

BELSAY AWAKES

HERITAGE, DESIGN AND ACCESS STATEMENT



Lightning Conductor Replacement to Belsay Hall

Belsay Awakes – Heritage and Design Statement

**to be read in conjunction with Planning Statement by Hoare Lea,
Engineering Consultants**

September 2021

Belsay Awakes – Heritage and Design Statement

Background and overview

Belsay Awakes has been awarded HNLF funding for works in a number of locations throughout the site. The aim is to enhance the overall visitor experience and includes works to revitalise the Castle area, improve access for all through the gardens and carry out much needed conservation works to the Hall and North wing. Works to refurbish the existing WC block near the main Hall and provide a Changing Spaces WC's have already been carried out. These works were granted Planning and Listed Building consent in 2019, references 19/00662/FUL (granted September 2019) and 19/00663/LBC (granted August 2019) and

During more specific detailed work carried out since planning approvals were granted it has been highlighted that the existing lightning conductor system on Belsay Hall does not meet current standards of protection. Following much consideration, it was agreed that the risk of retaining the existing system, given the status of the building, was too great and that a compliant system should be installed. This current application relates solely to the installation of a new compliant lightning conductor system to rectify this issue.

Statutory Listing of all buildings affected

Main Hall– listed Grade I

Belsay Hall and Gardens - Grade I listed Park and Garden

1. Hall

The Gazetteer which forms part of the 2017 Conservation Plan includes the following information on the Hall:

Summary history

The Greek Revival mansion built by Sir Charles Monck to his own designs as the seat of the Middleton family, which superseded Belsay Castle and Manor (101-105). Work began on digging the foundations in August 1807. Sir Charles and his family moved into the building in December 1817 but work on finishing the interior dragged on for several years afterwards. Sir Charles' heir, his grandson Sir Arthur, made many changes to the house starting in 1875, when he began to improve the plumbing and drainage. He also partly remodelled the interior, forming new kitchens and service accommodation in the northwest corner of the building and in 1912 had the dining room completely fitted out to designs by W.H. Knowles. The Middleton family moved out of the Hall at the outbreak of World War II, during which part of it was used by the army. In 1981 it was taken into guardianship by the Historic Buildings and Monuments Commission (Ministry of Works). The poor state of the building, which by this date was badly affected by a severe outbreak of dry rot, necessitated the removal and, in some cases, replacement of plaster, floors, ceiling and joinery, mostly in the northern range.

Brief description

The building is square in plan with a principal axis running east-west. It is set on crepidoma of three steps (in places hidden by rising ground) and the walls have a moulded base interrupted by window openings. It is three storeys in height although the top floor is hidden on all sides bar the north by an entablature having a slightly projecting frieze with triglyphs and heavy cornice, slightly sloped to form eaves. In views from the ground this also hides the roof behind. The northern range has a mezzanine floor between the ground and first floors. The rooms are arranged in longitudinal ranges set around a two-storey, top-lit atrium where the main staircase is located. The building's functions were split roughly between the southern two thirds, housing the Middleton family's living quarters, and the northernmost third, forming the service wing. A kitchen wing (201) projects from this elevation. It is adjoined by outbuildings (202) added to the kitchen wing by Sir Arthur in 1890.

Significance: Exceptional

2. Gardens

The gardens at Belsay Hall are considered nationally significant and Registered Grade I on the English Heritage Register of Parks and Gardens of special historic interest. The gardens extend to 12 hectares and form the core of the 19th century designed landscape as envisaged by Sir Charles Monck.

Significance: High

Effectiveness of proposed Works

The overall project, which already has planning approvals, includes vital conservation works to the Hall and North wing, including re-roofing. The Hall was reroofed a number of years ago (assumed to be approx. 40 years ago) and a felt membrane introduced. This has rotted in many areas and is currently providing little in the way of additional protection and leaks are a regular occurrence.

The application for the existing planning approvals assumed that the roofing works would reinstate the existing lightning conductor system as part of the roofing improvement works. However, it has now been discovered that the current system is very old and no longer complies with the current standards. It is therefore now a system over which there are doubts about effectiveness, compliance and safety.

Works proposed to rectify the unsound lightning conductor system

- **to be read alongside Hoare Lea detailed Planning Statement**

After detailed investigation by specialist engineering consultants Hoare Lea, who are involved in the whole Belsay Awakes Project, there is real concern that the current lightning conductor system would fail in event of a lightning strike.

For a building as significant as Belsay Hall, if the current system failed in such an event and a fire was caused, the response time from the fire brigade is likely to be lengthy given the location of the Hall. The current water supply limitations would also exacerbate the situation.

After much discussion within English Heritage, their internal specialists, and external consultants it has been decided that there is a need for a British Standard lightning conductor system to be installed to responsibly protect the asset for the nation.

The standards are very specific and there is limited scope for amendment to account for the historic nature of a building. Hoare Lea have worked with these to produce a scheme which respects both the fabric and significance of Belsay Hall and also the appearance of this installation from the most public aspects and gardens which are of High Significance.

Throughout the design process, factors which were non-negotiable were the number of conductors which come to ground and the minimum spacings between these. There was some scope on location and the M & E consultants, Conservation Architect and the Clients Senior Properties Curator have all worked together over a considerable period of time to find a solution that allows a compliant solution to be installed in a way which minimises impact on the building.

Impact

The new lightning protection system to BS EN 62305-3 is proposed to be incorporated as part of the overall works to the Hall and is explained in detail in Hoare Lea's accompanying Statement.

The impact on the roof will be minimal as the requirements will be easily incorporated visually within the approved roof works. There are very limited views of the roof from ground level, and these tend to be from a distance.

It is the visual impact of the down conductors which will be more evident. However, the design team and client have worked together to reduce the impact of this installation on the significance of the building to the absolute minimum as follows:

- The east elevation of Belsay Hall is the main entrance to the building and therefore the most significant. The next most significant is the south elevation which faces towards the formal gardens. Neither of these elevations will change – no down conductors will be attached to either of these elevations.
- The north elevation is the least significant. This has always been the 'services' elevation where original rainwater and other drainage pipes have been, and in many cases, are still sited. The significance of this elevation could be stated as being notable as it was originally designed to be the least important, and in this respect the addition of further minor appendages that respond to the needs of our age are appropriate. There are already two down conductors on this elevation serving the existing lightning conductor system and these locations will be retained (with new conductors). Three more need to be added - two will be added at equal spacing between the existing, and one will be added near the north west corner (which will be the least visible due to other lower service buildings in this location partially concealing them).

The cornice on this elevation is also less elaborate than elsewhere which allows the impact of the down conductors to be lessened as they approach the roof connections. If positioning of now redundant fixing holes from previous service installations allow, these will be utilised for fixing the new down conductors

- The west elevation can be seen obliquely from the gardens as part of the composition formed with the south elevation. However, to achieve the required number of down conductors in total, at correct distancing between them, three down conductors are required on this elevation. These are proposed to be installed towards the north end of the elevation in order that they are least visible in the retreating perspective view from the gardens. Two will be 'concealed' behind the north face of existing stone pilasters and the third will be close to the north west corner.

Hoare Lea's Statement shows an image of the existing conductors and their discrete fixings to the walls. The new conductors (which are 8mm dia. solid aluminium not traditional conductor tapes) will be covered with PVC sheathing, brown coloured to match the stone walls and treated/UV stabilised to protect them from sunlight discolouration long-term.

The fixings will be non-brittle and also coloured in the same fashion. Fixings will be in mortar joints, bed and perpend depending on suitability and location. Wherever possible the existing down conductor fixing locations or other existing fixing locations will be utilised. It will be ensured that least damage will be caused to the stonework throughout the whole installation.

Although there will inevitably be some impact on the building by installing a compliant system, the impact has been minimalised by careful consideration of conductor placement, and as such the benefit of protecting the building from damage (and the potential devastating impact of any resultant damage from a lightning strike) outweighs any harm. The system is largely reversible, with long term impact restricted to small fixing holes which would be located in mortar joints. It is accepted that these are tight joints in many locations, but there are is no other option.

There are no changes to any access arrangements as a result of this application



West Elevation