a whole. Fences are supplied in panels.

Palisade – A palisade fence consists of a series of upright "pales". This is based on the ancient design of fence made from a line of stakes buried upright in the ground. The vertical nature makes climbing difficult. Palisade security fences tend to be made from a series of extruded metal bars (pales) joined to horizontal metal bars. The top of the pales, the pale heads, can be made in a variety of shapes such as spikes to deter climbers or rounded to reduce the likelihood of injury.

Whilst not offering the deterrence of a palisade fence, fencing made of a series of vertical tubes (often joined at the top making a trombone shape) can be reasonably secure, difficult to climb, and give a more attractive appearance).

Welded wire mesh – Welded wire mesh has taken over from palisade fencing as the security fence of choice in many instances. The level of security provided is good but it is less obtrusive. The fence is usually supplied in a panel form. The wires used in a welded fence are much stronger and stiffer than those of a chain-link fence. The wires are welded together in a series of horizontal and vertical lines. The gaps between the wires vary according to the design and the requirements to be met. Typically as the level of security increases the gap between horizontal wires is minimized so that climbing is difficult. Improved strength (and resistance to cutting) can be obtained by having a double line of wire (i.e. one direction of wire sandwiched between two in the other direction).

Temporary Fences (e.g. Pedestrian Barriers) – The control of people's movements can greatly assist security, particularly in the case of crowds attending temporary events such as sports and music festivals. Health and safety guidance is available for such fencing in the Health and Safety Executive's guide HSG151 "Protecting the public - Your next move".

7.7 Gates and Entrances

Minimising the number of entrances reduces the amount of protection required. It is also recommended that entrances are clearly marked to indicate that the area beyond is private or under what conditions entry is accepted (e.g. "Pedestrians Only").

You should consider gates in relation to the walls and fences to which they are joined. Having a secure gate in a weak fence may prevent vehicle movement but somebody on foot may simply go over the fence. On the other hand having a lower or weak gate will reduce the strength of the whole boundary. However if a gate is an apparent weak point it may lure criminals to it rather than attempting to attack elsewhere and this could be used as part of an overall security design.

Obviously for heritage properties the gates may be part of the heritage and changes may be limited. It may however be possible to make minor changes such as securing hinges to prevent removal. Any alterations should not be made without necessary consent.

It is recommended that there should not be gaps underneath gates. Hinges on gates should be designed to prevent the gate from being lifted free; they should also be shielded from use as toeholds so they do not help people to scale the fence. Ideally gates should be secured by a lock conforming to BS 3621 protected by lock protection plates welded to the gate and the frame or by a close shackled padlock and padlock fittings conforming to grade 5 or 6 of BS EN 12320.

Where appropriate full-height turnstiles can allow for visitors to leave an area but prevent unwanted people entering. Lower turnstiles and similar devices can be useful at internal entrances where bypassing them (e.g. by jumping over) can be observed and result in an alarm being raised.

If appropriate entrances can be controlled by guards or electronic access control measures which can use PIN codes, magnetic cards, proximity tokens, biometric devices or a combination of these.

Vehicle entrances can be prevented by a variety of gate types or by chains or bollards. These vary considerably from purely indicating that vehicles should not enter to car park barriers and rising ramps or posts designed to prevent attacks by terrorists using vehicles. Some of these will be manually controlled and others automatically or remotely controlled. For homes, electric gates can be used. Care should be taken with regard to the layout of approaches to ensure vehicles are not in a dangerous position prior to opening the gates.

There are several standards relating to locks including:
BS 3621: "Thief resistant lock assembly. Key egress"
BS EN 12320 "Building hardware. Padlocks and padlock fittings. Requirements and test methods"

7.8 Restricting Access to Footpaths and Cycle Routes

Recommendations given previously about restricting vehicle access will be of no benefit if vehicles can illegally gain access. Tracks used as footpaths or bridleways can be protected against inappropriate access using bollards, and other restrictive measures, such as placing large rocks or tree trucks across farm entrances.

If the footpath is not on your property but is on adjacent property you could discuss improvements with the land owner, local authority and other groups.

7.9 Safes

A safe is a device used to provide secure storage usually consisting of a box with a hinged door protected by a lock. They are sometimes known as coffers or strongboxes. Safes vary greatly in size and strength. Similar to safes are strong rooms and vaults.

The use of a safe means that valuables can be moved to a more secure area. Safes are designed for the protection of valuables including paperwork, jewellery, cash, precious metals, electronic data or items of high sentimental value. The form of protection provided by a safe varies according to design. Some offer only basic protection against theft but help to ensure the survival of the contents in the event of a fire. Others are designed to protect against specific threats including flooding. Purchasers should consider whether it is preferable to buy a single multi-purpose safe or more than one safe of specific types. The latter option may prove more economical and take up less space.

The two important features of a safe are the protection given by the walls, hinges and door and the protection given by the lock. Safes are graded according to their resistance to burglary. This is measured using methods described in standards such as BS EN 1143-1, BS EN 14450 or LPS 1183. The rating of a safe is dependent on the lock used and buyers should check that the lock fitted to the safe does not reduce its security rating.

When a heritage property includes an older safe care should be taken to ensure that it is suitable for use. It may be preferable to buy a new safe.

There is a relationship between the rating of a safe and the amount of cash or valuables that it is suitable for storing overnight. The rating in value terms given by insurance companies can vary from one company to another. You should check with your insurance company whether the rating of the safe is sufficient for the value of property to be stored in it. If the safe is being purchased as a result of insurer recommendation or insistence the insurance company's advice should be sought regarding any additional specifications they may have in mind.

In addition to determining the correct rating of a safe, buyers should obviously ensure that the internal dimensions are sufficient for the storage required. For a business it is important to consider whether the safe will be large enough to take the maximum expected volume of valuables considering changes during periods such as holidays and growth of the business. It is also important to ensure that the contents of the safe can be manoeuvred through the door opening.

Safes can be freestanding; fixed to the floor or even under a floor with a hatch to gain entry.

When deciding the position of a safe the following factors should be considered:

- Can the safe be delivered to the location?
- Is the building structure strong enough to take the weight of the safe?
- Will the safe be in an area of the building that means the user will not be at threat when it is opened?
- Will the safe be hidden from view?
- Is the position well away from tools and equipment that could assist with an attack on the safe?

It is possible to add electronic security measures to safes. Vibration sensors can detect a physical attack, heat detectors can detect attempts at cutting, and covers with sensors can protect locks. These detectors can be linked to an intruder alarm system.

It is possible to purchase reconditioned safes. Any reconditioning should be carried out according to British Standard BS 7582. It is not possible for a reconditioned safe to have a higher cash rating than it was originally manufactured to.

Always be sure that keys to safes or their locking codes are not allowed into the wrong hands or left in an insecure location.

Titles of standards mentioned above:

BS EN 14450: *Secure storage units. Requirements, classification and methods of test for resistance to burglary. Secure safe cabinets.*

BS EN 1143-1: *Secure storage units. Requirements, classification and methods of test for resistance to burglary. Safes, ATM safes, strongroom doors and strongrooms.*

BS 7582: *Code of practice for reconditioning of used safes.*

LPS 1183: *Requirements and Testing Procedures for the LPCB Approval and Listing of Safe Storage Units.*

7.10 Display Cabinets

For display cabinets, especially those in public areas, consideration should be given to the material of the cabinet, the locks that are fitted and also the glass used. Limiting the number of valuable objects in an individual case is a good idea, as is positioning cabinets in a way that prevents a crowd of people from surrounding them to conceal criminal activities.

Locks should be of a good standard, resist picking, physical attack and, if possible, they should be hidden from view. Glass should be laminated and set well into the frame. Glass laminated with polycarbonate offers high levels of resistance to attack. Ensuring that glazing is framed helps to protect the otherwise vulnerable edges of the glass. Hardwood and steel frames provide good protection. Soft, low density, wood and aluminium frames are weaker. Hinges should also be of good quality and well attached.

Display case materials should be assessed to ensure they do not affect the contents. Check, for example, they are chemically stable and designed to provide appropriate environmental conditions to keep the artefacts in optimum temperature, humidity and light levels. It is pointless to stop something being stolen if the security measures then become the means of destroying it.

7.11 Lighting

Lighting can be a deterrent to intruders and a positive aid for those keeping a watch. Lighting should be sturdy and resistant to adverse weather conditions, tampering and vandalism. Consider whether it is better to direct light toward the centre of the property or away from it. This will affect the ability of observers to see people and also the ability of intruders to see the property.

To ensure that security lighting is effective, it should be used at all relevant times. The use of a photoelectric cell, which switches on when daylight fades and off when it returns, is suitable. In the past it was recommended to use infra-red detection devices that triggered lights when approached but these can cause a nuisance and cause undue alarm when triggered accidentally. They may however assist with lighting for specific purposes (e.g. to light a path for expected users crossing a yard).

Wiring for security lighting should only be accessible to authorised persons. Cables for perimeter installations should be buried with the supply for individual luminaries, teed-off through a fused spur. Exposed cables should be enclosed in a steel conduit. An interference detection circuit connected to an alarm may also protect cables. Security lighting systems should be routinely inspected and maintained.

7.12 CCTV Surveillance Systems

CCTV can be used to aid the security of a property and can act as a deterrent to criminal activity. It is vital that the intention of the CCTV system is known at the planning stage as this will affect the type, quality and quantity of equipment required. For example, is the purpose of a camera at the entrance merely to see that somebody is present or to identify them? If used away from mains power the availability of electricity to the CCTV system and lighting should be considered. Many different types of equipment are available with low light or infrared operation or combined with white or infrared lighting units.

CCTV images can be recorded or monitored on-site or monitored remotely (see 7.16).

By combining movement detectors (see 7.13) with remotely monitored CCTV, it is possible to enhance the performance of the system by alerting those monitoring the system that there is an event to pay attention to. The applicable standard for this is BS 8418.

Remote operations can include the ability to control the direction and view of a camera using pan, tilt and zoom (PTZ) mechanics. It is also possible for the system to include integrated audio amplifiers and speakers to allow the remote operator to issue commands, for example to warn intruders to leave a site.

In the case of CCTV used in heritage properties, consideration should be given to the appearance of the cameras. Greater care may be required when choosing a location for a camera and use made of existing architectural features to hide brackets and cameras. Compact and unobtrusive cameras are available in dark or light colours to blend in. In addition to the camera consider the use of mounting brackets and supports that can reduce the visual impact. There are also camera housings available that effectively hide the camera within equipment that appears similar to light fittings and other devices. For internal use, where required, covert cameras can be used. Covert cameras are very small but may not offer the versatility or image quality of larger cameras.

To operate properly surveillance cameras need a sufficient light level. In locations where appearance is less important, lighting units are often fitted adjacent to cameras (although this can attract wildlife, spiders and insects to the camera which can obscure their view and make lenses dirty). For heritage properties, it is worth considering whether alternative light sources that might also benefit the property in other ways could be used.

The difficulty with fitting cabling in heritage properties can often be overcome by using wireless technology but expert advice should be checked to ensure that any building materials will not interfere with the signals. In some cases it is easy to connect to electricity supply but battery powered systems are available.

The following standards are applicable to CCTV surveillance:

BS EN50132 series being replaced by BS EN IEC 62676 series
BS 8418 "Remotely monitored and detector-activated CCTV systems
BS 8495 "Code of Practice for Digital CCTV recording systems for the purpose of image export to be used as evidence"
BS 7958: "CCTV Management and operation. Code of practice."
BSIA Publish a number of guides for CCTV surveillance including:
Form 109 "Planning, design, installation and operation of CCTV Surveillance Systems – Code of Practice and Associated Guidance"
Form 196 "BS 8418 Systems User Guide"
Form 197 "CCTV Privacy Masking Guide"

It is also important to consider relevant legislation and regulations. For example compliance with the Data Protection Act (including the need to place warning signs) and the Protection of Freedoms Act (including the Surveillance Camera Commissioner's Code of Practice). Note that there are many such items of legislation that may or may not apply in your case.

CS

Case study

clearway
SECURE WITH CONFIDENCE

Protecting the roof of a former church

BSIA Member, Clearway Environmental Services were approached by a client in the Sussex area. They had suffered significant financial loss as a result of lead theft off a roof of one of its busier buildings, a former church. The cost to replace the metal and the work required to fix the damage was running into the tens of thousands of pounds.

Following consultation with Clearway on the best security options available it was agreed that a series of CCTV cameras positioned to give the best visual coverage of the vulnerable roof areas was appropriate. The CCTV system used was designed to be installed easily and quickly without the need for professional operators and expensive equipment onsite. The system is able to capture images of the thieves on camera whilst notifying the central monitoring unit of their presence. The monitoring centre logs into a viewer via a web browser and can view live or recorded images at the click of a mouse. The system also allows the client to log in from a web browser or smart phone allowing them to check the condition of the roof and view images on any recent activations.

In the weeks following the installation they had no further incidents bar one which involved a would-be thief using the cover of darkness to climb onto the roof only to realise he had been caught on a CCTV camera using its night vision capability. The police, who had been notified of the intruder, attended site only to discover that their suspect had beat a hasty retreat leaving the lead untouched.

For more information about providers of property and asset protection, visit the BSIA Property and Asset Protection Section web page: **www.bsia.co.uk/property-asset-protection/about-bsia-property-asset-protection**

7.13 Intruder Alarm Systems

Also known as burglar alarms the use of these is commonplace. The systems usually consist of a control unit, possibly with a separate keypad or token operated controller (older systems typically used a key) with a number of detectors, a bell or siren and possibly a communications device linked to a monitoring centre (or "alarm receiving centre").

The industry has developed a wide variety of detector types that sense the presence of an intruder. These very often include passive infra-red (PIR) detectors that spot changes in the heat caused by movement of the intruder and magnetic door or window contacts that trigger when doors or windows are opened. For specific purposes though other types may be more useful. Check with a specialist regarding the use of glass break detectors, shock detectors, active infra-red, infra-red beams, microwave movement detectors and numerous other types.

One particular type of detector worthy of note is one that uses a horizontal or vertical detection "curtain". For example, a laser curtain detector could trigger an alarm if somebody crosses a line at a visitor attraction to get closer to a painting or other heritage artefact.

Detectors sometimes include LED indicators that show when they have detected movement. For properties that have public access these indicators should not operate because they can be used to test the operational range of the detectors (for example showing that a window recess is not protected).

You may wish to consider carefully who is going to respond to an alarm. Asking a lone neighbour or a caretaker to respond against a team of burglars is not recommended. It is possible to employ professional keyholders to respond to problems at the premises.

The British Standard for keyholding is BS 7984:2008: "Key-holding and response services. Code of practice".

As with CCTV cameras, careful choice of equipment can reduce the visual impact of intruder alarm devices. The largest parts of the intruder system are normally hidden from sight in any case although a keypad may need to be located close to the entrance. Intruder alarms often use devices called proximity readers that are used to arm and disarm the alarm. Proximity devices such as key fobs or cards and carried by users interact with the proximity readers which are fixed to the wall in the building. Small and unobtrusive proximity readers are available.

The two major concerns with regard to appearance for intruder alarm components in heritage properties are detectors and warning devices (also known as sirens or bell boxes). Again a variety of detectors are available that should enable the use of inconspicuous devices. It is also possible to disguise detectors but this should only be done by an expert to avoid preventing them from working. Checks should always be made to ensure that the detection pattern (where in a room the detector can "see" an intruder) is as expected.

Warning devices (sirens) can include a number of useful features. The sound from these devices can sometimes be deadened using foam but they can incorporate foam detection to prevent this. They should be located as far out of reach of criminals as possible. The location of a warning device is determined by a variety of factors. It is important that the sound from them can spread over a wide distance and if they include strobe lights to indicate that an alarm has occurred then this should be visible from outside the property. The use of the lights is to enable quick identification of which property needs police attention. It is possible to fit separate strobe lights that might result in a better appearance.

As with other security technology the difficulty with fitting cabling in heritage properties can often be overcome by using wireless technology but expert advice should be checked to ensure that any building materials will not interfere with the signals. Wireless intruder systems typically have battery powered detectors and warning devices.

The standards applicable to intruder alarms fitted in buildings are those covered by PD 6662 (including BS EN 50131 series, BS 8243, DD 263) "Alarm systems - Intrusion and hold-up systems". These systems have differing levels of quality that are graded. Grade 1 is the lowest quality and are not recommended. Grade 1 systems cannot be used to call for police response. Grade 4 is the highest quality but intruder systems meeting Grade 4 are not readily available. There is no hard and fast rule but typically commercial and high-end domestic properties will be Grade 3. Heritage properties should be considered as needing a higher grade than other similar properties but it is worth noting that Grade 3 wireless systems are less common.

In some cases it may be thought that the sound of an alarm at the property may be sufficient to deter a criminal but unless there is somebody close by who can respond to the sound then it is preferable to communicate the alarm off-site using an alarm transmission system (ATS or "communicator"). The simplest of these can call an owners phone or send a text message. This method is not particularly reliable and cannot usually be expected to withstand a criminal attack on the communicator itself or phone cabling. You should check whether this type of communication is acceptable to your insurer. They can however give some peace of mind.

The preferred method of communication is to use an alarm receiving centre (see 7.16) that can pass alarms on to the police. To permit this method the alarm must be installed by a company inspected by a UKAS accredited inspectorate and meeting the requirements of PD 6662. For police response the system must comply with the relevant police security systems policy.

Often the security Grade of the ATS will be higher than the Grade of the intruder alarm system it is connected to. Insurers may for example insist on use of a "Grade 4" system. Better ATS will have a facility to send alarms via more than one method so that it can be resilient to attacks or faults. For example it could use a landline telephone or broadband and a mobile phone method. These are commonly known as "dual path" communicators.

Because of the scale of problems caused by false alarms police look for the use of alarm confirmation. This means the system is designed to enable a greater level of certainty that an alarm is genuine before the police are contacted. The standard that applies to this is BS 8243. It is vital that users take care not to cause false alarms because repeated false alarms may result in the police refusing to respond.

Relevant standards for alarm systems:
PD 6662 "Scheme for the application of European standards for intrusion and hold-up alarm systems"
EN 50131-1 "Alarm systems. Intrusion and hold-up systems – System requirements"
TS 50131-7 "Alarm systems. Intrusion and hold-up systems – Application guidelines"
BS 8243 "Installation and configuration of intruder and hold-up alarm systems designed to generate confirmed alarm conditions. Code of practice"
DD 263 "Intruder and hold-up alarm systems. Commissioning, maintenance and remote support. Code of practice"

7.14 Personal Attack or Hold-up Alarms

These are alarms that are operated by individuals at particular premises that use a system like the intruder alarm system to raise an alarm in situations where the individual is under threat of attack. The alarm can be made locally by use of a siren but this could raise the threat against the individual. It could also alert a controller on site or use a communication system (see 7.13) to call for police assistance. Be aware that when police response is expected it is vital that false alarms are minimised otherwise response will be withdrawn. The standards mentioned above for intruder alarm systems also apply to hold-up alarms.

The devices that are used to trigger a response can either be fixed to a wall or other surface (e.g. a counter in a shop) or can be portable and carried with the user.

7.15 Lone Worker Alarm Devices

Lone worker services include the provision of specialist devices and downloadable smartphone applications which enable staff to call for help from wherever they are with their precise location and situation. They are different to personal attack or hold-up alarms being small, portable, and always held on the person.

They are therefore particularly suitable for staff with a roving role. While they work better outside they can also be effective indoors. Because of their flexible use they are worth considering in many circumstances but specialist advice should be sought from suppliers of Lone Worker services.

Correct use of such services can help employers discharge their duty of care to employees who may not be under direct supervision.

The relevant British Standard for Lone Worker Services is BS 8484 *Provision of lone worker device (LWD) services – Code of practice*

7.16 Remote monitoring of alarms and other systems

When an alarm system is monitored remotely the protection provided is usually improved. The monitoring is usually performed by an Alarm Receiving Centre (ARC) for intruder alarm systems or a Remote Video Receiving Centre (RVRC) for CCTV. These may also be called a "central station". These centres receive alarms or video images from the premises and can initiate a response by the owner, a key-holding service, private security guards or the police. Centres in operation prior to 2014 will be built and operated in accordance with BS 5979. Later centres may be covered by BS EN 50518 or BS 8591 depending on the service they provide. You should ensure that the centre is inspected and audited by a UKAS accredited inspectorate.

Referenced Standards:
BS 5979 "Remote centres receiving signals from fire and security systems. Code of practice"
BS 8591 "Remote centres receiving signals from alarm systems. Code of practice"
BS EN 50518 "Monitoring and Alarm Receiving Centres"

Case study

Absolute Security Systems Ltd with Heritage Properties

Surrey-based BSIA Member, Absolute Security Systems Ltd, has worked with many heritage properties, including some owned by the National Trust, to devise security solutions which protect both the buildings and the valuable artefacts they contain, many of which have national historical significance.

The sheer size and scale of many of the heritage properties the company helps to protect means that a hybrid security solution is invariably needed. This approach combines a traditional wired backbone with wireless technology.

When designing and installing an intruder or fire detection system in a heritage property, Absolute Security Systems Ltd works closely with the relevant Conservation Officers, with a focus on minimising the impact of the system's installation on the property's period features, whilst maximising the level of security protection for the site and its precious artefacts.

For the cabling part of the solution, existing cable trays and ducts on the premises are used, as are existing lofts, outbuildings, cellar space and other less sensitive voids in the property. This approach enables the company to make the most of wireless technology for the system's sensors to minimise their impact on the property's structure. In some instances, they have to be camouflaged to blend in with other period features in a room.

A number of the properties supported by Absolute Security are open to the public and rely on a handful of staff and volunteers to supervise the public's interaction with the premises and precious exhibits. In such cases, they have often integrated localised paging systems with the central security system, which means that, when a property is open to the public, staff can be subtly alerted to respond immediately to a specific incident. The benefit of this is that no single member of staff is left to deal with an issue in isolation and the incident can be dealt with safely and with minimum disruption to the rest of the heritage property's visitors.

To find out more about Absolute Security visit: www.absolutesecurity.co.uk

For more information about security systems installation, visit the BSIA Security Systems Section web page:
www.bsia.co.uk/security-installers/about-bsia-security-installers

Case study

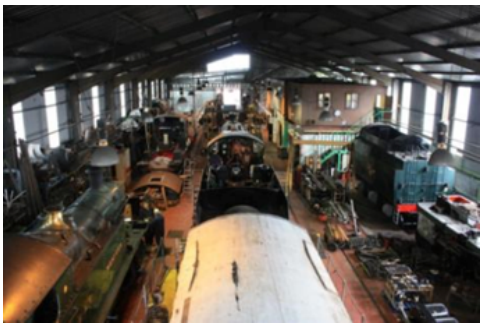
Securing the Severn Valley Railway with intruder alarm technology

Eaton's Security Business provided a hybrid intruder alarm system to protect the large Severn Valley Railway preservation site in Bridgnorth, Shropshire.

Having fallen victim to theft of large quantities of high-grade copper used in the manufacture of steam engine boilers, the Severn Valley Railway – historic steam railway – sought to improve security at its working engine shed, oil store and boiler shop to prevent further thefts.

As part of a holistic security solution put together by local installer, Interface Security Systems Limited, Eaton's i-on160EX hybrid alarm system was chosen to meet the unique challenges of securing this large-scale site containing several different areas, or in alarm terms, 'partitions' – each with differing security requirements.

With steam engines often being moved around and left overnight venting hot vapour, water and smoke, the alarm system needed to take into account this 'in-steam' situation, negating any false alarms, whilst still detecting unwanted intruders.



Access was another important issue under consideration. Along with permanent staff, there are a large number of volunteer 'preservationists' on-site. Their requirement for cleaning materials often coincided with the hours when the shed and boiler shop should remain alarmed. Once again, there needed to be a way to distinguish friend from foe.

Finally, it would not have been in keeping with such a heritage site to display modern security equipment around the premises. But the size and nature of the engine shed and boiler shop made it difficult, time consuming and costly to install cables discreetly in order to protect the character of the building.

Eaton's i-on160EX security system made it possible to install a backbone cable between the three buildings connecting keypads, wired detectors and radio detectors throughout the site. This resulted in reduced cabling which also saved installation time and minimised disruption.

Splitting the system into three partitions, a dedicated keypad was installed in each building that enabled the control settings for each area to be programmed separately. The higher-risk engine shed and boiler shop could now be controlled by staff with high security proximity key fobs. The large number of weekend volunteers that required access to the oil stores were given a cost effective, simpler entry code.

The result is that Severn Valley Railway now has state-of-the-art security protecting its facility from the theft of irreplaceable components.

Nick Ralls of Severn Valley Railway comments: "We are delighted with the performance and versatility of the intruder alarm system and the installation was carried out quickly with minimum disruption to our engine sheds".

For more information about intruder alarm manufacturers, visit the BSIA Security Equipment Manufacturers Section web page: **www.bsia.co.uk/security-equipment-manufacturers/about-bsia-security-equipment-manufacturers**

CS

Case study

Wireless security for Grade II Listed Church

Heritage buildings can be a target for thieves looking to steal artefacts and fixtures that are on display inside or the expensive materials including lead and copper that are used to protect roofs and guttering. To replace stolen valuables or material can run into tens of thousands of pounds, therefore insurance is paramount. However, insuring these historical buildings can prove difficult as the criteria set for security systems are rather stringent.

OPTEX Europe is a BSIA member company that provides a solution to this issue, with its range of intrusion detection and perimeter security sensors.

In Buckinghamshire a rural Grade II Listed church was at risk of having lead and copper stolen from its roof. Its insurers encouraged increased protection by providing up to £10,000 worth of cover for theft of metal, and £10,000 for subsequent damage, if a security system meeting their specific criteria was installed. After taking into consideration the expectation, budget and cabling restrictions, the installer chose to use a wireless solution and opted to include a number of OPTEX outdoor battery-powered PIR sensors with pre-fitted Inovonics wireless transmitters.

The heavy stone wall construction and solid lead and copper barrier created an obstacle for conventional wireless systems, but the use of a single wireless repeater provided an adequate network for the entire roof. The wire-free detectors installed feature adjustable small animal tolerant detection which avoids nuisance alarms if birds or squirrels pass by.

The system is being monitored by a third party monitoring station which contacts the key holder in case of an intrusion, and has performed extremely well with no false alarms since installation.

"The insurance company specified the criteria that the security system had to meet, which this wireless detection system achieved; without it we would be at risk of having to replace the copper and lead to the tune of tens of thousands of pounds should it be stolen," David Brown, PCC Member in Charge of Church Fabric.

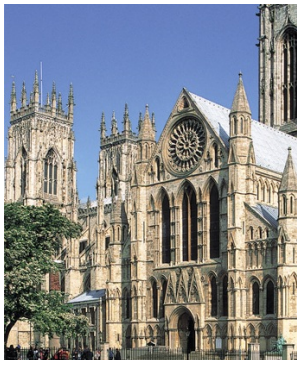
For more information about intruder alarm manufacturers, visit the BSIA Security Equipment Manufacturers Section web page: **www.bsia.co.uk/security-equipment-manufacturers/about-bsia-security-equipment-manufacturers**

CS

Case study

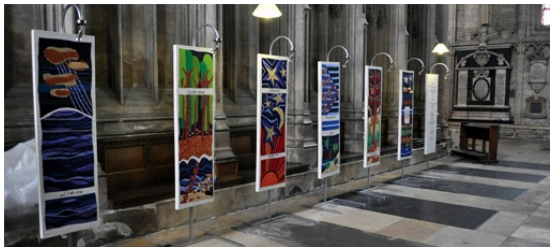
Protecting high-profile displays at York Minster

BSIA member companies, UTC Fire and Security and Pointer Ltd, have provided a seismic detector to protect valuable artefacts displayed within exhibition space in York Minster, the largest medieval gothic cathedral in Northern Europe.



With intricate masonry and world-famous grotesques overlooking York's skyline, York Minster has recently become home to a new visitor attraction entitled 'Revealing York Minster in the Undercroft: A heroic, human and historic journey', in which visitors are transported on a 2,000-year journey from York Minster's Roman foundations to the modern day. At York Minster, visitors have a once-in-a-lifetime opportunity to view at close range five of the conserved panels in The Orb: an elliptical gallery and dome of discovery.

York Minster Revealed is a five-year project supported by the Heritage Lottery Fund. It is the largest restoration and conservation project of its kind in the UK and is being undertaken in order to improve access to the Undercroft, South Transept, Treasury and Crypt.



Pointer, a local UTC Fire & Security partner, was approached to quote for the provision of an enhanced security system, including intrusion detection and video surveillance. The intrusion platform was required to protect high value Minster assets in display cabinets in the renovated Undercroft area. Originally, fixed door contacts were specified, however, after liaising with the Minster's insurance company, Pointer advised that UTC Fire & Security's seismic vibration sensors would be the preferred solution. Another consideration was that data cabling had to be installed by a Krone-approved network cable subcontractor and all cabling had to be undertaken without harming historic and listed building materials. The entire project was required to be managed to extremely tight timescales as the Undercroft area was due to be opened by a member of the Royal Family. Pointer's implementation of robust project management was therefore essential.

High specification products were needed to protect the priceless historic artifacts. These assets were going to be made available for general public viewing and had to be fully protected from theft and vandalism. Bespoke high spec. display cabinets were to be provided to house the many objects and it was agreed that UTC Fire & Security's VV700 series seismic detector would be the chosen product to detect any attempted interference to the display cabinets. Since the seismic detectors are fully computer programmable and each display cabinet's seismic settings can be saved on file for reference and future servicing, this was clearly the right product for the job. Also, having UK Home Office approval showed the installer and end user that the product had been thoroughly tested by a third party. The seismic detectors were installed, sometimes using several to a cabinet, to offer complete perimeter protection. With this solution in place, York Minster can rest assured its historic treasures are protected to the fullest.

For more information about security systems installation, visit the BSIA Security Systems Section web page:
www.bsia.co.uk/security-installers/about-bsia-security-installers

7.17 Guards

Guarding activities typically include patrolling, static guarding, in- and out-processing of personnel and vehicles, management and operation of technical systems, generation of response to incidents and issues and liaison with the site operator or manager.

It is clearly important that the guards are thoroughly trained and qualified to operate all equipment and perform their duties in a way that is appropriate for a sensitive historic site. It is equally important that the property manager makes appropriate arrangements for the management of the provision of the guards and that regular liaison is undertaken to ensure consistency of standards and quality of performance, measured against the service level agreement which will underpin the guarding company's or individual's service contract.

Where the guards are not directly employed by the property owner it is the obligation of the security guards provider to ensure that all staff deployed on site meet the criteria required under the Private Security Industry Act for employment in the private security industry. Typically this means they will hold Security Industry Authority licenses.

A British standard of relevance to guarding is BS7499:2007 "Static site guarding and mobile patrol services. Code of Practice."

Security personnel should also be subject to a criminal records check. BS 7858 "Security screening of individuals employed in a security environment. Code of practice" covers vetting of personnel.

7.18 Marking of Property and Valuables

7.18.1 Introduction

Property marking is the process of adding a mark to property to discourage a criminal from stealing it and make it easier for the police to restore it to the rightful owner. Adding a mark means that it is no longer just one of thousands of similar looking items but becomes unique. The addition of the right type of unique property mark can also provide high quality and often irrefutable evidence in support of a criminal prosecution undertaken by the police against thieves and receivers. There are many types of mark and marking product; some are more suitable for the item to be marked than others and some will do the job better than others. As with most things in life the quality of marking products can vary and you should spend wisely to achieve maximum effect and avoid wasting money.

The best marking products are those that don't fade, can't be easily removed, don't interfere with your use, enjoyment, or heritage value of the item you have marked and allow for you to be identified as the owner. The best way of discouraging a thief is to use a type of marking that they recognise and know to avoid – especially one that can be used as evidence in criminal proceedings. Business owners should be aware that the types of mark that can be used for protecting a homeowner's property are not necessarily equally good for protection of commercial and industrial items particularly as criminals tend to specialise in this area and have a greater knowledge.

In all cases with regard to marking of heritage property it is vital to ensure that any marking does not damage the items. At some sites, the use of some types of physical marking will require planning permission.

7.18.2 Types of product

UV Pens

The cheapest form of marking is an ultraviolet (UV) pen. You can use the pen to write your postcode and house (or building) number on your items. The pens write best on hard non-porous surfaces. The UV mark will usually fade over time if exposed to sunlight so it is best to put it on the underside of the product. The police have UV lights that they use to check for marks. You should make a separate note of where you have put the mark to help with identification. Some UV marker pens can be washed off so thieves will also look for the mark. If this method is to be used it is essential that the postcode be updated if you move house. You should consider if there are any reasons why a postcode would not be useful but remember that other private codes will not help the police to return the item. Note that UV pens are not normally recommended for use by businesses but may be appropriate in some cases.

Engraving or Etching

Engraving and etching has been used by businesses for decades to identify property. If you are less worried about the appearance of a mark it is possible to use an electric engraver or acid etching to cut a mark into hard surfaces. Engraving leaves a visible and fairly permanent mark. This can be particularly useful for bikes, tools, garden equipment, machinery and some (e.g. office) furniture. It can also be used for car parts and in-car entertainment. In this case it could be the vehicle registration number or VIN number that is engraved. Care should be taken when using engraving tools but a service to do this is often available.

Ceramic Marking Pens

You can buy pens that will mark china, glass and glazed surfaces. If you buy the right type they leave a permanent mark but will not cut into the surface. These can be used in a similar way to UV pens or engraving but may not be so obvious to police looking for marks.

Labels

For organisations it may be appropriate to purchase a quantity of labels. Purchasers should look for features that offer good protection. Labels come in a variety of forms some of which include forensic marking components (see below). Strong adhesives, tamper resistant features, combined use with etching stencils and other attributes can all be considered. It is highly recommended that labels that include a link to a secure asset registration system are purchased. Remember to check that the labels will not damage the item to which they are attached.

Forensic marking products

Forensic marking products come in variety of forms that all include a unique identification that can be used like a fingerprint. When combined with a registration system (see Secure Asset Registration below) they can be used to ensure identification of the owner. The forensic nature of the marking enables their use for evidential purposes to link criminals with a crime and they are therefore a significant deterrent. Many of the products use a colourless liquid that is relatively safe to use on a variety of surfaces. Products typically contain a fluorescent chemical to enable them to be found using a UV light. To give precise identification, marks from recovered goods can be analysed in a laboratory.

It is also possible to buy forensic marking products that include a label to allow simple identification.

It is essential to add signs to show thieves that the forensic markers are in use on your property. This ensures the deterrent effect of the marking and shows that you take security seriously. Research has shown that burglars compare properties before committing a crime and this signage could persuade them to look elsewhere.

Microdots

Some forensic marking products use microdots or they can be used on their own. Typically a large number of microdots are used not just a single dot. The microdots have a registration or some other number on them that can be read using a microscope. This allows the police the facility to make identifications of property themselves, allowing for a quicker return of your property and faster prosecution of offenders.

Transponders

Security tagging using transponders can be effectively used in some applications. Typically they are used when the transponder can be hidden and when marking of the product should be discreet. Transponders come in a variety of sizes but are typically the size of a grain of rice. They can be injected into materials (such as wooden frames or vehicle upholstery) or fixed using adhesives. For some applications ruggedized versions are available. Each transponder has an identification number permanently encoded in its micro circuitry and is activated and read using a scanning device that police forces use.

7.18.3 General Guidance

You should note serial numbers of the items and store those details in a safe place. Make a note of how and where you have marked the items. In addition to the records it may be useful to photograph some items. Don't leave this as a record on your computer in case the information is lost or accidentally deleted.

If your property is registered with a marking company, database or some other register it is important that you inform them of any changes such as if you sell the item or you change address or contact details.

If you have used postcodes on your property and you move remember that the postcode marks will need to be changed. You should also renew marking by UV pen from time to time to ensure it has not faded.

Remember that police use UV lights to check for marks when suspected stolen property or lost property is taken to the police station. They also often use UV lights to check for stolen goods when carrying out raids on suspected criminals. Using markers with a UV element, such as UV pens and forensic markers, makes the police task easier.

7.18.4 Accreditation

One difficulty with marking products is to know how well the product will continue to serve its purpose over time. This is particular true of forensic marking products. BSIA recommend their member's products or one listed as approved by Secured by Design (www.securedbydesign.com**)** (see 11.2).

The manufacturers of products are keen to offer assurances of their effectiveness. Although not applicable in all cases, a document published by British Standards, PAS 820: 2012, has been created to allow independent testing of forensic codes to gauge the effect of sunlight and water spray. Obviously it is useful to know if the forensic code in the mark is going to be damaged by the sunlight.

Another document that testing may have been carried out against is BSIA Form 121 "Asset marking products requirements and test methods".

Products that have been tested by the Loss Prevention Certification Board to Loss Prevention Standard LPS 1225 "Requirements for the LPCB Approval and Listing of Asset Marking Systems" can be recommended when used for their designed purpose.

It is recommended that when forensic products are selected the laboratories used for their analysis are accredited to standard BS EN ISO/IEC 17025.

7.18.5 Secure Asset Registration

For marks that are registered with a company that stores information that links the mark to the owner via a database it is important to look for a company that is reputable and ensures that the information they store is secure both against misuse and loss. These companies are likely to be members of the BSIA or listed by Secured by Design. They are also likely to be independently checked that they operate to standards such as BS ISO 27001 or Loss Prevention Standard LPS 1224 "Requirements for companies providing secure asset registration services".

Standards referenced in the above section:
PAS 820 "Laboratory-identifiable forensic codes. Classification of performance when exposed to artificial weathering"
BSIA Form 121 "Asset marking products requirements and test methods"
LPS 1225 "Specification for Testing and Classifying Asset Marking Systems." (BRE Global Ltd.)
LPS 1224 "Requirements for secure database management for asset marking" (BRE Global Ltd.)
BS ISO 27001 "Information technology. Security techniques. Information security management systems. Requirements"
BS EN ISO/IEC 17025 "General requirements for the competence of testing and calibration laboratories"

7.19 Cars, Vehicles and Plant Machinery – Immobilisation and Marking

All types of vehicle and machinery such as mowers, tractors and fork-lifts represent targets for criminals. If possible they should be stored out of sight.

For some type of vehicles (e.g. construction plant) windows can be covered with locked grilles, shields or plates to prevent smashing of the glass (for attempted theft or vandalism).

Vehicles or plant can be immobilised using physical security (chains, clamps, towing hitch locks), mechanical or electronic devices. Careful arrangement of certain vehicles can assist with immobilisation. Purchasers should ensure (by referring to a consultant) that electronic immobilisers are suitable for the working conditions of the equipment. Hydraulically powered equipment can also be fitted with hydraulic immobilisers. Vehicles and other equipment may also be fitted with audible alarms although the usefulness of these depends on the location.

Tracking devices can be fitted. Although these do not prevent theft, by advertising their use thieves can be deterred. A variety of different types exist. Tracking devices and plant registration schemes can both be of great benefit for retrieving stolen plant and deterring criminals.

Use a secure property marking and registration system from a properly accredited organisation to mark tools and parts of vehicles and plant. The combination of robust marking technologies and registration on a secure database with a 24/7 verification service enables the legitimate owner of the property to be identified. It reduces the value of items to thieves and acts as a deterrent to theft in the first instance. The Loss Prevention Certification Board (LPCB) and Thatcham Quality Assurance provide appropriate accreditations.

The CESAR Scheme (the Construction & Agricultural Equipment Security and Registration Scheme) is the official security marking and registration scheme for all plant and agricultural equipment (**www.cesarscheme.org**). The Scheme is supported by the Home Office and ACPO and promoted by the Construction Equipment Association (CEA) and the Agricultural Engineers Association (AEA). Asset marking using this important scheme is now fitted as standard at no cost by most major construction and agricultural equipment manufacturers and receives support from most of the leading insurance companies. The scheme has proved to be a powerful deterrent to theft and a vital aid in the identification and recovery of stolen plant and equipment.

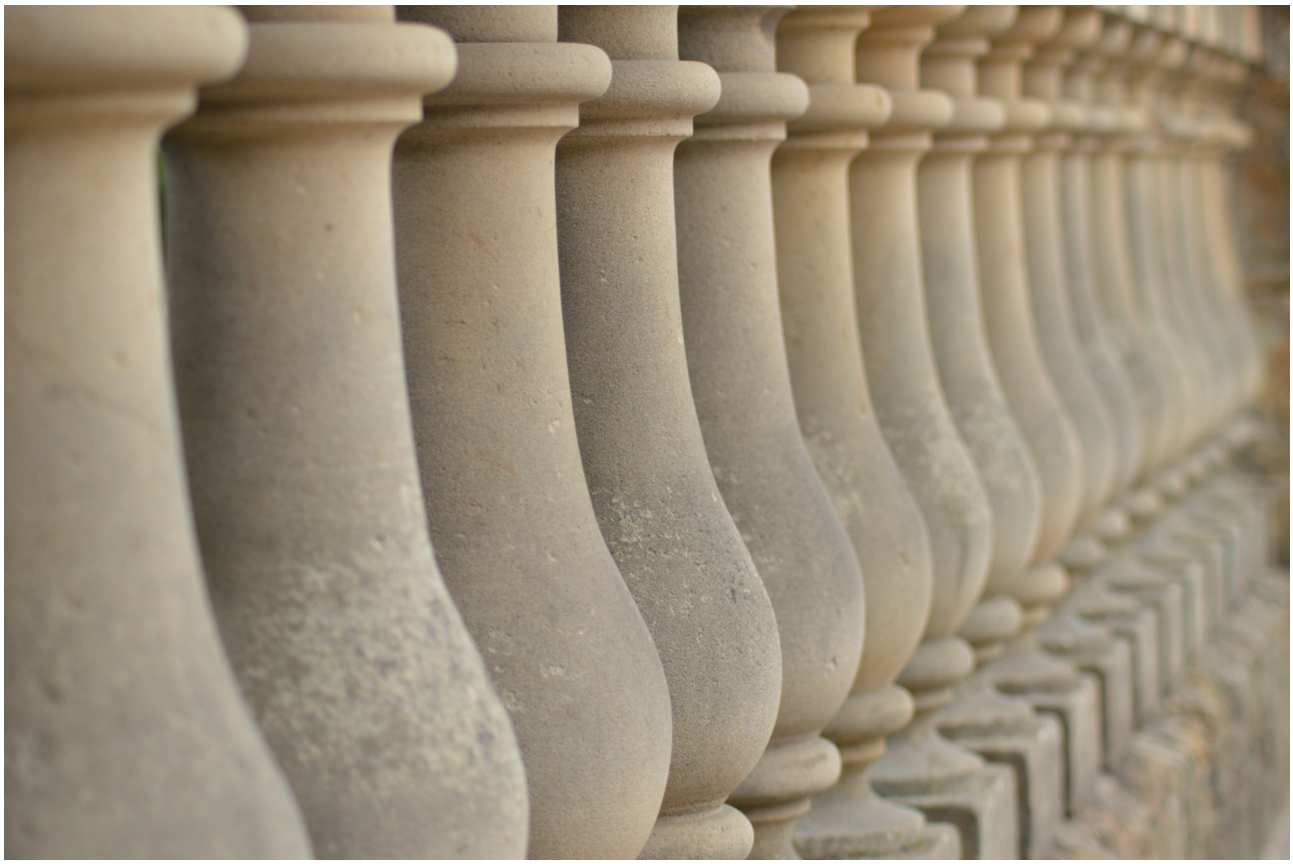
In addition, cars and commercial vehicles can be protected by window etching and registration, provided as a standard

feature with various vehicle brands sold in the UK and available in the automotive aftermarket. Accredited suppliers can be found at: **www.thatcham.org**

In general marks added to assets may be overt (easily seen) or covert (hidden, so that attempts by the criminal to overcome the mark are hampered). To act as a deterrent covert marks require additional signage. A method sometimes used to mark vehicles is to add extra VIN plates thereby increasing the efforts required by criminals to remove them. An option available to some heritage owners will be to use an organisation or company livery or logos. This can deter theft because of the extra work required to remove the identifying paint.

7.20 Police Liaison

Good liaison with the local police can alert property guardians to potential problems and inform the police of the special heritage issues that affect security. For example, if the police can inform local owners of crowd trouble at local sporting events, political demonstrations, or illegal camp sites, whilst these may not be related directly to the heritage property they might be threats that need to be addressed. Equally, maintaining a close relationship with the police and keeping them advised of activities at historic sites may mean they can suggest small but useful changes to the event plans to improve security, such as moving an entrance or managing traffic flow.



CS

Case study

SelectaDNA® Advanced Forensic Marking

Protecting a listed theatre from thieves

Property marking technology provided by BSIA member company, Selectamark, was used by a conservation group in a determined attempt to secure the future of a famous theatre in Lancashire, following the theft of lead from the property's roof.

Police issued the SelectaDNA product to custodians at the Grade II Listed Winter Gardens in Morecambe, which was built in 1870, after thieves removed almost 45 square metres of lead flashing from the roof. The theft was only detected when rain began to pour into the theatre.

The chair of the Winter Gardens Preservation Trust said: "I heard the rainwater running and realised we had got a leak, but then it came in like a river, causing damage that will cost more than £15,000 to repair."

A crime prevention officer from Lancashire Constabulary secured funding to to provide the Friends of the Winter Gardens, who own the building, with property marking kits to protect the new metal roof.

The kits include SelectaDNA, which, when used to mark metal, not only reduces its resale value but increases the risk of thieves being caught, therefore providing both a prevention and detection opportunity.

Signs were put up at the Winter Gardens to warn criminals that they are being watched and that the product is in use.

A spokesperson for Lancashire Constabulary said: "The building is of significant heritage value and well known throughout the area. The SelectaDNA kits will help to prevent further crimes being committed and will also give a greater chance of catching those responsible should any more thefts take place."

For more information about property marking solutions, visit the BSIA Asset and Property Marking Section web page: **www.bsia.co.uk/asset-and-property-marking/about-bsia-asset-and-property-marking**

CS

Case study

Centuries-old walls protected with property marking solution

A property marking solution provided by BSIA member company, SmartWater, has assisted in reducing the theft of stone from Yorkshire's historic dry stone walls.

The disappearance of Yorkshire stone from walls – some of which are centuries old – had been on the increase, but thefts have plummeted since the start of a new 12-month initiative spearheaded by SmartWater, alongside the Huddersfield Crime Prevention Panel.

During the course of the year, the Crime Prevention Panel recorded a reduction in stone thefts from 121 incidents to 70, with officers from the local Neighbourhood Policing Team (NPT) and SmartWater Investigators monitoring stone merchants and educating them about the risks of buying stone that may be stolen.

Crime reduction officer for Kirklees, Mark Wall, said: "When we started this project with the Huddersfield Crime Prevention Panel and SmartWater, we were confident that it would lead to a reduction in the number of thefts of stone. A 43 per cent reduction in thefts is, however, a great result."

For more information about property marking solutions, visit the BSIA Asset and Property Marking Section web page:
www.bsia.co.uk/asset-and-property-marking/about-bsia-asset-and-property-marking

8. Addressing Particular Problems

8.1 Introduction

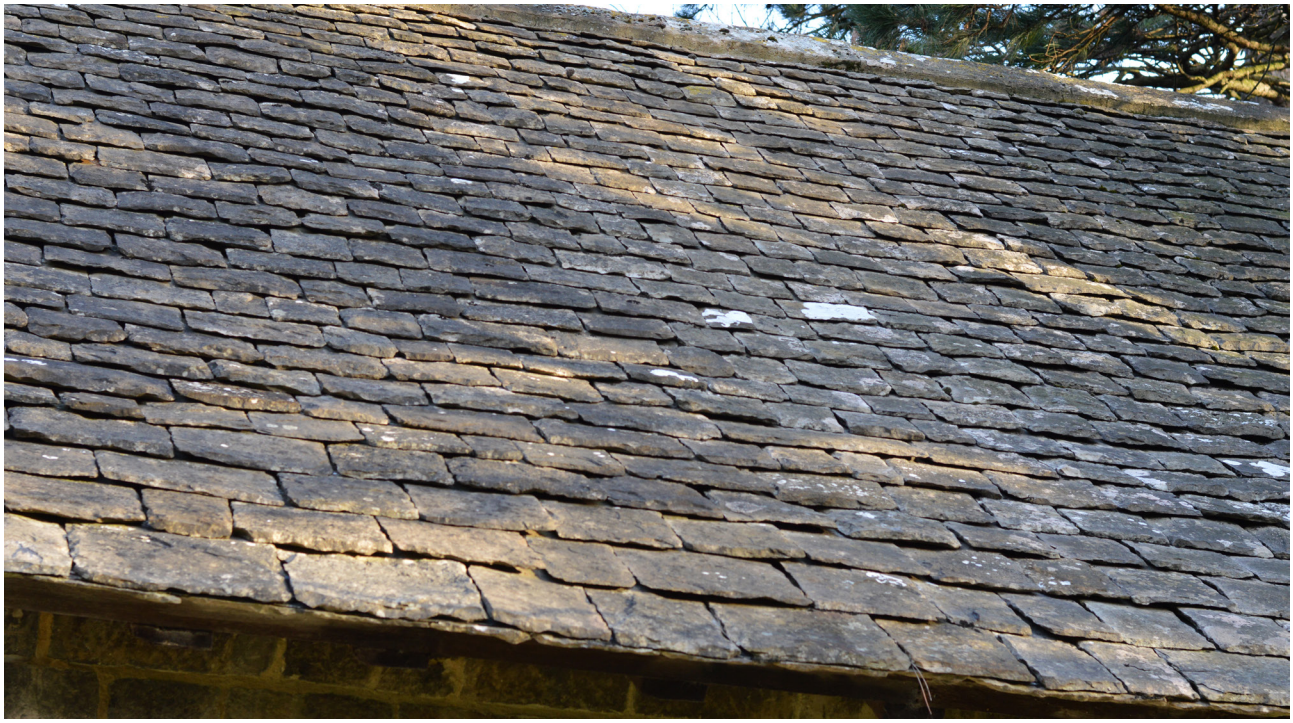
The suggestions given in section 7 can all be considered for their individual merits but as mentioned in 4.4.3 it is a combination of methods forming "layered security" and involving deterrence, delay, detection and response that will usually achieve the optimum results. This section demonstrates how this can be done. The number in brackets at the end of each line [xx] relates the measures to the 25 Techniques in section 4.4.8.

8.2 Theft of Roofing

As mentioned earlier (see 5.1.1.5) the theft of lead roof materials along with tiles, slates and stone can be a considerable cause of property damage in addition to the loss of the material itself. Buildings that are frequently unoccupied, such as churches, are at particular risk.

A number of measures can be used in combination to protect roofing materials.

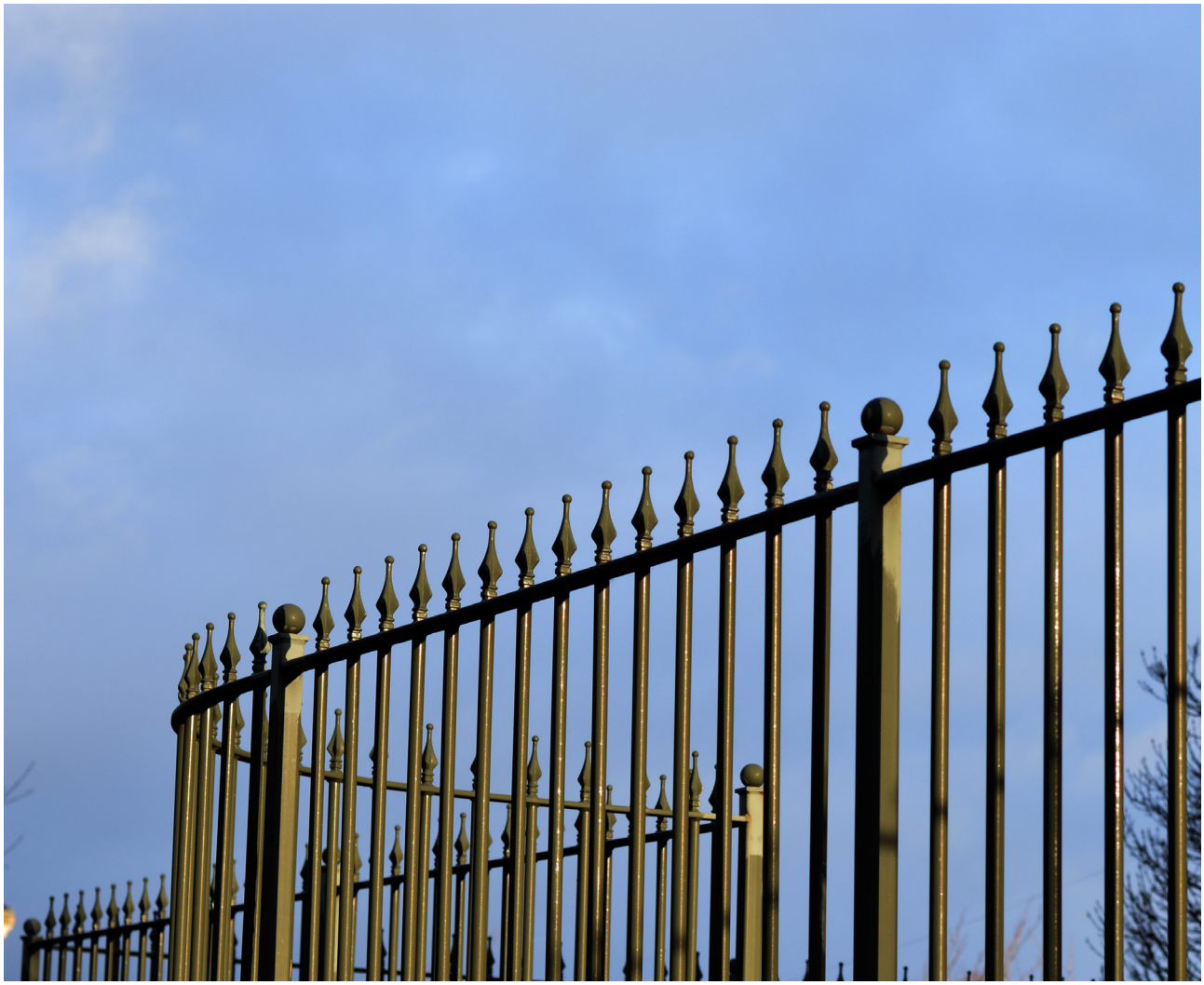
- Improve the fixings used to hold the roof in place. [1 – Make crime harder to commit].
- Use of forensic marking products can reduce the value of the materials to criminals [14 – Make dealing difficult] and, in combination with signs, acts as a deterrence. [13 – Mark Property]
- Removal of anything that can help a criminal gain access to the roof will make it harder to achieve. This could mean moving bins or sheds, cutting back trees, making it awkward to climb fences, preventing vehicles from parking close to the building (so they cannot be climbed on and materials have to be carried further). Lock ladders away. Anti-climb paint can also be used. [2 – Deny access and 5 – Control tools/weapons]
- Remove vegetation and add lighting to remove hiding places. [7 – Increase the potential for being seen].
- Encourage greater use of the building or the area nearby so criminals are more likely to be seen by local, trusted individuals. [9 – Encourage local vigilance]. Also set-up watch groups [6 – Extend the sense of community ownership].
- Use CCTV to enable identification of criminals. [3 – Screen exits]
- Use intruder detection (alarms) or detector activated CCTV with monitoring. [9 - Encourage local vigilance and 10 – Strength formal surveillance].



8.3 Art in public spaces

Statues and works of art, particular those made of valuable metals, are at high risk when outside in areas accessible by the public. Additionally the cost of protecting such areas can initially appear prohibitively expensive.

- Ensure high security fixing methods are employed to anchor the statue to the ground. [1 – Make crime harder to commit].
- Restrict vehicular access using, fences, gates, removable or rising bollards or other obstructions. If vehicles are kept at a distance then it will be more difficult to move the statue. [2 – Deny access]
- Make vehicle access routes pass by protected areas (e.g. those with existing or new CCTV installations) [3 – Screen exits]
- Encourage potential offenders to go elsewhere (e.g. provide seating or sporting facilities in another area). [4 – Move potential offenders away]
- Maintain the area around the statue and enhance the appearance to show it is different and cared-for. [6 – Extend the sense of community ownership]
- Use forensic marking (and signs) if possible [14 – Make dealing difficult and 13 – Mark Property]
- Add signs giving information about the statue and explaining its value to the community. Statues stolen for their material rather than artistic value will yield very little payback for the criminal but an awareness of the true value may deter them unless they have an expert criminal ability to sell on the art for its true value. [23 – Increase understanding]
- Remove vegetation and add lighting to remove hiding places. [7 – Increase the potential for being seen].
- If possible use CCTV or intruder detection technology (perhaps wireless and battery / solar powered). [10 – Strength formal surveillance].



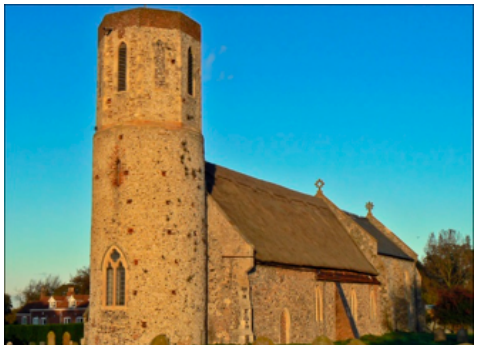
CS

Case study

Mediaeval Artefacts & Church Protected

A property marking solution provided by BSIA member company, Selectamark, has helped Norfolk villagers protect their valuable possessions and ancient artefacts.

Using SelectaDNA marking kits distributed door-to-door by the Rural Flegg Villages Safer Neighbourhood Team, residents have been encouraged to protect their property, which, for the local mediaeval hilltop church in the village of West Somerton, includes valuable items such as antique candlesticks and other religious artefacts.



SelectaDNA is a clear fluid that can be easily applied to personal property marking it invisibly with a unique code which is revealed only when scanned with a UV light.

Property which has been marked can be easily identified if it is stolen and subsequently recovered by Police. The DNA marking allows Police to place the burglar at the crime scene, which can increase chances of a conviction.

A local Police Community Support Officer (PCSO) said: "Crime figures are relatively low in rural Flegg, but we decided to introduce SelectaDNA mainly as a deterrent to burglars, but also to reassure residents after several burglaries in the local area."

For more information about property marking solutions, visit the BSIA Asset and Property Marking Section web page:
www.bsia.co.uk/asset-and-property-marking/about-bsia-asset-and-property-marking

9. Insurance

When considering insurance it is vital that the insurance company has expertise in heritage properties and understands the issues involved. Use of a general insurance broker may result in inadequate cover.

It is very important that the information provided to the insurance company is correct and that the property and contents are properly valued.

10. Bibliography

10.1 Referenced Acts of Parliament

Computer Misuse Act 1990
Data Protection Act 1998
Health and Safety at Work Act 1974
Private Security Industry Act 2001
Protection of Freedoms Act 2012

10.2 Further Reading

Recommendations from BSIA refer to:
www.bsia.co.uk/bsia-publication-downloads

Recommendations from the insurance industry, RISC Authority:
www.riscauthority.co.uk/riscauthority_home/document_library/

11. Organisations

ARCH
ALLIANCE TO REDUCE CRIME AGAINST HERITAGE

Alliance to Reduce Crime against Heritage

The Alliance to Reduce Crime against Heritage (ARCH) is a voluntary national network which takes forward initiatives to tackle heritage crime and galvanise local action as part of the Heritage Crime Programme.

For more information about ARCH go to:
www.english-heritage.org.uk/professional/advice/advice-by-topic/heritage-crime/arch/

11.2 English Heritage

English Heritage is the Government's statutory adviser on the historic environment. Officially known as the Historic Buildings and Monuments Commission for England, they are an executive Non-Departmental Public Body sponsored by the Department for Culture, Media and Sport. Their principal powers and responsibilities are set out in the National Heritage Act (1983).

In addition to directly managing the national collection of sites, monuments, archive records and photographs taken into state care English Heritage undertakes a wide variety of activities including providing advice and expertise and maintaining the register of heritage properties and conservation areas.

For further information: **www.english-heritage.org.uk**

English Heritage produces a number of useful guides including this one covering Theft of Metal from Church Buildings:
www.english-heritage.org.uk/publications/theft-metal-church-buildings/

11.3 Cadw

Cadw is the Welsh Government's historic environment service and provides help for the protection of heritage. More can be found here:
http://cadw.wales.gov.uk/historicenvironment

11.4 Historic Scotland

Historic Scotland is an executive agency of the Scottish Government and is charged with safeguarding the nation's historic environment and promoting its understanding and enjoyment on behalf of Scottish Ministers.

Further information about care of heritage and procedures related to making changes to listed properties can be found on their website:
www.historic-scotland.gov.uk/index/heritage.htm

11.5 Northern Ireland

The organisation with responsibility for protecting the heritage of Northern Ireland is the Department of the Environment
www.doeni.gov.uk/niea/built-home.htm

11.6 Secured by Design

Secured by Design is a police initiative supporting the principles of 'designing out crime' by using effective crime prevention and security standards for a range of applications. A list of companies approved by Secured by Design can be found at:
www.securedbydesign.com

11.7 Heritage Watch

Heritage Watch is a network of partners and community groups who hold knowledge and current information relating to heritage locations within their community. This is similar in nature to a Neighbourhood Watch scheme.

The first of such schemes has been created in the Cheshire Constabulary area. More information is available from:
www.cheshire.police.uk/get-involved/watch-schemes/heritage-watch.aspx

12. Checklist

The following checklist may be a useful reminder of the contents of this guide.

Section 4: How to Review the Security of Your Property

1. Have you considered using a professional security consultant or learning more about security practices yourself?
2. Have you heeded the warnings given and checked with relevant authorities what types of consent will be needed for your property? Note that acting without consent can be a criminal offence.
3. Have you taken a holistic approach? Don't focus on one narrow aspect.
4. Have you thought about the threats and hazards your property may face?
5. Have you considered the different ways of dealing with threats (i.e. when it is OK to accept a risk, "export" it and when you should deal with it)
6. How frequently do you plan to review your risks to ensure your security measures meet changing threats?
7. Do you understand "layered security"? Don't forget to use this principle when it comes to designing your security measures.
8. Do you understand "deterrence, detection, delay and response"? Don't forget about these.
9. Have you checked with your insurer for any requirements or suggestions they may have?
10. Have you created a business continuity plan or made contingency plans?
11. Have you thought about safety risks and in particular fire precautions?
12. Have you reviewed the "25 Techniques"?

Section 5: Threats and Hazards

13. Consider the threats your property may face whether by being a heritage property or otherwise. These include:

    a. Assault and intimidation to people on site
    b. Damage
    c. Arson
    d. Graffiti
    e. Vandalism
    f. Inappropriate use of vehicles
    g. Burglary
    h. Commercial burglary
    i. Vehicle / Machinery Theft
    j. Fuel theft
    k. Metal theft
    l. Firearms and weapons theft
    m. Robbery
    n. Nighthawking
    o. Environmental crimes (fly tipping, etc)
    p. Natural Environment crimes (attacks on animals, etc)
    q. Livestock theft
    r. Nuisance (anti-social) behaviour
    s. Unauthorized access

14. Consider the hazards your property may face whether by being a heritage property or otherwise. These include:

    a. Flooding
    b. Fire
    c. Health and Safety issues
    d. Environmental Damage (e.g. fuel leaks, water leaks, etc)

15. Consider whether any of the threats or hazards could have consequential effects? (e.g. will a flood result in loss of business).

Section 6: Securing the Property

16. Carry out housekeeping measures to give the property a "cared for" appearance.
17. Assess the situation for the locality, the immediate surroundings and the property itself.
18. Develop a "security culture".
19. Check who you employ and the people allowed on site.
20. Control access to the site by people and vehicles.
21. Make sure vehicles cannot be used to aid criminals.
22. Implement fire precautions.
23. If you have a vacant (unoccupied) property consider the extra measures necessary.
24. Take special precautions if there is public access to the property.
25. Consider whether your property could be at risk of terrorism and, if so, seek specialist advice.

Section 7: Practical Suggestions for Addressing Risks

26. Keep records, inventories and photographs.
27. Check for disabled access requirements.
28. Consider the following security features:

    a. Doors
    b. Letterboxes
    c. Locks
    d. Locking bars
    e. Fences
    f. Walls
    g. Gates
    h. Restricting public access
    i. Safes
    j. Display Cabinets
    k. Lighting
    l. CCTV Surveillance
    m. Intruder alarms
    n. Personal Attack / Hold-up Alarms
    o. Lone worker alarms
    p. Remote monitoring
    q. Security Guards
    r. Marking of property and valuables
    s. Liaison with police

Section 9: Insurance

29. Choose an appropriate insurer.
30. Ensure your insurance company approves of the measures you are taking and that they are aware of the heritage value of the property.

13. Index

This document was created by the British Security Industry Association (BSIA).

The British Security Industry Association is the trade association for the private security industry in the UK. Our members provide over 70% of UK security products and services and adhere to strict quality standards.

BSIA membership will raise your company profile and ensure that your business is at the heart of influencing the future of the security industry. You will become part of a unique group of high quality and professional companies which are well-respected and well-represented to government, end users, specifiers, standards and legislative bodies.

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