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This publication is a web publication and is available for free download from the Historic Environment Scotland website:

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This publication should be quoted as:
Historic Environment Scotland Refurbishment Case Study 31
Harlawhill House, Prestonpans: Interim repair work

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HISTORIC ENVIRONMENT SCOTLAND REFURBISHMENT CASE STUDY 31

HARLAWHILL HOUSE, PRESTONPANS
INTERIM REPAIR WORK

ROGER CURTIS

Acknowledgements

With thanks to East Lothian Council
I.  INTRODUCTION

This study outlines the situation of an important historic building with a long and complex history of neglect. The work was commissioned as a case study to test the concept and feasibility of an ‘interim repair’ on a building that for various reasons was at risk of partial demolition. The building, Harlawhill House, is Category A Listed and in a Conservation Area. Its significance and condition had been recognised for some time and dialogue with the local authority, East Lothian Council, sought to find a way to save the building. Through careful dialogue a solution was identified which involved undertaking repairs to the building to halt the continuing decay and loss of historic fabric in the short term. The project was supported by Historic Environment Scotland to demonstrate the role of interim repairs in conservation.

Scotland’s Buildings at Risk Register contains over 2000 entries of historic buildings which are in poor condition and have an unclear future. Some have been in a derelict state for a long time. In many cases, reduced availability of funding for individual projects and the wider priorities of building owners, particularly in the public sector, mean that full repair and re-use of buildings at risk may not be viable. Even successful funding arrangements can take time, sometimes several years, while the building continues to deteriorate.

The pressures on buildings without an immediate use are increasing, such as demand for development land, reduced budgets for maintenance of buildings awaiting disposal and community pressures to remove derelict structures. Physical pressures are increasing as well. Climate change is resulting in increased precipitation in Scotland and extreme weather events, with greater impact on vulnerable buildings, hastening their dereliction. By the nature of their construction some buildings are more at risk than others, and those that retain features such as decorative plasterwork and timberwork are more vulnerable to decay and loss.

Too often, however, conservation of historic buildings can be hampered by the decision making process. Buildings can lie vacant and deteriorating until a developed conservation plan is completed and funding secured for repairs. Therefore, it is sometimes necessary to consider the short term imperatives. Small scale repairs can be delivered at modest cost to address key vulnerabilities in a structure, reducing damage and decay until a more comprehensive process can begin. This might be considered an ‘interim repair’. Even when a building’s future is secure, the development of some projects can take months or even years, increasing the risk that a building’s condition will continue to suffer and decline. This ultimately results in greater costs and loss of historic fabric.
Fashions and preferences change, so ‘mothballing’ buildings by making them secure and wind and water tight until a new use can be found is sometimes the most appropriate conservation approach. Interim repairs can buy time or allow a structure to remain in good enough condition that its eventual re-use is not prohibitively expensive.

2. THE SITE

Harlawhill House is located in the centre of the village of Prestonpans in East Lothian, Scotland. The west gable adjoins the street of Harlaw Hill with a small garden area to the front, and more substantial grounds to the rear enclosed by masonry walls (Figure 1). Harlawhill House is recognised to be of national significance through its Category A Listed status.

![Figure 1. Harlawhill House viewed from the north in 2014 with the early 19th-century east wing and gabled two-storey entrance porch. The distinctive 17th-century ogee roofed tower sits adjacent to the porch.](image)

The core of the house dates from the 17th century, including the ogee roofed tower, with a later extension to the rear (now largely collapsed) and an early 19th-century east wing and two-storey entrance porch. Located behind the high western boundary wall are former stables and outbuildings which may have mid-18th century origins (Figure 2). The history and development of Harlawhill House is not fully understood and further research into the fabric of the building, especially now it has been made safe, will help improve understanding of the building.
Until recently, Harlawhill House had been in the same ownership since about 1920. A lack of maintenance over many years had resulted in significant decay and damage to nearly all parts of the building. The gable end of the south range collapsed in the 1960s and the adjacent walls were progressively reduced to first floor height. Ad hoc roof repairs kept some of the main structure dry, but the complex roof plan and drainage arrangements over the hall and stairwell area meant that the central core of the building, including the main stairwell, became substantially decayed. Little structural strength remains in any timber elements. While the stone treads of the main stair are well tied into the masonry, the half landings, formed of timber, are now very fragile (Figure 3). The west wing is better preserved, although it has an unstable chimney. The east wing is in
generally better condition with a sound roof, albeit with some missing roof slates.

Figure 3. The decay evident in the stairwell resulting from longstanding water penetration due to a complex roof plan and drainage arrangements. The timber half landing on which the buckets sit is entirely decayed and unsafe.

3. THE SITUATION

The poor condition of Harlawhill House has been known for a number of years. Falling debris from the roof and west gable in late 2012 required East Lothian Council to undertake investigation. Inspection via a cherry picker, which included removal of part of the gable’s rendered finish, revealed holes through the masonry to the chimney flues. This resulted in the erection of a scaffolding system on the west gable in order to reduce the risk to the public of further falling debris (Figure 4). Due to the scaffolding the public road had to be closed.
Figure 4. The protective scaffold put up on the west gable. This resulted in closure of the road.

East Lothian Council concluded that Harlawhill House was a danger to the public and issued the owner with a Dangerous Building Notice. A Dangerous Building Notice – under the Building (Scotland) Act 2003 – prescribes the steps that a local authority considers must be taken by a property owner to reduce or remove danger to the public. It will also specify the date by which the works must start and be completed. It cannot specify more than to make the building safe. Therefore, in the case of Harlawhill House, it did not require the total demolition of the building, as only the western end was deemed to constitute a public danger. If an owner is unwilling, or unable, to undertake the works, a local authority can carry out those works and claim back from the owner the costs involved. Due to the potential complexities resulting from serving a Dangerous Building Notice, it is typically used by local authorities sparingly and as a last resort.

The works specified in the Harlawhill House Dangerous Building Notice were radical, including the removal of the western section of roof (which extended over the main stair) and a reduction in height of the western gable. The interior below would have been lost and there is a risk that, if not undertaken carefully, removal works could have extended further than required. This may have resulted in a substantial or even total demolition of
the building. Even if this did not happen, it could still have resulted in calls for the total demolition of Harlawhill House.

For a number of reasons the owner was unable to comply with the requirements of the Dangerous Building Notice and it became clear that East Lothian Council would need to undertake and finance the works themselves. However, the authority, conscious of the historic importance of Harlawhill House, were open to less radical options. They hoped to retain the roof and west gable if at all possible, provided that public safety could still be ensured. A subsequent inspection of the roof by a structural engineer suggested its condition was not as bad as previously thought, giving some confidence in seeking alternatives to the complete removal of the roof and gable.

4. DISCUSSION OF OPTIONS

It was agreed by all stakeholders that the building was of historical significance but that intervention to the fabric of the building was required to reduce or remove the danger to the public. Discussions were held between Historic Environment Scotland (HES) and representatives of East Lothian Council, including their building control, social services, planning and finance functions, to investigate what options might be possible. The National Trust for Scotland, under its Little Houses Scheme, was in dialogue with a veterans’ charity about conversion to sheltered housing, although there was no timescale or funds identified. The continued road closure was also putting pressure on East Lothian Council to deal with the situation quickly.

HES were approached regarding financial assistance and technical guidance on the project in 2014. This led to discussions about supporting a trial project where temporary or interim works would be undertaken to allow compliance with the Dangerous Building Notice while preserving as much as possible of the historic fabric. However, it was pointed out by the Council that even if temporary protection was delivered, it might inevitably result in East Lothian Council having to serve another Dangerous Building Notice in the future. Whilst this remains an issue, given the significance of the building and the interest generated locally among amenity groups and others, interim repairs were still considered a worthwhile course of action. The making safe and ongoing protection of the building, even in the relatively short term, allows for viable options to be developed that secure the building’s long term future.
4.1. **Assessment of risk**

At the core of the situation was the question of how older buildings are assessed for structural stability and safety. The requirements of the Dangerous Building Notice follow a standard procurement route, and the structural engineering assessment was carried out by an engineer not accredited in building conservation. As a result, the recommendations to remove parts of the building were extensive and possibly more than necessary to achieve public safety. Ideally, when Dangerous Building Notices are being prepared, the assessment of intervention should be made by those with knowledge and experience of the structures they are assessing, and thus better able to balance the preservation of an historic building with the needs of public safety.

4.2. **Options appraisal**

While the partial demolition option represented a ‘quick fix’ for East Lothian Council and appeared to be the more attractive option, it was agreed that as a first step this work would be priced by local contractors. The constraints of the site and the poor condition of the building meant that many aspects of the work were priced provisionally and assuming a worst case situation. The Council, planning to forward the cost of works to the owner, were under obligation to keep them minimal. However, even the minimum of works required in the Dangerous Building Notice – mostly dismantling and demolition – came in at a relatively high cost, incentivising a search for alternative options. An alternative conservation option was evaluated on the principle of re-covering the roofs with lightweight materials of a temporary nature designed to last a minimum of ten years.

Together with the quantity surveyors, HES developed a specification for the conservation option that retained more of the historic fabric while still complying with the Dangerous Building Notice. This specification was reviewed by a conservation accredited structural engineer, and the quantity surveyors then re-priced the works to reflect the new specification. The price for the work came out at around £20,000 above the partial demolition option, an increase in costs of 10%. Given the importance of the structure, and the fragile nature of important internal fixtures and fittings, the increase in cost was justified by the opportunity to use the works as a technical research case study to investigate and document the feasibility of interim repairs as a viable option in the conservation of historic structures.
4.3. Objectives

The intention for the temporary or interim repairs was to prevent the partial demolition of the structure by directing efforts to repairing the roof with a lightweight covering and removing the dangerous parts of the structure. The works are not conservation work in the conventional sense, however they represent the objective of arresting decay, a principle which is at the core of conservation philosophy. The works allow the continued preservation and survival of the majority of the structure, including the important interior, until a future for the building can be decided. The works also illustrate that HES will support non-traditional repair techniques on statutorily protected buildings if this allows critical urgent repairs to be carried out. It is better that a building is protected with a modern sheet roof covering which provides protection from the elements, than waiting for funds or opportunity for a more traditional or sympathetic option.

5. PROCUREMENT AND DESIGN OF THE INTERIM REPAIRS

East Lothian Council commissioned and funded the work, instructing a professional team to administer and manage the selected contractor. This was led by a firm of chartered surveyors. HES’s Technical Research Team had an advisory role only, making technical recommendations to East Lothian Council, the engineer and the contractor as required. The contract was let under a Scottish Minor Works contract with a description of works and bill of quantities. The quantity surveyor undertook the role of contract administrator, with the structural engineer appointed as the principal designer.

As the conservation option was very different from the previously proposed demolition work, new contractors were approached to price the work. Two prices were received back, and the quantity surveyor and HES interviewed both contractors to assess their attitude to the building and how they might plan and deliver the works in these relatively unusual circumstances. The two prices differed considerably, and it was felt that the lower quote, more than just being the cheaper option, reflected the greater confidence of the contractor. This contractor had been able to price the downtakings and consolidations more carefully and with more precision, leaving less excess allocated to risks or unforeseen circumstances. Therefore, this option was selected. A second discussion was held with the successful tenderer to review in some technical detail where provisional sums might be made more accurate, and some aspects of work taken out, further reducing costs. Access and safe working over

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1 The manifesto of the The Society for the Protection of Ancient Buildings (1877) urges owners to “stave off decay by daily care, to prop a perilous wall or mend a leaky roof” – possibly the earliest identification of such an approach as good conservation practice.
the roof structure was a significant part of the project, and detailed method statements were prepared for this work.

5.1. The design

The objectives of the works were primarily to reduce or remove the danger to the public, to make the building secure, and make it wind and water tight in the short to medium term. This would be achieved by using a lightweight fibre based corrugated roof covering on the roofed areas, laid on top of the existing sarking which would be strengthened by the addition of wood fibre particle board in weak areas. The existing ogee profile roof of the tower would be retained, but the slates removed as the Dangerous Building Notice had highlighted they were loose and presenting a risk to the public. Then a bituminous ‘torch-on’ felt would be applied to the existing sarking. As access to all roof areas was not possible prior to the works a full assessment could not take place. Rather than spend part of the project budget on further initial investigation, it was accepted that the original scheduled works would be reviewed and any further works required added once access had been installed on site.

6. DELIVERY

6.1. Site set up

Due to site constraints, careful planning was required to ensure compliance with health and safety regulations. An area was agreed for the site welfare cabin, storage and unloading bays. Although the road was still closed to traffic, arrangements were required for a safe route for pedestrians. An agreement was reached to transfer custody of the existing scaffold on the west gable to the contractor, and it was adjusted to suit the new works plan. A new scaffold was put up around the tower and the rear elevation. The east range was not accessed as it was not part of the Dangerous Building Notice.

6.2. West gable and roof

The construction phase began in June 2015 with the dismantling of the chimney on the west gable, and the removal of several of the crow steps. The masonry from the chimney and the crow steps was laid aside within the property for re-use. The majority of the cement render was removed from all elevations, as well as spoil. All slates were removed from the roof pitch over the west wing and the sarking below was found to be reasonably sound. This surface was then sheeted with particle board, the lower eaves level being profiled to accommodate the existing bell cast. The
lightweight profiled roofing sheet was fastened down with screw fixings (Figure 5).

Figure 5. The new corrugated sheet roof covering to the west wing roof, laid over the existing rafters and sarking.

The gable end where the chimney had been removed was overclad with vertical timber sheeting covered with roofing felt. The lower part of the gable was covered with netting on a wooden framework to prevent any fall of masonry (Figure 6). Limited mortar repairs were carried out on masonry around the flue area. On the rear elevation the brick chimney stack was taken down, and the dormer window in the attic was reinforced with particle board. The work to these areas progressed as planned and the time taken and materials used were within budget.

Figure 6. The completed work to the gable end of the west wing, showing the temporary roof covering, the vertical cladding and the netting protection.
6.3. The tower

The focus of the works then moved to the tower and the areas of roof over the hall and stairwell. On closer inspection the tower roof turned out to be extensively decayed structurally on the east side due to significant water ingress and consequent timber decay (Figure 7). This situation could only be appreciated once the slates had been removed, exposing a structure much less sound than expected. The existing roofing felt had been letting in water for many years and the roof timbers and sarking were nearly all rotted through with no strength for the planned torch-on felt.

![Figure 7. The tower roof viewed from the east side. The extensive decay and loss of the structural timber on this pitch, combined with lack of access into the roof space below, meant that removal was the only option.](image)

It was clear that the intention of using a felt covering for the ogee roof could not proceed as there was no firm timber upon which to attach the felt. Recent internal collapses in the upper parts of the stairwell meant that the underside of the tower roof could not be accessed internally, so no internal bracing or support was possible. As a result of the extensive damage, any future restoration scheme would almost certainly require the complete re-building of the ogee roof and replacement of its component parts.

Discussions of how to proceed also emphasized that the works in question were only ever intended to serve as an interim repair, which could arrest decay of the building fabric until a more permanent solution was found. Attempting to stabilise the delicate and non-functional feature of the ogee roof was ultimately not viable, and it was beyond the scope of the work to begin reconstructing original features. Leaving it in disrepair was also unacceptable, as this would continue to allow water into the tower, further
compromising the interior and increasing the chance of decay and collapse. Therefore, the difficult decision was made to dismantle the ogee roof entirely and replace it with a flat felt-covered roof to protect the tower masonry and the fragile interiors below. This was completed with roofing felt and timber battens (Figure 8). A run on the new flat roof over the tower drains water away from the pavement, and an alternative route for the water over the former hall area was identified. Although the complete removal of the roof was not an ideal end-point in conservation terms, it was considered the best solution in the circumstances in order to safeguard the remaining building structure.

Figure 8. The new flat roof over the tower, with a run or angle to the right to shed water. The covering to the joining roof pitch can be seen behind, with the new temporary roof over the central part of the building behind.

6.4. The hall roof

The hall roof had decayed extensively over the years and collapsed at some stage in the past (Figure 9). The resulting debris included a tumble of slates, sarking, rafters and joists, mixed up with debris from the floor below and the stair landing wall. This material was left in situ due to the hazards and expense of removal.

Due to the loss of the hall roof, there was no simple way to access the north pitch of the stairwell roof, as there was no place from where access equipment could be based (Figure 10).
Figure 9. The remains of the collapsed hall roof viewed from the stairwell. The handrail of the stairwell balustrade can be seen far right.

Figure 10. The void where the hall roof had been. The condition of near collapse of adjacent roofs is very obvious in this image taken from the corner of the east range.

A flat roof to replace the fallen one was required, both for access to the adjacent north pitch of the stair and to provide a covering to the hall/porch that the building had not had for many years. It was agreed that a new flat
roof over the hall was desirable to largely complete the temporary roof covering over the core of the building. However, this work was not part of the Dangerous Building Notice and so required additional funds. Funds were re-allocated from savings made by not having to apply torch-on felt to the ogee roof. By working carefully from the scaffold, the contractor was able to extend new timber joists of standard dimension over the void where the hall roof had been. Particle board was then fastened over the joists and covered with a torch-on mineral felt. The new flat roof was given a run to the garden on the east side (Figure 11) to shed water away from this vulnerable area of the building.

![Figure 11. The new flat roof over the hall, which provided access to work on the stairwell roof. The re-covered north pitch of the stairwell roof can also be seen top right.](image)

6.5. **Stairwell roof**

The new temporary covering for the north pitch of the stairwell roof was the same as the corrugated material used elsewhere. Due to the fragility of the roof structure and the sarking, work to the stairwell roof had to proceed with great care. Working from the new hall roof, operatives removed the slates, laid a new timber covering onto the existing sarking and then covered this with the corrugated roofing material. Water from this roof pitch drains onto the new hall roof. Following this work the central core of the house has protection from water ingress, something it had
lacked for decades (Figure 12). This protection will allow the fabric at the centre of the house to gradually dry out.

Figure 12. The new roof covering to the stairwell roof, viewed from the new tower roof. The slated pitch of the east wing to the left was not part of the works.

Figure 13. Harlawhill house at the end of the interim works. The appearance of the building has changed, but it is now secure and dry for the first time in many decades.
6.6. Stables and outbuildings

In addition to the main structure of the house, the property has outbuildings consisting of a former laundry, stables and a store, aligned along the north-west boundary wall of the property (Figure 2). The roof of the laundry has partially collapsed at the east end. Neither East Lothian Council nor HES were in a position to allocate funds to its stabilisation.

6.7 Windows

Vandalism had been common in the garden behind the house, and East Lothian Council were keen to ensure that the property was made as secure as possible. Therefore all the windows of the property were closed off with perforated steel coverings, the perforations giving a modest degree of ventilation. These window coverings provide protection from break-ins and arson, giving East Lothian Council some degree of comfort that the building was secure. However, in achieving this protection the appearance of Harlawhill House has been changed, and it now has the look of a building with an ambiguous future. It is an ironic truth that the very measures that aim to protect buildings from vandals and trespassers (and protect vandals and trespassers from unsafe buildings), often end up actually attracting the most undesirable attention. Comparable safety with a more neutral appearance can be achieved by facing windows in fibreboard painted black and white to mimic glazing. This would have perhaps been preferable for Harlawhill House if time had allowed such a solution to work its way through the processes required. But projects involving cooperation between several large bodies can be unwieldy, and in this case there was great pressure to reopen the public road.

7. COSTS

The cost of the interim works required to comply with the Dangerous Building Notice totalled £80,000. The works were planned with the intention of achieving full cost recovery from the owner. While there were savings in limiting the nature of the downtakings, additional works as instructed (such as the new flat roofs to the tower and the hall) were billed at £8,000. However, these additional costs were partially offset by savings in some of the planned masonry works. To assist East Lothian Council in making the property safe at minimum cost, HES provided £40,000 over two years; some funds were kept back for a year to address any short term failures in the temporary repairs.
8. LESSONS LEARNT

8.1. The Dangerous Building Notice

Notwithstanding the importance of the building, the safety of the public had to be the main consideration for the works. While public safety is clearly paramount, this consideration can often be used to argue for a course of action, such as demolition, that goes beyond what is actually required. When there is a likelihood that a listed building will be served with a Dangerous Building Notice, appropriate conservation advice should be taken at an early stage.

8.2. Conservation expertise

It is desirable when assessing the defects in older properties that the professionals involved are knowledgeable and experienced with traditional buildings. A proper understanding of the building and its defects from the outset will hopefully mean reaching the right solution in a timely manner. At Harlawhill House, a worst case scenario was assumed at an early stage by a professional whose specialism was not in historic buildings. This resulted in further assessment being required to reach a more nuanced and sensitive alternative approach.

8.3. Balance between investigation and intervention

It is rightly recommended that works to a listed building, especially if they are extensive and will result in loss of historic fabric, should be based on a thorough understanding of the building. However, when urgent works are required a more direct approach may be appropriate. Essential works may need to be carried out, mindful of historic fabric, but avoiding, in the short term, the costs of detailed reports or feasibility studies. For Harlawhill, a conservation statement focusing on the history and significance of the building had been prepared early on as a pre-emptive measure, before the nature of the works had been determined. Therefore it was not felt necessary to elaborate on the work that had already been done.

8.4. Listed Building Consent

East Lothian Council Planning Department deemed that elements of the works, such as the downtakings and the replacement roof covering, required Listed Building Consent. It was decided that given the urgent and essentially stopgap nature of the works, the approach of ‘like-for-like repair’ in terms of materials was not appropriate. The principles of minimal intervention and minimal loss of fabric were nevertheless adhered to, with the scope of the work only being what was required in order to make the building safe and watertight.
8.5. Collaboration

The complexities of this case were extensive and long running. A multi-agency approach was required and much was focused on the desire of East Lothian Council to find a solution; they had to consider the situation from many angles (not just heritage) and were in a difficult situation. By working together with a degree of compromise on all sides, a satisfactory solution was achieved which protected the internal environment of the house from the elements and ensured public safety.

8.6. Prioritisation of works

Although the overall outcome was satisfactory and has undoubtedly achieved the short term protection of a vulnerable building, the work identified some elements that, retrospectively, might have benefitted from a different approach. During the clearing of the building prior to works, some provision should have been made to support the timber joists that supported the stone stairs in the stairwell, but the fragility of the stairwell structure had not been appreciated. While this work would have been out of the scope of the Dangerous Building Notice, as the internal condition of the building was never a danger to the public, it could have been funded at modest cost. The support would have been achieved by the use of timber bracing giving a degree of support to the stone stairs. It might have allowed continued access to the upper floors during the interim works, and therefore a different approach to the tower roof might have been possible. The lesson in this case is that fragile internal structural elements should be reinforced even if their exact condition is not fully assessed.

8.7. Contractor selection

The selection of the right contractor is important in all projects, but the flexibility and initiative demonstrated by the contractor carrying out the work for this project was a key part in making much of the work possible. The contractor demonstrated that work can be delivered safely in hazardous situations provided the control measures and work methodology is thought out and planned well. The solution to the hall roof, and its unlocking of the access problems for the stairwell roof pitch, is a good example of this. The project also called for a high degree of pragmatism by the building conservation staff of East Lothian Council.

8.8. Applicability of interim repairs

The time and effort required to agree and implement the programme of repairs for this building should not be underestimated, but there will be simpler structures with less extensive damage that may be easier and less
costly to work on. Interim repair is not an approach that can work everywhere and all circumstances are, to some extent, unique.

9. THE FUTURE OF THE HOUSE

The programme of repairs went well from a contract and project management perspective. The outcome of removing the danger to the public as required by the Dangerous Building Notice was achieved. Although this work has not necessarily given the building a future, it has allowed time for the exploration of long term solutions for its use.

10. CONCLUSION

Harlawhill House remains a complex case where a new way of working was adopted to secure, in the short term, the future of an important listed building. As in many cases, the human factor is often a significant issue and the viability of the continued occupancy of the house resulted in a complicated situation. The solution which was agreed was not reached easily and resulted in many compromises. However, this case does show that through all interested parties working together a building can be protected while a future use is found. The actions taken were costly but the potential long term benefits, social and economic as well as cultural, of a possibly restored Harlawhill House to Prestonpans should not be underestimated.

On a technical level, this project demonstrated that interim repairs can be delivered to a very fragile structure with the right approach, the right design and, most importantly, the right contractor. As a result of the works, the building is now largely secure. While some changes to the intended solution had to be made during the works, most notably the removal of the ogee roof over the tower, the wider objective of physically securing as much of the building as possible was achieved. Outline costs for this work and the technical details and procedure for a temporary roof covering have been established.

The allocation of funds towards the interim repair of historic structures, especially those of great importance and with significant problems, may have long term benefits which could be investigated further.
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